



77 Hartland Street, Suite 201  
East Hartford, CT 06108  
tel: 860-529-7615  
fax: 860-290-7845

April 29, 2019

Mr. Nikolaus Grieshaber  
Chief Financial Officer  
Pennsylvania Turnpike Commission  
700 South Eisenhower Boulevard  
Middletown, PA 17057

Subject: Pennsylvania Turnpike Commission 2019 Traffic and Toll Revenue  
Bring Down Letter

Dear Mr. Grieshaber:

The Pennsylvania Turnpike Commission (PTC or Commission) has asked CDM Smith to prepare this Bring Down Letter (2019 Bring Down Letter) to be used in support of the Commission's ongoing capital improvement program and other funding requirements. This letter provides an update to the *2018 Traffic and Toll Revenue Forecast Study* (2018 Forecast Study), dated April 20, 2018. The 2018 Forecast Study presented traffic and gross toll revenue forecasts from fiscal year (FY) 2016-17 through FY 2047-48. A fiscal year runs from June 1 through May 31. Actual traffic and revenue data were available through February 2018 for the 2018 Forecast Study and through February 2019 for the current 2019 Bring Down Letter.

This 2019 Bring Down Letter presents actual traffic and toll revenue data through February 2019 (12 months of additional data since completion of the 2018 Forecast Study), provides updated traffic and revenue forecasts through FY 2048-49, and compares the new forecasts with those from the 2018 Forecast Study. The updated forecasts reflect the following changes from the 2018 Forecast Study.

- E-ZPass market share estimates over the forecast period were reviewed and updated.
- Actual traffic and toll revenue data were updated to include information through February 2019.
- A review and adjustment of short-term traffic and revenue growth rates was conducted through 2022 based on the most recent actual trends.
- A review and adjustment of longer-term growth rate assumptions (beyond 2022) was conducted. Normally, longer term growth rates from the 2018 Forecast Study would not be adjusted in a Bring Down Letter. But in this case, commercial vehicle growth has been



higher than estimated in the 12 months since the 2018 Forecast Study was conducted. As such, we slightly dampened longer-term growth estimates for commercial vehicles.

- All Electronic Toll (AET) Conversion at AKH and Gateway is now scheduled to occur in October 2019 and those impacts are included in this 2019 Bring Down Letter. There was no scheduled conversion for these two facilities at the time of the 2018 Forecast Study, and were, therefore, not included at that time.
- A review of the major roadway improvements for any changes since completion of the 2018 Forecast Study.

These differences are described in more detail in the following sections.

It is important to note that the intent of this Bring Down Letter is to review and revise, if warranted, the short term forecasts originally developed as part of the 2018 Forecast Study. Any adjustments would be made based on the 12 months of new actual traffic and toll revenue experience since the 2018 Forecast Study. Since this Bring Down Letter does not include a reevaluation of the longer term economic growth forecasts, critical attention was placed on a review of near term growth through calendar year (CY) 2022 only. Growth rates beyond 2022 have been adjusted slightly down from those in the 2018 Forecast Study to compensate for higher than expected recent commercial vehicle growth.

The socioeconomic trends and forecasts for Pennsylvania, the surrounding states, and the United States, which formed the basis for the long-term traffic and toll revenue forecasts are provided in the 2018 Forecast Study. Additional information regarding the Pennsylvania Turnpike (Turnpike), such as historical toll rate increases, sample toll rates, E-ZPass market share, and more, are also provided in the 2018 Forecast Study.

### **Historical Toll Rate Increases and Current Toll Rates**

**Table 1** provides a summary of historical toll rate increases on the Turnpike System from 1987 to the most recent increase implemented on January 6, 2019. Rate increases are presented as a percent increase over the prior toll rate for cash and E-ZPass. Note that toll rate increases are generally applied systemwide, although occasional exemptions occur, as indicated in Table 1.

Periodic toll rate increases were implemented on the Turnpike System in 1987, 1991, 2004, and 2009. During the 2000s decade, E-ZPass was phased into the Turnpike System. Until CY 2011, cash and E-ZPass toll rates always increased by the same percent. The toll rate schedule implemented on January 2, 2011 created a differential between cash and E-ZPass, as E-ZPass rates were increased by 3.0 percent and cash toll were increased by 10.0 percent. Rate increases differed between cash and E-ZPass in the ensuing three years (2012, 2013 and 2014) further increasing the differential between cash and E-ZPass toll rates.

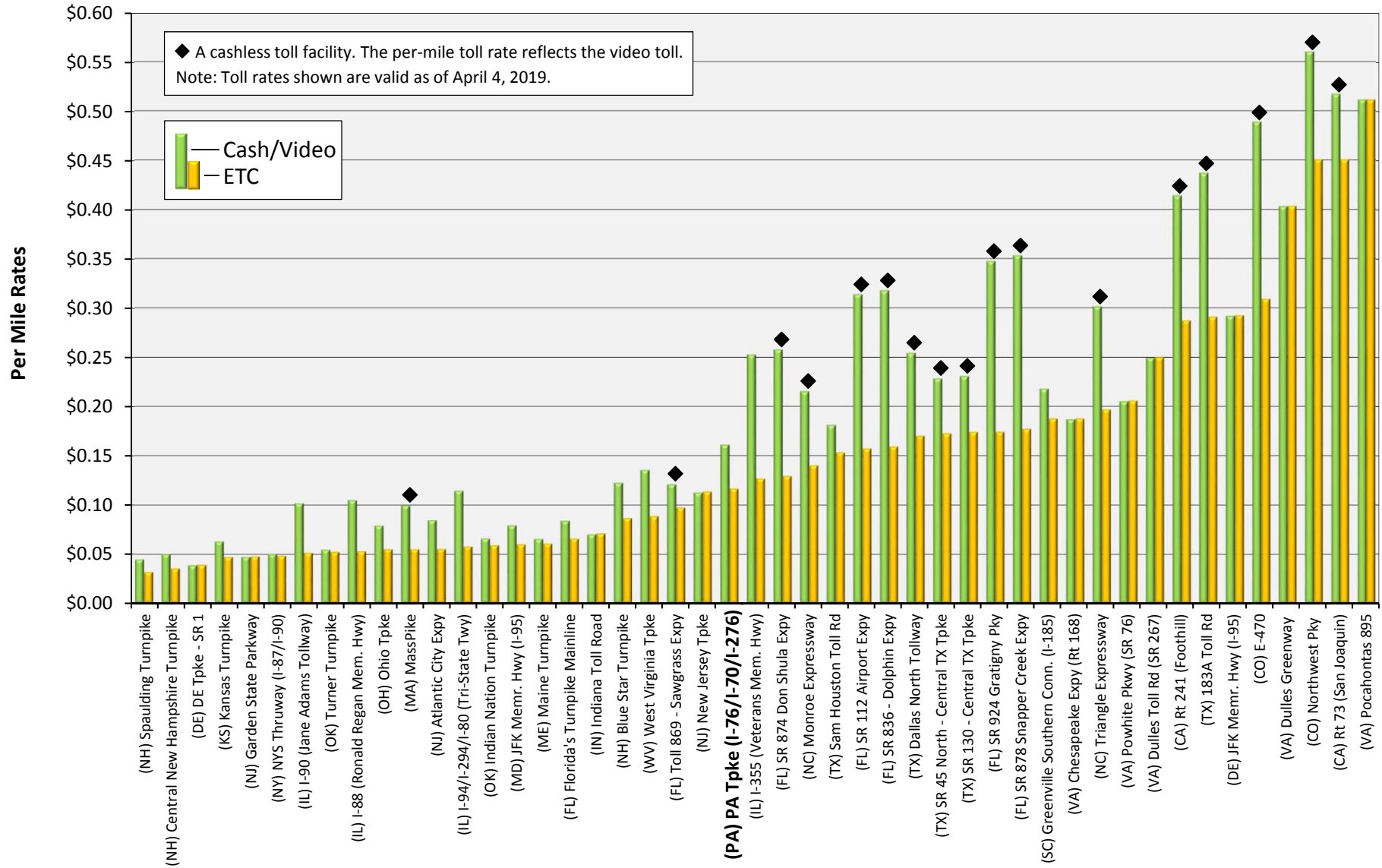
Toll rate increases have occurred annually since 2009, occurring on or close to January 1 of each year. Since CY 2015, the percent toll rate increases have been identical for cash and E-ZPass. In 2015 the toll rates increased by 5.0 percent over the prior year. From 2016 to 2019, toll rates increased by 6.0 percent annually for both cash and E-ZPass. It is assumed that annual toll rate increases will occur through the forecast period, as described in the section **Actual and Assumed Toll Rate Increases** and listed in Table 12.

**Table 1  
 Historical Toll Rate Increases  
 Pennsylvania Turnpike**

Date	Percent Increase		Comment
	Cash	E-ZPass	
1/2/1987	40.0	NA	E-ZPass was not yet implemented on the Turnpike
6/1/1991	32.0	NA	E-ZPass was not yet implemented on the Turnpike
8/1/2004	42.5	42.5	
1/4/2009	25.0	25.0	No increase on Turnpike I-576 or Turnpike 43 between Uniontown and Brownsville
1/3/2010	3.0	3.0	No increase on Turnpike I-576
1/2/2011	10.0	3.0	No increase on Turnpike I-576
1/1/2012	10.0	0.0	No increase on Turnpike I-576
1/6/2013	10.0	2.0	
1/5/2014	12.0	2.0	No increase on Turnpike I-576
1/4/2015	5.0	5.0	No increase on Turnpike I-576
1/3/2016	6.0	6.0	No increase on Turnpike I-576
1/8/2017	6.0	6.0	No increase on Turnpike I-576 or Delaware River Bridge
1/7/2018	6.0	6.0	No increase on Turnpike I-576, Delaware River Bridge, or the Northeast Extension barrier facilities
1/6/2019	6.0	6.0	

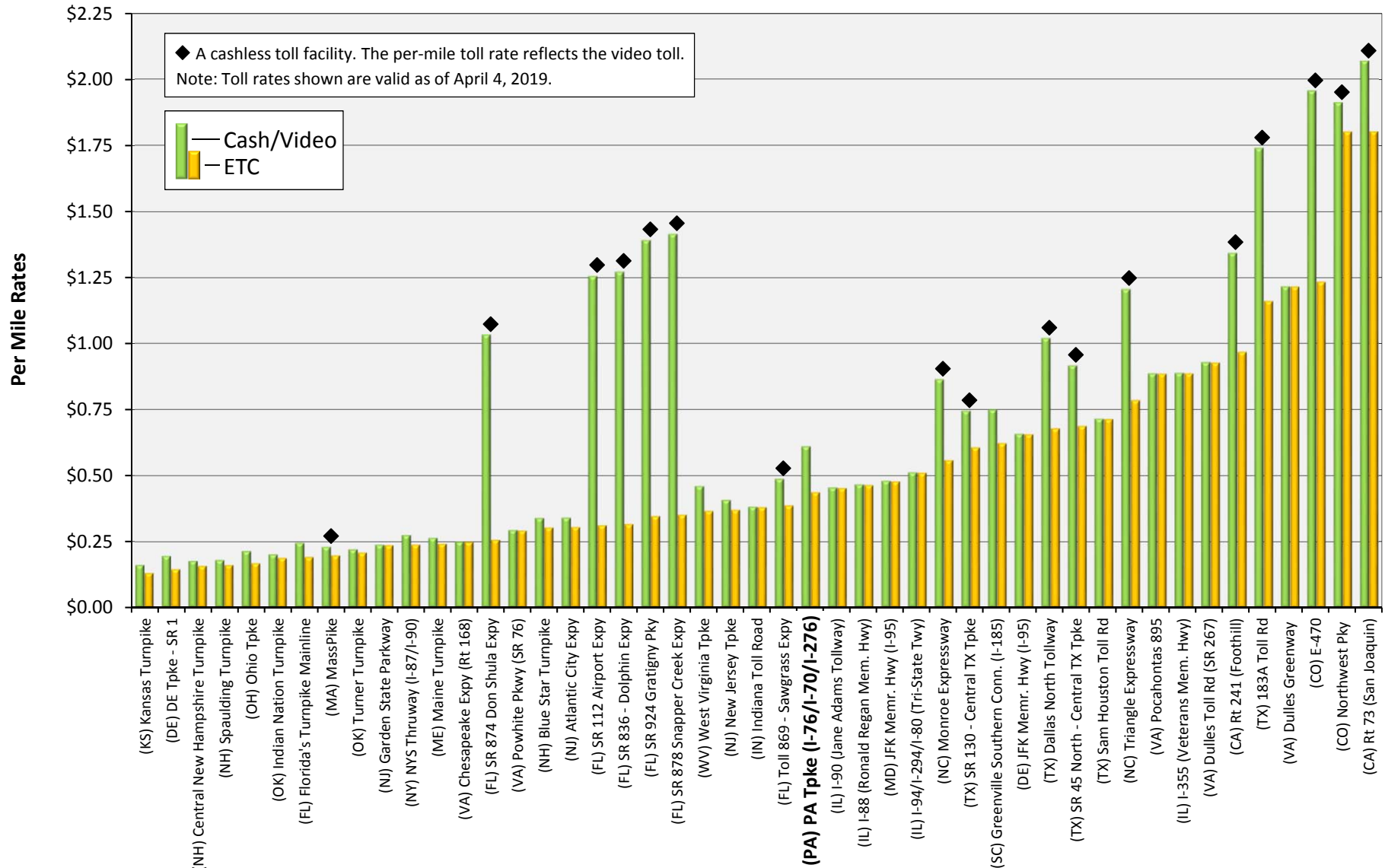
Note: Beginning in 2016, all cash toll rate increases also reflect video toll rate increases.

**Figures 1 and 2** show the 2019 per-mile toll rates for a through trip on 43 U.S. toll facilities, for passenger cars and 5-axle commercial vehicles, respectively. Per-mile rates are shown for both cash/video and ETC transactions in each figure. If a facility is all electronic (does not accept cash payments), the video toll rate is shown as the equivalent of a cash toll rate. These facilities are marked with a diamond in the Figures 1 and 2.



**COMPARISON OF 2019 PASSENGER CAR PER-MILE THROUGH TRIP TOLL RATES  
(DATA SORTED BY ETC TOLL RATES)**





**COMPARISON OF 2019 FIVE-AXLE VEHICLE PER-MILE THROUGH TRIP TOLL RATES  
 (DATA SORTED BY ETC TOLL RATES)**



The per-mile through-trip toll rate is shown for the Pennsylvania Turnpike Mainline, which represents a trip on I-76/I-276 between New Jersey and Ohio. Figure 1 shows that even with the 11 consecutive annual toll increases since 2009, the passenger car per-mile toll rates on the Pennsylvania Turnpike System, at 12 cents per mile for E-ZPass customers and 16 cents per mile for cash customers, are still very reasonably priced compared to other toll facilities in the U.S.

Toll rates for 5-axle commercial vehicles (represented by weight class 6) are equivalent to 44 cents per mile for E-ZPass and 61 cents per mile for cash transactions for a through trip on the Pennsylvania Turnpike Mainline. It should be remembered that the majority of both passenger car and commercial vehicle trips are made using the more cost-effective E-ZPass payment method.

### **Annual Transaction and Gross Toll Revenue Trends**

**Table 2** provides a summary of annual Systemwide transactions and gross toll revenue trends from FY 1994-95 through FY 2017-18. The Pennsylvania Turnpike System is a large, mature system that has demonstrated long-term growth in transactions and toll revenue. Between FY 1997-98 and FY 2007-08, Turnpike transactions and gross toll revenue grew by an average annual rate of 2.3 percent and 6.0 percent, respectively. Similarly, in the 10 years from FY 2007-08 to FY 2017-18, Turnpike transactions and gross toll revenue grew by average annual rates of 0.6 percent and 7.2 percent, respectively. Traffic growth in the most recently completed fiscal year (2017-18) was 0.3 percent. Revenue growth in the most recent fiscal year was 7.9 percent, largely due to the 6.0 percent toll increase.

### **Monthly Transactions and Gross Toll revenue Trends**

**Tables 3 through 11** present recent monthly transaction and gross toll revenue trends from FY 2015-16 through February 2019 for all PTC facilities. The facilities are summarized in the following order:

- Table 3 - The Total Turnpike System (comprised of all the facilities listed below);
- Table 4 - The Ticket System: comprised of I-76/I-276 (including Gateway Barrier Plaza) and I-476;
- Table 5 - The combined Barrier System: comprised of all facilities listed below;
- Table 6 - Turnpike 43 (Mon/Fayette Expressway);
- Table 7 - Turnpike 66 (Amos K. Hutchinson Bypass);
- Table 8 - Northeast Extension (I-476) Barrier Plazas;

**Table 2**  
**Annual Systemwide Traffic and Gross Toll Revenue Trends**  
 Pennsylvania Turnpike System  
 (in thousands)

Fiscal Year (1)	Transactions						Gross Toll Revenue					
	Cars	Percent	Trucks	Percent	Total	Percent	Cars	Percent	Trucks	Percent	Total	Percent
		Change Over Prior Year		Change Over Prior Year		Change Over Prior Year		Change Over Prior Year		Change Over Prior Year		Change Over Prior Year
1994-95	114,033	6.9	15,620	9.5	129,653	7.2	\$165,850	4.9	\$131,749	7.2	\$297,599	5.9
1995-96	121,911	6.9	16,719	7.0	138,630	6.9	172,339	3.9	136,269	3.4	308,608	3.7
1996-97	126,654	3.9	17,479	4.5	144,133	4.0	179,303	4.0	140,837	3.4	320,140	3.7
1997-98	132,472	4.6	18,627	6.6	151,099	4.8	186,290	3.9	149,036	5.8	335,326	4.7
1998-99	136,399	3.0	19,833	6.5	156,232	3.4	191,804	3.0	158,761	6.5	350,565	4.5
1999-00	138,762	1.7	21,341	7.6	160,103	2.5	195,301	1.8	172,035	8.4	367,336	4.8
2000-01	141,033	1.6	21,278	(0.3)	162,311	1.4	193,563	(0.9)	172,337	0.2	365,900	(0.4)
2001-02	150,496	6.7	22,298	4.8	172,794	6.5	212,650	9.9	163,101	(5.4)	375,751	2.7
2002-03	156,220	3.8	23,179	4.0	179,399	3.8	219,201	3.1	168,021	3.0	387,222	3.1
2003-04	163,612	4.7	24,407	5.3	188,019	4.8	228,515	4.2	180,229	7.3	408,744	5.6
2004-05	163,316	(0.2)	25,109	2.9	188,425	0.2	309,032	35.2	236,126	31.0	545,158	33.4
2005-06	160,590	(1.7)	25,311	0.8	185,901	(1.3)	321,268	4.0	267,369	13.2	588,637	8.0
2006-07	160,107	(0.3)	25,316	0.0	185,423	(0.3)	322,781	0.5	269,861	0.9	592,642	0.7
2007-08	164,097	2.5	25,455	0.5	189,552	2.2	327,761	1.5	271,165	0.5	598,926	1.1
2008-09	162,638	(0.9)	23,583	(7.4)	186,220	(1.8)	356,345	8.7	259,259	(4.4)	615,605	2.8
2009-10	163,599	0.6	22,933	(2.8)	186,531	0.2	415,981	16.7	302,057	16.5	718,038	16.6
2010-11	165,231	1.0	23,812	3.8	189,043	1.3	435,752	4.8	328,105	8.6	763,856	6.4
2011-12	164,955	(0.2)	24,125	1.3	189,080	0.0	455,133	4.4	342,646	4.4	797,779	4.4
2012-13	163,690	(0.8)	24,207	0.3	187,897	(0.6)	471,514	3.6	350,226	2.2	821,740	3.0
2013-14	163,788	0.1	24,891	2.8	188,679	0.4	497,671	5.5	368,395	5.2	866,066	5.4
2014-15	166,192	1.5	26,144	5.0	192,336	1.9	533,054	7.1	401,197	8.9	934,251	7.9
2015-16 (2)	171,569	3.2	27,319	4.5	198,887	3.4	588,295	10.4	443,325	10.5	1,031,620	10.4
2016-17 (3,4)	172,799	0.7	27,703	1.4	200,501	0.8	638,787	8.6	476,188	7.4	1,114,975	8.1
2017-18 (5)	172,512	(0.2)	28,650	3.4	201,162	0.3	678,741	6.3	524,418	10.1	1,203,158	7.9

Fiscal Year	Transactions			Gross Toll Revenue		
	Cars	Trucks	Total	Cars	Trucks	Total
FY 1997-98 - FY 2007-08	2.2	3.2	2.3	5.8	6.2	6.0
FY 2007-08 - FY 2017-18	0.5	1.2	0.6	7.6	6.8	7.2
FY 1994-95 - FY 2017-18	1.8	2.7	1.9	6.3	6.2	6.3

(1) Refer to Table 1 for toll rate increase information.  
 (2) The Delaware River Bridge toll plaza was converted from part of the Ticket System to a one-way barrier AET facility in January 2016.  
 (3) The Delaware River Bridge was closed due to structural integrity concerns from January 20, 2017 to March 9, 2017.  
 (4) AET conversion was implemented on Turnpike I-376 Beaver Valley Expressway in May 2017.  
 (5) AET conversion and vehicle classification changes were implemented on the Northeast Extension Barrier Facilities in April 2018.



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**Table 3**  
**Total Turnpike System - Monthly Transaction and Gross Toll Revenue Trends**  
**Transactions Include Only Toll Transactions - Non-Revenue Transactions Are Not Included**

Month	Passenger Cars			Commercial Vehicles			Total Vehicles							
	2015-16	% Chg	2016-17	% Chg	2017-18	% Chg	2018-19	% Chg	2018-19					
June	14,849	3.7	15,395	0.3	15,438	(0.5)	15,361	17,246	4.1	17,945	0.4	18,013	(0.3)	17,958
July	15,043	0.9	15,783	(1.7)	15,522	0.3	15,566	18,072	0.7	18,202	(1.4)	17,942	1.1	18,138
August	15,884	2.5	15,967	(0.1)	15,957	1.1	16,134	2,429	(0.4)	2,419	0.0	2,419	6.3	2,573
September	14,220	4.2	14,817	(0.6)	14,724	(1.5)	14,503	2,390	9.5	2,616	1.7	2,662	3.5	2,755
October	15,067	1.1	15,236	(0.1)	15,221	1.2	15,396	2,364	3.3	2,442	(0.4)	2,431	(0.5)	2,418
November	13,965	3.5	14,438	(1.0)	14,317	(0.5)	14,242	2,450	(0.8)	2,429	4.9	2,547	7.3	2,732
December	13,960	0.7	14,051	(2.2)	13,746	1.7	13,982	2,125	5.2	2,236	3.9	2,323	3.0	2,391
January	12,276	2.7	12,609	(0.5)	12,542	(0.3)	12,504	2,116	1.7	2,153	(0.4)	2,146	2.5	2,198
February	12,477	(8.6)	11,407	4.8	11,958	(0.2)	11,930	1,996	(9.0)	1,815	12.0	2,034	1.9	2,073
March	14,328	(6.4)	13,416	1.3	13,591			2,338	(5.2)	2,216	3.5	2,295		
April	14,105	2.1	14,400	(1.0)	14,259			2,434	4.5	2,542	4.5	2,657		
May	15,095	1.1	15,260	(0.2)	15,237			2,731	1.4	27,703	3.4	28,650		
Total Year	171,569	0.7	175,799	(0.2)	172,512			27,319	1.4	27,703	3.4	28,650		
June - Feb	128,040	1.3	129,723	(0.2)	129,425	0.1	129,619	20,214	2.3	20,676	3.1	21,312	3.3	22,006

Month	Passenger Cars			Commercial Vehicles			Total Vehicles							
	2015-16	% Chg	2016-17	% Chg	2017-18	% Chg	2018-19	% Chg	2018-19					
June	\$50,991	12.3	\$57,273	8.0	\$61,877	6.5	\$65,886	\$37,614	13.4	\$42,661	4.6	\$44,643	11.5	\$49,757
July	56,625	11.2	62,975	4.4	65,722	5.3	69,178	37,680	8.5	40,876	2.6	41,947	17.0	49,069
August	56,072	7.3	60,179	7.4	64,611	9.2	70,545	36,983	17.2	43,337	6.6	46,210	13.3	52,369
September	47,419	15.5	54,770	3.4	56,620	6.6	60,348	36,472	12.4	40,984	3.4	42,371	11.7	47,311
October	49,331	11.5	55,018	5.1	57,806	6.6	61,611	37,786	5.6	39,895	11.8	44,599	11.0	52,185
November	47,013	11.5	52,436	5.1	55,122	7.3	59,156	33,066	12.1	37,100	10.4	40,944	15.0	47,087
December	45,046	11.3	50,563	3.5	52,345	9.6	57,377	33,264	10.9	36,880	5.7	39,000	11.9	43,630
January	41,033	8.0	44,374	5.3	46,741	9.0	50,969	34,106	7.3	36,597	15.4	42,222	14.3	48,261
February	40,633	(4.1)	38,957	14.4	44,576	11.8	49,844	35,122	(6.2)	32,933	21.9	40,130	12.4	45,096
March	49,488	(2.9)	48,033	11.9	53,737			40,322	0.7	40,619	12.3	45,627		
April	49,275	13.0	55,683	2.7	57,201			39,950	1.5	40,540	13.6	46,057		
May	54,899	6.6	58,526	6.6	62,381			40,930	6.9	43,767	15.8	50,666		
Total Year	\$588,295	8.6	\$638,787	6.3	\$678,741			\$443,325	7.4	\$476,188	10.1	\$524,418		
June - Feb	\$434,633	9.6	\$476,545	6.1	\$505,421	7.8	\$544,914	\$322,123	9.0	\$351,263	8.8	\$382,067	13.8	\$434,764

**NOTES:**

(1) Toll increases occur every year with exceptions. Refer to Table 1 for details.

(2) The Delaware River Bridge toll plaza was converted from part of the Ticket System to a one-way barrier AET facility in January 2016.

(3) Leap year occurred in 2016, resulting in negative traffic and toll revenue impacts in February 2017 compared to February 2016.

(4) The Delaware River Bridge was closed due to structural integrity concerns from January 20, 2017 to March 9, 2017.

(5) AET conversion was implemented on Turnpike I-376 Beaver Valley Expressway in May 2017.

(6) AET conversion and vehicle classification changes were implemented on the Northeast Extension Barrier Facilities in April 2018.

(7) AET conversion and vehicle classification changes were implemented on the Turnpike I-576 Findlay Connector in June 2018.





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**Table 4**  
**Ticket System (Including Gateway Barrier Plaza) - Monthly Transaction and Gross Toll Revenue Trends**  
 Transactions Include Only Toll Transactions - Non-Revenue Transactions Are Not Included

Month	Passenger Cars			Commercial Vehicles			Total Vehicles							
	2015-16	% Chg	2016-17	% Chg	2017-18	% Chg	2018-19	2015-16	% Chg	2016-17	% Chg	2017-18	% Chg	2018-19
June	11,995	0.1	12,013	0.1	12,029	(1.0)	11,904	13,971	0.5	14,041	0.1	14,054	(0.9)	13,951
July	12,583	(3.1)	12,196	(1.4)	12,020	(0.6)	11,954	14,581	(3.1)	14,123	(1.4)	13,919	0.3	13,954
August	12,525	(1.4)	12,348	0.1	12,357	0.1	12,367	14,476	(0.3)	14,430	0.1	14,441	0.4	14,500
September	11,362	1.0	11,480	(0.8)	11,386	(2.3)	11,119	13,287	1.0	13,421	(1.0)	13,289	(2.2)	12,992
October	12,064	(1.9)	11,836	(0.1)	11,826	(0.5)	11,762	14,061	(2.1)	13,766	0.4	13,826	0.4	13,877
November	11,281	0.2	11,301	(1.0)	11,185	(2.5)	10,900	13,029	0.4	13,078	(0.4)	13,019	(1.9)	12,766
December	11,302	(2.6)	11,005	(2.5)	10,725	0.0	10,726	13,065	(2.5)	12,738	(2.3)	12,439	0.1	12,452
January	9,605	4.4	10,093	(1.8)	9,851	(2.1)	9,643	11,158	4.6	11,675	(0.7)	11,588	(1.4)	11,423
February	9,738	(5.3)	9,226	1.2	9,339	(2.4)	9,116	11,345	(5.3)	10,740	2.0	10,953	(2.0)	10,739
March	11,168	(5.2)	10,589	(0.4)	10,544			13,037	(5.0)	12,384	(0.2)	12,361		
April	10,953	2.7	11,247	(1.4)	11,090			12,812	1.9	13,054	(0.6)	12,970		
May	11,717	1.2	11,855	(0.7)	11,775			13,644	1.6	13,858	(0.1)	13,845		
Total Year	136,294	(0.9)	135,128	(0.7)	134,127			158,466	(0.7)	157,307	(0.4)	156,704		
June - Feb	102,456	(1.0)	101,437	(0.7)	100,717	(1.2)	99,490	118,973	(0.8)	118,010	(0.4)	117,528	(0.8)	116,634

Month	Passenger Cars			Commercial Vehicles			Total Vehicles							
	2015-16	% Chg	2016-17	% Chg	2017-18	% Chg	2018-19	2015-16	% Chg	2016-17	% Chg	2017-18	% Chg	2018-19
June	\$47,338	6.4	\$50,374	8.9	\$54,875	6.4	\$58,373	\$83,371	7.4	\$89,511	7.1	\$95,844	8.6	\$104,084
July	52,753	5.5	55,659	5.0	58,459	5.0	61,355	88,801	5.0	93,201	4.0	96,952	9.8	106,435
August	52,191	1.3	52,888	8.1	57,199	9.0	62,362	87,536	5.9	92,665	7.5	99,596	10.9	110,425
September	43,823	9.6	48,028	3.7	49,807	6.4	52,979	78,662	8.8	85,583	3.6	88,636	8.8	96,474
October	45,567	5.9	48,264	5.5	50,936	5.3	53,651	81,639	3.9	84,805	8.3	91,850	10.4	101,419
November	43,632	5.6	46,084	5.9	48,799	5.8	51,617	75,297	6.2	79,980	8.0	86,360	9.8	94,822
December	42,110	5.4	44,375	3.9	46,096	8.3	49,909	74,016	5.7	78,203	4.8	81,962	9.7	89,938
January	35,973	9.8	39,489	4.0	41,070	7.2	44,033	67,351	9.4	73,678	8.7	80,116	10.3	88,365
February	35,190	2.0	35,898	9.1	39,149	10.0	43,056	67,533	(0.0)	67,526	12.9	76,233	10.9	84,523
March	43,273	(0.9)	42,900	10.5	47,415			80,369	0.6	80,848	10.8	89,598		
April	42,999	14.5	49,234	2.5	50,489			79,661	8.6	86,542	7.4	92,963		
May	48,163	7.4	51,721	6.5	55,089			85,715	7.2	91,866	10.7	101,651		
Total Year	\$533,031	6.0	\$564,915	6.1	\$599,384			\$949,950	5.7	\$1,004,440	7.7	\$1,081,760		
June - Feb	\$398,596	5.6	\$421,060	6.0	\$446,391	6.9	\$477,334	\$704,206	5.8	\$745,154	7.0	\$797,547	9.9	\$876,485

**Gross Toll Revenue (in \$1,000s)**

**Commercial Vehicles**

2015-16: \$36,014 (8.7) | 2016-17: \$39,137 (4.7) | 2017-18: \$40,969 (11.6) | 2018-19: \$45,711 (11.6)

2015-16: 36,048 (4.1) | 2016-17: 37,543 (2.5) | 2017-18: 38,493 (17.1) | 2018-19: 45,081 (17.1)

2015-16: 35,345 (12.5) | 2016-17: 39,776 (6.6) | 2017-18: 42,397 (13.4) | 2018-19: 48,064 (13.4)

2015-16: 34,839 (7.8) | 2016-17: 37,555 (3.4) | 2017-18: 38,829 (12.0) | 2018-19: 43,495 (12.0)

2015-16: 36,072 (1.3) | 2016-17: 36,541 (12.0) | 2017-18: 40,913 (16.8) | 2018-19: 47,768 (16.8)

2015-16: 31,665 (7.0) | 2016-17: 33,896 (10.8) | 2017-18: 37,560 (15.0) | 2018-19: 43,205 (15.0)

2015-16: 31,906 (6.0) | 2016-17: 33,828 (6.0) | 2017-18: 35,866 (11.6) | 2018-19: 40,028 (11.6)

2015-16: 31,378 (9.0) | 2016-17: 34,189 (14.2) | 2017-18: 39,045 (13.5) | 2018-19: 44,332 (13.5)

2015-16: 32,343 (2.2) | 2016-17: 31,628 (17.3) | 2017-18: 37,084 (11.8) | 2018-19: 41,467 (11.8)

2015-16: 37,096 (2.3) | 2016-17: 37,948 (11.2) | 2017-18: 42,183 (11.8) | 2018-19: 41,467 (11.8)

2015-16: 36,662 (1.8) | 2016-17: 37,308 (13.8) | 2017-18: 42,474 (13.8) | 2018-19: 46,562 (13.8)

2015-16: 37,552 (6.9) | 2016-17: 40,145 (16.0) | 2017-18: 46,562 (16.0) | 2018-19: 55,089 (16.0)

2015-16: \$416,919 (5.4) | 2016-17: \$439,495 (9.8) | 2017-18: \$482,376 (9.8) | 2018-19: \$539,151 (9.8)

2015-16: \$305,610 (6.0) | 2016-17: \$324,093 (8.4) | 2017-18: \$351,157 (13.7) | 2018-19: \$399,151 (13.7)

**NOTES:**  
 (1) Toll increases occur every year with exceptions. Refer to Table 1 for details.  
 (2) Leap year occurred in 2016, resulting in negative traffic and toll revenue impacts in February 2017 compared to February 2016.  
 (3) The Delaware River Bridge was closed due to structural integrity concerns from January 20, 2017 to March 9, 2017.



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**Table 5**  
**Combined Barrier Facilities - Monthly Transaction and Gross Toll Revenue Trends**  
**Transactions Include Only Toll Transactions - Non-Revenue Transactions Are Not Included**

Month	Passenger Cars			Commercial Vehicles			Total Vehicles							
	2015-16	% Chg	2017-18	2016-17	% Chg	2017-18	2015-16	% Chg	2016-17	2017-18	2018-19			
June	2,854	18.5	3,382	0.8	3,409	1.4	3,457	3,275	19.2	3,904	1.4	3,958	1.7	4,026
July	3,060	17.2	3,587	(2.4)	3,502	3.1	3,612	3,491	16.9	4,079	(1.4)	4,023	4.0	4,185
August	3,059	18.3	3,619	(0.5)	3,600	4.6	3,767	3,498	18.7	4,154	0.6	4,178	5.1	4,389
September	2,858	16.8	3,337	0.0	3,338	1.4	3,384	3,297	16.4	3,839	0.7	3,867	1.6	3,930
October	3,004	13.2	3,399	(0.1)	3,395	7.0	3,634	3,456	12.8	3,899	1.1	3,942	7.8	4,251
November	2,684	17.7	3,158	(0.8)	3,133	6.7	3,343	3,060	18.2	3,617	0.1	3,620	6.8	3,867
December	2,658	14.6	3,046	(0.8)	3,021	7.8	3,257	3,011	15.1	3,467	(0.4)	3,453	8.0	3,728
January	2,670	(3.5)	2,576	4.5	2,692	6.3	2,861	3,065	(3.8)	2,948	6.2	3,129	7.0	3,349
February	2,738	(20.3)	2,181	20.1	2,619	7.5	2,814	3,127	(20.6)	2,483	22.4	3,039	7.4	3,264
March	3,160	(10.5)	2,827	7.8	3,047			3,629	(10.5)	3,247	8.5	3,525		
April	3,378	0.8	3,405	1.7	3,462			3,885	1.5	3,945	2.6	4,048		
May	35,274	6.8	37,671	1.9	38,385			40,472	6.9	43,195	2.9	44,459		
Total Year	25,584	10.6	28,286	1.5	28,708	4.9	30,129	29,281	10.6	32,389	2.5	33,209	5.4	34,990

Month	Passenger Cars			Commercial Vehicles			Total Vehicles							
	2015-16	% Chg	2017-18	2016-17	% Chg	2017-18	2015-16	% Chg	2016-17	2017-18	2018-19			
June	\$3,033	88.9	\$6,899	1.5	\$7,002	7.3	\$7,514	\$5,234	99.1	\$10,423	2.4	\$10,677	8.3	\$11,559
July	3,873	85.9	7,316	(0.7)	7,263	7.7	7,823	5,504	99.5	10,649	0.6	10,717	10.2	11,812
August	3,881	87.9	7,291	1.7	7,413	10.4	8,183	5,518	96.6	10,851	3.4	11,226	11.3	12,488
September	3,596	87.5	6,741	1.1	6,813	8.2	7,369	5,229	94.5	10,171	1.8	10,355	8.0	11,184
October	3,764	79.4	6,754	1.7	6,870	15.9	7,960	5,478	84.5	10,107	4.4	10,556	17.2	12,377
November	3,381	87.9	6,352	(0.5)	6,323	19.2	7,539	4,812	98.6	9,556	1.6	9,706	17.7	11,421
December	3,336	85.5	6,187	1.0	6,249	19.5	7,468	4,693	96.9	9,240	1.5	9,382	18.0	11,070
January	5,130	(4.8)	4,885	16.1	5,671	22.3	6,935	7,858	(7.2)	7,293	21.3	8,848	22.8	10,864
February	5,443	(43.8)	3,059	77.4	5,428	25.1	6,789	8,222	(46.9)	4,364	94.2	8,474	22.9	10,417
March	6,215	(17.4)	5,133	23.2	6,322			9,442	(17.3)	7,804	25.1	9,766		
April	6,276	2.8	6,449	4.1	6,712			10,114	3.1	10,427	9.3	11,397		
May	\$55,263	33.7	\$73,872	7.4	\$79,357			\$81,670	35.4	\$110,566	8.8	\$121,399		
Total Year	\$36,037	54.0	\$55,484	6.4	\$59,030	14.5	\$67,580	\$52,550	57.3	\$82,654	8.8	\$89,941	14.7	\$103,193

**Gross Toll Revenue (in \$1,000s)**

Month	Passenger Cars			Commercial Vehicles			Total Vehicles							
	2015-16	% Chg	2017-18	2016-17	% Chg	2017-18	2015-16	% Chg	2016-17	2017-18	2018-19			
June	\$1,601	120.1	\$3,524	4.3	\$3,674	10.1	\$4,046	\$5,234	99.1	\$10,423	2.4	\$10,677	8.3	\$11,559
July	1,631	104.3	3,333	3.6	3,454	15.5	3,988	5,504	99.5	10,649	0.6	10,717	10.2	11,812
August	1,638	117.4	3,561	7.1	3,813	12.9	4,305	5,518	96.6	10,851	3.4	11,226	11.3	12,488
September	1,634	109.9	3,429	3.3	3,543	7.7	3,816	5,229	94.5	10,171	1.8	10,355	8.0	11,184
October	1,714	95.6	3,353	9.9	3,686	19.8	4,416	5,478	84.5	10,107	4.4	10,556	17.2	12,377
November	1,432	123.8	3,204	5.6	3,384	14.7	3,882	4,812	98.6	9,556	1.6	9,706	17.7	11,421
December	1,357	124.9	3,053	2.7	3,133	14.9	3,602	4,693	96.9	9,240	1.5	9,382	18.0	11,070
January	2,728	(11.7)	2,408	32.0	3,177	23.7	3,929	7,858	(7.2)	7,293	21.3	8,848	22.8	10,864
February	2,779	(53.1)	1,305	133.5	3,046	19.1	3,629	8,222	(46.9)	4,364	94.2	8,474	22.9	10,417
March	3,227	(17.2)	2,671	28.9	3,444			9,442	(17.3)	7,804	25.1	9,766		
April	3,288	(1.7)	3,232	10.9	3,583			10,114	3.1	10,427	9.3	11,397		
May	\$26,406	39.0	\$36,694	14.6	\$42,042			\$81,670	35.4	\$110,566	8.8	\$121,399		
Total Year	\$16,514	64.5	\$27,169	13.8	\$30,911	15.2	\$35,613	\$52,550	57.3	\$82,654	8.8	\$89,941	14.7	\$103,193

**NOTES:**  
 (1) Toll increases occur every year with exceptions. Refer to Table 1 for details.  
 (2) Leap year occurred in 2016, resulting in negative traffic and toll revenue impacts in February 2017 compared to February 2016.  
 (3) The Delaware River Bridge toll plaza was converted from part of the Ticket System to a one-way barrier AET facility in January 2016.  
 (4) The Delaware River Bridge was closed due to structural integrity concerns from January 20, 2017 to March 9, 2017.  
 (5) AET conversion was implemented on Turnpike I-376 Beaver Valley Expressway in May 2017.  
 (6) AET conversion and vehicle classification changes were implemented on the Northeast Extension Barrier Facilities in April 2018.  
 (7) AET conversion and vehicle classification changes were implemented on the Turnpike I-576 Findlay Connector in June 2018.



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**Table 6**  
**Turnpike 43 - Mon/Fayette Expressway - Monthly Transaction and Gross Toll Revenue Trends**  
 Transactions Include Only Toll Transactions - Non-Revenue Transactions Are Not Included

Month	Passenger Cars			Commercial Vehicles			Total Vehicles										
	2015-16	% Chg.	2017-18	2016-17	% Chg.	2017-18	2016-17	% Chg.	2017-18	2016-17	% Chg.	2017-18	2016-17	% Chg.	2018-19		
June	1,098	(1.4)	1,083	(1.0)	98	(2.9)	95	2.4	97	(0.1)	1,196	(1.5)	1,178	(0.8)	1,169	0.6	1,176
July	1,441	(2.6)	1,112	(3.9)	99	(12.9)	86	8.9	94	6.2	1,240	(3.4)	1,198	(3.0)	1,161	4.8	1,217
August	1,151	(0.9)	1,141	(2.2)	110	(13.2)	95	12.8	107	(5.6)	1,261	(2.0)	1,236	(1.0)	1,223	2.3	1,251
September	1,147	(3.5)	1,107	(2.8)	119	(25.0)	89	9.1	97	(2.5)	1,266	(5.5)	1,196	(1.9)	1,173	0.2	1,175
October	1,221	(7.1)	1,134	(1.6)	107	(16.9)	89	15.6	103	5.6	1,327	(7.9)	1,223	(0.3)	1,219	4.2	1,270
November	1,058	(4.3)	1,013	(3.2)	86	(9.0)	78	9.5	86	5.9	1,145	(4.7)	1,091	(2.3)	1,066	4.9	1,118
December	1,043	(5.6)	984	(3.3)	75	(3.5)	73	(1.8)	71	4.6	1,118	(5.5)	1,057	(3.2)	1,023	1.8	1,042
January	887	1.7	902	(2.8)	67	(5.4)	63	12.2	71	10.1	953	1.2	965	(1.9)	947	1.1	957
February	932	(4.3)	892	(2.4)	63	3.7	65	9.6	71	0.9	995	(3.8)	957	(1.6)	942	1.5	956
March	1,061	(3.1)	1,028	(3.2)	86	(8.8)	78	(0.4)	78		1,147	(3.5)	1,106	(3.0)	1,073		
April	1,050	(2.0)	1,029	(0.3)	83	(1.0)	82	6.9	88		1,133	(1.9)	1,111	0.2	1,113		
May	1,088	(0.3)	1,085	1.2	90	9.3	98	8.1	106		1,178	0.4	1,183	1.7	1,204		
Total Year	12,876	(2.9)	12,508	(2.1)	1,082	(8.3)	992	7.8	1,070		13,958	(3.3)	13,500	(1.4)	13,313		
June - Feb	9,677	(3.2)	9,366	(2.6)	823	(10.9)	734	8.7	798	2.4	10,500	(3.8)	10,099	(1.7)	9,923	2.4	10,162

Month	Passenger Cars			Commercial Vehicles			Total Vehicles										
	2015-16	% Chg.	2016-17	2016-17	% Chg.	2017-18	2016-17	% Chg.	2017-18	2016-17	% Chg.	2017-18	2016-17	% Chg.	2018-19		
June	\$1,524	4.7	\$1,597	3.9	\$374	1.6	\$380	12.2	\$426	8.5	\$1,888	4.1	\$1,976	5.5	\$2,085	7.1	\$2,234
July	1,377	2.8	1,621	3.1	375	(7.8)	346	15.9	400	17.8	1,952	0.8	1,966	5.3	2,071	13.4	2,369
August	1,596	5.2	1,678	2.6	405	(6.0)	380	20.0	457	4.6	2,000	2.9	2,058	5.9	2,179	9.3	2,382
September	1,541	4.3	1,606	2.2	425	(14.4)	364	14.9	418	6.9	1,966	0.2	1,970	4.5	2,060	7.6	2,216
October	1,632	1.4	1,654	3.5	397	(8.8)	363	20.5	437	16.3	2,029	(0.6)	2,017	6.5	2,148	12.0	2,406
November	1,445	(0.1)	1,443	3.7	326	(1.7)	321	16.1	373	16.0	1,772	(0.4)	1,764	5.9	1,869	13.3	2,116
December	1,375	3.2	1,419	1.9	293	2.5	301	5.0	316	18.3	1,668	3.1	1,719	2.5	1,762	13.5	1,999
January	1,264	6.6	1,348	3.8	279	(1.0)	277	19.6	331	22.1	1,543	5.3	1,624	6.5	1,730	12.5	1,946
February	1,371	(1.7)	1,348	4.1	272	6.2	289	18.5	343	10.4	1,643	(0.4)	1,637	6.6	1,746	10.4	1,926
March	1,523	2.9	1,568	2.2	348	1.0	351	8.2	380		1,871	2.6	1,919	3.3	1,982		
April	1,500	4.5	1,568	6.6	334	8.1	362	16.3	421		1,884	5.2	1,930	8.4	2,093		
May	1,586	5.0	1,666	7.9	362	18.2	428	16.6	499		1,948	7.5	2,094	9.7	2,298		
Total Year	\$17,934	3.2	\$18,516	3.8	\$4,192	(0.7)	\$4,161	15.4	\$4,800		\$22,126	2.5	\$22,677	5.9	\$24,021		
June - Feb	\$13,325	2.9	\$13,714	3.2	\$3,147	(4.1)	\$3,020	15.9	\$3,500	13.0	\$16,472	1.6	\$16,734	5.5	\$17,649	10.9	\$19,575

NOTES:

(1) Toll increases occur every year with exceptions. Refer to Table 1 for details.

(2) Leap year occurred in 2016, resulting in negative traffic and toll revenue impacts in February 2017 compared to February 2016.



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**Table 7**  
**Tumpike 66 - Amos K. Hutchinson Bypass - Monthly Transaction and Gross Toll Revenue Trends**  
 Transactions Include Only Toll Transactions - Non-Revenue Transactions Are Not Included

Month	Passenger Cars			Commercial Vehicles			Total Vehicles			
	2015-16	% Chg.	2017-18	2015-16	% Chg.	2017-18	2015-16	% Chg.	2017-18	
June	579	(2.7)	563	95	(2.4)	93	7.4	100	1.0	101
July	591	(5.3)	560	98	(10.4)	88	7.1	94	7.2	101
August	587	(2.5)	572	97	(0.0)	96	8.1	104	3.6	108
September	571	(2.0)	560	93	0.8	94	0.9	95	(2.5)	92
October	600	(3.9)	577	104	(11.5)	92	5.9	98	8.1	105
November	550	(1.4)	542	86	(7.0)	80	5.4	84	2.4	86
December	564	(4.3)	540	82	(14.6)	70	5.6	74	7.8	80
January	480	1.3	487	72	(5.1)	69	12.1	77	5.7	81
February	489	(4.5)	467	70	(5.1)	67	6.7	71	5.6	75
March	554	(3.0)	537	84	(2.4)	82	1.9	84		84
April	549	(0.2)	548	89	(0.9)	88	2.1	90		90
May	575	0.3	577	94	5.3	99	2.8	101		101
Total Year	6,690	(2.4)	6,530	1,063	(4.4)	1,016	5.3	1,071		1,071
June - Feb	5,012	(2.9)	4,868	796	(6.1)	747	6.4	796	4.2	829

Month	Passenger Cars			Commercial Vehicles			Total Vehicles		
	2015-16	% Chg.	2016-17	2015-16	% Chg.	2016-17	2015-16	% Chg.	2016-17
June	\$868	2.4	\$889	\$401	(0.3)	\$400	13.1	\$452	11.4
July	893	0.1	894	409	(6.1)	384	11.0	426	15.9
August	889	1.5	902	400	7.2	429	10.1	473	9.6
September	855	3.4	883	387	8.3	419	3.5	434	3.1
October	895	1.9	912	442	(8.2)	405	9.8	445	16.4
November	811	4.4	847	358	(4.8)	341	14.1	389	6.4
December	832	1.6	845	342	(11.2)	304	12.3	341	15.0
January	747	5.4	787	329	(3.5)	317	17.6	373	12.6
February	766	0.1	767	314	(0.1)	314	12.7	354	10.9
March	866	2.1	884	378	3.0	389	6.5	414	
April	848	7.6	913	396	2.8	407	9.5	446	
May	912	5.6	962	413	8.2	447	10.4	493	
Total Year	\$10,182	3.0	\$10,486	\$4,569	(0.3)	\$4,556	10.6	\$5,041	
June - Feb	\$7,556	2.3	\$7,726	\$3,382	(2.0)	\$3,313	11.3	\$3,687	11.2

Month	Passenger Cars			Commercial Vehicles			Total Vehicles		
	2015-16	% Chg.	2016-17	2015-16	% Chg.	2016-17	2015-16	% Chg.	2016-17
June	\$1,269	1.5	\$1,289	\$1,269	(1.8)	\$1,278	6.7	\$1,403	6.8
July	1,302	(1.8)	1,278	1,289	3.3	1,331	7.9	1,437	8.2
August	1,241	4.9	1,302	1,241	4.9	1,302	4.8	1,364	5.4
September	1,336	(1.4)	1,318	1,336	(1.4)	1,318	6.7	1,405	9.7
October	1,170	1.6	1,188	1,170	1.6	1,188	7.9	1,281	5.3
November	1,174	(2.2)	1,149	1,174	(2.2)	1,149	6.2	1,220	9.3
December	1,075	2.7	1,104	1,075	2.7	1,104	8.9	1,202	8.8
January	1,081	0.0	1,081	1,081	0.0	1,081	7.2	1,158	9.1
February	1,243	2.4	1,273	1,243	2.4	1,273	6.1	1,350	
March	1,244	6.1	1,320	1,244	6.1	1,320	5.4	1,392	
April	1,325	6.4	1,409	1,325	6.4	1,409	7.7	1,518	
May	1,475	6.4	1,409	1,475	6.4	1,409	7.7	1,518	
Total Year	\$14,750	2.0	\$15,042	\$14,750	2.0	\$15,042	7.0	\$16,095	
June - Feb	\$10,938	0.9	\$11,040	\$10,938	0.9	\$11,040	7.2	\$11,835	8.0

NOTES:  
 (1) Toll increases occur every year with exceptions. Refer to Table 1 for details.  
 (2) Leap year occurred in 2016, resulting in negative traffic and toll revenue impacts in February 2017 compared to February 2016.



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**Table 8**  
**Northeast Extension Barrier Plazas - Monthly Transaction and Gross Toll Revenue Trends**  
 Transactions include Only Toll Transactions - Non-Revenue Transactions Are Not Included

Month	Passenger Cars			Commercial Vehicles			Total Vehicles						
	2015-16	% Chg.	2016-17	2017-18	% Chg.	2018-19	2015-16	% Chg.	2016-17	2017-18	% Chg.	2018-19	
June	448	(6.9)	417	0.7	420	(0.7)	417	100	0.4	101	3.3	104	3.5
July	554	(6.4)	519	(4.8)	494	(1.2)	488	102	(2.3)	100	0.9	101	8.6
August	562	(10.6)	502	(4.2)	481	(10.3)	530	102	3.8	106	0.8	107	13.0
September	427	(7.3)	396	(1.6)	390	(0.1)	389	97	0.4	97	(1.4)	96	4.8
October	452	(11.9)	398	(4.6)	380	4.4	397	101	(8.2)	93	3.8	97	14.8
November	406	(7.4)	376	(3.3)	364	1.0	367	86	3.7	89	1.3	91	6.0
December	369	(10.9)	329	(1.6)	323	2.3	331	83	(0.5)	83	(0.0)	83	4.9
January	288	(3.9)	277	(6.9)	258	(0.2)	257	77	5.6	81	7.9	88	3.5
February	286	(6.8)	267	(4.0)	256	2.3	262	76	1.2	77	4.8	80	2.0
March	351	(15.4)	297	2.9	305		262	86	1.0	87	1.5	89	
April	351	4.2	376	(10.2)	338		338	89	0.3	90	1.3	91	
May	433	5.0	454	(11.9)	400		400	99	14.1	113	(5.3)	107	
Total Year	4,937	(6.7)	4,608	(4.3)	4,409		4,439	1,100	1.5	1,117	1.4	1,132	
June - Feb	3,792	(8.2)	3,480	(3.3)	3,365	2.2	3,439	825	0.2	827	2.2	846	7.0

Month	Passenger Cars			Commercial Vehicles			Total Vehicles						
	2015-16	% Chg.	2016-17	2017-18	% Chg.	2018-19	2015-16	% Chg.	2016-17	2017-18	% Chg.	2018-19	
June	\$403	(2.8)	\$392	5.5	\$413	9.4	\$452	\$439	8.6	\$477	6.3	\$506	19.7
July	500	(1.1)	494	1.2	500	4.7	524	436	5.9	462	4.8	484	23.9
August	509	(6.4)	477	0.5	479	21.7	583	438	13.2	495	4.1	516	29.2
September	380	(2.9)	370	3.8	384	13.4	435	422	8.3	457	1.1	462	23.3
October	400	(12.4)	351	6.0	371	14.1	424	445	(3.3)	430	10.6	476	33.7
November	357	2.7	366	(3.7)	353	11.1	392	383	10.3	422	7.5	454	26.3
December	358	(19.8)	287	8.8	312	9.4	342	377	3.4	390	6.9	417	25.6
January	262	5.6	276	(9.8)	249	21.1	302	369	11.1	410	9.8	450	28.3
February	280	(7.1)	260	(4.7)	248	23.5	306	370	4.5	387	7.0	414	26.9
March	326	(11.3)	290	2.7	297		306	417	7.2	447	2.2	457	
April	337	10.9	374	(10.0)	336		336	435	3.3	449	4.3	468	
May	408	11.0	452	(6.6)	422		422	471	17.7	554	11.9	620	
Total Year	\$4,520	(2.9)	\$4,388	(0.5)	\$4,366		\$4,366	\$5,003	7.6	\$5,381	6.4	\$5,724	
June - Feb	\$3,448	(5.1)	\$3,272	1.1	\$3,310	13.6	\$3,759	\$3,680	6.8	\$3,931	6.3	\$4,180	26.1

**NOTES:**

- (1) Toll increases occur every year with exceptions. Refer to Table 1 for details.
- (2) Leap year occurred in 2016, resulting in negative traffic and toll revenue impacts in February 2017 compared to February 2016.
- (3) AET conversion occurred in April 2018.
- (4) Vehicle classification changes were implemented at the time of AET conversion in April 2018.







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**Table 11**  
**Delaware River Bridge - Monthly Transaction and Gross Toll Revenue Trends**  
**Transactions Include Only Toll Transactions - Non-Revenue Transactions Are Not Included**

Month	Passenger Cars			Commercial Vehicles			Total Transactions (in 1,000s)			Total Vehicles					
	2015-16	% Chg	2018-19	2015-16	% Chg	2018-19	2015-16	% Chg	2018-19	2015-16	% Chg	2018-19			
June	606	(0.8)	601	7.3	645	103	0.8	104	10.1	115	709	(0.6)	705	7.7	760
July	647	(1.6)	637	4.3	664	97	1.6	98	14.5	113	744	(1.2)	735	5.7	777
August	657	(1.1)	650	6.0	689	103	5.8	109	10.6	120	760	(0.2)	759	6.7	810
September	573	0.6	577	6.6	616	99	1.8	101	5.5	106	672	0.8	678	6.5	722
October	583	0.0	583	20.1	700	97	11.2	108	17.5	127	680	1.6	691	19.7	827
November	570	(1.3)	563	24.1	699	98	5.5	103	13.1	117	668	(0.3)	666	22.4	815
December	555	(2.1)	543	32.6	720	96	0.5	96	14.1	110	651	(1.7)	639	29.8	830
January	486	(24.4)	330	41.7	612	81	(26.6)	59	62.1	115	517	(24.8)	389	44.8	583
February	463	(100.0)	0	N/A	586	84	(100.0)	0	N/A	104	548	(100.0)	0	N/A	535
March	532	(39.8)	320	62.3	519	95	(34.1)	63	62.5	102	627	(39.0)	383	62.3	621
April	541	0.8	545	2.8	561	95	(4.5)	91	14.4	104	636	(0.0)	636	4.5	665
May	589	(2.0)	577	6.0	611	97	6.5	103	12.3	115	685	(0.8)	679	6.9	727
Total Year	2,561		5,963		6,758	452		1,008		1,227	3,012		6,971		7,984
June - Feb	4,522	12.1	5,067	17.0	5,930	752	20.4	905	13.4	1,027	5,273	13.2	5,972	16.5	6,957

Month	Passenger Cars			Commercial Vehicles			Total Vehicles								
	2015-16	% Chg	2018-19	2015-16	% Chg	2018-19	2015-16	% Chg	2018-19						
June	\$3,150	(1.6)	\$3,098	6.2	\$3,291	\$1,845	1.9	\$1,879	8.7	\$2,043	\$4,995	(0.3)	\$4,978	7.2	\$5,334
July	3,380	(3.5)	3,260	3.7	3,381	1,753	0.8	1,767	13.0	1,998	5,133	(2.0)	5,027	7.0	5,379
August	3,337	0.0	3,337	6.6	3,557	1,830	6.7	1,952	10.1	2,149	5,166	2.4	5,289	7.9	5,706
September	3,038	(1.3)	3,000	5.5	3,165	1,797	1.9	1,831	4.7	1,916	4,835	(0.1)	4,831	5.2	5,081
October	2,985	(0.8)	2,962	20.2	3,560	1,758	10.3	1,938	17.4	2,275	4,742	3.3	4,900	19.1	5,835
November	2,915	(4.5)	2,783	28.5	3,577	1,761	3.4	1,821	14.0	2,076	4,677	(1.5)	4,604	22.8	5,653
December	2,872	(1.6)	2,827	28.4	3,631	1,743	0.6	1,754	12.2	1,968	4,615	(0.7)	4,381	22.2	5,599
January	2,167	(18.7)	1,762	39.6	2,461	1,430	(25.1)	1,071	60.5	1,720	2,834	(21.2)	2,834	47.5	4,181
February	2,340	(100.3)	-7	N/A	3,293	1,503	(99.9)	1	N/A	1,621	2,703	(100.2)	-6	N/A	3,886
March	2,713	(41.4)	1,591	65.9	2,639	1,702	(34.6)	1,112	64.1	1,825	4,415	(38.8)	2,703	65.2	4,464
April	2,813	(1.3)	2,775	3.7	2,879	1,738	(5.5)	1,642	13.2	1,858	4,451	(2.9)	4,418	7.2	4,737
May	2,989	(2.0)	2,929	6.0	3,104	1,721	6.3	1,829	12.0	2,049	4,711	1.0	4,758	8.3	5,154
Total Year	\$13,021		\$30,727		\$34,615	\$8,094		\$18,142		\$22,016	\$21,115		\$48,869		\$56,631
June - Feb	\$23,432	10.9	\$25,993	17.8	\$30,619	\$13,559	20.1	\$16,283	13.9	\$18,551	\$36,991	14.3	\$42,276	16.3	\$49,170

NOTES:  
 (1) Toll increases occur every year with exceptions. Refer to Table 1 for details.  
 (2) The Delaware River Bridge was closed due to structural integrity concerns from January 20, 2017 to March 9, 2017.  
 (3) The Delaware River Bridge toll plaza was converted from part of the Ticket System to a one-way barrier AET facility in January 2016.



- Table 9 - Turnpike I-376 (Beaver Valley Expressway);
- Table 10 - Turnpike I-576 (Southern Beltway – Findlay Connector) and;
- Table 11 - Delaware River Bridge.

The information is provided by passenger cars, commercial vehicles, and total vehicles. For comparative purposes, subtotals are provided for June through February for each fiscal year. It should be noted that the Delaware River Bridge (DRB) was converted to a westbound only cashless tolling system in January 2016. Prior to that time, DRB traffic and revenue data were included in the Ticket System. All DRB traffic and revenue data are now shown separately.

As shown in Table 3, Systemwide gross toll revenue increased by 8.1 percent in FY 2016-17, and 7.9 percent in FY 2017-18. Year to date (June 2018 through February 2019) toll revenue growth was 10.4 percent compared to the same period in the prior year. Commercial vehicle toll revenue increased by 13.8 percent and passenger car toll revenue increased by 7.8 percent from June 2018 through February 2019 compared to the same time period in the prior year. These increases in toll revenue were largely due to annual toll increases. Year-to-date transactions grew by 0.1 percent, 3.3 percent, and 0.6 percent for passenger cars, commercial vehicles, and total vehicles, respectively.

It should be noted that the DRB was closed on January 20, 2017 due to a fracture in one of the structural support beams. The structure was closed to all traffic through March 9, 2017. This event negatively impacted the traffic and revenue values for FY 2016-17. CDM Smith analyzed the impact on Turnpike traffic and revenue during the closure and estimated that losses over this period amounted to 1.8 million transactions and \$12.1 million in toll revenue. Thus, absent the DRB closure, the total FY 2016-17 Turnpike traffic would have increased by 1.7 percent (instead of 0.8 percent) compared to the previous year. Total toll revenue would have increased by 9.3 percent (instead of 8.1 percent) compared to the previous year.

As previously mentioned, the Ticket System is by far the largest component of both traffic and toll revenue on the Turnpike System. As shown in Table 4, total year-to-date transactions decreased 0.8 percent compared to the same period in the prior year. Year-to-date Passenger car transactions decreased by 1.2 percent during this period. Year-to-date Commercial vehicle activity has been more stable during this period, with traffic increasing 2.0 percent compared to the previous nine-month period. Total revenue for the Ticket System grew by 5.7 percent in FY 2016-17 and by 7.7 percent in FY 2017-18. Year-to-date FY 2018-19 revenue has grown by 9.9 percent compared to the same time frame in the previous year. The above mentioned DRB closure would also have negatively affected Ticket System traffic and revenue in January, February, and March 2017.

The combined Barrier Facilities monthly transaction and revenue data is shown in Table 5. Year-to-date transactions increased 5.4 percent in 2018-19 compared to the same period in the previous year. Commercial vehicle transactions increased 8.0 percent for this time period, while passenger cars grew at 4.9 percent. Total revenue for the combined Barrier Facilities grew 14.7 percent overall year-to-date. Growth in toll revenue at the barrier facilities has outpaced transaction growth due to higher commercial vehicle growth and vehicle classifications adjustments (upon AET conversion) at some facilities. These vehicle classification changes, combined with stronger economic conditions and low fuel prices, likely account for much of the recent revenue growth on these barrier facilities. When such conversions occur, there is a significant increase in video transactions, which also has the effect of increasing the average toll rates.

Traffic and gross toll revenue trends for the six barrier toll facilities are provided in Tables 6 through 11. These six barrier facilities (Turnpikes 43 and 66, the Northeast Extension barrier plazas, Turnpikes I-376 and I-576, and the Delaware River Bridge) contribute about 10 percent of the total Systemwide gross toll revenue.

The effects of ramp-up, inclement weather, alternative routes, and new developments have a more significant impact on these relatively low volume roads. Traffic growth has been positive on most of these barrier facilities thus far in FY 2018-19, countering long term trends. Revenue growth especially has grown, partially due to vehicle classification changes on the Northeast Extension and Findlay Connector Barrier Facilities, combined with the above mentioned AET conversions.

### **Actual and Assumed Toll Rate Increases**

Annual toll rate increases are assumed to occur on the entire Turnpike System. The toll rate increases are assumed to occur at 12:01 AM on first Sunday after January 1 of each year. Rate increase assumptions are unchanged since the 2018 Forecast Study. **Table 12** presents the annual percent increases in toll rates for E-ZPass and cash/video from calendar year 2018 through 2049.

### **Actual and Assumed E-ZPass Penetration Rates**

**Table 13** presents the actual and assumed annual E-ZPass penetration rates from calendar year 2016 through 2049. The first three columns show the E-ZPass market share assumptions for the current 2019 Bring Down Letter. These were adjusted slightly on a facility by facility basis, by the amount shown in the three rightmost columns, over assumptions used in the 2018 Forecast Study. Actual experience over the last 12 months has shown that the E-ZPass market share has decreased when compared to the last study in certain cases, most notably for those facilities that have converted to AET.

**Table 12**  
**Actual and Assumed Percent Changes in Toll Rates**  
**Pennsylvania Turnpike System**

Calendar Year	Percent Changes in Turnpike System's Toll Rates (1)	
	E-ZPass	Cash
2018	6.00	6.00
2019	6.00	6.00
2020	6.00	6.00
2021	5.00	5.00
2022	5.00	5.00
2023	5.00	5.00
2024	5.00	5.00
2025	5.00	5.00
2026	4.00	4.00
2027	3.50	3.50
2028	3.00	3.00
2029	3.00	3.00
2030	3.00	3.00
2031	3.00	3.00
2032	3.00	3.00
2033	3.00	3.00
2034	3.00	3.00
2035	3.00	3.00
2036	3.00	3.00
2037	3.00	3.00
2038	3.00	3.00
2039	3.00	3.00
2040	3.00	3.00
2041	3.00	3.00
2042	3.00	3.00
2043	3.00	3.00
2044	3.00	3.00
2045	3.00	3.00
2046	3.00	3.00
2047	3.00	3.00
2048	3.00	3.00
2049	3.00	3.00

(1) Toll rate increases are the same for all facilities and vehicle classes.

Note:

The toll rate increases in this 2019 Bring Down Letter are actual through 2019.

**Table 13**  
**Actual and Assumed Percent E-ZPass Penetration**  
**Pennsylvania Turnpike System**

Calendar Year	E-ZPass Penetration Rates					
	2019 Bring Down Letter			Difference from 2018 Forecast Study		
	Cars	Trucks	Total	Cars	Trucks	Total
2016	76.2	89.2	78.0	0.0	0.0	0.0
2017	78.3	90.1	79.9	0.0	0.0	0.0
2018	80.0	90.6	81.5	-0.5	-0.6	-0.5
2019	81.5	91.0	82.9	-0.4	-0.8	-0.4
2020	82.9	91.5	84.1	-0.3	-1.1	-0.4
2021	83.9	92.0	85.1	-0.3	-1.2	-0.4
2022	85.2	92.6	86.3	0.9	-1.0	0.7
2023	86.0	93.1	87.1	1.0	-1.0	0.8
2024	86.8	93.6	87.8	1.1	-1.0	0.9
2025	87.3	93.7	88.3	1.2	-1.1	0.9
2026	87.9	93.8	88.8	1.2	-1.1	0.9
2027	88.3	93.8	89.2	1.1	-1.0	0.9
2028	88.8	93.9	89.5	1.1	-1.0	0.8
2029	89.2	93.9	89.9	1.1	-1.0	0.8
2030	89.6	94.0	90.3	1.1	-1.0	0.8
2031	90.0	94.0	90.6	1.1	-1.0	0.8
2032	90.1	94.0	90.7	1.1	-0.9	0.8
2033	90.1	94.1	90.7	1.0	-0.9	0.8
2034	90.2	94.1	90.8	1.0	-0.9	0.8
2035	90.3	94.2	90.9	1.0	-0.9	0.7
2036	90.3	94.2	90.9	1.0	-0.8	0.7
2037	90.3	94.2	90.9	1.0	-0.8	0.7
2038	90.4	94.3	91.0	0.9	-0.8	0.7
2039	90.4	94.3	91.0	0.9	-0.7	0.7
2040	90.4	94.3	91.0	0.9	-0.7	0.7
2041	90.4	94.4	91.0	0.9	-0.7	0.7
2042	90.4	94.4	91.0	0.9	-0.6	0.7
2043	90.4	94.4	91.1	0.9	-0.6	0.7
2044	90.4	94.4	91.1	0.9	-0.6	0.7
2045	90.5	94.5	91.1	0.8	-0.6	0.7
2046	90.5	94.5	91.1	0.8	-0.5	0.6
2047	90.5	94.5	91.1	0.8	-0.5	0.6
2048	90.5	94.5	91.1	0.8	-0.5	0.6
2049	90.5	94.5	91.1			

Note: The E-ZPass penetration rates for this 2019 Bring Down Letter are actual through 2018 and were actual only through 2017 for the 2018 Forecast Study.

The revised total E-ZPass penetration rates range from 0.5 percentage points lower to 0.9 percentage points higher than those in the 2018 Forecast Study. The downward adjustment to the commercial vehicle rates is largely due to actual observed experience due to AET conversion on barrier facilities. In the twelve months of new data since the 2018 Forecast Study, it can be observed that although E-ZPass transactions are generally growing, video transactions grew at a higher rate and have pushed the E-ZPass percentage downward.

### **Summary of Changes in Future Year Estimates for U.S. Gross Domestic Product and Pennsylvania Gross State Product**

This section presents a comparison of the Gross Domestic Product (GDP) and Gross State Product (GSP) information available for the 2018 Forecast Study with updated forecasts for both measures from Moody's Analytics. This information was a key input in developing estimated growth forecasts for the Turnpike System.

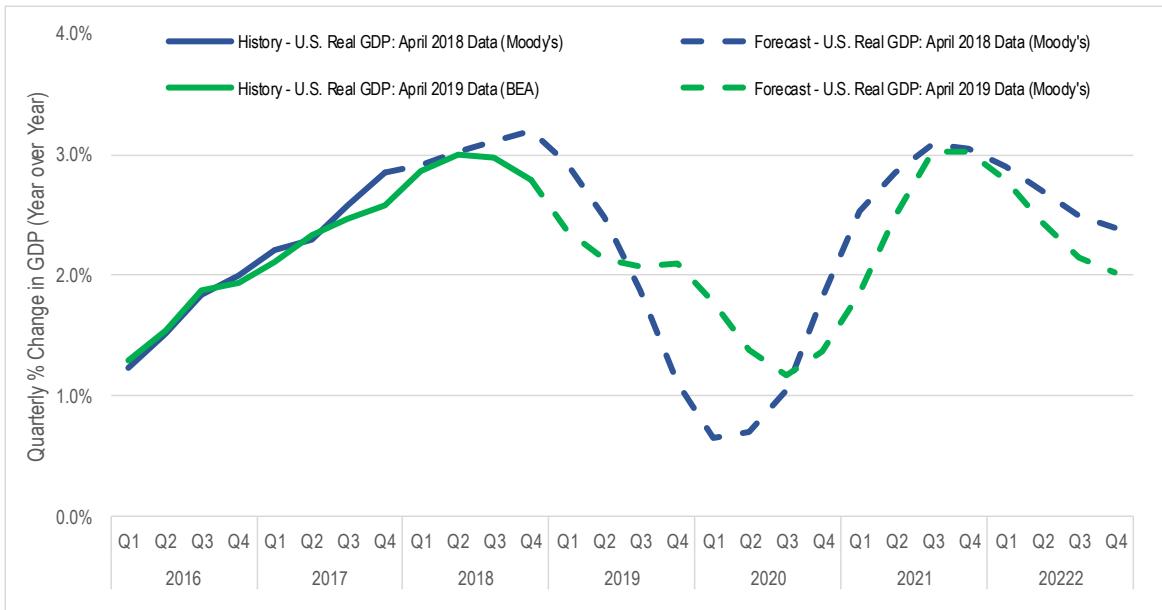
**Figure 3** shows actual and estimated GDP at the time of the 2018 Forecast Study as well as the revised figures based on updated Moody's Analytic's forecasts as of March 2019. As shown, actual experience in the second half of 2018 underperformed prior estimates by between about 0.1 to 0.4 percent (though GDP growth remained positive throughout the period). The revised GDP growth estimates in 2019 show a lower growth than the prior forecast for the first half of 2019, but higher growth in the latter half of the year and for most of 2020. Beginning in the fourth quarter of 2020, the revised GDP estimates are less than the prior forecast.

**Figure 4** shows GSP trend and forecast data for Pennsylvania. The GSP growth at the end of 2017 and throughout 2018 was lower than the prior estimates by a range of 1.0 to 1.5 percent. The GSP growth estimates for 2019 and 2020 are estimated to be higher than the previous estimates by a range of 0.0 to 1.1 percent. By the fourth quarter of 2020, the March 2019 GSP forecast falls below the April 2018 forecast until at least the end of 2022.

Based on this information alone it would be assumed that actual traffic growth in 2018 would have underperformed CDM Smith's 2018 Forecast Study estimates. As will be discussed below, that was not the case across all the facilities. In fact, actual traffic and toll revenue on the total System slightly outperformed CDM Smith's estimates. This is likely due to other factors, namely motor fuel prices and consumer confidence which are discussed in the next section. The above mentioned AET conversions have also positively affected recent growth trends.

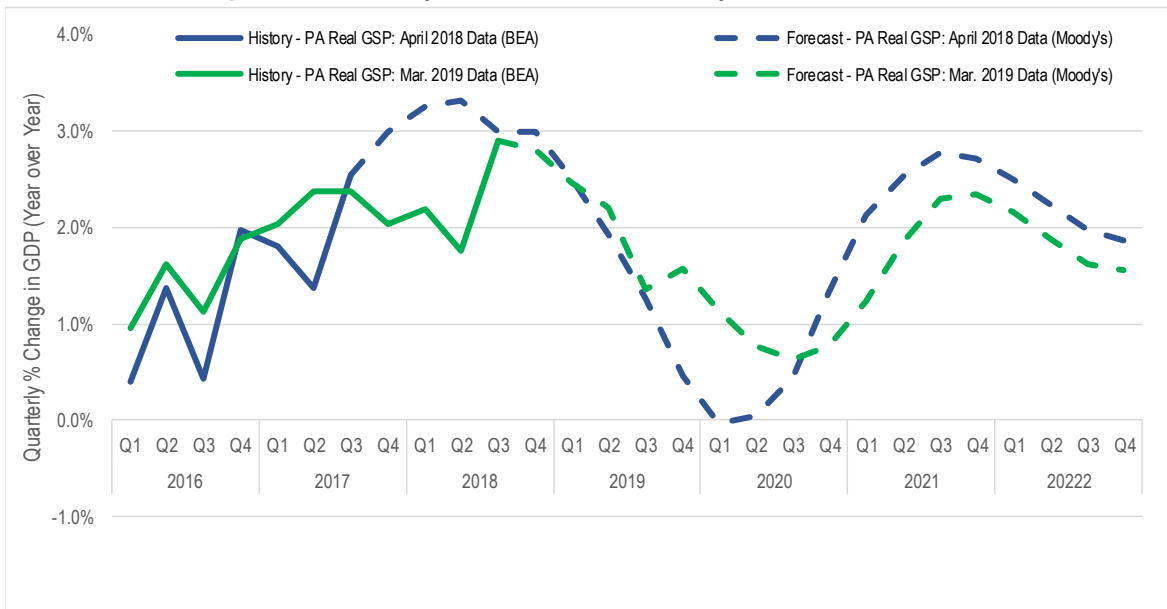
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**Figure 3**  
**Comparison of Quarterly Growth Estimates in U.S. Gross Domestic Product**



Sources: Historical estimates are from the BEA, and the forecasts are from Moody's Analytics (April 2018 and April 2019 Releases)

**Figure 4**  
**Comparison of Quarterly Growth Estimates in Pennsylvania Gross State Product**

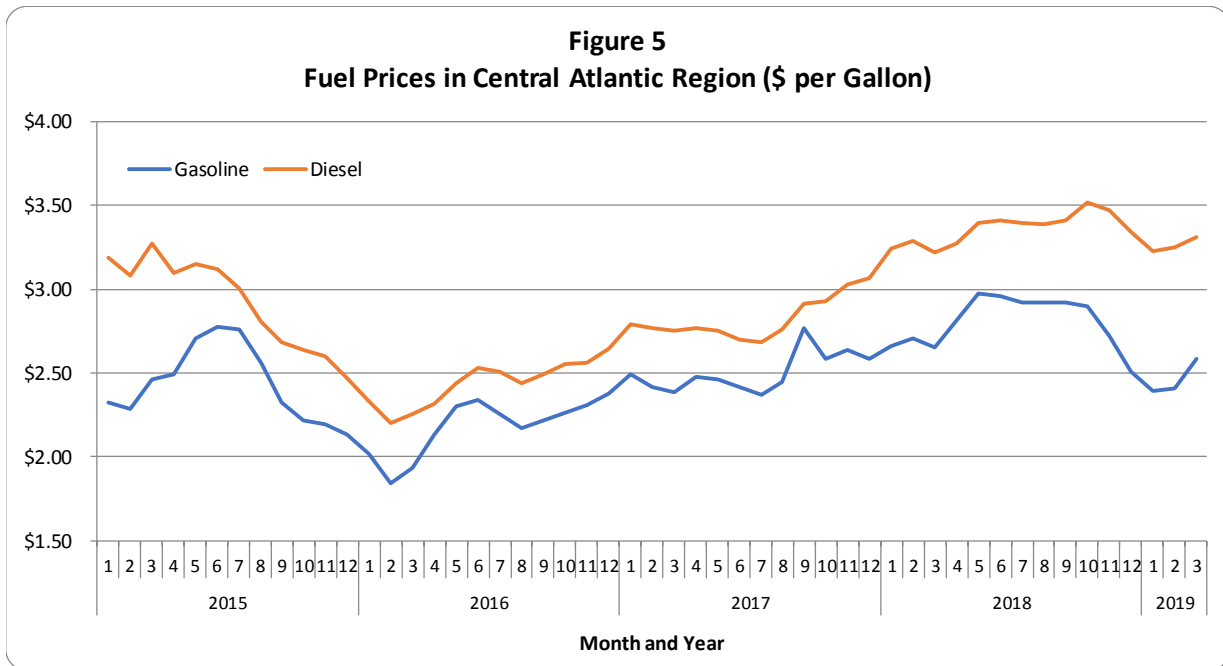


Sources: Historical estimates are from the BEA, and the forecasts are from Moody's Analytics (April 2018 and March 2019 Releases)

### Summary of Trends in Fuel Prices

**Figure 5** portrays gasoline and diesel prices for the Central Atlantic Region from January 2015 through March 2019. As shown, gasoline and diesel prices have followed generally similar trends throughout this period. The exception to this is the first six months of 2015, where gasoline prices rose approximately \$0.40 per gallon while diesel prices remained relatively flat. Since that time, both prices have generally moved in tandem, decreasing over the last six months of 2015 and the first few months of 2016, reaching a low of \$1.85 per gallon for gasoline and \$2.20 per gallon for diesel in February 2016. Prices for both increased slowly but steadily throughout 2016, 2017, and early 2018, reaching a high of \$2.97 per gallon for gasoline in May 2018. Prices fluctuated within a narrow range for the remainder of 2018, with diesel reaching a high of \$3.52 per gallon in October 2018. Prices of both gasoline and diesel fell throughout the winter of 2018-19, and have begun to increase again in the spring.

Motor fuel prices have remained relatively stable (and even declined in recent months) compared to price trends available at the time of the 2018 Forecast Study. This may have contributed to the recently observed strong growth on the Turnpike System, especially for commercial vehicles.

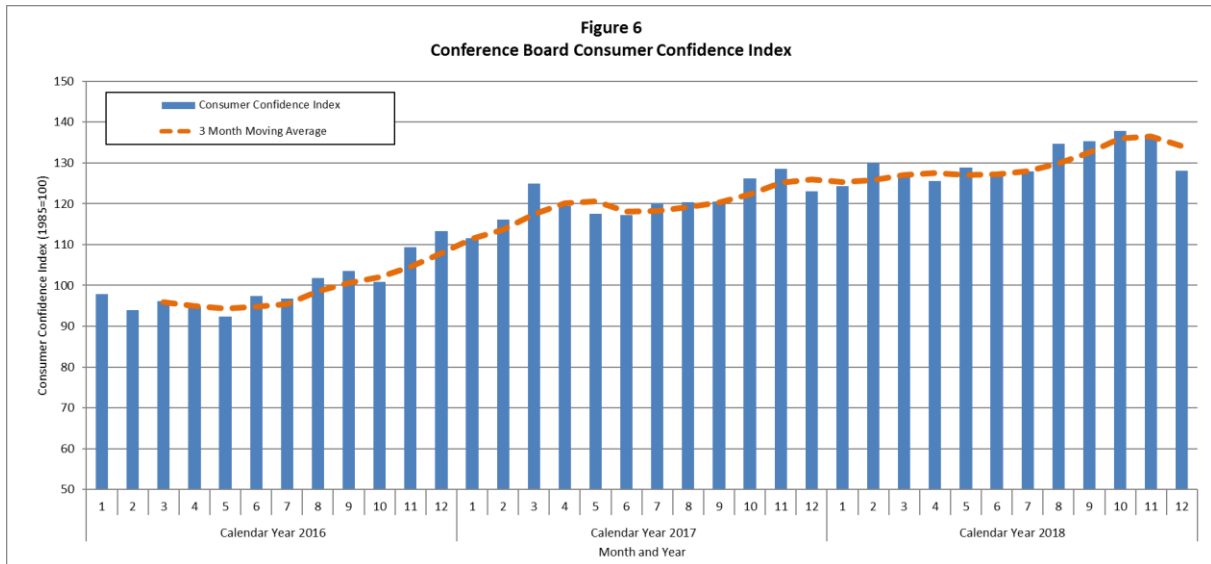


Source: U.S. Energy Information Administration, Release Date 4/8/2019  
 Note: Retail Prices in USD for Regular All Formulations Retail Gasoline and Number 2 Diesel

### Consumer Confidence

**Figure 6** shows the Conference Board Consumer Confidence Index for the period between January 2016 and December 2018. The individual blue bars show the index values for each month while the dotted line shows the three-month moving average. As shown, consumer confidence has trended up over the period shown. The average exceeded 99 in 2016, rose to approximately 120 in 2017, and surpassed 130 in 2018. The Consumer Confidence Index has been showing a steady upward trend since the beginning of 2016. By the end of 2016, consumer confidence rose to pre-recession levels for the first time since the 2008 recession, and has continued to grow since then. The most recent two months of November and December 2018 experienced a slight decrease from a high of 137.9 in October, which was the highest level of consumer confidence since September 2000.

Consumer confidence is an important measure in that it highlights consumer’s confidence in making purchases, their willingness to travel more, etc. Thus, we can infer that higher consumer confidence spurs demand for various goods and services and that higher demand results in higher traffic on the roadways.





### **Committed Roadway Improvements**

**Table 14** lists major capacity-enhancing roadway improvements with dedicated funding on the Pennsylvania Turnpike system. Most of these projects are part of PTC's statewide total reconstruction initiative, which is a multi-year project to widen the mainline and the Northeast Extension to six lanes (three in each direction). On the Mainline I-76/I-276 this includes work throughout the Pittsburgh, Somerset, Harrisburg, and Philadelphia metro areas. More than 130 miles have been completed as of 2019, with more than 40 additional miles under construction or funded. In addition to roadway widening, Table 14 highlights two additional projects; one to link I-476 (Northeast Extension) to I-81 in the Scranton area and the other to extend Toll 576 (Southern Beltway) an additional 12.5 miles in the Pittsburgh area. These projects will serve to enhance capacity and create additional connections to other routes, both of which are expected to increase the number of travelers, and therefore revenue, on the Pennsylvania Turnpike system.

### **Actual Versus Estimated Traffic and Toll Revenue**

**Table 15** provides a comparison of actual traffic and toll revenue versus estimated traffic and toll revenue from CDM Smith's 2018 Forecast Study. The analysis period in this table is from March 2018 through February 2019. This twelve-month period corresponds to the period for which actual data currently exists but was estimated at the time of the 2018 Forecast Study.

Systemwide, actual passenger car transactions surpassed estimates by 0.9 percent, and passenger-car toll revenue exceeded estimates by 1.8 percent. Commercial vehicle transactions exceeded estimates by 3.7 percent, and actual commercial vehicle toll revenue was 7.9 percent greater than estimates. When all vehicles are considered, actual transactions were higher than estimates by 1.3 percent and toll revenue exceeded estimates by 4.4 percent. As mentioned earlier in this report, the AET conversions have had a larger than expected positive impact on commercial vehicle growth. This was especially true for the video component of traffic, which have higher toll rates and thus have the effect of increasing average commercial vehicle toll rates.

The same information is provided in Table 15 for each of the Turnpike toll facilities. Actual versus estimated traffic and toll revenue tracks quite closely for the Ticket System. Actual traffic and toll revenue for ticket system would have been even higher absent the negative impact of the DRB closure in January through March 2017.

All barrier facilities overperformed when compared to the 2018 Forecast Study forecasts. Barrier System toll revenue was higher than CDM Smith estimates by between 4.6 percent (Turnpike 66) and 29.2 percent (Turnpike I-576) for both passenger car and commercial revenue combined.

**Table 14**  
**Major Committed Roadway Improvements on the Pennsylvania Turnpike System (1)**

Milepost	Location	Description	Actual or Assumed Start Date	Assumed Completion Date
<b>Mainline I-76/I-276</b>				
28-31	Allegheny and Butler Counties	Reconstruct and widen to 3 lanes in each direction	Early 2020	2022
40-44	Allegheny County	Replace 6 overhead bridges and widen to 6 lanes in each direction	February 2013	Fall 2019
49-67	Allegheny and Westmoreland Counties	Reconstruct and widen to 3 lanes in each direction	To be determined	To be determined
102-109	Somerset County	Reconstruct and widen to 3 lanes in each direction	Early 2020	Late 2022
128-134	Somerset and Bedford Counties	Reconstruct and widen to 3 lanes in each direction	To be determined	To be determined
149-155	Bedford County	Reconstruct and widen to 3 lanes in each direction	To be determined	To be determined
180-186	Fulton and Huntingdon Counties	Reconstruct and widen to 3 lanes in each direction	To be determined	To be determined
202-206	Cumberland County	Reconstruct and widen to 3 lanes in each direction	September 2016	May 2019
298-308	Berks and Chester Counties	Reconstruct and widen to 3 lanes in each direction	To be determined	To be determined
308-312	Chester County	Reconstruct and widen to 3 lanes in each direction	Fall 2021	Fall 2023
312-316	Chester County	Reconstruct and widen to 3 lanes in each direction	Spring 2020	Late 2022
320-326	Chester and Montgomery Counties	Reconstruct and widen to 3 lanes in each direction	To be determined	To be determined
<b>Northeast Extension I-476</b>				
A31-A38	Montgomery County	Reconstruct and widen to 3 lanes in each direction	Early 2018	Late 2020
A38-A44	Montgomery and Bucks Counties	Reconstruct and widen to 3 lanes in each direction	Spring 2021	Late 2023
	Lackawanna and Luzerne Counties	Link I-476 to I-81 with two interchanges to create a Scranton Beltway	2022	2026
<b>Southern Beltway Toll 576</b>				
US-22 to I-79	Washington and Allegheny Counties	Construct a 12.5-mile cashless tolling extension of Toll 576 from the southern terminus of the Findlay Connector at US-22 to I-79 including four new interchanges	December 2016	2022

(1) The roadway improvement projects shown in this table are a small subset of the projects listed in the PTC's Major Design and Construction Projects website and listed in the Proposed Twelve-Year Program

**Table 15**  
**Comparison of Estimated and Actual Traffic Volumes and Gross Toll Revenue**  
**From March 2018 Through February 2019 (1)**  
 Pennsylvania Turnpike System

Facility	Total Traffic (in Thousands)			Total Gross Toll Revenue (in Thousands)		
	Estimated	Actual	Actual as Percent of Estimated	Estimated	Actual	Actual as Percent of Estimated
Passenger Cars						
Ticket and Gateway Barrier	133,870	132,899	(0.7)	\$625,143	\$630,328	0.8
Delaware River Bridge	6,845	7,621	11.3	35,386	39,241	10.9
Turnpike 43	11,866	12,463	5.0	19,296	20,693	7.2
Turnpike 66	6,377	6,480	1.6	11,255	11,588	3.0
Northeast Extension (Barrier)	4,257	4,482	5.3	4,248	4,816	13.4
Turnpike I-376	6,522	7,160	9.8	8,724	9,882	13.3
Turnpike I-576	1,481	1,600	8.0	1,334	1,686	26.4
Barrier Subtotal	37,347	39,806	6.6	80,244	87,906	9.5
Total System	171,217	172,706	0.9	\$705,387	\$718,234	1.8
Commercial Vehicles						
Ticket and Gateway Barrier	22,381	22,911	2.4	\$492,401	\$530,370	7.7
Delaware River Bridge	1,220	1,348	10.5	22,238	24,284	9.2
Turnpike 43	1,027	1,089	6.0	4,767	5,254	10.2
Turnpike 66	1,037	1,104	6.5	5,033	5,454	8.4
Northeast Extension (Barrier)	1,126	1,191	5.7	5,900	6,815	15.5
Turnpike I-376	1,312	1,417	8.0	4,182	4,208	0.6
Turnpike I-576	195	285	46.2	534	729	36.4
Barrier Subtotal	5,917	6,433	8.7	42,655	46,744	9.6
Total System	28,297	29,344	3.7	\$535,057	\$577,114	7.9
Total Vehicles						
Ticket and Gateway Barrier	156,250	155,810	(0.3)	\$1,117,544	\$1,160,697	3.9
Delaware River Bridge	8,065	8,969	11.2	57,625	63,525	10.2
Turnpike 43	12,892	13,552	5.1	24,063	25,947	7.8
Turnpike 66	7,413	7,584	2.3	16,288	17,043	4.6
Northeast Extension (Barrier)	5,384	5,673	5.4	10,148	11,630	14.6
Turnpike I-376	7,833	8,577	9.5	12,906	14,091	9.2
Turnpike I-576	1,676	1,885	12.5	1,869	2,415	29.2
Barrier Subtotal	43,264	46,239	6.9	122,899	134,650	9.6
Total System	199,514	202,050	1.3	\$1,240,443	\$1,295,348	4.4

(1) These 12 months correspond to the period for which actual data exists, but was estimated at the time of CDM Smith's 2018 Forecast Study.

(2) The assumed Findlay conversion date in the 2018 Forecast Study was the end of April 2018. Actual conversion occurred in June 2018.

Despite actual tolled transaction and toll revenue values overperforming forecasted levels for all Barrier facilities, the total System forecast tracked relatively closely overall. This occurs because the vast majority of traffic and revenue is generated by the Ticket System. Several events occurred on the barrier plazas that influenced the high growth. These include AET conversion at the Northeast Extension Barrier Plazas, Beaver Valley, and the Findlay Connector. Also important was the Stage 1 opening of the I-95 interchange just west of the Delaware River Bridge. The impact of the Stage 1 completion was greater than that assumed in the 2018 Forecast Study. The recent trends for all facilities were considered when adjusting the short-term forecasts for this Bring Down Letter.

### **Estimated Traffic and Gross Toll Revenue**

Updated traffic and gross toll revenue estimates were developed through FY 2048-49 incorporating the following changes into the forecast. All these changes were described in previous sections.

- Actual traffic and revenue experience through February 2019;
- Slightly adjusted short term (through 2022) growth forecasts based on the recent experience of actual traffic and revenue compared to assumptions in the 2018 Forecast Study;
- Revised estimates of E-ZPass penetration rates;
- AET conversion scheduled at AKH and Gateway for October 2019; and
- Slight decreases in long range normal growth rates for commercial vehicles from 2022 through the end of the forecast period.

Other assumptions remain unchanged from the 2018 Forecast Study including:

- Annual Systemwide toll rate increases;
- Structure of the commercial vehicle discount program; and
- Long range economic indicators.

**Table 16** shows the total traffic and toll revenue for the Ticket System only. Data for FY 2016-17 and FY 2017-18 reflects a full year of actual experience and FY 2018-19 includes nine months of actual experience (through February 2019). Total toll transactions increase from 157.3 million to 194.3 million over the forecast period, an average annual increase of 0.7 percent. Gross toll revenue increases from \$1,004.4 million to \$4.2 billion by FY 2048-49. This amounts to an average annual increase of 4.6 percent, reflecting the impact of normal growth plus the annual rate adjustments.

**Table 16**  
**Ticket System: Estimated Annual Transactions and Gross Toll Revenue (1)**  
**Pennsylvania Turnpike Commission**

Traffic and Toll Revenue in Thousands

Fiscal Year	Annual Traffic			Annual Gross Toll Revenue		
	Passenger Cars	Commercial Vehicles	Total Vehicles	Passenger Cars	Commercial Vehicles	Total Vehicles
2016-17 (2,3,5)	135,128	22,179	157,307	\$564,915	\$439,495	\$1,004,410
2017-18 (2)	134,127	22,577	156,704	599,384	482,376	1,081,760
2018-19 (4,6)	132,360	22,922	155,282	637,137	538,213	1,175,351
2019-20	131,225	23,118	154,343	670,587	574,230	1,244,817
2020-21	130,693	23,366	154,059	706,891	612,168	1,319,059
2021-22	130,817	23,600	154,418	741,516	648,592	1,390,108
2022-23	131,600	23,821	155,421	782,660	686,348	1,469,009
2023-24	132,766	24,032	156,799	828,208	725,242	1,553,450
2024-25	134,006	24,253	158,258	876,748	766,780	1,643,529
2025-26	135,481	24,493	159,973	926,005	808,389	1,734,394
2026-27	137,046	24,729	161,775	970,726	845,590	1,816,316
2027-28	138,580	24,948	163,528	1,012,261	879,566	1,891,826
2028-29	140,079	25,195	165,274	1,051,564	913,952	1,965,516
2029-30	141,548	25,486	167,034	1,091,994	952,249	2,044,243
2030-31	142,985	25,777	168,762	1,133,951	992,005	2,125,956
2031-32	144,409	26,067	170,476	1,178,775	1,033,276	2,212,051
2032-33	145,818	26,357	172,175	1,226,573	1,076,117	2,302,690
2033-34	147,178	26,647	173,825	1,275,772	1,120,590	2,396,362
2034-35	148,498	26,937	175,435	1,326,473	1,166,769	2,493,242
2035-36	149,781	27,227	177,009	1,378,732	1,214,723	2,593,455
2036-37	151,042	27,512	178,554	1,432,743	1,264,246	2,696,989
2037-38	152,219	27,789	180,007	1,487,947	1,315,252	2,803,199
2038-39	153,355	28,065	181,420	1,544,774	1,368,202	2,912,976
2039-40	154,475	28,343	182,817	1,603,514	1,423,173	3,026,687
2040-41	155,573	28,621	184,194	1,664,171	1,480,250	3,144,421
2041-42	156,645	28,900	185,545	1,726,760	1,539,518	3,266,278
2042-43	157,685	29,180	186,865	1,791,242	1,601,062	3,392,304
2043-44	158,698	29,461	188,159	1,857,745	1,664,977	3,522,722
2044-45	159,686	29,743	189,428	1,926,333	1,731,349	3,657,683
2045-46	160,645	30,026	190,671	1,997,034	1,800,267	3,797,301
2046-47	161,591	30,310	191,902	2,070,076	1,871,837	3,941,913
2047-48	162,525	30,596	193,121	2,145,565	1,946,173	4,091,738
2048-49	163,464	30,885	194,349	2,223,807	2,023,461	4,247,268

(1) Annual toll rate increases are implemented in January of each year.  
 (2) Reflects actual traffic and revenue experience.  
 (3) The Delaware River Bridge toll plaza was converted from part of the Ticket System to a one-way barrier AET facility in January 2016.  
 (4) Reflects actual experience through February 2019.  
 (5) The Delaware River Bridge was closed due to structural integrity concerns from January 20, 2017 to March 9, 2017.  
 (6) The partial I-95 Interchange (Stage 1) opened in September 2018.

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The same information is shown for the Barrier Systems in **Table 17**. Total annual toll transactions are estimated to grow from 43.2 million to 66.6 million over the forecast period, an average rate of 1.4 percent.

Barrier System total revenue is estimated to increase from \$110.6 million to \$535.9 million over the forecast period, an annual rate of 5.1 percent.

**Table 18** identifies total combined transactions and gross toll revenue and also factors in estimated toll discounts and adjustments. The vast majority of the discounts and adjustments result from commercial account toll adjustments due to the Turnpike's volume discount program. The volume discount program allows for a 3.0 percent discount to be provided to accounts that accrue \$20,000 or more in monthly tolls. Discounts and adjustments shown in Table 18 assume no further changes to the post-paid commercial volume discount program during the forecast period. The result is that the current forecasts have a negative adjustment applied for FY 2016-17 and beyond that equals approximately 1.4 percent of the commercial vehicle gross toll revenue.

As shown in Table 18, total toll transactions are expected to increase from nearly 200.5 million to 260.9 million over the forecast period. This amounts to an average annual growth rate of 0.8 percent. Total net toll revenue is estimated to grow from approximately \$1.1 billion in FY 2016-17 to \$4.8 billion by FY 2048-49. This reflects an average annual growth rate in gross toll revenue of 4.7 percent. Again, this includes the impact of normal growth plus annual toll rate adjustments.

**Table 19** provides a comparison of the current traffic and net toll revenue forecast with the forecast developed as part of the 2018 Forecast Study. As shown, the revised total toll transactions slightly exceed those of the 2018 Forecast report through FY 2021-22. This is because recent experience has shown that actual toll transactions have exceeded estimates by about 1.3 percent (see Table 15). CDM Smith slowly decreased future commercial vehicle growth over time, such that by FY 2022-23, we now estimate that total toll transactions will be about 0.5 percent lower than the previous estimates.

Beginning in FY 2018-19 (which includes nine months of actual data) through FY 2021-22 the new toll revenue forecasts are between 4.0 and 4.6 percent greater than those from the 2018 Forecast Study. As shown in Table 15, actual toll revenue over the last 12 months has exceeded CDM Smith's forecasts by 4.4 percent. The slightly lower long-term growth rates reduce the positive impact of the new revenue forecasts to 2.7 percent by the outer years of the forecast. Unlike with the traffic forecasts, the new revenue forecasts remain higher than the previous forecasts over the entire forecast period. This is because the average toll rates for commercial vehicles is now higher than previously assumed. This occurs because of the lower E-ZPass market share assumptions for commercial vehicles at recently converted AET facilities over the forecast period.

**Table 17**  
**Barrier Systems: Estimated Annual Transactions and Gross Toll Revenue (1)**  
 Pennsylvania Turnpike Commission

Traffic and Toll Revenue in Thousands

Fiscal Year	Annual Traffic			Annual Gross Toll Revenue		
	Passenger Cars	Commercial Vehicles	Total Vehicles	Passenger Cars	Commercial Vehicles	Total Vehicles
2016-17 (2,3,5)	37,671	5,524	43,195	\$73,872	\$36,694	\$110,566
2017-18 (2,6)	38,385	6,073	44,459	79,357	42,042	121,399
2018-19 (4,7,8)	40,285	6,483	46,769	91,843	47,862	139,705
2019-20 (9)	40,635	6,564	47,199	102,331	51,811	154,142
2020-21	40,405	6,636	47,041	108,561	55,615	164,176
2021-22 (10)	42,203	7,090	49,293	115,219	59,920	175,139
2022-23	45,467	7,828	53,295	124,119	64,916	189,035
2023-24	46,553	8,042	54,595	131,671	68,988	200,659
2024-25	47,518	8,225	55,743	139,663	73,254	212,917
2025-26	48,321	8,361	56,682	147,628	77,395	225,023
2026-27	49,039	8,469	57,509	154,926	81,072	235,998
2027-28	49,536	8,529	58,065	161,581	84,335	245,916
2028-29	50,023	8,598	58,621	167,996	87,613	255,609
2029-30	50,473	8,681	59,154	174,555	91,226	265,781
2030-31	50,901	8,762	59,663	181,263	94,967	276,230
2031-32	51,312	8,842	60,154	188,134	98,848	286,982
2032-33	51,709	8,922	60,632	195,209	102,874	298,083
2033-34	52,089	9,002	61,090	202,479	107,048	309,527
2034-35	52,459	9,081	61,540	210,020	111,380	321,400
2035-36	52,816	9,160	61,975	217,878	115,875	333,753
2036-37	53,156	9,238	62,393	226,002	120,524	346,526
2037-38	53,483	9,314	62,798	234,333	125,323	359,656
2038-39	53,808	9,391	63,199	242,928	130,304	373,232
2039-40	54,118	9,468	63,586	251,801	135,475	387,276
2040-41	54,404	9,545	63,949	260,942	140,817	401,759
2041-42	54,682	9,621	64,303	270,389	146,317	416,706
2042-43	54,952	9,697	64,649	280,123	152,006	432,129
2043-44	55,213	9,773	64,986	290,150	157,904	448,055
2044-45	55,468	9,848	65,316	300,482	164,018	464,500
2045-46	55,715	9,923	65,638	311,118	170,355	481,473
2046-47	55,954	9,998	65,951	322,081	176,923	499,004
2047-48	56,188	10,072	66,260	333,390	183,732	517,121
2048-49	56,423	10,147	66,570	345,095	190,803	535,898

- (1) Annual toll rate increases are implemented in January of each year.
- (2) Reflects actual traffic and revenue experience.
- (3) The Delaware River Bridge toll plaza was converted from part of the Ticket System to a one-way barrier AET facility in January 2016.
- (4) Reflects actual experience through February 2019.
- (5) The Delaware River Bridge was closed due to structural integrity concerns from January 20, 2017 to March 9, 2017.
- (6) The two Northeast Extension Barrier Plazas were converted to AET at the end of April 2018.
- (7) The Findlay Connector converted to AET in early June 2018.
- (8) The partial I-95 Interchange (Stage 1) opened in September 2018.
- (9) Assumes AKH and Gateway will convert to AET at the end of October 2019.
- (10) Reflects opening of Southern Beltway between US 22 and I-79 beginning in January 2022.

**Table 18**  
**Total System: Estimated Annual Transactions and Gross Toll Revenue (1)**  
 Pennsylvania Turnpike Commission

Traffic and Toll Revenue in Thousands

Fiscal Year	Annual Traffic			Annual Gross Toll Revenue			Discounts and Adjustments	Net Toll Revenue
	Passenger Cars	Commercial Vehicles	Total Vehicles	Passenger Cars	Commercial Vehicles	Total Vehicles		
2016-17 (2,3,5)	172,799	27,703	200,501	\$638,787	\$476,188	\$1,114,975	(\$3,915)	\$1,111,061
2017-18 (2,6)	172,512	28,650	201,162	678,741	524,418	1,203,158	(6,552)	1,196,606
2018-19 (4,7,8)	172,645	29,406	202,051	728,980	586,075	1,315,056	(8,334)	1,306,722
2019-20 (9)	171,860	29,682	201,542	772,918	626,041	1,398,959	(8,902)	1,390,057
2020-21	171,098	30,002	201,100	815,452	667,783	1,483,235	(9,496)	1,473,739
2021-22 (10)	173,021	30,690	203,711	856,735	708,513	1,565,247	(10,075)	1,555,172
2022-23	177,067	31,649	208,716	906,779	751,265	1,658,044	(10,683)	1,647,361
2023-24	179,320	32,074	211,394	959,879	794,229	1,754,108	(11,294)	1,742,814
2024-25	181,523	32,478	214,001	1,016,411	840,034	1,856,445	(11,945)	1,844,500
2025-26	183,801	32,854	216,655	1,073,633	885,784	1,959,417	(12,596)	1,946,821
2026-27	186,085	33,198	219,283	1,125,652	926,662	2,052,314	(13,177)	2,039,137
2027-28	188,116	33,477	221,593	1,173,841	963,901	2,137,743	(13,707)	2,124,036
2028-29	190,102	33,793	223,895	1,219,560	1,001,566	2,221,126	(14,242)	2,206,883
2029-30	192,022	34,167	226,188	1,266,549	1,043,475	2,310,025	(14,838)	2,295,186
2030-31	193,886	34,538	228,424	1,315,214	1,086,972	2,402,186	(15,457)	2,386,729
2031-32	195,721	34,909	230,630	1,366,908	1,132,124	2,499,032	(16,099)	2,482,933
2032-33	197,527	35,279	232,806	1,421,783	1,178,990	2,600,773	(16,765)	2,584,008
2033-34	199,267	35,649	234,916	1,478,251	1,227,639	2,705,889	(17,457)	2,688,432
2034-35	200,958	36,018	236,976	1,536,493	1,278,149	2,814,642	(18,175)	2,796,466
2035-36	202,597	36,387	238,984	1,596,610	1,330,598	2,927,208	(18,921)	2,908,287
2036-37	204,198	36,750	240,948	1,658,745	1,384,770	3,043,515	(19,691)	3,023,823
2037-38	205,702	37,103	242,805	1,722,281	1,440,575	3,162,855	(20,485)	3,142,370
2038-39	207,163	37,456	244,619	1,787,702	1,498,506	3,286,208	(21,309)	3,264,899
2039-40	208,593	37,810	246,403	1,855,315	1,558,648	3,413,963	(22,164)	3,391,799
2040-41	209,977	38,165	248,142	1,925,113	1,621,067	3,546,180	(23,052)	3,523,128
2041-42	211,328	38,521	249,849	1,997,149	1,685,835	3,682,984	(23,973)	3,659,011
2042-43	212,637	38,877	251,513	2,071,365	1,753,068	3,824,434	(24,929)	3,799,505
2043-44	213,911	39,233	253,145	2,147,895	1,822,881	3,970,776	(25,921)	3,944,855
2044-45	215,154	39,591	254,745	2,226,815	1,895,368	4,122,183	(26,952)	4,095,230
2045-46	216,360	39,949	256,309	2,308,152	1,970,622	4,278,774	(28,022)	4,250,751
2046-47	217,545	40,308	257,853	2,392,157	2,048,760	4,440,917	(29,133)	4,411,783
2047-48	218,713	40,668	259,381	2,478,954	2,129,905	4,608,859	(30,287)	4,578,572
2048-49	219,887	41,032	260,919	2,568,902	2,214,264	4,783,165	(31,487)	4,751,678

- (1) Annual toll rate increases are implemented in January of each year.
- (2) Reflects actual traffic and revenue experience.
- (3) The Delaware River Bridge toll plaza was converted from part of the Ticket System to a one-way barrier AET facility in January 2016.
- (4) Reflects actual experience through February 2019.
- (5) The Delaware River Bridge was closed due to structural integrity concerns from January 20, 2017 to March 9, 2017.
- (6) The two Northeast Extension Barrier Plazas were converted to AET at the end of April 2018.
- (7) The partial I-95 Interchange (Stage 1) opened in September 2018.
- (8) The Findlay Connector converted to AET in early June 2018.
- (9) Assumes AKH and Gateway will convert to AET at the end of October 2019.
- (10) Reflects opening of Southern Beltway between US 22 and I-79 beginning in January 2022.



**Table 19**  
**Comparison of New Traffic and Revenue**  
**Estimates with those from the 2018 Forecast Study**  
**Pennsylvania Turnpike**

Traffic and Toll Revenue in Thousands

Fiscal Year	Total Annual Transactions			Total Annual Adjusted Gross Toll Revenue		
	Current Estimates	2018 IG Study	Percent Difference	Current Estimates	2018 IG Study	Percent Difference
2016-17 (1,2)	200,501	200,501	0.0	\$1,111,061	\$1,111,061	0.0
2017-18 (2)	201,162	200,527	0.3	1,196,606	1,184,080	1.1
2018-19 (3)	202,051	199,225	1.4	1,306,722	1,250,929	4.5
2019-20	201,542	199,024	1.3	1,390,057	1,329,382	4.6
2020-21	201,100	199,574	0.8	1,473,739	1,410,906	4.5
2021-22	203,711	203,467	0.1	1,555,172	1,495,468	4.0
2022-23	208,716	209,703	(0.5)	1,647,361	1,589,229	3.7
2023-24	211,394	212,402	(0.5)	1,742,814	1,684,343	3.5
2024-25	214,001	215,027	(0.5)	1,844,500	1,785,814	3.3
2025-26	216,655	217,707	(0.5)	1,946,821	1,888,350	3.1
2026-27	219,283	220,362	(0.5)	2,039,137	1,981,635	2.9
2027-28	221,593	222,700	(0.5)	2,124,036	2,068,126	2.7
2028-29	223,895	225,001	(0.5)	2,206,883	2,151,047	2.6
2029-30	226,188	227,245	(0.5)	2,295,186	2,236,615	2.6
2030-31	228,424	229,436	(0.4)	2,386,729	2,325,657	2.6
2031-32	230,630	231,603	(0.4)	2,482,933	2,419,605	2.6
2032-33	232,806	233,745	(0.4)	2,584,008	2,517,943	2.6
2033-34	234,916	235,826	(0.4)	2,688,432	2,619,547	2.6
2034-35	236,976	237,857	(0.4)	2,796,466	2,724,656	2.6
2035-36	238,984	239,842	(0.4)	2,908,287	2,833,400	2.6
2036-37	240,948	241,788	(0.3)	3,023,823	2,945,731	2.7
2037-38	242,805	243,628	(0.3)	3,142,370	3,060,971	2.7
2038-39	244,619	245,424	(0.3)	3,264,899	3,180,057	2.7
2039-40	246,403	247,204	(0.3)	3,391,799	3,303,400	2.7
2040-41	248,142	248,959	(0.3)	3,523,128	3,431,090	2.7
2041-42	249,849	250,681	(0.3)	3,659,011	3,563,210	2.7
2042-43	251,513	252,362	(0.3)	3,799,505	3,699,804	2.7
2043-44	253,145	254,010	(0.3)	3,944,855	3,841,108	2.7
2044-45	254,745	255,627	(0.3)	4,095,230	3,987,289	2.7
2045-46	256,309	257,208	(0.3)	4,250,751	4,138,460	2.7
2046-47	257,853	258,770	(0.4)	4,411,783	4,294,979	2.7
2047-48	259,381	260,315	(0.4)	4,578,572	4,457,089	2.7

(1) The Delaware River Bridge was closed due to structural integrity concerns from January 20, 2017 to March 9, 2017.

(2) Reflects actual traffic and revenue experience.

(3) Reflects actual experience through February 2019.

Additional reason for continued increased toll revenue relate to the I-95 Stage 1 interchange opening in September 2018; this brought in more revenue than expected. The Northeast Extension Barrier Facilities and the Findlay Connector AET conversion also changed the vehicle classification systems at these facilities, which raised average toll rates.

\* \* \*

### **Fiduciary Disclaimer**

Current accepted professional practices and procedures were used in the development of these updated traffic and revenue forecasts. However, as with any forecast of the future, there may be differences between forecasted and actual results caused by events and circumstances beyond the control of CDM Smith. In formulating its forecasts, CDM Smith has reasonably relied upon the accuracy and completeness of information provided (both written and oral) by the PTC and other local and state agencies. CDM Smith also has relied upon the reasonable assurances of some independent parties and is not aware of any facts that would make such information misleading.

CDM Smith has made qualitative judgments related to several key variables in the development and analysis of the traffic and revenue forecasts that must be considered as a whole; therefore selecting portions of any individual result without consideration of the intent of the whole may create a misleading or incomplete view of the results and the underlying methodologies used to obtain the results. CDM Smith gives no opinion as to the value or merit to partial information extracted from this report.

All forecasts and projections reported herein are based on CDM Smith's experience and judgment and on a review of information obtained from multiple state and local agencies, including the PTC. These estimates and projections may not be indicative of actual or future values, and are therefore subject to substantial uncertainty. Future developments cannot be predicted with certainty, and may affect the forecasts or projections expressed in this report, such that CDM Smith does not specifically guarantee or warrant any forecasts or projections contained within this report.

While CDM Smith believes that some of the projections or other forward-looking statements contained within the report are based on reasonable assumptions as of the date in the report, such forward-looking statements involve risks and uncertainties that may cause actual results to differ materially from the results predicted. Therefore, following the date of this report, CDM Smith will take no responsibility or assume any obligation to advise of changes that may affect its assumptions contained within the report, as they pertain to: socioeconomic and demographic forecasts, proposed residential or commercial land use development projects and/or potential improvements to the regional transportation network.



Mr. Nikolaus Grieshaber  
April 29, 2019  
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CDM Smith is not, and has not been, a municipal advisor as defined in Federal law (the Dodd Frank Bill) to the PTC and does not owe a fiduciary duty pursuant to Section 15B of the Exchange Act to PTC with respect to the information and material contained in this report. CDM Smith is not recommending and has not recommended any action to PTC. PTC should discuss the information and material contained in this report with any and all internal and external advisors that it deems appropriate before acting on this information.

\* \* \*

Sincerely,

A handwritten signature in black ink that reads "Robert W. Pintar, Jr.".

Robert Pintar, P.E.  
Vice President  
CDM Smith Inc.

A handwritten signature in black ink that reads "Yogesh Patel".

Yogesh Patel, AICP  
Project Manager  
CDM Smith Inc.