


C-549AR Level 3 – Investment Grade Traffic and Revenue Forecasts

Submitted to: Delaware River Joint Toll Bridge Commission

Long Term Traffic & Revenue Report

Existing Toll Bridges

March 25, 2014

Scudder Falls Bridge

Traffic and Revenue Report

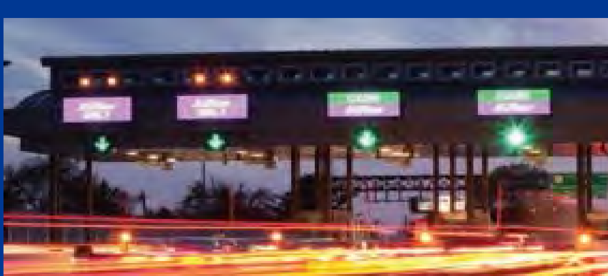
July 15, 2014

Submitted by:

Jacobs Engineering Group Inc.

900 Northbrook Dr., Suite 300
Feasterville-Trevose, Pennsylvania 19053

JACOBS



Submitted to:

Delaware River Joint Toll Bridge Commission

Long Term Traffic & Revenue Report

Existing Toll Bridges

March 25, 2014

Submitted by:

Jacobs Engineering Group Inc.

900 Northbrook Dr., Suite 300
Feasterville-Trevose, Pennsylvania 19053

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

EXECUTIVE SUMMARY

Jacobs Engineering Group, Inc. ("Jacobs") was retained by the Delaware River Joint Toll Bridge Commission (the "Commission" or "DRJTBC") to prepare Level 3 – Investment Grade Traffic and Revenue Forecasts for the Commission's existing seven (7) toll bridges. Jacobs analyzed historical traffic and toll revenue data for the Commission's existing toll facilities 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.

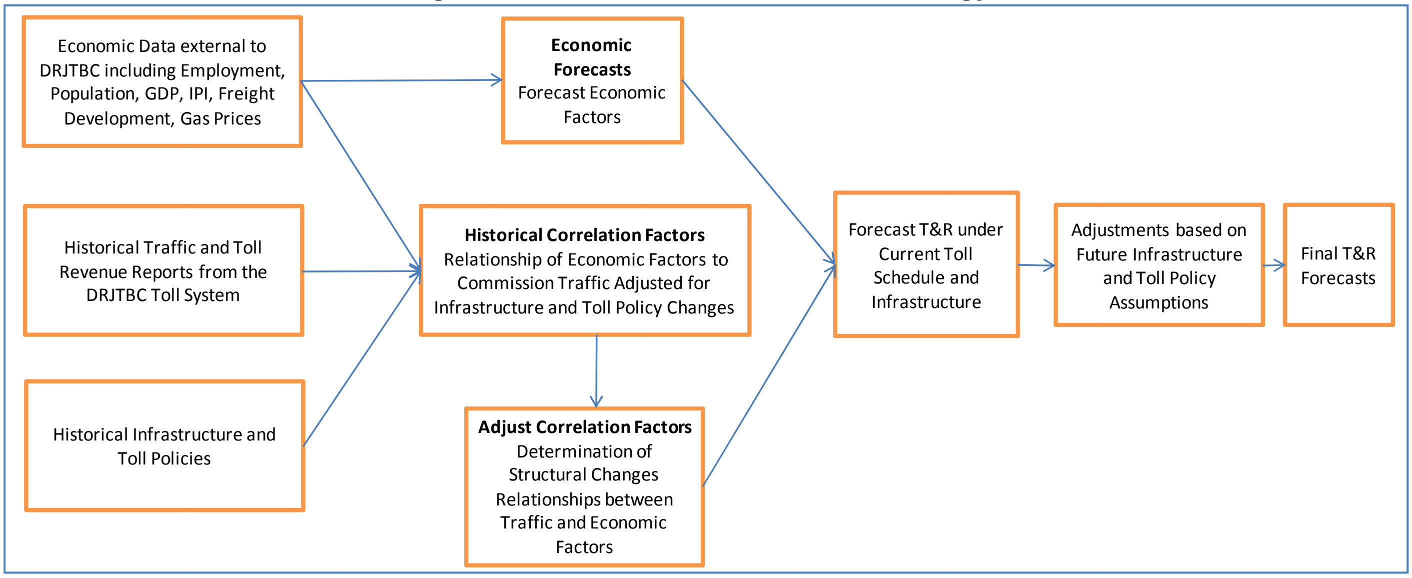
The traffic and revenue forecasts are based on the current toll and fee schedules of the existing seven (7) toll bridges. This executive summary presents the results of these work efforts, including a review of the overall forecasting methodology and a presentation of the final forecasts. The work, analyses, and forecasts for the Commission are of investment-grade quality and are suitable for financing. As part of the analysis, a traffic and toll revenue model for the Commission's existing toll bridges was developed. This model has the ability to adjust projections based on economic parameters by the type of vehicle, payment method, and the facility. We did not assume any toll increases in preparing this forecast.

In preparing Level 3 – Investment Grade Traffic and Revenue Forecasts, Jacobs develops modeling assumptions that are intended to achieve a 90% confidence level in the forecast. Expressed in simple terms, our goal is that the forecasted revenue levels would be achieved in nine of the ten years of the forecast. In addition to the baseline forecast, we included a system-wide Monte Carlo analysis that provided a wider range of potential traffic and revenues for the forecast period.

T&R Study Methodology

The forecasting model uses historical correlations between economic and demographic factors and normalized traffic levels on the Commission's toll facilities by vehicle and payment class, adjusts those correlation factors for the forecast when structural changes in relationships are becoming apparent, and then predicts traffic as a function of forecasted economic and demographic factors. These forecasts are then adjusted to reflect DRJTBC and non-DRJTBC system infrastructure construction and improvement projects.

Figure ES-1: DRJTBC 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 (GDP) by Region;
4. Industrial Production Index (IPI);
5. Manufacturing levels by region;
6. Freight movement;
7. Gas Prices;
8. National, Regional, State Vehicle Miles Traveled (VMT);
9. Specific developments in the area of the bridges; and
10. Other Demographic and socio-economic factors.

Combining the forecast of economic factors and correlation factors provides DRJTBC traffic forecasts for existing infrastructure and toll policy. Population, GDP and IPI were considered to be the most relevant from our correlation analysis of traffic to demographic and socio-economic factors.

Forecasted Trips and Gross Toll Revenues

The estimates of future annual gross toll revenue for the DRJTBC's seven (7) existing toll bridges are presented in Table ES-1. The estimates of gross toll revenue are in nominal dollars and the estimates are of a 90 percent confidence level suitable for financing.

The Toll Traffic and Revenue forecasts were developed with the aid of a computerized modeling platform created specifically for the DRJTBC. The base function of this model is to take current traffic volumes by class and payment type for each DRJTBC toll facility and adjust them in the future years for various factors such as underlying socio-economic/demographic growth in the corridor.

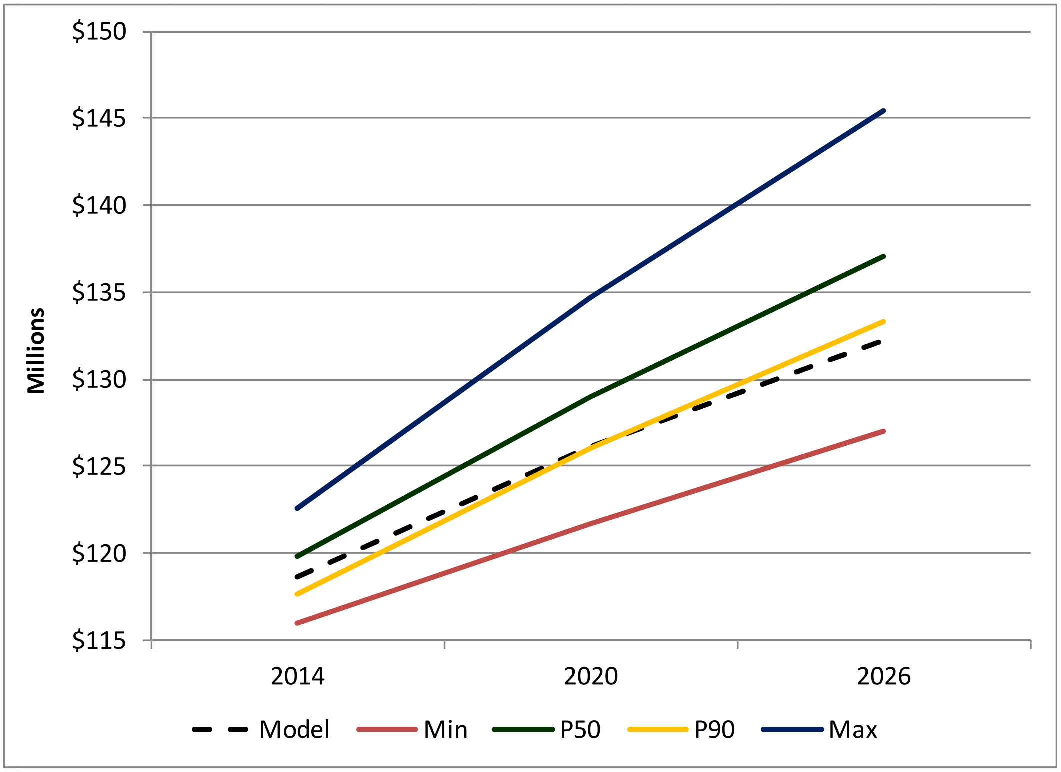
Table ES-1: DRJTBC Gross Toll Revenues in millions, 2013 to 2026

Facility	Year													
	2013*	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
Trenton-Morrisville														
Cars	$7.29	$7.31	$7.36	$7.42	$7.47	$7.51	$7.56	$7.61	$7.66	$7.71	$7.75	$7.80	$7.85	$7.90
Trucks	$7.13	$7.26	$7.41	$7.56	$7.70	$7.83	$7.96	$8.09	$8.22	$8.35	$8.48	$8.62	$8.75	$8.89
Total	***$14.41***	***$14.57***	***$14.78***	***$14.97***	***$15.16***	***$15.34***	***$15.52***	***$15.70***	***$15.87***	***$16.05***	***$16.23***	***$16.42***	***$16.60***	***$16.79***
New Hope-Lambertville														
Cars	$1.76	$1.75	$1.75	$1.76	$1.77	$1.78	$1.79	$1.80	$1.81	$1.82	$1.83	$1.84	$1.85	$1.86
Trucks	$1.34	$1.36	$1.38	$1.41	$1.43	$1.45	$1.46	$1.48	$1.50	$1.52	$1.54	$1.56	$1.58	$1.60
Total	***$3.10***	***$3.11***	***$3.14***	***$3.17***	***$3.20***	***$3.23***	***$3.26***	***$3.29***	***$3.31***	***$3.34***	***$3.37***	***$3.40***	***$3.43***	***$3.46***
I-78														
Cars	$8.20	$8.22	$8.32	$8.42	$8.52	$8.61	$8.70	$8.80	$8.89	$8.98	$9.08	$9.17	$9.27	$9.37
Trucks	$47.33	$48.59	$49.91	$50.61	$51.05	$51.47	$51.88	$52.28	$52.68	$53.09	$53.50	$53.91	$54.33	$54.75
Total	***$55.53***	***$56.81***	***$58.22***	***$59.03***	***$59.57***	***$60.09***	***$60.59***	***$61.08***	***$61.57***	***$62.07***	***$62.58***	***$63.09***	***$63.60***	***$64.12***
Easton-Phillipsburg														
Cars	$4.66	$4.55	$4.50	$4.49	$4.49	$4.51	$4.52	$4.53	$4.54	$4.55	$4.56	$4.57	$4.58	$4.60
Trucks	$4.48	$4.49	$4.49	$4.48	$4.50	$4.51	$4.52	$4.53	$4.54	$4.55	$4.56	$4.57	$4.59	$4.60
Total	***$9.15***	***$9.04***	***$8.99***	***$8.98***	***$8.99***	***$9.01***	***$9.04***	***$9.06***	***$9.08***	***$9.10***	***$9.13***	***$9.15***	***$9.17***	***$9.19***
Portland-Columbia														
Cars	$1.08	$1.06	$1.06	$1.06	$1.07	$1.08	$1.09	$1.09	$1.10	$1.11	$1.12	$1.12	$1.13	$1.14
Trucks	$0.99	$0.99	$0.99	$0.99	$0.99	$1.00	$1.00	$1.00	$1.01	$1.01	$1.01	$1.02	$1.02	$1.02
Total	***$2.07***	***$2.05***	***$2.05***	***$2.05***	***$2.06***	***$2.07***	***$2.09***	***$2.10***	***$2.11***	***$2.12***	***$2.13***	***$2.14***	***$2.15***	***$2.16***
Delaware Water Gap														
Cars	$7.70	$7.78	$7.94	$8.05	$8.16	$8.24	$8.32	$8.40	$8.48	$8.56	$8.65	$8.73	$8.81	$8.90
Trucks	$23.54	$23.76	$23.98	$24.19	$24.39	$24.58	$24.76	$24.94	$25.12	$25.31	$25.49	$25.68	$25.87	$26.06
Total	***$31.23***	***$31.54***	***$31.92***	***$32.24***	***$32.55***	***$32.82***	***$33.08***	***$33.34***	***$33.61***	***$33.87***	***$34.14***	***$34.41***	***$34.68***	***$34.96***
Milford Montague														
Cars	$1.18	$1.17	$1.17	$1.18	$1.18	$1.18	$1.19	$1.19	$1.19	$1.20	$1.20	$1.20	$1.20	$1.21
Trucks	$0.36	$0.36	$0.36	$0.37	$0.37	$0.37	$0.37	$0.37	$0.37	$0.37	$0.38	$0.38	$0.38	$0.38
Total	***$1.54***	***$1.53***	***$1.54***	***$1.54***	***$1.55***	***$1.55***	***$1.56***	***$1.56***	***$1.56***	***$1.57***	***$1.57***	***$1.58***	***$1.58***	***$1.59***
All Toll Bridges														
Cars	$31.86	$31.84	$32.10	$32.39	$32.66	$32.92	$33.17	$33.42	$33.67	$33.93	$34.18	$34.44	$34.70	$34.97
Trucks	$85.17	$86.81	$88.52	$89.60	$90.42	$91.20	$91.96	$92.70	$93.45	$94.20	$94.96	$95.74	$96.51	$97.30
Total	***$117.04***	***$118.66***	***$120.63***	***$121.99***	***$123.08***	***$124.12***	***$125.13***	***$126.12***	***$127.12***	***$128.13***	***$129.15***	***$130.18***	***$131.22***	***$132.27***

**Actual*

Jacobs performed a Monte Carlo analysis using @Risk software to determine the possible range of gross toll revenues; results are shown in Figure ES-2 through the year 2026. Specifically for the Monte Carlo analysis we tested ranges of E-ZPass adoption, socio-economic growth factors, and customer willingness to pay tolls. Based on this analysis for the period through 2026 we determined that our forecast maintains a minimum 90 percent confidence level throughout the period.

Figure ES-2: Risk Analysis Results for Toll Revenue Forecast



1.0 INTRODUCTION

Jacobs Engineering Group, Inc. ("Jacobs") was retained by the Delaware River Joint Toll Bridge Commission (the "Commission" or "DRJTBC") to prepare Level 3 – Investment Grade Traffic and Revenue Forecasts for the Commission's existing seven (7) toll bridges. Jacobs analyzed historical traffic and toll revenue data for the Commission's existing toll facilities 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. All of these data and analyses were then used to develop a traffic and revenue model to estimate annual trips and gross toll revenue for the period 2014 through 2026. During the course of the work effort we compiled a complete set of available traffic and economic data. Historical trips and toll revenue data were compiled from the DRJTBC for all toll trips on the Commission's existing toll facilities by month, detailed to payment type and vehicle class.

The recent past and current local, national and global economic conditions are unparalleled in recent history. 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. The most recent recession began in December 2007 and lasted 18 months until June 2009 according to the National Bureau of Economic Research (NBER). This recession is comparable to the most significant previous recessions of 1973-1975 and 1981 -1982. Both of which were estimated to be 16 months in duration.

The traffic and revenue model with resulting toll trips and toll revenue projections was developed for the DRJTBC's seven (7) tolled facilities, based on historical traffic and toll revenue data through the full year 2013. As part of the analysis, a static trend line-based traffic and toll revenue model for the DRJTBC was developed. This model has the ability to adjust projections based on various economic parameters, and is segmented by vehicle class and payment type. The work, analyses, and results for the DRJTBC are of investment-grade quality and are suitable for financing.

The background and methodology that led to Jacobs' traffic and toll revenue projections for the DRJTBC are presented herein.

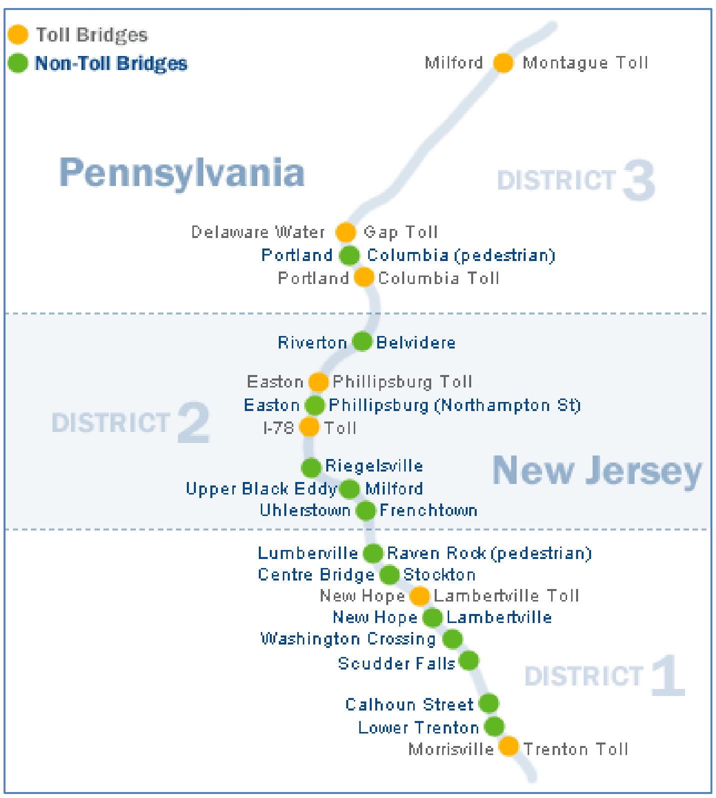
2.0 DESCRIPTION OF THE DRJTBC EXISTING TOLL FACILITIES

This section of the report provides a description of the DRJTBC existing toll facilities, along with a historical overview of toll collection on the DRJTBC, and is followed by a description of the existing toll rate schedule.

2.1 DRJTBC Existing Toll Facilities

The DRJTBC owns and operates 20 bridges that span the Delaware River linking the states of New Jersey and Pennsylvania. They are located from as far south as the Bucks County, PA – Philadelphia line to as far north as the New York State border as shown in Figure 1. These facilities range in utilization from a pedestrian-only bridge crossing the river between Lumberville, PA and Raven Rock, NJ to the I-78 Toll Bridge that supports over 30,000 daily tolled crossings (tolls are collected in the westbound direction only). Seven (7) of these bridges are tolled and comprise a unique mix of local and through crossings. This unique mix of facilities provides service for local, daily commuters, and commercial through-traffic crossing the Delaware River, as well as many other travelers.

Figure 1: DRJTBC System



Source: DRJTBC

I-78 and I-80 (Delaware Water Gap) are major east-west corridors for long distance truck traffic. I-95 (Scudder Falls) is a major north-south corridor that also includes a significant mix of local commuting traffic between Trenton and the Bucks County suburbs of Philadelphia. Many of the remaining facilities also have components of traffic that include commuting and recreational trips.

2.2 Toll Collection Historical Overview

On each of the seven (7) existing toll bridges, tolls are collected in the westbound direction only, at toll plazas located on the Pennsylvania side of the Delaware River except for the Easton-Phillipsburg Toll Bridge where the toll plaza is located in New Jersey. Tolls are assessed based on the classification of each vehicle and the payment type. Since the first toll bridge opened to traffic in 1938, tolls were collected manually via cash payment or in the form of commutation tickets that provided discounts to frequent bridge users. In the early 1970s, the Commission began utilizing automated coin and token collection devices at its toll plazas in an effort to increase vehicle throughput with the tokens replacing the original commutation tickets. However, beginning in 2002, the Commission began implementing transponder-based electronic toll collection in the form of E-ZPass at each of its seven (7) existing toll bridges. Although toll lane gates were installed at each toll plaza, the introduction of E-ZPass as a payment method significantly increased vehicle throughput over previous automated coin and token machines. In 2010, the Commission removed the toll lane gates from the E-ZPass lanes at its seven (7) toll bridges which increased vehicle throughput even further. In addition, the Commission implemented Open Road Tolling in the form of highway speed Express E-ZPass lanes at the I-78 Toll Bridge in May 2010 and at the Delaware Water Gap (I-80) in November 2010.

The E-ZPass technology allows customers to travel seamlessly on toll facilities operated by 25 toll agencies in 15 states, including some of the toll facilities that feed directly or indirectly to the DRJTBC's toll bridges including the Pennsylvania Turnpike, Ohio Turnpike and other tolled Delaware River crossings such as the those operated by the Burlington County Bridge Commission, Delaware River Port Authority and the Delaware River and Bay Authority. Currently almost 65 percent of the Commission's revenue is collected by E-ZPass. The discounts previously offered through commutation tickets and tokens are still provided to motorists that use DRJTBC-issued transponders or have registered their transponder issued by another E-ZPass agency with the DRJTBC.

2.3 Toll Rates

2.3.1 Toll Increases in Recent Years

The most recent toll increase occurred on June 30, 2011, which increased standard car tolls from $0.75 to $1.00, discounted E-ZPass car tolls from $0.45 to $0.60, and truck tolls by $0.75 per axle. Two smaller toll increases occurred in 2009 and 2007, as described below.

In January 2009, an adjustment to the discounts took place as the 20 percent E-ZPass discount for cars was eliminated. The E-ZPass peak period discount of 5 percent for trucks was also eliminated, and the E-ZPass off-peak truck discount was reduced from 15 to 10 percent.

The previous toll increase occurred in May 2007 for trucks with three or more axles only. Tolls for these vehicles had been increased by 50 cents per axle.

2.3.2 Current Tolls

The current toll policy for the DRJTBC has been in effect since June 30, 2011 and the current toll rates at each of the seven toll bridges are shown in Table 1.

Table 1: Current DRJTBC Toll Rates

	Class	Cash and Full Fare E-ZPass		Discounted E-ZPass		
		Trip	Multiplier over Class 1	Trip	Multiplier over Class 1	Trip Discount
Auto	1[a]	$1.00		$0.60		40%
Commercial	2	$6.50	6.5	$5.85	9.75	10%
	3	$12.00	12	$10.80	18	10%
	4	$16.00	16	$14.40	24	10%
	5	$20.00	20	$18.00	30	10%
	6	$24.00	24	$21.60	36	10%
	7	$28.00	28	$25.20	42	10%

[a]Class 1 vehicles pulling trailers are charged $2.00

The current toll rate for Class 1 vehicles (2-axle automobiles) is $1.00 at each of the seven toll bridges. Class 2 vehicles (2-axle commercial trucks) are charged $3.25 per axle or $6.50 per trip. Classes 3 through 7 vehicles (3 to 7 axle commercial trucks) are assessed a rate of $4.00 per axle.

The Commission offers automatic commuter discounts of 40 percent (i.e. $0.60 per trip) to automobiles equipped with NJ CSC-issued E-ZPass transponders, provided that they make at least 16 trips on a DRJTBC toll facility in a calendar month. This change will begin in May 2014, and will represent a departure from the 20 trip/35 day commuter discount program which was in effect for the past several years. In addition, companion accounts – non-DRJTBC E-ZPass accounts that have also established a DRJTBC account to benefit from the commuter discounts – will no longer exist staring in May 2014. These changes are expected to have a *de minimus* effect on traffic and revenue.

All commercial vehicles (Class 2 through 7) equipped with E-ZPass transponders receive automatic discounts of 10 percent when traveling during the off-peak period of 9:01pm to 5:59am.

2.4 Reasonableness of Toll Rates / Comparison to Other Facilities

Figure 2 compares the passenger car toll rates on the DRJTBC's toll facilities to other various E-ZPass toll crossings in the northeastern U.S. Standard cash and peak period E-ZPass toll rates are shown for each facility. Discounted peak-period E-ZPass and off peak E-ZPass toll rates are also shown. We can see that all of the other E-ZPass toll crossings shown have higher toll rates than the current DRJTBC rates. It can be said that the DRJTBC passenger car toll rates are very reasonable compared to rates at other E-ZPass toll facilities.

Figure 2: Passenger Car Toll Rates on Select E-ZPass Toll Crossings as of January 2014

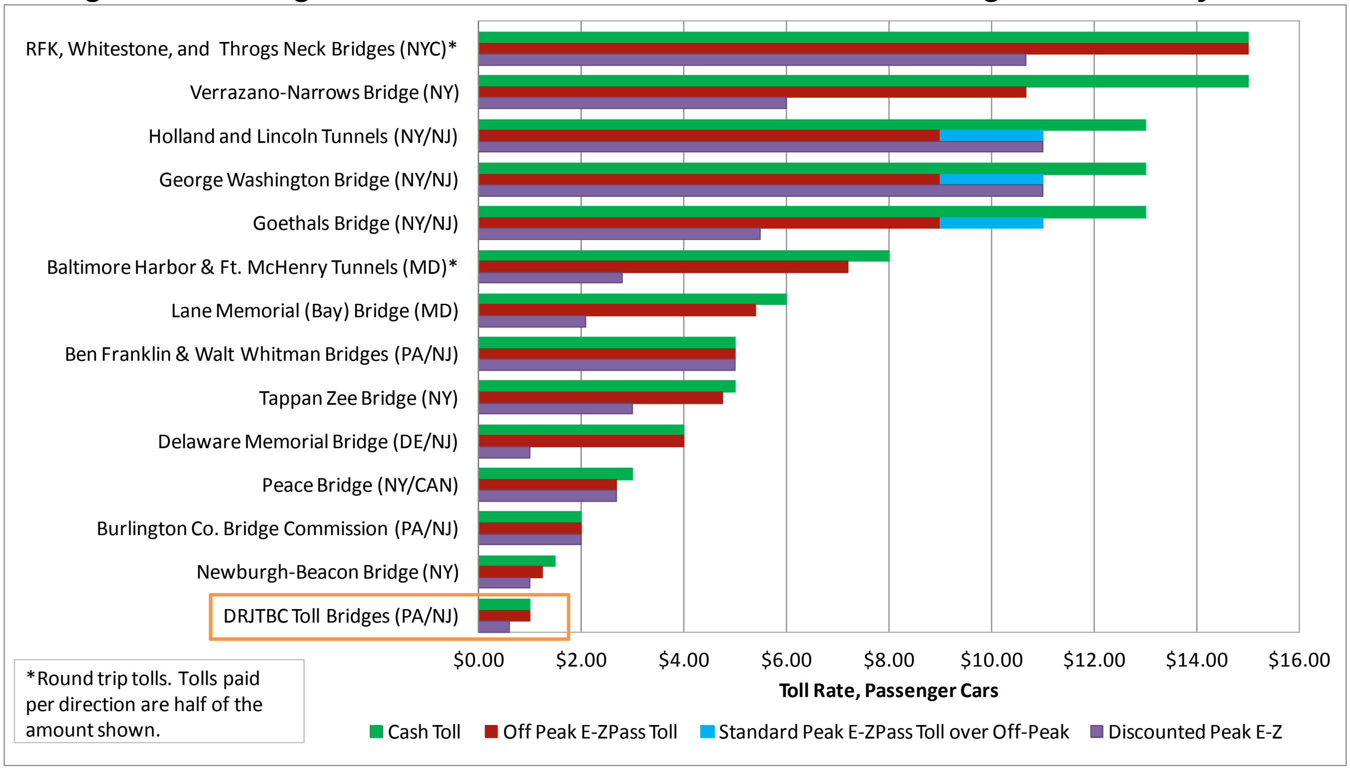
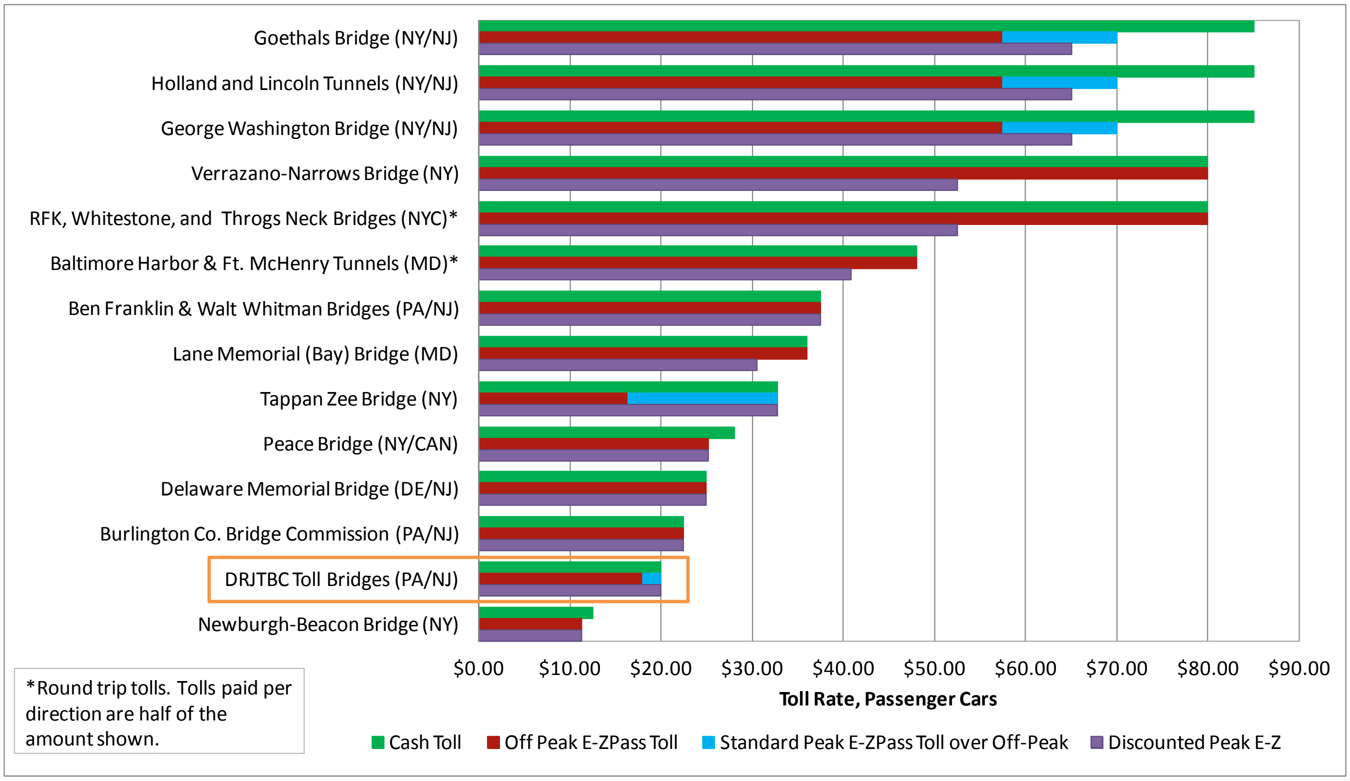


Figure 3 shows a similar comparison for 5-axle vehicles. All but one of the major E-ZPass toll crossings shown have higher 5-axle truck toll rates than the DRJTBC's current tolls. It can be said that the DRJTBC commercial vehicle toll rates are very reasonable compared to other E-ZPass toll facilities.

Figure 3: Commercial Vehicle Toll Rates on Select E-ZPass Toll Crossings as of January 2014



3.0 HISTORICAL TOLL TRIPS AND TOLL REVENUE TRENDS

This section discusses historical toll trips and toll revenue trends for the DRJTBC's seven toll facilities.

3.1 Historical Toll Trips

Figure 4 illustrates passenger car toll traffic trends on the seven toll bridges between 1987 and 2013. The number of passenger car toll transactions has reduced significantly from the high levels experienced during the late 1980s and early 1990s due to the conversion to one-way toll collection. The historical long term trend shows that passenger car toll traffic has increased steadily over the years with some years of negative traffic growth. We can see that passenger car toll traffic has been relatively flat to decreasing in recent years.

Figure 4: Passenger Car Toll Traffic on DRJTBC Bridges, 1987 to 2013

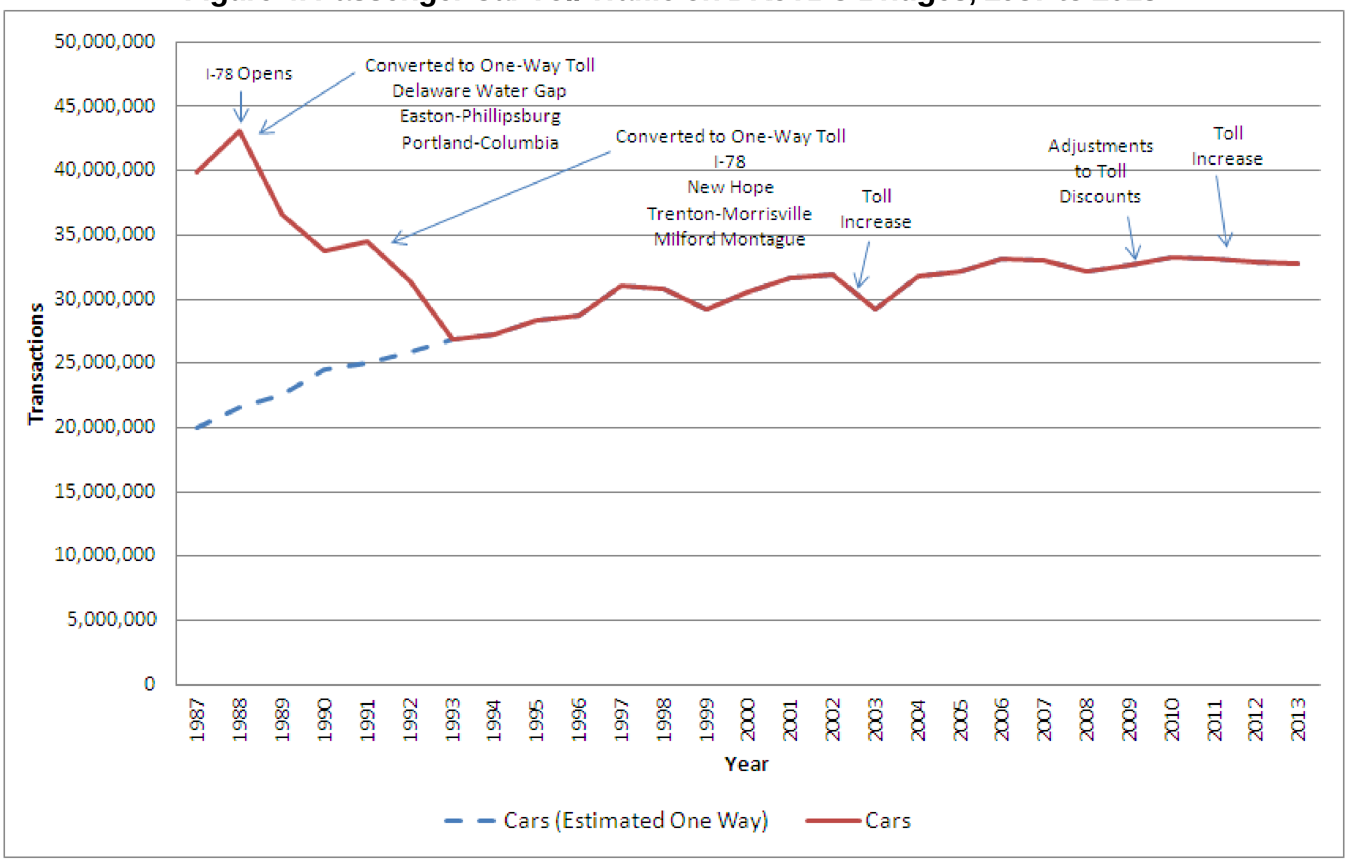


Table 2 shows annual passenger car toll trips from 2004 through 2013. Passenger car toll trips increased from 2004 to 2007, declined in 2007 and 2008, increased again from 2008 to 2010 and have been declining for the past three years. In 2013, total annual passenger car toll traffic declined by 0.6 percent overall. However, only three of the seven toll bridges

(Portland-Columbia, Easton-Phillipsburg and I-78) experienced declines in passenger car traffic with the remaining four toll bridges showing positive growth in 2013.

Table 2: Historical DRJTBC Passenger Car Toll Trips, 2004 through 2013

Toll Bridge	Annual Passenger Car Toll Trips (in Thousands)									
	2004	2005	2006	2007	2008	2009*	2010	2011**	2012	2013
Milford-Montague	1,312	1,301	1,312	1,310	1,266	1,258	1,267	1,214	1,178	1,209
Delaware Water Gap	8,489	8,493	8,638	8,501	8,291	8,390	8,169	7,920	7,812	7,885
Portland-Columbia	1,163	1,218	1,237	1,365	1,275	1,243	1,319	1,288	1,212	1,120
Easton-Phillipsburg	5,551	5,691	5,708	5,743	5,925	5,755	5,739	5,346	5,009	4,794
I-78	6,975	7,226	7,703	7,821	7,559	7,791	7,679	8,280	8,516	8,428
New Hope-Lambertville	2,027	1,700	1,737	1,895	1,759	1,853	1,805	1,809	1,773	1,814
Trenton-Morrisville	6,282	6,588	6,855	6,396	6,108	6,296	7,292	7,298	7,424	7,470
Total	***31,798***	***32,217***	***33,191***	***33,031***	***32,182***	***32,586***	***33,271***	***33,154***	***32,924***	***32,721***

**Adjustments to Toll Discount*
***Passenger Car Toll Increase Year*

Figure 5 illustrates passenger car toll traffic trends on the seven toll bridges between 2004 and 2013. Over the ten year period, only the Trenton-Morrisville and I-78 bridges experienced positive growth in passenger car traffic while the remaining five bridges saw traffic levels contract.

Figure 5: Passenger Car Traffic on DRJTBC Toll Bridges, Millions of Trips, 2004 to 2013

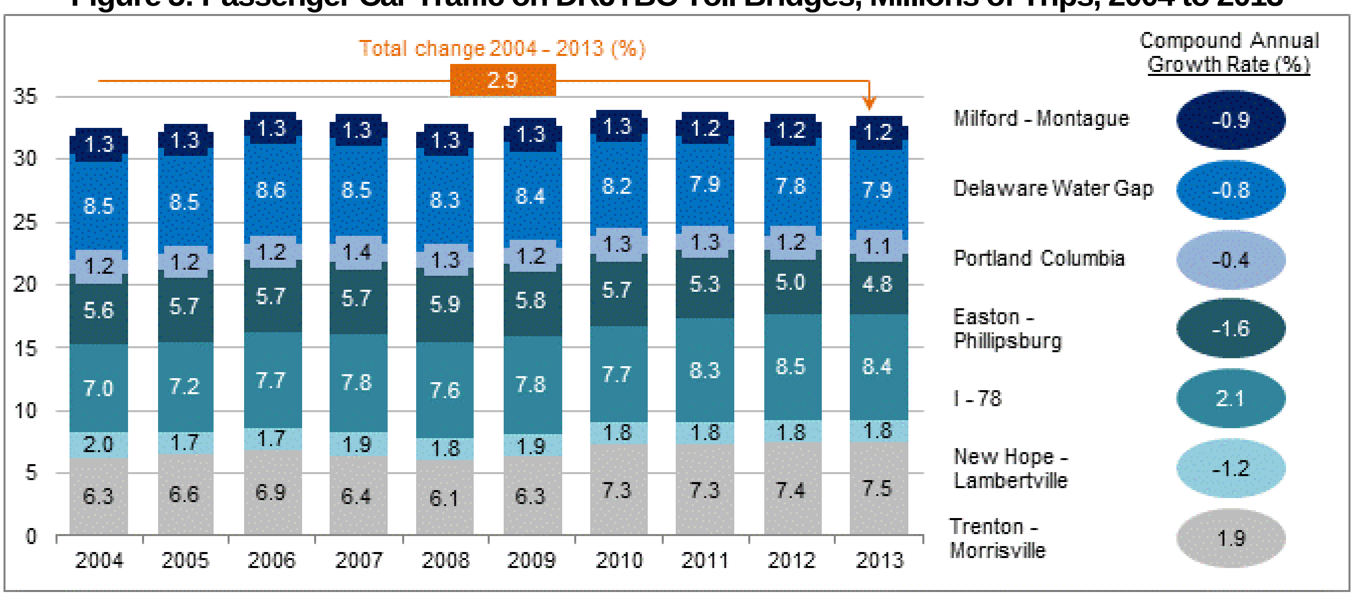


Figure 6 illustrates truck toll traffic trends on the seven toll bridges between 1987 and 2013. Similar to passenger cars, the number of truck toll transactions has reduced significantly from the high levels experienced during the late 1980s and early 1990s due to the conversion to one-way toll collection. The historical long term trend shows that truck toll traffic has generally been increasing over the years with some years of negative traffic growth. However, we can see that truck toll traffic has been increasing in recent years.

Figure 6: Truck Toll Traffic on DRJTBC Bridges, 1987 to 2013

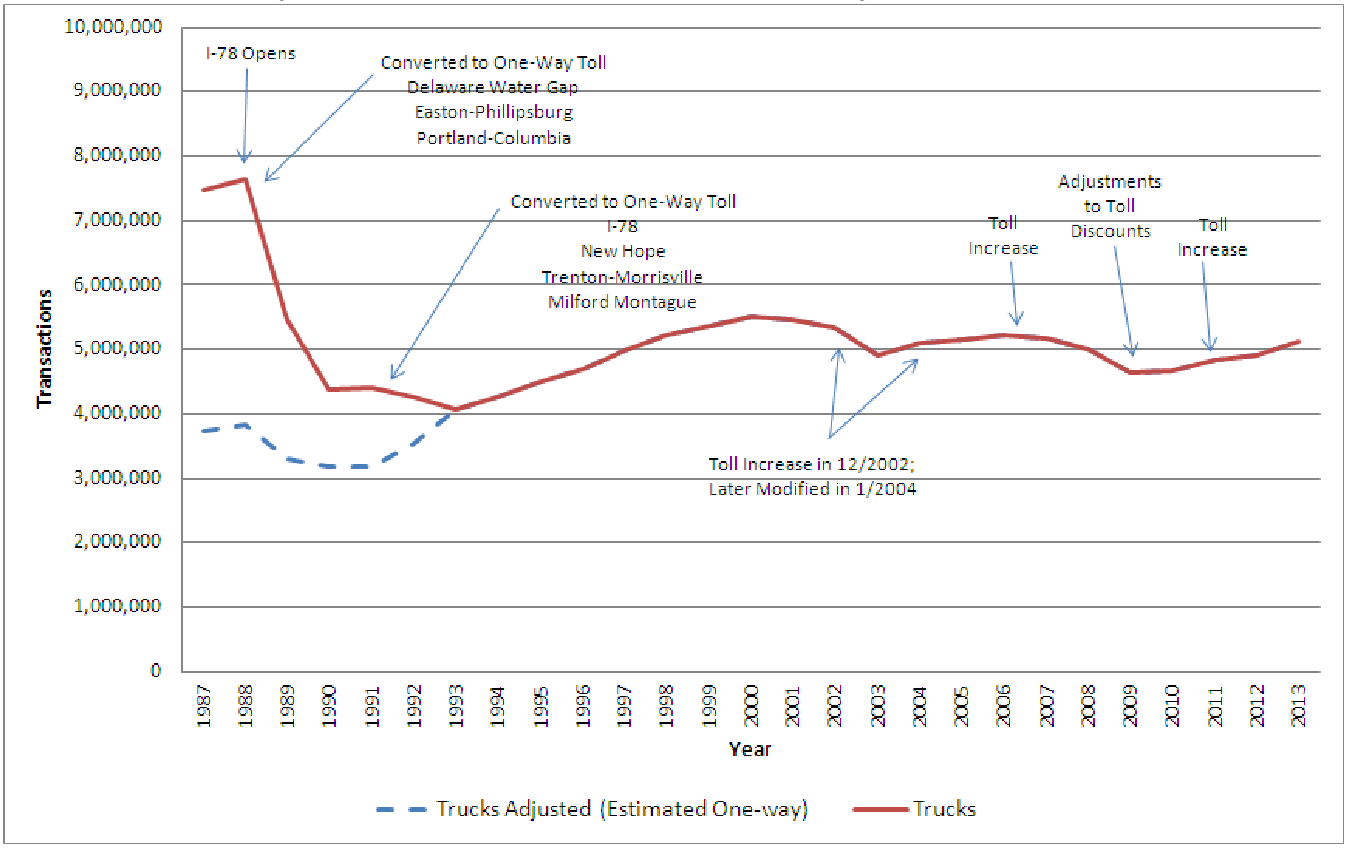


Table 3 shows annual truck toll trips from 2004 through 2013. Truck toll traffic increased in 2005 and 2006, declined from 2007 to 2009, increased again from 2010 to the present. In 2013, total annual truck toll traffic increased by 4.1 percent overall. With the exception of the Portland-Columbia Bridge, all other six toll bridges experienced increases in truck toll traffic in 2013.

Table 3: Historical DRJTBC Truck Toll Trips, 2004 through 2013

Toll Bridge	Annual Truck Toll Trips (in Thousands)									
	2004	2005	2006	2007*	2008	2009**	2010	2011*	2012	2013
Milford-Montague	41	41	41	42	42	35	34	33	32	35
Delaware Water Gap	1,463	1,464	1,472	1,527	1,424	1,330	1,329	1,287	1,304	1,339
Portland-Columbia	79	82	84	85	84	77	85	84	82	73
Easton-Phillipsburg	543	550	534	498	501	459	418	384	338	341
I-78	2,411	2,412	2,453	2,389	2,332	2,200	2,203	2,416	2,530	2,654
New Hope-Lambertville	112	112	121	123	112	109	108	111	112	119
Trenton-Morrisville	452	489	514	501	499	431	479	514	511	551
Total	***5,101***	***5,149***	***5,219***	***5,166***	***4,994***	***4,642***	***4,655***	***4,830***	***4,908***	***5,112***

**Commercial Vehicle Toll Increase Year*
***Adjustment to Toll Discount*

Figure 7 shows that truck traffic increased on the New Hope-Lambertville, Trenton-Morrisville and I-78 bridges over the ten year period with the remaining four bridges experiencing declines in truck traffic. This decline in truck traffic was particularly acute on the Easton-Phillipsburg Bridge which experienced a 5.0 percent average annual decline in truck traffic from 2004 to 2013.

Figure 7: Truck Traffic on DRJTBC Toll Bridges, Millions of Trips, 2004 to 2013

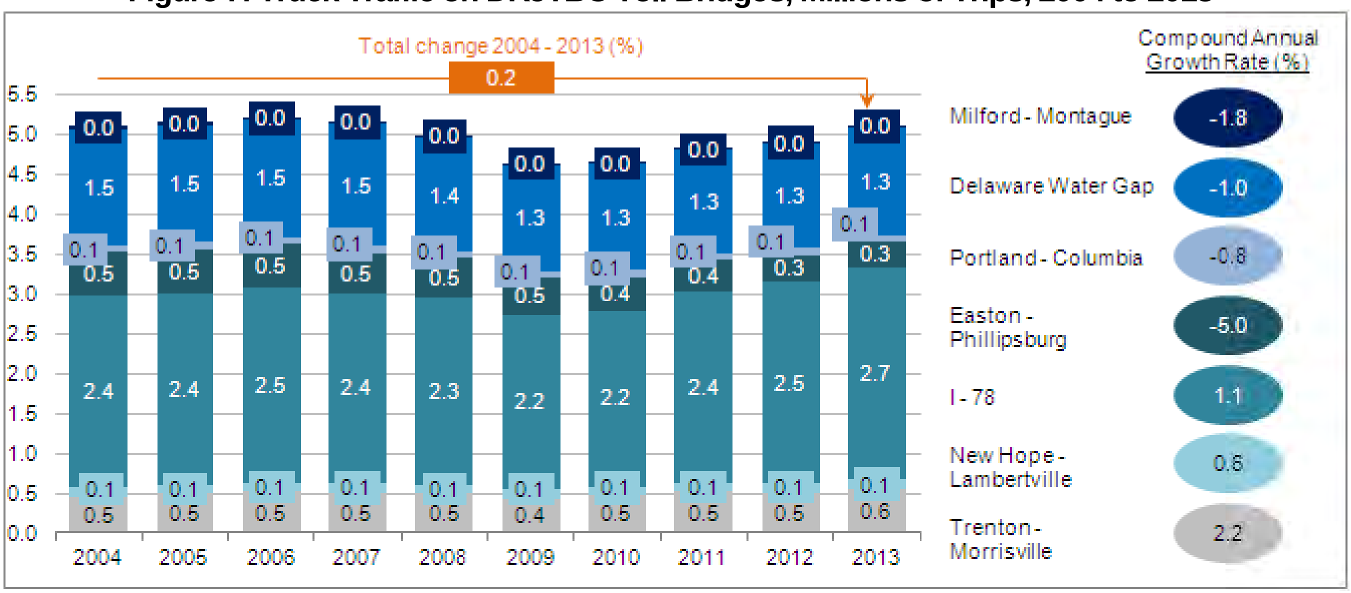


Table 4 shows total annual toll trips from 2004 through 2013. Total toll trips increased from 2004 to 2006, declined in 2007 and 2008, increased again in 2009 through 2011, declined in 2012 and has shown zero growth in the past year. However, only two of the seven toll bridges (Portland-Columbia and Easton-Phillipsburg) experienced declines in total traffic with the remaining five toll bridges showing positive growth in 2013.

Table 4: Historical DRJTBC Total Toll Trips, 2004 through 2013

Toll Bridge	Annual Total Toll Trips (in Thousands)									
	2004	2005	2006	2007*	2008	2009**	2010	2011***	2012	2013
Milford-Montague	1,353	1,341	1,353	1,352	1,308	1,293	1,301	1,247	1,211	1,244
Delaware Water Gap	9,952	9,957	10,110	10,029	9,715	9,720	9,498	9,207	9,116	9,223
Portland-Columbia	1,241	1,300	1,321	1,450	1,358	1,320	1,404	1,372	1,294	1,193
Easton-Phillipsburg	6,094	6,240	6,241	6,241	6,426	6,214	6,157	5,731	5,346	5,135
I-78	9,386	9,638	10,157	10,210	9,891	9,992	9,881	10,695	11,046	11,083
New Hope-Lambertville	2,139	1,812	1,859	2,018	1,871	1,962	1,914	1,920	1,885	1,933
Trenton-Morrisville	6,734	7,077	7,369	6,898	6,607	6,726	7,771	7,812	7,934	8,021
Total	***36,898***	***37,366***	***38,409***	***38,197***	***37,176***	***37,228***	***37,926***	***37,984***	***37,832***	***37,832***

**Truck Only Toll Increase Year*
***Adjustment to Toll Discounts*
**** Car and Truck Toll Increase Year*

Figure 8 illustrates the total DRJTBC toll traffic trends over the ten year period. We can see that total traffic on the Trenton-Morrisville and I-78 bridges grew at average annual rates of 2.0 and 1.9 percent respectively while total traffic on the other five bridges declined overall over the same time frame.

Figure 8: Total Traffic on DRJTBC Toll Bridges, Millions of Toll Trips, 2004 to 2013

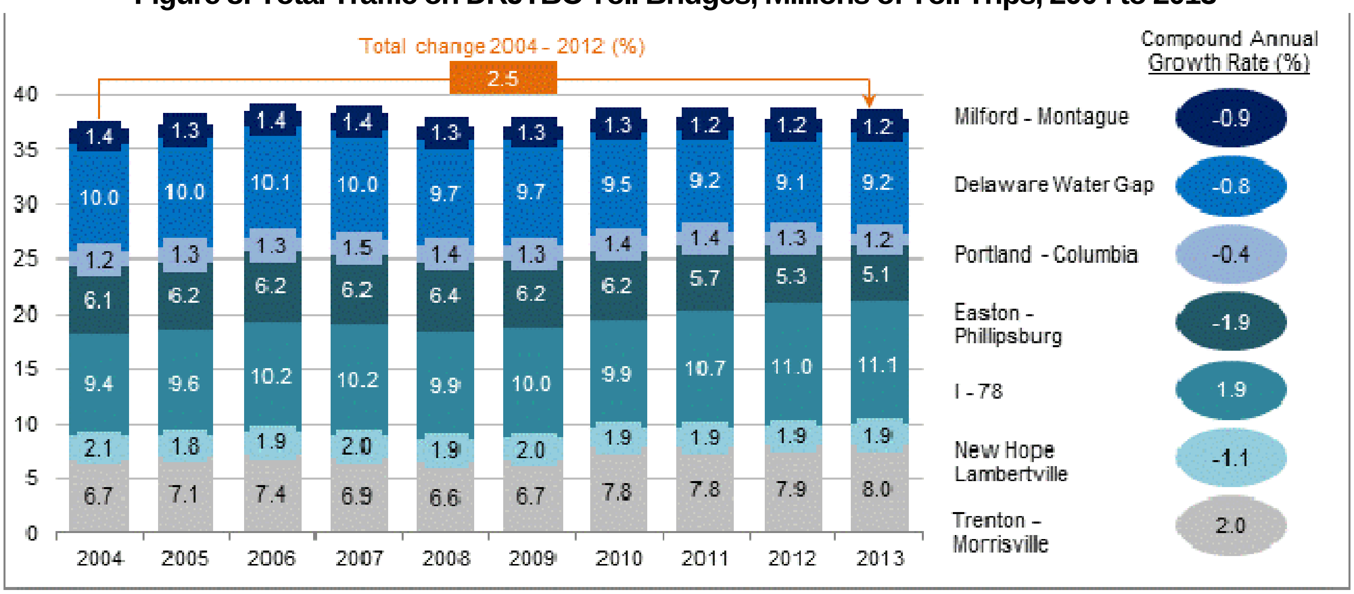
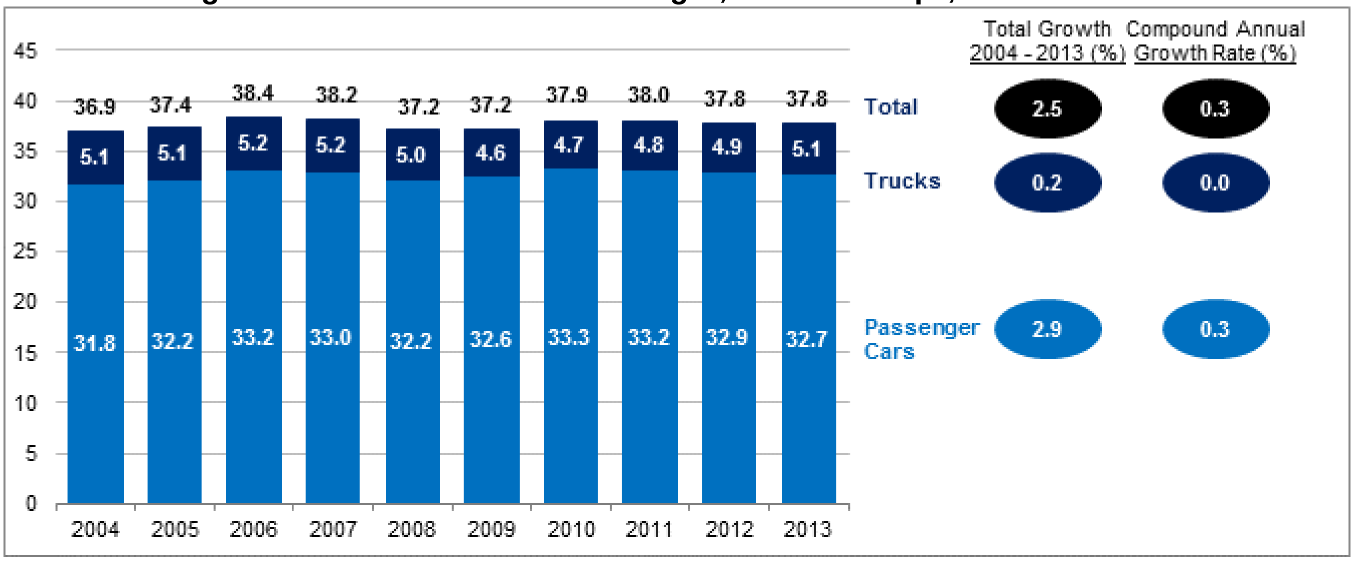


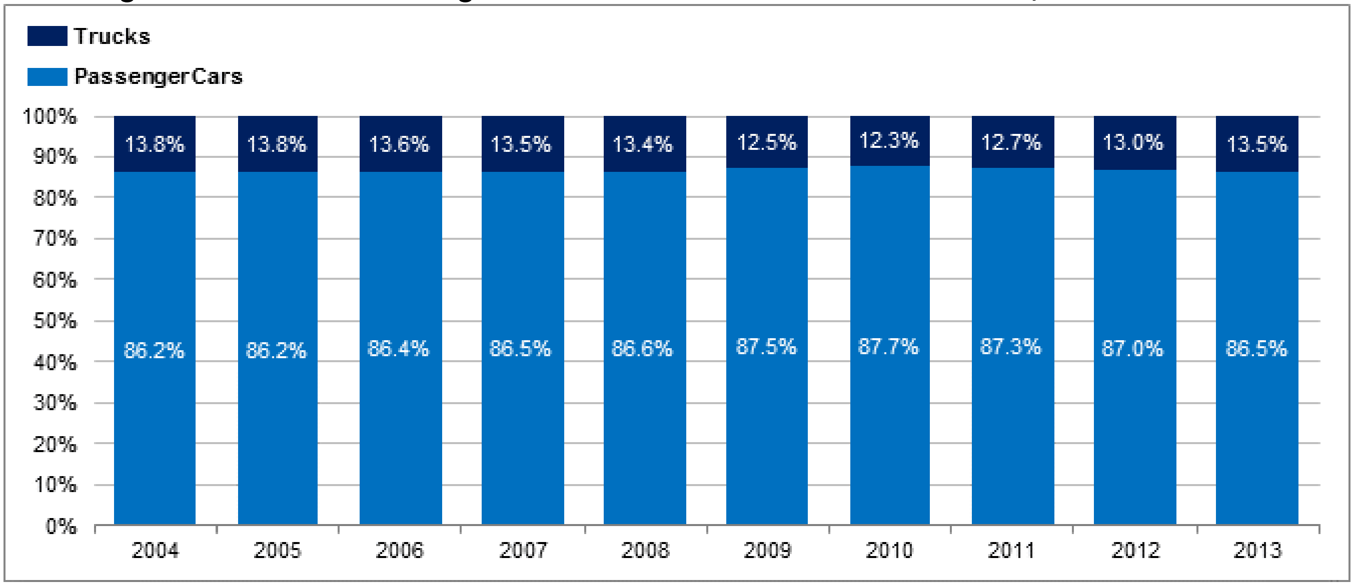
Figure 9 shows the total growth in traffic on the DRJTBC's toll bridges over the ten-year period 2004 to 2013. Total toll traffic increased by a total of 2.5 percent between 2004 and 2013 at an average annual rate of 0.3 percent. However, passenger car traffic growth outpaced the truck traffic over the ten year period, with passenger cars experiencing an overall increase of 2.9 percent versus only 0.2 percent for truck traffic.

Figure 9: Traffic on DRJTBC Toll Bridges, Millions of Trips, 2004 to 2013



The distribution of traffic between passenger cars and trucks has shifted over the years as shown in Figure 10. Overall, the truck share of total traffic declined from 13.8 percent in 2004 to 13.5 percent in 2013 while the passenger car share of total traffic increased slightly over the same ten year period. However, the truck share of total traffic has been increasing steadily for the past four years with corresponding declines in the car share of total traffic.

Figure 10: DRJTBC Passenger Car vs. Truck Distribution of Toll Traffic, 2004 to 2013



3.2 Historical Toll Revenue Trends

Table 5 shows annual passenger car toll revenues from 2004 through 2013. Passenger car toll revenue increased in 2005 and 2006, declined in 2007 and 2008, increased again from 2009 to 2012 and declined in 2013. In 2013, overall passenger car toll revenues declined by 0.5 percent. However, only three of the seven toll bridges (Portland-Columbia, Easton-Phillipsburg and I-78) experienced declines in passenger car toll revenue with the remaining four toll bridges showing positive growth in 2013.

Table 5: Historical DRJTBC Passenger Car Toll Revenue, 2004 through 2013

Toll Bridge	Annual Passenger Car Toll Revenue (in Thousands)									
	2004	2005	2006	2007	2008	2009*	2010	2011**	2012	2013
Milford-Montague	$869	$861	$866	$865	$831	$915	$916	$1,041	$1,145	$1,178
Delaware Water Gap	$5,691	$5,687	$5,772	$5,678	$5,527	$6,141	$5,944	$6,819	$7,622	$7,698
Portland-Columbia	$769	$807	$818	$905	$838	$893	$947	$1,096	$1,173	$1,082
Easton-Phillipsburg	$3,698	$3,772	$3,760	$3,760	$3,876	$4,175	$4,138	$4,525	$4,849	$4,664
I-78	$4,713	$4,858	$5,161	$5,207	$5,014	$5,715	$5,595	$7,133	$8,324	$8,198
New Hope-Lambertville	$1,342	$1,110	$1,130	$1,223	$1,120	$1,332	$1,290	$1,529	$1,706	$1,757
Trenton-Morrisville	$4,196	$4,399	$4,554	$4,303	$4,093	$4,718	$5,483	$6,246	$7,217	$7,287
Total	***$21,278***	***$21,494***	***$22,061***	***$21,939***	***$21,298***	***$23,889***	***$24,313***	***$28,388***	***$32,035***	***$31,864***

**Passenger Car Toll Increase Year*
***Adjustment to Toll Discounts*

Figure 11 illustrates passenger car toll revenue trends on the seven toll bridges between 2004 and 2013. Over the ten year period, total passenger car toll revenue increased by $49.7 million or by an average annual rate of 4.6 percent each year. The Trenton-Morrisville, I-78 and Portland-Columbia bridges both experienced the highest annual average growth of 6.3 percent over the ten year period.

Figure 11: Historical DRJTBC Passenger Car Toll Revenue, $Millions, 2004 to 2013

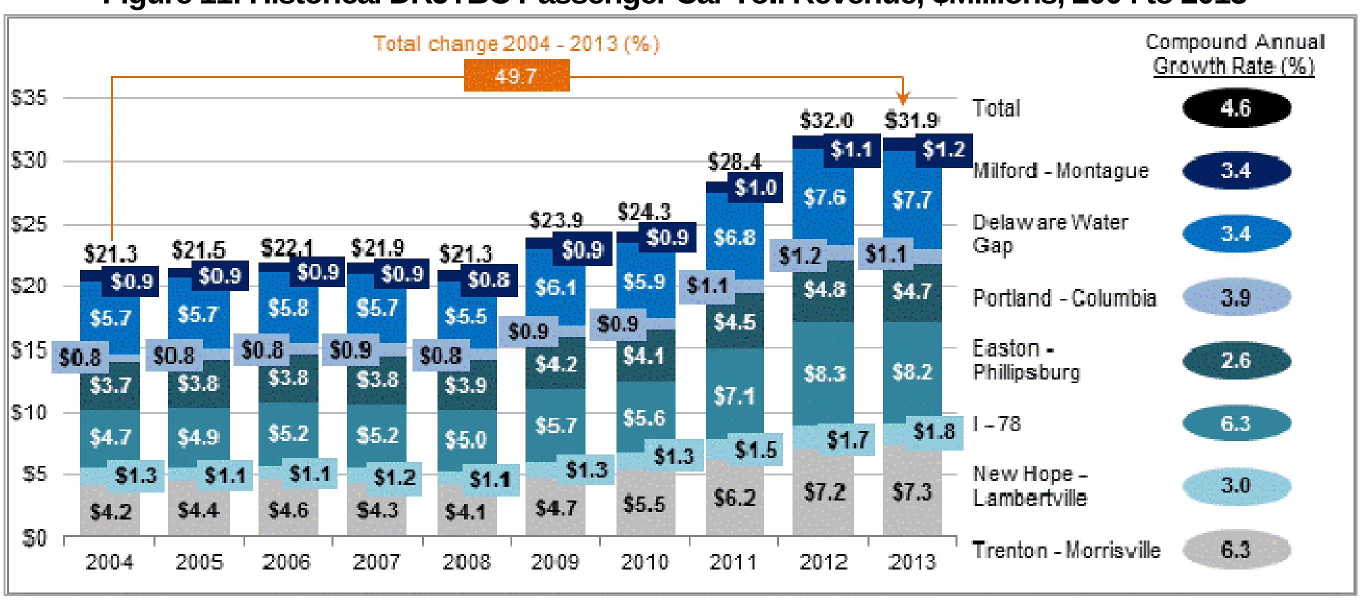


Table 6 shows annual truck toll revenue from 2004 through 2013. Truck toll revenue increased from 2004 to 2008, declined in 2009, was flat in 2010 and has shown positive growth over the past three years. In 2013, total annual truck toll revenue increased by 4.0 percent overall. With the exception of the Portland-Columbia Bridge, all other six toll bridges experienced increases in truck toll revenue in 2013.

Table 6: Historical DRJTBC Truck Toll Revenue, 2004 through 2013

Toll Bridge	Annual Truck Toll Revenue (in Thousands)									
	2004	2005	2006	2007*	2008	2009**	2010	2011*	2012	2013
Milford-Montague	$314	$308	$304	$323	$330	$288	$274	$312	$340	$362
Delaware Water Gap	$17,342	$17,269	$17,300	$19,970	$19,642	$18,974	$18,915	$20,519	$22,902	$23,536
Portland-Columbia	$723	$763	$773	$855	$877	$829	$931	$1,053	$1,114	$992
Easton-Phillipsburg	$5,314	$5,349	$5,159	$5,157	$5,465	$5,253	$4,645	$4,723	$4,429	$4,484
I-78	$29,105	$28,904	$29,259	$31,435	$32,528	$31,872	$31,994	$39,146	$45,188	$47,329
New Hope-Lambertville	$894	$889	$951	$1,049	$976	$971	$979	$1,136	$1,290	$1,342
Trenton-Morrisville	$4,081	$4,427	$4,627	$4,891	$5,080	$4,453	$4,924	$6,072	$6,644	$7,128
Total	***$57,775***	***$57,909***	***$58,373***	***$63,679***	***$64,898***	***$62,641***	***$62,662***	***$72,962***	***$81,906***	***$85,172***

**Commercial Vehicle Toll Increase Year*
***Adjustment to Toll Discounts*

Figure 12 illustrates truck toll revenue trends on the seven toll bridges between 2004 and 2013. Over the ten year period, total truck revenue on DRJTBC's toll facilities increased by an average annual rate of 4.4 percent. However, the Easton-Phillipsburg Bridge was the only toll facility that experienced an overall average annual decline of 1.9 percent from 2004 to 2013.

Figure 12: Historical DRJTBC Truck Toll Revenue, $Millions, 2004 to 2013

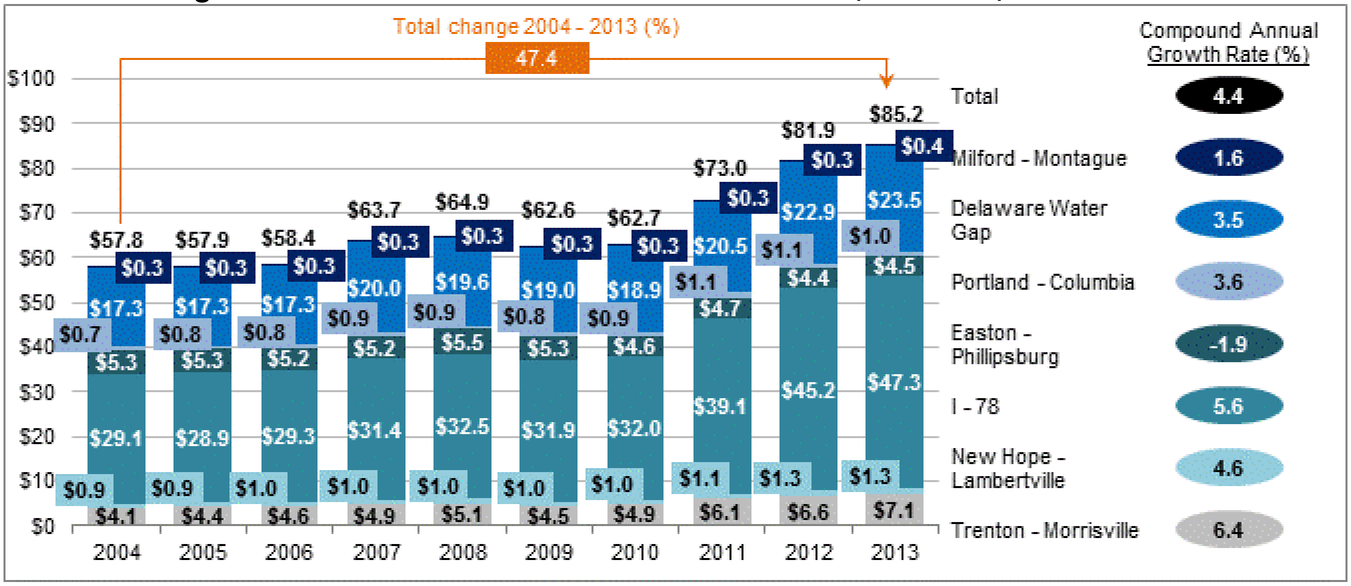


Table 7 shows annual total toll revenue from 2004 through 2013. Total toll revenue increased each year over the ten year period. However, during the period 2008 to 2010, total annual revenue growth was less than 1 percent. Except for the Portland-Columbia and Easton-Phillipsburg bridges, all other toll bridges experienced positive revenue growth in 2013.

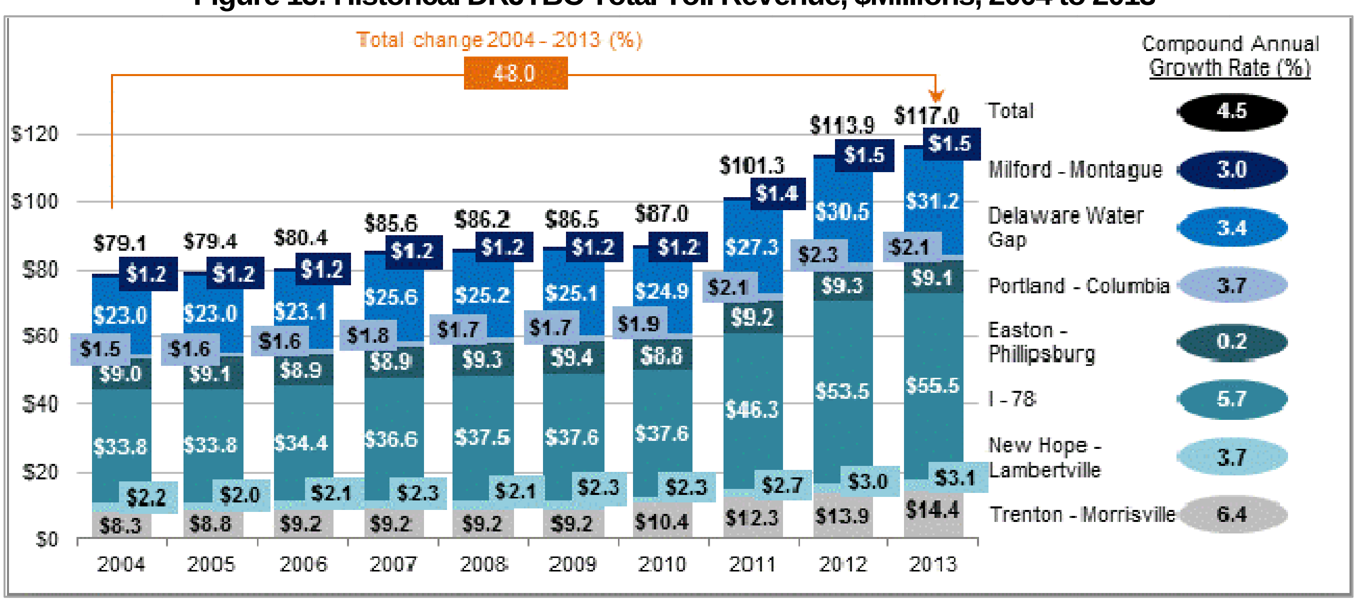
Table 7: Historical DRJTBC Total Toll Revenue, 2004 through 2013

Toll Bridge	Annual Total Toll Revenue (in Thousands)									
	2004	2005	2006	2007*	2008	2009**	2010	2011***	2012	2013
Milford-Montague	$1,184	$1,169	$1,170	$1,187	$1,161	$1,203	$1,190	$1,353	$1,485	$1,540
Delaware Water Gap	$23,033	$22,956	$23,072	$25,648	$25,169	$25,116	$24,859	$27,338	$30,523	$31,235
Portland-Columbia	$1,492	$1,570	$1,591	$1,759	$1,715	$1,722	$1,878	$2,149	$2,287	$2,074
Easton-Phillipsburg	$9,012	$9,121	$8,919	$8,917	$9,341	$9,428	$8,783	$9,249	$9,278	$9,148
I-78	$33,819	$33,762	$34,419	$36,641	$37,542	$37,587	$37,589	$46,278	$53,511	$55,527
New Hope-Lambertville	$2,236	$1,999	$2,081	$2,272	$2,096	$2,303	$2,269	$2,664	$2,996	$3,098
Trenton-Morrisville	$8,277	$8,825	$9,181	$9,194	$9,173	$9,171	$10,407	$12,318	$13,861	$14,415
Total	***$79,053***	***$79,403***	***$80,433***	***$85,618***	***$86,196***	***$86,529***	***$86,974***	***$101,350***	***$113,941***	***$117,036***

**Truck Only Toll Increase Year*
***Adjustment to Toll Discounts*
****Car and Truck Toll Increase Year*

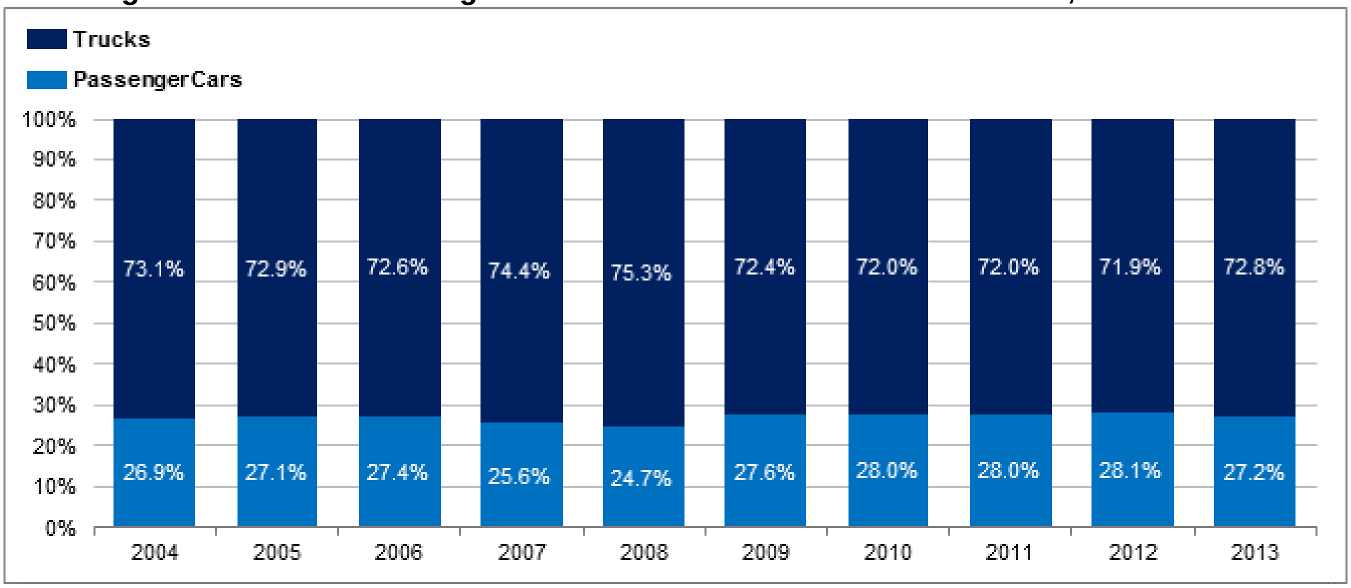
Figure 13 illustrates the total DRJTBC toll revenue trends over the ten year period. Overall, total toll revenue grew by an average of 4.5 percent each year with toll revenue on the Trenton-Morrisville and I-78 bridges increasing the most over the ten year period. Most of the recent revenue increase was due to the June 2011 toll increase.

Figure 13: Historical DRJTBC Total Toll Revenue, $Millions, 2004 to 2013



The distribution of toll revenue between passenger cars and trucks has shifted over the years as shown in Figure 14. Overall, the truck share of toll revenue declined from 73.1 percent in 2004 to 72.8 percent in 2013 while the passenger car share of total revenue increased from 26.9 percent to 27.2 percent over the same ten year period. The truck share of total revenue had been flat to declining from 2008 to 2012 and increased in 2013 to just below 2004 levels.

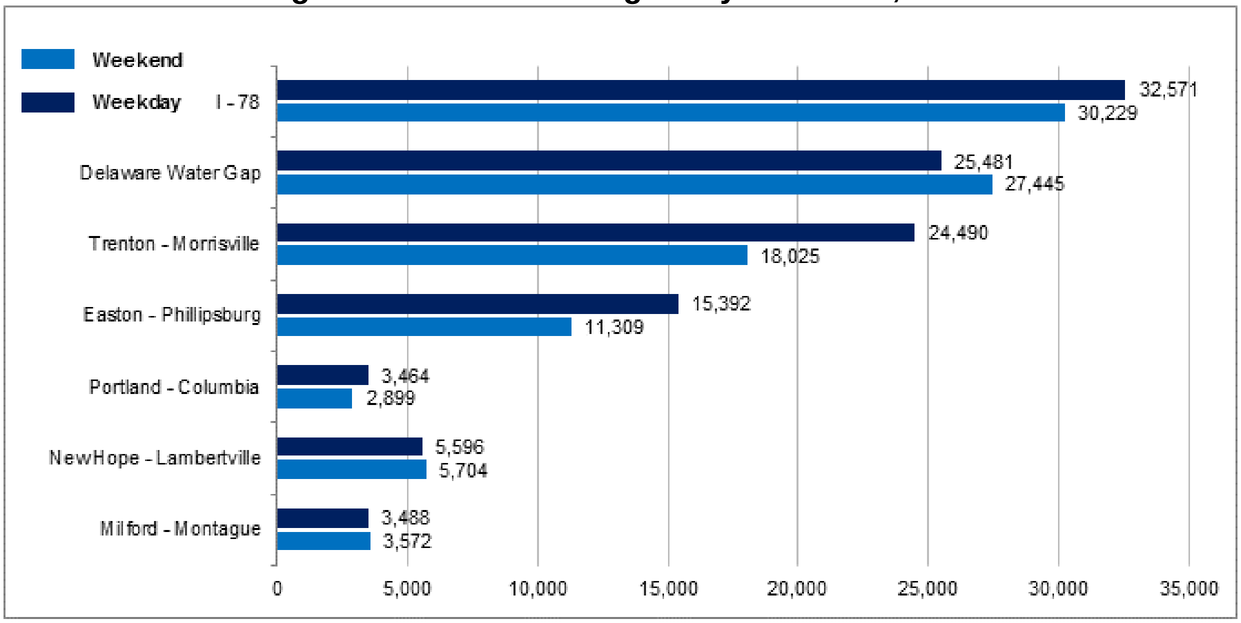
Figure 14: DRJTBC Passenger Car vs. Truck Distribution of Toll Revenue, 2004 to 2013



3.3 Average Daily Toll Traffic

Figure 15 displays average daily traffic estimates for an average weekday and an average weekend day, calculated from a sample of 20 weekdays and 8 weekend days over the period August to November 2013.

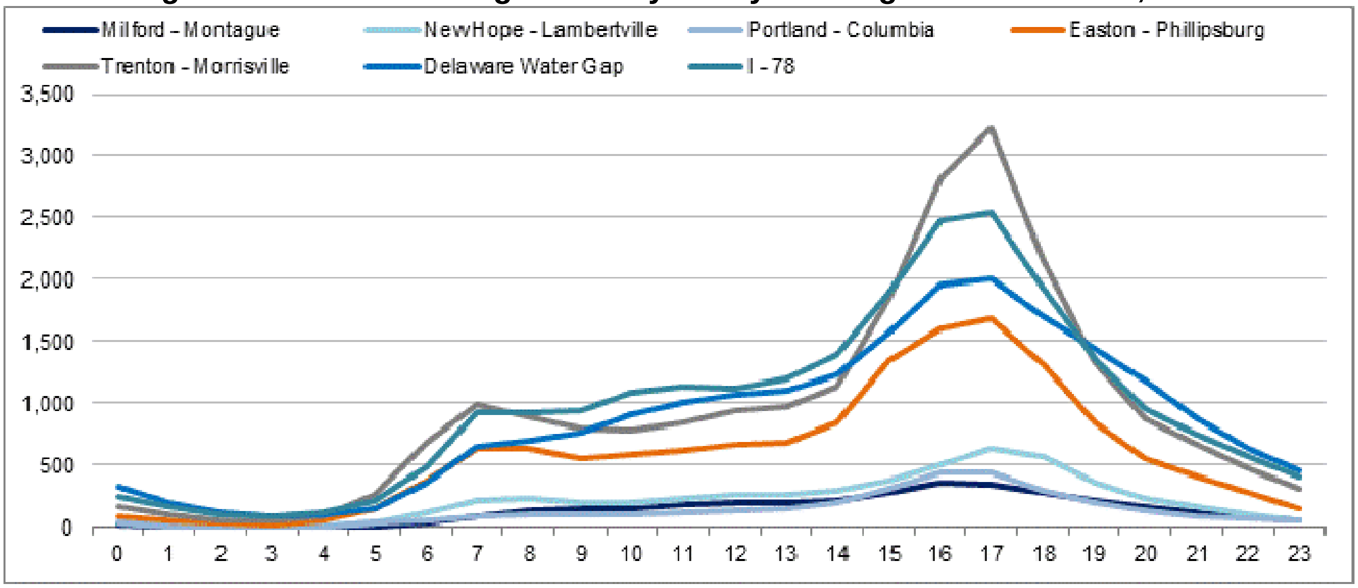
Figure 15: DRJTBC Average Daily Toll Traffic, 2013



We can see that the I-78 and Delaware Water Gap carry the most traffic on both weekdays and weekend days. All of the bridges except for the Delaware Water Gap and the New Hope-Lambert Bridge support more weekday traffic than weekend traffic.

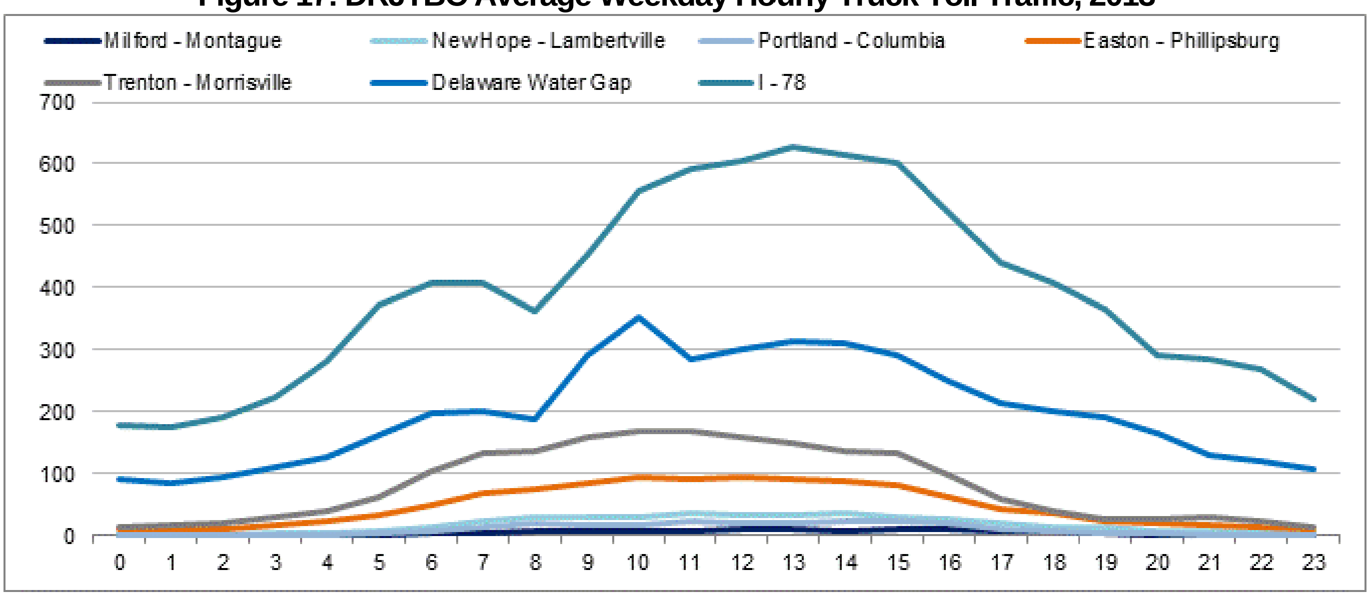
Toll traffic patterns on the DRJTBC bridges vary throughout the day as shown in Figure 16 through Figure 19. As shown in Figure 16, hourly passenger car traffic on an average weekday follow a fairly typical commuter pattern where traffic levels are low at the beginning of the day; rise during the morning peak hours; flatten somewhat during the middle of the day; peak again during the afternoon rush hours; and then decline at the end of the day. This pattern is observed across all the DRJTBC toll bridges. The Trenton-Morrisville Bridge experiences the highest passenger car traffic volumes in both the morning and afternoon peak periods.

Figure 16: DRJTBC Average Weekday Hourly Passenger Car Toll Traffic, 2013



Hourly truck traffic volumes on an average weekday do not exhibit the same trends as observed in the hourly passenger car weekday traffic data. As shown in Figure 17, truck traffic over the DRJTBC toll bridges follow a more typical long distance pattern, building steadily during the morning, peaking somewhere in the 10am to 2pm timeframe, and decreasing again at the end of the day. The I-78 Bridge experiences the highest level of truck traffic throughout the typical weekday.

Figure 17: DRJTBC Average Weekday Hourly Truck Toll Traffic, 2013



Hourly traffic patterns on weekend days differ from weekdays for both passenger cars and trucks. As shown in Figure 18, passenger car traffic on an average weekend day builds steadily during the morning and reaches its apex in the middle of the day, typically between 11am and 1pm before declining during the remainder of the day. Interestingly the Portland-Columbia Bridge experiences a slight peaking of passenger car traffic during the 9pm-10pm hour.

Figure 18: 2013 DRJTBC Average Weekend Day Hourly Passenger Car Toll Traffic, 2013

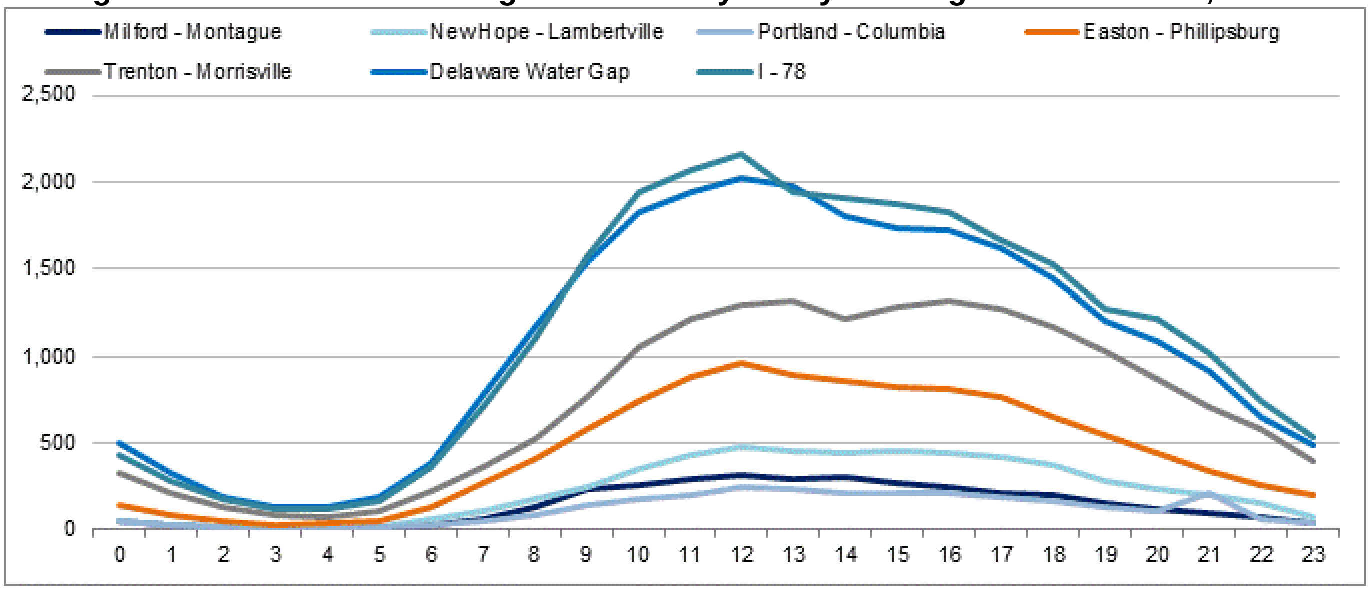
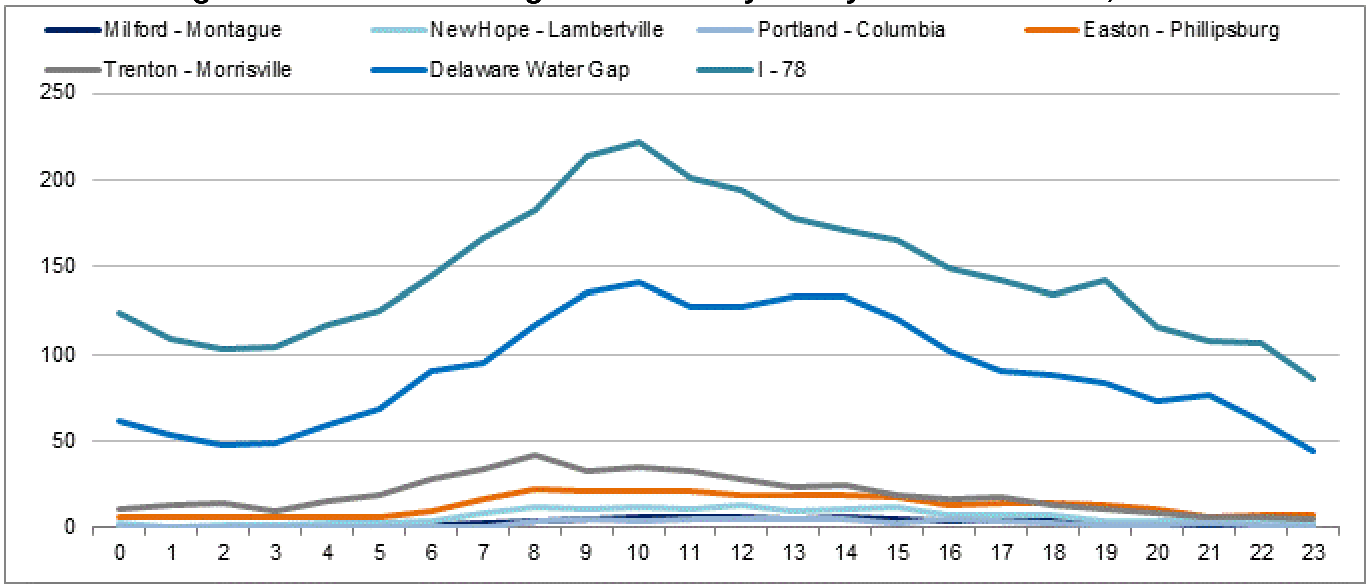


Figure 19 shows that the hourly truck traffic pattern for an average weekend day is somewhat similar to the pattern observed for passenger cars with truck traffic increasing in the morning, peaking before midday, and then declining in the evening hours. Truck traffic on the Easton-Phillipsburg, Trenton-Morrisville, and Delaware Water Gap bridges tends to peak earlier on a weekend day compared to passenger car traffic.

Figure 19: DRJTBC Average Weekend Day Hourly Truck Toll Traffic, 2013



3.4 Average Toll Rates

As shown in Table 8, the average toll rate per trip paid by passenger cars increased from 2004 to 2013 across all DRJTBC toll bridges. Average toll rates remained relatively unchanged from 2004 to 2008 and then rose in 2009 with elimination of the standard E-ZPass discount and in mid-2011 with the toll increase. In 2013, passenger car toll rates averaged between $0.97 and $0.98 across the seven toll bridges.

Table 8: Average DRJTBC Toll Rates for Passenger Cars, $ per Trip

Year	Bridge							System Wide
	T-M	NH-L	I-78	E-P	P-C	DWG	M-M	
2004	$0.67	$0.66	$0.68	$0.67	$0.66	$0.67	$0.66	**$0.67**
2005	$0.67	$0.65	$0.67	$0.66	$0.66	$0.67	$0.66	**$0.67**
2006	$0.66	$0.65	$0.67	$0.66	$0.66	$0.67	$0.66	**$0.66**
2007	$0.67	$0.65	$0.67	$0.65	$0.66	$0.67	$0.66	**$0.66**
2008	$0.67	$0.64	$0.66	$0.65	$0.66	$0.67	$0.66	**$0.66**
2009	$0.75	$0.72	$0.73	$0.73	$0.72	$0.73	$0.73	**$0.73**
2010	$0.75	$0.71	$0.73	$0.72	$0.72	$0.73	$0.72	**$0.73**
2011	$0.86	$0.85	$0.86	$0.85	$0.85	$0.86	$0.86	**$0.86**
2012	$0.97	$0.96	$0.98	$0.97	$0.97	$0.98	$0.97	**$0.97**
2013	$0.98	$0.97	$0.97	$0.97	$0.97	$0.98	$0.97	**$0.97**

Similar to other toll facilities around the country, the average toll rate per trip paid by trucks on DRJTBC toll facilities was significantly higher than the average rate paid by passenger cars. While the truck toll rates are the same at all the bridges, the average axle count of the trucks crossing each bridge differs. As shown in Table 9, average truck toll rates started increasing in mid-2007 with the toll increase for larger trucks, again in 2009 with the reduction or removal of E-ZPass discounts, and in mid-2011 with a larger toll increase. In 2013, average toll rates for trucks by bridge ranged from $10.42 to $17.83, with a weighted average toll rate of $16.66 across all seven toll bridges.

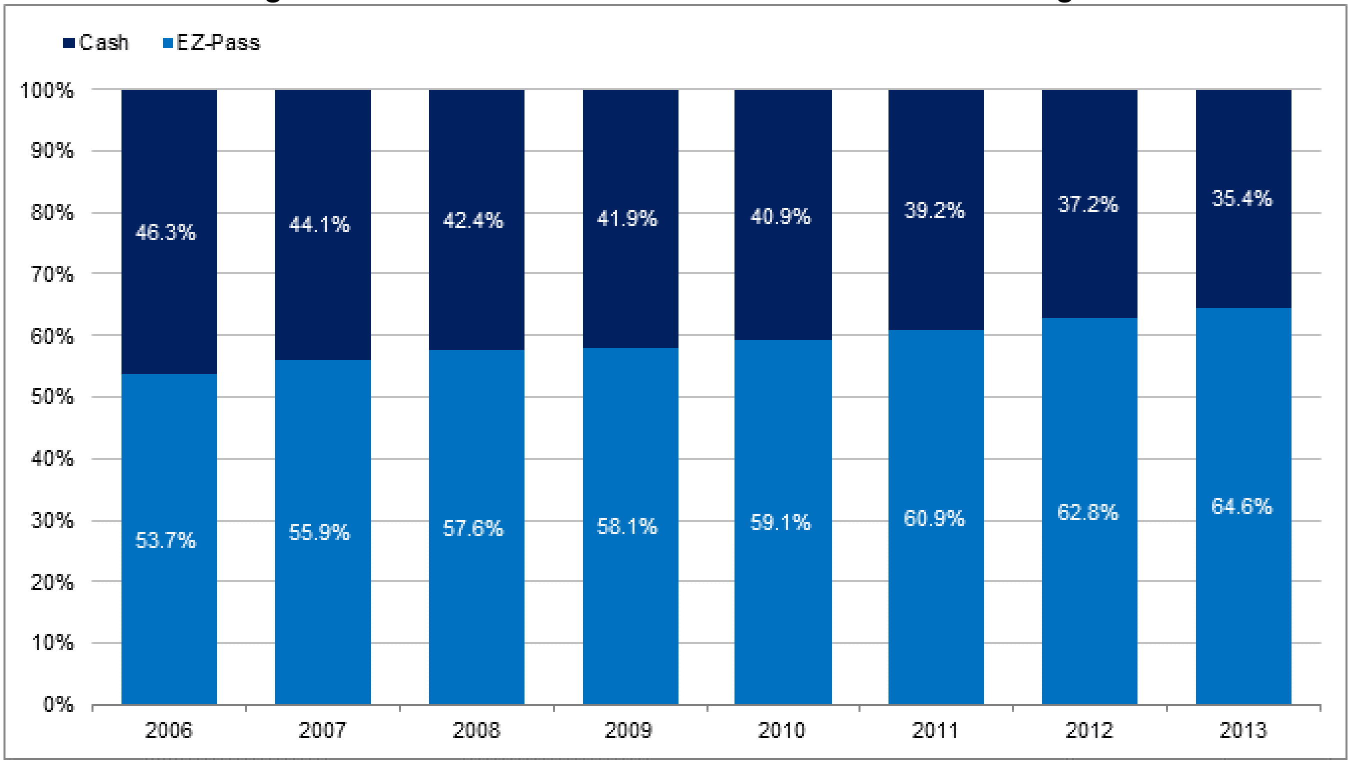
Table 9: Average DRJTBC Toll Rates for Trucks, $ per Trip

Year	Bridge							System Wide
	T-M	NH-L	I-78	E-P	P-C	DWG	M-M	
2004	$9.03	$7.98	$12.07	$9.79	$9.79	$11.85	$7.73	**$11.33**
2005	$9.05	$7.96	$11.98	$9.73	$9.73	$11.80	$7.61	**$11.25**
2006	$9.00	$7.83	$11.93	$9.67	$9.24	$11.76	$7.42	**$11.19**
2007	$9.75	$8.52	$13.16	$10.35	$10.04	$13.07	$7.73	**$12.33**
2008	$10.18	$8.71	$13.95	$10.91	$10.50	$13.79	$7.90	**$13.00**
2009	$10.34	$8.92	$14.49	$11.43	$10.79	$14.26	$8.19	**$13.49**
2010	$10.29	$9.04	$14.52	$11.12	$10.96	$14.23	$8.06	**$13.46**
2011	$11.82	$10.24	$16.21	$12.29	$12.50	$15.94	$9.35	**$15.11**
2012	$13.01	$11.49	$17.86	$13.12	$13.64	$17.56	$10.51	**$16.69**
2013	$12.94	$11.30	$17.83	$13.16	$13.50	$17.58	$10.42	**$16.66**

3.5 E-ZPass Utilization

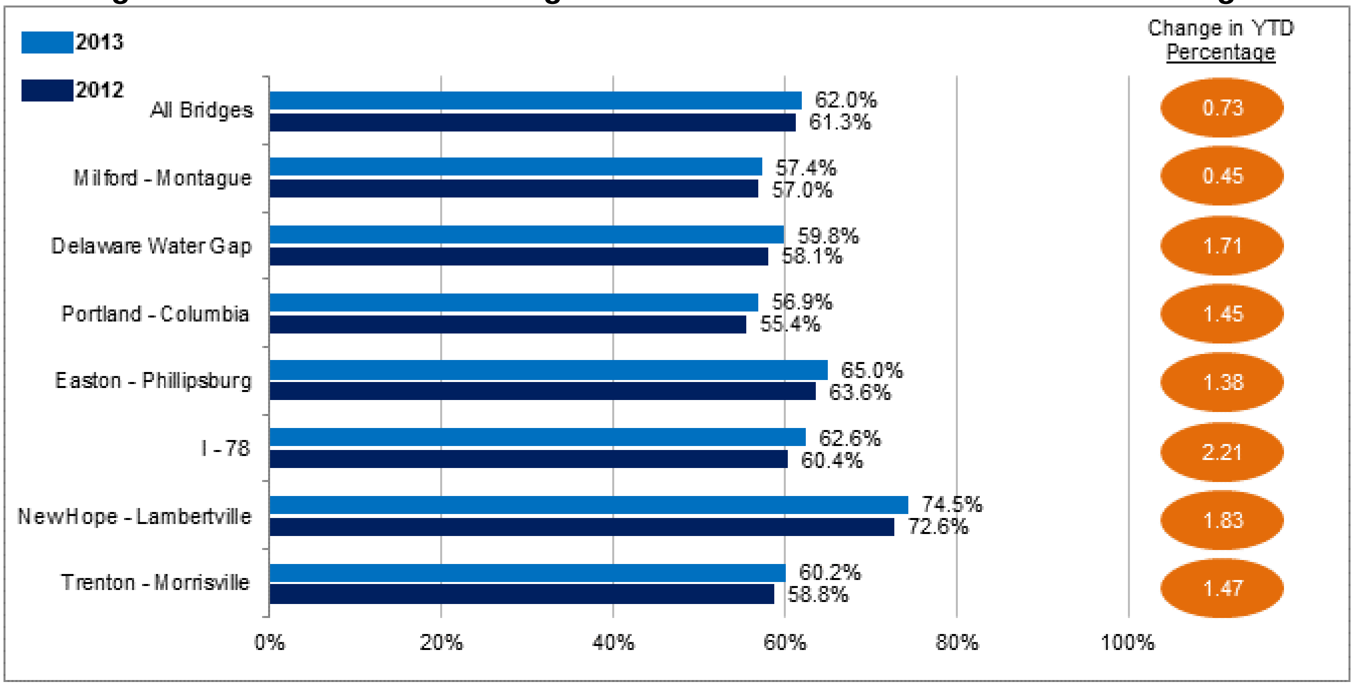
Utilization of E-ZPass as a method of payment has increased on DRJTBC toll bridges in the last 10 years. As illustrated in Figure 20, the percentage of trips paid for using an E-ZPass transponder increased from 53.7 percent in 2004 to 64.6 percent in 2013. Utilization rates have increased in each of the past ten years but there is a wide variance in utilization between passenger cars and trucks on DRJTBC toll bridges.

Figure 20: Annual E-ZPass Utilization on DRJTBC Toll Bridges



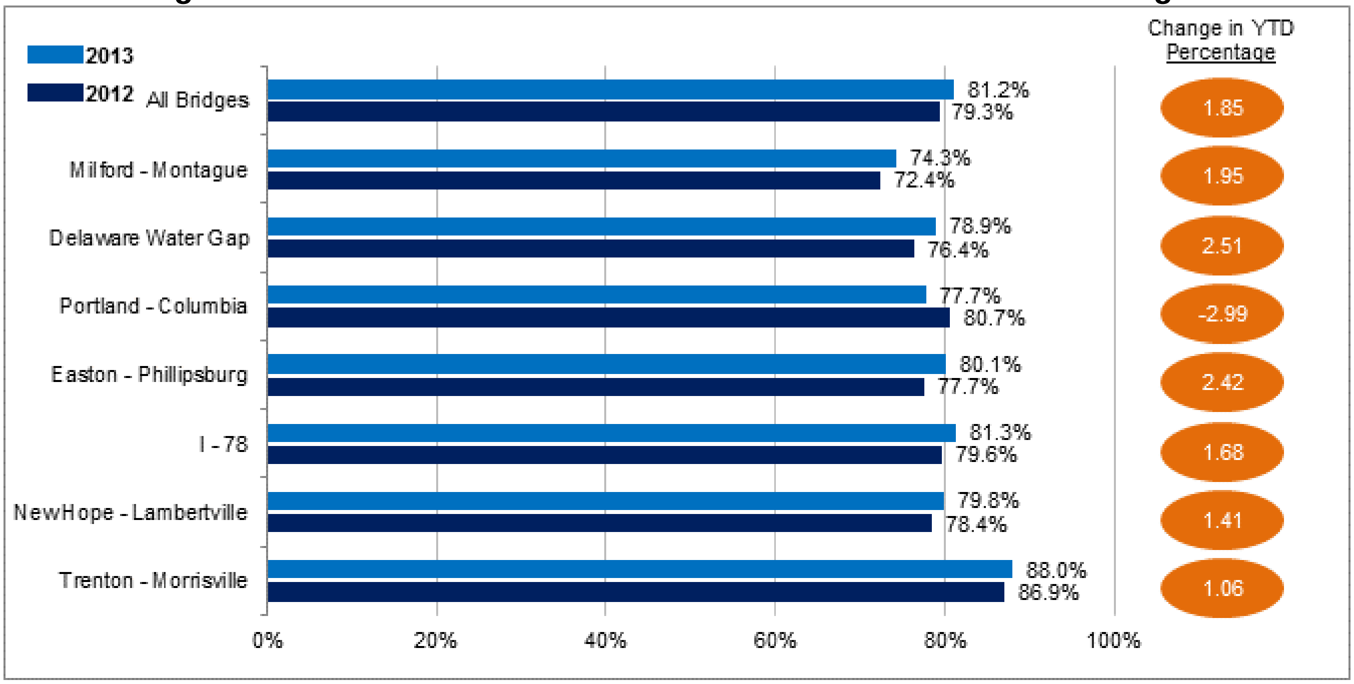
As shown in Figure 21, passenger car E-ZPass utilization ranged from a low of 56.9 percent on the Portland-Columbia Bridge to a high of 74.5 percent on the New Hope Lambertville Bridge in 2013. Passenger car E-ZPass utilization increased on all toll bridges between 2012 and 2013.

Figure 21: 2012 and 2013 Passenger Car E-ZPass Utilization on DRJTBC Toll Bridges



Trucks are more likely than passenger cars to pay for their trips using E-ZPass transponders. As shown in Figure 22, E-ZPass utilization rates in 2013 ranged from a low of 74.3 percent on the Milford-Montague Bridge to a high of 88.0 for the Trenton-Morrisville Bridge. Approximately 81.2 percent of all trucks trips on DRJTBC toll facilities used E-ZPass. In 2013, truck E-ZPass utilization increased over 2012 levels for all bridges except the Portland-Columbia Bridge which experienced a decline of almost 3 percent.

Figure 22: 2012 and 2013 Truck E-ZPass Utilization on DRJTBC Toll Bridges



4.0 ECONOMIC BACKDROP AND OUTLOOK FOR THE FUTURE

Historically, DRJTBC traffic trends have been influenced by socioeconomic conditions and there have been and continue to be correlations between passenger car growth and Gross Domestic Product (GDP) and population, and between commercial vehicle growth and Industrial Production Indices (IPI). As such, we started our socio-economic research and analyses to focus in on those parameters. Additionally, we researched and analyzed the key economic variables that affect traffic in general, and present our work in this Chapter.

Jacobs uses a consensus forecast based on a variety of sources as an input into our traffic growth forecasts. The consensus outlook of economists predicts continued slow economic growth, with real GDP estimated to increase by 1.7 percent for 2013 and 2.5 percent for 2014. Our forecast also assumed no significant changes in gasoline pricing, as there has been less price volatility in the past several years than there was in 2003 through 2010. Our forecasts recognize and take into account the recent variations in gas pricing and the probability of high prices to the extent possible. However, we believe that a moderate increase in the price of gas will not result in major declines in traffic, as consumers are already modifying their vehicle choice to mitigate these increases.

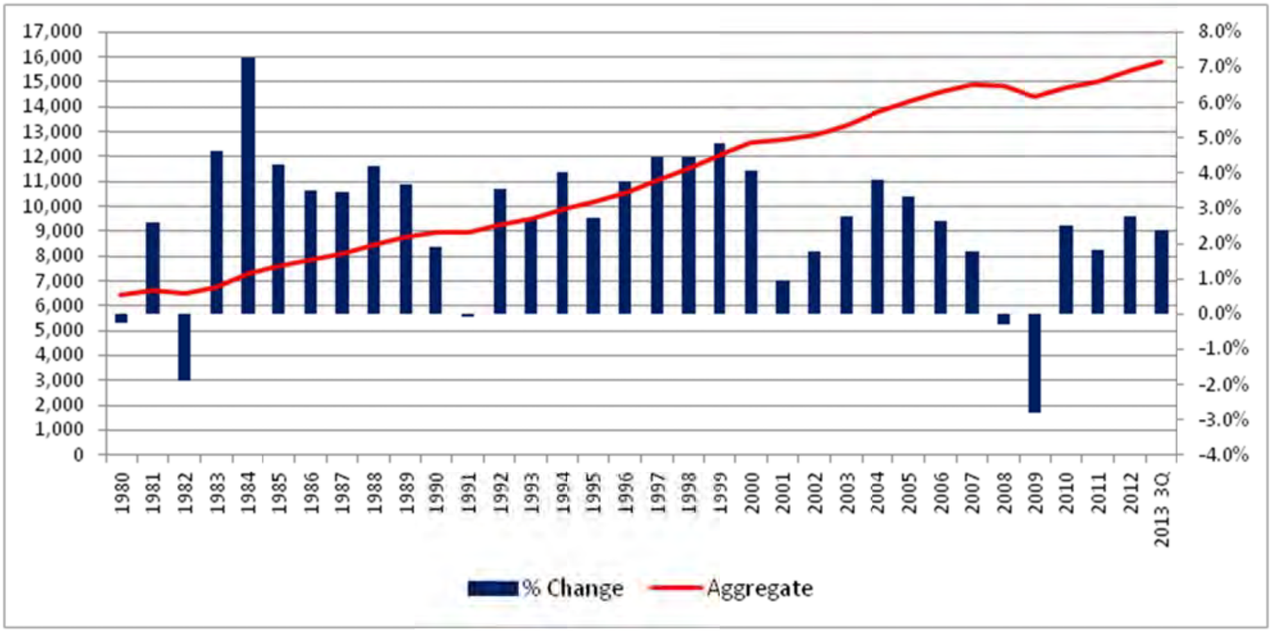
Any forecast of toll traffic and revenues will, of necessity, recognize the significant variations that can and do occur in the national, regional and local economies, and the population changes within the DRJTBC toll facilities corridors. With this in mind, Jacobs performed a detailed analysis of the historical economic trends seen over the last few decades, particularly as they relate to the recessionary economic influences that occurred and how the DRJTBC's customers reacted to those trends.

This section presents a summary of socioeconomic trends as well as a recessionary analysis of nationwide and DRJTBC vehicle miles traveled.

4.1 Recent Macroeconomic Trends

From 2000 to 2012, real Gross Domestic Product (GDP) and the Industrial Production Index (IPI) in the U.S. increased by an average of 1.8 percent and 0.6 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 has been more severe compared to previous recessions, resulting in zero growth in real GDP and a 3.5 percent decrease in industrial production in 2008. Real GDP decreased by an additional 2.8 percent in 2009, but recovered in 2010 with a 2.5 percent annual increase. Due to a lag in economic activity, industrial production decreased by 11.3 percent in 2009, but rebounded solidly in 2010 with 5.7 percent annual growth. Real GDP increased by 1.8 percent and 2.8 percent in 2011 and 2012, respectively. During the third quarter of 2013, real GDP increased by 2.1 percent. Similarly, IPI increased by 3.4 percent in 2011 and 3.6 percent in 2012. Figure 23 summarizes the annual percentage change in real GDP from 1980 to the third quarter of 2013.

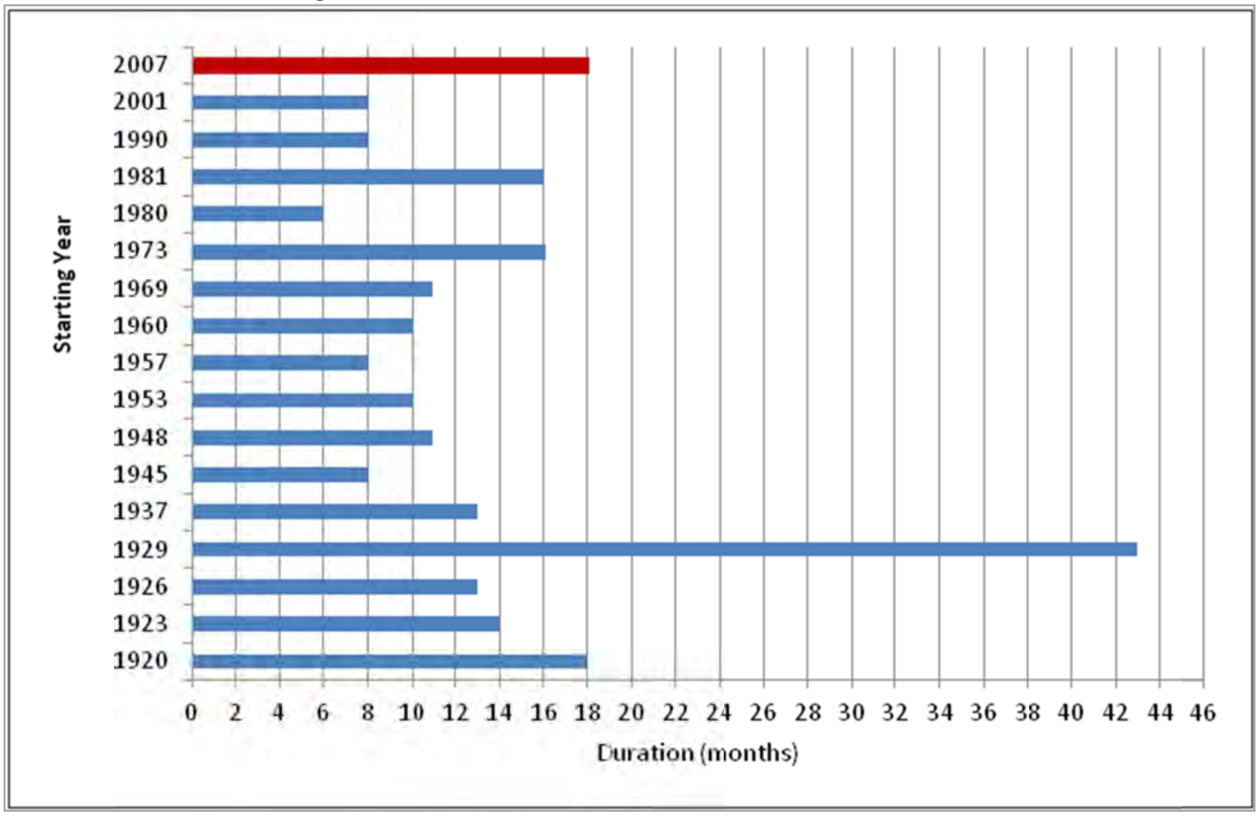
Figure 23: Annual Percentage Change in Real GDP (2009$), 1980 to 2013 Q3



Source: U.S. Department of Commerce, 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 as shown in Figure 24. Additionally, this recession is comparable to and may possibly exceed the recessions of the early 1970s and early 1980s in duration and severity. Economic downturns that have occurred after the Great Depression have typically been triggered by a contraction in monetary supply (typified by higher interest rates) or an external shock (e.g. sudden rise in oil prices, political turmoil, etc.) resulting in decreased consumer confidence, economic growth, and employment. Once expansionary conditions are in place, then post-recessionary periods have typically been characterized by rapid, strong, and sustained increases in GDP and employment.

Figure 24: Duration of US Recessions, 1920-2012



Source: National Bureau of Economic Research (NBER)

In contrast, the most recent recession was caused by the near collapse of the financial sector, the lack of available credit, a rapid decline in the price of real estate assets (Figure 25) and high consumer debt levels along with a subsequent deleveraging (Figure 26). The deleveraging by consumers and businesses has had a more severe, long-term impact on the economy as compared to previous economic downturns. Indications of credit tightening and deleveraging during the 2007-09 Recession include the following:

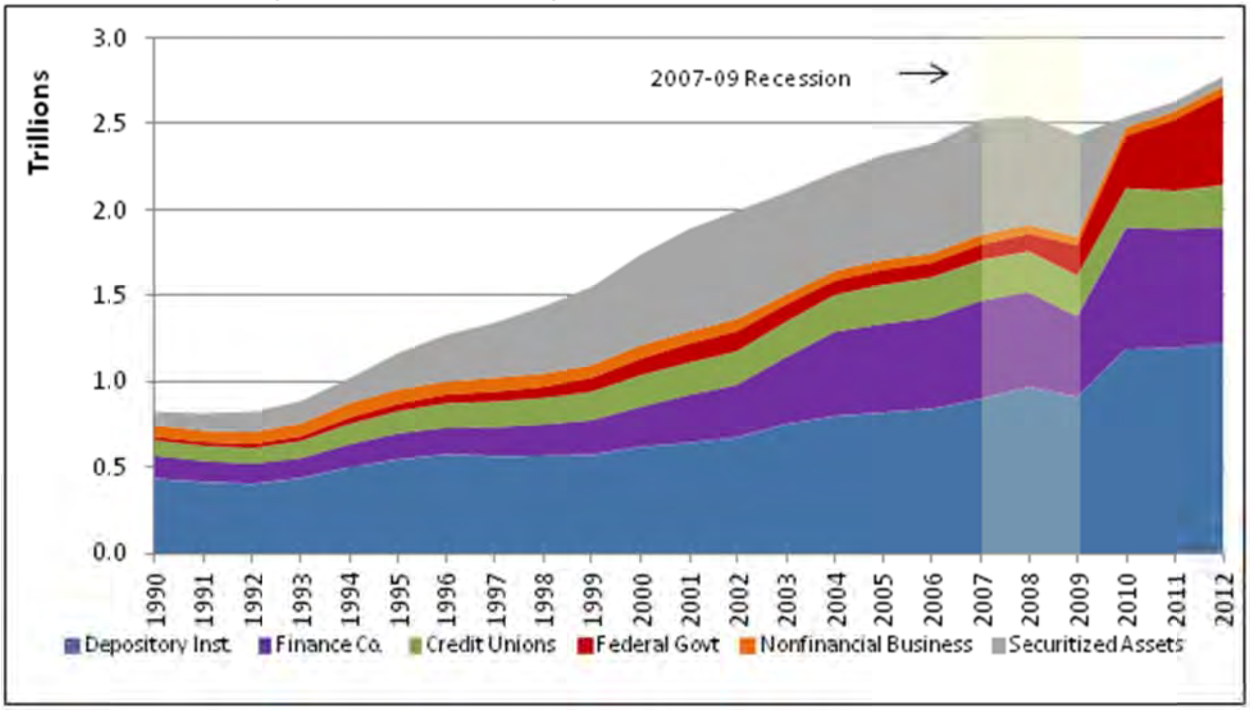
- Housing prices tracked by the S&P/Case-Shiller 10-City Index decreased by 11 percent and 19 percent in 2008 and 2009, respectively;
- Outstanding consumer credit declined by 6 percent from $2.6 trillion to $2.4 trillion from 2009-11; and
- Securitized asset pools decreased from $682 billion to $127 billion from 2008-11.

Figure 25: S&P/Case-Shiller 10-City Index and 20-City Index, 1999 to 2013

Source: S&P/Case-Shiller Index

These conditions are indicative of a contracted market for credit and are more similar to the underlying causes of the Great Depression, albeit not as severe. Moreover, the root causes of financial market contractions result in weaker and more fragile recoveries until the financial sector has stabilized, asset prices recover, and deleveraging by consumers and businesses has concluded. Consequently, economic growth since the start of the economic recovery has been relatively sluggish with historically high unemployment rates. Economic forecasts anticipate that robust economic growth in the U.S. will return once debt levels become sustainable and consumer confidence resumes.

Figure 26: Outstanding Consumer Credit, 1990 to 2012



Source: U.S. Federal Reserve Bank

Despite the sluggish economic growth of recent years, there are positive signs that growth will resume in the foreseeable future. The yield curve remains positive with short term interest rates (0-12 months) on U.S. Treasuries trading at or near zero and the interest rates on 10-year U.S. Treasuries trading at 2.80 percent as of early December 2013. Demand for crude oil remains strong with the $/barrel price at approximately $100/barrel as of this writing. Although crude oil prices have increased during 2013 due to supply disruptions in Libya and increased concerns over the conflict in Syria, crude oil prices have been forecasted to decrease due to increased production from U.S. based sources. The Energy Information Administration (EIA) anticipates that crude oil price will average approximately $95/barrel during 2014.

Moreover, the housing market has started to recover. After steadily declining from 2006 to 2011, housing prices have stabilized or started to increase in several markets. In 2012, The Case-Shiller 10-City Index and 20-City Index increased by 7 percent and 8 percent, respectively. The 10-City and 20-City indices increased by 19 percent and 14 percent during 2013. There were 612,000 new units in 2011, 783,000 new units in 2012, and 929,000 new units in 2013. Housing starts are projected to increase through 2014.

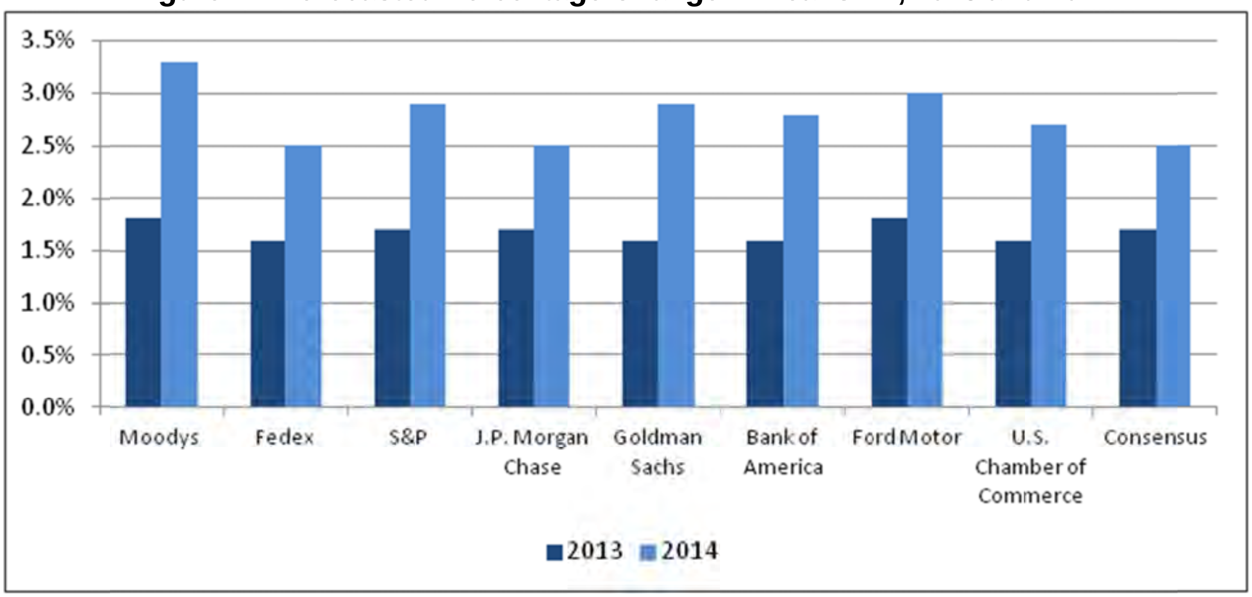
4.2 Short-Term Economic Forecast

During 2012, there was modest enthusiasm with respect to future economic growth and employment in the United States. As the year progressed, this enthusiasm was tempered, and recent forecasts are anticipating slightly lower growth rates in real GDP and in the IPI than originally forecasted.

4.2.1 Gross Domestic Product

Figure 33 summarizes the real GDP forecast provided by selected financial institutions, manufacturers, and shippers over the short-term. The consensus forecast is that real GDP will increase by 1.7 percent and 2.5 percent for 2013 and 2014, respectively. It is anticipated that that a slow recovery will emerge in the medium term in contrast to robust recoveries of previous recessions. This fits with our current base case forecast for DRJTBC traffic and toll revenues that are contained herein.

Figure 27: Forecasted Percentage Change in Real GDP, 2013 and 2014



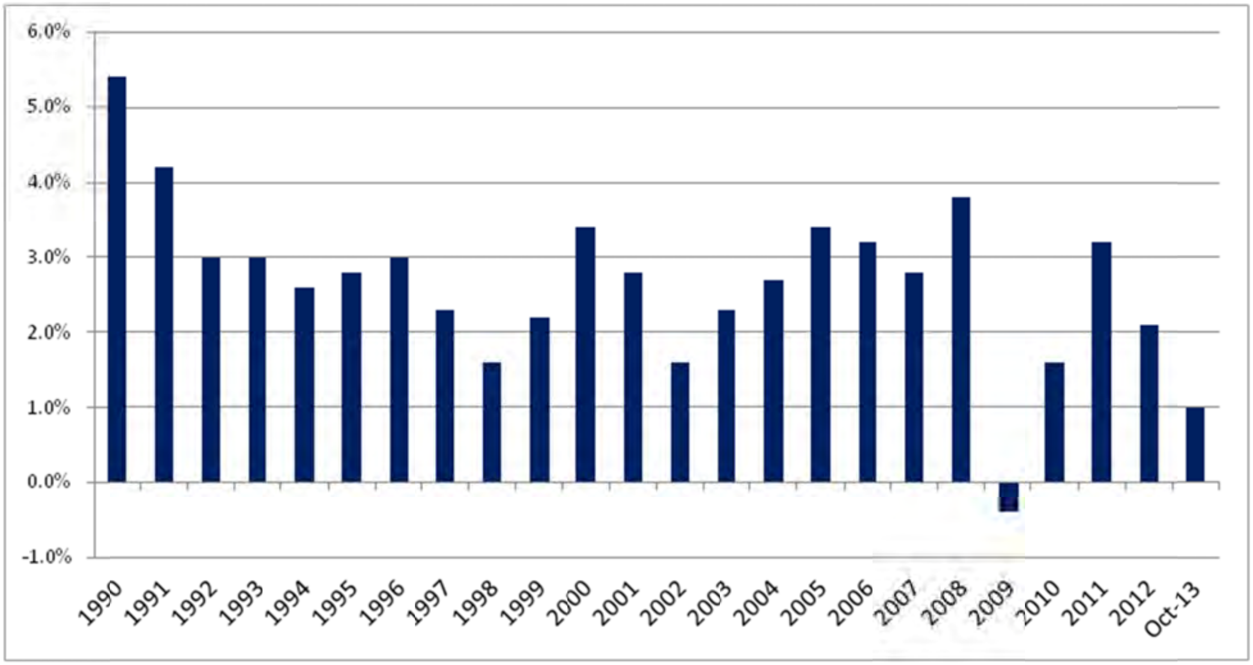
Source: Blue Chip Economic Indicators (BCIE)

It is anticipated that that a mild recovery will continue in the short-term in contrast to the robust recoveries of previous recessions. Potential factors that may impact future economic growth in the U.S. include the following: (i) the stability of the Euro and economic growth in Europe; (ii) maintaining economic growth in China and India; (iii) increased tensions in the Middle East, including the conflict in Syria; (iv) oil and gasoline prices; (v) changes in interest rates and (vi) consumer spending.

4.2.2 Inflation

Since 1990, the Consumer Price Index (CPI) has increased by an average annual rate of 2.65 percent. This captures the relatively higher inflation of the early 1990s as well as the deflationary conditions that occurred in 2009 during which CPI decreased by 0.4 percent. The economic recovery of the last few years has reduced concerns regarding the potential return of deflationary conditions. Through October 2013, CPI has increased by approximately 1.0 percent. Figure 28 summarizes the annual percentage change in CPI from 1990 to October 2013.

Figure 28: Annual Percentage Change in CPI, 1990 to October 2013



Source: U.S. Department of Labor, Bureau of Labor Statistics (BLS)

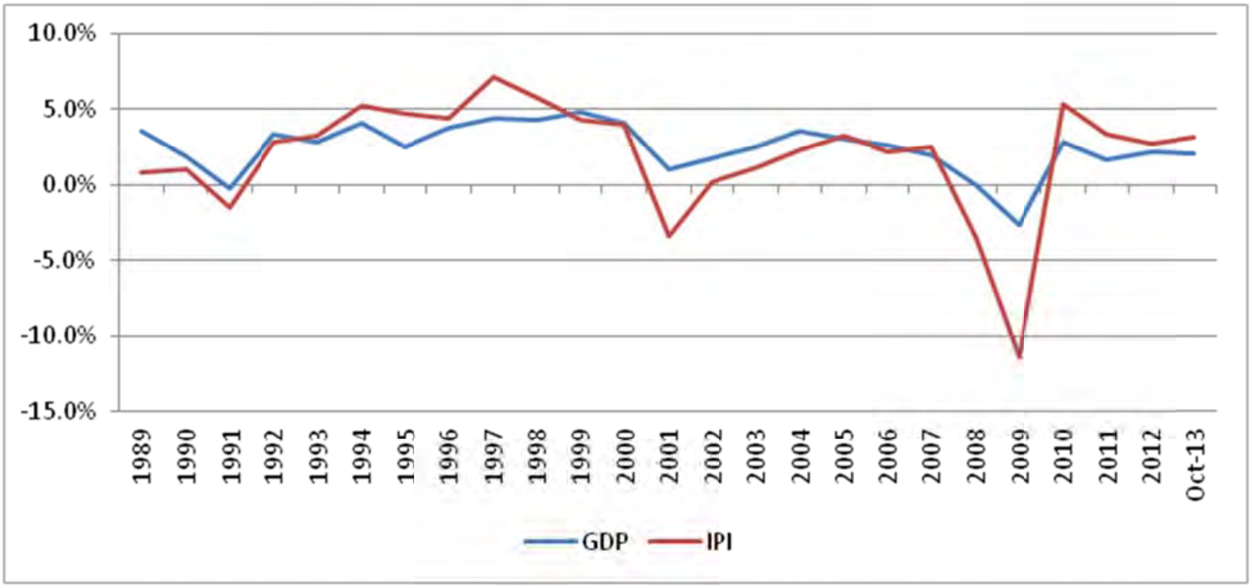
4.2.3 Industrial Production

We expect that the growth in the shipment of goods across the nation's highways will be tempered, resulting in a more modest rate of growth in commercial traffic on the DRJTBC's facilities than had been experienced in the past. This trend is also seen on other toll facilities in the northeast.

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. During the lowest point of the 2001 Recession, the Industrial Production Index (IPI) decreased by 4.0 percent. Due to the severity of the 2007-09 Recession, the IPI declined 11.3 percent in 2009. Since then, the IPI has recovered, increasing by 5.7 percent, 3.4 percent, and 3.6 percent during 2010, 2011, and 2012, respectively. IPI has increased by

3.2 percent through the first nine months of 2013. Figure 29 compares the growth in real GDP with IPI from 1989 to October 2013.

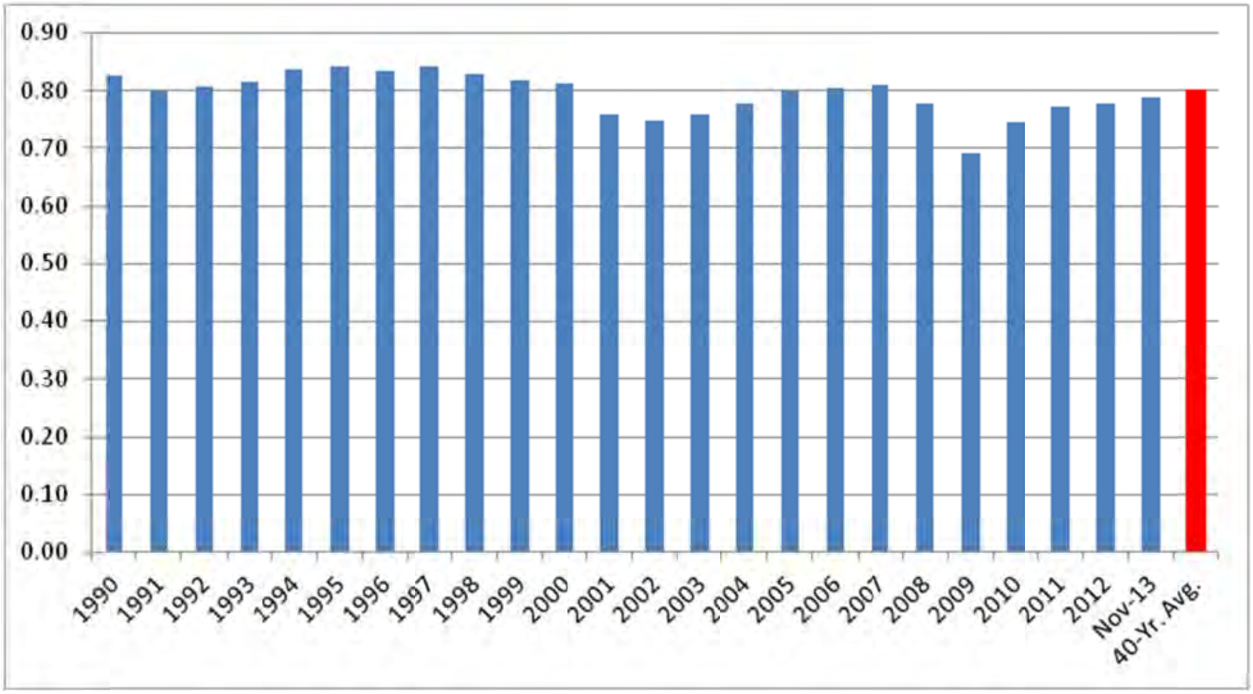
Figure 29: Historical Real GDP and IPI, 1989 to October 2013



Source: Bureau of Economic Analysis and the U.S. Federal Reserve Bank

Similar to the IPI, the utilization of U.S manufacturing capacity decreased significantly in 2009, declining to 0.692. Since then, capacity utilization has increased to 79.0 percent as of November 2013, which is approximately 98 percent of the historical average value of 80.2 percent from 1972 to 2012. Monthly data shows that capacity utilization has trended slightly upward during most of 2013. Figure 30 summarizes manufacturing capacity utilization from 1990 through 2013.

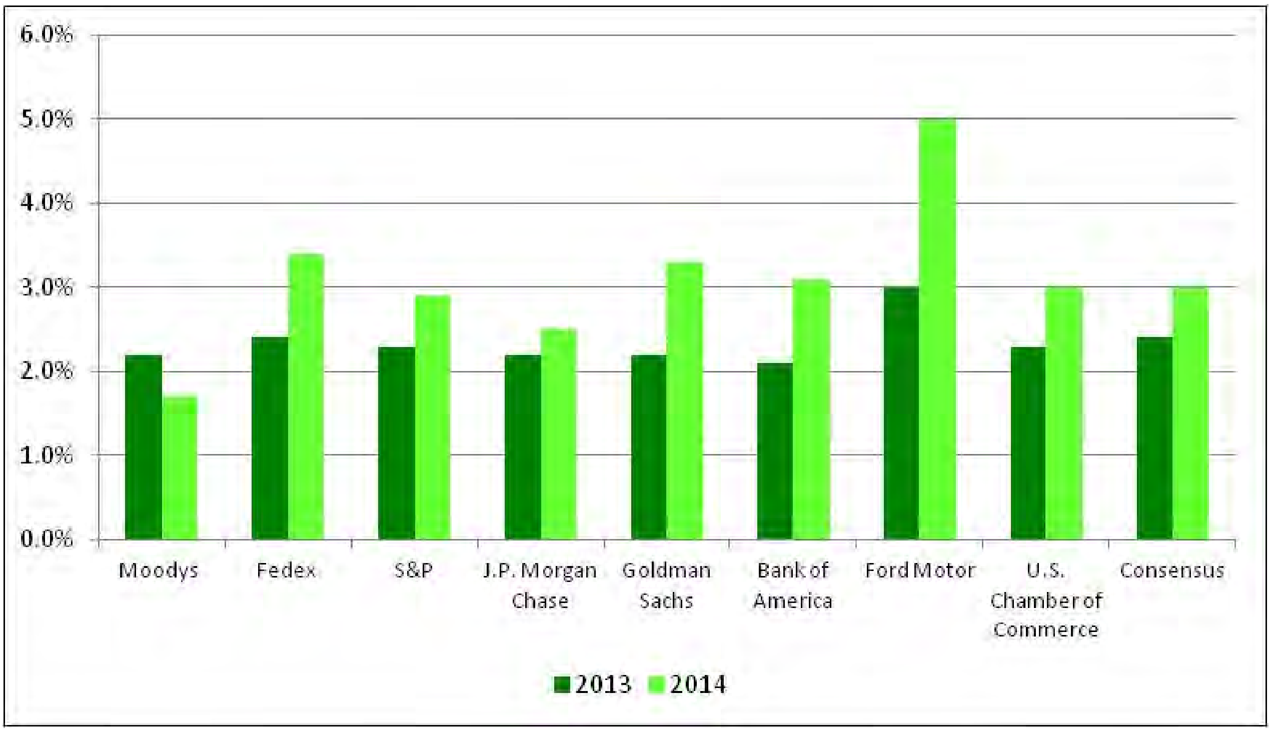
Figure 30: Manufacturing Capacity Utilization, 1990 to November 2013



Source: U.S. Federal Reserve Bank

Based on forecasts developed by financial institutions and industry analysts, the IPI is forecasted to increase by 2.4 percent in 2013 and 3.0 percent in 2014. This forecast factors in the potential impact to U.S. exports due to sluggish growth in Europe. As a result, we expect that the growth in the shipment of goods across the nation's highways will be tempered, resulting in a relatively modest rate of growth in commercial traffic. Figure 31 summarizes selected forecasts in the Industry Production Index.

Figure 31: Forecasted Percentage Change in Industrial Production, 2013 and 2014



Source: Blue Chip Economic Indicators (BCIE)

4.3 Long-Term Structural Trends

The accumulation of the trends of productivity improvements and aging of the general population has had a negative impact on traffic growth across the U.S. Similar to other toll agencies, the DRJTBC itself to some degree has experienced these impacts.

The recent recession has coincided with a number of long-term structural trends in the U.S. and internationally that have encumbered economic growth and job creation. 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.

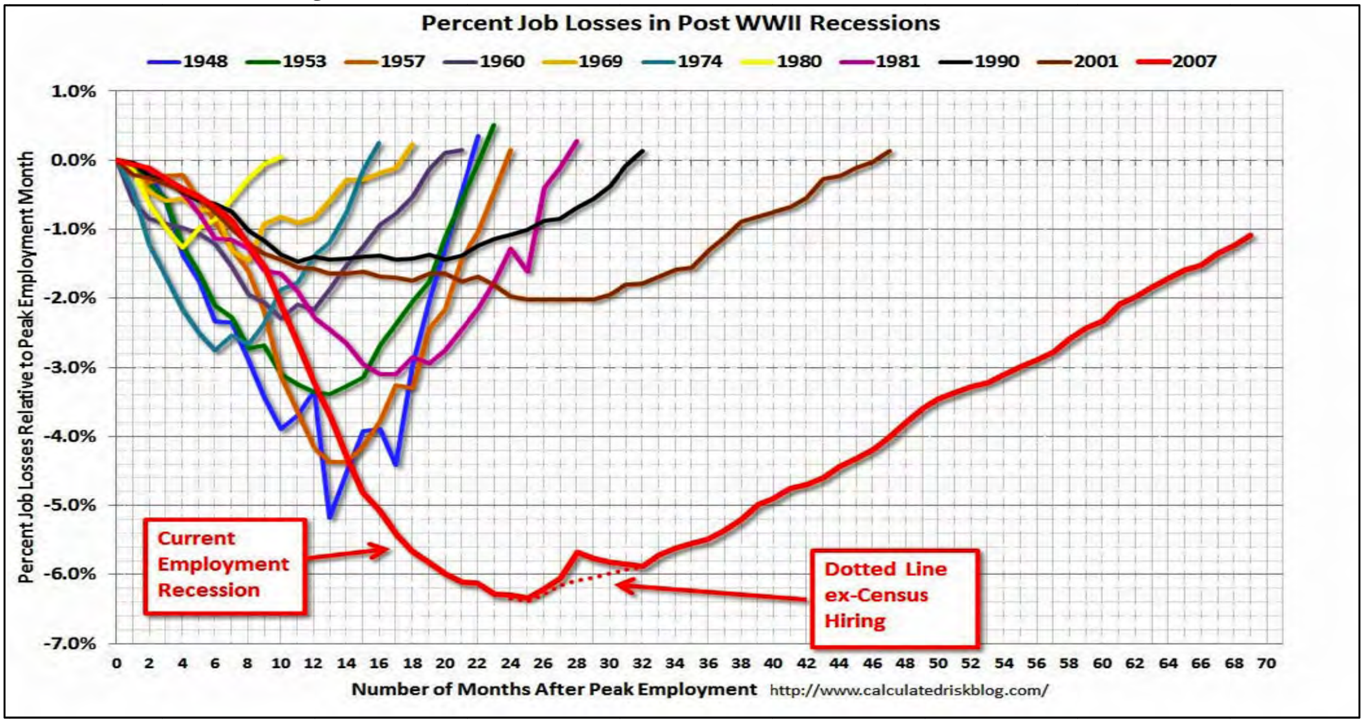
Second, the U.S population is becoming older, with the median age increasing from 29.5 in 1960 to 37.2 in 2010 (latest full census data available). Within this general trend, the 18 - 44 age group, which has historically driven the most Vehicle Miles Traveled (VMT) per capita, increased from 35 percent of the total population in 1960 to 43 percent in 1990. However, this age group comprised 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 nationwide traffic trends in the development of our toll traffic and revenue forecasts for the DRJTBC.

4.3.1 Employment

At the beginning of 2008, the unemployment rate in the United States was 5.0 percent. At the depth of the recent recession in October 2009, the seasonally adjusted unemployment rate peaked at nearly 10.0 percent. During 2008 and 2009, total non-farm employment decreased by approximately 2.6 percent and 3.8 percent, respectively. Since then, total employment has recovered with a 0.8 percent increase in 2010, a 1.6 percent increase in 2011, and a 1.7 percent increase in 2012. Moreover, the unemployment rate has decreased gradually to 7.3 percent, as of October 2013. Figure 32 compares the job losses of the 2007-09 Recession with previous recessions since the end of World War II.

Figure 32: Percent Job Losses in Post WWII Recessions

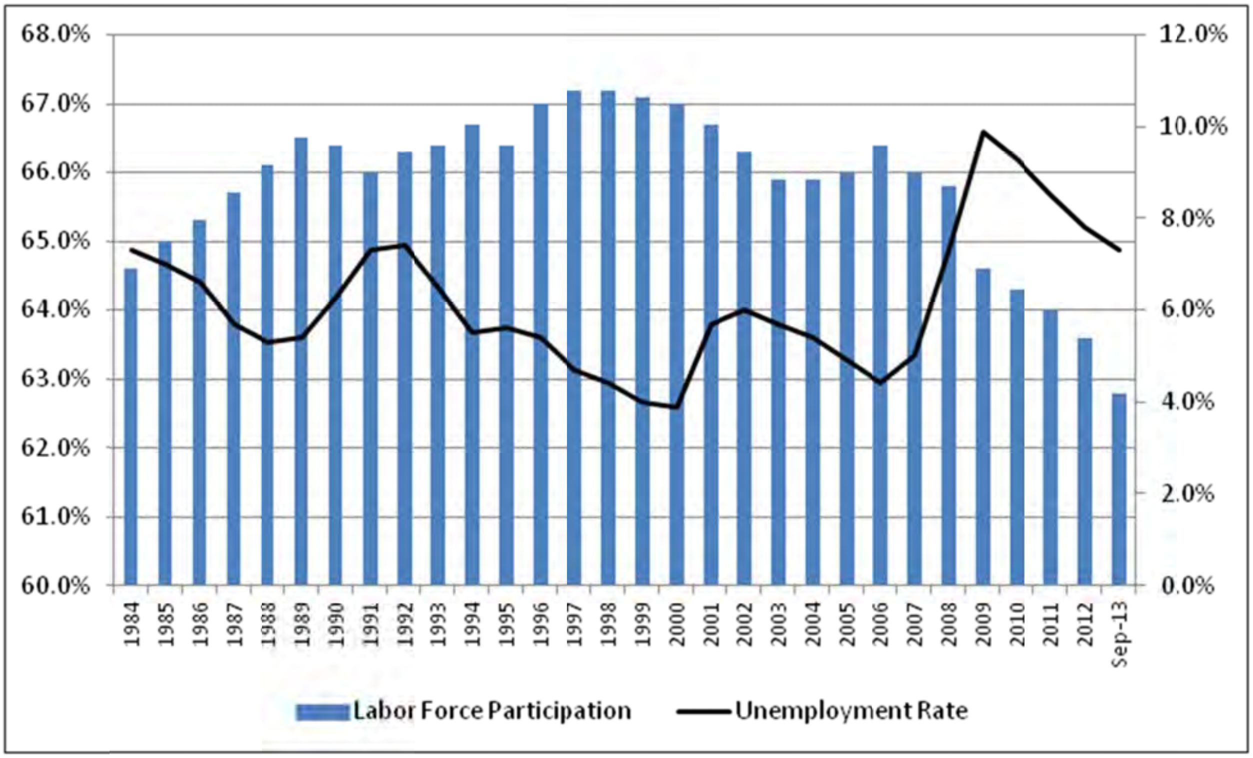


Source: Calculatedriskblog.com

Long-term forecasts of employment tend to differ, depending on varying assumptions of the impact of long-term structural trends, such as advances in information technology, outsourcing, and an aging population. The U.S. Congressional Budget Office (CBO) has forecasted that employment would return to pre-recession levels by 2015, while the Bureau of Labor Statistics (BLS) has projected total employment to increase by 0.5 percent per year from 2012 to 2022.

However, the labor participation rate, which is the percentage of people over 16 who are not infirm or in the military but either have a job or are actively looking for one, has fallen to 63.2 percent as of September 2013. This percentage is the lowest observed in more than 30 years. The labor participation rate peaked in 1998 due to the increased participation of women in the workplace, the relatively large baby boomer age group reaching peak employment years, and the favorable economic conditions of late 1990s. The labor participation rate decreased slightly to 66.0 percent in 2007 and has declined steadily since the start of the recession and the subsequent recovery. While some of this decrease may be attributed to the increasing number of baby boomers who have retired, it is also potentially an indication that younger people are participating less in the labor market. This rate is expected to continue decrease across gender types due to the aging and retirement of the Baby Boomer generation. Figure 33 summarizes the labor participation rate and the unemployment rate during the last thirty years.

Figure 33: Labor Participation Rate and the Unemployment Rate, 1983 to September 2013



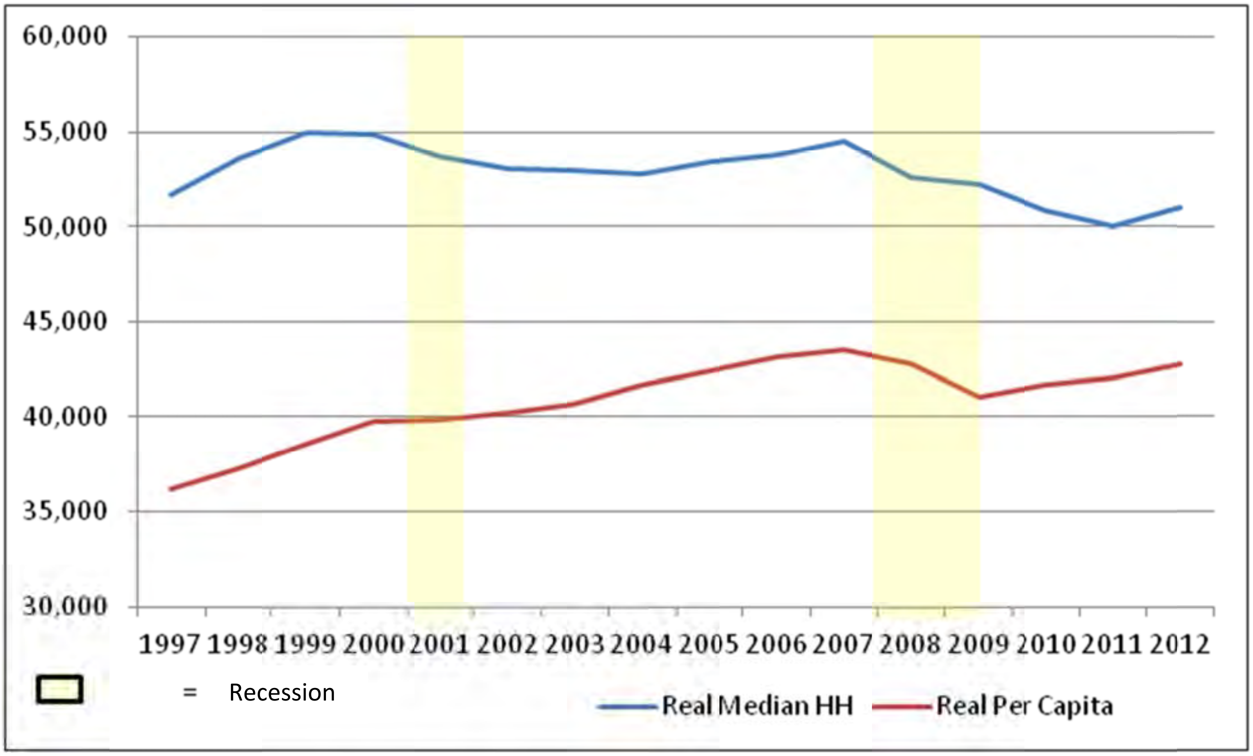
Source: Bureau of Labor Statistics (BLS), U.S. Department of Labor

Historically, the labor participation rate has been negatively correlated with the national employment rate – as economic conditions worsen and unemployment rises, then the labor participation rate decreases. Along these lines, there generally has been an increase in the labor participation rate as the economy improves and unemployment decreases. This relationship has held from 1994 to the start of the recent recession. Since 2008, there appears to have been a shift – the U.S. labor participation rate has continued to decrease even as the unemployment rate has decreased. This is a possible indication of long-term structural trends.

4.3.2 Income

The recent recession has impacted income, which affects consumer purchasing power and economic growth. Based on multiple measures, income has decreased since 2007 and remains below historical levels. Real household median income peaked at $54,932 in 2007 and has declined to $51,017 in 2012. Real median household income is currently 93 percent of 2000 levels. Similarly, real per capita income peaked at $43,499 in 2007, and has recovered to only $42,784 in 2012. However, a positive trend is that income, adjusted for inflation, increased by approximately 2 percent from 2011 to 2012. Income data for 2013 was not available, as of this writing. Figure 34 shows annual real household income and real per capital income during economic expansionary periods and recessions.

Figure 34: Real Household (2011$) and Per Capita Income (2009$), 1997 to 2012

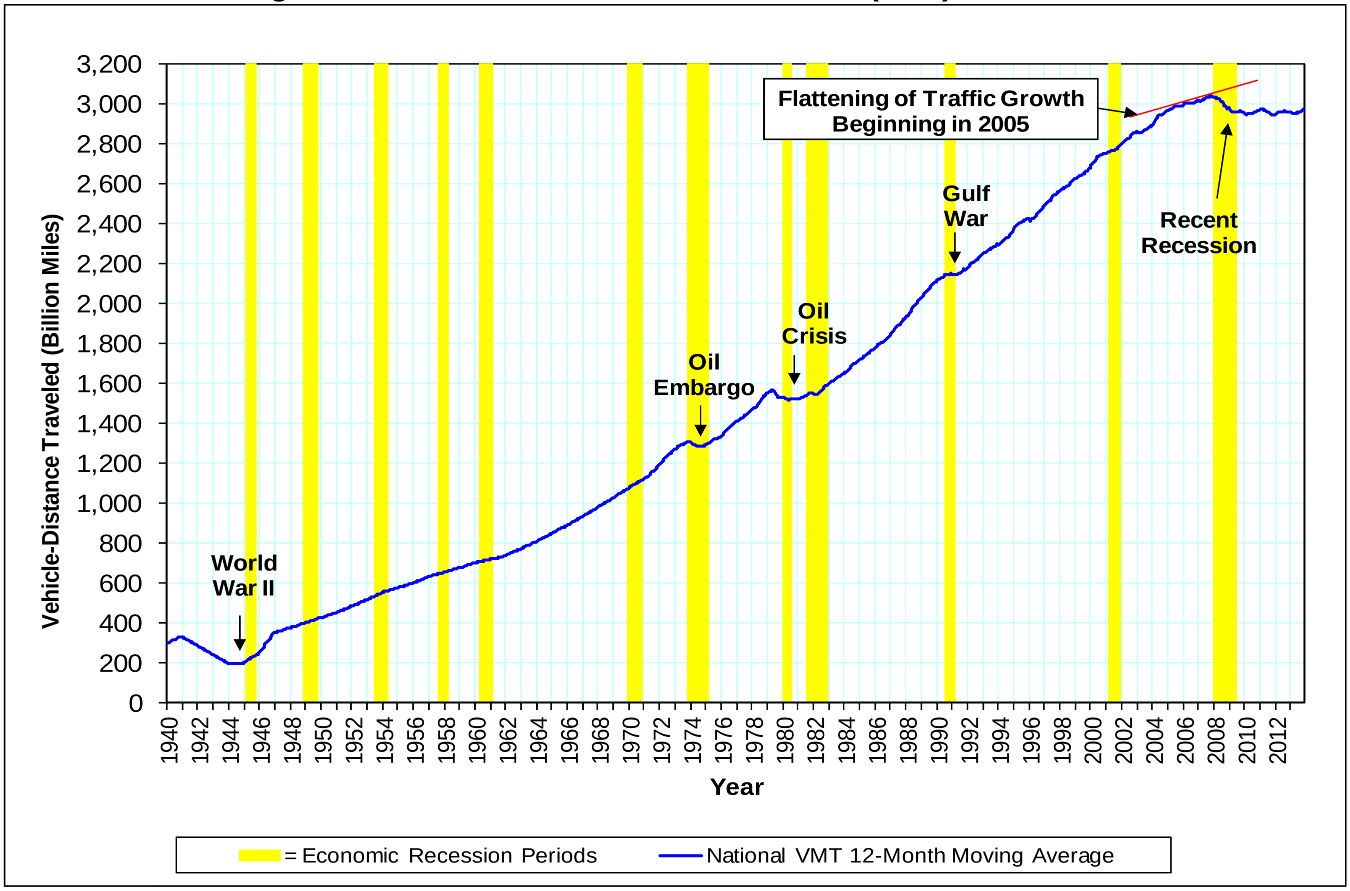


Source: Bureau of Economic Analysis and U.S. Census Bureau

4.3.3 National Trends in Vehicle Miles Traveled (VMT)

The United States has experienced a decrease in Vehicle Miles Traveled (VMT) on its highways over the last few years. This reduction in VMT has resulted in a significant decrease in revenues generated from fuel taxes and tolls, which are major sources of funding for transportation projects. There are several factors that have contributed to this phenomenon, including volatility in oil and gasoline prices, the aging of the population, periodic decreases in output and employment, and changes in technology which renders some commuter and discretionary trips unnecessary. Figure 35 depicts the 12-month moving total of national travel mileage on all U.S. highways, from 1940 through November 2013. As seen in this figure, there were temporary reductions in VMT during World War II, oil crises, and previous economic recessions. Despite these temporary dips, VMT continued to grow rapidly over the years. It shows that, in recent years, with the exception of short, flat periods during the 1991 and 2001 recessions, VMT grew at a steady pace through 2005. VMT levels grew at a relatively slower pace from 2006 to 2008. The sharp increase in gas prices and the downturn in economic activity that took place in 2008 resulted in a significant reduction in national VMT. VMT declined throughout 2008, and remained generally flat from 2009 through 2013, with slight increases and decreases from month to month that may have been caused by fluctuations in weather and in gas prices.

Figure 35: US Annual Vehicle Miles Traveled (VMT), 1940-2013



Source: Federal Highway Administration (FHWA)

Jacobs reviewed and compiled available reports and data to investigate the possible factors contributing to this phenomenon. Figure 36 lists some of the economic, demographic, and behavioral factors that may have contributed to the recent drop in VMT that are outside of the direct impact of the recent recession. The purpose of identifying these non-economic factors is to isolate the long-term trends that impact the historical relationship between economy activity and travel. This list includes the factors that affect work and non-work related trips, recent trends, and future projections.

Figure 36: Possible Factors Contributing to the Recent Decrease in VMT and Future Projections

	Historical	Recent	Future
Labor Force Participation Rate	Rapid Increases due to increased participation of women and size of Baby Boomer Generation	Declining	Decline likely to continue due to Baby Boomer retirements
Speed of Automobile Travel	Increasing due to highway and vehicle improvements	Stable or declining	Unlikely to improve in the absence of major technological changes or increases in highway capacity
Vehicle Fuel Efficiency	Increased due to technological improvements	Increasing due to Federal requirements	Could peak in the absence of major technological changes
Share of Population Peak Driving	Steadily increasing due to Baby Boom generation	Declining	Declining in short term, increasing slowly thereafter
Cost of Gasoline	Mostly stable and low	Increasing, followed by relative stability at higher prices	Projected to remain high
Vehicle Ownership	Increasing to near-universal vehicle ownership	Stable or declining	Unknown, but potential for further growth above historical rates is limited due to near
Driver's Licensing	Increasing to near-universal licensure	Declining relative to population growth	Unknown, but unlikely to exceed pervious peak
Use of Non-Driving Models	Dramatically decreasing than stagnant	Increasing, followed by relative stability at higher prices	Unknown, though demand for transit tends to increase with sharp increases in gas prices. Telecommuting likely to increase.

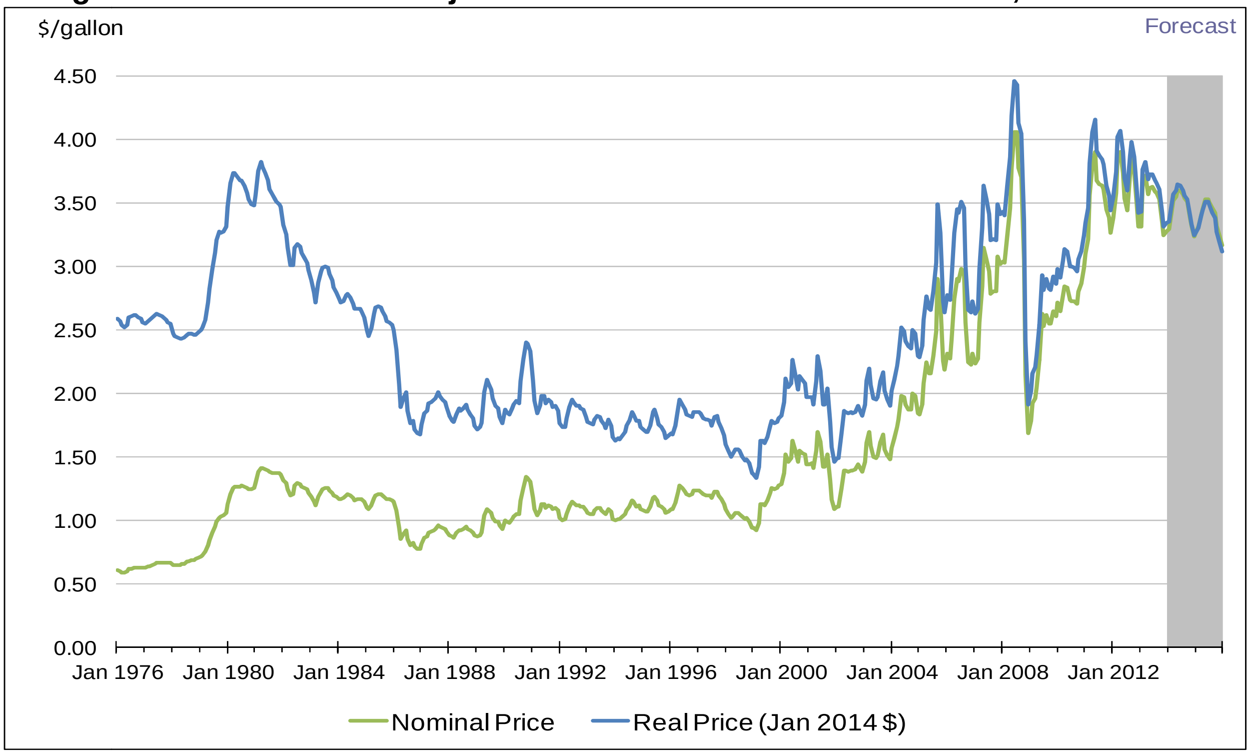
Sources: U.S. PIRG "A New Direction: Our Change Relationship with Driving and the Implication for America's Future" and Jacobs Consultancy

4.3.4 Fuel Cost Impacts on Travel

While there are a number of factors that may have caused the recent drop and flattening of VMT in the U.S., volatile gas prices is often cited as one of the primary factors that have a impact on travel trends.

Figure 37 presents historical as well as forecasted changes in gasoline and crude prices prepared by the US Energy Information Administration (EIA). The graph illustrates the peaking of gasoline prices in the summer of 2008, the precipitous drop in late 2008, the spike in gasoline prices that occurred in mid-2011, and subsequent fluctuations thereafter. In its January 2014 report, the EIA projected that gasoline prices, which averaged $3.51 per gallon in 2013, would fall to approximately $3.46 per gallon in 2014 and $3.39 per gallon in 2015. This slight reduction in prices is mainly due to the increased production of oil and natural gas in the U.S. from fracking and other innovative techniques.

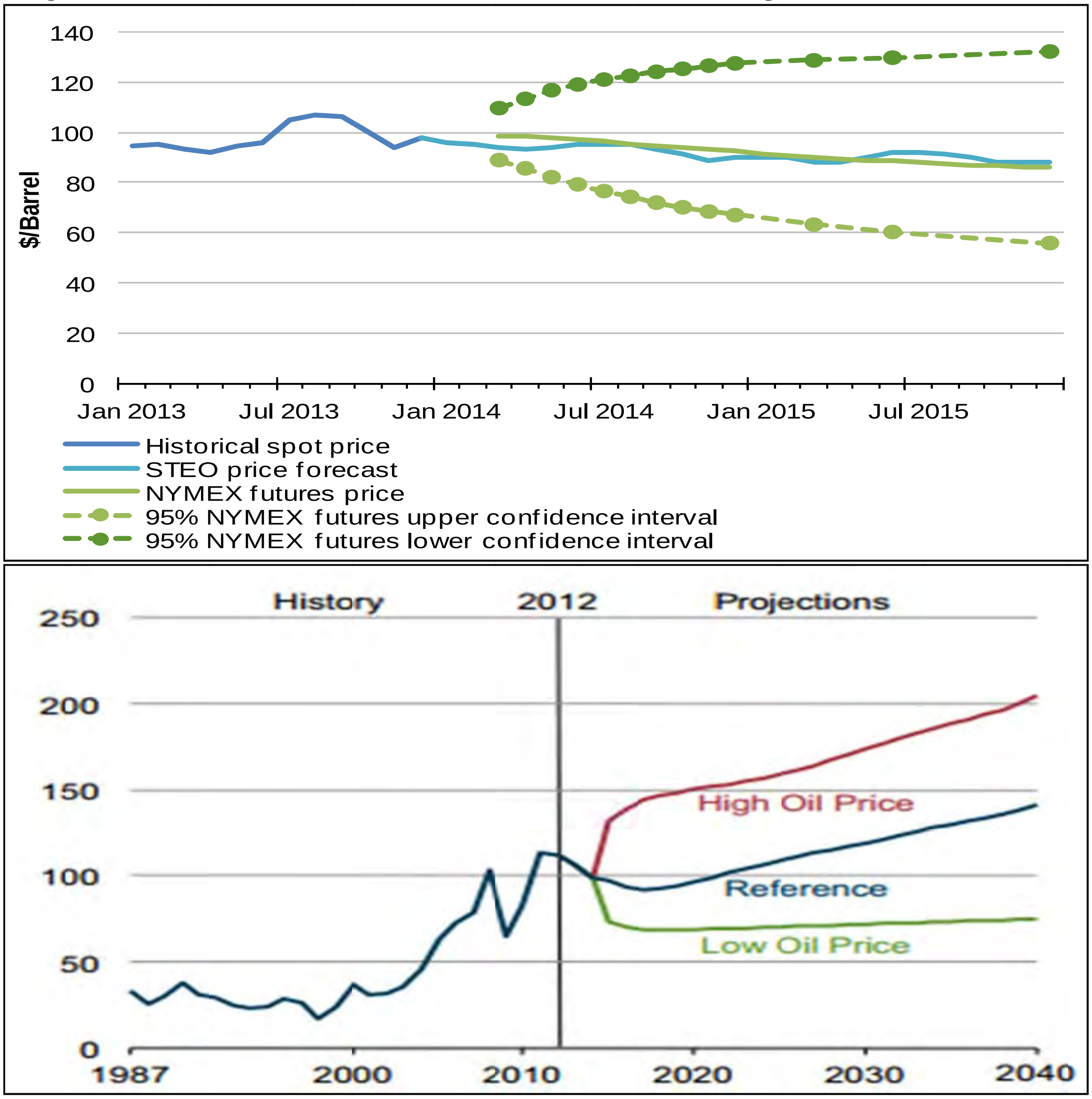
Figure 37: Historical and Projected US Gasoline and Crude Oil Prices, 1976 to 2015



Source: Short-Term Energy Outlook, US Energy Information Administration(EIA), January 2014

This relatively static forecast of future oil and gas prices may be reassuring; however, what this graph does not show is the level of uncertainty in these projections. Much of this forecast is based on the increased production due to relatively new technological improvements, such as fracking, increased production from renewable energy sources, and long-term improvements in motor vehicle efficiency. However, it remains to be seen whether these trends are sustainable over time. Figure 38 presents the EIA's projections for the monthly price for a gallon of regular unleaded gasoline. The base projection is very similar to that illustrated in Figure 37. However, this forecast provides a broad range of crude oil prices, ranging from $55/barrel to $130/barrel. Long-term forecasts encapsulate this very wide spectrum with respect to future crude oil prices. Recognizing the potential impact of fuel prices on motorist behavior, the volatility relating to future oil and gasoline prices has made it an increasingly difficult task to accurately project traffic volumes. Figure 38 shows short- and long-term forecasts in crude oil prices prepared by EIA.

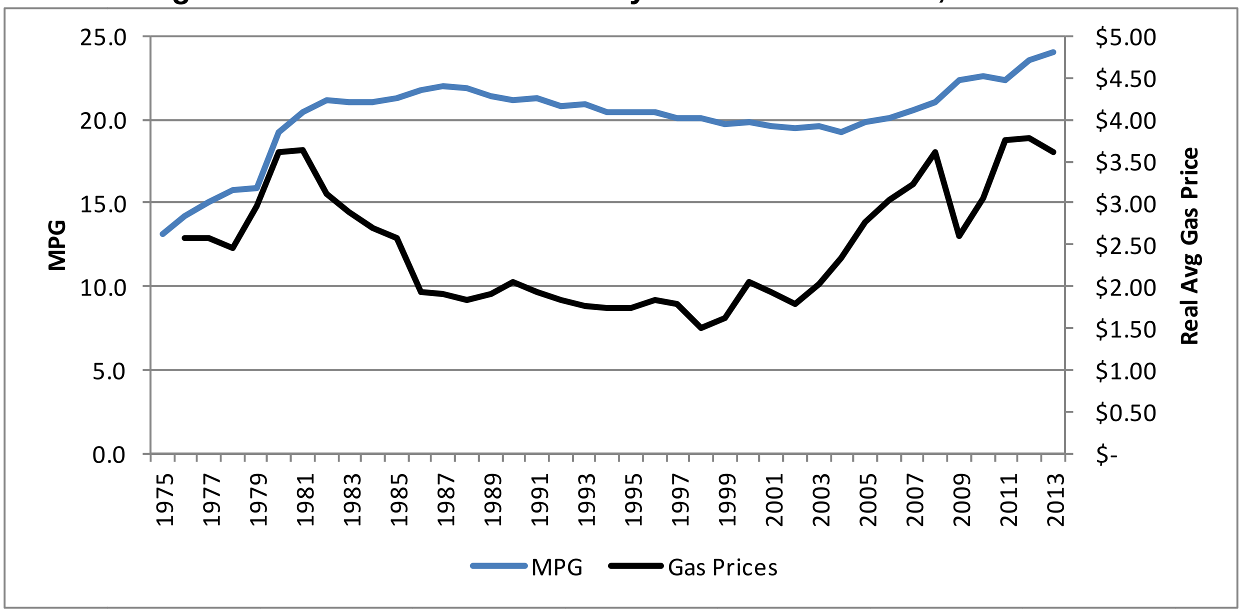
Figure 38: Historical, Future Short-Term, and Future Long-Term Crude Oil Prices



U.S. Energy Information Administration, Energy Outlook, January 2014

Volatility in the price of fuel and high gasoline costs has encouraged an increase in fuel efficiency of vehicles. Figure 39 shows this relationship between changes fuel efficiency and gas prices—albeit with a lag of a few years. There was a sharp increase in fuel efficiency in the late 1970's caused by the oil crisis along with the trend toward buying smaller, more fuel-efficient vehicles. A gradual decline in average miles per gallon (MPG) from 1987 through 2004 occurred as larger vehicles and SUVs became more popular and gasoline prices reached historically low levels. From 2005 onward, this trend has again turned around with vehicles becoming more fuel-efficient than ever. While fuel prices and volatility have an impact on traffic trends, this may not have as large an effect as ten years ago. Also to consider in this discussion is the emergence and growth of hybrid and electric vehicles in the marketplace. While the prevalence of alternative fuel vehicles is increasing, it is estimated that electric vehicles could constitute up to 35 percent of the automobile market by 2025. Although these predictions vary widely by source, it is important to appreciate the potential impact that the growing numbers of alternative fuel vehicles will have on gasoline prices and motorist behavior.

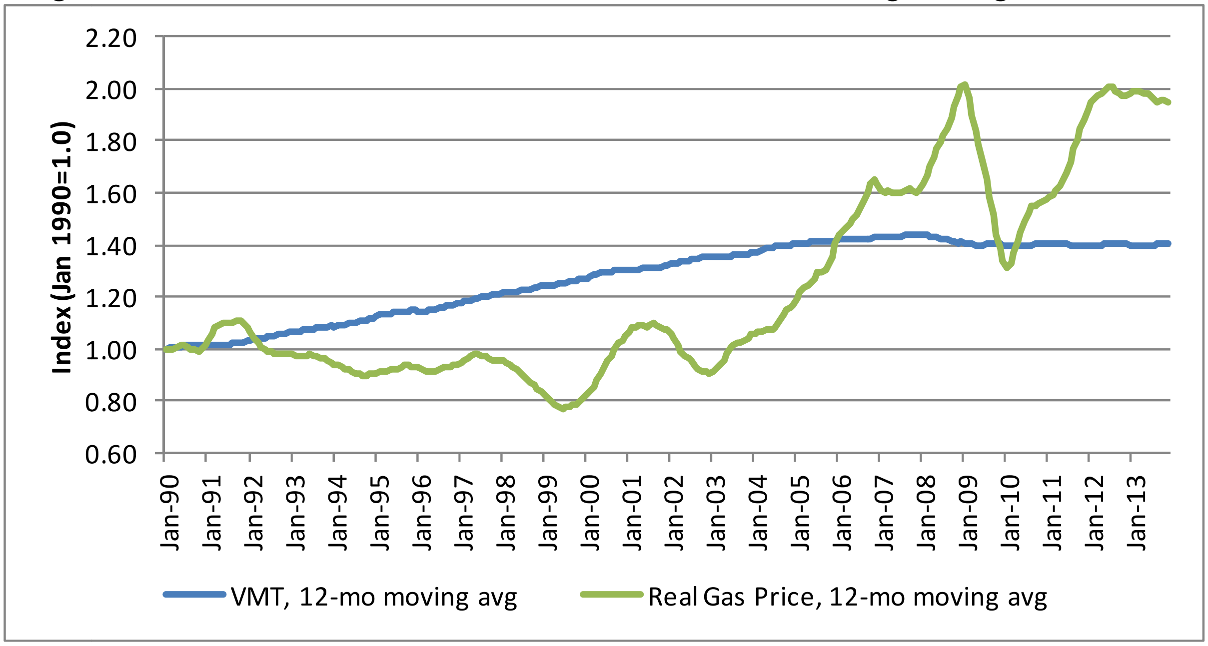
Figure 39: Historical Fuel Efficiency and Real Gas Prices, 1975-2013



Source: Environmental Protection Agency (EPA) and the Energy Information Administration (EIA)

To understand the potential impact of future gas prices on traffic, we can look at historical reactions to dramatic changes in gas prices. Figure 40 presents historical VMT across the United States as compared to gasoline prices from 1976 through today. Both the VMT and real gas prices represent a 12-month moving average to remove any seasonality factors; all data has been indexed to January 1990. While the 2007-09 recession began in the December 2007, there was still a flattening in traffic growth that began several years before. While the initial flattening may be partially attributed to rising gas prices, the continued decrease in VMT can be attributed to the recession, as gas prices dropped significantly by the end of 2008. Due to the recession and the slow recovery period, it has been difficult to pinpoint the elasticity of travel as it relates to gas prices. We estimate that the doubling in gas prices from 2003 through mid-2008 may have caused up to a 5 percent loss in nationwide VMT, however, traffic has remained nearly flat since the end of 2008, even with the subsequent drop in prices from June to December 2008 (from $4.46 to $1.91 in real dollars) followed by another spike in prices in May 2011 (to $4.16 in real dollars) had little, if any, noticeable impact on VMT. Over the past two to three years, there have been only small fluctuations in gas price, and VMT has continued to be flat.

Figure 40: National VMT vs. Real Gas Prices, 12-Month Moving Average, 1976-2013



Sources: US Energy Information Administration (EIA) and Federal Highway Administration (FHWA)

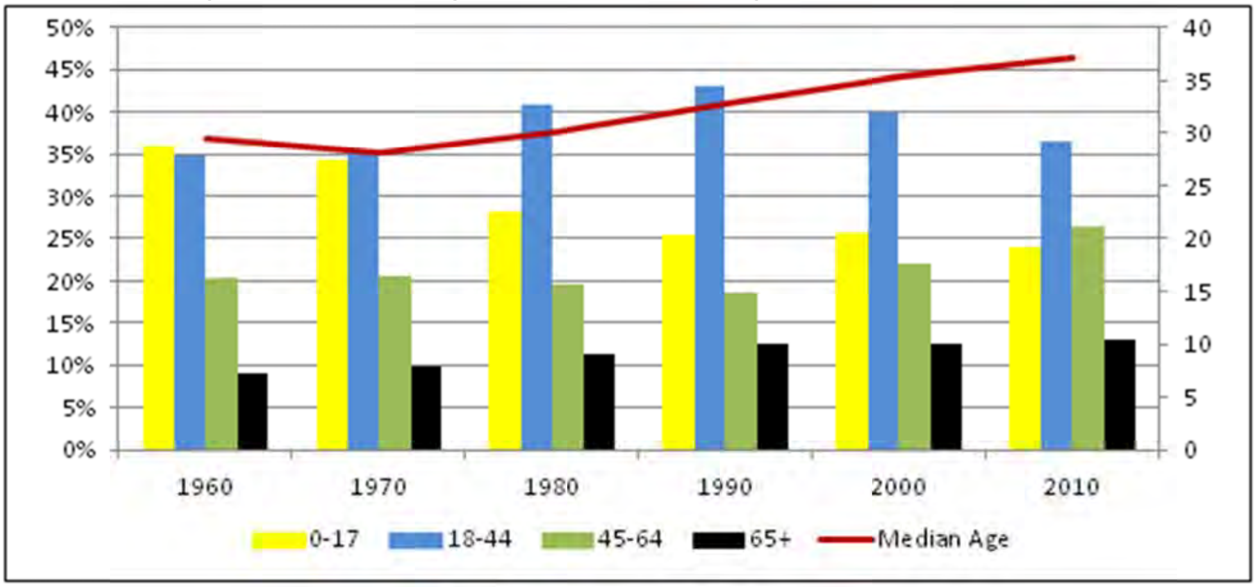
4.3.5 Age Groups and Travel

The U.S population is becoming older with the median age increasing from 29.5 years in 1960 to 37.2 years in 2010. Within this general trend, there are the following component trends:

- The non-adult population (0 to 17 years) decreased from nearly 36 percent of the total population in 1960 to 24 percent in 2010;
- The 18 to 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 37 percent of the total population in 2010;
- The 45 to 64 age group shrank slightly between 1960 and 1990 (from 20 percent to 19 percent), but increased to 26 percent of the population in 2010.
- The 65+ age group increased from 9 percent of the total population in 1960 to 13 percent in 2010.

Historical trends and population forecasts indicate that the U.S median age will likely continue to increase in the next 20 years. Figure 41 summarizes the distribution of the total U.S. population by age group from 1960 to 2010.

Figure 41: Percentage of Population by Age Group, 1960 to 2010

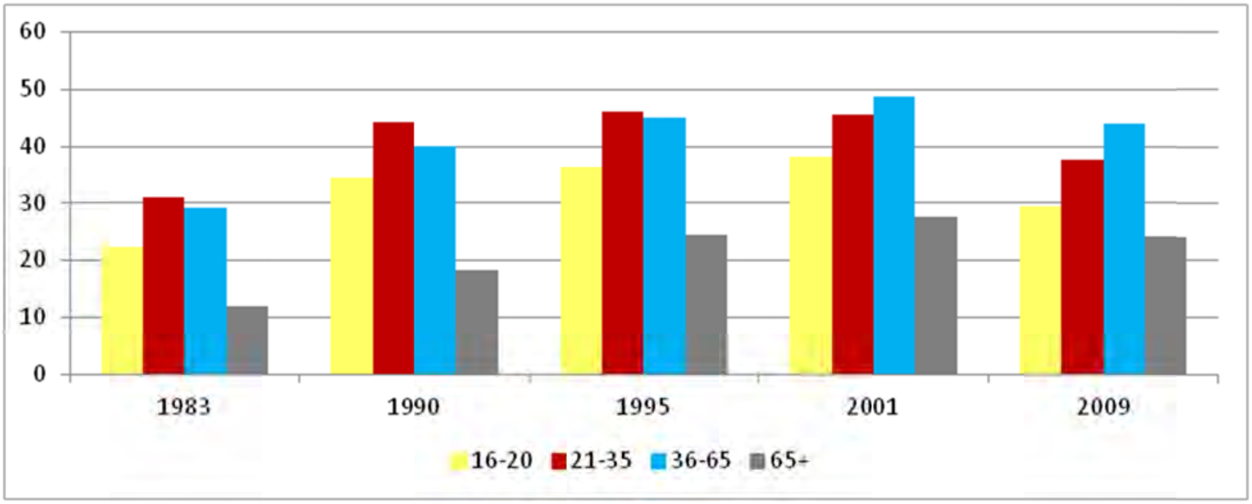


Source: U.S. Census Bureau

The aging of the population is a factor contributing to slower traffic growth, as older age groups tend to travel less and spend less on transportation. Based on previous studies, individuals tend to gradually drive less as they reach middle age and after, especially after the age of 65. Figure 42 summarizes the results from the 2009 National Household Travel Survey and the number of daily Person Miles Traveled (PMT) by age group. This data highlights the impact of an aging population on national PMT and by extension, VMT. In particular, PMT per day driven by the 36-65 age group has slowed. In 2001, daily PMT for this group was 48.8 miles. By 2009, their daily PMT decreased to 44.0 miles.

At the same time, younger population groups – individuals under 35 years old – are also driving less. Figure 42 shows that daily PMT for the 21-35 age group decreased from 45.6 miles to 37.7 miles from 2001 to 2009. The 16-20 age group showed a decrease from 38.1 to 29.3 PMT per day. These two younger age groups include what has come be known as the Millennial Generation: individuals born between 1983 and 2000. Numerous studies have been conducted in recent years to determine why this generation is driving less and what that means for the future.

Figure 42: Daily Person-Miles Traveled by Age Group, 1983 to 2009

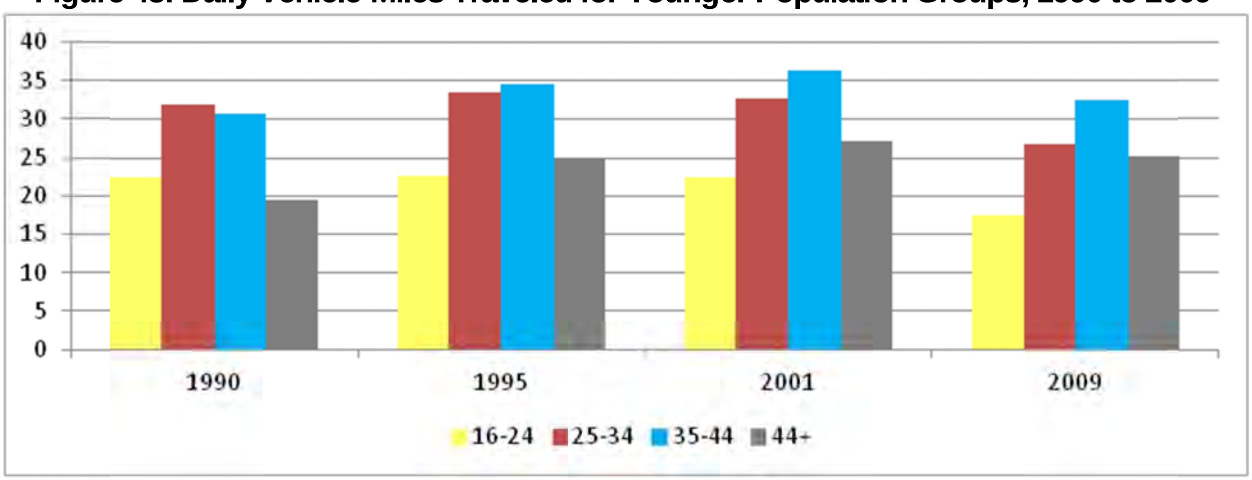


Source: Federal Highway Administration (FHWA), 2009 National Household Travel Survey

From 2001 to 2009, there have been reductions in daily vehicle miles traveled (VMT) for all age groups. VMT for people under age 35 had the largest reduction - nearly 20 percent – as shown in Figure 43. This trend has persisted since 2009. Instead of driving, many young driving-age people are opting to walk, bike, or use public transit with greater frequency, and are choosing to live in places where driving is less of a necessity. This is borne out by the 2009 National Household Travel Survey which found that the number of vehicular trips as a percentage of total trips decreased from 89 percent in 1995 to 83 percent in 2009.

.

Figure 43: Daily Vehicle-Miles Traveled for Younger Population Groups, 1990 to 2009



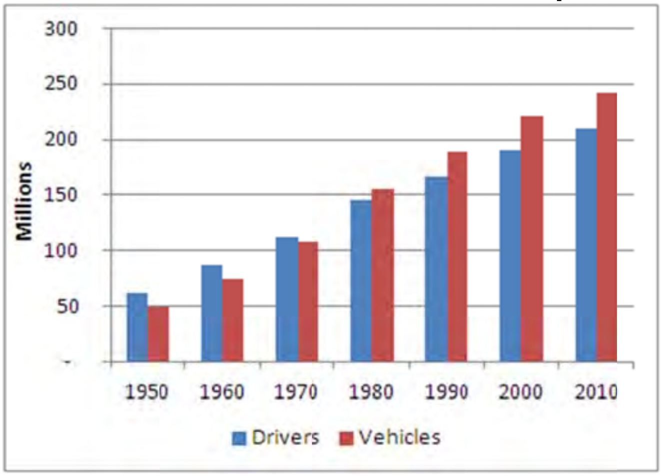
Source: Federal Highway Administration, 2009 National Household Travel Survey

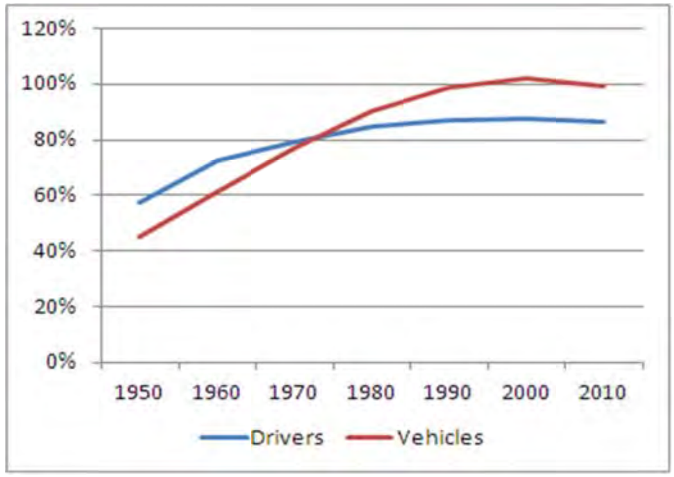
In this manner, both the changing attitudes of Millennials towards driving and the aging of the Baby Boomer population are expected to have a long-term effect on driver behavior and traffic, indicating that traffic will not return to the growth rates achieved during the 1980s and 1990s. In the recent past and for the expected future, population growth in the study area (detailed later in this report in Section 4.4.1) is relatively small, about half a percent per year. This small population growth combined with recent VMT trends – especially by members of the Millennial Generation, who now outnumber Baby Boomers – is expected to dampen traffic future traffic growth on the DRJTBC facilities from the rates we have seen in the past.

4.3.6 Motor Vehicles and Licensed Drivers

After several years of strong growth, the total number of motor vehicles and licensed drivers in the United States has started to level off, especially in recent years. Registered motor vehicles increased by an annual average rate of 3.9 percent annually from 1950 to 1980, decreasing to 1.5 percent annual growth from 1980 to 2010. Similarly, the number of licensed drivers in the U.S. increased by an average of 2.9 percent per annum and 1.2 percent per annum from 1950-1980 and 1980-2010, respectively. Although these growth rates have led to an absolute increase in both the number of motor vehicles (242 million in 2010) and licensed drivers (210 million in 2010), growth has not kept pace with the increase in population. The number of licensed drivers as a percentage of the driving age population peaked at 88 percent in 2000, but has declined to 86 percent in 2010. This is another indication that eligible licensed drivers are increasingly are opting to use alternative forms of transportation, such as walking, bicycling, or public transit, or are telecommuting. This is consistent with recent studies finding that Millennials are driving less. Moreover, the rate of vehicles to the driving age population which reached 1.02 in 2000 has declined slightly to 1.00 in 2010. These long-term trends are summarized in Figure 44.

Figure 44: Total Motor Vehicles and Licensed Drivers and as a Percent of Driving Population, 1950-2010





Source: Federal Highway Administration (FHWA)

4.3.7 Discretionary Travel, Telecommuting and the Internet

The advent and widespread usage of the internet beginning in the mid-1990s brought about a whole new information age whereby many people now use it as the main tool for the retrieval and exchange of information, social communication, entertainment, and the purchase of goods and services. In theory, increased internet usage would make some vehicle trips unnecessary. According to the Federal Communications Commission (FCC), the share of U.S. households with broadband internet increased from 4 percent in 2000 to 78 percent in September 2013. According to Business News Daily, Americans currently spend 23 hours per week online for leisure. This represents a whole 14 percent of a week that is spent emailing, texting or using other kinds of social media and online communication.

Unrestricted by store hours, coupon cutting, traffic, and check-out lines, online retail has become more desirable to many U.S. consumers. According to Forrester Research Inc, in 2012 online shoppers in the United States spent $226 billion, up 17 percent from $195 billion in 2011. They project that by 2016, $327 billion will be spent by U.S. consumers online, up 45 percent from 2012. In 2012 e-retail accounted for 7 percent of total retail sales which should be up to 9 percent by 2016 according to the report, “U.S. Online Retail Forecast, 2011 to 2016.” According to Forrester, 167 million U.S. consumers shop online in 2012 which should increase to about 192 million by 2016 at the current growth rate. Reasons for the growth of online shopping are less taxes, more variety, spending less on gas, and saving time not having to drive store to store.

An increase in telecommuting may have also contributed to the decrease in national VMT. Individuals who work from home save on the time and expense of commuting. With the widespread availability of cell phones, high-speed internet service, and laptop computers, it has become easier for work in certain employment sectors, e.g. sales, management, professional services, and information technology, to be conducted from home. The Telework Research Network's September 2013 update to their report, "The State of Telework in the U.S." found that the number of employees who telecommute increased by 79.7 percent between 2005 and 2012. A continued increase in telecommuting will likely decrease the number of work-related trips and future VMT levels.

4.4 Regional Economic and Demographic Outlook

The demographic area that is in relatively close proximity to the Delaware River Joint Toll Bridge Commission (DRJTBC) facilities encompasses all or part of two states, four metropolitan statistical areas (MSA) – New York, Philadelphia, Allentown, and East Stroudsburg – three Metropolitan Planning Organizations (MPO) and nineteen counties. Ten of the 19 counties analyzed are located in New Jersey and nine are in Pennsylvania. This study area had a combined population of 8.6 million in 2010 and accounted for approximately 3 percent of U.S. GDP in 2012. Drawing from definitions developed by the U.S. Office of Management and Budget, for the purposes of this analysis, Philadelphia, Allentown-Bethlehem, East Stroudsburg, Trenton-Ewing, and Edison-New Brunswick are considered to be separate economic regions. The greater New York City area, including the Newark-Union area, has not been included due to the relatively greater distances to DRJTBC facilities. Notwithstanding, two outlying counties—Hunterdon and Sussex—have been included in this analysis.

Table 10 lists the nineteen counties that are in the DRJTBC study area by MSA and Metropolitan Division.

Table 10: DRJTBC Study Area

Metropolitan Statistical Area	Metropolitan Division	County(ies)
New York-White Plains-Wayne, NY-NJ	Edison-New Brunswick, NJ	Middlesex (NJ), Monmouth (NJ), Somerset (NJ)
	Newark-Union, NJ	Hunterdon (NJ), Sussex (NJ)
	Trenton-Ewing, NJ	Mercer (NJ)
	N/A	Pike County (PA)
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	N/A	Bucks (PA), Chester (PA), Delaware (PA), Montgomery (PA), and Philadelphia (PA)
	Camden, NJ	Burlington (NJ), Camden (NJ), Gloucester (NJ)
Allentown-Bethlehem-Easton, PA-NJ	N/A	Lehigh (PA), Northampton (PA), Warren (NJ)
East Stroudsburg, PA	N/A	Monroe (PA)

Sources: U.S. Office of Management and Budget (OMB) and U.S. Census

4.4.1 Regional Population

The total population of this nineteen county area has grown from 7.6 million in 1990 to 8.7 million in 2010, representing a compound average growth rate (CAGR) of 0.63 percent during this period. Using recent forecasts prepared by the Delaware Valley Regional Planning Commission (DVPRC), North Jersey Transportation Planning Authority (NJTPA), the Lehigh Valley Planning Commission (LVPC), total population within this area is estimated to reach 9.1 million in 2020, 9.6 million in 2030, and 10.1 million by 2040. This represents a CAGR of 0.5 percent from 2010 to 2040. The ten New Jersey counties had a total population of 3.8 million and are estimated to increase to 4.4 million by 2040. Table 11 summarizes historical and forecast population in the New Jersey counties that form part of the DRJTBC study area from 1990 to 2040.

Table 11: New Jersey County Population, 1990 to 2040

Population	Actual				Forecast						
New Jersey	1990	2000	2010	1990-2010 CAGR	2015	2020	2025	2030	2035	2040	2010-40 CAGR
Burlington County	395,066	423,394	448,734	0.64%	450,915	457,126	471,732	486,343	492,552	494,732	0.33%
Camden County	502,824	508,932	513,657	0.11%	514,351	516,331	520,980	525,629	527,609	528,303	0.09%
Gloucester County	230,082	254,673	288,288	1.13%	292,455	304,311	332,202	360,097	371,953	376,117	0.89%
Hunterdon County	107,776	122,000	127,400	0.84%	130,460	133,594	136,803	140,089	143,454	147,100	0.48%
Mercer County	325,824	350,761	366,513	0.59%	367,660	370,543	377,428	384,309	388,385	390,729	0.21%
Middlesex County	671,780	750,200	809,900	0.94%	841,566	874,471	908,662	944,190	981,106	1,023,100	0.78%
Monmouth County	553,124	615,300	630,400	0.66%	640,954	651,686	662,597	673,690	684,969	696,900	0.33%
Somerset County	240,279	297,500	323,400	1.50%	331,629	340,068	348,722	357,596	366,696	376,600	0.51%
Sussex County	130,943	144,166	149,300	0.66%	156,548	164,147	172,115	180,470	189,231	199,500	0.97%
Warren County	91,607	102,437	108,700	0.86%	112,202	115,817	119,549	123,401	127,376	131,800	0.64%
New Jersey Counties	**3,249,305**	**3,569,363**	**3,766,292**	**0.74%**	**3,838,741**	**3,928,094**	**4,050,789**	**4,175,814**	**4,273,332**	**4,364,881**	**0.49%**

Sources: Delaware Valley Regional Planning Commission (DVPRC), Lehigh Valley Planning Commission (LVPC), North Jersey Transportation Planning Authority (NJTPA), and the U.S. Census Bureau

The nine Pennsylvania counties had a total population of 4.9 million in 2010 and are expected to increase to 5.7 million by 2040. Although population has decreased in Philadelphia County since 1990, the DVPRC forecasts that the county's population will increase to 1.6 million by 2040. Table 12 summarizes historical and projected population in the Pennsylvania counties included in the DRJTBC study area and for the area, as a whole.

Table 12: Pennsylvania County and Total DRJTBC Study Area Population, 1990 to 2040

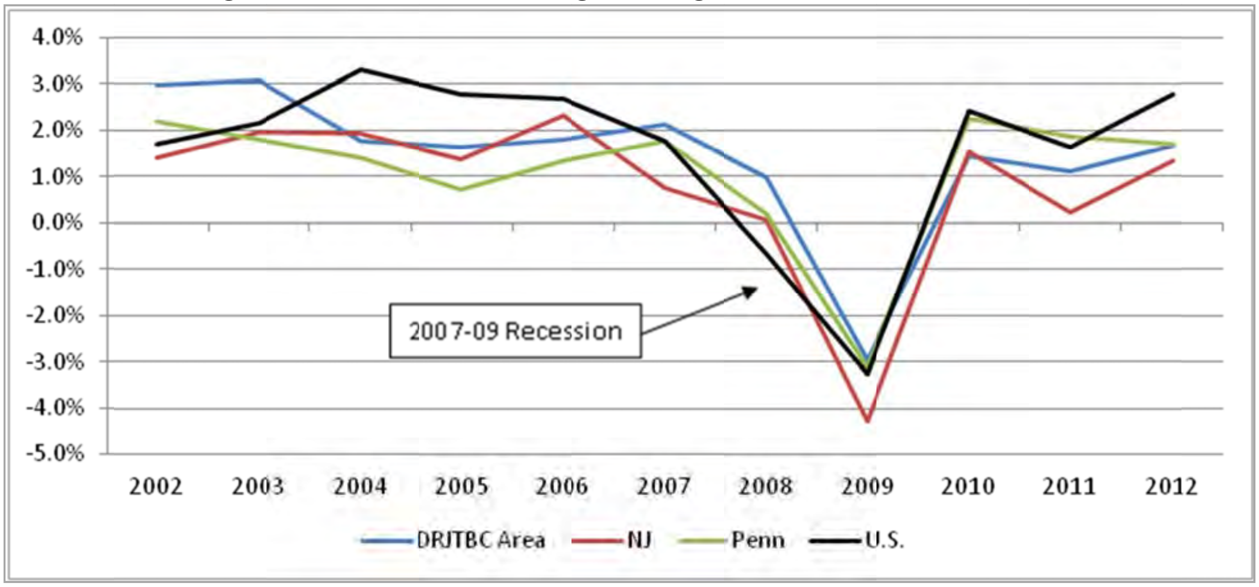
Population	Actual				Forecast						
Pennsylvania	**1990**	**2000**	**2010**	**1990-2010 CAGR**	**2015**	**2020**	**2025**	**2030**	**2035**	**2040**	**2010-40 CAGR**
Bucks County	541,174	597,635	625,249	0.72%	634,880	654,140	673,290	692,440	709,793	727,150	0.50%
Chester County	376,396	433,501	498,886	1.42%	516,582	538,809	573,114	607,407	629,634	647,330	0.87%
Delaware County	547,651	551,974	558,979	0.10%	559,498	560,989	564,481	567,978	569,463	569,982	0.06%
Lehigh County	291,131	312,090	349,497	0.92%	352,965	385,710	389,537	427,162	431,400	469,975	0.99%
Monroe County	95,709	138,687	176,842	3.12%	190,414	205,027	220,762	239,824	245,820	251,965	1.19%
Montgomery County	678,111	750,097	799,874	0.83%	808,534	824,166	849,690	875,214	889,516	896,741	0.38%
Northampton County	247,105	267,066	297,735	0.94%	312,955	329,516	346,361	365,766	384,464	403,979	1.02%
Philadelphia County	1,585,577	1,517,550	1,526,006	-0.19%	1,536,124	1,551,247	1,572,342	1,599,436	1,618,512	1,630,589	0.22%
Pike County	27,966	46,306	57,369	3.66%	64,598	72,737	81,902	94,374	96,733	99,152	1.84%
Pennsylania Counties	**4,390,820**	**4,614,906**	**4,890,437**	**0.54%**	**4,976,549**	**5,122,341**	**5,271,479**	**5,469,601**	**5,575,335**	**5,696,863**	**0.51%**
Total	**7,640,125**	**8,184,269**	**8,656,729**	**0.63%**	**8,815,290**	**9,050,435**	**9,322,268**	**9,645,415**	**9,848,667**	**10,061,744**	**0.50%**

Sources: Delaware Valley Regional Planning Commission (DVPRC), Lehigh Valley Planning Commission (LVPC), North Jersey Transportation Planning Authority (NJTPA), and the U.S. Census Bureau

4.4.2 Regional Economic Output

Economic activity within the DRJTBC study area is driven largely by the New York City and Philadelphia metropolitan areas, but also includes the considerably smaller Allentown and East Stroudsburg MSAs. This combined area had a real economic output of $367 billion in 2012, accounting for 3 percent of national GDP. Real output in the DRJTBC study area along with the economic activity in New Jersey and Pennsylvania has closely tracked the U.S. economy. Real GDP in the DRJTBC area outperformed the U.S. economy from 2005-06, increased at a comparable rate as the national economy in 2007, and followed the rest of the country into recession during 2008-09. Although the economic recovery in the region has taken hold, recent growth has not been as strong as in the U.S., as a whole. Real GDP in the region increased by 1.4 percent in 2010, 1.1 percent in 2011, and 1.7 percent in 2012; however, this was below the 2.5 percent, 1.8 percent and 2.8 percent growth rates recorded nationally from 2010 to 2012. Economic output in Pennsylvania has been closer to national levels, while economic growth has been comparatively sluggish in New Jersey from 2010 to 2012. Figure 45 summarizes the annual percentage change in real GDP from 2002 to 2012.

Figure 45: Annual Percentage Change in Real GDP, 2002-2012



Source: U.S. Bureau of Economic Analysis, U.S. Department of Commerce

Although economic activity within each MSA or Metropolitan Division has been significantly impacted by national and international trends, economic growth in each region is driven by different factors. A brief description and economic profile of each region is provided below:

- Philadelphia Metropolitan Statistical Area: Economy activity in the Philadelphia area, which was once dominated by manufacturing, is now strongly driven by knowledge-based industries, such as life sciences, information technology, professional services, health and education and financial services sectors. In particular, the region is home to nearly 400 life science, pharmaceutical, biotech, and research and development companies, making it one of the largest science industrial clusters in the U.S. The Philadelphia area also includes a solid information technology industry, including major employers such as Lockheed Martin, Comcast, Verizon, SAP AG, Sungard Data Systems, and Unisys. Although comprising 8 percent of the real Gross Regional Product (GRP) in 2012, the manufacturing activity includes the production of electronics, defense systems, aerospace, shipbuilding, and chemicals.

- Trenton-Ewing Metropolitan Area: Trenton is the state capital of New Jersey, and government activity accounted for 17 percent of GRP in 2012. Although forming part of the greater New York City area, the Trenton-Ewing area is located in close proximity to and influenced by economic activity in the Philadelphia area. The Trenton area also benefits from having a relatively large high-skilled labor force due to Princeton University, large pharmaceutical and energy companies, such as Bristol-Myers Squibb and NRG Energy, and government-related activity. Manufacturing activity, which was once an important component of the local economy, has experienced a recent resurgence. However, manufacturing continues to be a relatively small slice of the local economy, accounting for 6 percent of GRP in 2012. Government payroll in the state capital posted gains in 2012, but there has been a retrenchment since the beginning of 2013.

- <u>Edison-New Brunswick Metropolitan Division:</u> This area was among the hardest hit by Superstorm Sandy in 2012, which has impacted economic activity. Recovery efforts are ongoing with some recent economy activity resulting from reconstruction of damaged facilities. The professional and business services sector is a key component of the local economy. Large pharmaceutical companies, e.g. Novo Nordisk, and Rutgers University are also located in this region.

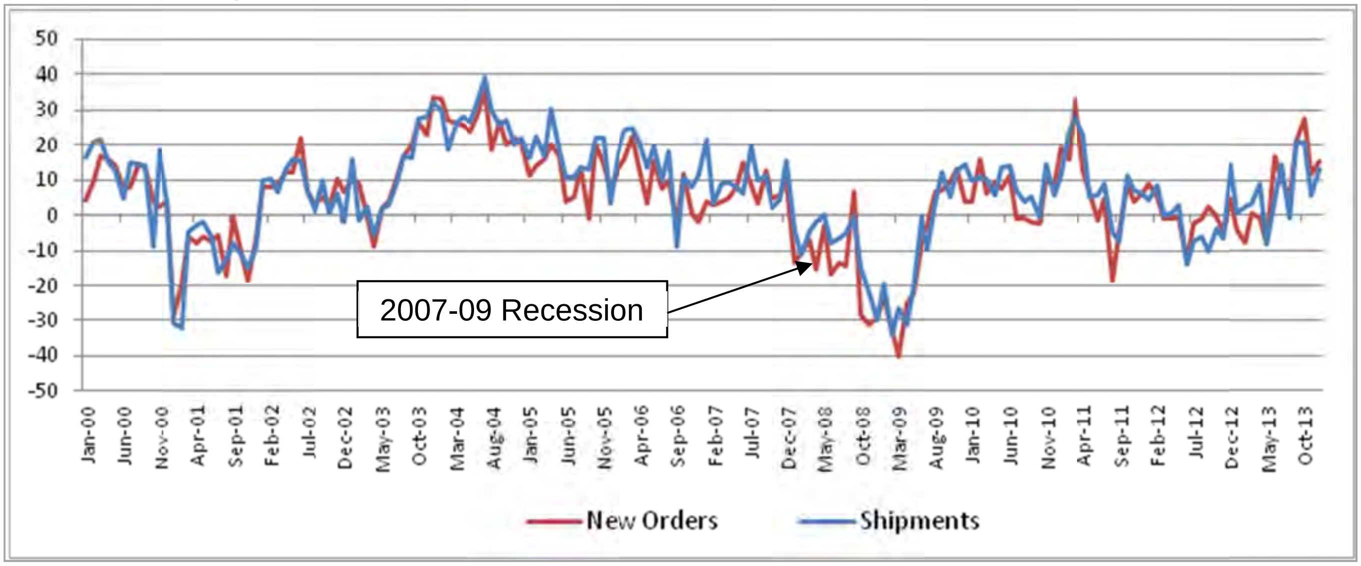
- <u>Allentown-Bethlehem</u>: Once strong driven by mineral extraction (e.g. slate, iron ore, and limestone), manufacturing (e.g. steel and cement), and the construction industries, the area has attempted to diversify its economy in recent years as these sectors have declined in importance. From 2001 to 2012, manufacturing activity decreased from 22 percent to 15 percent of GRP, while construction has gone from 6 percent to 3 percent of GRP. Additionally, some of the larger mining sites have been closed and repurposed as recreational areas or economic opportunity zones. Recent economic activity in this region has been driven by growth in professional services, health care, distribution centers, and retail trade sectors.

- <u>East Stroudsburg</u>: This metropolitan area is largely contained within Monroe County, Pennsylvania. During the housing boom, many New York commuters moved to the East Stroudsburg area to take advantage of its considerably lower cost of living despite the long travel times – average commuting time is nearly 40 minutes and is among the highest in the U.S. An increase in gas prices and a continued decrease in housing costs in the areas closer to New York City have negatively impacted recent growth and may affect economic activity, population, and employment in the future.

4.4.3 Regional Manufacturing and Exports

Manufacturing activity can be measured by New Orders Index and the Shipments Index developed by the Federal Reserve Bank of Philadelphia, which tracks economic activity in New Jersey, Pennsylvania, and Delaware. Consistent with general economic conditions, there were decreases in both indices during the early 2000s recession, an increase in new orders and shipments from 2004 to 2007, and steep decreases during 2008 and 2009. New orders and shipments bottomed out in March 2009. These indices increased during 2010 and 2011, but decreased locally in 2012. Through the first nine months of 2013, there have been relatively strong gains in both of these indices. Figure 46 summarizes new orders and shipments indices prepared by the Federal Reserve Bank of Philadelphia from 2000 to October 2013.

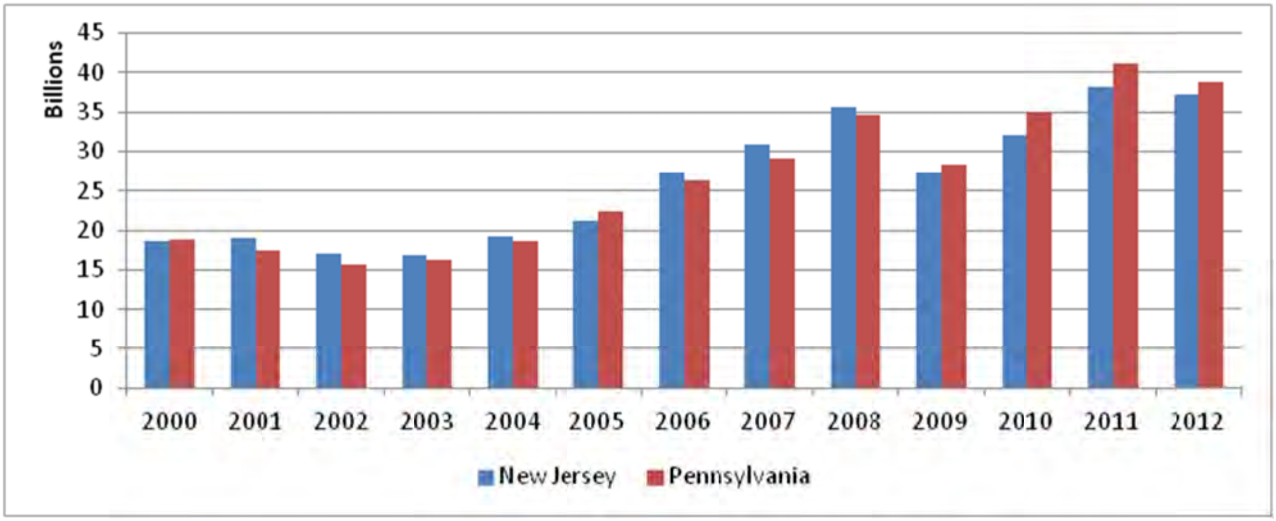
Figure 46: New Orders and Shipment Indexes, 2000 to October 2013



Source: Federal Reserve Bank of Philadelphia

Merchandise exports have increased by approximately 6 percent per annum since 2000 in New Jersey and Pennsylvania. In dollar terms, the value of statewide exports from New Jersey has nearly doubled from $18.7 billion in 2010 to $37.2 billion in 2010. Merchandise exports produced in Pennsylvania has exhibited similar patterns, increasing from $18.8 billion to $38.8 billion during this period. The 2007-09 Recession had a significant impact on merchandise exports causing the value of exports produced in New Jersey and Pennsylvania to decrease by 24 percent and 18 percent, respectively, from 2008 to 2009. The value of exports has improved with the onset of the economic recovery, increasing steadily in 2010 and 2011 in both states. However, the value of merchandise exports decreased slightly in New Jersey and Pennsylvania during 2012. Through September 2013, merchandise exports are on pace to reach 2012 levels in Pennsylvania, but are slightly below 2012 levels in New Jersey. Using data compiled by the International Trade Administration (ITA) within the U.S. Department of Commerce, Figure 47 summarizes total manufactured exports produced in New Jersey and Pennsylvania from 2000 to 2012.

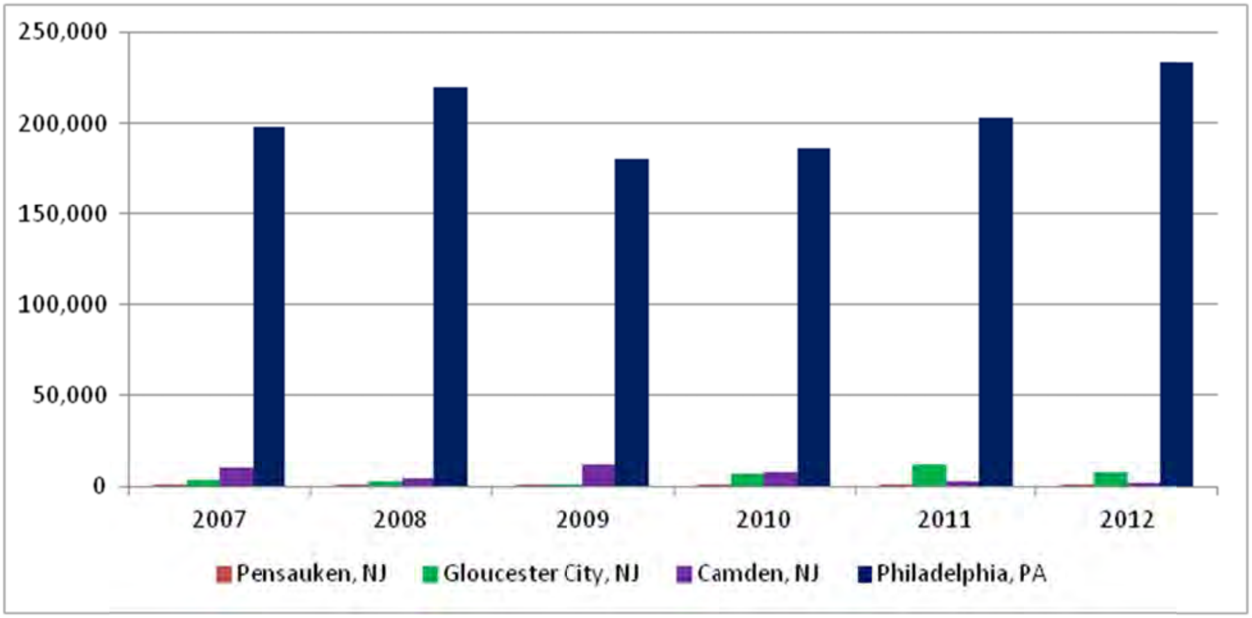
Figure 47: Manufactured Exports Produced in New Jersey and Pennsylvania, 2007 to 2012



Source: International Trade Administration, U.S. Department of Commerce

The largest waterborne port along the Delaware River is the Port of Philadelphia which handled 233,000 Ton Equivalent Units (TEUs) in 2012, is the 20th largest port in the U.S., and is a key gateway for imports from African countries. Total TEUs handled by the Port of Philadelphia accounted for approximately 1 percent of the 29.5 million TEUs accommodated through U.S. ports. The Port of Philadelphia was impacted by the 2007-09 Recession as total TEUs decreased by 18 percent from 2008 to 2009. Cargo moved through the Port of Philadelphia has subsequently recovered – total TEUs accommodated in 2012 has exceeded 2008 levels. Major commodities and goods exported through the Port of Philadelphia included refined petroleum products, automobiles and vehicle parts, iron and steel, paper, plastics products, and medical equipment. Major imported commodities included crude petroleum, refined petroleum products, meat, fruit, beverages, and paper products. Smaller ports located along the Delaware River in New Jersey include the ports of Camden, Gloucester City, and Pennsauken, handling an average of 6,500 TEUs, 5,500 TEUs and 600 TEUs, respectively, from 2007 to 2012. Figure 48 summarizes the amount of TEUs handled by these Delaware River ports from 2007 to 2012.

Figure 48: TEUs Transported Through the Delaware River Ports, 2007 to 2012



Source: U.S. Department of Transportation, Maritime Administration

For decades, the Port of Paulsboro located in Gloucester County served as a petroleum distribution center. Fueling tanks were built there during World War I to support the war effort. BP bought the property in 1969 before shutting it down in the 1990s; the port has since languished. In 2006, the borough of Paulsboro and the South Jersey Port Corp. committed to renovating the port. BP leased all but six acres of the site to the City of Paulsboro for $1 a year for the next 90 years and has continued working with the state Department of Environmental Protection to remediate the site. Phase I of the $274 million renovation project officially broke ground in 2009, making this the first new marine terminal facility on the Delaware River in more than 50 years. These improvements include the construction of an access road and bridge that will directly connect the port to I-295. This project is expected to be completed by late 2013 or early 2014. Additional improvements to the port, including the construction of a new wharf, are expected to be completed by 2016. The South Jersey Port Corp. is currently trying to find tenants and is in discussions with the Dole Fresh Fruit Co. to move its import operations from the Port of Wilmington to the Port of Paulsboro.

4.4.4 Regional Employment

Total employment in the New Jersey counties included in the study area increased from 1.6 million in 1990 to 1.8 million in 2010, representing a compound annual growth rate of 0.8 percent period. Employment growth in the more populous counties was in Somerset County (1.0 percent increase per year from 2000 to 2010), Mercer County (1.0 percent per year), Camden County (0.7 percent per year), Burlington County (0.6 percent per year), Middlesex County (0.6 percent per year) and Monmouth County (0.5 percent per year)).

Recent forecasts prepared by DRVPC and NJTPA estimate that total employment in these ten New Jersey counties will exceed 2.2 million by 2040. It should be noted that many New Jersey residents do not work in state, but instead commute to New York City, Philadelphia, Wilmington, and other regional employment centers. Table 13 summarizes historical and forecast employment for the New Jersey counties included in the DRJTBC study area from 1990 to 2040.

Table 13: New Jersey Employment by County, 1990 to 2040

Employment	Actual				Forecast						
New Jersey	1990	2000	2010	1990-2010 CAGR	2015	2020	2025	2030	2035	2040	2010-40 CAGR
Burlington County	191,345	205,886	217,229	0.64%	218,472	221,440	228,422	235,404	238,372	239,414	0.32%
Camden County	227,933	235,355	263,406	0.73%	265,886	267,425	269,769	272,076	273,581	274,124	0.13%
Gloucester County	86,079	99,467	116,151	1.51%	117,596	121,708	131,382	141,056	145,169	146,614	0.78%
Hunterdon County	37,966	56,800	49,600	1.35%	53,403	57,498	61,906	66,653	71,764	78,300	1.53%
Mercer County	220,373	209,758	266,672	0.96%	267,493	271,279	276,220	281,160	284,235	286,087	0.23%
Middlesex County	364,963	406,200	409,200	0.57%	427,254	446,105	465,788	486,339	507,797	532,600	0.88%
Monmouth County	221,217	252,600	246,200	0.54%	257,927	270,212	283,082	296,565	310,690	327,200	0.95%
Somerset County	144,916	154,032	177,700	1.02%	188,166	199,248	210,983	223,410	236,568	252,500	1.18%
Sussex County	29,953	40,200	37,600	1.14%	40,842	44,364	48,189	52,344	56,858	62,800	1.72%
Warren County	33,100	35,700	35,000	0.28%	36,380	37,814	39,305	40,855	42,466	44,300	0.79%
New Jersey Counties	**1,557,845**	**1,695,998**	**1,818,758**	**0.78%**	**1,882,662**	**1,937,093**	**2,015,047**	**2,095,862**	**2,167,499**	**2,243,939**	**0.70%**

Sources: DVRPC, NJTPA, LVPC, the New Jersey DOT, Pennsylvania Department of Planning and Industry

In the Pennsylvania counties that form part of the study area, total employment increased from 2.3 million to 2.5 million from 1990 to 2010. Employment growth in three of suburban Philadelphia counties has been relatively strong from 1990 to 2010, as per annum growth rates in Bucks, Chester, Delaware and Montgomery counties was 0.9 percent, 2.0 percent, 0.2 percent, and 0.9 percent, respectively, during this period. Total employment in Philadelphia County decreased from 836,000 to 721,000, representing an average annual decrease of 0.7 percent from 1990 to 2010. Table 14 summarizes the historical and projected change in employment through 2040. Total employment in Lehigh County and Northampton County located in the Allentown metropolitan area increased by 1.0 percent per year and 0.8 percent per year, respectively. Monroe and Pike also experienced strong employment growth during this period. Recent forecasts estimate that total employment in these Pennsylvania counties will increase to 2.8 million by 2040.

Table 14 summarizes historical and forecast employment for the Pennsylvania counties in the DRJTBC area. Overall, total employment in the DRJTBC study area is expected to increase from 4.4 million in 2010 to 4.5 million in 2020, 4.8 million in 2030, and 5.0 million in 2040. This increase represents a forecasted compound average growth rate of 0.5 percent.

Table 14: Pennsylvania Employment by County and Total DRJTBC Study Area Employment, 1990 to 2040

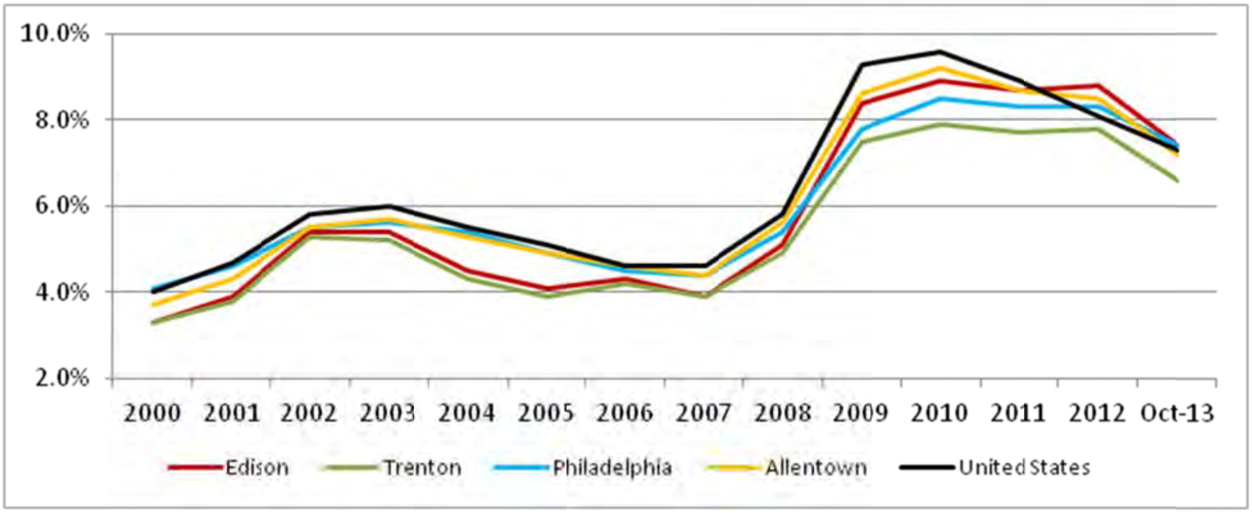
Employment	Actual				Forecast						
Pennsylvania	**1990**	**2000**	**2010**	**1990-2010 CAGR**	**2015**	**2020**	**2025**	**2030**	**2035**	**2040**	**2010-40 CAGR**
Bucks County	245,360	267,124	293,325	0.90%	296,215	302,961	313,899	324,832	331,329	335,747	0.45%
Chester County	197,752	238,641	292,015	1.97%	301,075	312,456	330,019	347,581	358,962	368,022	0.77%
Delaware County	227,883	238,164	238,488	0.23%	238,733	239,431	241,072	242,713	243,410	243,655	0.07%
Lehigh County	179,696	208,260	218,507	0.98%	237,752	249,511	262,156	275,136	289,421	302,771	1.09%
Monroe County	47,000	66,300	74,400	2.32%	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Montgomery County	457,501	492,677	542,264	0.85%	548,136	558,371	575,496	592,621	601,597	605,507	0.37%
Northampton County	119,000	132,900	138,300	0.75%	141,808	148,575	154,978	161,722	169,440	176,761	0.82%
Philadelphia County	836,874	741,397	720,837	-0.74%	723,497	729,173	739,283	752,075	762,499	769,711	0.22%
Pike County	13,100	20,400	23,700	3.01%	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pennsylania Countie	**2,324,166**	**2,405,863**	**2,541,836**	**0.45%**	**2,487,216**	**2,540,478**	**2,616,903**	**2,696,680**	**2,756,658**	**2,802,174**	**0.33%**
Total	**3,882,011**	**4,101,861**	**4,360,594**	**0.58%**	**4,369,878**	**4,477,571**	**4,631,950**	**4,792,542**	**4,924,157**	**5,046,113**	**0.49%**

Sources: DVRPC, NJTPA, LVPC, the New Jersey DOT, Pennsylvania Department of Planning and Industry

4.4.5 Regional Unemployment

The metropolitan statistical area and metropolitan divisions located within the study area have closely tracked national trends in unemployment. These regions have had a lower unemployment rate than the U.S. average prior to the 2007-09 Recession and in the post-recession recovery period through 2011; however, employment growth has remained somewhat sluggish in recent years. As of October 2013, the non-seasonally adjusted unemployment rate in the Edison and Philadelphia regions was identical at 7.4 percent or slightly higher than the national unemployment rate of 7.3 percent. Lower rates were recorded in Allentown-Bethlehem and Trenton areas, which had 7.2 percent and 6.6 percent unemployment rate, respectively. Figure 49 below summarizes regional and national unemployment rates tracked by the Bureau of Labor Statistics (BLS) from 2000 to October 2013.

Figure 49: Study Area MSAs and National Unemployment Rate, 2000 to October 2013



Source: Bureau of Labor Statistics

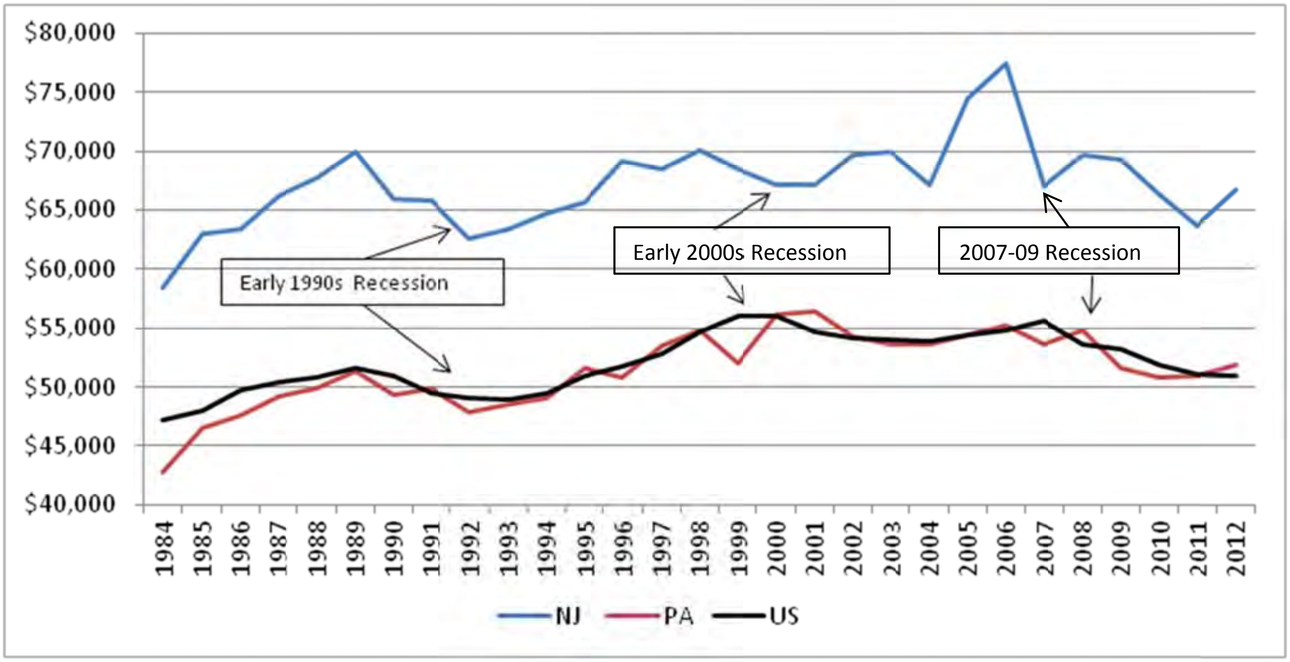
4.4.6 Regional Income

Real income is a key indicator of the direction and strength of the local economy. Figure 50 highlights that real median household income for the state of New Jersey has historically exceeded that of United States as a whole, while median household income in Pennsylvania has closely approximated national levels. The graph also highlights the impact of changes in national economic conditions on median household income at the state level. During each of last three recessions, income decreased and then subsequently increased once recovery conditions took hold.

Due to the importance of the financial services sector on New Jersey's economy, this relationship was particularly strong during the 2007-09 Recession. In 2012, real median household income increased from $67,191 in 2004 to $77,506 in 2006, before decreasing back to $67,006 in 2007. Income levels in New Jersey have yet to fully recover – median household income was $66,692 in 2012. Despite this decline, median household income in New Jersey was approximately 30 percent higher than that of the national average ($51,017). New Jersey also ranked as having the 3rd highest median income in the United States, behind Maryland ($71,836) and New Hampshire ($67,819).

In 2012, median household income in Pennsylvania was $51,904 or approximately 2 percent more than the national average. Pennsylvania ranked as the 23rd highest state in the U.S in terms of income. Figure 50 summarizes real median household income in New Jersey, Pennsylvania, and the U.S. from 1984 to 2012.

Figure 50: Per Capita Income in New Jersey, Pennsylvania, and the U.S, 1984-2012



Source: Bureau of Economic Analysis, U.S. Department of Commerce

Using data from the American Community Survey compiled by the U.S. Census Bureau, a similar pattern was found in the nineteen counties in the DRJTBC study area. All of the New Jersey counties had a higher median household income in relation to the national average. The median household income in Hunterdon Mercer, Middlesex, Monmouth, Somerset, and Sussex was from 50 percent to 100 percent greater than the U.S. average. Median household income in Camden County, which was the lowest of the New Jersey counties included in the study area, was 22 percent higher than the U.S. national average. Within Pennsylvania, the suburban counties in the Philadelphia metropolitan area – Bucks, Chester, Delaware, and Montgomery – also had a real median household income that was 30 percent to 70 percent greater than the national average. The exception was Philadelphia County, which had a median household income of $37,016, or approximately 30 percent less than the national average. Median household income in Monroe County, which encompasses the East Stroudsburg area, was 13 percent higher than the national average. In the two counties in the Allentown-Bethlehem metropolitan area – Lehigh and Northampton – median household income also exceeded the U.S. average. Table 15 compares median household income and unemployment rates for each county in the DRJTBC study area during this period.

Table 15: Median Household Income (2012) and Unemployment Rate (October 2013)

Area		Median Household Income		Unemployment Rate	
	County	2012	% Difference from U.S	Oct-13	% Difference from U.S
New Jersey	Burlington County	$ 78,229	53.3%	7.9%	-8%
	Camden County	$ 62,320	22.2%	9.0%	-19%
	Gloucester County	$ 74,915	46.8%	8.2%	-11%
	Hunterdon County	$ 105,880	107.5%	5.7%	28%
	Mercer County	$ 94,002	84.3%	6.6%	11%
	Middlesex County	$ 79,442	55.7%	7.5%	-3%
	Monmouth County	$ 84,746	66.1%	7.3%	--
	Somerset County	$ 98,571	93.2%	6.4%	14%
	Sussex County	$ 85,507	67.6%	7.1%	3%
	Warren County	$ 73,056	43.2%	6.2%	18%
Pennsylvania	Bucks County	$ 76,859	50.7%	6.3%	16%
	Chester County	$ 86,184	68.9%	5.3%	38%
	Delaware County	$ 64,242	25.9%	7.0%	4%
	Montgomery County	$ 78,984	54.8%	5.9%	24%
	Philadelphia County	$ 37,016	-27.4%	10.1%	-28%
	Lehigh County	$ 54,645	7.1%	7.3%	0%
	Northampton County	$ 59,551	16.7%	7.4%	-1%
	Monroe County	$ 57,773	13.2%	8.9%	-18%
	Pike County	$ 58,474	14.6%	9.9%	-26%
United States		**$ 51,017**	**--**	**7.3%**	**--**

Sources: US Census Bureau, 5-Year American Community Survey, 2008-12 and Bureau of Labor Statistics

Table 15 also compares the non-seasonally adjustment unemployment rate in each of these counties as of October 2013, the latest date that this information was available at the county level. The unemployment rate in Camden County (9.0 percent), Gloucester County (8.2 percent), Burlington County (7.9 percent), and Middlesex County (7.5 percent) remained above the U.S. national average of 7.3 percent at the end of October 2003. The unemployment rate in the remaining study area New Jersey counties was at or below the U.S. unemployment rate. Employment levels are strongest in Hunterdon County, which had an unemployment rate of 5.7 percent in October 2013. Unemployment levels are also relatively strong in the suburban Philadelphia counties, while the unemployment rate in Philadelphia County was 10.1 percent. In addition, Monroe County and Pike County, which are relatively more rural, had an unemployment rate of 8.9 percent and 9.9 percent, respectively.

4.4.7 Regional Commuting Patterns

Approximately 72 percent of workers in New Jersey commute to work in single-occupancy vehicles compared to 77 percent in neighboring Pennsylvania and 76 percent nationally. Approximately 9 percent of New Jersey commuters carpooled into work, while another 11 percent used public transit, which was more than double the national average of 5 percent. Other forms of transportation used by commuters included walking, bicycling, and telecommuting. The percentage of New Jersey who used other forms of transportation to go to work was approximately 9 percent from 2008 to 2012. Average travel time for New Jersey commuters was 30.3 minutes in 2008 to 2012, which was about 19 percent higher than the national average of 25.8 minutes. Average commuting time in Sussex County (37.5 minutes), Warren County (34.9 minutes), Hunterdon County (34.0 minutes), Monmouth County (33.7 minutes), Middlesex County (32.4 minutes), and Somerset County (31.5 minutes) exceeded 30 minutes. Table 16 summarizes the commuting patterns in the New Jersey counties included in the study area and statewide.

Average commuting time in Pennsylvania was 25.8 minutes, which was slightly higher than the U.S. average. Travel time to work exceeded 30 minutes in three Pennsylvania counties. In the relatively rural Pike County and Monroe County, average commuting time was 41.6 minutes and 39.6 minutes, respectively. These higher travel times are due to some workers making longer distance commutes to New York City, Philadelphia, and other employment centers. Average commuting time in Philadelphia County was 31.8 minutes. This commuting time likely reflects the relatively high number of commuters, 26 percent, that use public transit, which lengthens travel time due to headways between trains and the need to make multiple connections to arrive at employment centers. In the suburban Philadelphia area, commuters were more likely to drive alone to work and travel time was approximately 2-3 minutes more than the national average. Table 16 summarizes the commuting patterns in the counties included in the DRJTBC study area, New Jersey, Pennsylvania, and for the U.S.

Table 16: Commuting Patterns in Selected New Jersey and Pennsylvania Counties, 2008-2012

Area		% Drive Alone	% Carpooled	% Public Transit	% Other	Average Commuting Time (min)	Drive Alone % Difference from U.S	Avg Commuting Time % Difference from U.S
New Jersey	Burlington County	82%	8%	3%	6%	28.6	8.1%	12.6%
	Camden County	77%	9%	8%	6%	27.7	0.8%	9.1%
	Gloucester County	85%	8%	2%	5%	28.1	11.2%	10.6%
	Hunterdon County	81%	6%	2%	10%	34.0	6.8%	33.9%
	Mercer County	71%	10%	7%	12%	27.0	-6.7%	6.3%
	Middlesex County	73%	9%	10%	8%	32.4	-3.8%	27.6%
	Monmouth County	74%	9%	8%	9%	33.7	-2.5%	32.7%
	Somerset County	78%	9%	5%	8%	31.5	2.2%	24.0%
	Sussex County	84%	7%	2%	8%	37.5	10.2%	47.6%
	Warren County	81%	10%	2%	7%	34.9	6.4%	37.4%
	Statewide	72%	9%	11%	9%	30.3	-5.7%	19.3%
Pennsylvania	Bucks County	82%	8%	3%	7%	28.2	8.0%	11.0%
	Chester County	81%	7%	3%	9%	27.5	6.8%	8.3%
	Delaware County	75%	8%	9%	8%	27.6	-1.7%	8.7%
	Lehigh County	81%	9%	2%	7%	24.1	6.7%	-5.1%
	Montgomery County	80%	7%	5%	8%	27.5	4.6%	8.3%
	Monroe County	77%	11%	5%	7%	39.6	1.3%	55.9%
	Northampton County	83%	9%	1%	7%	27.3	9.2%	7.5%
	Philadelphia County	50%	9%	26%	15%	31.8	-34.0%	25.2%
	Pike County	82%	11%	2%	6%	41.6	7.4%	63.8%
	Statewide	77%	9%	5%	9%	25.8	0.5%	1.6%
United States		**76%**	**10%**	**5%**	**9%**	**25.4**	--	--

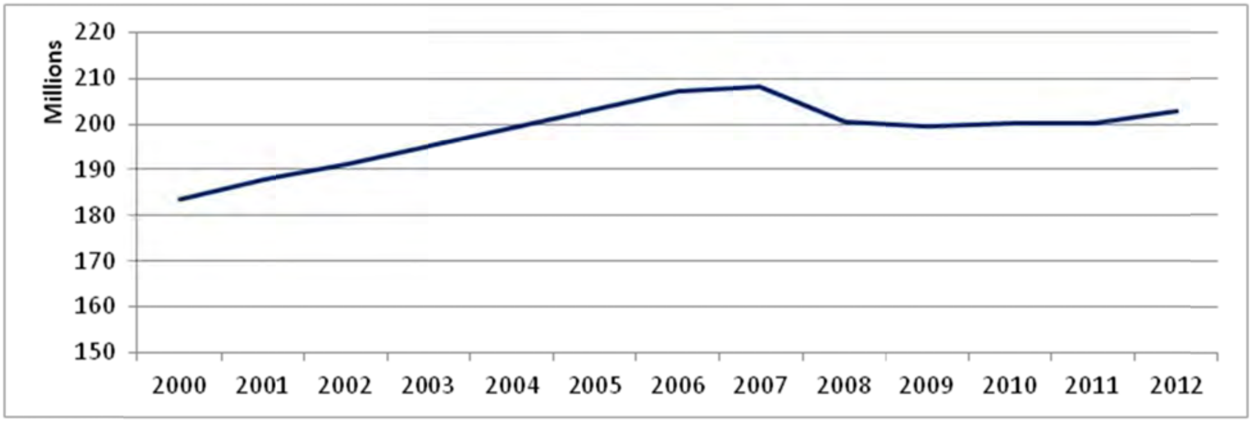
Sources: US Census Bureau, 5-Year American Community Survey, 2008-12

4.4.8 Regional Vehicle Miles Traveled

Daily VMT in New Jersey and adjoining metropolitan areas including the New York City and Philadelphia regions is in line with national trends and has not recovered fully since the start of the 2007-09 Recession. From 2000 to 2007, daily VMT increased from 183 million to 208 million, representing an average annual growth rate of 1.8 percent. In 2012, daily VMT was 203 million, resulting in a per annum decrease of 0.5 percent from 2007 to 2012. The biggest increase that occurred in that five-year period was between 2011 and 2012, with a 1.3% increase in VMT. Daily VMT levels in New Jersey are summarized in Figure 51.

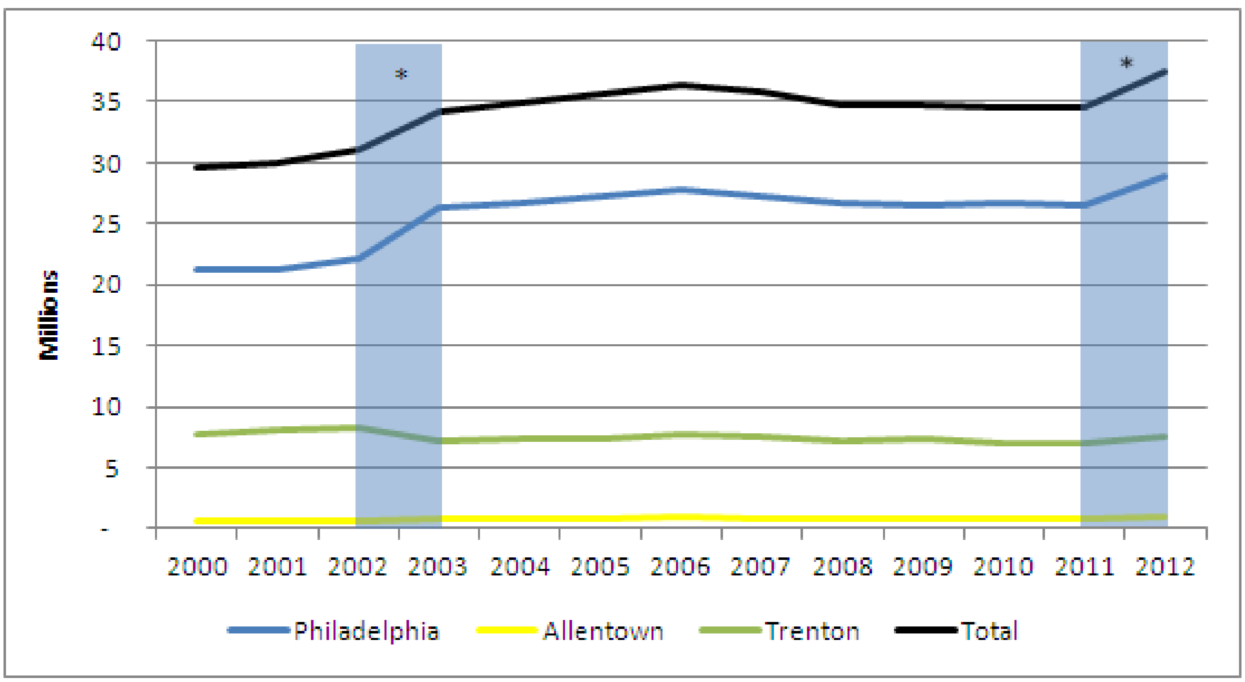
Daily VMT in metropolitan areas near the Delaware River – Philadelphia, Trenton, and Allentown – exhibits a comparable trend. The VMT for each area peaked in 2006, had a sharp decline through 2008, with slight annual increases or decreases through 2011. Figure 52 summarizes daily VMT compiled by the New Jersey Department of Transportation from 2000 to 2012 for these three metropolitan areas. (Note that while 2012 appears to show large growth, in 2012 NJDOT reallocated some roadways among functional classes and areas; therefore, 2012 metropolitan area VMT data cannot be compared to previous years.) As an aggregate, daily VMT in these areas has declined a total of 5.0 percent over the six-year period from 2006 to 2011 (0.8 percent per annum), from 36.3 million to 34.5 million. Within the larger economic regions, daily VMT decreased by 4.1 percent (0.7 percent per annum) in the Philadelphia metropolitan area and 6.7 percent in the Allentown area (1.2 percent per annum) from 2006 to 2011. In the Trenton area, daily VMT decreased by 7.9 percent during this period (1.4 percent per annum).

Figure 51: Daily VMT in New Jersey and Adjoining Metropolitan Areas, 2000 to 2012



Source: New Jersey DOT, Bureau of Transportation Data and Safety, Roadway Systems Division

Figure 52: Daily VMT in the Philadelphia, Trenton and Allentown Metropolitan Areas, 2000 to 2012



**NJDOT reallocated VMT among functional classes and urbanized areas twice during the time period shown: between 2002 and 2003 and between 2011 and 2012. Therefore, data for these years should not be used to determine growth for individual sectors.*
Source: New Jersey DOT, Bureau of Transportation Data and Safety, Roadway Systems Division

4.4.9 New Jersey and Pennsylvania Economic Forecast

Economic growth and employment in New Jersey and Pennsylvania have generally followed national trends. Current forecasts anticipate that this trend will continue in the short-term. Economic growth may be impacted due to the following:

- The Rutgers Economic Advisory Service/Rutgers University Center for Urban Policy Research forecasts that real Gross State Product (GSP) in New Jersey will increase by an average of 2.0 percent from 2014 to 2020;
- The State of New Jersey Department of the Treasury's compiles the Garden State Activity Index – a composite of the Federal Reserve Bank of New York's coincident index, the Federal Reserve Bank of Philadelphia's coincident index, and the Philadelphia Fed's South Jersey Business Survey – to measure economic activity in the state. The Garden State Activity Index was 142.9 in November 2013, up from 133 in January 2010. The Garden State Activity Index has increased steadily during this period.
- JPMorgan Chase forecasted that real Gross State Product (GSP) in Pennsylvania will increase 3.2 percent and non-farm employment will increase by 1.0 percent during 2014.
- New technology has improved access to vast reserves of natural gas in Pennsylvania. Natural resources and mining employment increased by 15,000 workers from 2010 to 2012. However, employment in the industry has remained constant during 2013 as relatively lower natural gas prices have dampened exploration activities. Although fuel prices have been increasing over the past year, they remain relatively low compared to the highs hit in the previous decade.
- Employment growth is expected to continue. The professional services, health, and education sectors are anticipated to be fastest growing sectors in both states. The Rutgers Economic Advisory Service/Rutgers University Center for Urban Policy Research forecasted that non-agricultural employment in New Jersey will increase by an average of 0.8 percent per year from 2014 to 2020;
- During 2013, home prices have increased slightly in New Jersey and Pennsylvania. However, these indicators have increased at a slower rate than the U.S. as a whole. New business permits have increased substantially in New Jersey and moderately in Pennsylvania through October 2013.
- Southern New Jersey, parts of Sussex, Warren, and Hunterdon counties, and Monroe County in Pennsylvania had mortgage delinquency rates – defined as foreclosure or 90+ days overdue – of 12 percent or higher.

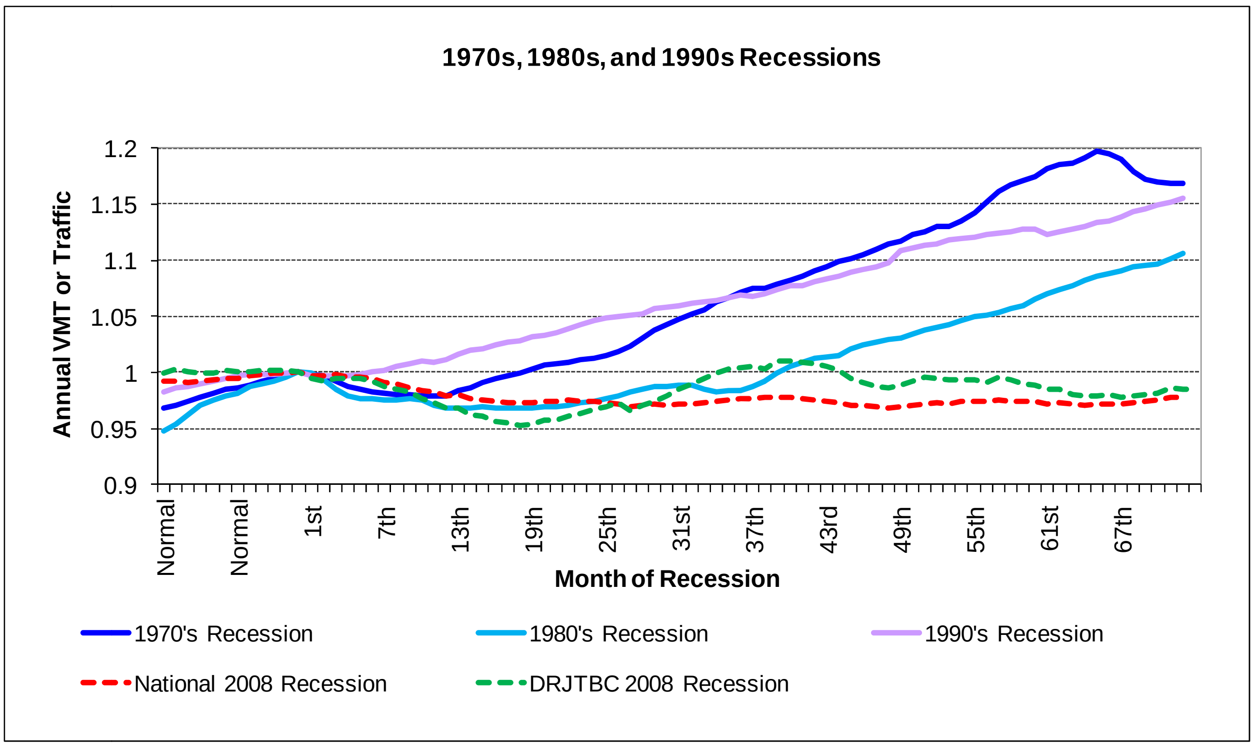
4.5 Historical VMT and Economic Recessions

4.5.1 Comparative Recession Analysis

Jacobs reviewed traffic characteristics, on a national level, exhibited during past economic recessions through to the most recent recession. The purpose of these comparisons is to develop additional guidance in forecasting future traffic growth trends as the economy improves. We have selected the recessions of the 1970s, 1980s, 1990s, and 2008 for comparison purposes. Other recessions like that of 2001/2002 were much smaller in duration and magnitude than the current recession and were not included in the analysis.

Figure 53 is a plot of nationwide vehicle-miles-traveled (VMT) indexed to the first month of the respective significant national recessions. The 2008 recession VMT is illustrated as the dashed trend line, which was indexed to November 2007 VMT.

Figure 53: Indexed VMT Before, During and After Recent and Historical Recessions



The trend of the 2008 recent recession most closely matches that of the 1980's recession. Examining traffic trends from the early 1980s recession, it can be seen that traffic in the 1980s began its final recovery after about 36 months. The period of recent economic weakness (2008 recession), represented by the dashed line, indicates a significantly longer recovery period for VMT than during the early 1980s recession, as it has been more than 70 months without apparent signs of recovery.

4.5.2 DRJTBC Forecasted VMT and its Relationship to Economic Recessions

Figure 53 also shows the DRJTBC traffic, based on an average of the previous twelve months to remove seasonality; it also has been indexed to November 2007, and is represented by the dashed green line in the chart. The graph illustrates that DRJTBC traffic saw a deeper decline than the national VMT trends over the first year or so after the start of the recession. However, after this point, DRJTBC traffic showed signs of recovery, regaining an index of 1.0 around the 35th month, though it fell short of that high point several months later and has continued at levels below pre-recession.

There is still a great deal of uncertainty in the direction that the current economy is heading. While almost four years 'officially' out of the recession, the economy continues to lag expectations, with recent continual downgrading of expected GDP growth in the near term. In fact, in a consensus of economic opinions from Blue Chip Economic Indicators, a clearinghouse of over 50 economic forecasting entities, it is now anticipated that the GDP growth for 2013 to be 1.7 percent – lower than last year's original forecast of 2.6 percent for 2013. GDP growth is currently anticipated to be 2.5 percent in 2014. Unemployment rates - and forecasts of unemployment – have generally been flat-to-declining over the past year and a half from 8.3 to 7.5 percent, with a current consensus forecast of 6.9 percent for 2014.

Concerning nationwide VMT, examining traffic trends during and after the 1970's, 1980's, and 1990's recessions, it can be seen that traffic began its final recovery between 20 and 36 months after the beginning of each respective recession. The current period of recent economic weakness (the 2008 recession) indicates that even after more than 70 months, that there still has been no turnaround to positive VMT growth. In fact, current VMT levels are still lower than they were in 2002.

Therefore, while the economy is, by definition, in recovery, it is important to understand the slowness of this recovery and its impact on traffic. This continued recovery has so far been characterized by slow GDP growth, a slow reduction in the unemployment rate, and without an increase in VMT.

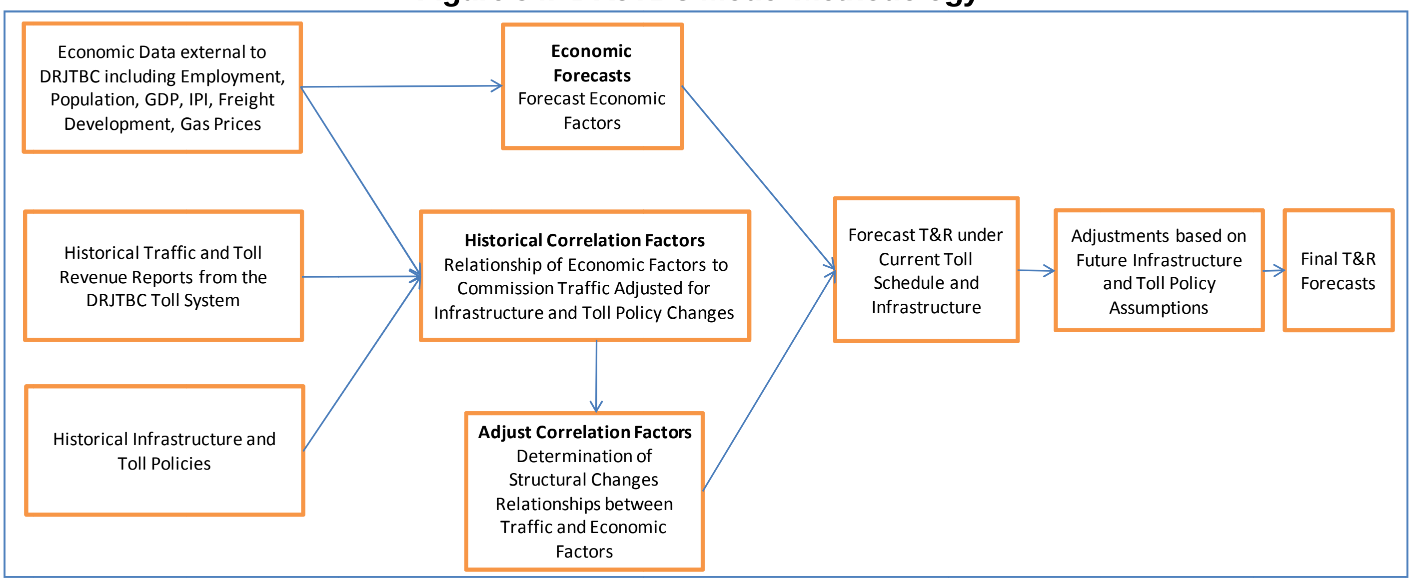
5.0 TOLL TRIPS AND GROSS TOLL REVENUE FORECASTS

The following section provides a narrative of the methodology used for developing traffic and revenue forecasts, as well as a presentation of those forecasts.

5.1 Methodology Used for Forecasting

The forecasting model uses historical correlations between economic and demographic factors and normalized traffic levels on the Commission's toll facilities by vehicle and payment class, adjusts those correlation factors for the forecast when structural changes in relationships are becoming apparent, and then predicts traffic as a function of forecasted economic and demographic factors. These forecasts are then adjusted to reflect DRJTBC and non-DRJTBC system infrastructure construction and improvement projects. A flowchart of the modeling methodology is presented in Figure 54.

Figure 54: DRJTBC Model Methodology



Toll Traffic and Revenue forecasts were developed with the aid of a computerized modeling platform created specifically by Jacobs for the DRJTBC. The base function of this model is to take current traffic volumes by class and payment type for each DRJTBC toll facility 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 overall inflationary pressures. 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 toll rates to the volume of each toll facility by payment type and vehicle class.

5.1.1 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:

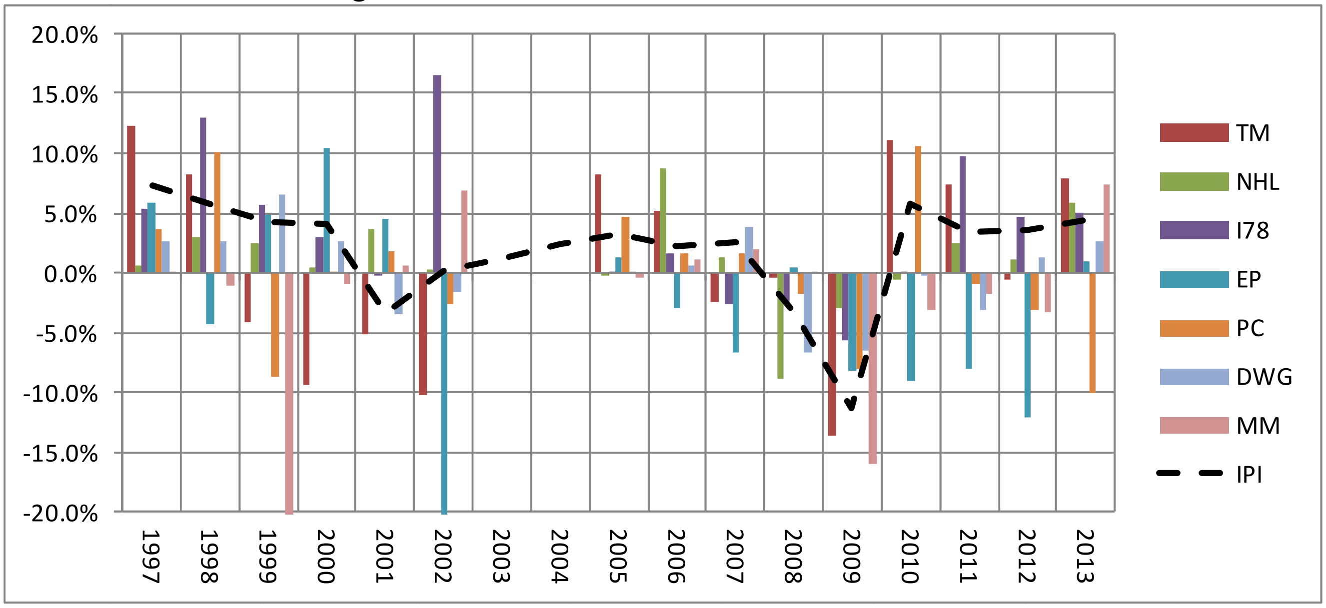
- Traffic Growth Trends: Correlations between historical traffic and socioeconomic indices such as Gross Domestic Product and Industrial Production will continue to exist. The correlation factors may slowly shift over time, but there will continue to be a correlation.
- E-ZPass Market Share Trends: In the past, on both the DRJTBC and other facilities offering electronic payment, the portion of trips paid for electronically 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.

5.1.2 Correlation to Economic Factors

In order to understand the correlation between socioeconomic factors and DRJTBC toll facility traffic, growth in historical traffic was compared to the growth in relevant socioeconomic factors, such as IPI and GDP. In the calculation of correlation constants for each of the DRJTBC facilities, years that experienced unusual events, such as toll increases, were left out of the calculation in an effort to “normalize” the correlation.

Figure 55 shows an example of traffic growth compared to a socioeconomic factor – in this case, the growth in truck traffic versus growth in Industrial Production Index (IPI). On this graph, each of the individual DRJTBC toll facilities is represented by a different color bar, while IPI is represented by the black dashed line. As illustrated by this graph, truck growth and IPI growth tend to follow the same trends – a given year with strong positive truck growth on average, such as 1997 (far left) also saw strong IPI growth, while years with strong negative growth, such as 2009, also saw a large decrease in IPI.

Figure 55: Truck Growth versus IPI Growth



Correlations were also calculated between car growth and Real Gross Domestic Product (GDP), and population growth was considered as well. The correlation factors determined for each facility for GDP and IPI were used to relate growth forecasts to consensus forecasts for GDP and IPI throughout the forecast period.

5.1.3 Other Forecast Considerations

Some further considerations were made when developing our future traffic growth forecasts. Among these considerations are the historically-optimistic financial community economic forecasts (such as GDP and IPI) in recent years, as well as the estimated effects of construction projects, new regional development, changes to parallel corridors, and other factors not explicitly contained within the modeling process. This section includes a review of changes to nearby facilities, future transportation projects, and future developments that could influence traffic on the DRJTBC.

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 parameters in order to select the most important route for travel. Our analysis of potential diversions considers these important route choice factors. It should be noted that a majority of commercial vehicles using a particular DRJTBC bridge are doing so because they have already determined it 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.

Factors that have the potential to appreciably affect DRJTBC traffic levels would be activities in Pennsylvania and New Jersey immediately surrounding the DRJTBC toll facilities, including the construction of the new I-95 interchanges, and major development in adjacent areas. Changes to the toll rates on complimentary and parallel roadways may also affect travel on DRJTBC facilities.

5.1.3.1 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 DRJTBC traffic volumes.

Future I-95 / PA Turnpike Interchange

Stage 1 of the project involves the construction of the I-95 mainline flyovers of the interchange between I-95 and the PA Turnpike, a new mainline toll plaza west of this interchange, the replacement of the existing River Bridge toll plaza with an all-electronic (AET) toll facility in the westbound direction, and the removal of the existing US 13 interchange toll facility.

Additional Stage 1 work that is either ongoing or upcoming includes construction of the new mainline toll plaza between Richlieu and Galloway Roads. The toll plaza will feature Express E-Z Pass lanes which will allow motorists to pass through the plaza at highway speeds. Conventional toll booths will be provided in the outside lanes of the plaza for cash paying customers. This toll plaza phase will also include the construction of an All Electronic Toll (AET) tolling area at the Delaware River Bridge in the westbound direction and the removal of the Route 13 Interchange toll plaza. The I-95 mainline flyover connections of the Interchange will be constructed so that I-95 can be re-designated onto the existing PA Turnpike to the NJ Turnpike. At that time, I-95 north of the Turnpike will be re-designated in PA and NJ. Signing, lighting and traffic operations work will be done in phases throughout the construction period in order to manage traffic during and after construction. Funding for Stage 1 improvements via the use of dedicated federal monies and PTC toll revenue has been fully identified and programmed at the statewide and regional level, and the total estimated cost of Stage 1 (all phases) is $424 Million.

A future Stage 2 will include construction of the remaining six new interchange ramp movements which do not have the I-95 designation, and completion of the mainline widening from 2 lanes in each direction to three lanes in each direction in addition to reconstruction work on the Turnpike and I-95. Construction of Stage 2 is not anticipated to begin until 2020. A future Stage 3 will include a new parallel bridge over the Delaware River.

We are of the opinion that this project would not have a significant impact on future traffic levels on the current DRJTBC toll facilities. Further analysis will be conducted as part of the Jacobs' traffic and revenue study for the Scudder Falls Bridge Replacement. The current DVRPC model includes the interchange as it is currently envisioned to be funded and completed, with the first two ramps (Stage 1) completed at the end of 2018 and the other six ramps (Stage 2) completed in 2030.

Other Projects

The following is a list of several recent and planned projects concerning DRJTBC Bridges that were reviewed for their potential impact to traffic. Our review determined that no further adjustment to our forecast was warranted based on these activities.

- I-78 paving improvements (completed), 2012 and 2013
- E-P Toll (Route 22) Bridge Rehab (in progress), started June 2013, pause construction for winter, continue work March – Dec 2014, and finish in spring 2015
- NH-L Toll Bridge Improvements (completed), June-Nov 2013

New Development

Two large, new distribution centers are soon opening along I-78 in Pennsylvania that will likely have some effect on traffic. Wal-Mart is opening a 1.2 million square foot fulfillment center in Bethlehem in the first quarter of 2014. FedEx is opening a 1.3 million square foot distribution center near the Lehigh Valley Airport in 2015. Jacobs adjusted truck traffic upward in future years on the I-78 Toll Bridge to account for these new developments. There are other proposed projects, but none are currently under construction and they were not considered in this forecast.

Complimentary Routes

Since 2009, toll rates have significantly increased on the Pennsylvania Turnpike. Cash toll rates have risen some 70 percent and E-ZPass tolls have risen over 35 percent. For a 5-axle truck, that would equate to between $18 and $40 of additional PA Turnpike tolls over the past 5 years. I-78 is an alternate to the Pennsylvania Turnpike for long distance trips. There have been recent increases of truck traffic on the I-78 Toll Bridge above and beyond its correlation to IPI. We are of opinion that there was some shift of truck traffic from the PA Turnpike to I-78 due to the PA Turnpike's toll increases, and that this accounts for a portion of the recent growth on the I-78 Toll Bridge. As it is anticipated that there will be fewer toll increases on the PA Turnpike and with lesser severity and, as such, there would not be any more significant perceptible shifts of truck traffic onto I-78 due to this reason.

5.1.4 E-ZPass Market Shares

Historically, electronic toll collection (E-ZPass) market share on DRJTBC and other 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 the toll facility.

E-ZPass market share on the DRJTBC currently varies dramatically by vehicle class with 2013 totals showing an average of 62.0 percent for car trips and 81.2 percent for truck trips. This calculates to an overall average E-ZPass market share of 64.6 percent. It was assumed that the growth in E-ZPass market share would be similar for a particular class over a toll facility, though the market shares themselves would differ for each toll facility. More information on historical E-ZPass trends was provided in Section 3.5.

5.1.5 Toll Rates Used in Preparing Forecast

We assumed the existing DRJTBC toll schedule in preparing the traffic and toll revenue forecasts, shown previously in Table 1.

5.1.6 Model Calculations

The model creates a framework based on the assumptions outlined above, and calculates the forecasted traffic and revenue by applying logic to the 2013 annual trips for each payment class. Some adjustment to traffic is necessary even with no changes in the toll schedule, as traffic grows and shifts between payment types based on historical trends. Estimated average toll rates based on historical data as well as any necessary adjustments due to traffic shifts and any toll increases are then applied to traffic estimates by class and payment type to produce a customized forecast resulting in precise estimates of total revenue.

5.2 Toll Trips and Gross Toll Revenue Forecasts

Table 17 and Table 18 present the forecasted toll transactions and toll revenues for the years 2014 through 2026. Figure 56 and Figure 57 present the forecasts graphically, while Figure 56 and Figure 57 show the future year-to-year growth in trips and gross toll revenues. Figure 58 and Figure 59 present traffic and revenue for the individual toll bridges. All estimates of gross toll revenue are in nominal dollars.

Table 17: Forecasted DRJTBC Toll Transactions, 2013 to 2026 (in millions)

Facility	Year													
	2013*	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
Trenton-Morrisville														
Cars	7.47	7.52	7.57	7.62	7.68	7.73	7.78	7.82	7.87	7.92	7.97	8.02	8.07	8.12
Trucks	0.55	0.56	0.57	0.58	0.59	0.61	0.62	0.62	0.63	0.65	0.66	0.67	0.68	0.69
Total	***8.02***	***8.08***	***8.14***	***8.21***	***8.27***	***8.33***	***8.39***	***8.45***	***8.51***	***8.57***	***8.63***	***8.69***	***8.75***	***8.81***
New Hope-Lambertville														
Cars	1.81	1.82	1.82	1.83	1.84	1.85	1.86	1.87	1.88	1.89	1.90	1.91	1.92	1.93
Trucks	0.12	0.12	0.12	0.12	0.13	0.13	0.13	0.13	0.13	0.13	0.14	0.14	0.14	0.14
Total	***1.93***	***1.94***	***1.95***	***1.96***	***1.97***	***1.98***	***1.99***	***2.00***	***2.02***	***2.03***	***2.04***	***2.05***	***2.06***	***2.07***
I-78														
Cars	8.43	8.52	8.62	8.73	8.83	8.93	9.02	9.12	9.22	9.31	9.41	9.51	9.61	9.71
Trucks	2.65	2.72	2.80	2.84	2.86	2.89	2.91	2.93	2.96	2.98	3.00	3.02	3.05	3.07
Total	***11.08***	***11.24***	***11.42***	***11.56***	***11.69***	***11.81***	***11.93***	***12.05***	***12.17***	***12.29***	***12.41***	***12.53***	***12.66***	***12.78***
Easton-Phillipsburg														
Cars	4.79	4.70	4.65	4.64	4.64	4.65	4.66	4.67	4.69	4.70	4.71	4.72	4.73	4.75
Trucks	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.35	0.35	0.35	0.35	0.35	0.35
Total	***5.13***	***5.04***	***4.99***	***4.98***	***4.98***	***4.99***	***5.01***	***5.02***	***5.03***	***5.04***	***5.06***	***5.07***	***5.08***	***5.09***
Portland-Columbia														
Cars	1.12	1.10	1.10	1.11	1.12	1.13	1.13	1.14	1.15	1.16	1.16	1.17	1.18	1.19
Trucks	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.08	0.08	0.08	0.08
Total	***1.19***	***1.18***	***1.18***	***1.18***	***1.19***	***1.20***	***1.21***	***1.22***	***1.22***	***1.23***	***1.24***	***1.25***	***1.25***	***1.26***
Delaware Water Gap														
Cars	7.88	8.02	8.18	8.30	8.41	8.49	8.58	8.66	8.74	8.83	8.91	9.00	9.08	9.17
Trucks	1.34	1.35	1.36	1.38	1.39	1.40	1.41	1.42	1.43	1.44	1.45	1.46	1.47	1.48
Total	***9.22***	***9.37***	***9.54***	***9.68***	***9.79***	***9.89***	***9.99***	***10.08***	***10.17***	***10.27***	***10.36***	***10.46***	***10.56***	***10.66***
Milford Montague														
Cars	1.21	1.21	1.22	1.22	1.22	1.22	1.23	1.23	1.23	1.24	1.24	1.24	1.25	1.25
Trucks	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
Total	***1.24***	***1.25***	***1.25***	***1.25***	***1.26***	***1.26***	***1.26***	***1.27***	***1.27***	***1.27***	***1.28***	***1.28***	***1.28***	***1.29***
All Toll Bridges														
Cars	32.72	32.89	33.16	33.46	33.73	34.00	34.26	34.52	34.78	35.05	35.31	35.58	35.85	36.12
Trucks	5.11	5.20	5.30	5.37	5.42	5.47	5.52	5.56	5.61	5.65	5.70	5.75	5.80	5.84
Total	***37.83***	***38.10***	***38.47***	***38.83***	***39.15***	***39.47***	***39.78***	***40.09***	***40.39***	***40.70***	***41.01***	***41.33***	***41.64***	***41.96***

**Actual (Annual Traffic Engineering Reports and Monthly Comparatives)*

Table 18: Forecasted DRJTBC Gross Toll Revenues, 2013 to 2026 (in millions)

Facility	Year													
	2013*	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Trenton-Morrisville														
Cars	$7.29	$7.31	$7.36	$7.42	$7.47	$7.51	$7.56	$7.61	$7.66	$7.71	$7.75	$7.80	$7.85	$7.90
Trucks	$7.13	$7.26	$7.41	$7.56	$7.70	$7.83	$7.96	$8.09	$8.22	$8.35	$8.48	$8.62	$8.75	$8.89
Total	***$14.41***	***$14.57***	***$14.78***	***$14.97***	***$15.16***	***$15.34***	***$15.52***	***$15.70***	***$15.87***	***$16.05***	***$16.23***	***$16.42***	***$16.60***	***$16.79***
New Hope-Lambertville														
Cars	$1.76	$1.75	$1.75	$1.76	$1.77	$1.78	$1.79	$1.80	$1.81	$1.82	$1.83	$1.84	$1.85	$1.86
Trucks	$1.34	$1.36	$1.38	$1.41	$1.43	$1.45	$1.46	$1.48	$1.50	$1.52	$1.54	$1.56	$1.58	$1.60
Total	***$3.10***	***$3.11***	***$3.14***	***$3.17***	***$3.20***	***$3.23***	***$3.26***	***$3.29***	***$3.31***	***$3.34***	***$3.37***	***$3.40***	***$3.43***	***$3.46***
I-78														
Cars	$8.20	$8.22	$8.32	$8.42	$8.52	$8.61	$8.70	$8.80	$8.89	$8.98	$9.08	$9.17	$9.27	$9.37
Trucks	$47.33	$48.59	$49.91	$50.61	$51.05	$51.47	$51.88	$52.28	$52.68	$53.09	$53.50	$53.91	$54.33	$54.75
Total	***$55.53***	***$56.81***	***$58.22***	***$59.03***	***$59.57***	***$60.09***	***$60.59***	***$61.08***	***$61.57***	***$62.07***	***$62.58***	***$63.09***	***$63.60***	***$64.12***
Easton-Phillipsburg														
Cars	$4.66	$4.55	$4.50	$4.49	$4.49	$4.51	$4.52	$4.53	$4.54	$4.55	$4.56	$4.57	$4.58	$4.60
Trucks	$4.48	$4.49	$4.49	$4.48	$4.50	$4.51	$4.52	$4.53	$4.54	$4.55	$4.56	$4.57	$4.59	$4.60
Total	***$9.15***	***$9.04***	***$8.99***	***$8.98***	***$8.99***	***$9.01***	***$9.04***	***$9.06***	***$9.08***	***$9.10***	***$9.13***	***$9.15***	***$9.17***	***$9.19***
Portland-Columbia														
Cars	$1.08	$1.06	$1.06	$1.06	$1.07	$1.08	$1.09	$1.09	$1.10	$1.11	$1.12	$1.12	$1.13	$1.14
Trucks	$0.99	$0.99	$0.99	$0.99	$0.99	$1.00	$1.00	$1.00	$1.01	$1.01	$1.01	$1.02	$1.02	$1.02
Total	***$2.07***	***$2.05***	***$2.05***	***$2.05***	***$2.06***	***$2.07***	***$2.09***	***$2.10***	***$2.11***	***$2.12***	***$2.13***	***$2.14***	***$2.15***	***$2.16***
Delaware Water Gap														
Cars	$7.70	$7.78	$7.94	$8.05	$8.16	$8.24	$8.32	$8.40	$8.48	$8.56	$8.65	$8.73	$8.81	$8.90
Trucks	$23.54	$23.76	$23.98	$24.19	$24.39	$24.58	$24.76	$24.94	$25.12	$25.31	$25.49	$25.68	$25.87	$26.06
Total	***$31.23***	***$31.54***	***$31.92***	***$32.24***	***$32.55***	***$32.82***	***$33.08***	***$33.34***	***$33.61***	***$33.87***	***$34.14***	***$34.41***	***$34.68***	***$34.96***
Milford Montague														
Cars	$1.18	$1.17	$1.17	$1.18	$1.18	$1.18	$1.19	$1.19	$1.19	$1.20	$1.20	$1.20	$1.20	$1.21
Trucks	$0.36	$0.36	$0.36	$0.37	$0.37	$0.37	$0.37	$0.37	$0.37	$0.37	$0.38	$0.38	$0.38	$0.38
Total	***$1.54***	***$1.53***	***$1.54***	***$1.54***	***$1.55***	***$1.55***	***$1.56***	***$1.56***	***$1.56***	***$1.57***	***$1.57***	***$1.58***	***$1.58***	***$1.59***
All Toll Bridges														
Cars	$31.86	$31.84	$32.10	$32.39	$32.66	$32.92	$33.17	$33.42	$33.67	$33.93	$34.18	$34.44	$34.70	$34.97
Trucks	$85.17	$86.81	$88.52	$89.60	$90.42	$91.20	$91.96	$92.70	$93.45	$94.20	$94.96	$95.74	$96.51	$97.30
Total	***$117.04***	***$118.66***	***$120.63***	***$121.99***	***$123.08***	***$124.12***	***$125.13***	***$126.12***	***$127.12***	***$128.13***	***$129.15***	***$130.18***	***$131.22***	***$132.27***

**Actual*

Figure 56: Historical and Forecasted Toll Transactions, 2004 to 2026

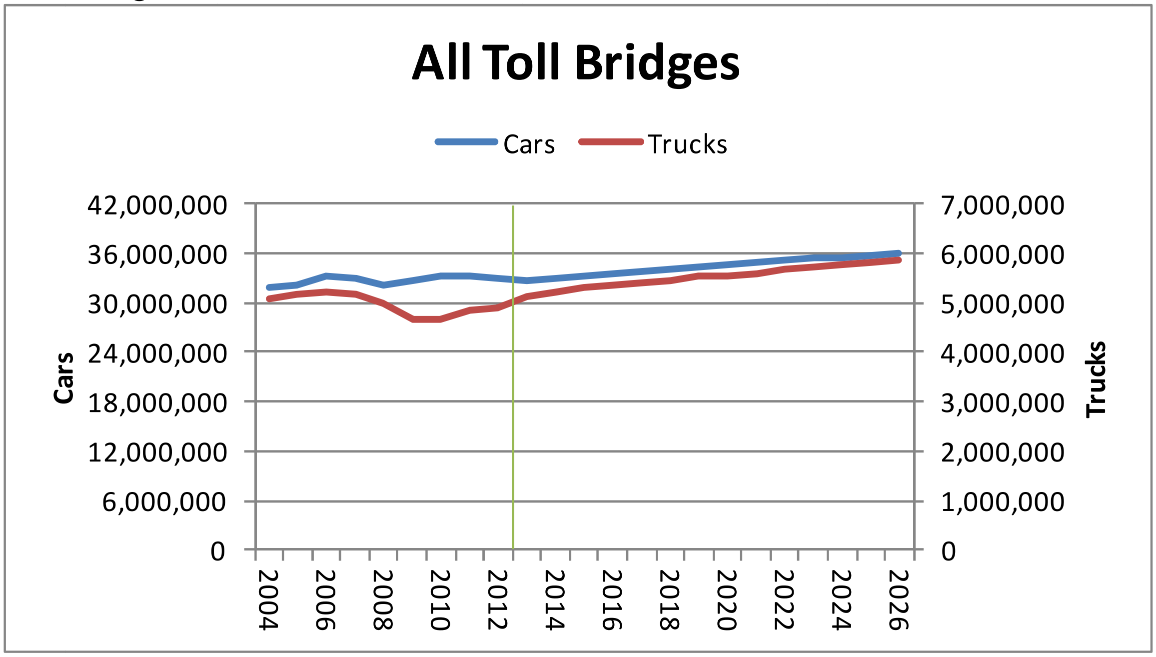


Figure 57: Historical and Forecasted Gross Toll Revenue, 2004 to 2026

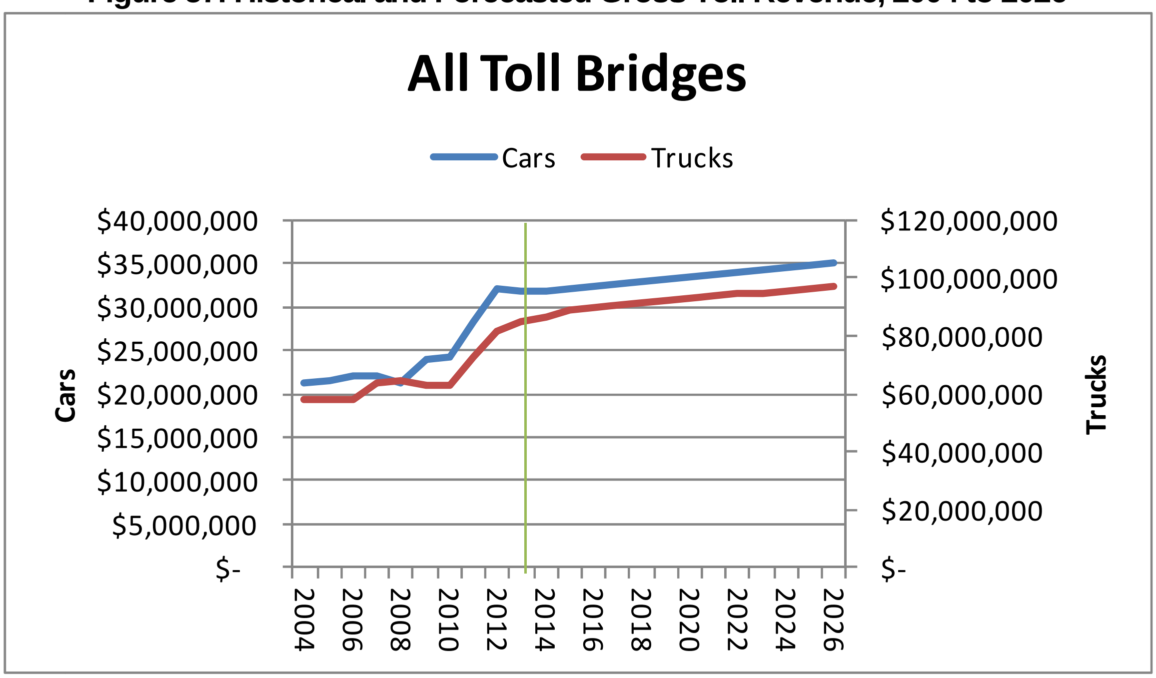


Figure 58: Historical and Forecasted Toll Transactions, 2004 to 2026, by Facility

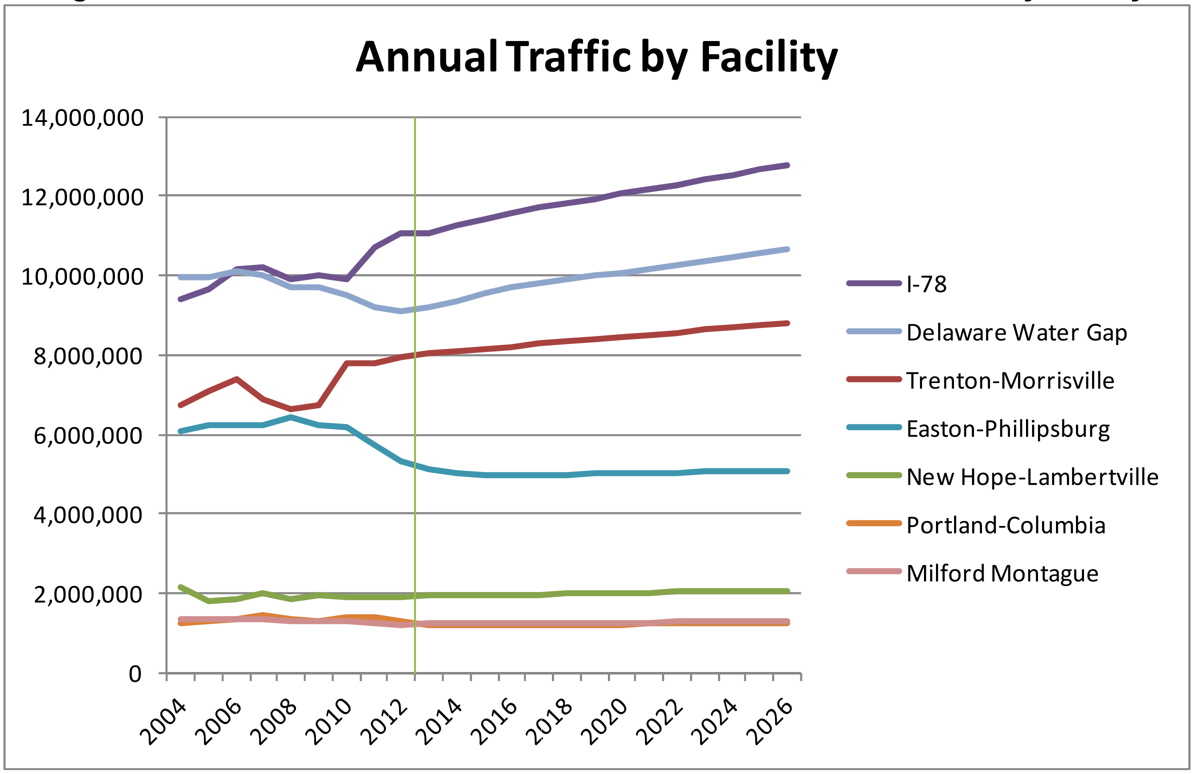


Figure 59: Historical and Forecasted Gross Toll Revenue, 2004 to 2026, by Facility

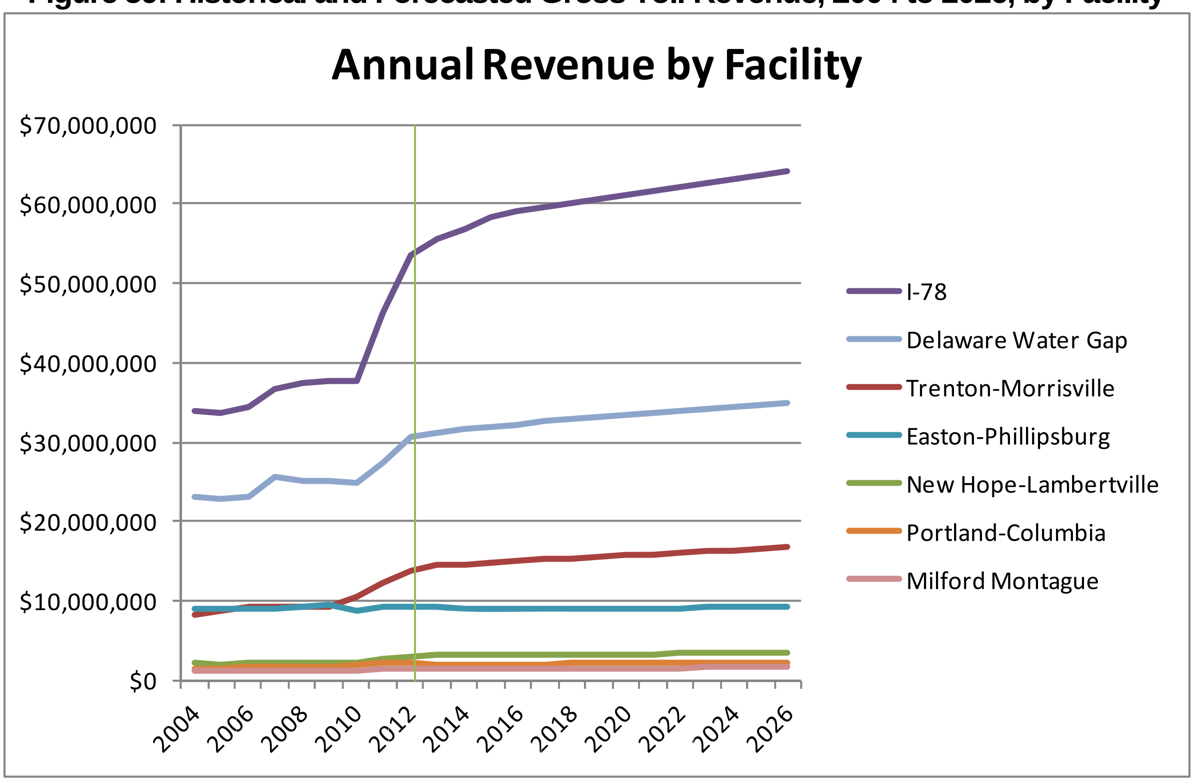


Table 19: Toll Transaction Growth Forecasts, 2013 to 2026

Facility	Year													
	2013*	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Trenton-Morrisville														
Cars	0.62%	0.64%	0.71%	0.70%	0.7%	0.7%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
Trucks	7.91%	1.85%	2.09%	1.97%	1.8%	1.7%	1.7%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%
Total	***1.09%***	***0.72%***	***0.81%***	***0.78%***	***0.8%***	***0.7%***	***0.7%***	***0.7%***	***0.7%***	***0.7%***	***0.7%***	***0.7%***	***0.7%***	***0.7%***
New Hope-Lambertville														
Cars	2.35%	0.25%	0.25%	0.57%	0.6%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Trucks	5.81%	1.47%	1.66%	1.56%	1.5%	1.4%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%
Total	***2.55%***	***0.32%***	***0.34%***	***0.63%***	***0.6%***	***0.6%***	***0.6%***	***0.6%***	***0.6%***	***0.6%***	***0.6%***	***0.6%***	***0.6%***	***0.6%***
I-78														
Cars	-1.04%	1.09%	1.22%	1.19%	1.2%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%
Trucks	4.93%	2.59%	2.73%	1.43%	0.9%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
Total	***0.33%***	***1.45%***	***1.59%***	***1.25%***	***1.1%***	***1.1%***	***1.0%***	***1.0%***	***1.0%***	***1.0%***	***1.0%***	***1.0%***	***1.0%***	***1.0%***
Easton-Phillipsburg														
Cars	-4.28%	-2.00%	-1.13%	-0.12%	0.0%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Trucks	0.89%	0.00%	0.00%	0.00%	0.3%	0.3%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Total	***-3.96%***	***-1.87%***	***-1.05%***	***-0.12%***	***0.0%***	***0.3%***	***0.3%***	***0.2%***	***0.2%***	***0.2%***	***0.2%***	***0.2%***	***0.2%***	***0.2%***
Portland-Columbia														
Cars	-7.62%	-1.55%	0.00%	0.70%	0.7%	0.7%	0.7%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
Trucks	-10.05%	-0.31%	0.00%	0.00%	0.4%	0.4%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
Total	***-7.77%***	***-1.48%***	***0.00%***	***0.65%***	***0.7%***	***0.7%***	***0.7%***	***0.6%***	***0.6%***	***0.6%***	***0.6%***	***0.6%***	***0.6%***	***0.6%***
Delaware Water Gap														
Cars	0.94%	1.74%	1.97%	1.50%	1.3%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Trucks	2.63%	0.85%	0.96%	0.90%	0.8%	0.8%	0.8%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%
Total	***1.18%***	***1.61%***	***1.83%***	***1.41%***	***1.2%***	***1.0%***	***1.0%***	***0.9%***	***0.9%***	***0.9%***	***0.9%***	***0.9%***	***0.9%***	***0.9%***
Milford Montague														
Cars	2.64%	0.25%	0.25%	0.25%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Trucks	7.32%	0.39%	0.44%	0.41%	0.4%	0.4%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
Total	***2.77%***	***0.25%***	***0.26%***	***0.25%***	***0.3%***	***0.3%***	***0.3%***	***0.3%***	***0.3%***	***0.3%***	***0.3%***	***0.3%***	***0.3%***	***0.3%***
All Toll Bridges														
Cars	-0.62%	0.52%	0.82%	0.88%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
Trucks	4.14%	1.80%	1.95%	1.24%	0.9%	0.9%	0.9%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
Total	***0.00%***	***0.69%***	***0.98%***	***0.93%***	***0.8%***	***0.8%***	***0.8%***	***0.8%***	***0.8%***	***0.8%***	***0.8%***	***0.8%***	***0.8%***	***0.8%***

**Actual (Annual Traffic Engineering Reports and Monthly Comparatives)*

Table 20: Gross Toll Revenue Growth Forecasts, 2013 to 2026

Facility	Year													
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Trenton-Morrisville														
Cars	0.96%	0.35%	0.71%	0.70%	0.7%	0.7%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
Trucks	7.28%	1.88%	2.08%	1.96%	1.8%	1.7%	1.7%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%
Total	***3.99%***	***1.11%***	***1.39%***	***1.33%***	***1.3%***	***1.2%***	***1.2%***	***1.1%***	***1.1%***	***1.1%***	***1.1%***	***1.1%***	***1.1%***	***1.1%***
New Hope-Lambertville														
Cars	2.98%	-0.39%	0.25%	0.57%	0.6%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Trucks	4.01%	1.53%	1.64%	1.54%	1.5%	1.4%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%
Total	***3.42%***	***0.44%***	***0.86%***	***1.00%***	***1.0%***	***0.9%***	***0.9%***	***0.9%***	***0.9%***	***0.9%***	***0.9%***	***0.9%***	***0.9%***	***0.9%***
I-78														
Cars	-1.51%	0.26%	1.22%	1.19%	1.2%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%
Trucks	4.74%	2.66%	2.71%	1.41%	0.9%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
Total	***3.77%***	***2.31%***	***2.49%***	***1.38%***	***0.9%***	***0.9%***	***0.8%***	***0.8%***	***0.8%***	***0.8%***	***0.8%***	***0.8%***	***0.8%***	***0.8%***
Easton-Phillipsburg														
Cars	-3.80%	-2.43%	-1.13%	-0.12%	0.0%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.3%	0.2%
Trucks	1.23%	0.07%	-0.03%	-0.02%	0.3%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Total	***-1.40%***	***-1.21%***	***-0.58%***	***-0.07%***	***0.1%***	***0.3%***	***0.2%***	***0.2%***	***0.2%***	***0.2%***	***0.2%***	***0.2%***	***0.2%***	***0.2%***
Portland-Columbia														
Cars	-7.77%	-2.32%	0.00%	0.70%	0.7%	0.7%	0.7%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
Trucks	-10.95%	-0.32%	-0.01%	-0.01%	0.4%	0.4%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
Total	***-9.32%***	***-1.36%***	***-0.01%***	***0.35%***	***0.6%***	***0.5%***	***0.5%***	***0.5%***	***0.5%***	***0.5%***	***0.5%***	***0.5%***	***0.5%***	***0.5%***
Delaware Water Gap														
Cars	1.00%	1.09%	1.97%	1.50%	1.3%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Trucks	2.77%	0.96%	0.92%	0.87%	0.8%	0.8%	0.8%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%
Total	***2.33%***	***0.99%***	***1.18%***	***1.03%***	***0.9%***	***0.8%***	***0.8%***	***0.8%***	***0.8%***	***0.8%***	***0.8%***	***0.8%***	***0.8%***	***0.8%***
Milford Montague														
Cars	2.91%	-0.59%	0.25%	0.25%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.3%	0.2%	0.2%	0.2%
Trucks	6.42%	0.43%	0.42%	0.40%	0.4%	0.4%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
Total	***3.71%***	***-0.35%***	***0.29%***	***0.29%***	***0.3%***	***0.3%***	***0.3%***	***0.3%***	***0.3%***	***0.3%***	***0.3%***	***0.3%***	***0.3%***	***0.3%***
All Toll Bridges														
Cars	-0.53%	-0.07%	0.82%	0.88%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
Trucks	3.99%	1.93%	1.97%	1.22%	0.9%	0.9%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
Total	***2.72%***	***1.38%***	***1.66%***	***1.13%***	***0.9%***	***0.8%***	***0.8%***	***0.8%***	***0.8%***	***0.8%***	***0.8%***	***0.8%***	***0.8%***	***0.8%***

**Actual (Annual Traffic Engineering Reports and Monthly Comparatives)*

5.3 E-ZPass Market Share Forecasts

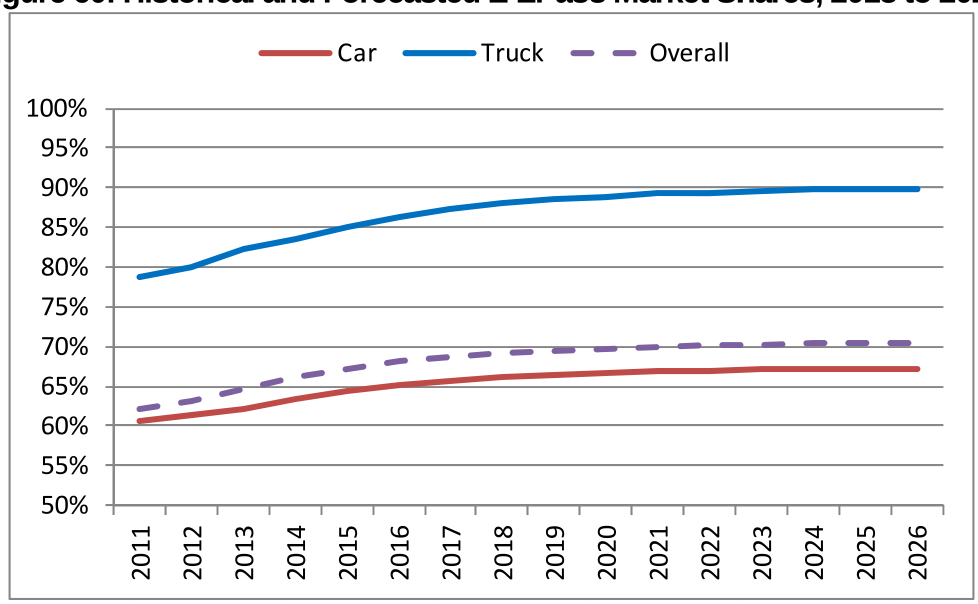
For the purpose of these forecasts, it was assumed that the DRJTBC's E-ZPass market share would continue to increase, but that the rate at which it increases would slow down over time.

Table 21 and Figure 60 present a summary of the average trip market shares for cars and trucks for 2011-2026 and the projected overall market share through the forecast period.

Table 21: Historical and Forecasted E-ZPass Market Share of Trips

Year	Car	Truck	Overall
2011	60.5%	78.8%	62.1%
2012	61.4%	79.9%	63.0%
2013	62.1%	82.3%	64.7%
2014	63.4%	83.4%	66.1%
2015	64.4%	85.1%	67.2%
2016	65.1%	86.3%	68.0%
2017	65.7%	87.3%	68.7%
2018	66.1%	88.0%	69.1%
2019	66.4%	88.5%	69.5%
2020	66.7%	88.9%	69.7%
2021	66.9%	89.2%	69.9%
2022	67.0%	89.4%	70.1%
2023	67.1%	89.6%	70.2%
2024	67.2%	89.7%	70.3%
2025	67.2%	89.8%	70.3%
2026	67.3%	89.9%	70.4%

Figure 60: Historical and Forecasted E-ZPass Market Shares, 2013 to 2026



6.0 RISK AND SENSITIVITY ANALYSES

6.1 Risk Analysis for Traffic and Revenue Forecast

To obtain an additional analytical understanding of the potential risks which could impact revenue generation for the DRJTBC, Monte Carlo analyses were conducted with respect to toll diversion rates, E-ZPass market share, and annual traffic growth. These risks were evaluated with respect to their impact on total revenues from 2014 through 2026. Monte Carlo analyses use repeated random sampling over multiple iterations to estimate a range of possible outcomes. In particular, a Monte Carlo analysis involves the following elements:

- Defined range of possible inputs;
- Randomly generated inputs within a specified probability distribution;
- Deterministic (or predictable) computation of the inputs; and
- Aggregate results of the individual computations.

6.1.1 Approach

We have produced our quantitative risk analysis of forecast DRJTBC traffic using @Risk simulation software. Separate analyses were conducted for cars and trucks; each of the existing seven tolled bridges; and 2014 (short-term), 2020 (mid-term) and 2026 (long-term) forecast horizons. An aggregate forecast for all seven bridge facilities was developed using the results of the risk analyses for each the seven bridge facilities.

A number of traffic risk factors were identified and assessed. We have used our professional judgment to define appropriate risk ranges for each of the above risk factors, which include the following:

- Population;
- Industrial Production Index (IPI);
- Gross Domestic Product (GDP);
- Traffic growth rates;
- EZ-Pass Market Share, particularly the rate in which maximum percentages are achieved.

The risk analysis was undertaken using Monte Carlo simulation with 10,000 iterations.

The @risk software, which is an Excel add-in, was used to conduct the risk analyses. We have assumed distributions for each of the risk factors analyzed. This distribution assumes that the traffic model assumptions are unbiased and that the probability of more optimistic and more pessimistic outcomes for each traffic driver is the same (i.e. the distribution is symmetric).

The traffic and revenue forecasts were compared to the nth percentile value of the risk distribution for traffic and revenues by vehicle type (e.g. cars and trucks) and forecast year (e.g. 2014, 2020, and 2026) for each facility. In all, there were 84 separate risk analyses that were conducted. The nth percentile value represents the probability that the forecast will equal to or exceed the risk analysis. This is often expressed as a “P” value. For example, the P90 value anticipates that there is a 90% chance that the forecast will be exceeded and is considered to be a pessimistic forecast. P90 value can also be interpreted as there is a 1-in-10 chance that traffic will be less than this level. The median forecast value is P50. Traffic and revenue forecast greater than P50 are considered to be optimistic. In addition to providing the P90 and P50 estimates, the risk analysis compared the traffic and revenue estimates against the minimum (P100) and maximum (P0) forecasts. These latter values establish the range of results of the risk analysis.

6.1.2 Results

The results of the risk analysis for the seven DRJTBC facilities as an aggregate are shown in Figure 61 and Figure 62, while ensuing tables provide detailed results for each bridge. The extent of downside risk is illustrated by these figures. Specifically, the figures summarize the potential spread around the model’s forecasts, expressed in percentile/probability terms. Table 22 and Table 23 illustrate that the model’s forecast is in close proximity of the P90 forecast (yellow line) in terms of both traffic and revenues for 2014, 2020, and 2026.

Figure 61: Risk Analysis, Total Traffic

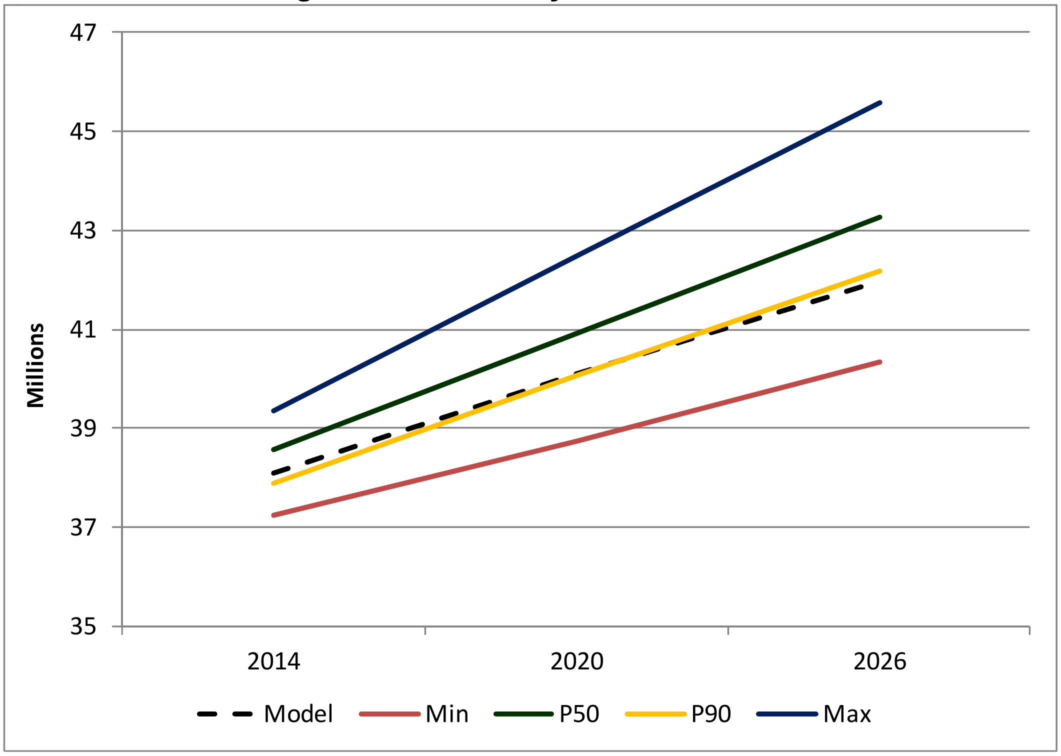


Figure 62: Risk Analysis, Total Revenue

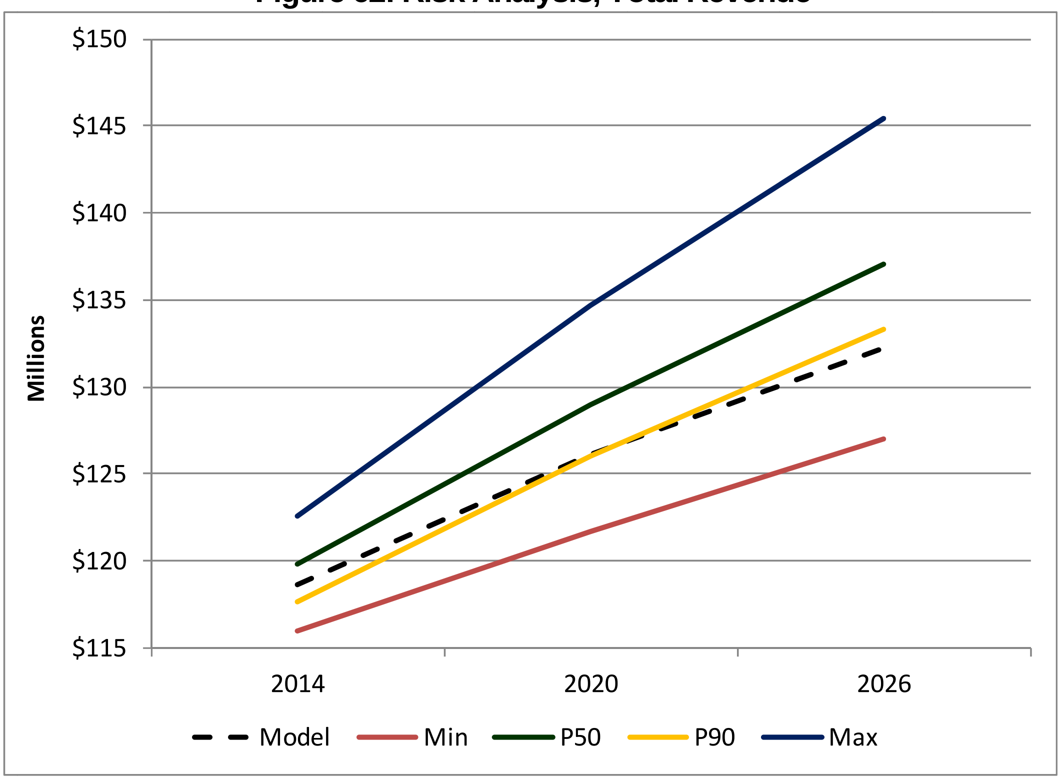


Table 22 and Table 23 summarize the percentage difference between the model and probability values. A negative percentage connotes that the traffic and revenue model has exceeded the probability value generated from the risk analysis. A positive value indicates that the traffic and revenue model is below the risk analysis probability value. For example, the model was -0.3 percent above the P90 value for total traffic in 2014 and 0.2 percent below the P90 value in 2020.

Table 22: Risk Analysis, Total Traffic

Year	Results	Trenton-Morrisville	New Hope-Lambertville	I-78	Easton-Phillipsburg	Portland-Columbia	Delaware Water Gap	Milford-Montague	Total	% Difference
Traffic										
2014	Model	8,079,103	1,939,454	11,243,165	5,038,867	1,175,755	9,371,696	1,247,262	**38,095,302**	-
	Mimimum	7,898,778	1,901,645	10,910,426	5,058,505	1,174,507	9,070,240	1,223,544	**37,237,645**	-2.3%
	P90	8,033,850	1,936,647	11,108,481	5,142,077	1,195,414	9,241,520	1,245,978	**37,903,967**	-0.5%
	P50	8,170,585	1,968,938	11,301,632	5,230,060	1,215,489	9,399,343	1,266,929	**38,552,976**	1.2%
	Maximum	8,335,510	2,009,418	11,535,239	5,335,140	1,239,807	9,588,784	1,291,831	**39,335,729**	3.3%
2020	Model	8,449,777	2,004,922	12,051,597	5,018,666	1,215,193	10,078,616	1,266,367	**40,085,139**	-
	Minimum	8,177,874	1,948,878	11,536,388	5,009,233	1,199,250	9,644,436	1,234,820	**38,750,879**	-3.3%
	P90	8,444,497	2,014,553	11,948,119	5,173,189	1,242,552	9,970,404	1,277,592	**40,070,904**	0.0%
	P50	8,626,143	2,056,648	12,209,547	5,281,907	1,269,295	10,184,881	1,303,915	**40,932,335**	2.1%
	Maximum	8,945,353	2,134,546	12,689,335	5,482,424	1,315,094	10,567,863	1,346,590	**42,481,205**	6.0%
2026	Model	8,810,032	2,074,609	12,783,189	5,094,314	1,261,717	10,655,138	1,285,667	**41,964,665**	-
	Minimum	8,487,417	2,015,510	12,173,411	5,061,476	1,243,230	10,098,992	1,257,314	**40,337,350**	-3.9%
	P90	8,860,402	2,099,066	12,720,312	5,303,994	1,299,008	10,577,900	1,310,188	**42,170,871**	0.5%
	P50	9,084,150	2,151,992	13,057,069	5,439,059	1,331,540	10,855,977	1,342,557	**43,262,344**	3.1%
	Maximum	9,542,427	2,268,002	13,744,478	5,745,798	1,397,054	11,465,822	1,402,497	**45,566,078**	8.6%

Table 23: Risk Analysis, Total Revenue

Year	Results	Trenton-Morrisville	New Hope-Lambertville	I-78	Easton-Phillipsburg	Portland-Columbia	Delaware Water Gap	Milford-Montague	Total	% Difference
Revenue										
2014	Model	$14,574,178	$3,112,044	$56,808,728	$9,037,736	$2,045,472	$31,543,835	$1,532,958	**$118,654,952**	-
	Mimimum	$14,415,513	$3,079,418	$55,116,569	$9,017,718	$2,038,309	$30,847,055	$1,507,287	**$116,021,870**	-2.2%
	P90	$14,650,005	$3,098,243	$55,769,214	$9,161,039	$2,072,164	$31,354,928	$1,534,005	**$117,639,599**	-0.9%
	P50	$14,912,844	$3,152,845	$56,813,974	$9,325,850	$2,109,069	$31,934,832	$1,560,529	**$119,809,941**	1.0%
	Maximum	$15,243,236	$3,222,780	$58,159,379	$9,532,116	$2,155,687	$32,685,970	$1,592,828	**$122,591,997**	3.3%
2020	Model	$15,696,864	$3,285,562	$61,078,843	$9,058,094	$2,095,978	$33,343,655	$1,558,811	**$126,117,810**	-
	Mimimum	$15,292,443	$3,175,462	$58,421,554	$8,979,620	$2,070,550	$32,245,610	$1,523,809	**$121,709,047**	-3.5%
	P90	$15,821,405	$3,286,558	$60,473,452	$9,295,427	$2,143,778	$33,405,281	$1,576,742	**$126,002,643**	-0.1%
	P50	$16,183,692	$3,359,698	$61,914,141	$9,502,742	$2,191,981	$34,187,957	$1,610,482	**$128,950,692**	2.2%
	Maximum	$16,849,398	$3,497,867	$64,783,853	$9,905,925	$2,283,324	$35,671,120	$1,668,300	**$134,659,786**	6.8%
2026	Model	$16,793,733	$3,459,098	$64,118,877	$9,192,774	$2,159,336	$34,955,375	$1,584,241	**$132,263,434**	-
	Mimimum	$16,282,938	$3,338,178	$61,066,731	$9,094,225	$2,122,292	$33,510,131	$1,551,233	**$126,965,729**	-4.0%
	P90	$16,993,598	$3,482,141	$64,079,391	$9,553,069	$2,231,794	$35,329,655	$1,620,354	**$133,290,003**	0.8%
	P50	$17,454,968	$3,575,110	$65,905,469	$9,813,224	$2,291,218	$36,332,538	$1,661,995	**$137,034,522**	3.6%
	Maximum	$18,434,261	$3,785,763	$70,024,735	$10,392,016	$2,421,344	$38,659,002	$1,743,179	**$145,460,300**	10.0%

6.2 Sensitivity Analysis

In addition to the risk analysis, Jacobs conducted a sensitivity analysis, varying individual model input assumptions to determine their effect on toll revenues. The scenarios tested were:

- No Growth
- Double GDP forecast
- Double IPI forecast

Results of each sensitivity test are shown in Table 24 for the years 2014 and 2026, and for the total period from 2014 through 2026. As shown by the results of the analysis, a scenario with no traffic growth would generate roughly 7.3 percent less revenue over the forecast period. A scenario with double the GDP growth would generate 3.9 percent more traffic, but only 1.2 percent more revenue, while double IPI growth would generate only about 1.2 percent more traffic over this period, but 6.4 percent more revenue. This is because GDP correlates primarily to car traffic and IPI correlates primarily with truck traffic.

Table 24: Sensitivity Analysis Results

Vehicle Class Traffic/Revenue	Sensitivity		
	No Growth	Double GDP	Double IPI
2014			
Car Traffic	-0.5%	0.6%	0.0%
Truck Traffic	-1.8%	0.0%	1.8%
Total Traffic	-0.7%	0.5%	0.2%
Car Revenue	-0.5%	0.6%	0.0%
Truck Revenue	-1.8%	0.0%	1.8%
Total Revenue	-1.5%	0.2%	1.3%
2026			
Car Traffic	-9.4%	7.9%	0.0%
Truck Traffic	-12.5%	0.0%	14.4%
Total Traffic	-9.8%	6.8%	2.0%
Car Revenue	-9.4%	7.9%	0.0%
Truck Revenue	-12.5%	0.0%	14.3%
Total Revenue	-11.7%	2.1%	10.5%
2014-2026 Cumulative Total			
Car Traffic	-5.2%	4.5%	0.0%
Truck Traffic	-8.0%	0.0%	8.7%
Total Traffic	-5.6%	3.9%	1.2%
Car Revenue	-5.2%	4.5%	0.0%
Truck Revenue	-8.0%	0.0%	8.8%
Total Revenue	-7.3%	1.2%	6.4%

7.0 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 DRJTBC toll 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.

*   *   *   *   *

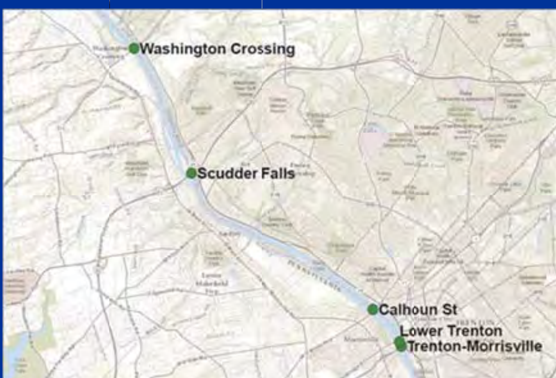
We greatly appreciate the invaluable assistance provided by the staff of the Delaware River Joint Toll Bridge Commission.

Sincerely,

Richard J. Gobeille

Richard J. Gobeille, P.E.
National Toll / Finance Unit Manager
Jacobs Engineering Group, Inc.

JACOBS



Submitted to:

Delaware River Joint Toll Bridge Commission

Scudder Falls Bridge

Traffic and Revenue Report

July 15, 2014

Submitted by:

Jacobs Engineering Group Inc.

900 Northbrook Dr., Suite 300
Feasterville-Trevose, Pennsylvania 19053

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

EXECUTIVE SUMMARY

Jacobs Engineering Group, Inc. ("Jacobs") was retained by the Delaware River Joint Toll Bridge Commission (the "Commission" or "DRJTBC") to prepare Level 3 – Investment Grade Traffic and Revenue Forecasts for the tolling of the new Scudder Falls Bridge in the southbound (Pennsylvania-bound) direction. Tolls would be collected southbound using All Electronic Toll Collection (AET) technology, whereby customers will either pay tolls through E-ZPass or be identified by their license plate and sent a toll invoice. Traffic and revenue forecasts have been prepared for a number of potential toll scenarios for the years 2019 through 2030. In addition, Jacobs has estimated the traffic and revenue effects of Scudder Falls Bridge tolling on the nearby Trenton-Morrisville Toll Bridge.

This executive summary presents the results of our work efforts, including a review of the overall forecasting methodology and a presentation of the final forecasts. The work, analyses, and forecasts for the Commission are of investment-grade quality and are suitable for financing. As part of the analysis, a traffic and toll revenue model for the Commission's existing toll bridges was developed. This model has the ability to adjust projections based on toll rates, economic parameters by vehicle type, E-ZPass and commuter E-ZPass share, and various factors affecting the collectability of video tolls.

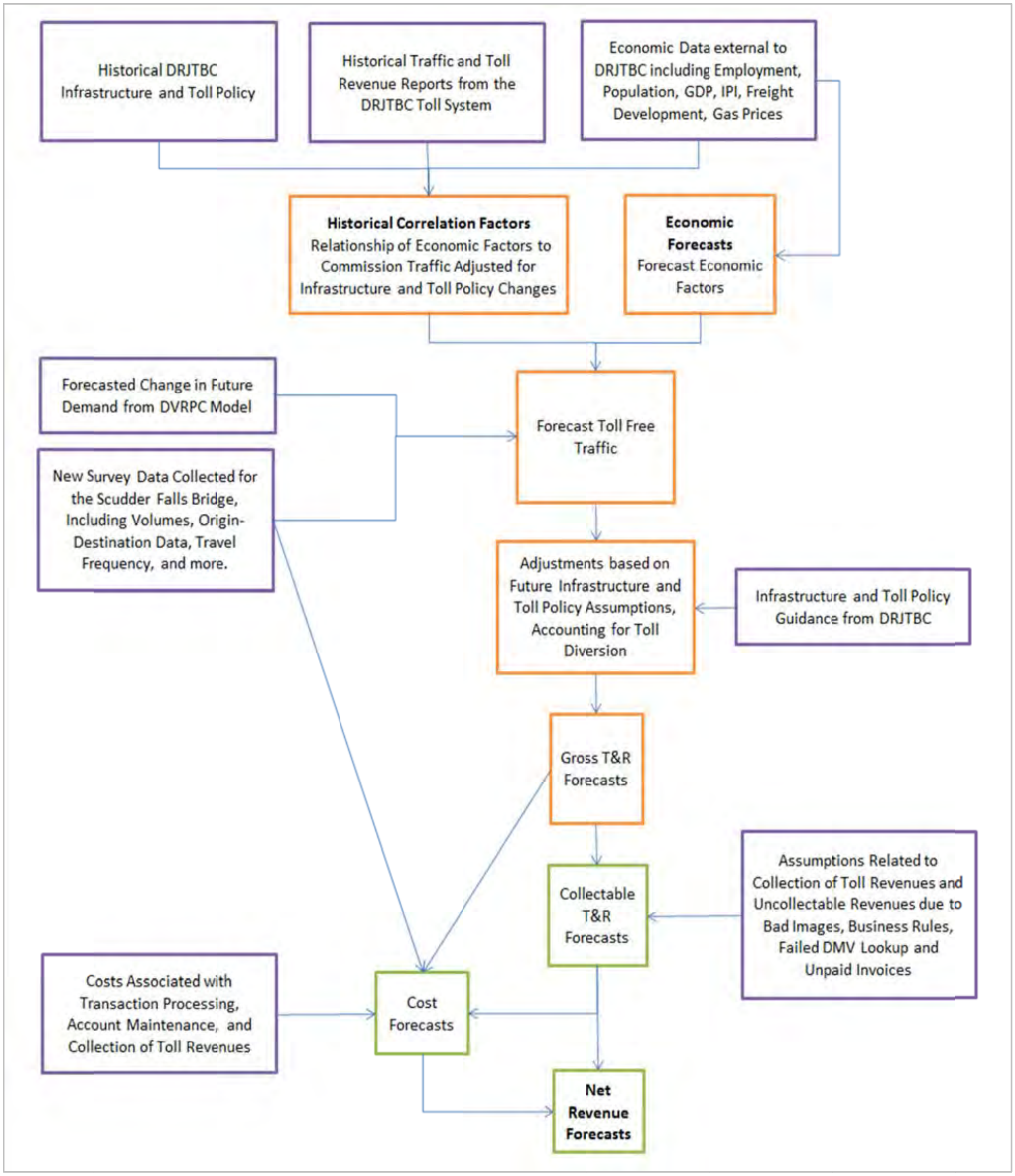
In preparing these Level 3 – Investment Grade Traffic and Revenue Forecasts, Jacobs developed modeling assumptions that are intended to achieve a 90 percent confidence level in the forecast. Expressed in simple terms, our goal is that the forecasted revenue levels would be achieved in nine of the ten years of the forecast. In addition to the baseline forecast, we included a Monte Carlo analysis that provided a wider range of potential traffic and revenues for the forecast period.

T&R Study Methodology

Jacobs' forecasting model uses historical correlations between economic and demographic factors and adjusts those correlation factors for the forecast when structural changes in relationships become apparent, and then predicts background traffic growth as a function of forecasted economic and demographic factors. These forecasts were then adjusted to reflect the improvements to the Scudder Falls Bridge and to the nearby PA Turnpike / I-95 Interchange; the Delaware Valley Regional Planning Commission (DVRPC) regional transportation model was run by DVRPC staff specifically for this purpose. Estimates of diversion developed from survey results, plus toll elasticity factors developed from Jacobs' experience with other toll facilities, were applied to determine the amount of traffic that would remain on the bridge based on toll rates. Using actual data from other AET facilities, we estimated the factors that affect the collectability of video tolls (e.g., accounting for bad license plate images, bad addresses or DMV records, and the share of transactions paid on each level of invoicing) in order to calculate video toll revenues and violation fee revenues.

Toll collection costs (and in some cases, uncollectable video revenues) were estimated and used in determination of the additional amount to charge for video toll transactions. The following figure diagrams Jacobs' Scudder Falls Bridge modeling process.

Figure ES-1: Scudder Falls Bridge Model Methodology



Forecasted Trips and Gross Toll Revenues

The estimates of daily toll traffic and annual gross revenues for the Scudder Falls Bridge for two selected years – 2020 and 2030 - are presented in Table ES-1 for the sixteen different toll scenarios tested. The estimates of gross toll revenue are in nominal dollars and the estimates are of a 90 percent confidence level suitable for financing.

A brief description of the scenarios is as follows:

- The “A” scenarios have a $1 base E-ZPass car toll and a $4 per axle base E-ZPass truck toll, with no annual toll increases
- The “B” scenarios have a $1 base E-ZPass car toll and a $4 per axle base E-ZPass truck toll, with 2.5 percent annual toll increases starting in 2020 (to keep up with the approximate inflation rate)
- The “C” scenarios have a $2 base E-ZPass car toll and a $4 per axle base E-ZPass truck toll, with no annual toll increases
- The “D” scenarios have a $2 base E-ZPass car toll and a $4 per axle base E-ZPass truck toll, with 2.5 percent annual toll increases starting in 2020
- The “E” scenarios have a $3 base E-ZPass car toll and a $4 per axle base E-ZPass truck toll, with no annual toll increases
- The “F” scenarios have a $3 base E-ZPass car toll and a $4 per axle base E-ZPass truck toll, with 2.5 percent annual toll increases starting in 2020
- The “G” scenarios have a $1.25 base E-ZPass car toll and a $5 per axle base E-ZPass truck toll, with no annual toll increases
- The “H” scenarios have a $1.25 base E-ZPass car toll and a $5 per axle base E-ZPass truck toll, with 2.5 percent annual toll increases starting in 2020
- Scenarios ending with a “1” have a video toll surcharge set at a rate that would cover both the additional cost of video toll collection (over E-ZPass) and any losses due to uncollectable video tolls that are not already covered by the violation fee revenues
- Scenarios ending with a “2” have a video toll surcharge that is set to cover the additional costs of video toll collection only
- Note that discounts currently offered to E-ZPass patrons on DRJTBC toll facilities were assumed to apply to tolls at the Scudder Falls Bridge for all scenarios. These include a 40 percent frequency discount for passenger cars with NJ Regional Consortium transponders making more than 16 trips in a calendar month, as well as a 10 percent discount for commercial vehicles traveling during the off-peak hours of 10:00 PM to 5:59 AM.

Table ES-1: Scudder Falls Bridge Traffic and Gross Revenue Forecasts by Toll Scenario, Select Years

Toll Scenario	Base Car Toll / Truck Toll per Axle	Video Toll Surcharge	Scudder Falls Bridge							
			Avg. Daily Southbound Traffic		Annual Toll Revenue (M)		Annual Fee Revenue (M)		Annual Total Revenue (M)	
			2020	2030	2020	2030	2020	2030	2020	2030
A1	$1/$4	$3.10 [1]	26,600	29,100	$18.2	$19.9	$1.3	$0.9	$19.5	$20.9
A2	$1/$4	$1.20 [2]	27,500	29,700	$17.0	$19.1	$1.6	$1.1	$18.6	$20.2
B1	$1/$4 [3]	$3.40 [1]	26,400	28,900	$18.7	$25.5	$1.3	$0.9	$20.0	$26.5
B2	$1/$4 [3]	$1.20 [2]	27,500	29,700	$17.3	$24.6	$1.6	$1.1	$19.0	$25.8
C1	$2/$4	$4.20 [1]	24,000	26,400	$24.1	$26.4	$1.1	$0.8	$25.1	$27.2
C2	$2/$4	$1.20 [2]	25,400	27,400	$22.9	$25.6	$1.5	$1.0	$24.4	$26.7
D1	$2/$4 [3]	$4.60 [1]	23,700	26,200	$24.5	$33.8	$1.0	$0.7	$25.5	$34.5
D2	$2/$4 [3]	$1.20 [2]	25,300	27,400	$23.4	$33.2	$1.5	$1.0	$24.9	$34.3
E1	$3/$4	$5.40 [1]	21,200	23,800	$27.9	$31.0	$0.8	$0.6	$28.7	$31.6
E2	$3/$4	$1.30 [2]	23,200	25,100	$27.5	$30.8	$1.3	$0.9	$28.8	$31.7
F1	$3/$4 [3]	$6.10 [1]	20,800	23,400	$28.2	$39.8	$0.7	$0.5	$28.9	$40.2
F2	$3/$4 [3]	$1.30 [2]	23,100	25,000	$28.1	$40.0	$1.3	$0.9	$29.4	$40.9
G1	$1.25/$5	$3.60 [1]	25,800	28,300	$21.3	$23.5	$1.2	$0.9	$22.5	$24.3
G2	$1.25/$5	$1.30 [2]	26,900	29,100	$20.0	$22.6	$1.5	$1.1	$21.6	$23.7
H1	$1.25/$5 [3]	$4.00 [1]	25,500	28,100	$21.8	$30.1	$1.2	$0.8	$22.9	$30.9
H2	$1.25/$5 [3]	$1.30 [2]	26,800	29,000	$20.4	$29.2	$1.5	$1.1	$22.0	$30.3

[1]All video toll vehicles are charged an additional amount to cover collection costs plus some uncollectable video toll revenues

[2]All video toll vehicles are charged an additional amount to cover collection costs only

[3]Includes annual 2.5% toll increases

NOTE: tolls in the southbound direction only.

Effects on Trenton-Morrisville Toll Bridge

With the tolling of the Scudder Falls Bridge, some customers would switch their trip to the Trenton-Morrisville Toll Bridge, thus increasing traffic and revenue on that bridge. In addition, it is anticipated that Trenton-Morrisville Toll Bridge tolls would be set to match the Scudder Falls Bridge's E-ZPass tolls, which, for some of the toll scenarios run by Jacobs, are higher than the current toll rates. As shown in Table ES-3, the minimum gain in revenue at the Trenton-Morrisville Toll Bridge due to Scudder Falls Bridge tolling is expected to be over $2M per year.

Table ES-2: Effects at Trenton-Morrisville Toll Bridge Due to Tolling on the Scudder Falls Bridge by Toll Scenario, Select Years

Toll Scenario	Base Car Toll / Truck Toll per Axle, both Bridges	Effects at Trenton-Morrisville Toll Bridge			
		Change in AADT		Additional Annual Toll Revenue ($M)	
		2020	2030	2020	2030
A1	$1/$4 [1]	2,200	2,150	$2.3	$2.6
A2	$1/$4 [2]	1,800	1,850	$2.2	$2.4
B1	$1/$4 [1,3]	2,100	1,000	$2.8	$7.3
B2	$1/$4 [2,3]	1,700	750	$2.6	$7.2
C1	$2/$4 [1]	-400	-550	$8.9	$9.6
C2	$2/$4 [2]	-700	-750	$8.7	$9.4
D1	$2/$4 [1,3]	-400	-1,500	$9.5	$16.2
D2	$2/$4 [2,3]	-750	-1,700	$9.2	$16.0
E1	$3/$4 [1]	-2,650	-2,950	$14.0	$14.9
E2	$3/$4 [2]	-2,900	-3,100	$13.7	$14.7
F1	$3/$4 [1,3]	-2,700	-3,850	$14.7	$23.0
F2	$3/$4 [2,3]	-3,000	-4,000	$14.3	$22.8
G1	$1.25/$5 [1]	1,350	1,250	$5.9	$6.5
G2	$1.25/$5 [2]	1,000	1,000	$5.7	$6.4
H1	$1.25/$5 [1,3]	1,350	200	$6.3	$12.3
H2	$1.25/$5 [2,3]	950	0	$6.1	$12.1

[1]*An additional amount is charged to video toll vehicles on the Scudder Falls Bridge to cover costs plus some uncollectable video toll revenues*

[2]*An additional amount is charged to video toll vehicles on the Scudder Falls Bridge to cover costs only*

[3]*Includes annual 2.5% toll increases*

1.0 INTRODUCTION

The Delaware River Joint Toll Bridge Commission (the "Commission" or "DRJTBC") retained Jacobs Engineering Group, Inc. ("Jacobs") to prepare Level 3 – Investment Grade Traffic and Revenue Forecasts for the Scudder Falls Bridge ("the Bridge"), a bridge located on Interstate 95 (I-95) crossing the Delaware River between Pennsylvania and New Jersey. The purpose of this study is to estimate the potential toll traffic and revenues with tolling on the Bridge. Tolls will be collected using All Electronic Toll Collection (AET) technology.

The DRJTBC does not currently collect tolls on the Scudder Falls Bridge, which is designated a "toll-supported" facility by the Commission. The conversion of the Bridge from a toll-supported facility to a tolled facility would coincide with replacement of the existing Scudder Falls Bridge with a wider bridge with improvements to the approaches and adjacent interchanges. The Commission envisions collecting tolls by utilizing E-ZPass and video tolling technology; collection of cash payments on the Bridge is not anticipated. For the purpose of this study, we have assumed that the replacement Bridge project is expected to be completed and tolling is expected to begin in January 2019.

1.1 History of Jacobs' Tolling Analyses

Jacobs completed a Traffic and Revenue Study for the Commission in 2009. This study consisted of two parts: (1) a ten-year forecast of traffic and revenue for the Commission's seven existing toll bridges, of investment-grade quality and suitable for financing; and (2) Level 2 traffic and revenue estimates for the proposed tolling of the currently toll-supported Scudder Falls Bridge.

As part of the Level 2 study, we also conducted a tolling policy forum with the Commission in October 2008 in regards to the various policies associated with AET (video and E-ZPass tolling), and developed a basic set of policy and business rules including toll rates and how to define and handle violators; the Commission made some policy decisions based on these.

In 2011, Jacobs completed a Toll Diversion Study for the Scudder Falls Bridge to determine the effects on other area roadways and bridges of widening and tolling the Bridge. This 2011 study helped support the favorable Record of Decision for the planned replacement bridge.

1.2 General Work Scope

There is no history of tolling on the Scudder Falls Bridge, and tolling is planned to be all-electronic tolling collection (AET) with no cash payment option. As part of this study, we built upon our Level 2 Traffic and Revenue Study and Toll Diversion Study made previously.

To satisfy the objectives of this Level 3, investment-grade study, it was necessary to develop a full understanding of the patrons of the existing Scudder Falls Bridge – such as where they reside, how often they use the facility, and how they would potentially pay their tolls. The group of customers that is likely to choose video tolling over E-ZPass in an AET environment would come from the existing motorists that do not have a transponder and, therefore, it is very important to determine the travel characteristics of these customers.

Jacobs developed the model for the Scudder Falls Bridge based on the most recent traffic data available from the Commission, plus new data collection efforts performed specifically for this project. Data collected and incorporated into the model included traffic volumes segmented by class of vehicle, direction of travel, and time and day of travel.

To estimate the impact of tolling the Scudder Falls Bridge, Jacobs reviewed historical traffic and revenue data from nearby DRJTBC toll facilities to understand past trends. Jacobs also correlated historical traffic data with key economic indicators and researched relevant demographic and other factors that have affected recent traffic patterns and that may affect future driver behavior. In addition, the Delaware Valley Regional Planning Commission (DVRPC), as part of the Jacobs Team, ran its regional transportation model to estimate the effects of widening the Bridge and the completion of a new I-95/Pennsylvania Turnpike interchange on Scudder Falls Bridge traffic volumes. Jacobs used this information and associated analyses to develop a traffic and revenue model to estimate potential annual trips, gross toll revenue, collectable toll revenue, and toll collection costs on the Scudder Falls Bridge from 2019 to 2030.

1.3 Data Sources

As part of the study, Jacobs collected relevant data to support the preparation of forecasts. In addition to data readily available, Jacobs conducted an extensive data collection program in and around the Bridge specifically for this project. Data collection included:

- hourly traffic counts,
- license plate surveys,
- counts of vehicles equipped with E-ZPass,
- travel time surveys, and
- Bridge customer characteristic surveys via Jacobs-designed online surveys.

The results of these data collection efforts have been incorporated into Jacobs' traffic and revenue forecasting model, and are discussed and presented herein.

1.4 Policy Workshop / Discussion

We revisited the policy decisions for AET made in the October 2008 tolling policy forum with DRJTBC with a new AET tolling policy forum on January 9, 2014. Choices on policy can significantly influence toll revenues; for example, the inclusion of a video surcharge. We worked with the DRJTBC staff to determine the most likely scenario(s), and incorporated these in the development of the Investment Grade Analysis for the Bridge.

1.5 Operating Costs for AET

We researched and compiled data from existing toll facilities in order to arrive at estimated operating costs for AET so that the Commission can prepare its budget and potential associated fee structure, and also to estimate expenses that the Commission would want to recover through a video toll surcharge. We also considered data from the New Jersey Customer Service Center, since the DRJTBC is currently planning to roll their customer accounts over and allow the NJ Customer Service Center to oversee future transaction processing. These resulting estimated toll collection operating costs allowed us to determine video toll rates and to estimate net toll revenues for the Scudder Falls Bridge.

1.6 Scudder Falls' Model Development

Because the Scudder Falls Bridge is not currently tolled, it is not suited to a typical trend line analysis for forecasting purposes. In addition, it will be an AET facility with no cash toll collection. Because of these factors, a much more comprehensive analysis of the facility was required to achieve the depth and quality of report required for an investment-grade study.

In order to determine future background growth (i.e., growth in traffic without tolling or any other changes), Jacobs used historical DRJTBC data, correlating it to Gross Domestic Product (GDP) and Industrial Production Index (IPI), then used forecasts of future GDP and IPI to estimate traffic growth rates. We used results from the regional DVRPC model as run by DVRPC staff to estimate traffic changes due to the replacement of the Scudder Falls Bridge with a wider bridge, and also due to the new I-95/Pennsylvania Turnpike interchange.

Estimates of toll diversions from the previous Level 2 study were refined based on differences in Pennsylvania-bound vs. New Jersey-bound traffic in the area, travel times using the Scudder Falls Bridge versus alternative crossings, and origin-destination patterns from the online survey results. Survey data was also used to develop a customer profile, such as state of vehicle registration and frequency of travel, which enables us to estimate the number of video toll accounts and the number of invoices to be mailed to customers.

Data from existing AET facilities on video tolling costs and uncollectable revenues were incorporated into our models. As part of Tolling Policy, DRJTBC would like to set the video tolling surcharge (i.e., the additional toll for video toll vehicles on top of the toll rate) to cover the additional cost of collecting video tolls as well as the revenue leakage associated with AET. Part of our modeling process was to estimate this video toll surcharge. In addition, a $30 violation fee per transaction will be imposed on the third video toll invoice if the first two invoices are not paid, which is consistent with the Commission's current violation fee. The revenues from violation fees, meant to cover some of the uncollectable video toll revenue, were also estimated by Jacobs for each year of the forecast.

Our model is segmented by vehicle classification (truck vs. passenger car), travel frequency, and payment type. It is important to note that there may be some trips currently utilizing the Bridge simply because it is free. Once tolling is introduced it is probable that some trips that are using the Bridge simply because it is free will move to other tolled facilities such as the Trenton-Morrisville Toll Bridge. Jacobs has also developed estimates of additional revenue at the Trenton-Morrisville Toll Bridge due to Scudder Falls Bridge tolling.

The work, analyses, and results for the DRJTBC included in this report are of investment-grade quality and are suitable for financing. The background and methodology for Jacobs' traffic and toll revenue projections for the DRJTBC are presented herein.

1.7 Report Structure

The following is a brief outline of the remaining chapters in this report:

- Description of the Scudder Falls Bridge
- A Review of DRJTBC's Existing Facilities
- Data Collection and Analysis
- Economic Backdrop and Outlook for the Future
- Toll Traffic and Toll Revenue Forecasts
- Toll Operation Costs and Uncollectable Tolls
- Risk and Sensitivity Analyses

2.0 DESCRIPTION OF THE SCUDDER FALLS BRIDGE

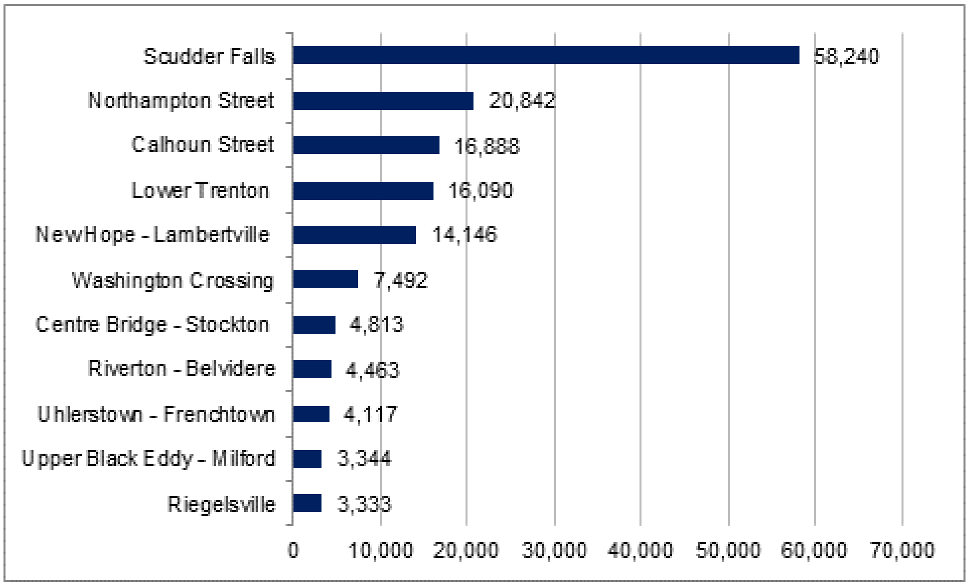
This section of the report provides a description of the Scudder Falls Bridge, along with a description of the bridge's competitors and recent traffic volumes.

2.1 The Scudder Falls Bridge

The Scudder Falls Bridge is a toll-supported bridge located north of Trenton, NJ on I-95 crossing the Delaware River on the border of Pennsylvania and New Jersey. The segment of I-95 where the bridge is located is a major north-south corridor that accommodates a mix of through and local traffic traveling between Trenton, New Jersey, and the Bucks County suburbs of Philadelphia, Pennsylvania. The bridge currently experiences recurring traffic congestion during peak rush hours and is functionally obsolete. Consequently, the DRJTBC is in the process of making investments in the bridge to improve its performance. The I-95 / Scudder Falls Bridge Replacement Project will replace the current facility with a wider, improved bridge and approaches. Details can be found on the website http://scudderfallsbridge.com/. For this study, we are assuming that the project will be completed by the beginning of 2019 coinciding with the start of southbound toll collection on the bridge.

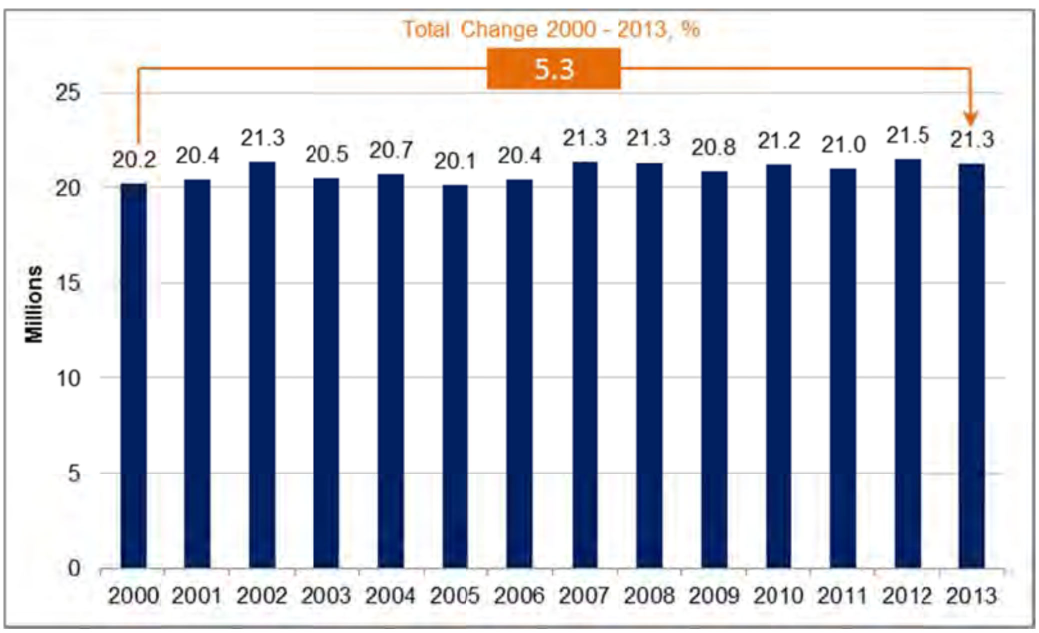
As shown in Figure 1, the Scudder Falls Bridge accomodates the most traffic of the DRJTBC toll-supported bridges. The Bridge, on average, supported almost 60,000 vehicles per day in 2013 – almost three times as much traffic as the next most utilized bridge at Northampton Street, making it a critical transportation asset for traffic crossing between Pennsylvania and New Jersey.

Figure 1: 2013 Total Annual Average Daily Two-way Traffic on Toll Supported Bridges



Since 2000, annual two-way traffic on the Scudder Falls Bridge has fluctuated between 20.1 and 21.8 million trips. From 2000 to 2013, traffic increased a total of 5.3 percent as seen in Figure 2. It should be noted, however, that annual traffic has hovered around its current number of 21.3 million trips for quite some time.

Figure 2: Scudder Falls Bridge Total Annual Two-way Traffic



NOTE: From 2006 to 2009 the Trenton-Morrisville Toll Bridge was under construction.
Source: DRJTBC

2.2 Alternate Routes to the Scudder Falls Bridge

While the Scudder Falls Bridge is a critical piece of transportation infrastructure in the region, the DRJTBC maintains a number of toll and toll-supported facilities in the vicinity of the bridge for travelers crossing the Delaware River. The Washington Crossing (non-tolled), Calhoun Street (non-tolled), Lower Trenton (non-tolled), and Trenton-Morrisville (tolled) Bridges may serve as alternative routes for travelers who typically utilize the Scudder Falls Bridge. It should be noted that the Washington Crossing, Calhoun Street and Lower Trenton Toll-supported Bridges all have weight restrictions, therefore prohibiting truck traffic. Further to the south, the major toll bridges include the Pennsylvania Turnpike Bridge and the Delaware Memorial Bridge, both of which are potential alternate truck routes to the Scudder Falls Bridge. Figure 3 provides an overview of the bridges in the area.

Figure 3: Alternate Bridge Routes Near Scudder Falls Bridge

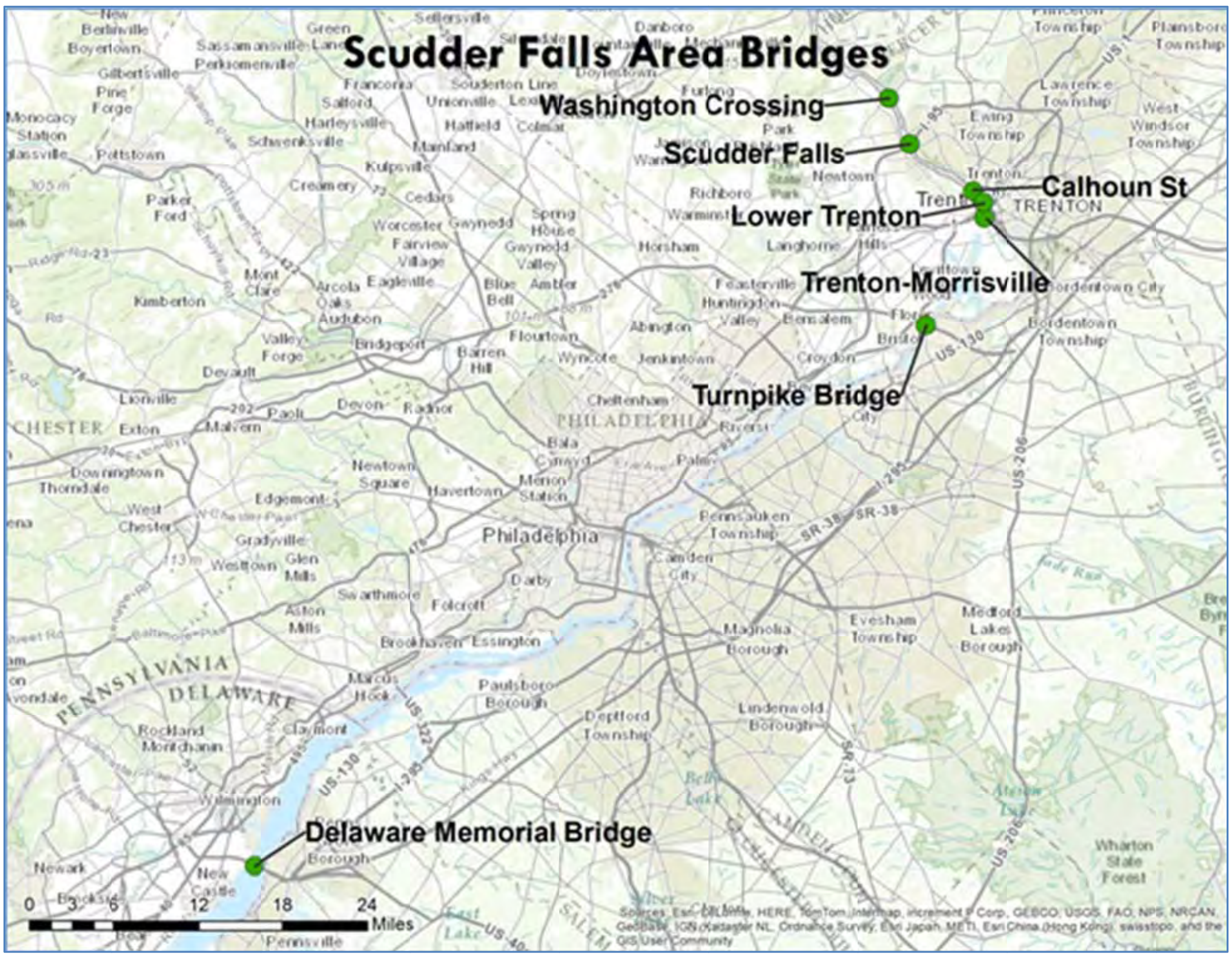
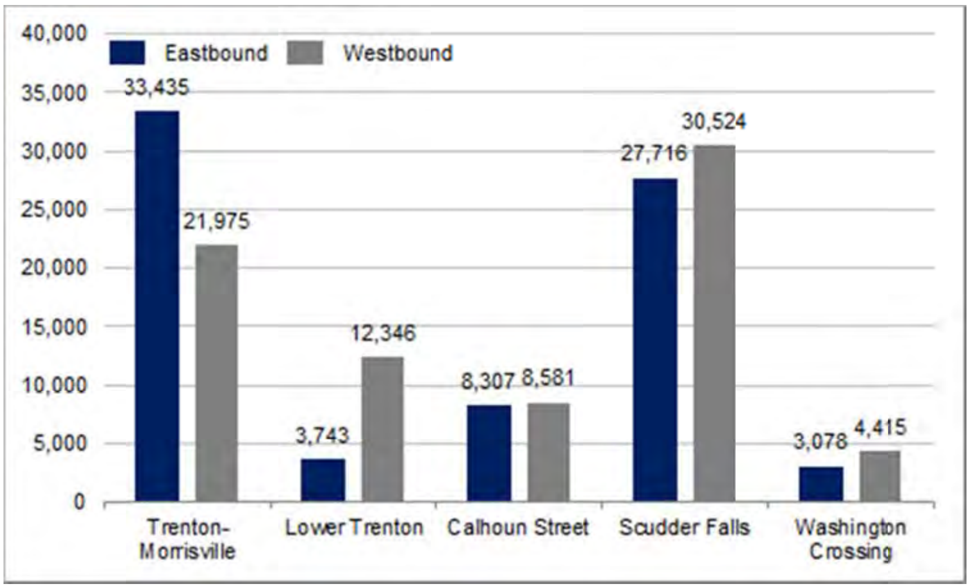


Figure 4 displays 2013 annual average daily traffic by direction – both northbound and southbound – for the Scudder Falls Bridge and those bridges most likely to serve as alternative travel routes to the bridge. Note that while some of these bridges operate on a north-south route, "westbound" refers to the Pennsylvania-bound direction, or the direction of tolling for the Trenton-Morrisville Toll Bridge, and later, the Scudder Falls Bridge. With the exception of the Trenton-Morrisville Toll Bridge, which is not tolled in the eastbound direction, the Scudder Falls Bridge accomodates the most traffic on an average daily basis. It is possible that some travelers utilizing the Scudder Falls Bridge in the southbound direction choose to use the Trenton-Morrisville Toll Bridge in the eastbound direction to avoid paying a toll.

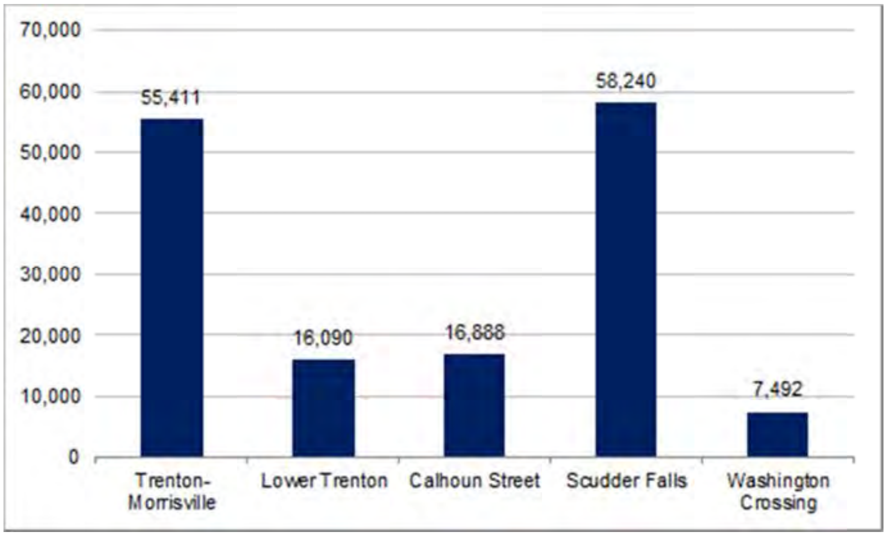
Figure 4: 2013 Annual Average Daily Traffic (AADT) by Direction



Note: Traffic on the Trenton-Morrisville Toll Bridge is not tolled in the eastbound direction.
Source: DRJTBC

In 2013, the Scudder Falls Bridge handled the most annual average daily traffic of the five bridges in the Scudder Falls area. As shown in Figure 5, the Scudder Falls Bridge accommodated approximately 3,000 more vehicles on an average daily basis than the Trenton-Morrisville Toll Bridge, which is only tolled in the west/southbound direction. The other bridges – Lower Trenton, Calhoun Street, and Washington's Crossing – experienced significantly less traffic.

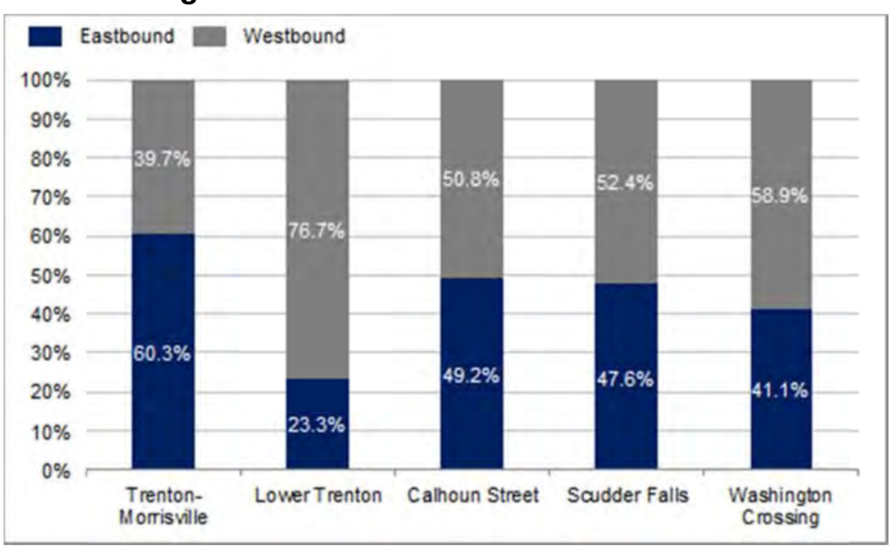
Figure 5: 2013 Annual Average Daily Two-Way Traffic



Note: Traffic on the Trenton-Morrisville Toll Bridge is not tolled in the eastbound direction.
Source: DRJTBC

Pennsylvania-bound and New Jersey-bound traffic is not distributed equally on the five bridges in the Scudder Falls Bridge area. As shown in Figure 6, the Scudder Falls Bridge and the Calhoun Street Bridge handle almost an equal split of directional traffic. Conversely, westbound (Pennsylvania-Bound) traffic is predominant on both the Washington Crossing Bridge and especially the Lower Trenton Bridge (due to westbound tolling on the adjacent Trenton-Morrisville Toll Bridge). Eastbound traffic is more prevalent on the Trenton-Morrisville Toll Bridge as the DRJTBC does not toll traffic in that direction.

Figure 6: Directional Distribution of Traffic



Note: Traffic on the Trenton-Morrisville Toll Bridge is not tolled in the eastbound direction.
Source: DRJTBC

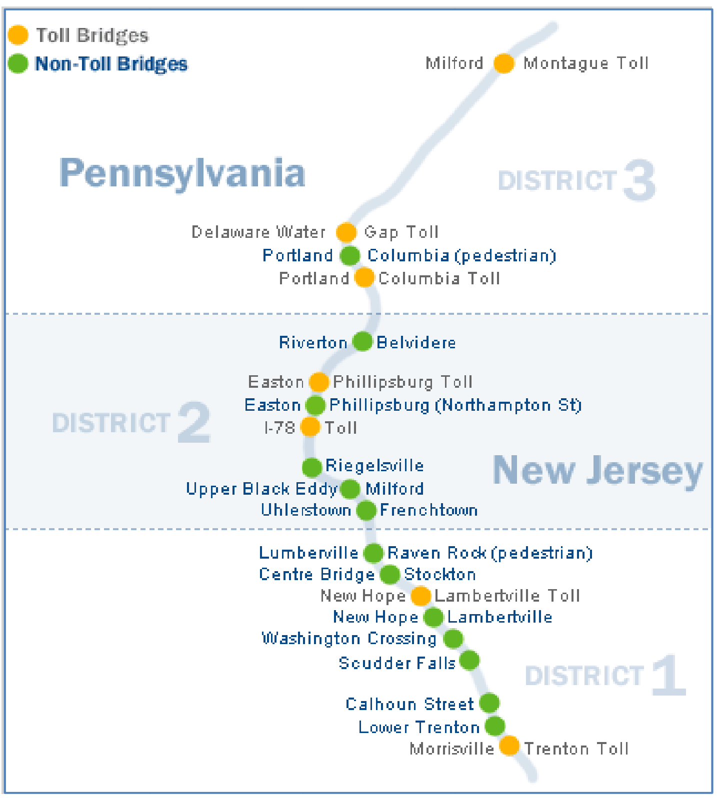
3.0 REVIEW OF DRJTBC'S EXISTING FACILITIES

In order to provide context to the future tolling of the Scudder Falls Bridge, this section presents an overview of DRJTBC's facilities and the history of toll collection on their seven toll bridges.

3.1 The DRJTBC System

The DRJTBC owns and operates 20 bridges that span the Delaware River linking the states of New Jersey and Pennsylvania. They are located from as far south as the Bucks County, PA – Philadelphia line to as far north as the New York State border. Figure 7 provides an overview of all DRJTBC facilities, which range in utilization from a pedestrian-only bridge crossing the river to the I-78 Toll Bridge that supports over 60,000 daily crossings. For all the toll bridges, tolls are collected in the west/southbound direction only.

Figure 7: DRJTBC System

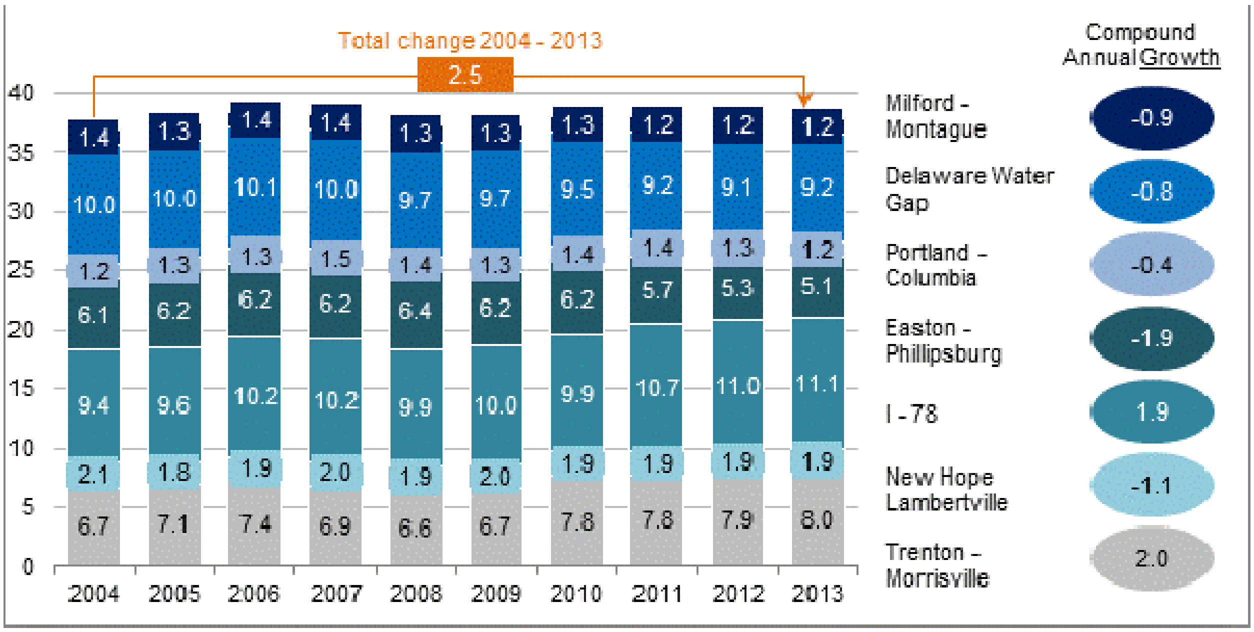


Source: DRJTBC

Seven of the bridges shown in Figure 7 are tolled and comprise a unique mix of local and through crossings, providing service for local, daily commuters, and commercial through-traffic crossing the Delaware River, as well as many other types of travelers.

Figure 8 displays annual traffic on the seven DRJTBC bridges that collect tolls. As shown in the figure, the I-78, Delaware Water Gap, and Trenton-Morrisville toll facilities attract the most toll traffic. Total traffic on all toll bridges increased by a total of 2.5 percent from 2004 to 2013 but growth was not distributed equally among the toll bridges. Of the seven toll facilities, only the Trenton-Morrisville and the I-78 bridges experienced increases in traffic over the 9-year period.

Figure 8: Annual Toll Traffic, Millions of Toll Trips



3.2 Current Toll Rates on DRJTBC Toll Bridges

The current toll policy for the DRJTBC has been in effect since June 30, 2011 and the current toll rates at each of the seven toll bridges are shown in Table 1.

The Commission offers automatic commuter discounts of 40 percent (i.e. a toll charged of $0.60 per trip) to automobiles equipped with NJ CSC-issued E-ZPass transponders, provided that they make at least 16 trips on a DRJTBC toll facility in a calendar month. This is a recent change that began in May 2014; the previous discount was applied to 20 trips in a 35 days. Prior to May 2014, the discount was automatic for all customers with a DRJTBC account who met or exceeded the required number of trips, and those without a DRJTBC account could opt in to the program by creating a “companion account” with DRJTBC. Now, the discount is applied automatically to all automobiles with a NJ CSC-issued E-ZPass making 16 or more trips in a month, and companion accounts have been discontinued.

All commercial vehicles (Class 2 through 7) equipped with E-ZPass transponders receive automatic discounts of 10 percent when traveling during the off-peak period of 9:01pm to 5:59am.

Table 1: Current DRJTBC Toll Rates

(tolls charged in the westbound direction only)

	Class	Cash and Full Fare E-ZPass		Discounted E-ZPass		
		Trip	Multiplier over Class 1	Trip	Multiplier over Class 1	Trip Discount
Auto	1[a]	$1.00		$0.60		40%
Commercial	2	$6.50	6.50	$5.85	9.75	10%
	3	$12.00	12	$10.80	18	10%
	4	$16.00	16	$14.40	24	10%
	5	$20.00	20	$18.00	30	10%
	6	$24.00	24	$21.60	36	10%
	7	$28.00	28	$25.20	42	10%

[a] Class 1 vehicles pulling trailers are charged $2.00

3.3 Toll Collection Historical Overview

On each of the seven existing toll bridges, tolls are collected in the westbound (Pennsylvania-bound) direction only, at toll plazas located on the Pennsylvania side of the Delaware River except for the Easton-Phillipsburg Toll Bridge where the toll plaza is located in New Jersey. Tolls are assessed based on the classification of each vehicle and the payment type. When the first toll bridge opened to traffic in 1938, tolls were collected manually via cash payment or in the form of commutation tickets that provided discounts to frequent bridge users. In the early 1970s, the Commission began utilizing automated coin and token collection devices at its toll plazas in an effort to increase vehicle throughput, with the tokens replacing the original commutation tickets.

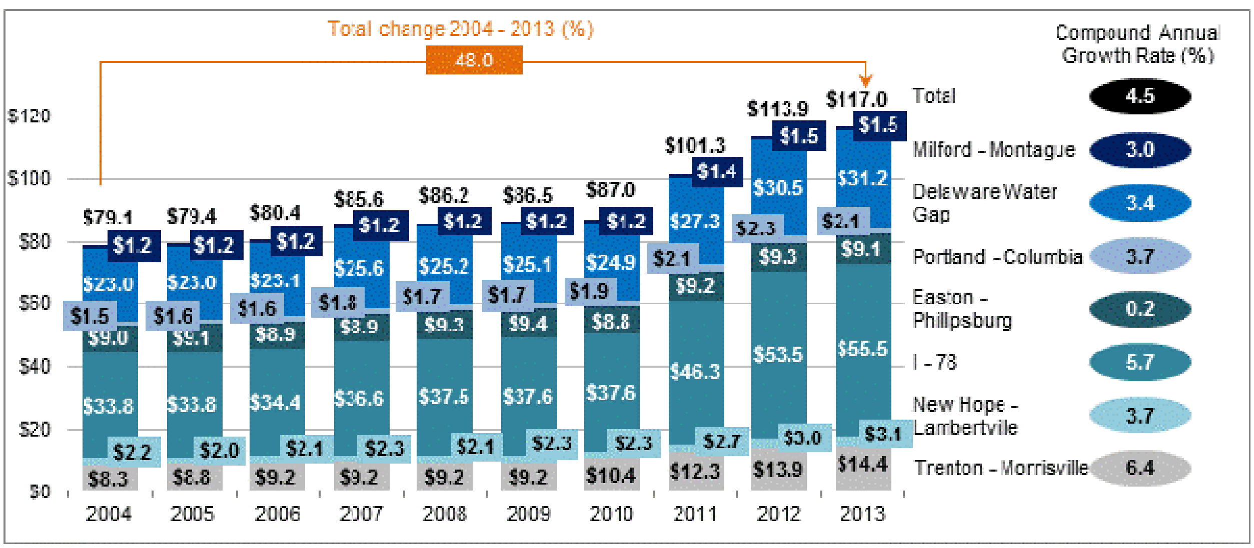
However, beginning in 2002, the Commission began implementing transponder-based electronic toll collection in the form of E-ZPass at each of its seven existing toll bridges. Although toll lane gates were installed at each toll plaza, the introduction of E-ZPass as a payment method significantly increased vehicle throughput over previous automated coin and token machines.

In 2010, the Commission removed the gates from the E-ZPass toll lanes at its seven toll bridges which increased vehicle throughput even further. In addition, the Commission implemented Open Road Tolling in the form of highway speed Express E-ZPass lanes at the I-78 Toll Bridge in May 2010 and at the Delaware Water Gap (I-80) in November 2010.

The E-ZPass technology allows customers to travel seamlessly on toll facilities operated by 25 toll agencies in 15 states. These toll facilities include some of the toll facilities that feed directly or indirectly to the DRJTBC's toll bridges, including the Pennsylvania Turnpike, Ohio Turnpike and other tolled Delaware River crossings such as those operated by the Burlington County Bridge Commission, Delaware River Port Authority and the Delaware River and Bay Authority. Currently almost 65 percent of the Commission's revenue is collected by E-ZPass. The discounts previously offered through commutation tickets and tokens are still provided to motorists that use New Jersey CSC-issued transponders.

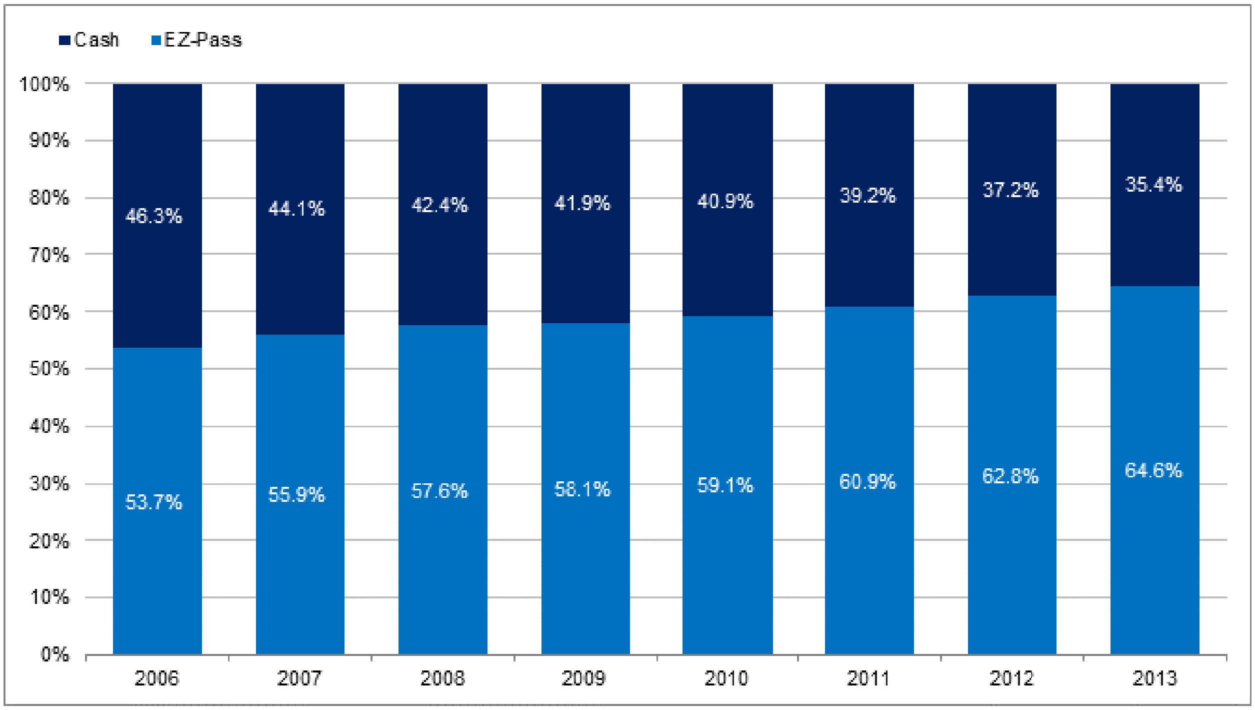
Figure 9 illustrates the total DRJTBC toll revenue trends over the nine-year period from 2004 to 2013. Overall, total toll revenue grew by an average of 4.5 percent each year with toll revenue on the Trenton-Morrisville and I-78 bridges increasing the most over the ten year period. Most of the recent revenue increase was due to a toll rate increase implemented in June 2011, where standard car tolls on each toll bridge increased from \$0.75 to \$1.00, discounted car E-ZPass tolls increased from \$0.45 to \$0.60, and truck tolls increased by \$0.75 per axle.

Figure 9: Historical DRJTBC Total Toll Revenue, $ Millions



Utilization of E-ZPass as a method of payment has increased on DRJTBC toll bridges in the last 10 years. As illustrated in Figure 10, the percentage of trips paid for using an E-ZPass transponder increased from 53.7 percent in 2004 to 64.6 percent in 2013. Utilization rates have increased in each of the past 10 years.

Figure 10: Annual E-ZPass Utilization on DRJTBC Toll Bridges



4.0 DATA COLLECTION AND ANALYSES

4.1 Introduction

Jacobs is providing an investment-grade traffic and revenue study for the Scudder Falls Bridge. As part of the study, Jacobs collected relevant data to support the forecasts. In addition to data readily available, Jacobs conducted an extensive data collection program in and around the Bridge specifically for this project. These studies included:

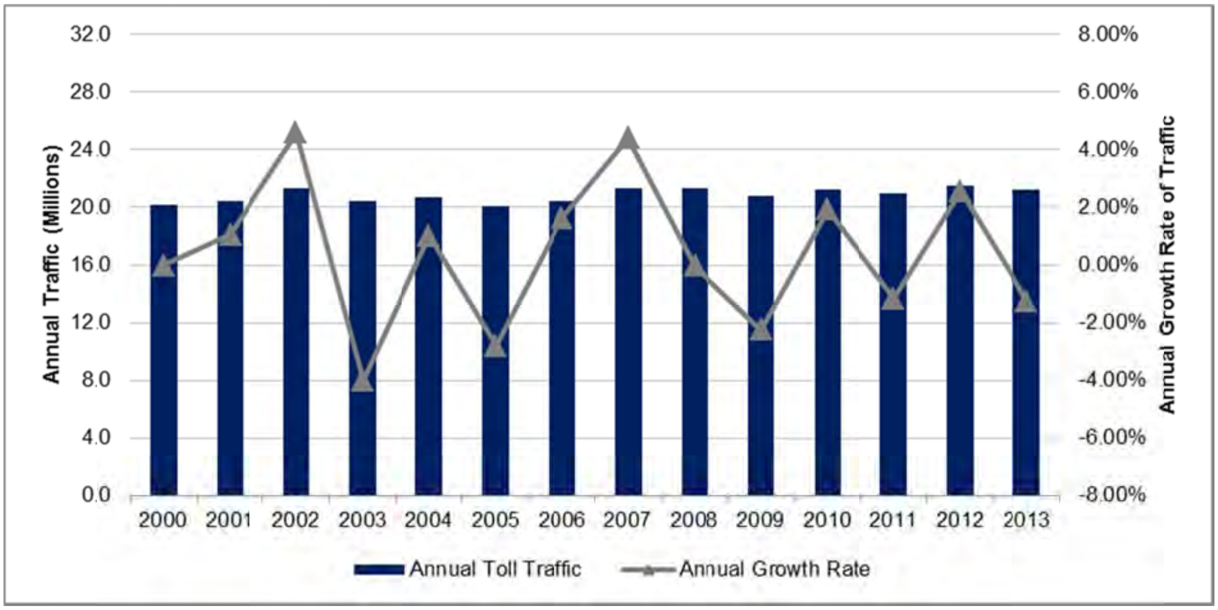
- hourly traffic counts on the Bridge,
- license plate surveys,
- counts of vehicles equipped with E-ZPass,
- travel time surveys, and
- Bridge customer characteristic surveys via Jacobs-designed online surveys.

The results of these data collection efforts have been incorporated into Jacobs' traffic and revenue forecasting model, and are discussed and presented herein.

4.2 Historical Data

DRJTBC collects traffic count data on all of its facilities including its toll-supported bridges. Figure 11 shows the annual two-way traffic counts and annual traffic growth on the Scudder Falls Bridge from 2000 through 2013. There has not been a constant increase or decrease in traffic over this timeframe – traffic has generally been up one year then down the next. During this 14-year period, the number of crossings has hovered around 21 million per year.

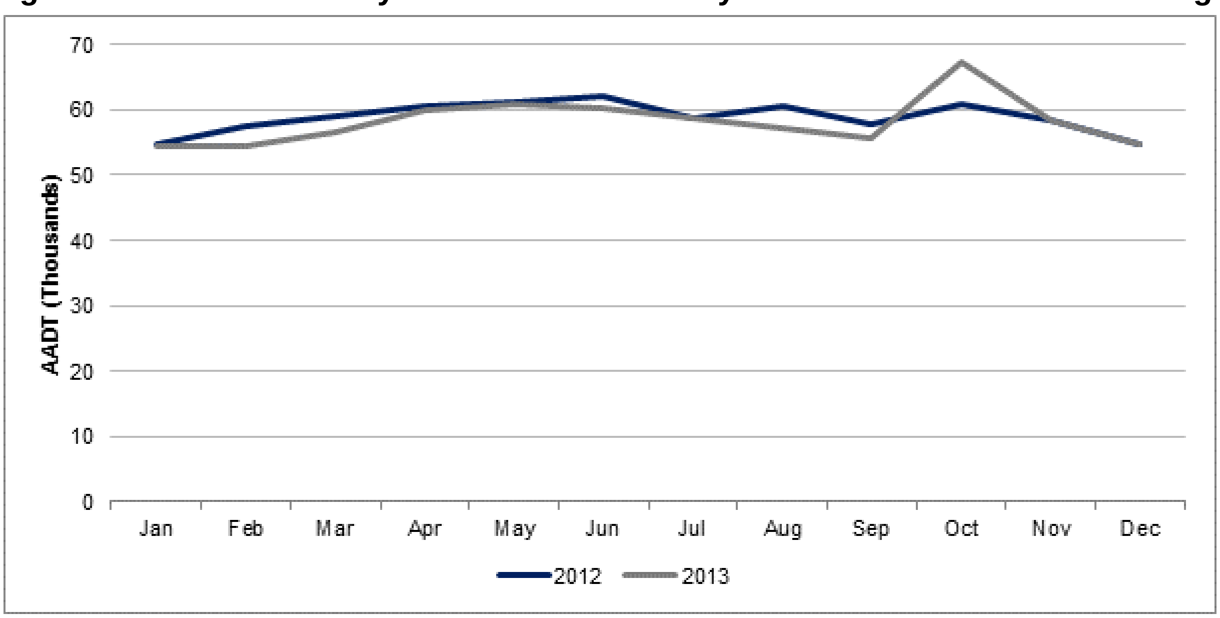
Figure 11: Historical 2-Way Traffic Volumes on the Scudder Falls Bridge



Note: From 2006 to 2009 the Trenton-Morrisville Toll Bridge was under construction.
Source: DRJTBC

Figure 12 compares monthly two-way average annual daily traffic (AADT) for 2012 and 2013 on the Scudder Falls Bridge, from data received by the DRJTBC. As in all investment-grade Traffic and Revenue studies, Jacobs conducted project-specific traffic counts (as provided in the next section) in order to supplement these existing data sources.

Figure 12: Historical Monthly Distribution of Two-way Traffic on the Scudder Falls Bridge



Source: DRJTBC

4.3 Recent Traffic Counts

Traffic counts were conducted on the Scudder Falls Bridge by Jacobs' subconsultant Arora and Associates, PC, between March 31st and April 7th 2014. The automatic traffic recorders (ATRs) were placed on the Pennsylvania side of the bridge separately for northbound and southbound traffic. Figure 13 and Figure 14 show the daily counts by hour for southbound and northbound traffic.

Figure 13: Southbound Hourly Traffic on Scudder Falls Bridge, 3/31/14-4/7/14

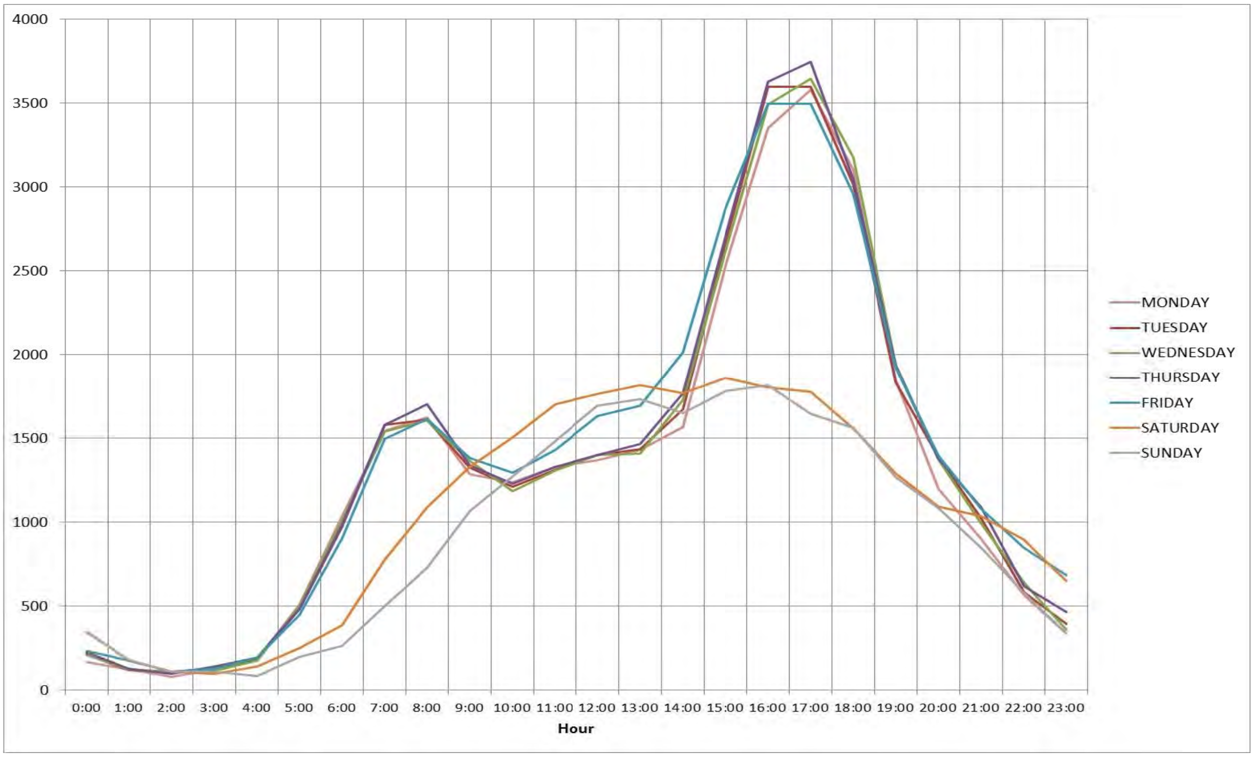
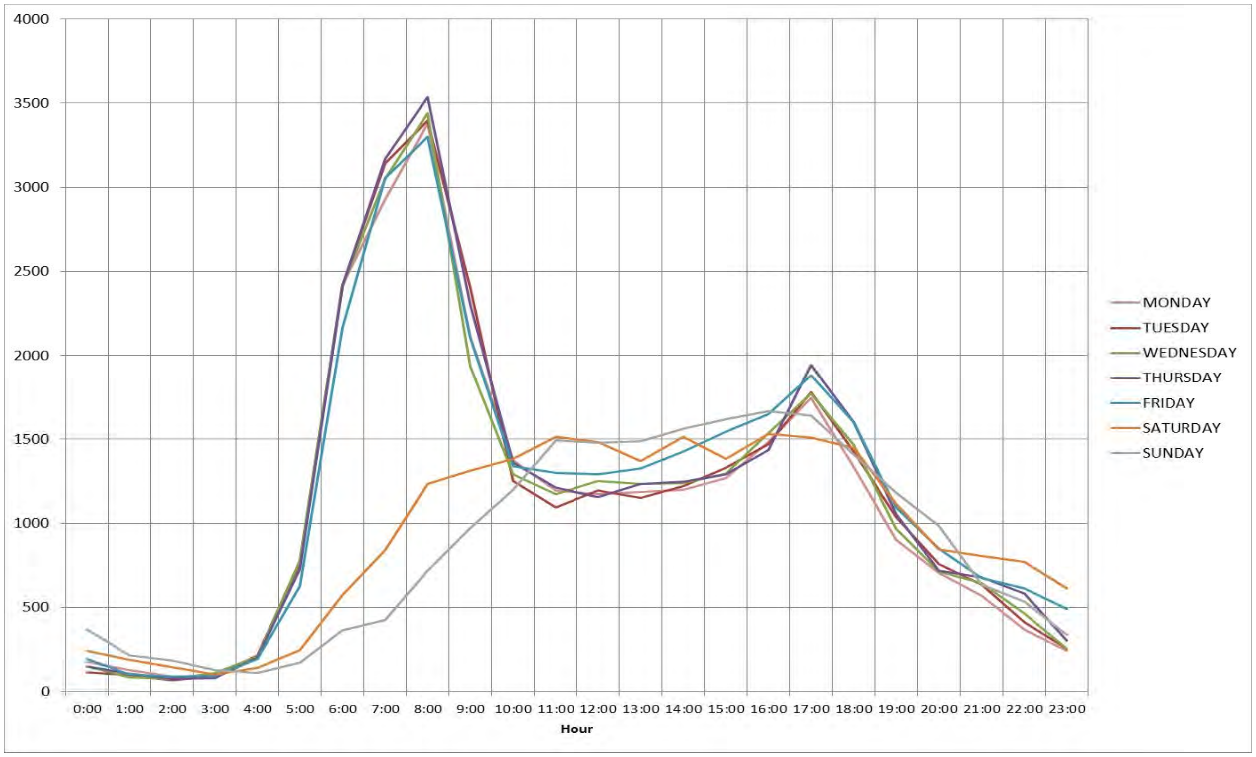


Figure 14: Northbound Hourly Traffic on Scudder Falls Bridge, 3/31/14-4/7/14



Data from the Commission's facilities reveals that April is an average month in terms of daily traffic volumes. Therefore, 2014 Average Annual Daily Traffic (AADT) and Average Annual Weekday Traffic (AAWDT) were estimated to be the same as the counted traffic shown in Table 2.

Table 2: 2014 Estimated AADT and AAWDT, based on March 31-April 7 2014 Count Data

	Southbound	Northbound*
Annual Average Daily Traffic (AADT)	29,799	26,159
Annual Average Weekday Traffic (AAWDT)	32,207	27,980

** Eight hours of traffic counts during the one-week period had missing or faulty counts in the northbound direction; Jacobs estimated counts for these few hours.*

The count data also separated vehicles by class. It was calculated from the data that 8.0 percent of average daily traffic is trucks – 6.4 percent light trucks, with fewer than five axles, and 1.6 percent heavy trucks, with five or more axles. The light trucks on the Bridge have an average of 3.1 axles per vehicle, while heavy trucks have an average of 5.2 axles. The overall average number of axles per truck is 3.5.

4.4 License Plate Surveys

In order to determine the amount of traffic currently using the Bridge that is from New Jersey and Pennsylvania, and to help us determine potential video toll invoicing for an All Electronic Toll Facility (AET), a license plate survey was conducted on the Scudder Falls Bridge by Jacobs' subconsultant Arora and Associates, PC, on Tuesday, April 1st for two hours each during the AM peak, midday and PM peak periods. This survey was done in the westbound / southbound direction only (the direction of potential future tolling). Results are shown in Table 3. As expected, the majority of vehicles (some 90 percent) are registered in PA or NJ, with more from PA overall (as Pennsylvania to New Jersey is the major home to work commute direction). Note that eight percent of peak period and 12 percent of off-peak vehicles are from neither PA nor NJ.

Table 3: Southbound Scudder Falls Bridge License Plate Count Results

	Traffic Volume by State License Plate								
PERIOD	PA	NJ	NY	CT	DE	MD	OTHER NE*	OTHERS**	PERIOD TOTAL
7:30AM TO 9:30AM	671	2221	22	11	10	49	74	82	**3140**
	21%	71%	1%	0%	0%	2%	2%	3%	
12:00PM TO 2:00PM	1383	1062	45	12	15	29	60	185	**2791**
	50%	38%	2%	0%	1%	1%	2%	7%	
3:00PM TO 5:00PM	4920	1033	71	12	34	35	145	256	**6506**
	76%	16%	1%	0%	1%	1%	2%	4%	

**- New England States of MA, RI, VT, NH, ME*

***- All other States except PA, NJ, NY, CT, DE, MD, RI, NH, VT, MA, ME*

4.5 Counts of Vehicles Equipped with E-ZPass

A temporary E-ZPass reader was installed by the Commission at the Bridge for one week, from April 1st through April 7th 2014. This was done to determine how many vehicles currently crossing the Bridge in the southbound direction already are equipped with E-ZPass. Table 4 summarizes the counts of E-ZPass vehicles by tag agency. Along with this data collection effort, traffic counts were made during the same timeframe (see previous sections for details); these two data collection efforts helped us to determine the percentage of existing vehicles equipped with E-ZPass.

It was found that 49 percent of weekday vehicles and 46 percent of weekend vehicles crossing on the survey days had a readable E-ZPass transponder. Some 78 percent of those with E-ZPass had obtained it from the NJ Turnpike or the Pennsylvania Turnpike Commission. Only 5 percent had a DRJTBC-issued E-ZPass transponder. It is assumed that there were some E-ZPass transponders that were not displayed and/or not read.

Table 4: Southbound Scudder Falls Bridge E-ZPass Counts, April 2014 (Raw Data)

	Southbound Transponder Reads			Avg Day
Agency	**Avg Weekday**	**Avg Weekend Day**	**Avg Day**	**Share by Agency**
NYSTA/NYSBA	509	336	460	3.2%
PANYNJ	990	795	934	6.5%
PTC	5,581	3,090	4,869	33.7%
MTAB&T	501	458	489	3.4%
DRPA	9	4	8	0.1%
VDOT	58	83	65	0.4%
Peace Br	4	2	4	0.0%
Illinois	57	37	51	0.4%
MdTA	121	160	132	0.9%
DelDOT	143	145	143	1.0%
MassPike	92	64	84	0.6%
NJTPKE	6,854	5,270	6,401	44.3%
WV	6	3	5	0.0%
DRBA	17	13	16	0.1%
NHDOT	12	10	11	0.1%
Maine	10	7	9	0.1%
DRJTBC	875	468	759	5.2%
Indiana	5	5	5	0.0%
Ohio	10	7	9	0.1%
RITBA	5	3	4	0.0%
NC	1	1	1	0.0%
Total E-ZPass Reads	**15,860**	**10,959**	**14,460**	**100.0%**
Total SB Traffic	**32,207**	**23,779**	**29,799**	
% E-Zpass	**49.2%**	**46.1%**	**48.5%**	

4.6 Travel Time Surveys

Travel time surveys were conducted in April 2014 in order to indicate time differences between trips taking the Scudder Falls Bridge and alternate routes. These results factor into our estimates of who would remain on the Scudder Falls Bridge versus using another bridge in the area. The southbound origin-destination (O-D) study that was part of the surveys conducted by Jacobs during the Level 2 Scudder Falls Bridge T&R Study in 2009 indicated two major clusters of origin points in New Jersey for Bridge customers. These were used as the starting locations for the travel time surveys:

- Ewing, NJ at Scotch Road and Parkway Avenue
- The I-95/Rte 1 interchange in Lawrence, NJ (which will include the majority of trips from the north and east)

Three major clusters of destination points were identified on the Pennsylvania side, and were used as the ending points for the travel time surveys:

- Newtown, PA at Lincoln Ave. and Washington Ave.
- Yardley, PA at Afton Ave. and Schuyler Dr.
- The I-95/Rte 1 interchange in Langhorne, PA (which will include the majority of the trips from the south and west)

The travel time surveys were conducted the first week of April 2014, from Tuesday through Thursday, by Jacobs' subconsultant Arora and Associates, PC, between each combination of O-D pairs during peak and off-peak periods. Different routes were traveled between each O-D pair, using the Scudder Falls Bridge and using alternative bridges where they made sense as alternate routes (as an example, for a trip between Lawrence and Langhorne, the Washington Crossing Toll Supported Bridge is *not* a reasonable alternative because it is located well outside the area of travel and would add significant journey time, but the Route 1/Trenton-Morrisville Toll Bridge and the Lower Trenton Toll-Supported Bridge are reasonable alternatives). As shown in Table 5, the Scudder Falls Bridge is always the fastest route between these points, except between the two I-95/ Route 1 interchanges, where the travel time using the Trenton-Morrisville Toll Bridge is very similar to and sometimes shorter than the travel time using the Scudder Falls Bridge. PM Peak travel times on these New Jersey to Pennsylvania routes are typically longer than the AM and midday times, and the routes via the three smaller toll-supported bridges (Lower Trenton, Calhoun St, and Washington Crossing) typically experience a greater increase in PM peak travel time than the two larger bridges.

Table 5: Travel Times between O-D Pairs, Using Scudder Falls Bridge and Alternative Crossings, April 2014
(in minutes)

AM Peak Period						
From	To	Scudder Falls Br.	Trenton-Morrisville Toll Br.	Lower Trenton Toll Supported Br.	Calhoun St. Toll Supp. Br.	Washington Crossing Toll Supp. Br.
Ewing, NJ	Yardley, PA	12.4			18.3	
Ewing, NJ	I-95/Rte 1 Int., PA	11.5	18.0	17.8		
Ewing, NJ	Newtown, PA	13.0				23.0
I-95/Rte 1 Int., NJ	Yardley, PA	14.1		18.5		
I-95/Rte 1 Int., NJ	I-95/Rte 1 Int., PA	13.6	13.4	18.0		
I-95/Rte 1 Int., NJ	Newtown, PA	16.9	23.0	25.5		
Midday / Off-Peak Period						
From	To	Scudder Falls Br.	Trenton-Morrisville Toll Br.	Lower Trenton Toll Supported Br.	Calhoun St. Toll Supp. Br.	Washington Crossing Toll Supp. Br.
Ewing, NJ	Yardley, PA	10.8			18.4	
Ewing, NJ	I-95/Rte 1 Int., PA	13.0	17.5	18.3		
Ewing, NJ	Newtown, PA	14.0				21.5
I-95/Rte 1 Int., NJ	Yardley, PA	14.4		18.0		
I-95/Rte 1 Int., NJ	I-95/Rte 1 Int., PA	13.7	14.3	17.0		
I-95/Rte 1 Int., NJ	Newtown, PA	16.8	21.0	25.0		
PM Peak Period						
From	To	Scudder Falls Br.	Trenton-Morrisville Toll Br.	Lower Trenton Toll Supported Br.	Calhoun St. Toll Supp. Br.	Washington Crossing Toll Supp. Br.
Ewing, NJ	Yardley, PA	10.4			20.2	
Ewing, NJ	I-95/Rte 1 Int., PA	11.5	18.5	21.5		
Ewing, NJ	Newtown, PA	14.5				22.0
I-95/Rte 1 Int., NJ	Yardley, PA	14.2		24.0		
I-95/Rte 1 Int., NJ	I-95/Rte 1 Int., PA	13.7	13.9	17.9		
I-95/Rte 1 Int., NJ	Newtown, PA	17.5	23.5	32.0		

4.7 Online Customer Characteristic Surveys

The purpose of the online surveys was to obtain information on Scudder Falls Bridge current customer travel characteristics such as frequency of travel, state of residence, trip origin/destination, familiarity with electronic tolling, and stated preference (i.e., what a driver states they would do if the Scudder Falls Bridge were to be tolled). For the Level 2 Scudder Falls Bridge T&R Study in 2008/2009, Jacobs had conducted a survey advertised through roadside variable message signs (VMS). Our 2014 surveys contain almost all of the same questions as in the previous study, plus several new questions. Results of the surveys were used in development of Jacobs' traffic and revenue forecasting model. Note that only some of the results have been included herein; the full set of questions and analyses of responses are available in the Jacobs memo entitled "Scudder Falls Bridge Data Collection and Survey Results" included in the Appendix.

Two different methods were used to direct patrons to take the survey:

1. through e-Rewards, a service whereby e-Rewards members are e-mailed a survey link and earn e-Rewards points for completion of surveys, and
2. through variable message signs (VMS) displayed for several weeks near the Scudder Falls Bridge directing drivers to an internet link, "www.SURVEY-U.com".

4.7.1 e-Rewards Survey

The purpose of conducting an e-Rewards survey in addition to the roadside VMS survey was:

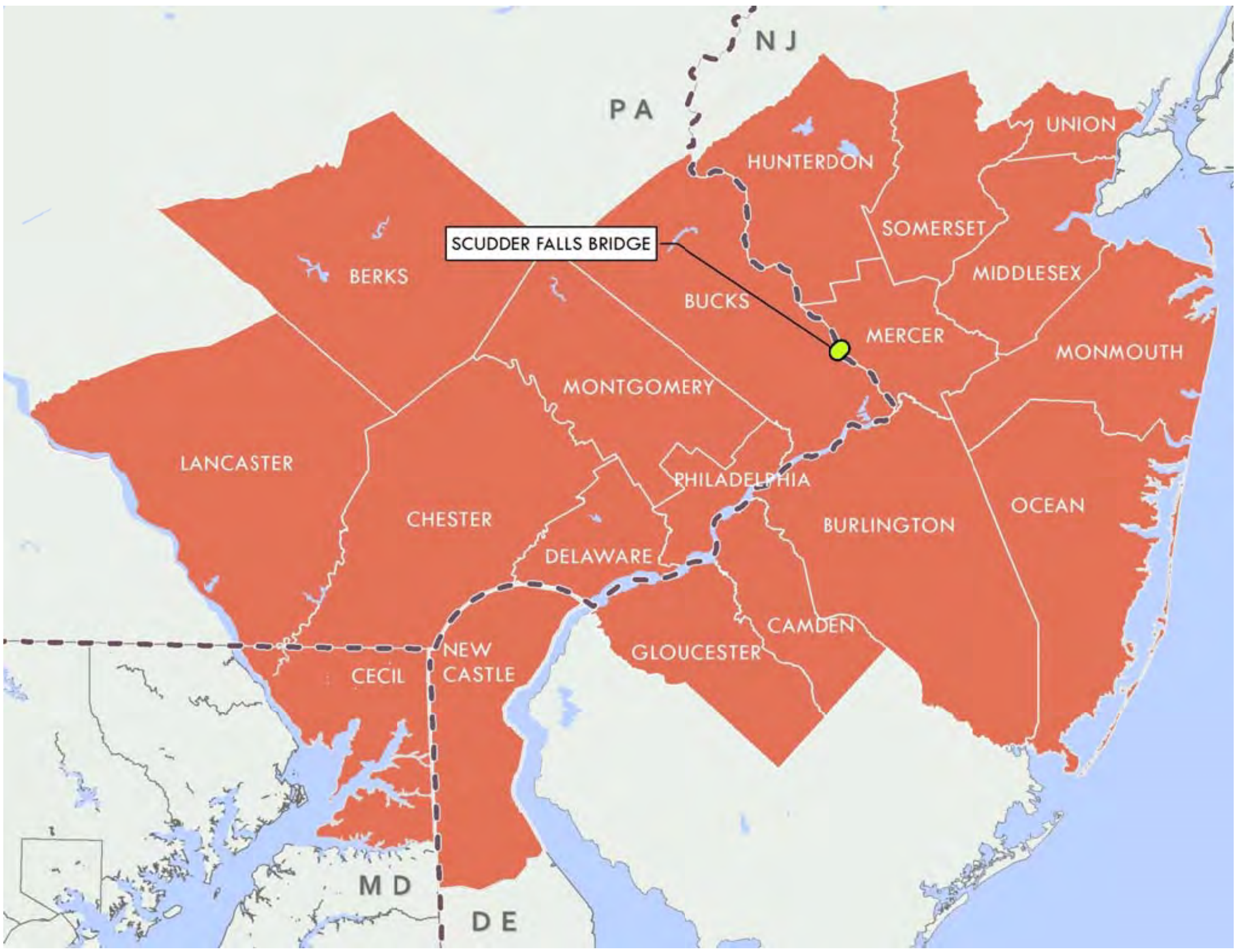
- to obtain responses from additional customers, and
- to include infrequent customers who may not have seen - or did not respond to - the VMS sign.

The e-Rewards survey, since it is sent to essentially a random sampling of people throughout the area, provides a far better indication of frequency of travel across the Bridge than the VMS survey, mainly because a person who sees the VMS sign advertising the survey over and over again (i.e., a frequent traveler) is much more likely to complete the survey than someone who sees it only once or not at all.

Research Now (parent company of e-Rewards) conducted the survey through their e-Rewards program. e-Rewards participants who did not meet the survey requirements – such as people without a driver's license, and people who state that they have not crossed the Scudder Falls Bridge at all in the past year – were screened out of the survey and were not included in Jacobs' quota of 1,000 completed surveys.

e-Rewards e-mailed the survey link to all e-Rewards participants within an area specified by Jacobs. This area, chosen by Jacobs to cover the parts of the DVRPC model region that were proximate to the Scudder Falls Bridge and I-95 – and therefore likely to contain both frequent and infrequent Bridge customers – consisted of 19 counties, as shown in Figure 15. The e-mails were sent and the survey commenced on March 25th 2014; the 1,000 quota was reached and the survey concluded on March 28th.

Figure 15: Counties Included in e-Rewards Survey Area



4.7.2 VMS-Advertised SurveyMonkey Survey

The roadside VMS-advertised survey was administered through the internet survey site SurveyMonkey. Jacobs owns the web address "www.SURVEY-U.com," which was linked to the Scudder Falls survey. "WWW.SURVEY-U.COM" was publicized to patrons of the Scudder Falls Bridge via four strategically located roadside variable message signs.

The two phases for the VMS were as follows:

Phase 1 -
"TAKE
TRAVEL
SURVEY"

Phase 2 -
"WWW.
SURVEY-U
.COM"

The Commission placed the VMS signs and displayed the messages on the two Pennsylvania signs for about three and a half weeks, from March 5th through March 28th 2014. The two signs in New Jersey were displayed from March 5th through March 14th 2014. The survey was kept open to collect responses until March 31st. Locations for these variable message signs are shown in Figure 16.

Figure 16: Location of Variable Message Signs at Scudder Falls Bridge

Notes:
VMS 1 & 3 faced Northbound (NB) traffic. VMS 2 & 4 faced Southbound (SB) traffic.
VMS 3 & 4 were removed on March 14, the 10th day of the survey.

4.7.3 Online Customer Characteristic Survey Results

We received 1,001 fully completed surveys from e-Rewards and 477 completed plus 32 partially-completed surveys from SurveyMonkey, the VMS-advertised survey. (This is in comparison to the 445 full and 27 partial surveys completed via the VMS surveys in the 2008-2009 Level 2 Traffic & Revenue study.)

The results for several of the questions that were expanded to represent total trips are presented in the following section, while the full set of survey questions and raw results can be found in Jacobs' memorandum entitled "Scudder Falls Bridge Data Collection and Survey Results" included in the Appendix.

4.7.3.1 Trip Frequency

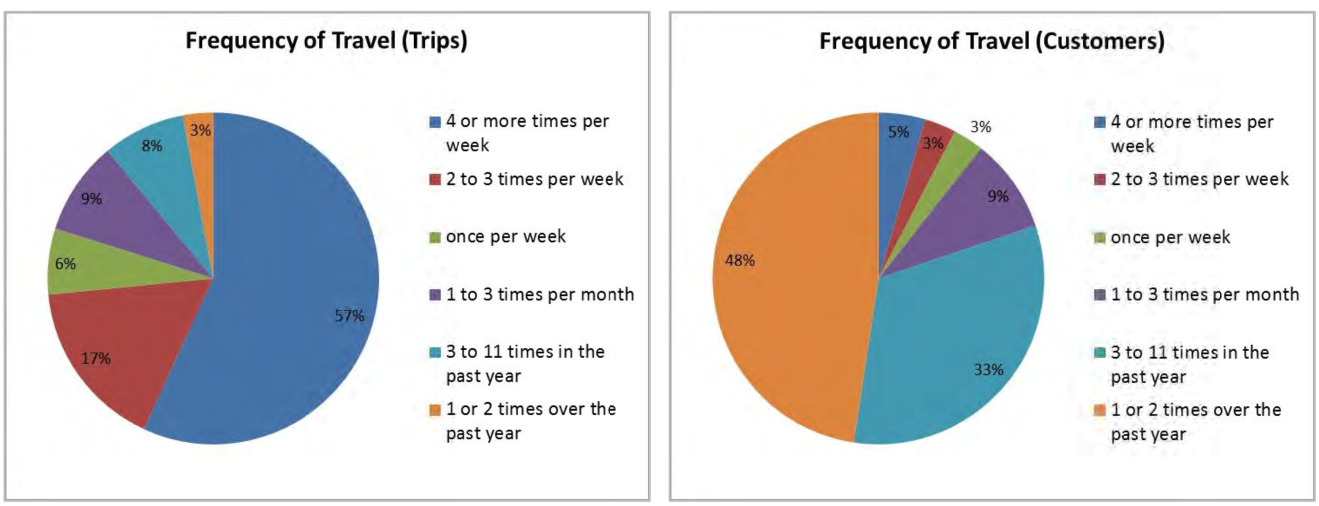
Some of the customer responses, in order to be effectively used in our traffic and revenue modeling, needed to be expanded to represent total trips across the Bridge. This expansion was achieved using the customer trip frequency profile, developed from responses to the question “How often do you travel southbound across the Scudder Falls Bridge?”

Jacobs developed the frequency profile by taking the following steps:

- Each SurveyMonkey response to the frequency question was assumed to represent one trip, as the survey captured travelers across the bridge for nearly one month.
- The e-Rewards survey, since it was not advertised to people crossing the bridge, represented customers from all around the area. Factors were applied to turn each customer (survey response) into trips. This is detailed in the paragraph following Figure 17.
- Because the SurveyMonkey responses were biased towards frequent users who saw the survey advertisements multiple times, and the e-Rewards respondents tended to be more infrequent users, the frequency profiles between the two surveys differed somewhat. We felt that by combining the e-Rewards and SurveyMonkey frequency data with equal weight, we would remove most of this bias.

Figure 17 represents the overall adjusted frequencies of trips and customers. As seen from these results, 5 percent of customers who travel four or more times a week across the Scudder Falls Bridge make 57 percent of the trips across the Bridge. The 48 percent of customers who cross the bridge once or twice per year make only 3 percent of the trips.

Figure 17: Scudder Falls Bridge Frequency Profile (Expanded Data)

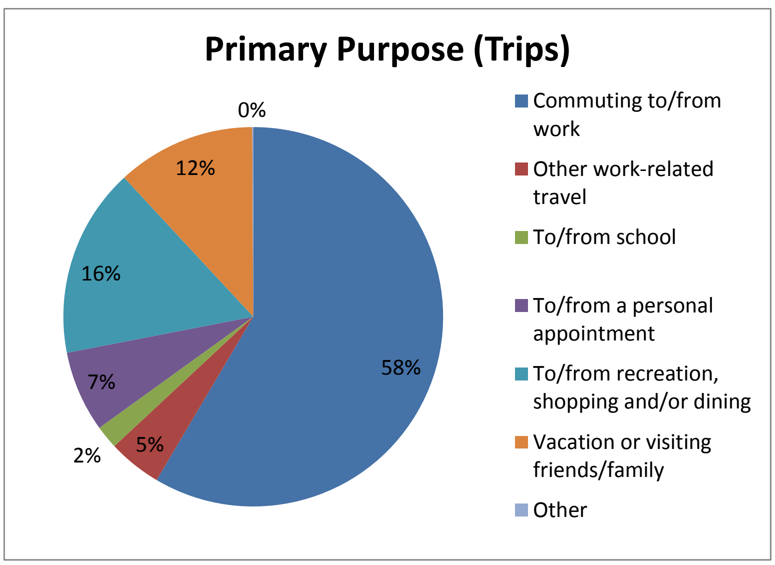


The remaining expanded data charts shown in this section apply the trip frequency of each customer in order to turn customers into trips. For example, if a customer takes one trip per week across the bridge, this represents 52 trips per year. A customer who takes 4 or more trips per week makes about 300 trips per year. A customer who states he traveled over the bridge one or two times over the past year was assumed to make, on average, 1.5 trips per year. Therefore the survey results were expanded using the appropriate factors to represent trips. It is important to expand customer results to trips because a trip represents a potential *toll transaction*, and we would like to know if this *toll transaction* will be made by someone who has E-ZPass (rather than know the general population that has E-ZPass), or if a potential video toll transaction will be made by someone who travels frequently (and therefore receives one toll invoice with multiple transactions) or very infrequently (and receives one toll invoice with only one transaction on it). This is significant data that we incorporated into our forecasting models and estimates of video toll collection costs.

4.7.3.2 Trip Purpose

Figure 18 shows survey customer data expanded to represent southbound total trips across the Bridge in terms of trip purpose. The expanded data shows that almost two-thirds of the trips (58 percent plus 5 percent) on the Bridge are for commuting or work-related travel. Only 2 percent of the trips are made for school, and the remaining one-third of trips on the Bridge are for more discretionary travel, such as personal trips, shopping, or vacation.

Figure 18: Scudder Falls Bridge Trip Purpose (Expanded Data)

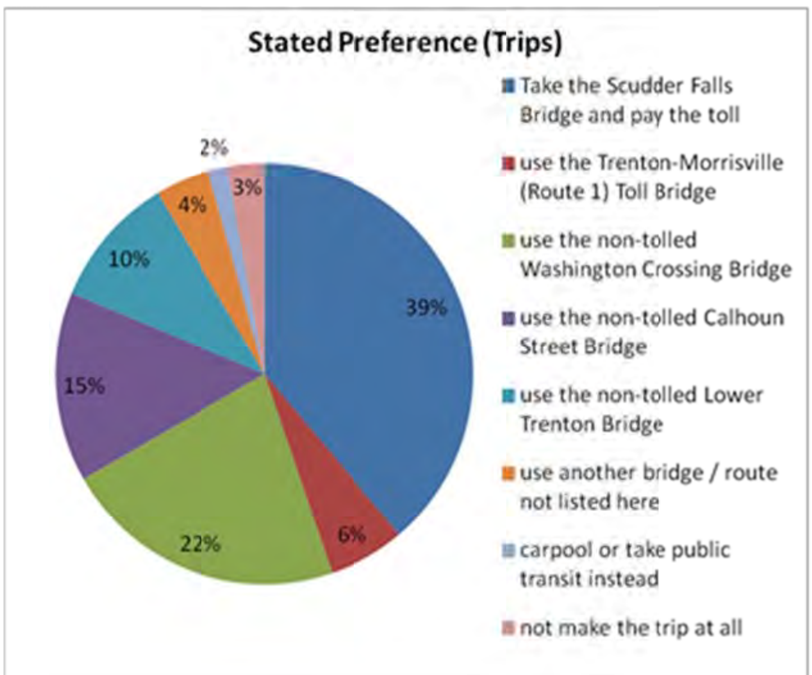


4.7.3.3 Stated Preference Survey Question

Customers were asked what they would do if they were to make the same trip but with a southbound toll on the Scudder Falls Bridge that is similar to the toll on the Trenton-Morrisville (Route 1) Bridge. From a customer standpoint, a majority of the e-Rewards customers (56 percent) stated that they would stay on the Scudder Falls Bridge and pay the toll, while only 36 percent of SurveyMonkey respondents said they would; most of them stated that they would move to a non-tolled bridge. However, on a total trip (expanded data) basis, 39 percent of the trips would stay on the Bridge after implementation of tolling, with six percent switching to the Trenton-Morrisville Toll Bridge, some 50 percent switching to non-tolled bridges, and five percent changing travel patterns.

It should be noted that stated preference surveys and their results rely on hypothetical questions to elicit preferences or values. Hypothetical bias arises in stated preference valuation studies when respondents report a willingness to do something in laboratory or field experiments that in fact they would not normally do in the real world, and hypothetical biases typically exceed the actual values. In this situation, many respondents were likely to state that they would take a free bridge as a protest against tolling on the Scudder Falls Bridge, or in the belief that the collective answers would be used to decide whether or not to toll the bridge. Therefore, the results of this particular question – and stated preference data in general - should be looked at with a note of caution. The answers to this question were used to inform Jacobs' analyses and have not been used directly.

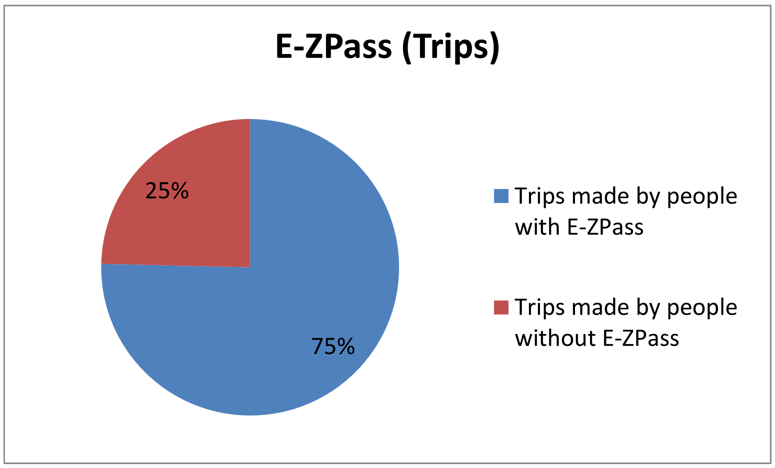
Figure 19: Stated Preference if the Scudder Falls Bridge were Tolled (Expanded Data)



4.7.3.4 E-ZPass Familiarity and Ownership

Figure 20 shows customer data expanded to percent E-ZPass trips. Customers for this online survey were asked if they are familiar with E-ZPass and if they have E-ZPass. As may be seen in the Figure, according to the data, three-quarters of the trips would be made by E-ZPass customers. However, it must be noted that as these surveys were administered and completed online, therefore the results are somewhat skewed to the more tech-savvy person, who would in fact be more likely to have and use E-ZPass than would a non-tech-savvy person. As such, one should keep in mind while looking at these data that the answers noted herein would be on the high side of the range of E-ZPass usage.

Figure 20: Scudder Falls Bridge E-ZPass Familiarity and Usage (Expanded Data)



5.0 ECONOMIC BACKDROP AND OUTLOOK FOR THE FUTURE

Historically, DRJTBC traffic trends have been influenced by socioeconomic conditions and there have been and continue to be correlations between passenger car growth and Gross Domestic Product (GDP) and population, and between commercial vehicle growth and Industrial Production Indices (IPI). As such, we started our socio-economic research and analyses to focus in on those parameters. Additionally, we researched and analyzed the key economic variables that affect traffic in general, and present our work in this chapter.

Jacobs uses a consensus forecast based on a variety of sources as an input into our traffic growth forecasts. The consensus outlook of economists predicts continued slow economic growth, with real GDP estimated to increase by 1.7 percent for 2013 and 2.5 percent for 2014. Our estimate also assumed no significant changes in gasoline pricing, as there has been less price volatility in the past several years than there was in 2003 through 2010. Our forecasts recognize and take into account the recent variations in gas pricing and the probability of high prices to the extent possible. However, we believe that a moderate increase in the price of gas will not result in major declines in traffic, as consumers are already modifying their vehicle choice to mitigate these increases.

Any estimate 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 the population changes within the DRJTBC toll facilities corridors. With this in mind, Jacobs performed a detailed analysis of the historical economic trends seen over the last few decades, particularly as they relate to the recessionary economic influences that occurred and how the DRJTBC's customers reacted to those trends.

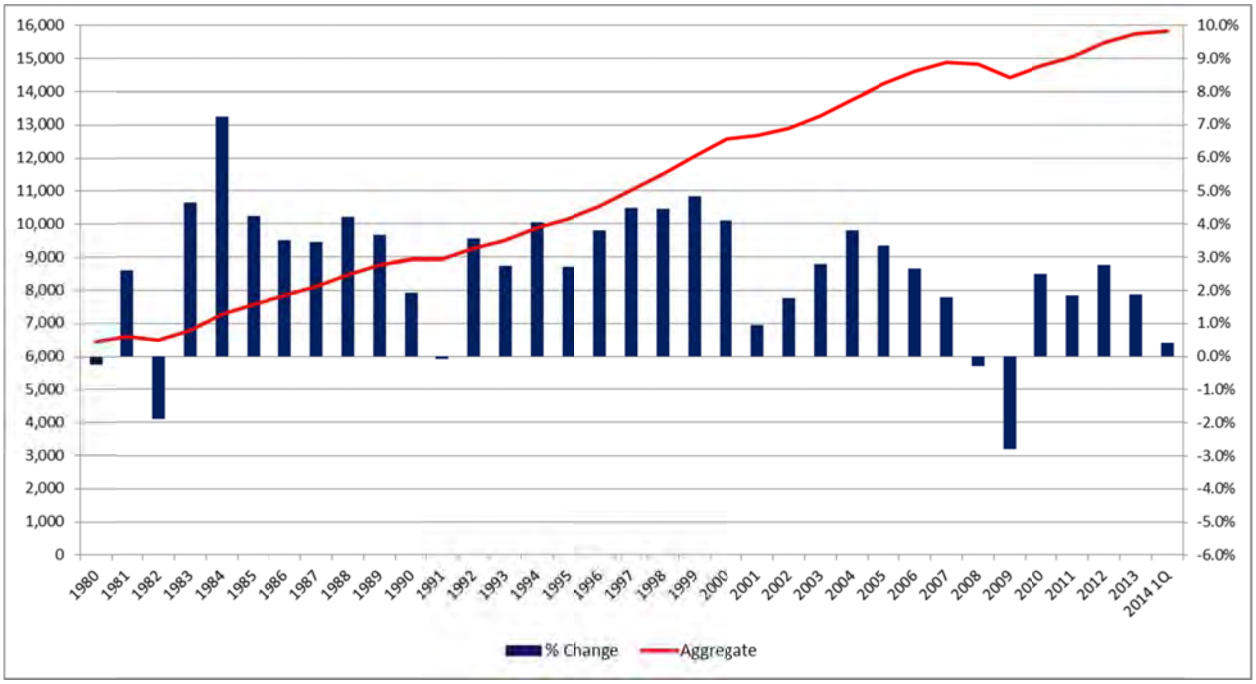
This chapter presents a summary of socioeconomic trends as well as a recessionary analysis of nationwide and DRJTBC vehicle miles traveled.

5.1 Recent Macroeconomic Trends

From 2000 to 2013, real Gross Domestic Product (GDP) and the Industrial Production Index (IPI) in the U.S. increased by an average of 1.8 percent and 0.7 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 has been more severe compared to previous recessions, resulting in zero growth in real GDP and a 3.5 percent decrease in industrial production in 2008. Real GDP decreased by an additional 2.8 percent in 2009, but recovered in 2010 with a 2.5 percent annual increase. Due to a lag in economic activity, industrial production decreased by 11.3 percent in 2009, but rebounded solidly in 2010 with 5.7 percent annual growth.

Real GDP increased by 2.8 percent and 1.9 percent in 2012 and 2013, respectively. During the first quarter of 2014, real GDP increased by 0.4 percent. Similarly, IPI increased by 3.3 percent in 2011, 3.8 percent in 2012 and 2.9 percent in 2013. Figure 21 summarizes the annual percentage change in real GDP from 1980 through the first quarter of 2014, while details on IPI are presented in Section 5.2.3 on page 43.

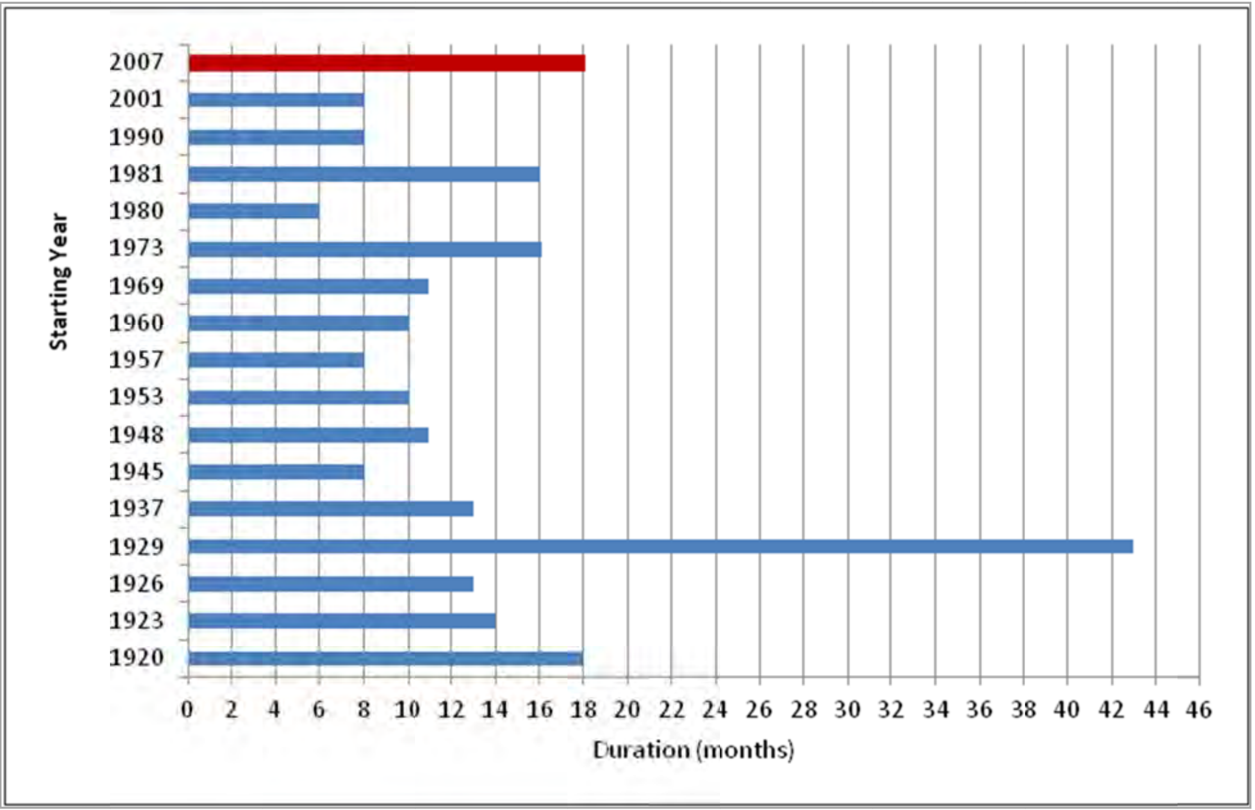
Figure 21: Real Gross Domestic Product



Source: U.S. Department of Commerce, 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 as shown in Figure 22. Economic downturns that have occurred after the Great Depression have typically been triggered by a contraction in monetary supply (typified by higher interest rates) or an external shock (e.g. sudden rise in oil prices, political turmoil, etc.) resulting in decreased consumer confidence, economic growth, and employment. Once expansionary conditions are in place, then post-recessionary periods have typically been characterized by rapid, strong, and sustained increases in GDP and employment.

Figure 22: Duration of U.S. Recessions, 1920-2014

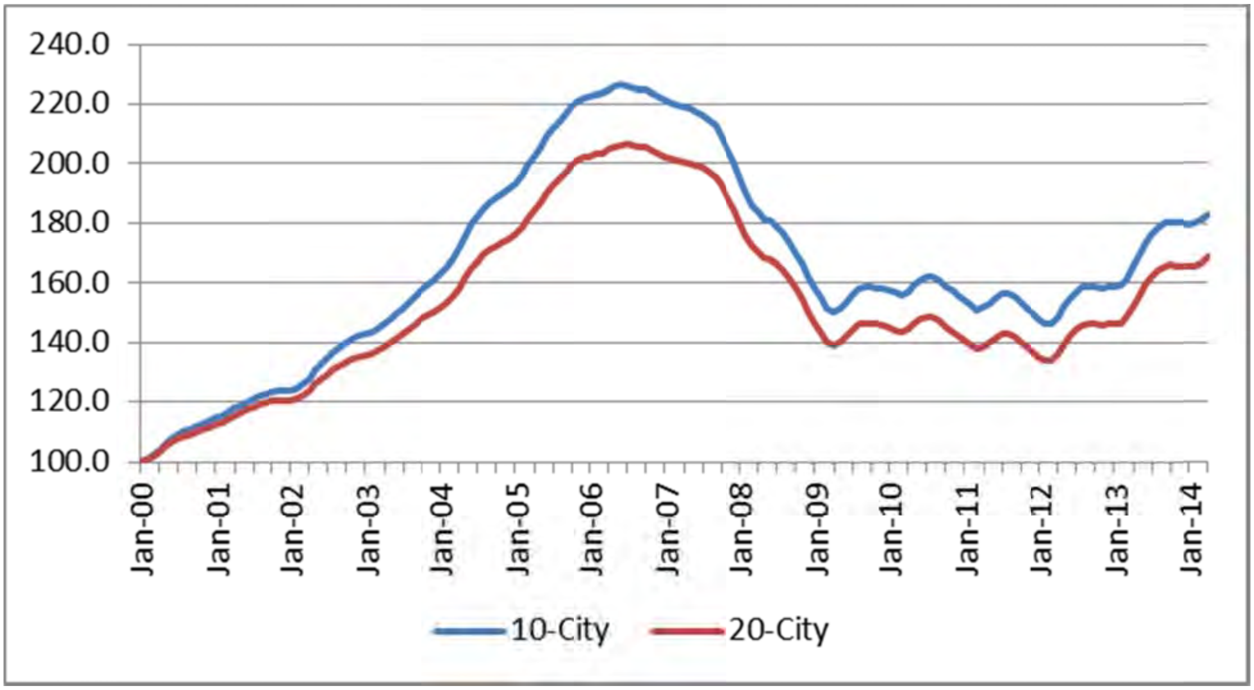


Source: National Bureau of Economic Research (NBER)

In contrast, the most recent recession was caused by the near collapse of the financial sector, the lack of available credit, a rapid decline in the price of real estate assets and high consumer debt levels along with a subsequent deleveraging (Figure 24). The deleveraging by consumers and businesses has had a more severe, long-term impact on the economy as compared to previous economic downturns. Indications of credit tightening and deleveraging during the 2007-09 Recession include the following:

- From April 2006 to May 2009, the 10-City Home Price Index declined by a remarkable 31.9 percent while the 20-City Home Price Index performed even worse, declining by 33.0 percent over the same period.
- Outstanding consumer credit declined by 6 percent from \$2.6 trillion to \$2.4 trillion from 2009-11; and
- Securitized asset pools decreased from \$682 billion to \$127 billion from 2008-11.

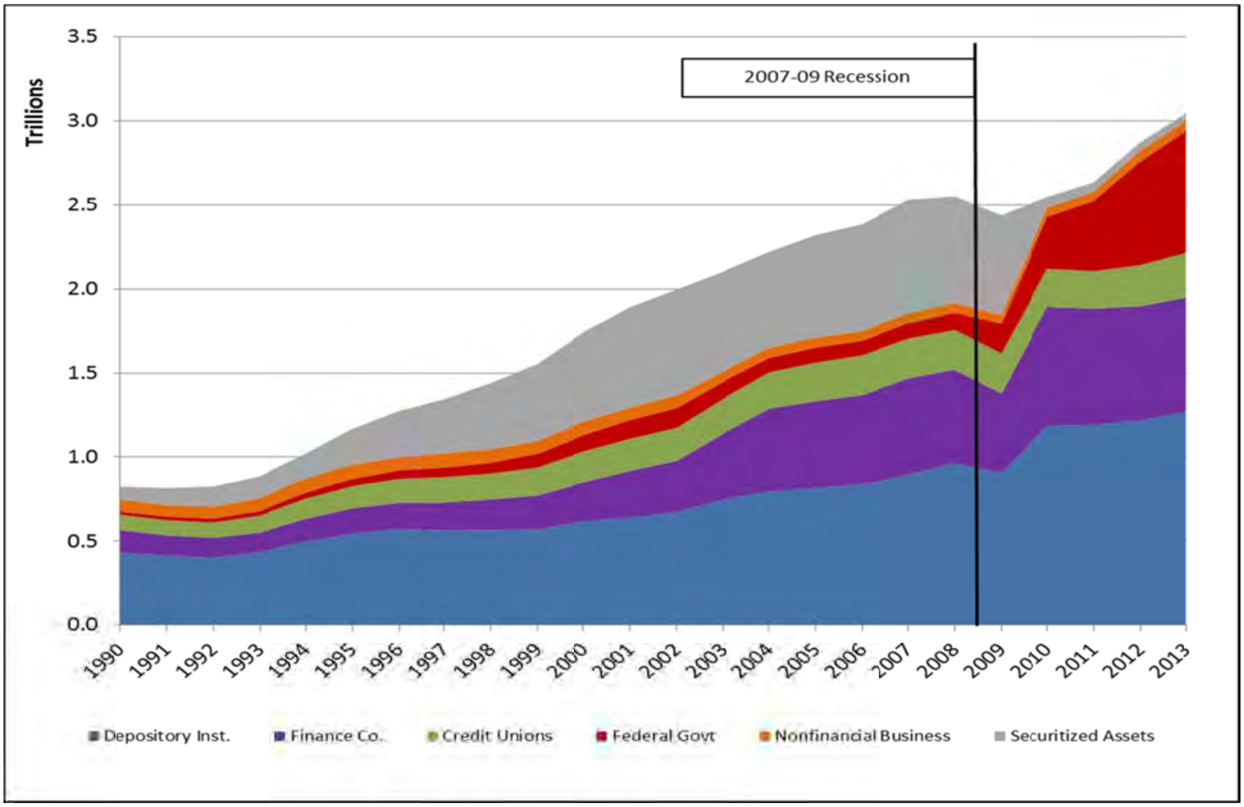
Figure 23: S&P/Case-Shiller 10-City Index and 20-City Index, 1999 to 2014



Source: S&P/Case-Shiller Index

These conditions are indicative of a contracted market for credit and are more similar to the underlying causes of the Great Depression, albeit not as severe. Moreover, the root causes of financial market contractions result in weaker and more fragile recoveries until the financial sector has stabilized, asset prices recover, and deleveraging by consumers and businesses has concluded. Consequently, economic growth since the start of the economic recovery has been relatively sluggish with historically high unemployment rates. Economic estimates anticipate that robust economic growth in the U.S. will return once debt levels become sustainable and consumer confidence resumes.

Figure 24: Outstanding Consumer Credit, 1990 to 2013



Source: U.S. Federal Reserve Bank

Despite the sluggish economic growth of recent years, there are positive signs that growth will resume in the foreseeable future. The yield curve remains positive with short term interest rates (0-12 months) on U.S. Treasuries trading at or near zero and the interest rates on 10-year U.S. Treasuries trading at 2.65 percent as of early July 2014. The market for crude oil remains strong with the price for North Sea Brent Crude Oil trading near $109 per barrel in June of 2014. Barring unforeseen events in the international political environment, the Energy Information Administration (EIA)'s Annual Energy Outlook for 2014 anticipates that average crude oil prices will drop to $102 per barrel by 2015.

Moreover, the housing market has started to recover. After steadily declining from 2006 to 2011, housing prices have stabilized or started to increase in several markets. By the summer of 2013, the Case-Shiller 10-City Index and 20-City Index both increased by 12 percent over the previous year, and has been increasing at a similar rate through the spring of 2014. The consensus forecast is that there will be 1,050,000 housing starts in 2014, which would represent an improvement from the 920,000 units started in 2013. Analysts believe this segment of the housing market will continue to improve – the consensus forecast is that new housing starts will equal 1,270,000 in 2015.

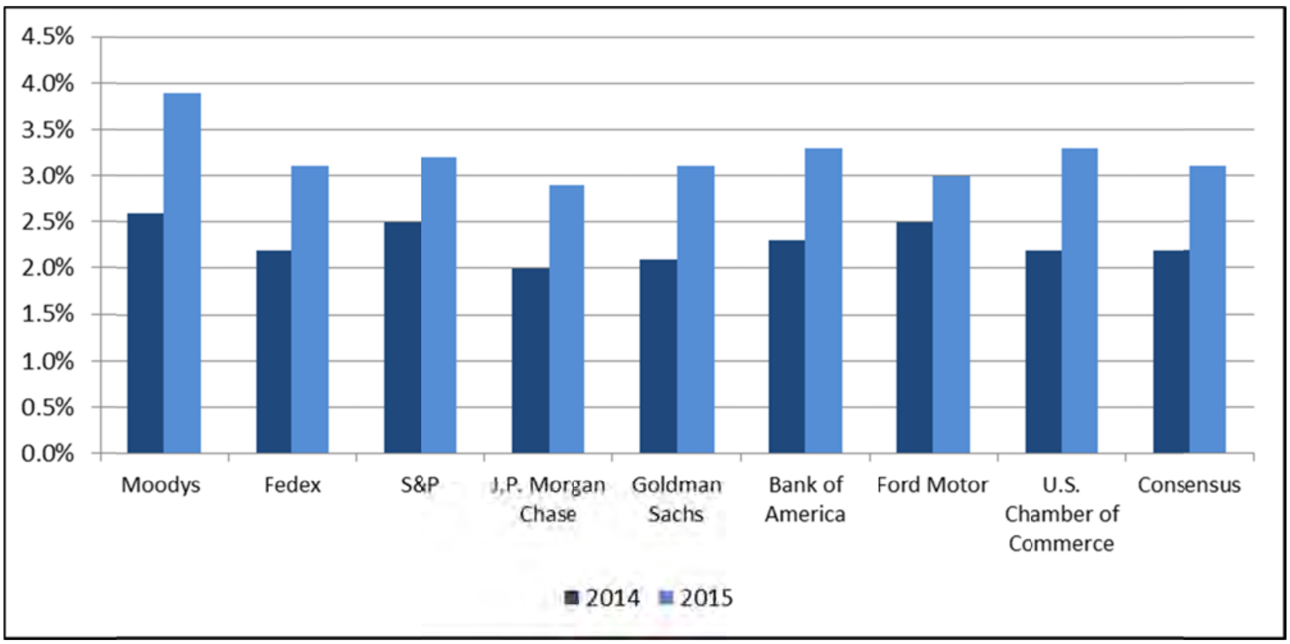
5.2 Short-Term Economic Forecast

During 2013, there was modest enthusiasm with respect to future economic growth and employment in the United States. As the year progressed, this enthusiasm was tempered, and there were slightly lower growth rates in real GDP and in the IPI than originally forecasted. Consensus forecasts of GDP for 2014 have also been reduced in recent months. Industrial production, which has experienced little growth in the past couple of years, is expected to be slightly lower in 2015 than in 2014.

5.2.1 Gross Domestic Product

Figure 25 summarizes the real GDP forecast provided by selected financial institutions, manufacturers, and shippers over the short-term. The consensus forecast is that real GDP will increase by 2.2 percent and 3.1 percent for 2014 and 2015, respectively.

Figure 25: Forecasted Percentage Change in Real GDP, 2014 and 2015



Source: Blue Chip Economic Indicators (BCIE)

It is anticipated that that a mild recovery will continue in the short-term in contrast to the robust recoveries of previous recessions. Factors that may negatively impact future real GDP growth in the short-term include the following:

- Continued weakness in the labor market is a cause for concern – the unemployment rate, while improving, is still elevated; the share of the labor force unemployed for greater than six months is still at a historically high level; and participation in the labor market remains low.

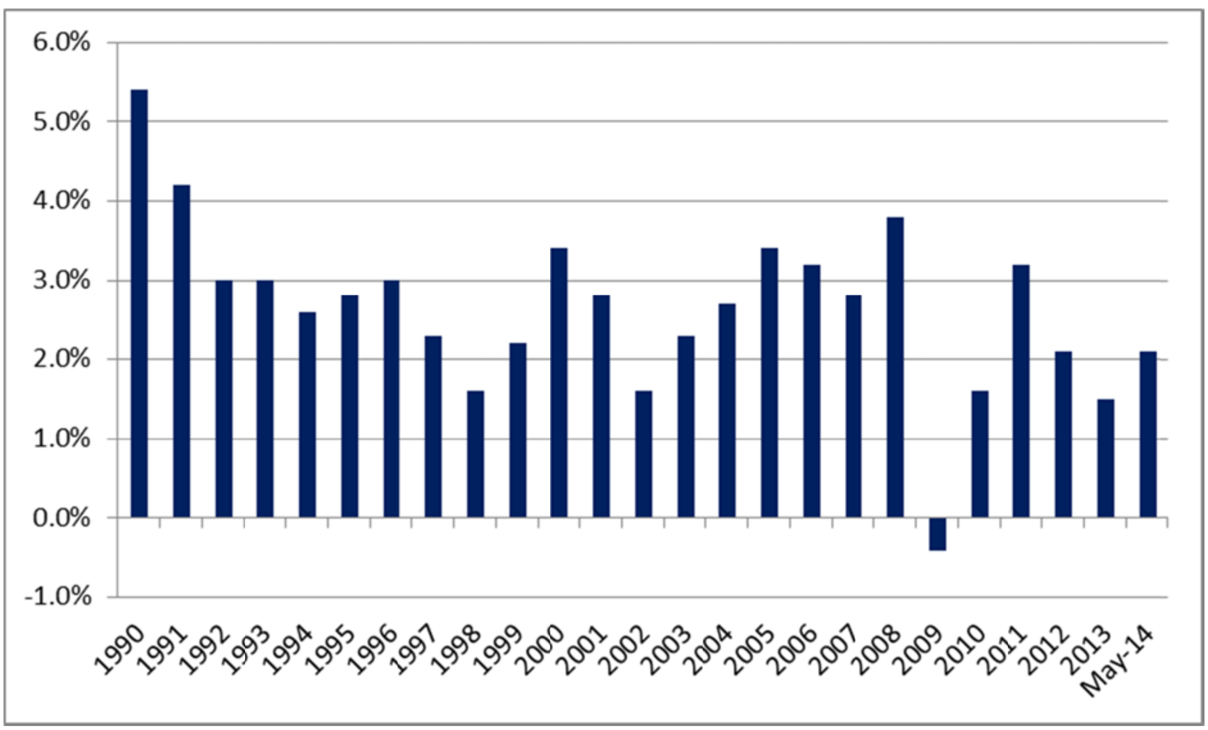
- A weaker than expected housing market may also be cause for concern. Sales of previously owned homes slowed in 2014 and inventory remains low in many markets.
- Geopolitical instability – especially in Eastern Europe and the Middle East – continues to be a concern. The possibility of financial stress resulting from political unrest remains a very real risk to the global economy.

Based on current economic conditions, it is anticipated that relatively slow economic growth conditions will continue in the medium term. This fits with our current base case forecasts for traffic and toll revenues that are contained herein.

5.2.2 Inflation

Since 1990, the Consumer Price Index (CPI) has increased by an average annual rate of 2.6 percent. This captures the relatively higher inflation of the early 1990s as well as the deflationary conditions that occurred in 2009 during which CPI decreased by 0.4 percent. The economic recovery of the last few years has reduced concerns regarding the potential return of deflationary conditions. Through May 2014, CPI has increased by approximately 2.1 percent. Figure 26 summarizes the annual percentage change in CPI from 1990 to May 2014.

Figure 26: Annual Percentage Change in CPI, 1990 to May 2014



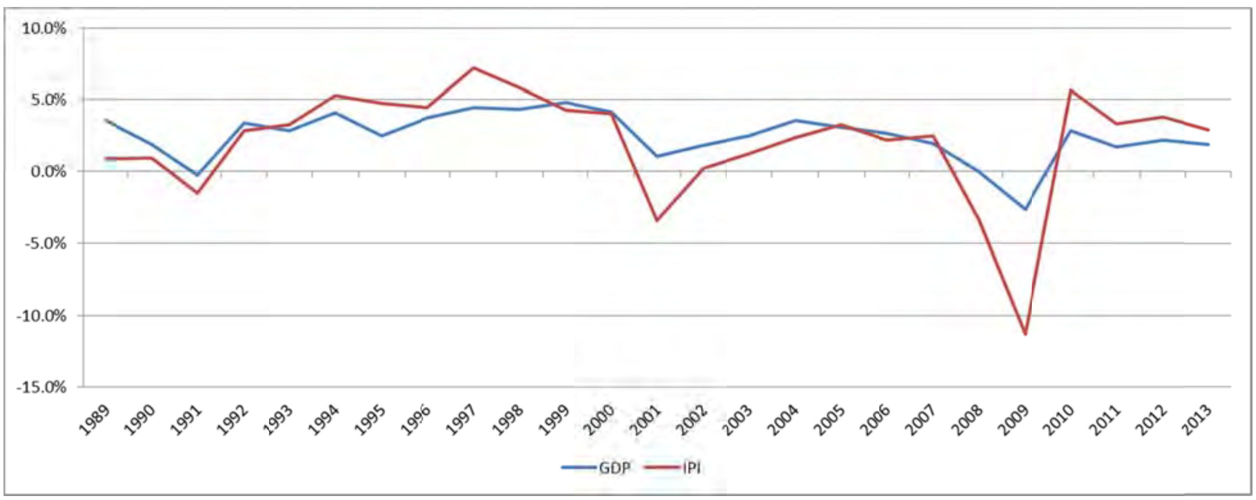
Source: U.S. Department of Labor, Bureau of Labor Statistics (BLS)

5.2.3 Industrial Production

We expect that the growth in the shipment of goods across the nation's highways will be tempered, resulting in a more modest rate of growth in commercial traffic on the DRJTBC's facilities than had been experienced in the past. This trend is also seen on other toll facilities in the northeast.

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. During the lowest point of the 2001 Recession, the Industrial Production Index (IPI) decreased by 4.0 percent. Due to the severity of the 2007-09 Recession, the IPI declined 11.3 percent in 2009. Since then, the IPI has recovered, increasing by 5.7 percent, 3.3 percent, 3.8, and 2.9 percent during 2010, 2011, 2012, and 2013, respectively. IPI has increased by 2.4 percent through the first quarter of 2014. Figure 27 compares the growth in real GDP with IPI from 1989 through the end of 2013.

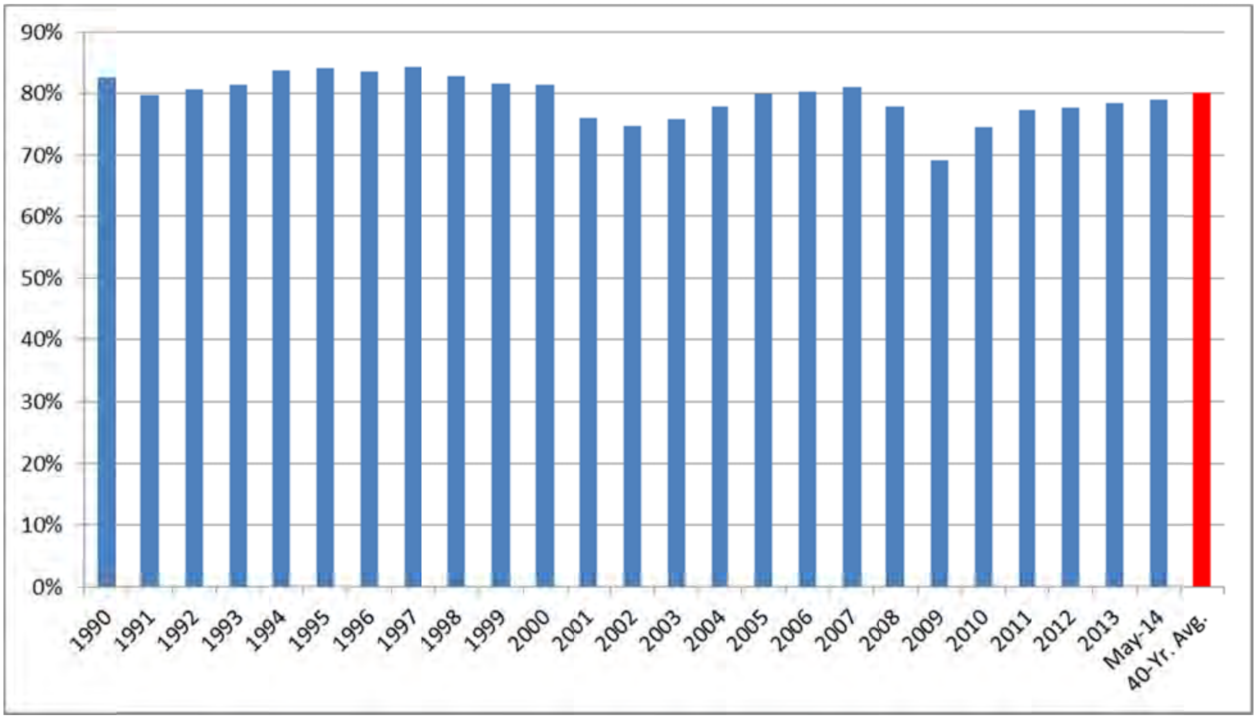
Figure 27: Historical Real GDP and IPI, 1989 to 2013



Source: Bureau of Economic Analysis and the U.S. Federal Reserve Bank

Similar to the IPI, the utilization of U.S manufacturing capacity decreased significantly in 2009, declining to 69.2 percent. Since then, capacity utilization has increased to 78.5 percent in 2013, which is approximately 98 percent of the historical average value of 80.2 percent from 1972 to 2012. Monthly data shows that capacity utilization has increased to 79.1 percent in May 2014. Figure 28 summarizes manufacturing capacity utilization from 1990 through May 2014.

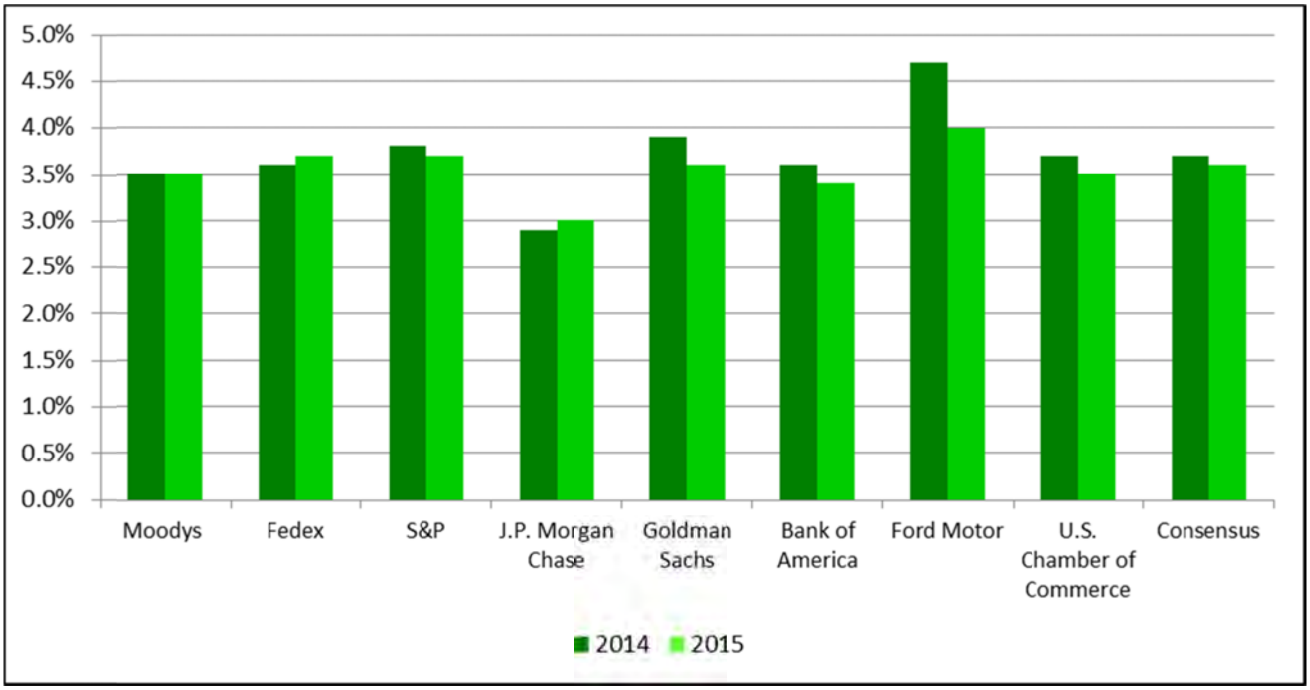
Figure 28: Manufacturing Capacity Utilization, 1990 to May 2014



Source: U.S. Federal Reserve Bank

Based on forecasts developed by financial institutions and industry analysts, the IPI is forecasted to increase by 3.7 percent in 2014 and 3.6 percent in 2015. This forecast factors in the potential impact to U.S. exports due to sluggish growth in Europe. As a result, we expect that the growth in the shipment of goods across the nation's highways will be tempered, resulting in a relatively modest rate of growth in commercial traffic. Figure 29 summarizes selected forecasts in the Industry Production Index.

Figure 29: Forecasted Percentage Change in Industrial Production, 2014 and 2015



Source: Blue Chip Economic Indicators (BCIE)

5.3 Long-Term Structural Trends

The accumulation of the trends of productivity improvements and aging of the general population has had a negative impact on traffic growth across the U.S. Similar to other toll agencies, the DRJTBC itself to some degree has experienced these impacts.

The recent recession has coincided with a number of long-term structural trends in the U.S. and internationally that have encumbered economic growth and job creation. 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 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-to-

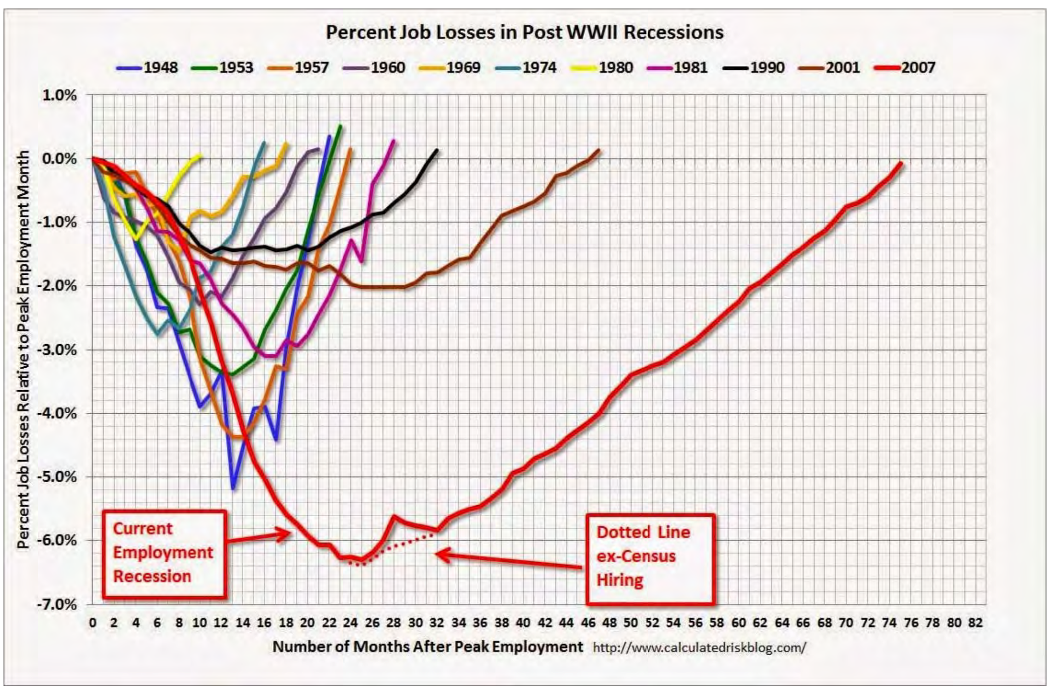
44 age group, which has historically driven the most Vehicle Miles Traveled (VMT) per capita, increased from 35 percent of the total population in 1960 to 43 percent in 1990. However, this age group comprised only 37 percent of the total population in 2010. The aging of the population is one of the factors 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 nationwide traffic trends in the development of our toll traffic and revenue forecasts for the DRJTBC.

5.3.1 Employment

At the beginning of 2008, the unemployment rate in the United States was 5.0 percent. At the depth of the recent recession in October 2009, the seasonally adjusted unemployment rate peaked at nearly 10.0 percent. During 2008 and 2009, total non-farm employment decreased by approximately 2.6 percent and 3.8 percent, respectively. Figure 30 compares the job losses of the 2007-09 Recession with previous recessions since the end of World War II.

Figure 30: Percent Job Losses in Post WWII Recessions



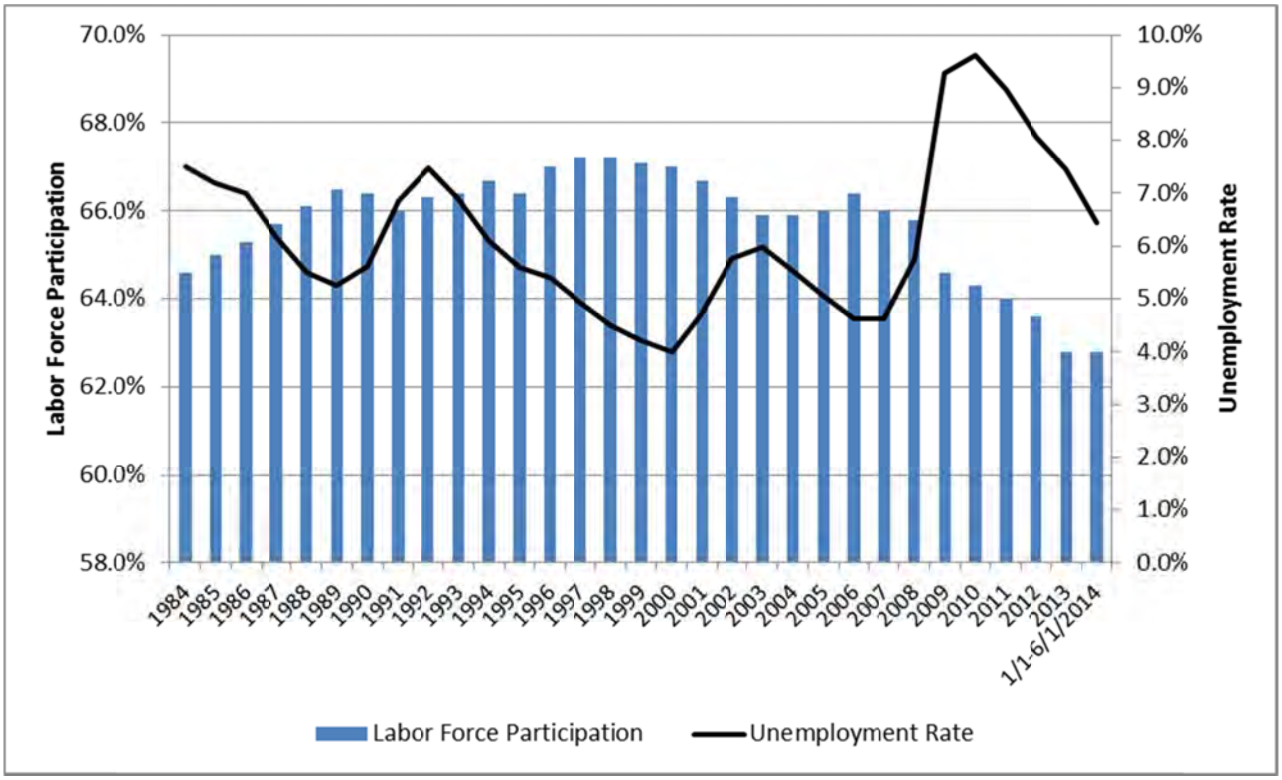
Source: Calculatedriskblog.com

Since the end of the recession, there has been a slow recovery, with a 1.6 percent increase in employment in 2011, a 1.7 percent increase in 2012, and an increase of 1.7 percent in 2013. Moreover, the unemployment rate has decreased gradually to 6.1 percent, as of June 2014.

Long-term forecasts of employment/unemployment tend to differ, depending on varying assumptions of the impact of long-term structural trends, such as advances in information technology, outsourcing, an aging population, potential increases in the minimum wage, and changes due to the Affordable Care Act. The U.S. Congressional Budget Office (CBO) has forecasted that unemployment would remain above 6.0 percent until late 2016, and then gradually decline to around five percent by 2025. The *Blue Chip Economic Indicators* consensus forecast of unemployment is 6.3 percent for 2014 and 5.8 percent for 2015. The Bureau of Labor Statistics (BLS) has projected total employment to increase by a total of 10.8 over the decade from 2012 to 2022.

However, the labor participation rate, which is the percentage of people over 16 who are not infirm or in the military but either have a job or are actively looking for one, has fallen to 62.8 percent as of June 2014. This percentage is the lowest observed in more than 30 years. The labor participation rate peaked in 1998 due to the increased participation of women in the workplace, the relatively large baby boomer age group reaching peak employment years, and the favorable economic conditions of late 1990s. The labor participation rate decreased slightly to 66.0 percent in 2007 and has declined steadily since the start of the recession and the subsequent recovery. While some of this decrease may be attributed to the increasing number of baby boomers who have retired, it is also potentially an indication that younger people are participating less in the labor market. This rate is expected to continue decrease across gender types due to the aging and retirement of the Baby Boomer generation. Figure 31 summarizes the labor participation rate and the unemployment rate during the last thirty years.

Figure 31: Labor Participation Rate and the Unemployment Rate, 1984 through June 2014



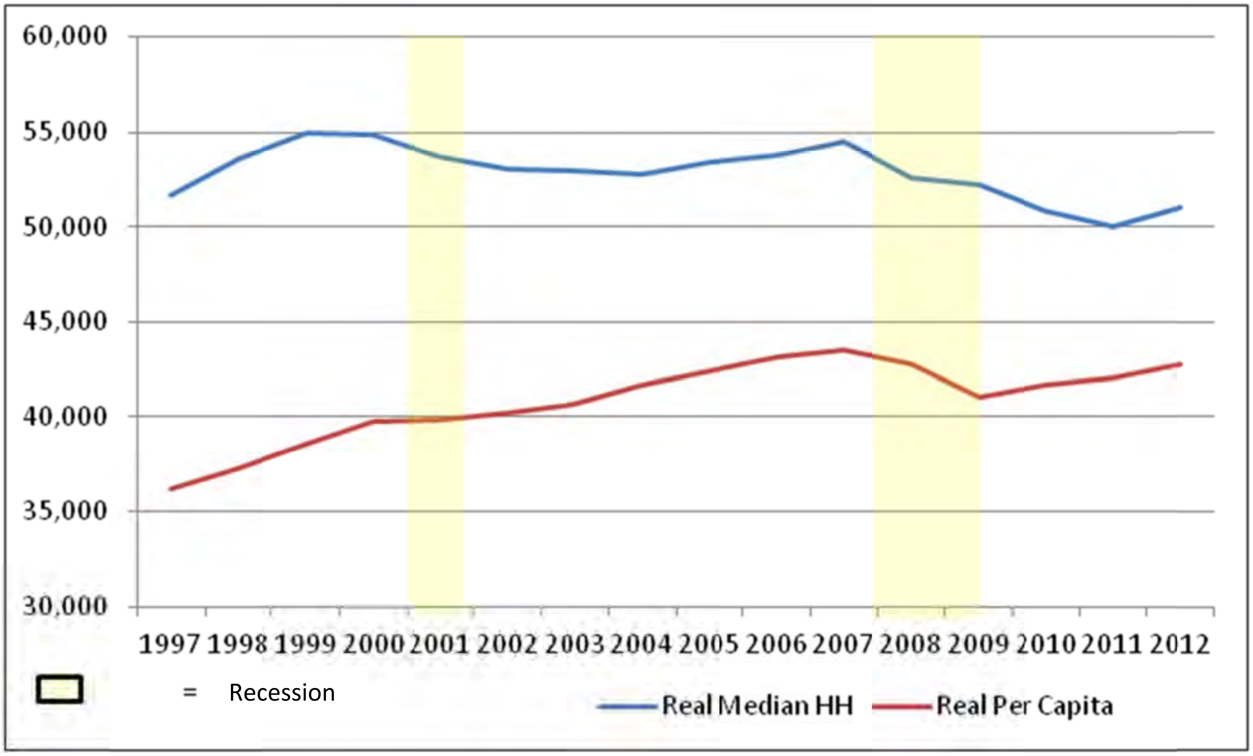
Source: Bureau of Labor Statistics (BLS), U.S. Department of Labor

Historically, the labor participation rate has been negatively correlated with the national employment rate – as economic conditions worsen and unemployment rises, then the labor participation rate decreases. Along these lines, there generally has been an increase in the labor participation rate as the economy improves and unemployment decreases. This relationship has held from 1994 to the start of the recent recession. Since 2008, there appears to have been a shift – the U.S. labor participation rate has continued to decrease even as the unemployment rate has decreased. This is a possible indication of long-term structural trends.

5.3.2 Income

The recent recession has impacted income, which affects consumer purchasing power and economic growth. Based on multiple measures, income has decreased since 2007 and remains below historical levels. Real household median income peaked at $54,932 in 2007 and declined to $51,017 in 2012. Real median household income is in 2012 was 93 percent of 2000 levels. Similarly, real per capita income peaked at $43,499 in 2007, and has recovered to only $42,784 in 2012. However, a positive trend is that income, adjusted for inflation, increased by approximately 2 percent from 2011 to 2012. Figure 32 shows annual real household income and real per capital income during economic expansionary periods and recessions.

Figure 32: Real Household (2011$) and Per Capita Income (2009$), 1997 to 2012

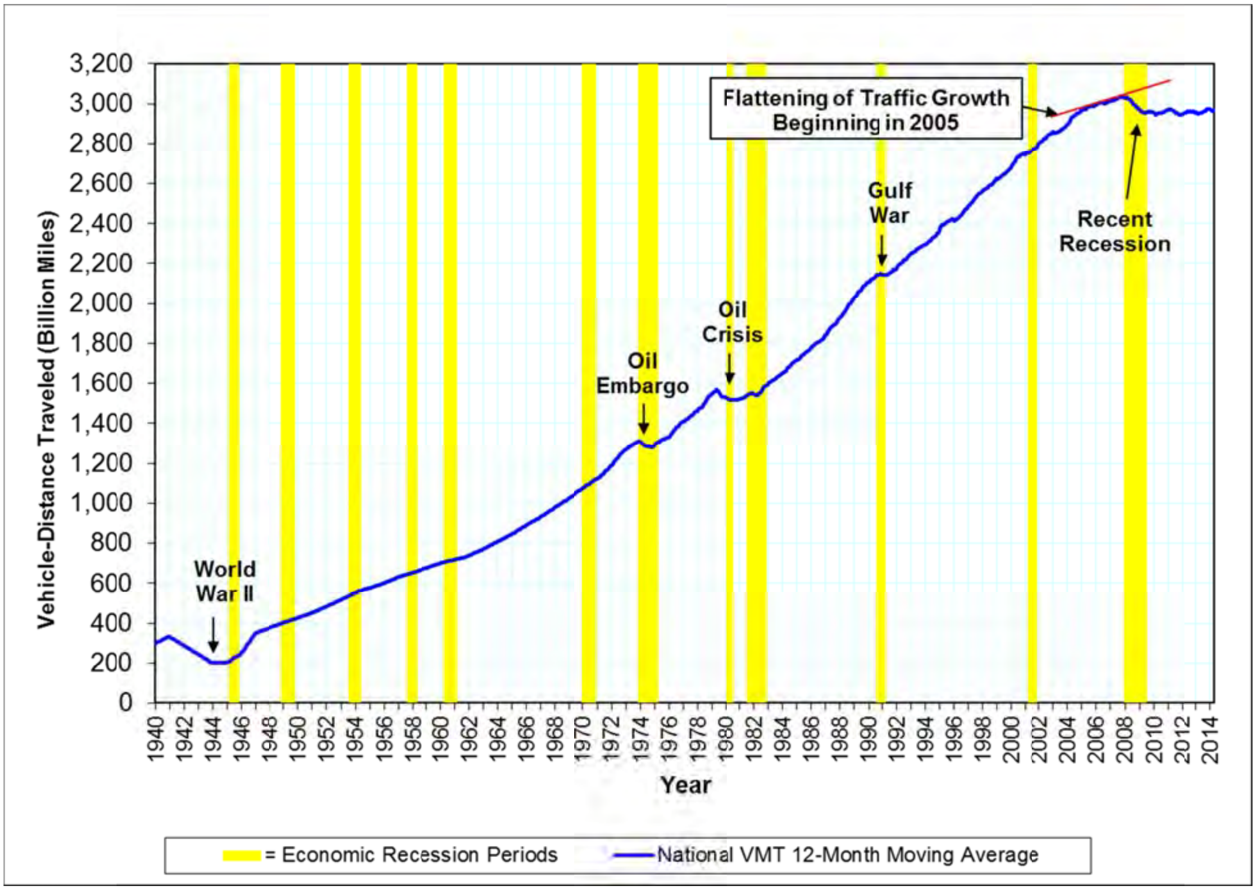


Source: Bureau of Economic Analysis and U.S. Census Bureau

5.3.3 National Trends in Vehicle Miles Traveled (VMT)

The United States has experienced a decrease in Vehicle Miles Traveled (VMT) on its highways over the last few years. This reduction in VMT has resulted in a significant decrease in revenues generated from fuel taxes and tolls, which are major sources of funding for transportation projects. There are several factors that have contributed to this phenomenon, including volatility in oil and gasoline prices, the aging of the population, periodic decreases in output and employment, and changes in technology which renders some commuter and discretionary trips unnecessary. Figure 33 depicts the 12-month moving total of national travel mileage on all U.S. highways, from 1940 through April 2014. As seen in this figure, there were temporary reductions in VMT during World War II, oil crises, and previous economic recessions. Despite these temporary dips, VMT continued to grow rapidly over the years. It shows that, in recent years, with the exception of short, flat periods during the 1991 and 2001 recessions, VMT grew at a steady pace through 2005. VMT levels grew at a relatively slower pace from 2006 to 2008. The sharp increase in gas prices and the downturn in economic activity that took place in 2008 resulted in a significant reduction in national VMT. VMT declined throughout 2008, and remained generally flat from 2009 through 2014, with slight increases and decreases from month to month that may have been caused by fluctuations in weather and in gas prices.

Figure 33: U.S. Annual Vehicle Miles Traveled (VMT), 1940-2014



Source: Federal Highway Administration (FHWA)

Jacobs reviewed and compiled available reports and data to investigate the possible factors contributing to this phenomenon. Figure 34 lists some of the economic, demographic, and behavioral factors that may have contributed to the recent drop in VMT that are outside of the direct impact of the recent recession. The purpose of identifying these non-economic factors is to isolate the long-term trends that impact the historical relationship between economy activity and travel. This list includes the factors that affect work and non-work related trips, recent trends, and future projections.

Figure 34: Possible Factors Contributing to the Recent Decrease in VMT and Future Projections

	Historical	Recent	Future
Labor Force Participation Rate	Rapid Increases due to increased participation of women and size of Baby Boomer Generation	Declining	Decline likely to continue due to Baby Boomer retirements
Speed of Automobile Travel	Increasing due to highway and vehicle improvements	Stable or declining	Unlikely to improve in the absence of major technological changes or increases in highway capacity
Vehicle Fuel Efficiency	Increased due to technological improvements	Increasing due to Federal requirements	Could peak in the absence of major technological changes
Share of Population Peak Driving Age (35-54)	Steadily increasing due to Baby Boom generation	Declining	Declining in short term, increasing slowly thereafter
Cost of Gasoline	Mostly stable and low	Increasing, followed by relative stability at higher prices	Projected to remain high
Vehicle Ownership	Increasing to near-universal vehicle ownership	Stable or declining	Unknown, but potential for further growth above historical rates is limited due to near saturation
Driver's Licensing	Increasing to near-universal licensure	Declining	Unknown, but unlikely to exceed pervious peak
Use of Non-Driving Modes	Dramatically decreasing than stagnant	Increasing, followed by relative stability at higher prices	Unknown, though demand for transit tends to increase with sharp increases in gas prices. Tele-commuting likely to increase.

Sources: U.S. PIRG "A New Direction: Our Change Relationship with Driving and the Implication for America's Future," and Jacobs Consultancy

5.3.4 Fuel Cost Impacts on Travel

While there are a number of factors that may have caused the recent drop and flattening of VMT in the U.S., volatile gas prices is often cited as one of the primary factors that have an impact on travel trends.

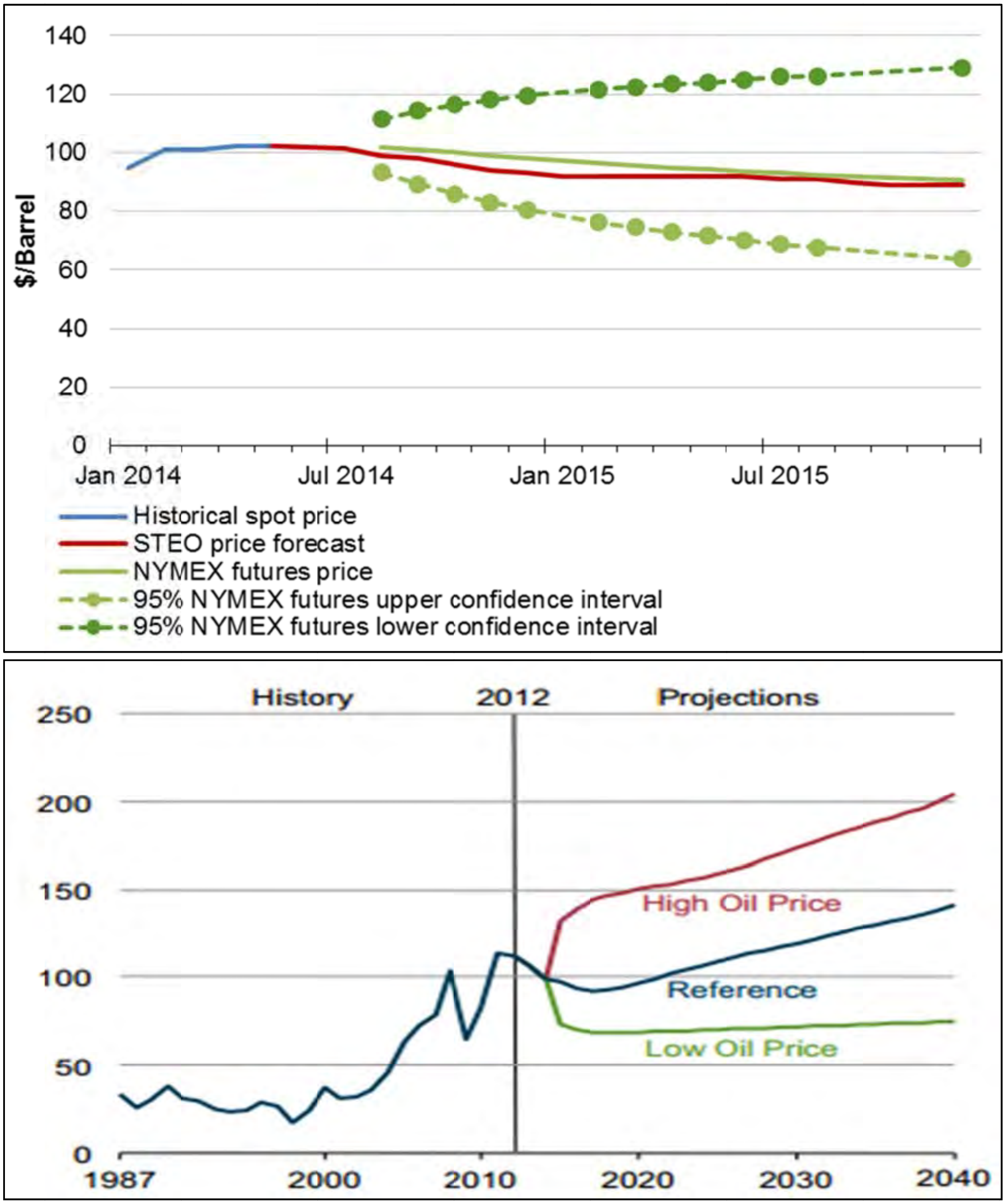
Figure 35 presents historical as well as forecasted changes in gasoline and crude prices prepared by the U.S. Energy Information Administration (EIA). The graph illustrates the peaking of gasoline prices in the summer of 2008, the precipitous drop in late 2008, the spike in gasoline prices that occurred in mid-2011, and subsequent fluctuations thereafter. In its June 2014 report, the EIA projected that gasoline prices, which averaged $3.51 per gallon in 2013, would fall to approximately $3.49 per gallon in 2014 and $3.38 per gallon in 2015. This slight reduction in prices is mainly due to the increased production of oil and natural gas in the U.S. from fracking and other innovative techniques.

Figure 35: Historical and Projected U.S. Gasoline and Crude Oil Prices, 1976 to 2015

Source: Short-Term Energy Outlook, U.S. Energy Information Administration (EIA), June 2014

This relatively static forecast of future oil and gas prices may be reassuring; however, what this graph does not show is the level of uncertainty in these projections. Much of this forecast is based on the increased production due to relatively new technological improvements, such as fracking, increased production from renewable energy sources, and long-term improvements in motor vehicle efficiency. However, it remains to be seen whether these trends are sustainable over time. Figure 36 presents the EIA's projections for the monthly price for a gallon of regular unleaded gasoline. The base projection is very similar to that illustrated in Figure 35. However, this forecast provides a broad range of crude oil prices, ranging from $64/barrel to $129/barrel. Long-term forecasts encapsulate this very wide spectrum with respect to future crude oil prices. Recognizing the potential impact of fuel prices on motorist behavior, the volatility relating to future oil and gasoline prices has made it an increasingly difficult task to accurately project traffic volumes. Figure 36 shows short- and long-term forecasts in crude oil prices prepared by EIA.

Figure 36: Historical and Future Short-Term and Long-Term Crude Oil Prices

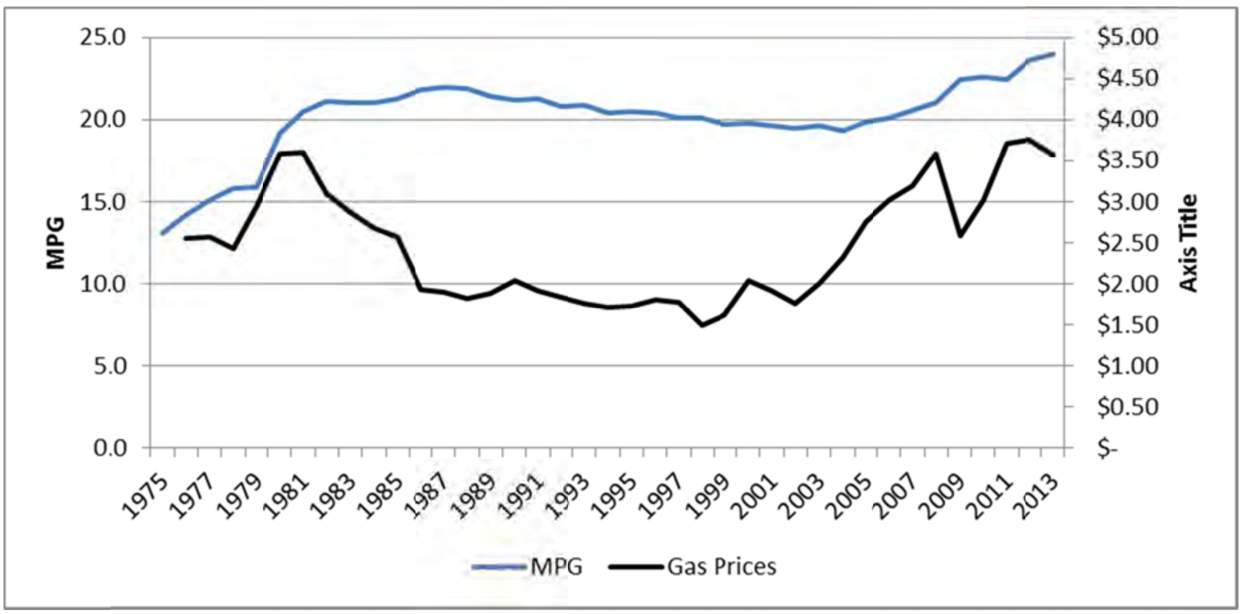


Sources: U.S. Energy Information Administration, Energy Outlook, June 2014;

Annual Energy Outlook 2014

Volatility in the price of fuel and high gasoline costs has encouraged an increase in fuel efficiency of vehicles. Figure 37 shows this relationship between changes in fuel efficiency and gas prices—albeit with a lag of a few years. There was a sharp increase in fuel efficiency in the late 1970's caused by the oil crisis along with the trend toward buying smaller, more fuel-efficient vehicles. A gradual decline in average miles per gallon (MPG) from 1987 through 2004 occurred as larger vehicles and SUVs became more popular and gasoline prices reached historically low levels. From 2005 onward, this trend has again turned around with vehicles becoming more fuel-efficient than ever. While fuel prices and volatility have an impact on traffic trends, this may not have as large an effect as ten years ago. Also to consider in this discussion is the emergence and growth of hybrid and electric vehicles in the marketplace. While the prevalence of alternative fuel vehicles is increasing, it is estimated that electric vehicles could constitute up to 35 percent of the automobile market by 2025. Although these predictions vary widely by source, it is important to appreciate the potential impact that the growing numbers of alternative fuel vehicles will have on gasoline prices and motorist behavior.

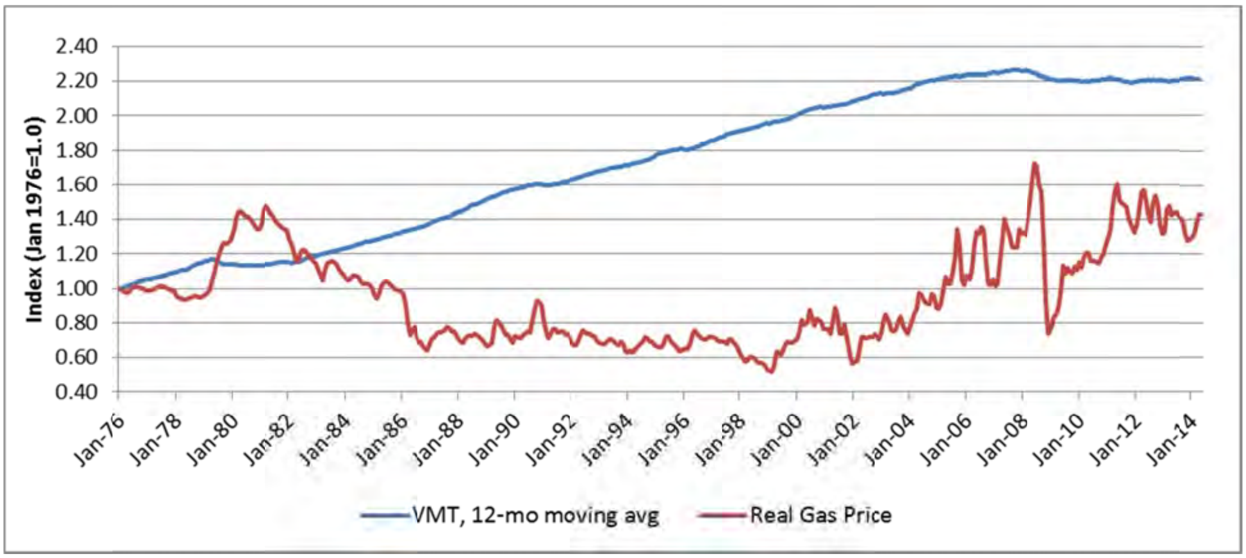
Figure 37: Historical Fuel Efficiency and Real Gas Prices, 1975-2013



Source: Environmental Protection Agency (EPA) and the Energy Information Administration (EIA)

To understand the potential impact of future gas prices on traffic, we can look at historical reactions to dramatic changes in gas prices. Figure 38 presents historical VMT across the United States as compared to gasoline prices from 1976 through today. Both the VMT and real gas prices represent a 12-month moving average to remove any seasonality factors; all data has been indexed to January 1976. While the 2007-09 recession began in December 2007, there was still a flattening in traffic growth that began several years before. While the initial flattening may be partially attributed to rising gas prices, the continued decrease in VMT can be attributed to the recession, as gas prices dropped significantly by the end of 2008. Due to the recession and the slow recovery period, it has been difficult to pinpoint the elasticity of travel as it relates to gas prices. We estimate that the doubling in gas prices from 2003 through mid-2008 may have caused up to a five percent loss in nationwide VMT, however, traffic has remained nearly flat since the end of 2008, even with the subsequent drop in prices from June to December 2008 (from $4.46 to $1.91 in real dollars) followed by another spike in prices in May 2011 (to $4.16 in real dollars) had little, if any, noticeable impact on VMT. Over the past two to three years, there have been only small fluctuations in gas price, and VMT has continued to be flat.

Figure 38: National VMT vs. Real Gas Prices, 12-Month Moving Average, 1976-2014



Sources: U.S. Energy Information Administration (EIA) and Federal Highway Administration (FHWA)

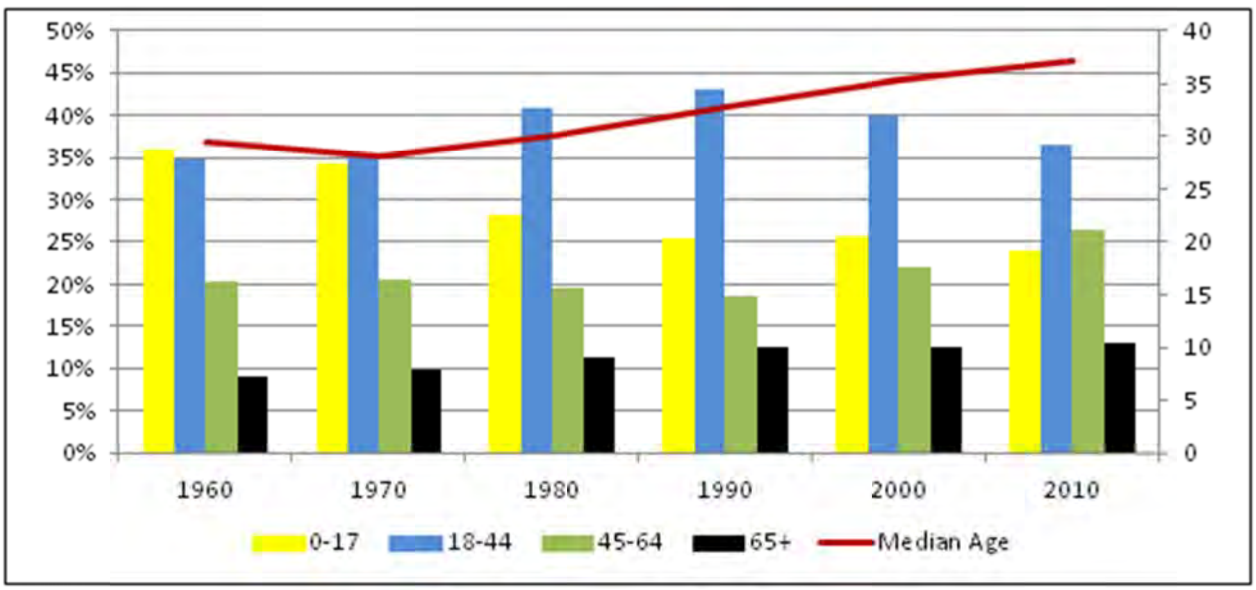
5.3.5 Age Groups and Travel

The U.S population is becoming older with the median age increasing from 29.5 years in 1960 to 37.2 years in 2010. Within this general trend, there are the following component trends:

- The non-adult population (0 to 17 years) decreased from nearly 36 percent of the total population in 1960 to 24 percent in 2010;
- The 18 to 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 37 percent of the total population in 2010;
- The 45 to 64 age group shrank slightly between 1960 and 1990 (from 20 percent to 19 percent), but increased to 26 percent of the population in 2010.
- The 65+ age group increased from 9 percent of the total population in 1960 to 13 percent in 2010.

Historical trends and population forecasts indicate that the U.S median age will likely continue to increase in the next 20 years. Figure 39 summarizes the distribution of the total U.S. population by age group from 1960 to 2010.

Figure 39: Percentage of Population by Age Group, 1960 to 2010

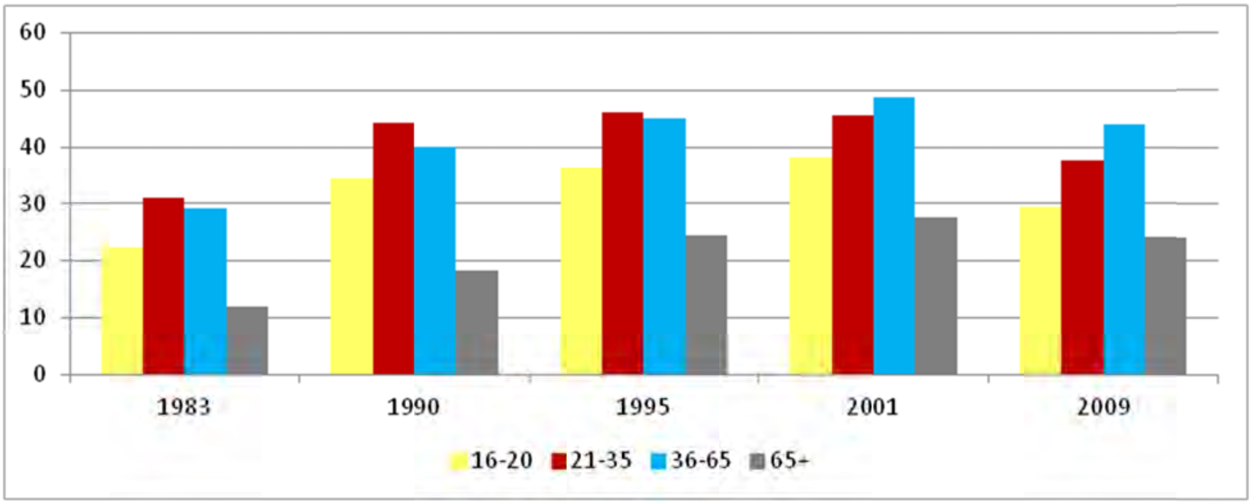


Source: U.S. Census Bureau

The aging of the population is a factor contributing to slower traffic growth, as older age groups tend to travel less and spend less on transportation. Based on previous studies, individuals tend to gradually drive less as they reach middle age and after, especially after the age of 65. Figure 40 summarizes the results from the 2009 National Household Travel Survey and the number of daily Person Miles Traveled (PMT) by age group. This data highlights the impact of an aging population on national PMT and by extension, VMT. In particular, PMT per day driven by the 36-65 age group has slowed. In 2001, daily PMT for this group was 48.8 miles. By 2009, their daily PMT decreased to 44.0 miles.

At the same time, younger population groups – individuals under 35 years old – are also driving less. Figure 40 shows that daily PMT for the 21-35 age group decreased from 45.6 miles to 37.7 miles from 2001 to 2009. The 16-20 age group showed a decrease from 38.1 to 29.3 PMT per day. These two younger age groups include what has come be known as the Millennial Generation: individuals born between 1983 and 2000. Numerous studies have been conducted in recent years to determine why this generation is driving less and what that means for the future.

Figure 40: Daily Person-Miles Traveled by Age Group, 1983 to 2009

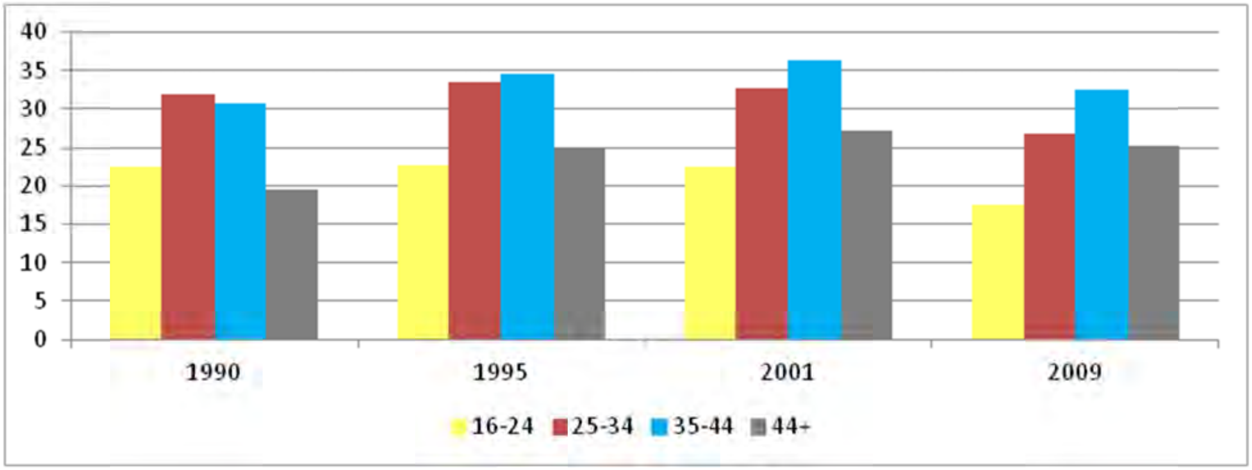


Source: Federal Highway Administration (FHWA), 2009 National Household Travel Survey

From 2001 to 2009, there have been reductions in daily vehicle miles traveled (VMT) for all age groups. VMT for people under age 35 had the largest reduction - nearly 20 percent – as shown in Figure 41. This trend has persisted since 2009. Instead of driving, many young driving-age people are opting to walk, bike, or use public transit with greater frequency, and are choosing to live in places where driving is less of a necessity. This is borne out by the 2009 National Household Travel Survey which found that the number of vehicular trips as a percentage of total trips decreased from 89 percent in 1995 to 83 percent in 2009.

.

Figure 41: Daily Vehicle-Miles Traveled for Younger Population Groups, 1990 to 2009



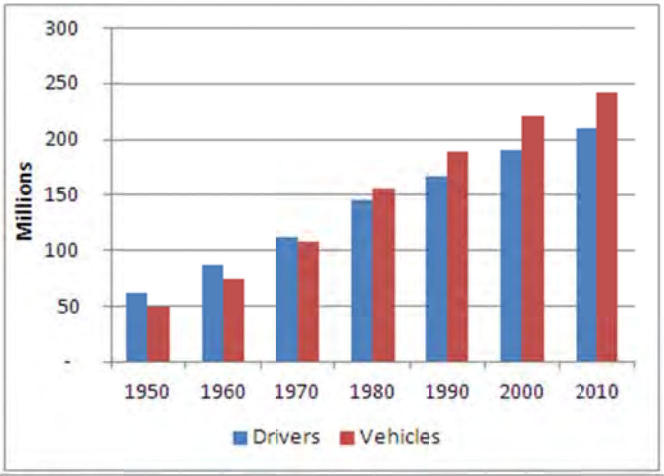
Source: Federal Highway Administration, 2009 National Household Travel Survey

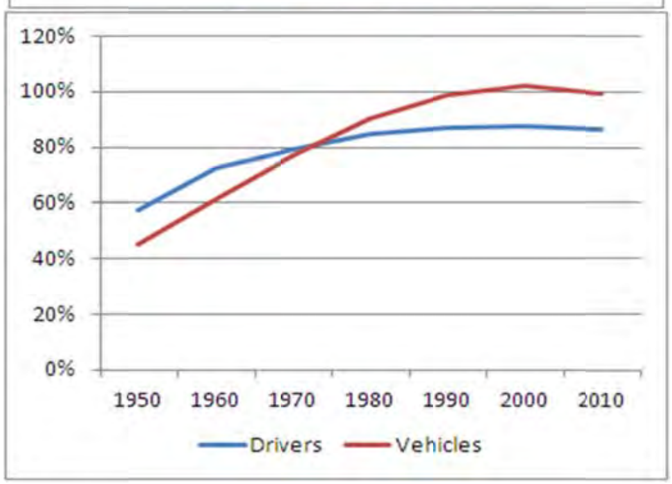
In this manner, both the changing attitudes of Millennials towards driving and the aging of the Baby Boomer population are expected to have a long-term effect on driver behavior and traffic, indicating that traffic will not return to the growth rates achieved during the 1980s and 1990s. In the recent past and for the expected future, population growth in the study area (detailed later in this report in Section 5.4.1) is relatively small, about half a percent per year. This small population growth combined with recent VMT trends – especially by members of the Millennial Generation, who now outnumber Baby Boomers – is expected to dampen traffic future traffic growth on the DRJTBC facilities from the rates we have seen in the past.

5.3.6 Motor Vehicles and Licensed Drivers

After many years of strong growth, the total number of motor vehicles and licensed drivers in the United States has started to level off, especially in recent years. Registered motor vehicles increased by an annual average rate of 3.9 percent annually from 1950 to 1980, decreasing to 1.5 percent annual growth from 1980 to 2010. Similarly, the number of licensed drivers in the U.S. increased by an average of 2.9 percent per annum and 1.2 percent per annum from 1950-1980 and 1980-2010, respectively. Although these growth rates have led to an absolute increase in both the number of motor vehicles (242 million in 2010) and licensed drivers (210 million in 2010), growth has not kept pace with the increase in population. The number of licensed drivers as a percentage of the driving age population peaked at 88 percent in 2000, but has declined to 86 percent in 2010. This is another indication that eligible licensed drivers are increasingly opting to use alternative forms of transportation, such as walking, bicycling, or public transit, or are telecommuting. This is consistent with recent studies finding that Millennials are driving less. Moreover, the rate of vehicles to the driving age population which reached 1.02 in 2000 has declined slightly to 1.00 in 2010. These long-term trends are summarized in Figure 42.

Figure 42: Total Motor Vehicles and Licensed Drivers and as a Percent of Driving Population, 1950-2010





Source: Federal Highway Administration (FHWA)

5.3.7 Discretionary Travel, Telecommuting and the Internet

The advent and widespread usage of the internet beginning in the mid-1990s brought about a whole new information age whereby many people now use it as the main tool for the retrieval and exchange of information, social communication, entertainment, and the purchase of goods and services. In theory, increased internet usage would make some vehicle trips unnecessary. According to the Federal Communications Commission (FCC), the share of U.S. households with broadband internet increased from 4 percent in 2000 to 78 percent in September 2013. According to Business News Daily, Americans currently spend 23 hours per week online for leisure. This represents a whole 14 percent of a week that is spent emailing, texting or using other kinds of social media and online communication.

Unrestricted by store hours, coupon cutting, traffic, and check-out lines, online retail has become more desirable to many U.S. consumers. According to Forrester Research Inc, in 2012 online shoppers in the United States spent $226 billion, up 17 percent from $195 billion in 2011. They project that by 2016, $327 billion will be spent by U.S. consumers online, up 45 percent from 2012. In 2012 e-retail accounted for 7 percent of total retail sales which should be up to 9 percent by 2016 according to the report, "U.S. Online Retail Forecast, 2011 to 2016." According to Forrester, 167 million U.S. consumers shop online in 2012 which should increase to about 192 million by 2016 at the current growth rate. Reasons for the growth of online shopping are fewer taxes, more variety, spending less on gas, and saving time not having to drive store to store.

An increase in telecommuting may have also contributed to the decrease in national VMT. Individuals who work from home save on the time and expense of commuting. With the widespread availability of cell phones, high-speed internet service, and laptop computers, it has become easier for work in certain employment sectors, e.g. sales, management, professional services, and information technology, to be conducted from home. The Telework Research Network's September 2013 update to their report, "The State of Telework in the U.S." found that the number of employees who telecommute increased by 79.7 percent between 2005 and 2012. A continued increase in telecommuting will likely decrease the number of work-related trips and future VMT levels.

5.4 Regional Economic and Demographic Outlook

The demographic area that is in relatively close proximity to the Delaware River Joint Toll Bridge Commission (DRJTBC) facilities encompasses all or part of two states, four metropolitan statistical areas (MSA) – New York, Philadelphia, Allentown, and East Stroudsburg – three Metropolitan Planning Organizations (MPO) and nineteen counties. Ten of the 19 counties analyzed are located in New Jersey and nine are in Pennsylvania. This study area had a combined population of 8.6 million in 2010 and accounted for approximately 3 percent of U.S. GDP in 2012. Drawing from definitions developed by the U.S. Office of Management and Budget, for the purposes of this analysis, Philadelphia, Allentown-Bethlehem, East Stroudsburg, Trenton-Ewing, and Edison-New Brunswick are considered to be separate economic regions. The greater New York City area, including the Newark-Union area, has not been included due to the relatively greater distances to DRJTBC facilities. Notwithstanding, two outlying counties—Hunterdon and Sussex—have been included in this analysis.

Table 6 lists the nineteen counties that are in the DRJTBC study area by MSA and Metropolitan Division.

Table 6: DRJTBC Study Area

Metropolitan Statistical Area	Metropolitan Division	County(ies)
New York-White Plains-Wayne, NY-NJ	Edison-New Brunswick, NJ	Middlesex (NJ), Monmouth (NJ), Somerset (NJ)
	Newark-Union, NJ	Hunterdon (NJ), Sussex (NJ)
	Trenton-Ewing, NJ	Mercer (NJ)
	N/A	Pike County (PA)
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	N/A	Bucks (PA), Chester (PA), Delaware (PA), Montgomery (PA), and Philadelphia (PA)
	Camden, NJ	Burlington (NJ), Camden (NJ), Gloucester (NJ)
Allentown-Bethlehem-Easton, PA-NJ	N/A	Lehigh (PA), Northampton (PA), Warren (NJ)
East Stroudsburg, PA	N/A	Monroe (PA)

Sources: U.S. Office of Management and Budget (OMB) and U.S. Census

5.4.1 Regional Population

The total population of this nineteen county area has grown from 7.6 million in 1990 to 8.7 million in 2010, representing a compound average growth rate (CAGR) of 0.63 percent during this period. Using recent forecasts prepared by the Delaware Valley Regional Planning Commission (DVPRC), North Jersey Transportation Planning Authority (NJTPA), the Lehigh Valley Planning Commission (LVPC), total population within this area is estimated to reach 9.1 million in 2020, 9.6 million in 2030, and 10.1 million by 2040. This represents a compound annual growth rate (CAGR) of 0.5 percent from 2010 to 2040. The ten New Jersey counties had a total population of 3.8 million and are estimated to increase to 4.4 million by 2040. Table 7 summarizes historical and forecast population in the New Jersey counties that form part of the DRJTBC study area from 1990 to 2040.

Table 7: New Jersey County Population, 1990 to 2040

Population	Actual				Forecast						
New Jersey	1990	2000	2010	1990-2010 CAGR	2015	2020	2025	2030	2035	2040	2010-40 CAGR
Burlington County	395,066	423,394	448,734	0.64%	450,915	457,126	471,732	486,343	492,552	494,732	0.33%
Camden County	502,824	508,932	513,657	0.11%	514,351	516,331	520,980	525,629	527,609	528,303	0.09%
Gloucester County	230,082	254,673	288,288	1.13%	292,455	304,311	332,202	360,097	371,953	376,117	0.89%
Hunterdon County	107,776	122,000	127,400	0.84%	130,460	133,594	136,803	140,089	143,454	147,100	0.48%
Mercer County	325,824	350,761	366,513	0.59%	367,660	370,543	377,428	384,309	388,385	390,729	0.21%
Middlesex County	671,780	750,200	809,900	0.94%	841,566	874,471	908,662	944,190	981,106	1,023,100	0.78%
Monmouth County	553,124	615,300	630,400	0.66%	640,954	651,686	662,597	673,690	684,969	696,900	0.33%
Somerset County	240,279	297,500	323,400	1.50%	331,629	340,068	348,722	357,596	366,696	376,600	0.51%
Sussex County	130,943	144,166	149,300	0.66%	156,548	164,147	172,115	180,470	189,231	199,500	0.97%
Warren County	91,607	102,437	108,700	0.86%	112,202	115,817	119,549	123,401	127,376	131,800	0.64%
New Jersey Counties	**3,249,305**	**3,569,363**	**3,766,292**	**0.74%**	**3,838,741**	**3,928,094**	**4,050,789**	**4,175,814**	**4,273,332**	**4,364,881**	**0.49%**

Sources: Delaware Valley Regional Planning Commission (DVPRC), Lehigh Valley Planning Commission (LVPC), North Jersey Transportation Planning Authority (NJTPA), and the U.S. Census Bureau

The nine Pennsylvania counties had a total population of 4.9 million in 2010 and are expected to increase to 5.7 million by 2040. Although population has decreased in Philadelphia County since 1990, the DVPRC forecasts that the county's population will increase to 1.6 million by 2040. Table 8 summarizes historical and projected population in the Pennsylvania counties included in the DRJTBC study area and for the area, as a whole.

Table 8: Pennsylvania County and Total DRJTBC Study Area Population, 1990 to 2040

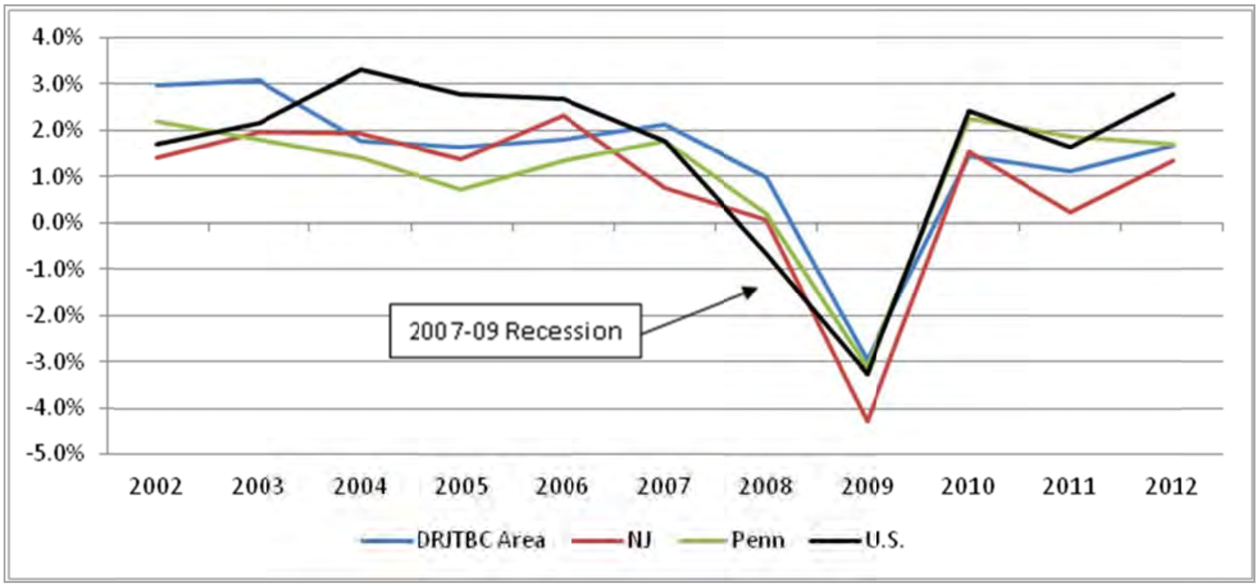
Population	Actual				Forecast						
Pennsylvania	1990	2000	2010	1990-2010 CAGR	2015	2020	2025	2030	2035	2040	2010-40 CAGR
Bucks County	541,174	597,635	625,249	0.72%	634,880	654,140	673,290	692,440	709,793	727,150	0.50%
Chester County	376,396	433,501	498,886	1.42%	516,582	538,809	573,114	607,407	629,634	647,330	0.87%
Delaware County	547,651	551,974	558,979	0.10%	559,498	560,989	564,481	567,978	569,463	569,982	0.06%
Lehigh County	291,131	312,090	349,497	0.92%	352,965	385,710	389,537	427,162	431,400	469,975	0.99%
Monroe County	95,709	138,687	176,842	3.12%	190,414	205,027	220,762	239,824	245,820	251,965	1.19%
Montgomery County	678,111	750,097	799,874	0.83%	808,534	824,166	849,690	875,214	889,516	896,741	0.38%
Northampton County	247,105	267,066	297,735	0.94%	312,955	329,516	346,361	365,766	384,464	403,979	1.02%
Philadelphia County	1,585,577	1,517,550	1,526,006	-0.19%	1,536,124	1,551,247	1,572,342	1,599,436	1,618,512	1,630,589	0.22%
Pike County	27,966	46,306	57,369	3.66%	64,598	72,737	81,902	94,374	96,733	99,152	1.84%
Pennsylania Counties	**4,390,820**	**4,614,906**	**4,890,437**	**0.54%**	**4,976,549**	**5,122,341**	**5,271,479**	**5,469,601**	**5,575,335**	**5,696,863**	**0.51%**
Total	**7,640,125**	**8,184,269**	**8,656,729**	**0.63%**	**8,815,290**	**9,050,435**	**9,322,268**	**9,645,415**	**9,848,667**	**10,061,744**	**0.50%**

Sources: Delaware Valley Regional Planning Commission (DVPRC), Lehigh Valley Planning Commission (LVPC), North Jersey Transportation Planning Authority (NJTPA), and the U.S. Census Bureau

5.4.2 Regional Economic Output

Economic activity within the DRJTBC study area is driven largely by the New York City and Philadelphia metropolitan areas, but also includes the considerably smaller Allentown and East Stroudsburg MSAs. This combined area had a real economic output of $367 billion in 2012, accounting for 3 percent of national GDP. Real output in the DRJTBC study area along with the economic activity in New Jersey and Pennsylvania has closely tracked the U.S. economy. Real GDP in the DRJTBC area outperformed the U.S. economy from 2005-2006, increased at a comparable rate as the national economy in 2007, and followed the rest of the country into recession during 2008-2009. Although the economic recovery in the region has taken hold, recent growth has not been as strong as in the U.S., as a whole. Real GDP in the region increased by 1.4 percent in 2010, 1.1 percent in 2011, and 1.7 percent in 2012; however, this was below the 2.5 percent, 1.8 percent and 2.8 percent growth rates recorded nationally from 2010 to 2012. Economic output in Pennsylvania has been closer to national levels, while economic growth has been comparatively sluggish in New Jersey from 2010 to 2012. Figure 43 summarizes the annual percentage change in real GDP from 2002 to 2012.

Figure 43: Annual Percentage Change in Real GDP, 2002-2012



Source: U.S. Bureau of Economic Analysis, U.S. Department of Commerce

Although economic activity within each MSA or Metropolitan Division has been significantly impacted by national and international trends, economic growth in each region is driven by different factors. A brief description and economic profile of each region is provided below:

- Philadelphia Metropolitan Statistical Area: Economy activity in the Philadelphia area, which was once dominated by manufacturing, is now strongly driven by knowledge-based industries, such as life sciences, information technology, professional services, health and education and financial services sectors. In particular, the region is home to nearly 400 life science, pharmaceutical, biotech, and research and development companies, making it one of the largest science industrial clusters in the U.S. The Philadelphia area also includes a solid information technology industry, including major employers such as Lockheed Martin, Comcast, Verizon, SAP AG, Sungard Data Systems, and Unisys. Although comprising eight percent of the real Gross Regional Product (GRP) in 2012, the manufacturing activity includes the production of electronics, defense systems, aerospace, shipbuilding, and chemicals.

- Trenton-Ewing Metropolitan Area: Trenton is the state capital of New Jersey, and government activity accounted for 17 percent of GRP in 2012. Although forming part of the greater New York City area, the Trenton-Ewing area is located in close proximity to and influenced by economic activity in the Philadelphia area. The Trenton area also benefits from having a relatively large high-skilled labor force due to Princeton University, large pharmaceutical and energy companies, such as Bristol-Myers Squibb and NRG Energy, and government-related activity. Manufacturing activity, which was once an important component of the local economy, has experienced a recent resurgence. However, manufacturing continues to be a relatively small slice of the local economy, accounting for 6 percent of GRP in 2012. Government payroll in the state capital posted gains in 2012, but there has been a retrenchment since the beginning of 2013.

- Edison-New Brunswick Metropolitan Division: This area was among the hardest hit by Superstorm Sandy in 2012, which has impacted economic activity. Recovery efforts are ongoing with some recent economy activity resulting from reconstruction of damaged facilities. The professional and business services sector is a key component of the local economy. Large pharmaceutical companies, e.g. Novo Nordisk, and Rutgers University are also located in this region.

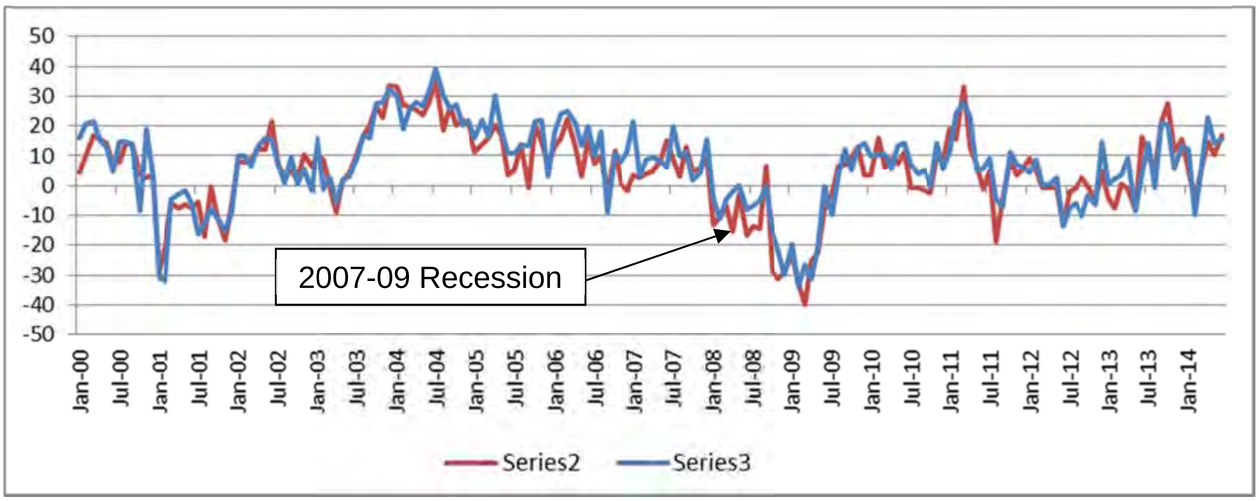
- Allentown-Bethlehem: Once strong driven by mineral extraction (e.g. slate, iron ore, and limestone), manufacturing (e.g. steel and cement), and the construction industries, the area has attempted to diversify its economy in recent years as these sectors have declined in importance. From 2001 to 2012, manufacturing activity decreased from 22 percent to 15 percent of GRP, while construction has gone from 6 percent to 3 percent of GRP. Additionally, some of the larger mining sites have been closed and repurposed as recreational areas or economic opportunity zones. Recent economic activity in this region has been driven by growth in professional services, health care, distribution centers, and retail trade sectors.

- East Stroudsburg: This metropolitan area is largely contained within Monroe County, Pennsylvania. During the housing boom, many New York commuters moved to the East Stroudsburg area to take advantage of its considerably lower cost of living despite the long travel times – average commuting time is nearly 40 minutes and is among the highest in the U.S. An increase in gas prices and a continued decrease in housing costs in the areas closer to New York City have negatively impacted recent growth and may affect economic activity, population, and employment in the future.

5.4.3 Regional Manufacturing and Exports

Manufacturing activity can be measured by New Orders Index and the Shipments Index developed by the Federal Reserve Bank of Philadelphia, which tracks economic activity in New Jersey, Pennsylvania, and Delaware. Consistent with general economic conditions, there were decreases in both indices during the early 2000s recession, an increase in new orders and shipments from 2004 to 2007, and steep decreases during 2008 and 2009. New orders and shipments bottomed out in March 2009. These indices increased during 2010 and 2011, but decreased locally in 2012. Through June 2014, there have been relatively strong gains in both of these indices. Figure 44 summarizes new orders and shipments indices prepared by the Federal Reserve Bank of Philadelphia from 2000 to June 2014.

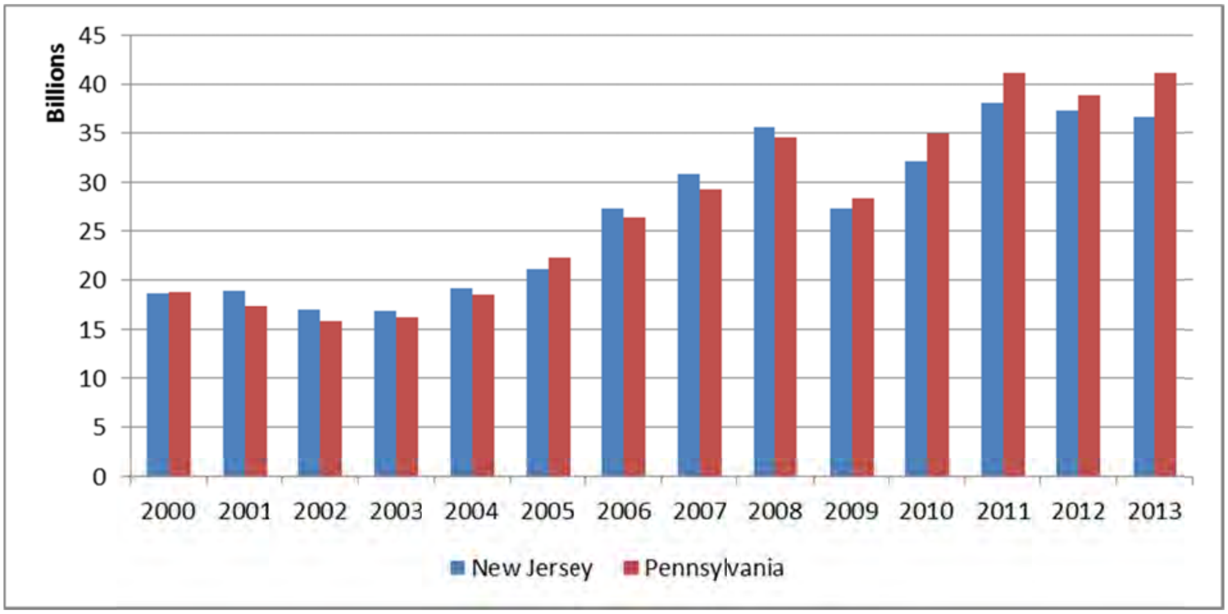
Figure 44: New Orders and Shipment Indexes, 2000 to June 2014



Source: Federal Reserve Bank of Philadelphia

Merchandise exports have increased by approximately 6 percent per annum since 2000 in New Jersey and Pennsylvania. In dollar terms, the value of statewide exports from New Jersey has nearly doubled from $18.7 billion in 2010 to $37.2 billion in 2010. Merchandise exports produced in Pennsylvania has exhibited similar patterns, increasing from $18.8 billion to $38.8 billion during this period. The 2007-09 Recession had a significant impact on merchandise exports causing the value of exports produced in New Jersey and Pennsylvania to decrease by 24 percent and 18 percent, respectively, from 2008 to 2009. The value of exports has improved with the onset of the economic recovery, increasing steadily in 2010 and 2011 in both states. However, the value of merchandise exports decreased slightly in New Jersey and Pennsylvania during 2012. In 2013, merchandise exports reached 2011 levels in Pennsylvania, but decreased below 2012 levels in New Jersey. Using data compiled by the International Trade Administration (ITA) within the U.S. Department of Commerce, Figure 45 summarizes total manufactured exports produced in New Jersey and Pennsylvania from 2000 to 2013.

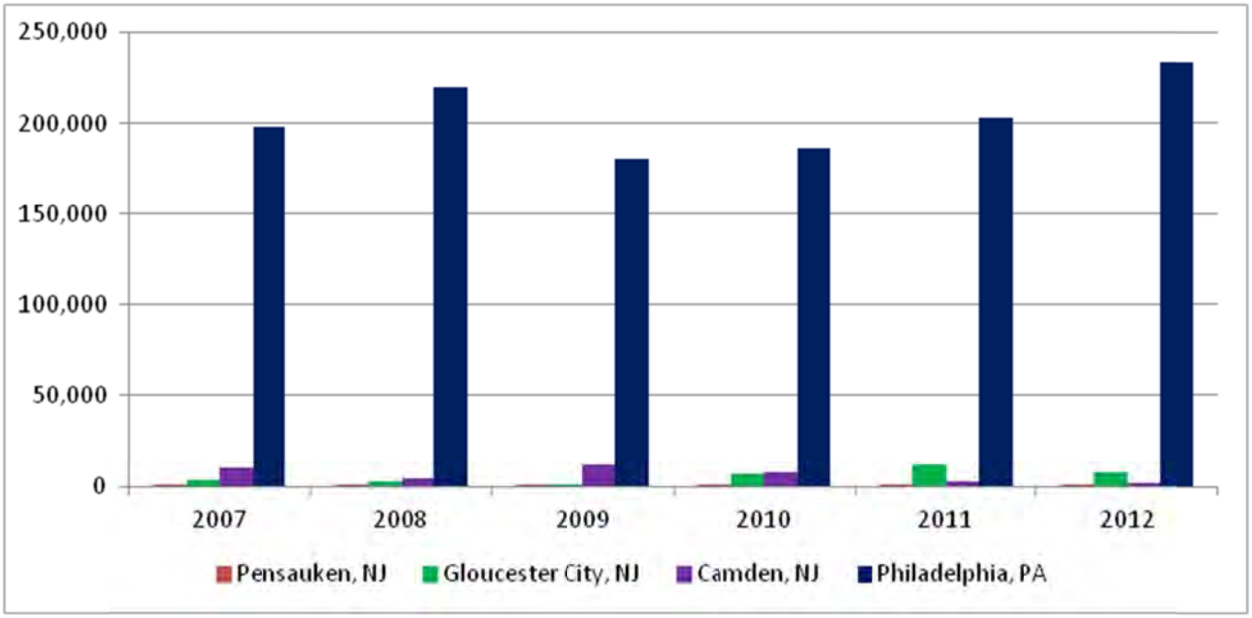
Figure 45: Manufactured Exports Produced in New Jersey and Pennsylvania, 2007 to 2013



Source: International Trade Administration, U.S. Department of Commerce

The largest waterborne port along the Delaware River is the Port of Philadelphia which handled 233,000 Ton Equivalent Units (TEUs) in 2012, is the 20th largest port in the U.S., and is a key gateway for imports from African countries. Total TEUs handled by the Port of Philadelphia accounted for approximately one percent of the 29.5 million TEUs accommodated through U.S. ports. The Port of Philadelphia was impacted by the 2007-09 Recession as total TEUs decreased by 18 percent from 2008 to 2009. Cargo moved through the Port of Philadelphia has subsequently recovered – total TEUs accommodated in 2012 has exceeded 2008 levels. Major commodities and goods exported through the Port of Philadelphia included refined petroleum products, automobiles and vehicle parts, iron and steel, paper, plastics products, and medical equipment. Major imported commodities included crude petroleum, refined petroleum products, meat, fruit, beverages, and paper products. Smaller ports located along the Delaware River in New Jersey include the ports of Camden, Gloucester City, and Pennsauken, handling an average of 6,500 TEUs, 5,500 TEUs and 600 TEUs, respectively, from 2007 to 2012. Figure 46 summarizes the amount of TEUs handled by these Delaware River ports from 2007 to 2012.

Figure 46: TEUs Transported Through the Delaware River Ports, 2007 to 2012



Source: U.S. Department of Transportation, Maritime Administration

For decades, the Port of Paulsboro located in Gloucester County served as a petroleum distribution center. Fueling tanks were built there during World War I to support the war effort. BP bought the property in 1969 before shutting it down in the 1990s; the port has since languished. In 2006, the borough of Paulsboro and the South Jersey Port Corp. committed to renovating the port. BP leased all but six acres of the site to the City of Paulsboro for $1 a year for the next 90 years and has continued working with the state Department of Environmental Protection to remediate the site. Phase I of the $274 million renovation project officially broke ground in 2009, making this the first new marine terminal facility on the Delaware River in more than 50 years. These improvements included the construction of an access road and bridge that will directly connect the port to I-295. Additional improvements to the port, including the construction of a new wharf, are expected to be completed by 2016.

5.4.4 Regional Employment

Total employment in the New Jersey counties included in the study area increased from 1.6 million in 1990 to 1.8 million in 2010, representing a compound annual growth rate of 0.8 percent period. Employment growth in the more populous counties was in Somerset County (1.0 percent increase per year from 2000 to 2010), Mercer County (1.0 percent per year), Camden County (0.7 percent per year), Burlington County (0.6 percent per year), Middlesex County (0.6 percent per year) and Monmouth County (0.5 percent per year)). Recent forecasts prepared by DRVPC and NJTPA estimate that total employment in these ten New Jersey counties will exceed 2.2 million by 2040. It should be noted that many New Jersey residents do not work in state, but instead commute to New York City, Philadelphia, Wilmington, and other regional employment centers. Table 9 summarizes historical and forecast employment for the New Jersey counties included in the DRJTBC study area from 1990 to 2040.

Table 9: New Jersey Employment by County, 1990 to 2040

Employment	Actual				Forecast						
New Jersey	1990	2000	2010	1990-2010 CAGR	2015	2020	2025	2030	2035	2040	2010-40 CAGR
Burlington County	191,345	205,886	217,229	0.64%	218,472	221,440	228,422	235,404	238,372	239,414	0.32%
Camden County	227,933	235,355	263,406	0.73%	265,886	267,425	269,769	272,076	273,581	274,124	0.13%
Gloucester County	86,079	99,467	116,151	1.51%	117,596	121,708	131,382	141,056	145,169	146,614	0.78%
Hunterdon County	37,966	56,800	49,600	1.35%	53,403	57,498	61,906	66,653	71,764	78,300	1.53%
Mercer County	220,373	209,758	266,672	0.96%	267,493	271,279	276,220	281,160	284,235	286,087	0.23%
Middlesex County	364,963	406,200	409,200	0.57%	427,254	446,105	465,788	486,339	507,797	532,600	0.88%
Monmouth County	221,217	252,600	246,200	0.54%	257,927	270,212	283,082	296,565	310,690	327,200	0.95%
Somerset County	144,916	154,032	177,700	1.02%	188,166	199,248	210,983	223,410	236,568	252,500	1.18%
Sussex County	29,953	40,200	37,600	1.14%	40,842	44,364	48,189	52,344	56,858	62,800	1.72%
Warren County	33,100	35,700	35,000	0.28%	36,380	37,814	39,305	40,855	42,466	44,300	0.79%
New Jersey Counties	**1,557,845**	**1,695,998**	**1,818,758**	**0.78%**	**1,882,662**	**1,937,093**	**2,015,047**	**2,095,862**	**2,167,499**	**2,243,939**	**0.70%**

Sources: DVRPC, NJTPA, LVPC, the New Jersey DOT, Pennsylvania Department of Planning and Industry

In the Pennsylvania counties that form part of the study area, total employment increased from 2.3 million to 2.5 million from 1990 to 2010. Employment growth in three of suburban Philadelphia counties has been relatively strong from 1990 to 2010, as per annum growth rates in Bucks, Chester, Delaware and Montgomery counties was 0.9 percent, 2.0 percent, 0.2 percent, and 0.9 percent, respectively, during this period. Total employment in Philadelphia County decreased from 836,000 to 721,000, representing an average annual decrease of 0.7 percent from 1990 to 2010. Table 10 summarizes the historical and projected change in employment through 2040. Total employment in Lehigh County and Northampton County located in the Allentown metropolitan area increased by 1.0 percent per year and 0.8 percent per year, respectively. Monroe and Pike also experienced strong employment growth during this period. Recent forecasts estimate that total employment in these Pennsylvania counties will increase to 2.8 million by 2040.

Table 10 summarizes historical and forecast employment for the Pennsylvania counties in the DRJTBC area. Overall, total employment in the DRJTBC study area is expected to increase from 4.4 million in 2010 to 4.5 million in 2020, 4.8 million in 2030, and 5.0 million in 2040. This increase represents a forecasted compound average growth rate of 0.5 percent.

Table 10: Pennsylvania Employment by County and Total DRJTBC Study Area Employment, 1990 to 2040

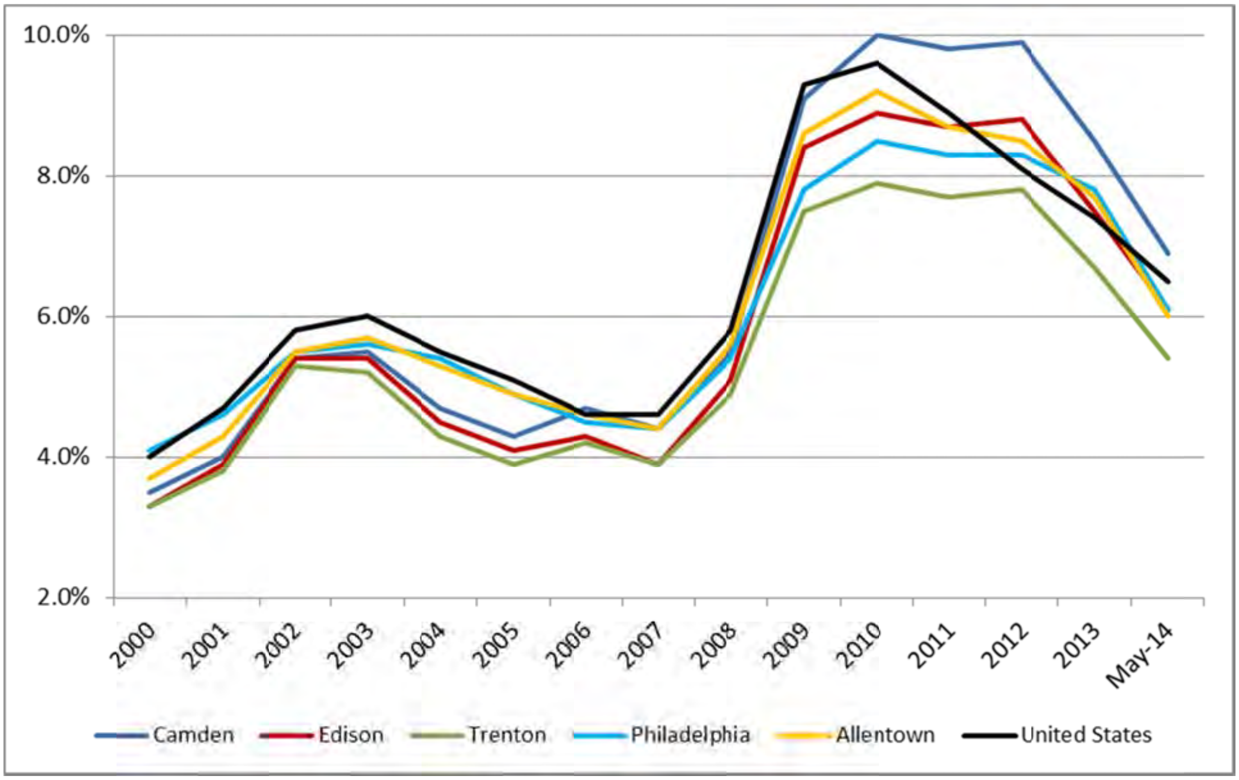
Employment	Actual				Forecast						
Pennsylvania	**1990**	**2000**	**2010**	**1990-2010 CAGR**	**2015**	**2020**	**2025**	**2030**	**2035**	**2040**	**2010-40 CAGR**
Bucks County	245,360	267,124	293,325	0.90%	296,215	302,961	313,899	324,832	331,329	335,747	0.45%
Chester County	197,752	238,641	292,015	1.97%	301,075	312,456	330,019	347,581	358,962	368,022	0.77%
Delaware County	227,883	238,164	238,488	0.23%	238,733	239,431	241,072	242,713	243,410	243,655	0.07%
Lehigh County	179,696	208,260	218,507	0.98%	237,752	249,511	262,156	275,136	289,421	302,771	1.09%
Monroe County	47,000	66,300	74,400	2.32%	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Montgomery County	457,501	492,677	542,264	0.85%	548,136	558,371	575,496	592,621	601,597	605,507	0.37%
Northampton County	119,000	132,900	138,300	0.75%	141,808	148,575	154,978	161,722	169,440	176,761	0.82%
Philadelphia County	836,874	741,397	720,837	-0.74%	723,497	729,173	739,283	752,075	762,499	769,711	0.22%
Pike County	13,100	20,400	23,700	3.01%	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pennsylania Countie	**2,324,166**	**2,405,863**	**2,541,836**	**0.45%**	**2,487,216**	**2,540,478**	**2,616,903**	**2,696,680**	**2,756,658**	**2,802,174**	**0.33%**
Total	**3,882,011**	**4,101,861**	**4,360,594**	**0.58%**	**4,369,878**	**4,477,571**	**4,631,950**	**4,792,542**	**4,924,157**	**5,046,113**	**0.49%**

Sources: DVRPC, NJTPA, LVPC, the New Jersey DOT, Pennsylvania Department of Planning and Industry

5.4.5 Regional Unemployment

The metropolitan statistical area and metropolitan divisions located within the study area have closely tracked national trends in unemployment. These regions have had a lower unemployment rate than the U.S. average prior to the 2007-09 Recession and in the post-recession recovery period through 2011; however, employment growth has remained somewhat sluggish in recent years. As of May 2014, the non-seasonally adjusted unemployment rate in the Edison and Philadelphia regions was identical at 6.1 percent or slightly lower than the national unemployment rate of 6.5 percent. Lower rates were recorded in Allentown-Bethlehem and Trenton areas, which had 6.0 percent and 5.4 percent unemployment rates, respectively. Figure 47 below summarizes regional and national unemployment rates tracked by the Bureau of Labor Statistics (BLS) from 2000 through May 2014.

Figure 47: Study Area MSAs and National Unemployment Rate, 2000 to May 2014



Source: Bureau of Labor Statistics

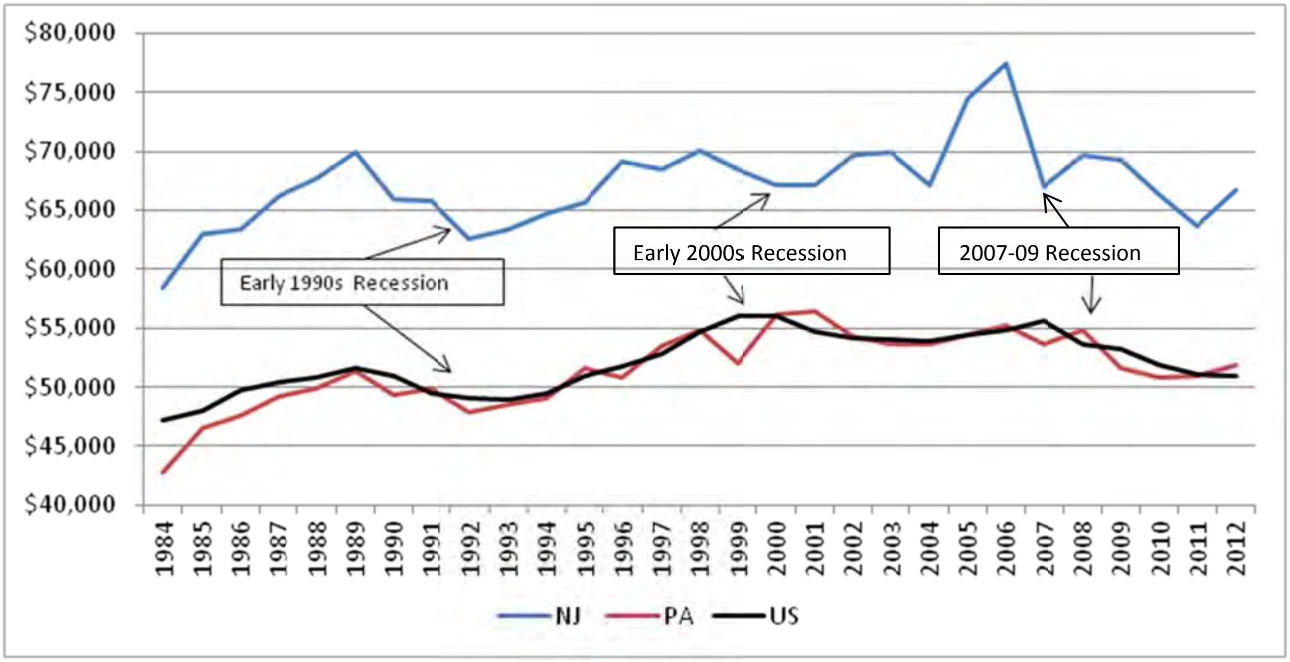
5.4.6 Regional Income

Real income is a key indicator of the direction and strength of the local economy. Figure 48 highlights that real median household income for the state of New Jersey has historically exceeded that of United States as a whole, while median household income in Pennsylvania has closely approximated national levels. The graph also highlights the impact of changes in national economic conditions on median household income at the state level. During each of last three recessions, income decreased and then subsequently increased once recovery conditions took hold.

Due to the importance of the financial services sector on New Jersey's economy, this relationship was particularly strong during the 2007-09 Recession. In 2012, real median household income increased from $67,191 in 2004 to $77,506 in 2006, before decreasing back to $67,006 in 2007. Income levels in New Jersey have yet to fully recover – median household income was $66,692 in 2012. Despite this decline, median household income in New Jersey was approximately 30 percent higher than that of the national average ($51,017). New Jersey also ranked as having the 3rd highest median income in the United States, behind Maryland ($71,836) and New Hampshire ($67,819).

In 2012, median household income in Pennsylvania was $51,904 or approximately 2 percent more than the national average. Pennsylvania ranked as the 23rd highest state in the U.S in terms of income. Figure 48 summarizes real median household income in New Jersey, Pennsylvania, and the U.S. from 1984 to 2012.

Figure 48: Per Capita Income in New Jersey, Pennsylvania, and the U.S, 1984-2012



Source: Bureau of Economic Analysis, U.S. Department of Commerce

Using data from the American Community Survey compiled by the U.S. Census Bureau, a similar pattern was found in the nineteen counties in the DRJTBC study area. All of the New Jersey counties had a higher median household income in relation to the national average. The median household income in Hunterdon Mercer, Middlesex, Monmouth, Somerset, and Sussex was from 50 percent to 100 percent greater than the U.S. average. Median household income in Camden County, which was the lowest of the New Jersey counties included in the study area, was 22 percent higher than the U.S. national average. Within Pennsylvania, the suburban counties in the Philadelphia metropolitan area – Bucks, Chester, Delaware, and Montgomery – also had a real median household income that was 30 percent to 70 percent greater than the national average. The exception was Philadelphia County, which had a median household income of $37,016, or approximately 30 percent less than the national average. Median household income in Monroe County, which encompasses the East Stroudsburg area, was 13 percent higher than the national average. In the two counties in the Allentown-Bethlehem metropolitan area – Lehigh and Northampton – median household income also exceeded the U.S. average. Table 11 compares median household income and recent unemployment rates for each county in the DRJTBC study area during this period.

Table 11: Median Household Income (2012) and Unemployment Rate (October 2013)

Area		Per Capita Income		Median Household Income		Unemployment Rate	
	County	2008-12	% Difference	2008-12	% Difference	Apr-14	% Difference
New Jersey	Burlington County	$ 36,590	30%	$ 78,229	47%	6.0%	5%
	Camden County	$ 30,652	9%	$ 62,320	17%	6.9%	-9%
	Gloucester County	$ 32,459	16%	$ 74,915	41%	6.6%	-5%
	Hunterdon County	$ 49,916	78%	$ 105,880	100%	4.7%	34%
	Mercer County	$ 37,246	33%	$ 94,002	77%	5.0%	26%
	Middlesex County	$ 34,494	23%	$ 79,442	50%	5.7%	11%
	Monmouth County	$ 42,768	52%	$ 84,746	60%	5.7%	--
	Somerset County	$ 47,985	71%	$ 98,571	86%	4.9%	29%
	Sussex County	$ 37,034	32%	$ 85,507	61%	5.9%	7%
	Warren County	$ 33,573	20%	$ 73,056	38%	5.4%	17%
Pennsylvania	Bucks County	$ 37,171	33%	$ 76,859	45%	4.7%	34%
	Chester County	$ 42,020	50%	$ 86,184	62%	3.8%	66%
	Delaware County	$ 33,098	18%	$ 64,242	21%	3.8%	66%
	Montgomery County	$ 41,330	47%	$ 78,984	49%	4.3%	47%
	Philadelphia County	$ 21,946	-22%	$ 37,016	-30%	6.8%	-7%
	Lehigh County	$ 27,961	0%	$ 54,645	3%	5.4%	17%
	Northampton County	$ 29,229	4%	$ 59,551	12%	5.5%	15%
	Monroe County	$ 24,920	-11%	$ 57,773	9%	6.7%	-6%
	Pike County	$ 27,456	-2%	$ 58,474	10%	7.1%	-11%
United States		**$ 28,051**	--	**$ 53,046**	--	**6.3%**	--

Sources: U.S. Census Bureau, 5-Year American Community Survey, 2008-12 and Bureau of Labor Statistics

Table 11 also compares the non-seasonally adjustment unemployment rate in each of these counties as of April 2014, the latest date that this information was available at the county level. The unemployment rate in Camden County (6.9 percent) and Gloucester County (6.6 percent remained above the U.S. national average of 6.3 percent in April 2014. The unemployment rate in the remaining study area New Jersey counties was at or below the U.S. unemployment rate. Employment levels are strongest in Hunterdon County, which had an unemployment rate of 4.7 percent in April 2014. Employment levels are also relatively strong in the suburban Philadelphia counties, while the unemployment rate in Philadelphia County was 6.8 percent. In addition, Monroe County and Pike County, which are relatively more rural, had an unemployment rate of 6.7 percent and 7.1 percent, respectively.

5.4.7 Regional Commuting Patterns

Approximately 72 percent of workers in New Jersey commute to work in single-occupancy vehicles compared to 77 percent in neighboring Pennsylvania and 76 percent nationally. Approximately nine percent of New Jersey commuters carpooled into work, while another 11 percent used public transit, which was more than double the national average of five percent. Other forms of transportation used by commuters included walking, bicycling, and telecommuting. The percentage of New Jersey who used other forms of transportation to go to work was approximately nine percent from 2008 to 2012. Average travel time for New Jersey commuters was 30.3 minutes in 2008 to 2012, which was about 19 percent higher than the national average of 25.8 minutes. Average commuting time in Sussex County (37.5 minutes), Warren County (34.9 minutes), Hunterdon County (34.0 minutes), Monmouth County (33.7 minutes), Middlesex County (32.4 minutes), and Somerset County (31.5 minutes) exceeded 30 minutes. Table 12 summarizes the commuting patterns in the New Jersey counties included in the study area and statewide.

Average commuting time in Pennsylvania was 25.8 minutes, which was slightly higher than the U.S. average. Travel time to work exceeded 30 minutes in three Pennsylvania counties. In the relatively rural Pike County and Monroe County, average commuting time was 41.6 minutes and 39.6 minutes, respectively. These higher travel times are due to some workers making longer distance commutes to New York City, Philadelphia, and other employment centers. Average commuting time in Philadelphia County was 31.8 minutes. This commuting time likely reflects the relatively high number of commuters, 26 percent, that use public transit, which lengthens travel time due to headways between trains and the need to make multiple connections to arrive at employment centers. In the suburban Philadelphia area, commuters were more likely to drive alone to work and travel time was approximately two to three minutes more than the national average. Table 12 summarizes the commuting patterns in the counties included in the DRJTBC study area, New Jersey, Pennsylvania, and for the U.S.

Table 12: Commuting Patterns in Selected New Jersey and Pennsylvania Counties, 2008-2012

Area		% Drive Alone	% Carpool	% Public Transit	% Other	Average Commuting Time (min)	Drive Alone % Difference from U.S.	Avg Commuting Time % Difference from U.S.
New Jersey	Burlington County	82%	8%	3%	6%	28.6	8.1%	12.6%
	Camden County	77%	9%	8%	6%	27.7	0.8%	9.1%
	Gloucester County	85%	8%	2%	5%	28.1	11.2%	10.6%
	Hunterdon County	81%	6%	2%	10%	34.0	6.8%	33.9%
	Mercer County	71%	10%	7%	12%	27.0	-6.7%	6.3%
	Middlesex County	73%	9%	10%	8%	32.4	-3.8%	27.6%
	Monmouth County	74%	9%	8%	9%	33.7	-2.5%	32.7%
	Somerset County	78%	9%	5%	8%	31.5	2.2%	24.0%
	Sussex County	84%	7%	2%	8%	37.5	10.2%	47.6%
	Warren County	81%	10%	2%	7%	34.9	6.4%	37.4%
	Statewide	72%	9%	11%	9%	30.3	-5.7%	19.3%
Pennsylvania	Bucks County	82%	8%	3%	7%	28.2	8.0%	11.0%
	Chester County	81%	7%	3%	9%	27.5	6.8%	8.3%
	Delaware County	75%	8%	9%	8%	27.6	-1.7%	8.7%
	Lehigh County	81%	9%	2%	7%	24.1	6.7%	-5.1%
	Montgomery County	80%	7%	5%	8%	27.5	4.6%	8.3%
	Monroe County	77%	11%	5%	7%	39.6	1.3%	55.9%
	Northampton County	83%	9%	1%	7%	27.3	9.2%	7.5%
	Philadelphia County	50%	9%	26%	15%	31.8	-34.0%	25.2%
	Pike County	82%	11%	2%	6%	41.6	7.4%	63.8%
	Statewide	77%	9%	5%	9%	25.8	0.5%	1.6%
United States		**76%**	**10%**	**5%**	**9%**	**25.4**	--	--

Sources: U.S. Census Bureau, 5-Year American Community Survey, 2008-12

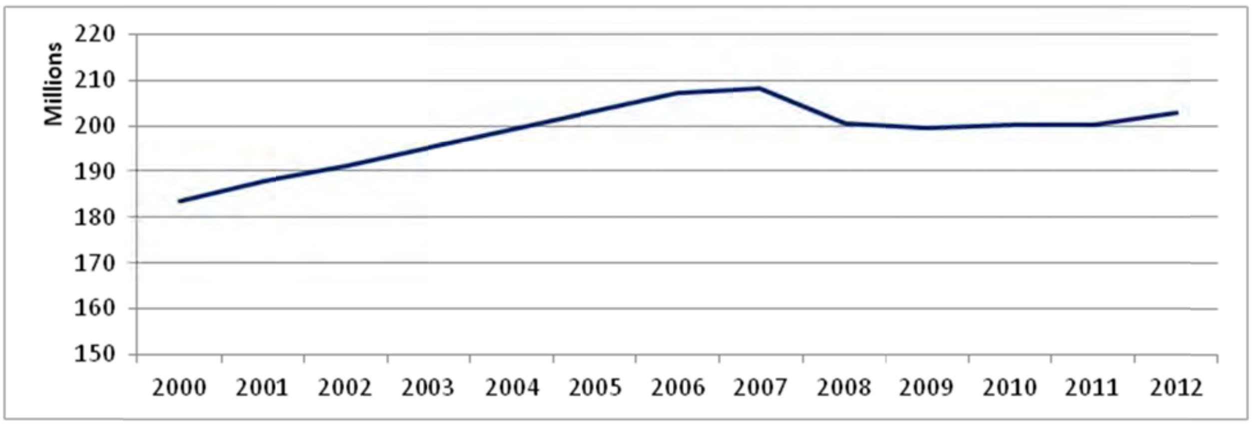
5.4.8 Regional Vehicle Miles Traveled

Daily VMT in New Jersey and adjoining metropolitan areas including the New York City and Philadelphia regions is in line with national trends and has not recovered fully since the start of the 2007-09 Recession. From 2000 to 2007, daily VMT increased from 183 million to 208 million, representing an average annual growth rate of 1.8 percent. In 2012, daily VMT was 203 million, resulting in a per annum decrease of 0.5 percent from 2007 to 2012. The biggest increase that occurred in that five-year period was between 2011 and 2012, with a 1.3 percent increase in VMT. Daily VMT levels in New Jersey are summarized in Figure 49.

Daily VMT in metropolitan areas near the Delaware River – Philadelphia, Trenton, and Allentown – exhibits a comparable trend. The VMT for each area peaked in 2006, had a sharp decline through 2008, with slight annual increases or decreases through 2011. Figure 50 summarizes daily VMT compiled by the New Jersey Department of

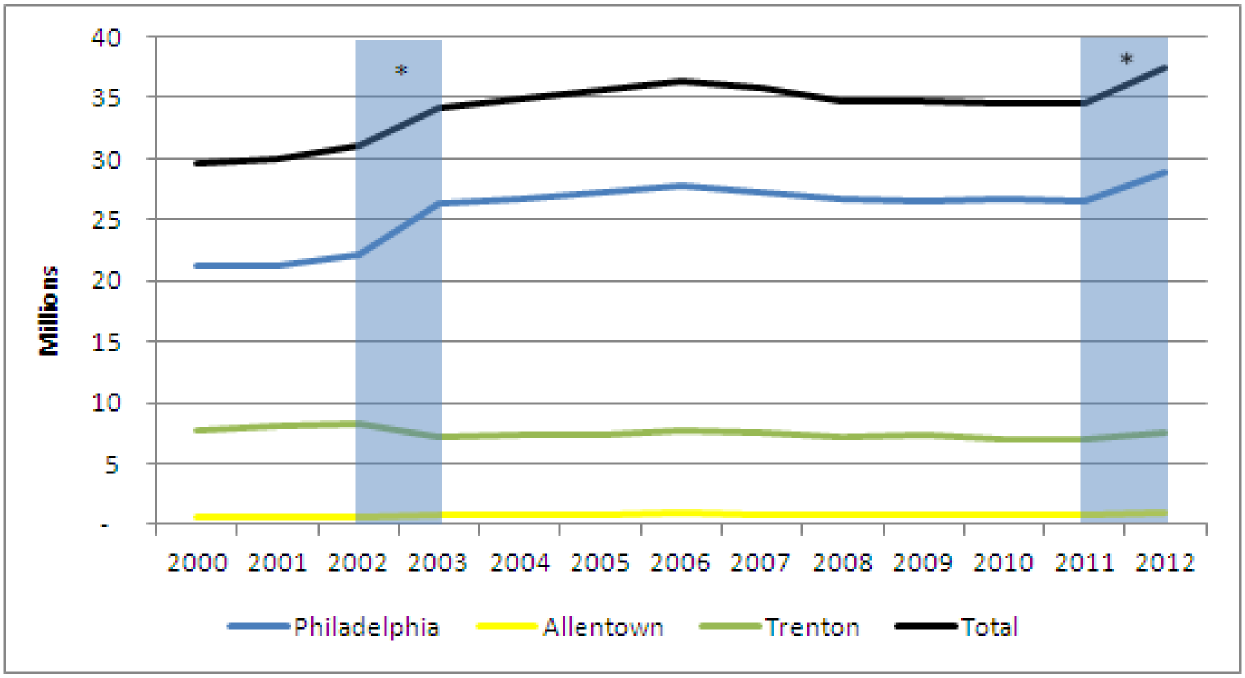
Transportation from 2000 to 2012 for these three metropolitan areas. (Note that while 2012 appears to show large growth, in 2012 NJDOT reallocated some roadways among functional classes and areas; therefore, 2012 metropolitan area VMT data cannot be compared to previous years.) As an aggregate, daily VMT in these areas has declined a total of 5.0 percent over the six-year period from 2006 to 2011, which is 0.8 percent per annum, from 36.3 million to 34.5 million. Within the larger economic regions, daily VMT decreased by 4.1 percent (0.7 percent per annum) in the Philadelphia metropolitan area and 6.7 percent in the Allentown area (1.2 percent per annum) from 2006 to 2011. In the Trenton area, daily VMT decreased by 7.9 percent during this period (1.4 percent per annum).

Figure 49: Daily VMT in New Jersey and Adjoining Metropolitan Areas, 2000 to 2012



Source: New Jersey DOT, Bureau of Transportation Data and Safety, Roadway Systems Division

Figure 50: Daily VMT in the Philadelphia, Trenton and Allentown Metropolitan Areas, 2000 to 2012



**NJDOT reallocated VMT among functional classes and urbanized areas twice during the time period shown: between 2002 and 2003 and between 2011 and 2012. Therefore, data for these years should not be used to determine growth for individual sectors.*
Source: New Jersey DOT, Bureau of Transportation Data and Safety, Roadway Systems Division

5.4.9 New Jersey and Pennsylvania Economic Forecast

Economic growth and employment in New Jersey and Pennsylvania have generally followed national trends. Current forecasts anticipate that this trend will continue in the short-term. Economic growth may be impacted due to the following:

- The Rutgers Economic Advisory Service/Rutgers University Center for Urban Policy Research forecasts that real Gross State Product (GSP) in New Jersey will increase by an average of 2.0 percent from 2014 to 2020;
- The State of New Jersey Department of the Treasury's compiles the Garden State Activity Index – a composite of the Federal Reserve Bank of New York's coincident index, the Federal Reserve Bank of Philadelphia's coincident index, and the Philadelphia Fed's South Jersey Business Survey – to measure economic activity in the state. The Garden State Activity Index was 142.9 in November 2013, up from 133 in January 2010. The Garden State Activity Index has increased steadily during this period.
- JPMorgan Chase forecasted that real Gross State Product (GSP) in Pennsylvania will increase 3.2 percent and non-farm employment will increase by 1.0 percent during 2014.

- New technology has improved access to vast reserves of natural gas in Pennsylvania. Natural resources and mining employment increased by 15,000 workers from 2010 to 2012. However, employment in the industry remained constant during 2013 as relatively lower natural gas prices have dampened exploration activities. Although fuel prices have been increasing over the past year, they remain relatively low compared to the highs hit in the previous decade.
- Employment growth is expected to continue. The professional services, health, and education sectors are anticipated to be fastest growing sectors in both states. The Rutgers Economic Advisory Service/Rutgers University Center for Urban Policy Research forecasted that non-agricultural employment in New Jersey will increase by an average of 0.8 percent per year from 2014 to 2020;
- During 2013, home prices have increased slightly in New Jersey and Pennsylvania. However, these indicators have increased at a slower rate than the U.S. as a whole. New business permits have increased substantially in New Jersey and moderately in Pennsylvania through October 2013.
- Southern New Jersey, parts of Sussex, Warren, and Hunterdon counties, and Monroe County in Pennsylvania had mortgage delinquency rates – defined as foreclosure or 90+ days overdue – of 12 percent or higher.

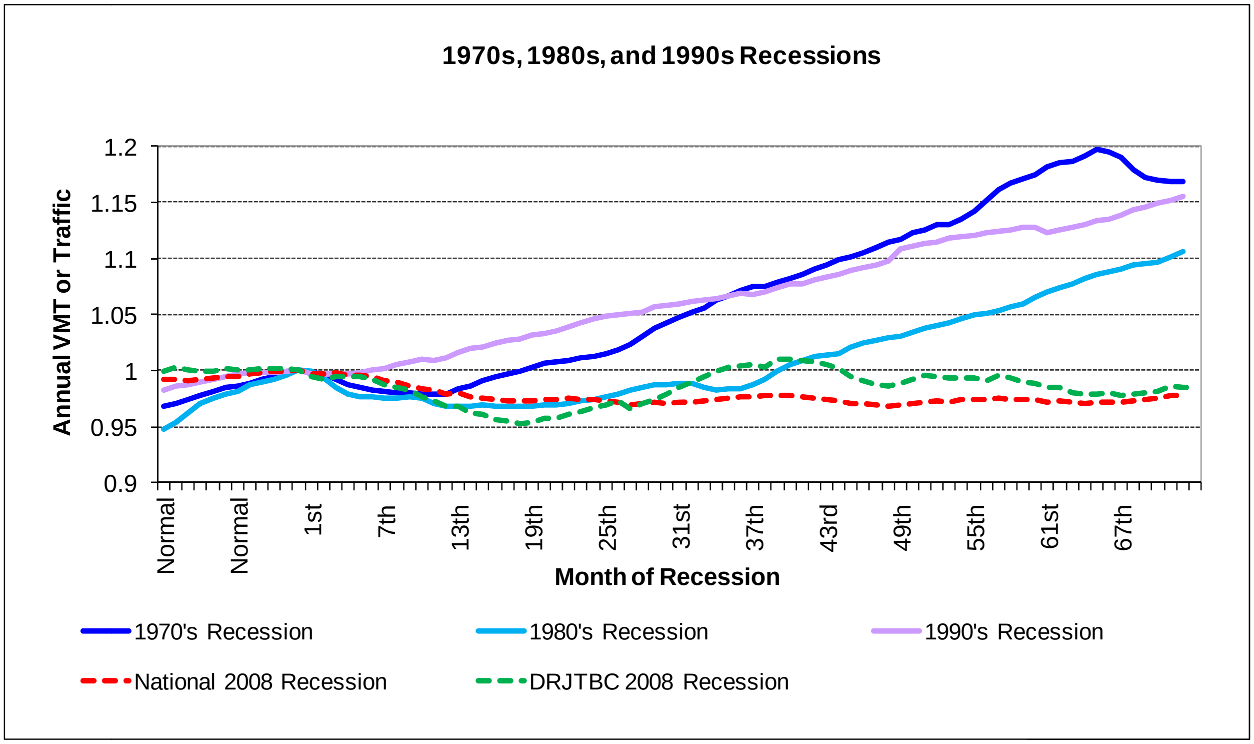
5.5 Historical VMT and Economic Recessions

5.5.1 Comparative Recession Analysis

Jacobs reviewed traffic characteristics, on a national level, exhibited during past economic recessions through to the most recent recession. The purpose of these comparisons is to develop additional guidance in forecasting future traffic growth trends as the economy improves. We have selected the recessions of the 1970s, 1980s, 1990s, and 2008 for comparison purposes. Other recessions like that of 2001/2002 were much smaller in duration and magnitude than the current recession and were not included in the analysis.

Figure 51 is a plot of nationwide vehicle-miles-traveled (VMT) indexed to the first month of the respective significant national recessions. The 2008 recession VMT is illustrated as the dashed trend line, which was indexed to November 2007 VMT.

Figure 51: Indexed VMT Before, During and After Recent and Historical Recessions



The trend of the 2008 recent recession most closely matches that of the 1980's recession. Examining traffic trends from the early 1980s recession, it can be seen that traffic in the 1980s began its final recovery after about 36 months. The period of recent economic weakness (2008 recession), represented by the dashed line, indicates a significantly longer recovery period for VMT than during the early 1980s recession, as it has been nearly 80 months without apparent signs of recovery.

5.5.2 DRJTBC Forecasted VMT and its Relationship to Economic Recessions

Figure 51 also shows the DRJTBC traffic, based on an average of the previous twelve months to remove seasonality; it also has been indexed to November 2007, and is represented by the dashed green line in the chart. The graph illustrates that DRJTBC traffic saw a deeper decline than the national VMT trends over the first year or so after the start of the recession. However, after this point, DRJTBC traffic showed signs of recovery, regaining an index of 1.0 around the 35th month, though it fell short of that high point several months later and has continued at levels below pre-recession.

There is still a great deal of uncertainty in the direction that the current economy is heading. While five years 'officially' out of the recession, the economy continues to lag expectations, with recent continual downgrading of expected GDP growth in the near term. In fact, in a consensus of economic opinions from *Blue Chip Economic Indicators*, a clearinghouse of over 50 economic forecasting entities, it is now anticipated that the GDP growth for 2014 to be 2.2 percent – lower than the December 2013 forecast of 2.5 percent for 2014. GDP growth is currently anticipated to be 3.1 percent in 2015. Nationwide unemployment rates - and forecasts of unemployment – have been declining over the past year and a half from 8.1 to 6.5 percent, with a current consensus forecast of 6.3 percent for 2014 and 5.8 percent for 2015.

Concerning nationwide VMT, examining traffic trends during and after the 1970's, 1980's, and 1990's recessions, it can be seen that traffic began its final recovery between 20 and 36 months after the beginning of each respective recession. The current period of recent economic weakness (the 2008 recession) indicates that even after nearly 80 months, that there still has been no turnaround to positive VMT growth. In fact, current VMT levels are still lower than they were in 2004.

Therefore, while the economy is, by definition, in recovery, it is important to understand the slowness of this recovery and its impact on traffic. This continued recovery has so far been characterized by slow GDP growth, a slow reduction in the unemployment rate, and without an increase in VMT.

6.0 TOLL TRAFFIC AND GROSS TOLL REVENUE FORECASTS

The following section provides a narrative of the methodology used for developing the traffic and revenue forecasts, as well as a presentation of those forecasts.

6.1 Methodology Used for Forecasting

Because the Scudder Falls Bridge is not currently tolled, it is not suited to a traditional trend line analysis for forecasting purposes. In addition, it will be an AET facility with no cash toll collection. Because of these factors, a much more comprehensive analysis of the facility was required to achieve the depth and quality of report required for an investment-grade study.

In order to determine future background growth (i.e., growth in traffic without tolling or any other changes), Jacobs used historical DRJTBC data, correlating it to GDP and IPI, then used forecasts of future GDP and IPI to estimate traffic growth rates. We used results from the regional Delaware Valley Regional Planning Commission (DVRPC) model as run by DVRPC staff specifically for this work assignment in order to estimate potential traffic changes due to the replacement of the Scudder Falls Bridge with a wider bridge, and also due to the new I-95/Pennsylvania Turnpike interchange.

Estimates of toll diversions from our prior Level 2 study were refined based on differences in Pennsylvania-bound vs. New Jersey-bound traffic in the area, travel times using the Scudder Falls Bridge versus alternative crossings, and origin-destination patterns from the online survey results. Survey data were also used to develop a customer profile, such as state of vehicle registration and frequency of travel, which enables us to estimate the number of video toll accounts and the number of invoices to be mailed to customers.

Data from existing AET facilities on video tolling costs and uncollectable revenues were incorporated into our models. As part of the Tolling Policy, DRJTBC would like to set the video tolling surcharge (i.e., the additional toll for video toll vehicles on top of the ETC toll) to cover the additional cost of collecting video tolls, plus some of the uncollectable video tolls. Part of our modeling process was to estimate this video toll surcharge. In addition, a $30 violation fee per transaction will be imposed on the third video toll invoice if the first two invoices are not paid. The violation fee revenues, meant to cover some of the uncollectable video toll revenue, were also estimated by Jacobs for each year of the estimate.

Our model is segmented by vehicle classification (truck vs. passenger car), travel frequency, and payment type. It is important to note that there may be some trips currently utilizing the Bridge simply because it is free. Once tolling is introduced into the model it is probable that some trips that are using the bridge simply because it is free will move to other tolled facilities such as the Trenton-Morrisville Toll Bridge. Jacobs has also developed estimates of additional revenue at the Trenton-Morrisville Toll Bridge due to Scudder Falls Bridge tolling.

The work, analyses, and results for the DRJTBC included in this report are of investment-grade quality and are suitable for financing. The background and methodology for Jacobs' traffic and toll revenue projections for the DRJTBC are presented herein.

6.2 DVRPC Forecast Model

The Delaware Valley Regional Planning Commission (DVRPC) model was used by the DVRPC to determine the future traffic changes that will occur due to the widening of the Scudder Falls Bridge (the "Scudder Falls Bridge Improvement Project") and due to the PA Turnpike/I-95 Interchange Project. DVRPC conducted the travel forecasting using their new regional travel forecasting model – Travel Improvement Model version 2.0 (TIM 2.0). DVRPC calibrated its base year model to match base year (2013) volumes on the Scudder Falls Bridge and other area bridges as closely as possible, and then ran their future year networks to determine impacts of the completion of these two projects on southbound Scudder Falls Bridge traffic volumes.

"Stage 1" of the PA Turnpike/I-95 Interchange Project, which includes the completion of northbound-to-eastbound and westbound-to-southbound ramps only, is expected to be completed by the time the Scudder Falls Bridge is improved and tolled at the beginning of 2019. The effects of the two improvements on Scudder Falls Bridge southbound traffic, separate and combined, as predicted by the DVRPC Model, are as follows:

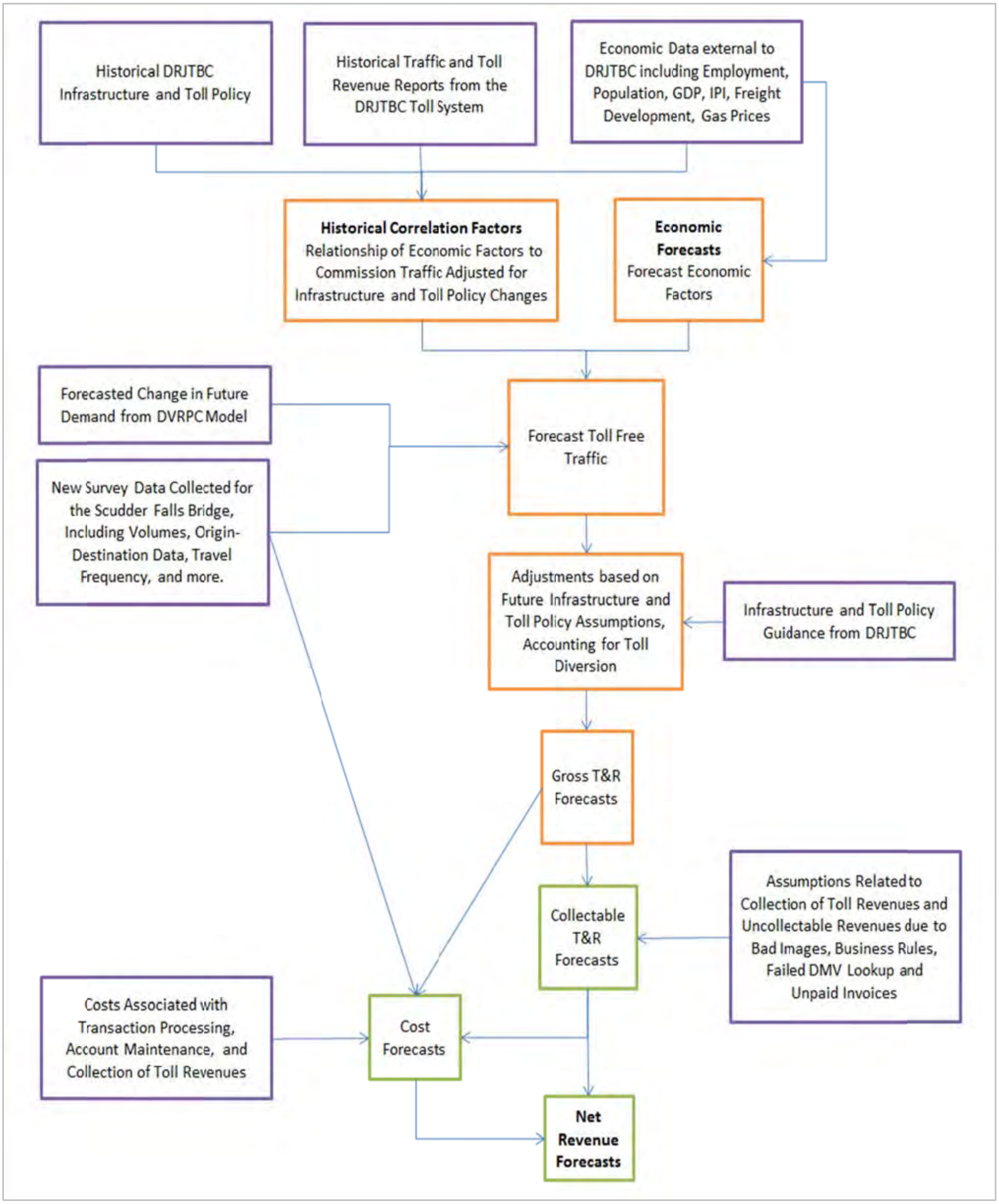
- Scudder Falls Bridge widening only: +8.3%
- I-95/PA Turnpike interchange only: -3.8%
- Widening plus new I-95 Interchange: +3.6%

The impact of the two improvements together is a 3.6 percent increase in southbound traffic on the Scudder Falls Bridge compared to a no build condition. This was applied to Jacobs' traffic and revenue forecasting model.

6.3 Scudder Falls Traffic and Toll Revenue Model

Jacobs developed a spreadsheet-based forecast model specifically for the Scudder Falls Bridge facility. The model was designed to estimate toll transactions and revenues, as well as costs associated with the collection of tolls. Figure 52 presents a diagram of the major inputs and steps in the modeling process.

Figure 52: Toll Traffic and Revenue Model Methodology



The forecasting model is built off of a base of historical and recent traffic volume data. Growth rates were developed based on socioeconomic factors, historical data at other DRJTBC facilities and professional judgment and were applied to the existing volumes, creating a forecast of toll-free traffic through 2030. The model considers how toll-free traffic volumes might be distributed amongst available payment options if a toll were implemented, and then estimates changes in traffic volumes due to the toll rates applied. Toll rates are applied to these resulting toll volumes to generate forecasts of toll revenue.

The second portion of the model then takes the estimated number of toll transactions and models them through the collection process, estimating losses due to bad image reads, business rules, bad addresses or no matching DMV records, and failure to respond to invoicing. The results of this collection process analysis are used to determine the portion of "collectable" toll revenue, as well as the number of video accounts to be maintained and invoices to be mailed. The various costs associated with toll collection are then calculated and compared to the "collectable" toll revenue. This process helps to determine reasonable surcharges and fees to be included in video tolls or late invoices. The model cycles back to incorporate specified fees and surcharges in the estimate of collectable revenues, allowing for the calculation of net revenues.

6.3.1 Inputs and Assumptions

In the creation of a base structure for forecasting calculations, it becomes necessary to assume some information such as future infrastructure and consistency in historical trends on similar or nearby facilities. The following sections provide further detail on the assumptions used in the development of estimates for the Scudder Falls Bridge.

6.3.1.1 Potential Future Transportation Projects

It was assumed that widening of the Scudder Falls Bridge and the construction of the new mainline flyovers of the PA Turnpike / I-95 Interchange and associated I-95 and Turnpike mainline widening and reconstruction would be completed by the time Scudder Falls tolling begins in January 2019. As discussed previously in Section 6.2, we used results from the regional DVRPC model as run by DVRPC staff specifically for this work assignment to estimate traffic changes due to these two projects.

6.3.1.1.1 Scudder Falls Bridge Improvement Project

The Scudder Falls Bridge, currently two lanes per direction, will be replaced with a new bridge that is three lanes per direction, plus auxiliary lanes that will improve access on both sides of the bridge. The portions of I-95 from the Bridge to NJ Route 29 and from the Bridge to PA Route 332 will also be widened to three lanes per direction. Other project improvements include the reconfiguration of the Taylorsville Road Interchange and the reconstruction and reconfiguration of the Route 29 interchange through the use of roundabouts. A pedestrian/bicycle path will be built as part of the construction of the Scudder Falls Bridge.

6.3.1.1.2 PA Turnpike / I-95 Interchange Project, Bucks County, PA

This Interstate completion project will connect I-95 and I-276 in Pennsylvania, facilitate a revised routing of I-95 in PA and NJ, and make I-95 continuous along the east Coast from Florida to Maine. I-95 completion was legislated by the 1982 Surface Transportation Assistance Act (STAA). When the mainline flyovers of the PA Turnpike / I-95 Interchange and associated I-95 and Turnpike mainline widening and reconstruction are completed in 2018, I-95 in PA will be re-designated through the Interchange, east along the existing PA Turnpike across the Delaware River Bridge to the NJ Turnpike connector, east along the connector to NJ Turnpike Exit 6 and then north along the NJ Turnpike. I-95 north of the proposed interchange in PA across the Scudder Falls Bridge to US 1 in NJ will be re-designated at that time.

Stage 1 of the project involves the construction of the I-95 mainline flyovers of the interchange between I-95 and the PA Turnpike, a new mainline toll plaza west of this interchange, the replacement of the existing River Bridge toll plaza with an all-electronic (AET) toll facility in the westbound direction, and the removal of the existing US 13 interchange toll facility. This project is integral to the Delaware Valley Freight Corridors initiative. Stage 1 construction has been broken down into several contracts and expected completion is in 2018.

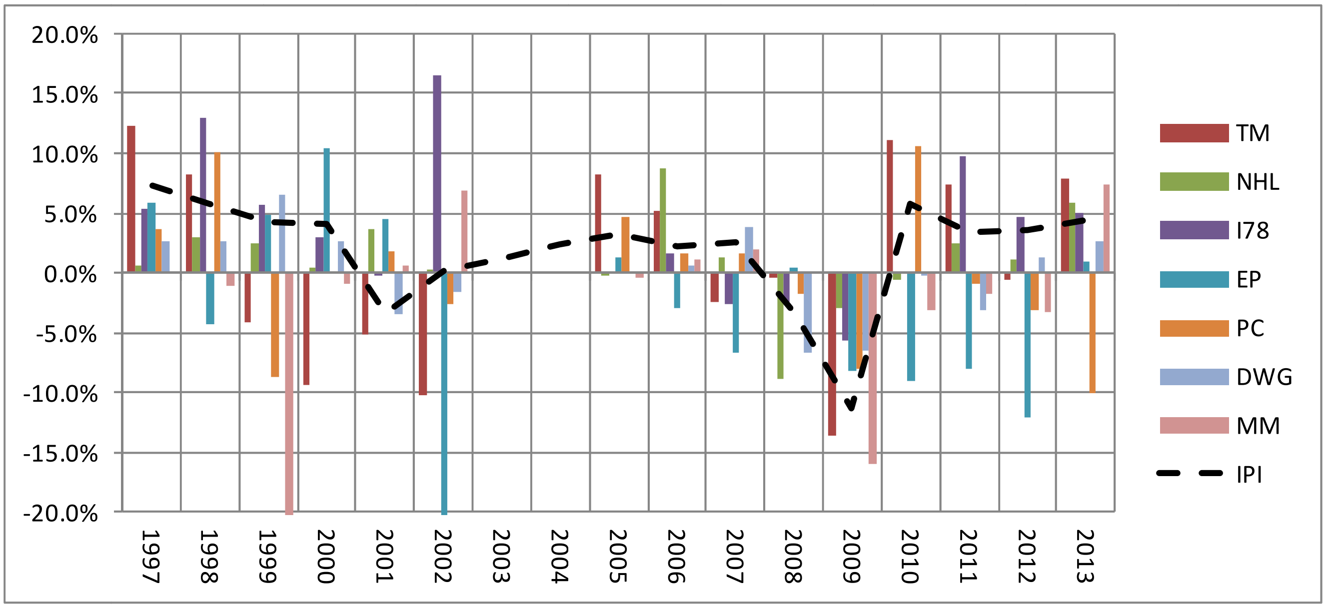
A future Stage 2 will include construction of the remaining six new interchange ramp movements which do not have the I-95 designation, and completion of the mainline widening from 2 lanes in each direction to three lanes in each direction in addition to reconstruction work on the Turnpike and I-95. Construction of Stage 2 is not anticipated to begin until 2020. A future Stage 3 will include a new parallel bridge over the Delaware River.

6.3.1.2 Historical Traffic Correlation to Economic Factors

In order to understand the correlation between socioeconomic factors and DRJTBC toll facility traffic, growth in historical toll facility traffic was compared to the growth in relevant socioeconomic factors, such as IPI and GDP. In the calculation of correlation constants for each of the DRJTBC facilities, years that experienced unusual events, such as toll increases, were left out of the calculation in an effort to “normalize” the correlation.

Figure 53 shows an example of traffic growth compared to a socioeconomic factor – in this case, the growth in truck traffic versus growth in Industrial Production Index (IPI). On this graph, each of the individual DRJTBC toll facilities is represented by a different color bar, while IPI is represented by the black dashed line. As illustrated by this graph, truck growth and IPI growth tend to follow the same trends – a given year with strong positive truck growth on average, such as 1997 (far left) also saw strong IPI growth, while years with strong negative growth, such as 2009, also saw a large decrease in IPI.

Figure 53: Truck Growth on DRJTBC Tolled Facilities versus IPI Growth



Correlations were also calculated between car growth and Real Gross Domestic Product (GDP), and population growth was considered as well. The correlation factors determined for each facility for GDP and IPI were used to relate growth forecasts to consensus forecasts for GDP and IPI throughout the forecast period.

6.3.1.3 Drivers' Potential Reaction to Tolls

When drivers are charged a new (or higher) toll for travel than they have previously been accustomed to paying for the roadway, they face the decision of whether or not to alter their travel behavior in reaction to the change in cost. They do this by changing their travel route, combining trips, abstaining from unnecessary trips, or by making no change to their behavior. In an effort to assess the willingness of drivers to continue travel on the toll facility, we must consider the driver's "Willingness to Pay". Willingness to pay (WTP) is defined as the “maximum amount an individual is willing to sacrifice to procure a good or avoid something undesirable.”

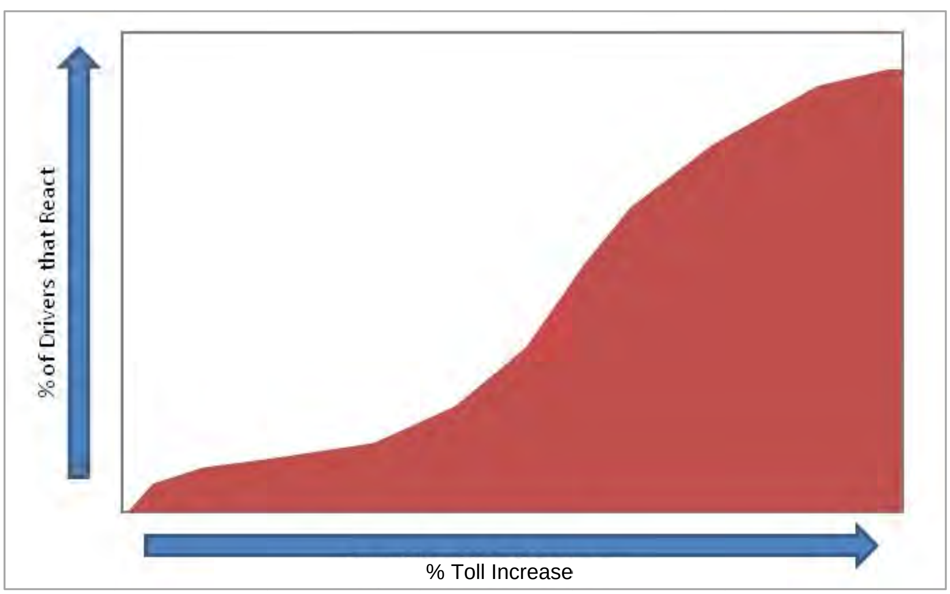
In terms of tolling, the driver’s WTP is based on their consideration of cost, time, convenience, and reliability of travel on the toll route versus alternative route options. When they decide that the toll route is their best option, they are willing to pay the toll.

On a route where tolls already exist, such as the Trenton-Morrisville Toll Bridge (a competitor of the Scudder Falls Bridge), toll changes also elicit a reaction from drivers. Since a toll already exists and there is some history of how many drivers have chosen to pay the toll at certain toll rates, some relationship can often be determined between the change in traffic due to the change in toll rate. This relationship is referred to as “Toll Elasticity”.

The amount of traffic that chooses to avoid a toll facility due to the inception of tolling or due to a toll increase is referred to as “Toll Diversion”. Jacobs developed a methodology to estimate diversion due to initial tolling, and for any increases to this toll we used toll elasticity factors developed from data from other toll facilities.

Figure 54 presents a general representation of the relationship between toll increases and driver reaction. In general, the larger the toll increase, the larger the percentage of drivers that will react.

Figure 54: Representative Driver Reaction to Toll Increase



6.3.1.3.1 Diversion Due to the Inception of Tolling

Jacobs employed a methodology for estimating toll diversion similar to what was used in our 2009 Level 2 Traffic and Revenue Study and subsequent Toll Diversion Study. That forecast was determined by grouping the O-D data and estimating the likelihood of diverting versus remaining on the Scudder Falls Bridge based on travel time savings, traveler value of time, and characteristics of customers.

One reason a driver would chose a toll route over a free route is time savings; in effect, time equals money. There is no one standard to determine how much a minute or ten minutes of driving is worth monetarily; however in the toll forecasting industry good rule of thumb is that the value of time (VOT) is 33 percent to 60 percent of the median household income divided by 2080 (the approximate number of hours worked per year). A road with more commuters – who value their time higher than someone making a discretionary trip – should use a higher percent of the household income. Fifty percent was used for this study.

For this area we determined that $1.00 is a little more than three minutes travel time savings. What this tells us is that the average regular customer in this area will choose to use the Scudder Falls Bridge for a $1.00 toll if it saved them a little over three minutes or more.

Travel time savings is not the only consideration; we also have to consider other characteristics such as trip purpose, frequency and length and well as method of payment. Long-distance travelers are typically infrequent customers who, since they will only be taking the toll bridge occasionally, are less likely to seek an alternate route. They are also less likely to be commuters. Commuters value their time higher than most other travelers because they are on a schedule, and commuters also have a better understanding of the time savings available to them when choosing one local route versus another. Even though there may be time savings using an alternate route, long-distance and infrequent travelers are likely to stay with the route they know best.

Origin-Destination data for the Scudder Falls Bridge was divided into three “superzones”, which were used to approximate the number of local, mid-distance, and long-distance customers currently using the Scudder Falls Bridge. When the Scudder Falls trip diversion estimated for each superzone is multiplied by the share of trips in each, the result is 17 percent diversion with an initial toll of $1.00 for all cars on the AET facility. Trucks were estimated to have about double the amount of diversion – 34 percent – due to the higher toll ($4.00 per axle) and the presence of many other less expensive alternatives on their typically longer-distance trips. For initial tolls that are less than or greater than these rates, and for future toll increases, toll elasticity factors were used as described in this next section.

6.3.1.3.2 Toll Diversion Due to Toll Increases

Toll diversion due to toll increases on facilities that already charge a toll is usually estimated based on historical data for the facility itself and other similar facilities, using values of toll elasticity. For the modeling of potential future Scudder Falls Bridge toll increases, toll elasticities were assumed based on experience at other toll facilities. An elasticity of -0.10 was used for passenger cars, while -0.20 was assumed for the estimation of truck diversion. These elasticities are similar to those on other toll facilities throughout the Northeast.

On toll facilities offering elective discounts for some methods of payment (such as an E-ZPass discount), a toll increase will also result in some number of existing customers changing to the discounted toll option. The model that Jacobs developed for the Scudder Falls Bridge considers potential differences in toll cost for various payment options, and for future toll increases the model can adjust the distribution of traffic between the various payment options as warranted by the toll rate differential.

6.3.1.4 E-ZPass Market Shares

Historically, electronic toll collection (E-ZPass) market share on DRJTBC and other facilities offering electronic payment has slowly increased over time until it approached 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 the toll facility.

E-ZPass market share on the current DRJTBC toll facilities varies dramatically by vehicle class with 2013 totals showing an average of 62.0 percent for car trips and 81.2 percent for truck trips. This calculates to an overall average E-ZPass market share of 64.6 percent. Based on survey data, it is estimated that the potential market share on the toll-free bridge is currently close to 60 percent for cars and as high as 75 percent for heavy trucks. With the implementation of AET on the Scudder Falls Bridge beginning in 2019, it is estimated that car market share will begin around 72 percent E-ZPass, with around 81 percent E-ZPass for heavy trucks. It is projected that the market share will increase quickly within a couple years of the inception of tolling as drivers realize that they could save money by using E-ZPass, then growth will slow, reaching a maximum market penetration of roughly 85 percent E-ZPass for both cars and trucks in 2027.

6.3.1.5 Toll Rates

Jacobs ran a number of toll scenarios for the Commission, with standard E-ZPass car tolls ranging from $1.00 to $3.00 and truck tolls ranging from $4.00 to $5.00 per axle. Today's E-ZPass discounts for commuters and for off-peak trucks would still apply. Vehicles without E-ZPass, or video toll vehicles, will be charged an additional amount on top of the base toll, and will be subject to violation fees if tolls are not paid on the second or third invoice.

The following sections provide detail on these discounts, surcharges and fees, and present the toll rates for the various scenarios tested.

6.3.1.5.1 Discounts

Discounts currently offered for E-ZPass patrons on DRJTBC toll facilities were assumed to apply to tolls at the Scudder Falls Bridge. These include a 40 percent frequency discount for passenger cars making more than 16 trips in a calendar month, as well as a 10 percent discount for commercial vehicles traveling during the off-peak hours of 10:00 PM to 5:59 AM.

The frequency discount is offered as an automatic rebate for cumulative travel on any of the DRJTBC toll facilities (not bridge-specific), for all E-ZPass customers registered with agencies participating in the New Jersey Regional Consortium (including legacy DRJTBC E-ZPass accounts).

The 10 percent discount for commercial vehicles traveling during off-peak hours is automatic for all E-ZPass customers, regardless of E-ZPass account location.

6.3.1.5.2 Video Surcharges and Fees

Surcharges and fees are often added to the base cost of toll rate to help recover additional costs incurred as part of the toll collection process. For the purpose of this study, the following definitions were used for "video surcharge" and "fee":

- Video Surcharge: Amount added to the base toll rate to help recover the additional costs associated with processing video transactions (rather than E-ZPass transactions).
- Fee: A violation fee of $30 per transaction was assumed to be charged to any video customer not paying their invoice within 60 days of receipt (charge to be included on the third invoice mailed). This fee would help recover the additional cost associated with video transactions, and cover some of the losses in toll revenue due to uncollectable video tolls.

In discussions with the Commission, it was decided that the video toll surcharge would be the same amount for all vehicle classes, and that it would not increase throughout the ten years of the forecast. In each toll scenario run by Jacobs, the surcharge was determined one of two ways:

(1) It was set at a rate that would cover both the additional cost of video toll collection (over E-ZPass) *and* any losses due to uncollectable video tolls that were not already covered by the violation fee revenues, or

(2) It was set at a rate that would cover the additional cost of video toll collection only

Jacobs included the video surcharge as part of the video toll rate in estimating toll diversion and toll revenues. Forecasted violation fee revenues were based on the violation fees collected.

6.3.1.5.3 Toll Scenarios

Forecasts were prepared for sixteen separate cases, referred to herein as "Toll Scenarios". These scenarios included a range of base undiscounted car tolls from $1.00 to $3.00 and truck tolls per axle of $4.00 or $5.00 per axle, with today's discounts of 40 percent and 10 percent for commuters and off-peak trucks, respectively. Half of the scenarios have no annual toll increase, and the other half include an annual toll increase of 2.5 percent. Half of the scenarios have a video toll surcharge that will cover the additional costs incurred by video tolling only, while the other half have a higher surcharge meant to cover these additional collection costs plus any uncollectable toll revenue not recovered through the violation fees alone.

Table 13: Toll Scenarios

Toll Scenario	Car/Truck Toll Rates*	Video Toll Surcharge	Annual Toll Increase at CPI?	Surcharge Covers Uncollectables?
A1	$1/$4	$3.10	No	Yes
A2	$1/$4	$1.20	No	No
B1	$1/$4	$3.40	Yes	Yes
B2	$1/$4	$1.20	Yes	No
C1	$2/$4	$4.20	No	Yes
C2	$2/$4	$1.20	No	No
D1	$2/$4	$4.60	Yes	Yes
D2	$2/$4	$1.20	Yes	No
E1	$3/$4	$5.40	No	Yes
E2	$3/$4	$1.30	No	No
F1	$3/$4	$6.10	Yes	Yes
F2	$3/$4	$1.30	Yes	No
G1	$1.25/$5	$3.60	No	Yes
G2	$1.25/$5	$1.30	No	No
H1	$1.25/$5	$4.00	Yes	Yes
H2	$1.25/$5	$1.30	Yes	No

**Base undiscounted car toll / base undiscounted truck toll per axle*

6.4 Scudder Falls Bridge Tolled Traffic and Gross Toll Revenue Forecasts

Table 14 presents the average annual daily traffic (AADT) in the tolled (southbound) direction, annual toll revenues, annual fee revenues and total gross revenues at the Scudder Falls Bridge for each toll scenario for the years 2020 and 2030. Details of these sixteen toll scenarios are included in the Appendix.

Table 14: Scudder Falls Bridge Traffic and Gross Revenue Forecasts by Toll Scenario, Select Years

Toll Scenario	Base Car Toll / Truck Toll per Axle	Video Toll Surcharge	Scudder Falls Bridge: Avg. Daily Southbound Traffic		Annual Toll Revenue (M)		Annual Fee Revenue (M)		Annual Total Revenue (M)	
			2020	2030	2020	2030	2020	2030	2020	2030
A1	$1/$4	$3.10 [1]	26,600	29,100	$18.2	$19.9	$1.3	$0.9	$19.5	$20.9
A2	$1/$4	$1.20 [2]	27,500	29,700	$17.0	$19.1	$1.6	$1.1	$18.6	$20.2
B1	$1/$4 [3]	$3.40 [1]	26,400	28,900	$18.7	$25.5	$1.3	$0.9	$20.0	$26.5
B2	$1/$4 [3]	$1.20 [2]	27,500	29,700	$17.3	$24.6	$1.6	$1.1	$19.0	$25.8
C1	$2/$4	$4.20 [1]	24,000	26,400	$24.1	$26.4	$1.1	$0.8	$25.1	$27.2
C2	$2/$4	$1.20 [2]	25,400	27,400	$22.9	$25.6	$1.5	$1.0	$24.4	$26.7
D1	$2/$4 [3]	$4.60 [1]	23,700	26,200	$24.5	$33.8	$1.0	$0.7	$25.5	$34.5
D2	$2/$4 [3]	$1.20 [2]	25,300	27,400	$23.4	$33.2	$1.5	$1.0	$24.9	$34.3
E1	$3/$4	$5.40 [1]	21,200	23,800	$27.9	$31.0	$0.8	$0.6	$28.7	$31.6
E2	$3/$4	$1.30 [2]	23,200	25,100	$27.5	$30.8	$1.3	$0.9	$28.8	$31.7
F1	$3/$4 [3]	$6.10 [1]	20,800	23,400	$28.2	$39.8	$0.7	$0.5	$28.9	$40.2
F2	$3/$4 [3]	$1.30 [2]	23,100	25,000	$28.1	$40.0	$1.3	$0.9	$29.4	$40.9
G1	$1.25/$5	$3.60 [1]	25,800	28,300	$21.3	$23.5	$1.2	$0.9	$22.5	$24.3
G2	$1.25/$5	$1.30 [2]	26,900	29,100	$20.0	$22.6	$1.5	$1.1	$21.6	$23.7
H1	$1.25/$5 [3]	$4.00 [1]	25,500	28,100	$21.8	$30.1	$1.2	$0.8	$22.9	$30.9
H2	$1.25/$5 [3]	$1.30 [2]	26,800	29,000	$20.4	$29.2	$1.5	$1.1	$22.0	$30.3

[1]*All video toll vehicles are charged an additional amount to cover collection costs plus some uncollectable video toll revenues*

[2]*All video toll vehicles are charged an additional amount to cover collection costs only*

[3]*Includes annual 2.5% toll increases*

NOTE: tolls in the southbound direction only.

6.5 Impacts on Trenton-Morrisville Toll Bridge

As traffic reacts to the implementation of tolling on the Scudder Falls Bridge, some drivers who currently choose the Scudder Falls Bridge as a toll-free alternative to the Trenton-Morrisville Toll Bridge would instead choose to pay the toll on the Trenton-Morrisville Toll Bridge rather than the Scudder Falls Bridge. Directional differences in traffic volumes on the Scudder Falls Bridge indicate that some drivers are currently using the Scudder Falls Bridge as toll-free alternative to the Trenton-Morrisville Toll Bridge in the Pennsylvania-bound direction. Based on count data from April 2014, Pennsylvania-bound volumes on the Scudder Falls Bridge are roughly 10 percent higher than New Jersey-bound volumes.

In the tolling policy forum in January 2014, it was decided that the toll rates selected for the Scudder Falls Bridge would also be applied to the Trenton-Morrisville Toll Bridge. However, it is currently planned that the Trenton-Morrisville Toll Bridge would not have video tolling (and therefore no video surcharge) and would continue to collect cash at the same toll rate as undiscounted E-ZPass.

Jacobs estimated the additional traffic and revenue at the Trenton-Morrisville Toll Bridge due to the implementation of tolling on the Scudder Falls Bridge, factoring in the effects of increased tolls at the Trenton-Morrisville Toll Bridge.

Table 15: Effects at Trenton-Morrisville Toll Bridge Due to Tolling on the Scudder Falls Bridge by Toll Scenario, Select Years

Toll Scenario	Base Car Toll / Truck Toll per Axle, both Bridges	Effects at Trenton-Morrisville Toll Bridge			
		Change in AADT		Additional Annual Toll Revenue ($M)	
		2020	2030	2020	2030
A1	$1/$4 [1]	2,200	2,150	$2.3	$2.6
A2	$1/$4 [2]	1,800	1,850	$2.2	$2.4
B1	$1/$4 [1,3]	2,100	1,000	$2.8	$7.3
B2	$1/$4 [2,3]	1,700	750	$2.6	$7.2
C1	$2/$4 [1]	-400	-550	$8.9	$9.6
C2	$2/$4 [2]	-700	-750	$8.7	$9.4
D1	$2/$4 [1,3]	-400	-1,500	$9.5	$16.2
D2	$2/$4 [2,3]	-750	-1,700	$9.2	$16.0
E1	$3/$4 [1]	-2,650	-2,950	$14.0	$14.9
E2	$3/$4 [2]	-2,900	-3,100	$13.7	$14.7
F1	$3/$4 [1,3]	-2,700	-3,850	$14.7	$23.0
F2	$3/$4 [2,3]	-3,000	-4,000	$14.3	$22.8
G1	$1.25/$5 [1]	1,350	1,250	$5.9	$6.5
G2	$1.25/$5 [2]	1,000	1,000	$5.7	$6.4
H1	$1.25/$5 [1,3]	1,350	200	$6.3	$12.3
H2	$1.25/$5 [2,3]	950	0	$6.1	$12.1

[1]An additional amount is charged to video toll vehicles on the Scudder Falls Bridge to cover costs plus some uncollectable video toll revenues

[2]An additional amount is charged to video toll vehicles on the Scudder Falls Bridge to cover costs only

[3]Includes annual 2.5% toll increases

7.0 TOLL OPERATION COSTS AND UNCOLLECTABLE TOLLS

7.1 Collectible Video Tolls

Jacobs developed a "transaction waterfall" approach to estimating costs and collectable video revenues. A waterfall showing base assumptions for cars and sample transaction volumes is shown in Figure 55. With the implementation of AET, there are numerous independent variables that will each cause changes to the ultimate amount of revenue collected and the operating costs incurred. A set of base assumptions was developed that, in our opinion, is a reasonable estimation of what might be expected for AET in this region. The estimates were established based on experience at other currently operating AET facilities around the country.

Figure 55: Car Sample Toll Transaction Waterfall

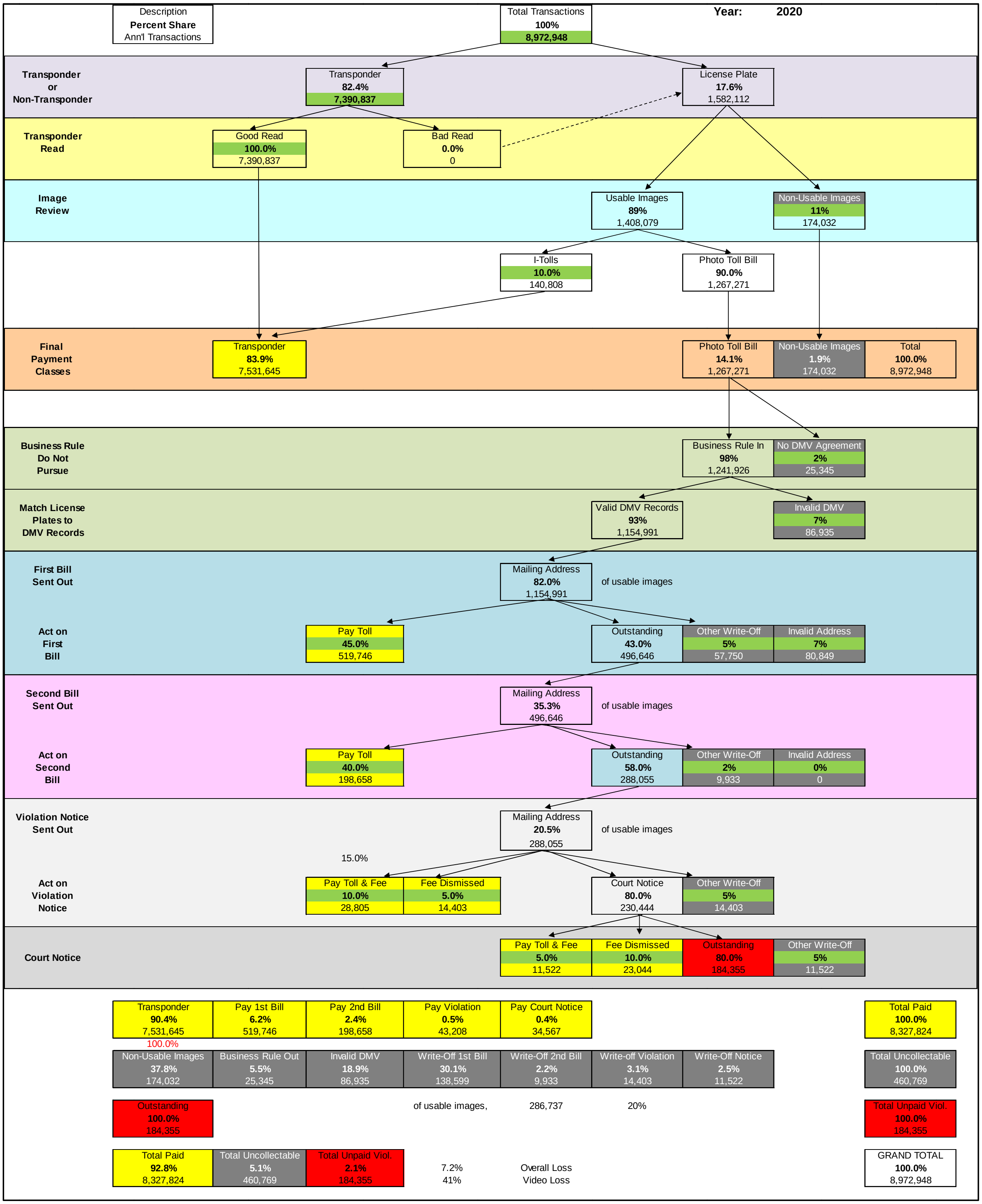


Table 16 summarizes the variables applied to the transaction waterfall for passenger cars. Included in this Table are the actual performance characteristics of four other operating AET facilities. Each tolling agency requested anonymity with respect to its data. Table 17 presents additional variables for which we do not have comparable results from other agencies.

Table 16: Summary of Factors Influencing Video Revenue Collectability

Waterfall Category	Estimate for Cars	Estimate for Trucks	Agency A	Agency B	Agency C	Agency D
Non-Usable Video Images	11%	15%	4%	6%	10%	5%
Business Rule Out	2%	2%	1%	2%	Unavailable	1%
Invalid DMV Record	7%	2%	4%	2%	16%	1%
Invalid Addresses, 1st Bill Sent	7%	15%	9%	Unavailable	Included in Invalid DMV	4%
Invalid Addresses, 2nd Bill Sent	0%	0%	3%	Unavailable	Included in Invalid DMV	9%
Invalid Addresses, Violation Notices Sent	0%	0%	1%	Unavailable	Included in Invalid DMV	15%
% Paying 1st Bill (of those received)	45%	35%	44%	35%	28%	56%
% Paying 2nd Bill (of those received)	40%	60%	20%	Included in First Bill Pail	40%	45%
% Paying Violation Notice (of those received)	15%	15%	5%	26%	23%	27%
% Paying Court Notice	5%	5%	N/A	N/A	N/A	N/A

Table 17: Summary of Additional Factors Influencing Video Revenue Collectability

Water Fall Category	Estimate for Cars	Estimate for Trucks
1st Bills Dismissed	5%	5%
2nd Bills Dismissed	2%	2%
Violation Notices Dismissed	5%	5%
Violation Notice Fee Dismissed	5%	5%
Court Notices Dismissed	5%	5%
Court Notice Fee Dismissed	10%	10%

Each of these variables shown in the tables is described in the following sections.

7.1.1 Non-Usable Video 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 AET facilities, primarily located in the southern and western U.S., have four to 10 percent non-usable video images, while attrition files provided by DRJTBC for 2012 and 2013 showed a range of 12 to 17 percent of images were rejected system wide. It was assumed that with the installation of new equipment at the Scudder Falls Bridge, image statistics would be closer to current AET facilities than the Violation Processing Equipment currently in use on other DRJTBC toll facilities. For passenger cars, Jacobs estimated 11 percent non-usable video images for the base case. This estimate was higher than the current AET facilities because the data from other facilities were from geographic locations that were not as impacted by winter weather.

Jacobs estimated that there would be a higher share of non-usable images for commercial vehicles; this was estimated based on a March 2013 survey conducted by staff at toll plazas on the New York State Thruway to see how many cash-paying commercial vehicles were missing a front license plate or had other issues with their plate. The survey revealed that 5 percent of commercial vehicles had no front license plate at all, while about 7 percent had a plate that was difficult to read because it was broken, dirty, bent, or covered with a dark plastic shield. This led to Jacobs' base assumption that 15 percent of commercial vehicle license plate images would not be usable for video toll collection.

7.1.2 Business Rule Out

We expect that, like current AET facilities, the Commission would develop business rules that will determine which video customers 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. Current AET facilities do not pursue one to two percent of customers with readable license plates. We have assumed that the Commission would rule out two percent each for both passenger cars and commercial vehicles.

7.1.3 Invalid DMV record

Jacobs estimated that seven percent of passenger cars and two percent of commercial vehicles paying by video would not have a valid DMV record, and would therefore not be sent a toll invoice at all. Owner-operator vehicles comprise a large portion of the cash paying commercial vehicles. These types of commercial vehicles are subject to regular inspections and are owned by businesses, or individuals. Because of the regulatory environment and continual inspections, we are of the opinion they are likely to keep their addresses up-to-date and to remain compliant with motor vehicle laws. Other AET facilities have a range of one percent to four percent of total vehicles with invalid DMV records.

7.1.4 Invalid Addresses – Passenger Cars

Many people who move do not change their address attached to their DMV vehicle registration and do not have mail forwarded; therefore, they would not receive a video toll invoice. On current AET facilities where information is available, four to nine percent of video toll vehicles who have a valid DMV record would not receive their first invoice. Jacobs estimated this share to be seven percent for passenger cars at the Scudder Falls Bridge.

When the first invoice is returned to the Commission because of a bad address, another invoice would not be sent. Because of this, it was assumed that the share of invalid addresses on the second bill and violation notice would be zero.

7.1.5 Invalid Addresses - Commercial Vehicles

Other AET facilities did not differentiate between passenger cars and commercial vehicles when providing their share of invalid addresses. However, it is estimated that the share of commercial vehicles with invalid addresses would be higher than for passenger cars. Jacobs assumed 15 percent as a base. A primary reason for this is the difficulty of identifying vehicle owners and operators based upon the rear plate of multi-unit vehicles. The actual operator of the vehicle is often several layers removed from the owner of the trailer as identified by the rear plate. Similar to passenger cars, it was assumed that the share of invalid addresses on the second bill and violation notice would be zero.

7.1.6 Percent of Bills and Violation Notices Paid

The most difficult factors to pinpoint are the percent of first bills, second bills, and violation notices paid. These factors would have the highest effect on the potential net revenues.

7.1.6.1 First Bill

On current AET facilities there is a wide range in the share of transactions that are paid on the first toll invoice. Jacobs assumed that 45 percent of passenger car transactions on the first invoice would be paid. This was estimated based on the 28 to 56 percent first bill payment range on current AET facilities.

Because owner-operator commercial vehicle drivers are often on the road for a long period of time, we considered the possibility that they may not actually return to their home location and have the invoice in-hand to pay it on time. Therefore, a lower rate of first bill payment was estimated at 35 percent when compared to passenger cars.

7.1.6.2 Second Bill

On current AET facilities, 20 to 45 percent of transactions are paid on the second toll bill. On all of these facilities a late fee is incurred on the second bill. At the Scudder Falls Bridge, no additional fees are charged until the third bill, when an unpaid transaction is considered a violation. Jacobs estimated 40 percent of passenger car transactions would be paid on the second bill.

To avoid hefty violation fees on their third bill, a higher share of commercial vehicle drivers that missed payment on their first bill are expected to pay on the second bill, estimated at 60 percent of transactions.

7.1.6.3 Violation Notices

The third bill sent to customers who did not pay for the tolls on the first two bills is a violation notice. The share of violation notices paid is an important factor affecting the revenues collected, because of the substantial violation fee of $30 per transaction. Most of the current AET facilities have a range of 23 to 27 percent paying their violation notices. Jacobs estimated that about 15 percent of violation notices for both passenger cars and commercial vehicles would be paid.

7.1.6.4 Court Notices

If a violation notice is not paid, a court notice is sent. Jacobs estimated that five percent of the toll transactions and violation fees would be paid by both cars and commercial vehicles. Any additional court fees beyond the $30 violation fee have not been included as part of this analysis.

7.1.7 Customer Frequency of Travel

In addition to transaction assumptions, it was also necessary to assume general frequency of travel for both E-ZPass and video patrons for the estimation of number of accounts and transactions per invoice. Overall frequency profiles were generated from survey data, and these profiles were found to be consistent with survey data collected previously by Jacobs in 2009.

Overall frequency data was used as a base for estimating frequency profiles for E-ZPass customers and video customers, separately. This allowed for the more precise estimation of E-ZPass accounts and video accounts.

7.1.8 Dismissals and Forgiveness of Tolls and Violation Fees

Other AET facilities typically offer forgiveness of fees. Reasons include incorrect identification of license plates, a transponder already charged for a trip, and other similar circumstances.

Five percent of customers were assumed to have their violation fees forgiven, with another five percent having their entire transaction forgiven. Of those receiving a court notice, we have estimated 10 percent would have their violation fee dismissed while five percent would have their court notice dismissed.

7.1.9 Resulting Uncollectable Video Tolls

As a result of all the "waterfall" factors discussed above, revenue from an estimated 41 percent of passenger car and 42 percent of commercial vehicle *video toll transactions* would not be collected.

In addition, because video toll revenue is not collected at the time of transaction, a lag of three months has been built into our forecasts of video toll revenue. This was applied to the first year of tolling, 2019.

It should be noted that estimates of uncollectable video toll revenue, when applicable, were calculated with the assumption that each uncollectable transaction would have paid the E-ZPass toll rate under ideal conditions. In other words, the video toll surcharge for uncollectable tolls is not included as part of the uncollectable toll revenue.

7.2 Costs of Toll Collection

This section presents a discussion of the assumptions used in the formulation of toll collection cost estimates.

7.2.1 Proposed Toll Collection Methods

A single one-way AET barrier toll is proposed where tolls would be collected each time a vehicle passes a single point in the southbound direction. The toll barrier will most likely consist of a series of stand-alone overhead gantries. We assumed that a toll barrier would be located between the Route 29 interchange in New Jersey and the Taylorsville Road interchange in Pennsylvania. It is envisioned that tolls would be collected via the following two methods:

1. E-ZPass – Tolls will be collected using E-ZPass transponders. If customers do not already have an E-ZPass account, it is assumed that some of them will choose to become E-ZPass customers.
2. Postpaid Video – Tolls will be collected via video images of license plates. This would entail image capture and review to identify the customer from an external vehicle registration database (e.g. DMV) and send an invoice to the registered owner of the vehicle. A monthly invoice cycle is planned for postpaid video tolls based on the AET experience of other agencies, the costs savings over more frequent billings, and the fact that people are accustomed to receiving monthly bills.

In previous analyses, Jacobs also had considered a third payment option, registered/prepaid video, which would allow customers to establish a video toll account before or immediately after their trip based on their license plate number. However, at the January 9, 2014 tolling policy forum, it was discussed that this account option has proven ineffective at other agencies with AET facilities and therefore is not included in this study.

The planned process for video toll invoicing at Scudder Falls is as follows:

- 1st invoice: 30 days after 1st transaction. Customer has 30 days to pay.
- 2nd invoice: 30 days after 1st invoice. Customer has 30 days to pay.
- 3rd invoice (violation invoice): 30 days after 2nd invoice. Customer is now a violator, and will have a $30 fee per violation plus the toll charge.
- 4th invoice 30 days after the 3rd invoice prior to going to collections or court. (This was not included in the policy forum, but included in the cost estimate as it would likely occur)

An estimate of the costs to collect from a violator after the fourth notice is not included in this estimate.

7.2.2 Estimated Quantities

Using information collected during our surveys on frequency of travel and estimates from our traffic and toll revenue model, we developed an estimate of the various quantities to be used in producing a cost estimate for toll collection costs for the Scudder Falls Bridge. The relevant quantities are summarized in Table 18 using Toll Scenario A2 in the year 2020 as an example.

Table 18: 2020 Units Used to Develop AET Cost Estimate, Toll Scenario A2

Description	Quantity
E-ZPass Transactions	7,932,000
Video Transactions	2,122,000
Image Transactions	2,122,000
Video Customer Accounts	107,000
Annual Video Invoices	946,000
Annual E-ZPass Toll Revenue	$13,800,000
Annual Video Toll + Fee Revenue	$4,800,000

7.2.3 Review of Regional Consortium Costs for AET Cost Estimate

The Commission has entered into a contract with the New Jersey E-ZPass Regional Consortium Customer Service Center to provide E-ZPass Customer Service Activities for all of the DRJTBC facilities. The basis for establishing costs to the Commission as a result of Commission transactions is based on confidential allocations of various cost components across all members of the New Jersey Consortium Customer Service Center.

Jacobs reviewed the Regional Consortium CSC pricing as a potential method of estimating AET costs, and developed unit costs based on this pricing. Since there is currently no specific categorization for AET transactions, they were treated as toll violations in our analysis. In addition, there will be one additional level of mailings for AET transactions as compared to the normal violation process followed by the Regional Consortium for toll violators, and there will be an increase in the number of accounts that will be easily identifiable to the Scudder Falls Bridge because it will be the only facility with AET. It is likely that future agreements with the Consortium will address AET and the basis used for estimating costs with this method may be substantially different.

Using the costs derived from the current contract, we estimate potential 2020 toll collection costs of about \$2.4M for Toll Scenario A2. If we were to remove the costs associated with E-ZPass, we would be left with an estimated \$1.6M in annual video toll collection costs. In our experience with other AET facilities, we do not believe this amount to be high enough to cover the costs.

7.2.4 Jacobs' Methodology for AET Cost Estimate

As discussed, there are some uncertainties as to precisely how AET transactions would be handled by the New Jersey Regional Consortium Service Center under the current contract. Therefore we have prepared a better method for estimating the cost of toll collection for the Scudder Falls Bridge. The 2020 cost estimate shown in Table 19 is based upon actual unit cost components that are representative of actual costs for similar facilities. We estimated a total cost of about \$3.9M.

Table 19: 2020 Cost for AET Collection on the Scudder Falls Bridge, Unit Price Approach, Toll Scenario A2

Description	Scudder Falls Quantity	Unit Price	Estimated Total Price
E-ZPass Transactions	7,932,000	\$0.0754 per Transaction	\$600,000
Video Transactions	2,122,000	\$0.325 per Transaction	\$690,000
Video Customer Accounts	107,000	\$15.72	\$1,680,000
Invoicing Costs	946,000	\$0.67	\$630,000
Credit Card Fees for E-ZPass	\$13,800,000	1.7986% of revenues	\$250,000
Credit Card Fees for Video	\$4,800,000	1.7986% of revenues	\$90,000
Total Cost			**\$3,940,000**

7.2.5 AET Cost Estimate Results

We have applied the unit cost method shown in Table 19 to our estimates for each year and each tolling scenario. We believe that this represents a conservative approach that addresses (a) the uncertainties in how AET transactions would be charged as part of the new Consortium Service Center agreement and (b) the additional level of mailings associated with AET (over the number of mailings for current violators). We also chose not to escalate the costs for collection believing that as the scale of AET increases regionally it is likely the unit costs would remain constant or may decline.

The cost of tolling will vary from year to year, and will differ among the various scenarios, as it is based on the number of transactions by payment type, the number of video customer accounts, and the total revenue collected. Collection cost estimates for the years 2020 and 2030 are presented for each Tolling Scenario in Table 20. 2020 total toll collection costs are estimated to range from $2.5M to $3.9M while 2030 toll collection costs are less due to a lower share of video toll vehicles; they range from an estimated $2.4M to $3.2M based on the toll scenario. Annual costs for each scenario can be found in the Appendix.
.

Table 20: Scudder Falls Bridge Toll Collection Costs, Select Years

Toll Scenario	Toll Collection Costs ($M)	
	2020	2030
A1	$3.6	$2.9
A2	$3.9	$3.1
B1	$3.5	$3.0
B2	$3.8	$3.2
C1	$3.2	$2.7
C2	$3.7	$3.0
D1	$3.1	$2.8
D2	$3.7	$3.2
E1	$2.8	$2.4
E2	$3.5	$2.9
F1	$2.5	$2.4
F2	$3.5	$3.0
G1	$3.5	$2.9
G2	$3.8	$3.1
H1	$3.4	$2.9
H2	$3.8	$3.2

8.0 RISK AND SENSITIVITY ANALYSES

8.1 Risk Analysis for Revenue Forecast

To obtain an additional analytical understanding of the potential risks which could impact revenue generation for the Scudder Falls Bridge, Monte Carlo analyses were conducted with respect to collectability of video tolls, annual traffic growth, and commuter E-ZPass share. These risks were evaluated with respect to their impact on total revenues from 2019 through 2030. Monte Carlo analyses use repeated random sampling of the inputs over multiple iterations to estimate a range of possible outcomes. In particular, a Monte Carlo analysis involves the following elements:

- Defined range of possible inputs;
- Randomly generated inputs within a specified probability distribution;
- Deterministic (or predictable) computation of the inputs; and
- Aggregate results of the individual computations.

8.1.1 Approach

We have produced our quantitative risk analysis of estimated Scudder Falls Bridge revenues using @Risk simulation software, which is an “add-in” to Excel. A number of risk factors were identified and assessed. We have used our professional judgment and experience to define appropriate risk ranges for each of the above risk factors, which include the following:

- Traffic growth rates
- Video toll collectability, which incorporates a number of factors, including percent of bad video images, percent of vehicles with bad DMV records and bad addresses, and the share of customers paying each invoice
- Commuter E-ZPass market share, particularly current non-NJ E-ZPass customers who use the bridge frequently who decide to switch to a NJ Regional Consortium account in order to receive the discount

The risk analysis was undertaken using Monte Carlo simulation with 100,000 iterations.

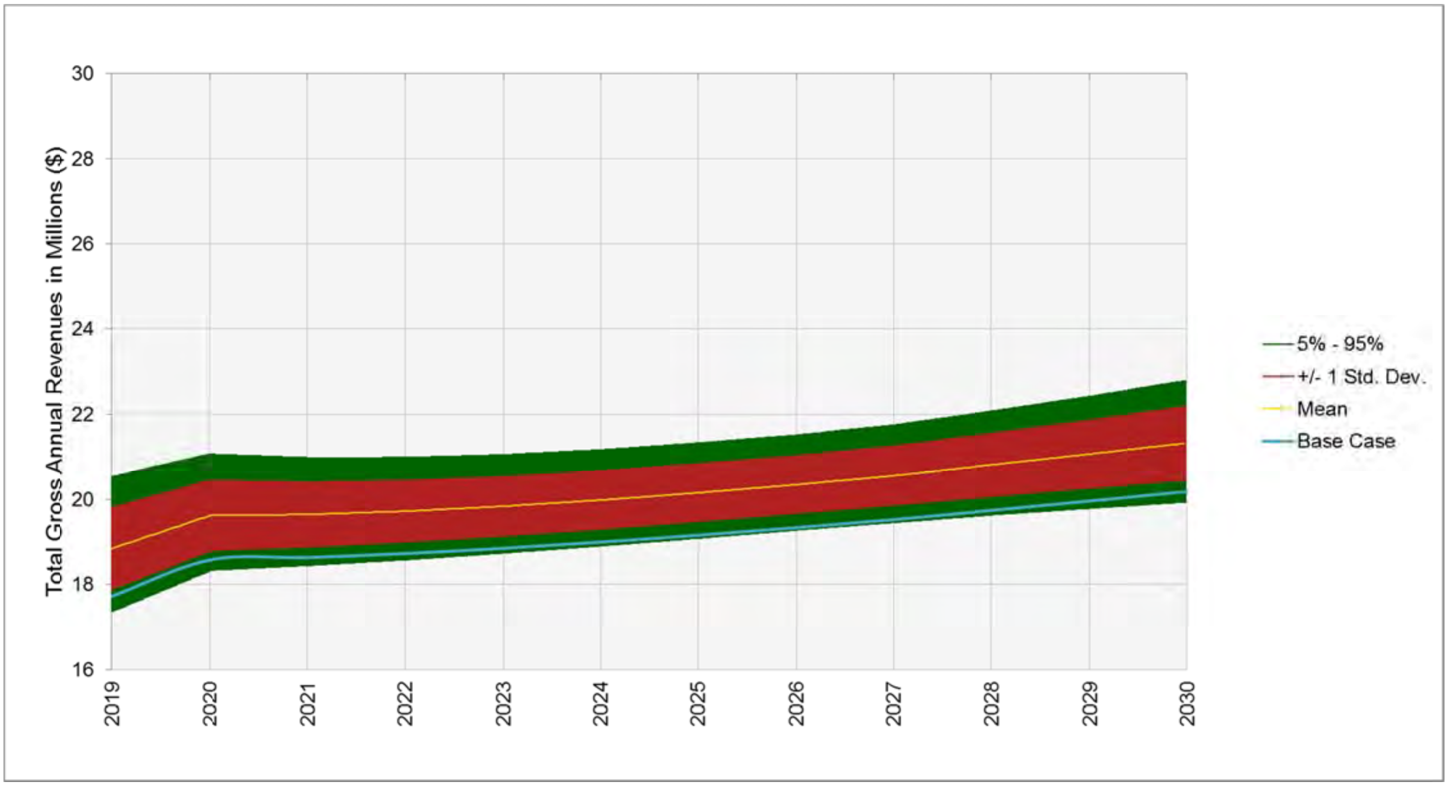
We have developed distributions for each of the risk factors analyzed. This distribution assumes that the traffic and revenue model assumptions are unbiased and that the probability of more optimistic and more pessimistic outcomes for each driver is the same (i.e. the distribution is symmetric).

The revenue forecasts (toll plus violation fee revenues) were compared to the n^{th} percentile value of the cumulative risk distribution for revenues by forecast year. The n^{th} percentile value represents the probability that the future actual revenue will equal or exceed this estimate. This is often expressed as a "P" value. For example, the P90 value anticipates that there is a 90 percent chance that the estimate will be exceeded and is therefore considered to be a low-risk estimate. P90 value can also be interpreted as there is a 9-in-10 chance that revenue will be equal to or greater than this level. The median estimate value is P50. Revenue estimates greater than P50 are considered to be optimistic. In addition to providing the P90 and P50 forecasts, the risk analysis compared the revenue estimates against the near-minimum (P95) and near-maximum (P5) estimates. These latter values establish the range of results of the risk analysis.

8.1.2 Results

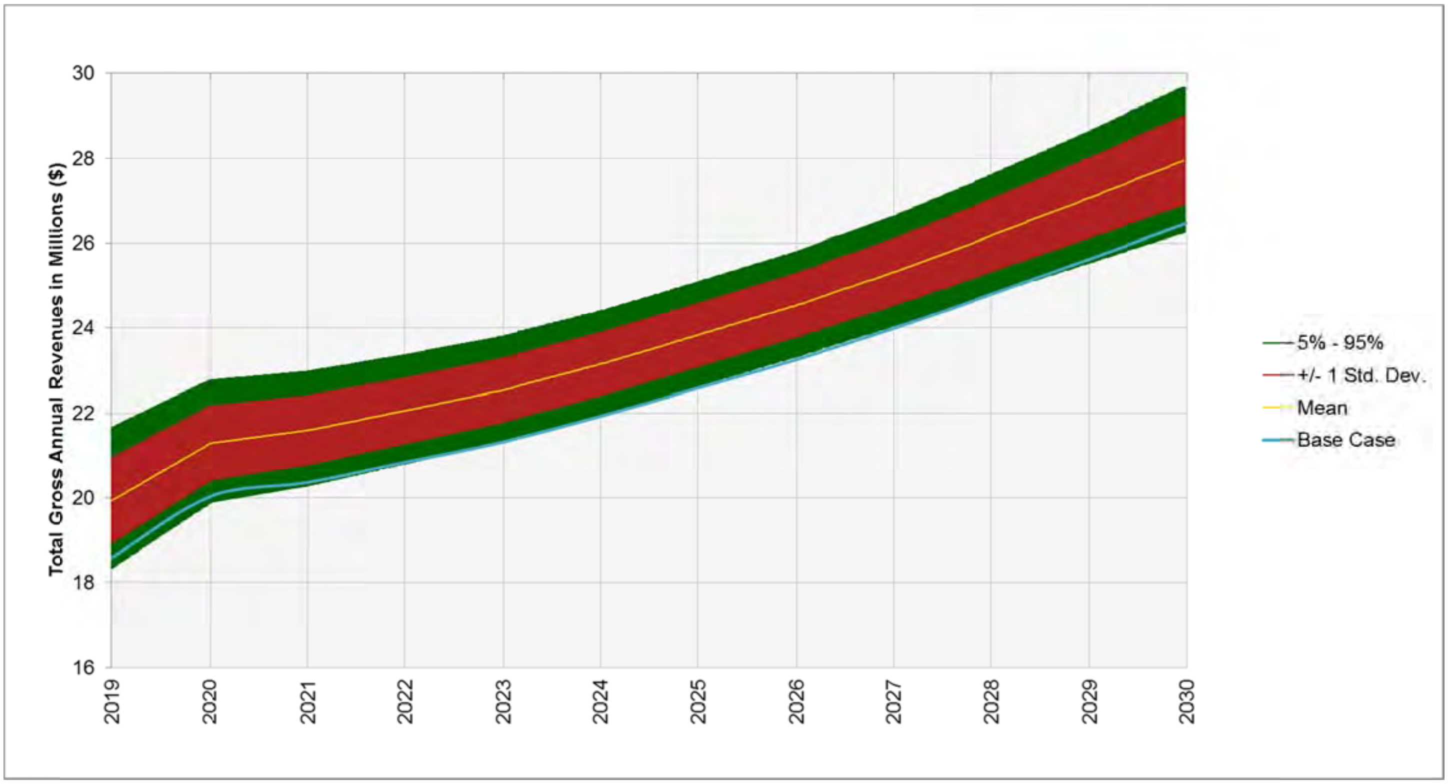
The results of the risk analysis for the Scudder Falls Bridge are shown in Figure 56 and Figure 57 for two toll scenarios, A2 and B1. These scenarios were chosen by Jacobs to illustrate the risk for a low video toll surcharge/no toll increase scenario and a high video toll surcharge/annual toll increase scenario.

Figure 56: Risk Analysis, Total Revenue, Scenario A2



Note: Toll Scenario A2 has $1.00 standard E-ZPass passenger car tolls and $4.00 per axle truck tolls, plus today's E-ZPass discount plans. Video toll customers are charged $1.20 on top of the base toll rate, and there are no toll increases in the forecast period shown.

Figure 57: Risk Analysis, Total Revenue, Scenario B1



Note: Toll Scenario B1 has $1.00 standard E-ZPass passenger car tolls and $4.00 per axle truck tolls, plus today's E-ZPass discount plans. Video toll customers are charged $3.40 on top of the base toll rate, and there are annual toll 2.5% toll increases.

The extent of downside risk is illustrated by these figures. Specifically, the figures summarize the potential spread around the model's forecasts, expressed in percentile/probability terms. As shown in the figures, the base case revenue estimates for both cases are in close proximity to the P90 values in the forecasting years. These can be further illustrated in Table 21 and Table 22.

Table 21 and Table 22 also summarize the percentage difference between the model and probability values. A negative percentage connotes that Jacobs' traffic and revenue model has exceeded the probability value generated from the risk analysis. A positive value indicates that the traffic and revenue model is below the risk analysis probability value. For example, in 2019 the P90 value was 0.51 percent below the Scenario A2 base case revenues, and in 2030 the P90 value was 0.13 percent above the Scenario A2 base case.

Table 21: Risk Analysis, Total Revenue, Scenario A2

Scenario A2		Base Case	P95	P90	P50	P5
2019	Total Revenue	$17,727,326	$17,351,810	$17,637,139	$18,793,442	$20,547,061
	% Difference	-	-2.12%	-0.51%	6.01%	15.91%
2020	Total Revenue	$18,583,016	$18,321,714	$18,572,332	$19,585,106	$21,078,330
	% Difference	-	-1.41%	-0.06%	5.39%	13.43%
2030	Total Revenue	$20,191,275	$19,926,261	$20,217,944	$21,301,198	$22,804,642
	% Difference	-	-1.31%	0.13%	5.50%	12.94%

Table 22: Risk Analysis, Total Revenue, Scenario B1

Scenario B1		Base Case	P95	P90	P50	P5
2019	Total Revenue	$18,594,214	$18,328,051	$18,588,360	$19,579,473	$20,978,452
	% Difference	-	-1.43%	-0.03%	5.30%	12.82%
2020	Total Revenue	$20,028,909	$19,841,863	$20,084,063	$20,984,045	$22,200,417
	% Difference	-	-0.93%	0.28%	4.77%	10.84%
2030	Total Revenue	$26,469,338	$26,132,021	$26,132,021	$27,734,045	$29,405,957
	% Difference	-	-1.27%	-1.27%	4.78%	11.09%

8.2 Sensitivity Analyses

In addition to the risk analysis, Jacobs conducted sensitivity analyses, varying individual model input assumptions to determine their effect on toll revenues. The scenarios tested were:

- *No background traffic growth.* This analysis excludes any traffic changes due to the PA Turnpike/I-95 interchange project and widening of the Scudder Falls Bridge.
- *Double the traffic growth.* For this analysis only background growth was doubled, and not the effects of the interchange project or the widening of the Bridge.
- *Reduced E-ZPass market share*. Instead of growing to a maximum E-ZPass share of 85 percent in 2027, we assumed that E-ZPass market share would grow at a slower rate, reaching a maximum of 75 percent for cars and light trucks and 80 percent for heavy trucks by 2027.
- *No video toll surcharge*. Video toll customers are assumed to be charged the standard E-ZPass rate for this analysis.
- *Fifty percent more video toll invoices are paid on time.* This assumes that on the first and second invoice, 50 percent more customers would pay as was estimated for the base case.

- *Half as many video toll invoices are paid on time.* This assumes that only half as many customers as was estimated for the base case would pay their first and second invoices.

Each sensitivity test was run for the same two tolling scenarios that Jacobs chose for the risk analysis, Scenarios A2 and B1. Both of these scenarios have base tolls of $1.00 for cars and $4.00 per axle for trucks: Scenario A2 does not have toll increases and has a $1.20 video toll surcharge, and Scenario B1 has annual 2.5 percent toll increases and a $3.40 video toll surcharge. Results of each sensitivity test are shown in Table 23 and Table 24 for the years 2020 and 2030 and for the total period from 2019 through 2030.

Table 23: Sensitivity Analysis Results, Toll Scenario A2

Traffic/ Revenue	A2 Base Case	Sensitivities, Annual Scudder Falls Bridge Results in Millions					
		No Growth	Double Growth	Reduced E-ZPass Share	No Video Toll Surcharge	50% More Video Invoices Paid	Half as Many Video Invoices Paid
Year 2020							
Total Traffic	10.1	9.6	10.5	10.0	10.2	10.1	10.1
Difference from Base Case	-	-0.4	0.5	-0.1	0.2	0.0	0.0
Total Rev*	$18.6	$17.3	$19.9	$19.0	$17.5	$18.0	$19.4
Difference from Base Case	-	-$1.3	$1.4	$0.4	-$1.0	-$0.6	$0.8
Year 2030							
Total Traffic	10.9	9.7	12.2	10.7	11.0	10.9	10.9
Difference from Base Case	-	-1.2	1.3	-0.1	0.1	0.0	0.0
Total Rev*	$20.2	$16.8	$24.3	$20.8	$19.5	$19.8	$20.8
Difference from Base Case	-	-$3.4	$4.1	$0.6	-$0.7	-$0.4	$0.6
Cumulative Total, 2019 through 2030							
Total Traffic	125.1	116.0	135.0	124.0	126.8	125.1	125.1
Difference from Base Case	-	-9.1	9.9	-1.1	1.7	0.0	0.0
Total Rev*	$229.5	$203.3	$259.9	$236.1	$219.7	$224.0	$237.8
Difference from Base Case	-	-$26.2	$30.4	$6.6	-$9.8	-$5.5	$8.3

**Scudder Falls Bridge toll revenue plus violation fee revenue*

Table 24: Sensitivity Analysis Results, Toll Scenario B1

Traffic/ Revenue	B1 Base Case	Sensitivities, Annual Scudder Falls Bridge Results in Millions					
		No Growth	Double Growth	Reduced E-ZPass Share	No Video Toll Surcharge	50% More Video Invoices Paid	Half as Many Video Invoices Paid
Year 2020							
Total Traffic	9.6	9.2	10.1	9.4	10.2	9.6	9.6
Difference from Base Case	-	-0.4	0.4	-0.2	0.6	0.0	0.0
Total Rev*	$20.0	$18.7	$21.5	$20.8	$17.9	$20.0	$20.1
Difference from Base Case	-	-$1.3	$1.4	$0.8	-$2.1	-$0.1	$0.1
Year 2030							
Total Traffic	10.6	9.4	11.8	10.3	10.9	10.6	10.6
Difference from Base Case	-	-1.1	1.3	-0.3	0.4	0.0	0.0
Total Rev*	$26.5	$22.1	$31.9	$27.4	$25.0	$26.5	$26.4
Difference from Base Case	-	-$4.4	$5.4	$1.0	-$1.4	$0.0	$0.0
Cumulative Total, 2019 through 2030							
Total Traffic	121.0	112.2	130.7	118.0	126.5	121.0	121.0
Difference from Base Case	-	-8.8	9.6	-3.0	5.4	0.0	0.0
Total Rev*	$269.8	$238.6	$306.1	$280.8	$250.4	$269.2	$270.7
Difference from Base Case	-	-$31.2	$36.3	$11.0	-$19.4	-$0.6	$0.8

**Scudder Falls Bridge toll revenue plus violation fee revenue*

As indicated in the results, if there is no traffic growth (other than the effects of the PA Turnpike/I-95 Interchange and widening of the Scudder Falls Bridge), revenue would be $1.3M below base forecasts in 2020, and $3.4M to $4.4M below base forecasts in 2030. More of an effect is seen on Scenario B1 than Scenario A2 because of the higher toll rates and video surcharge. Doubling the background growth rate would result in $1.4M additional revenue for each case in 2020 and a $4.1 and $5.4 increase in revenue over the base case growth rates for Scenarios A2 and B1, respectively.

Reducing the E-ZPass market share means more video toll transactions, and though there is a certain share of these that are uncollectable, the violation fees and the video surcharges more than make up for these losses. The revenues for this sensitivity range from $0.4M to $0.6M higher per year than the base case for Toll Scenario A2 and $0.8 to $1.0M higher per year than the base case for Scenario B1.

If video toll vehicles paid the same toll rates as standard E-ZPass customers, they would be less likely to divert off of the Scudder Falls Bridge. With Toll Scenario A2, the effect would be a loss of $1.0M per year or less. The effect on Scenario B1 revenues is greater because the video surcharge is greater; there is an average loss of just under $2.0M per year when compared to base conditions. Notice that the loss in 2020 is greater than the loss in 2030. This is because there will be greater share of video customers in the early years of the forecast.

If more video toll transactions are paid in time (i.e., on the first or second invoices), it will mean less revenue leakage. With 50 percent more transactions paid on both the first and second invoices, instead of only 59 percent of video tolls collected (the base case), 68 percent would be collected. However, with more video tolls collected up front, there would be fewer violation and violation fee revenues. With Toll Scenario A2, the gross revenue loss would be $0.5M per year on average. Because Scenario B1 has a higher video toll surcharge, the loss is much smaller, almost negligible.

If only half of the percentages of video toll invoices estimated by Jacobs are paid on the first or second invoice, there is a similar though opposite effect. Only 45 percent of video tolls would be collected, compared to 59 percent with the base case. This means, however, that more transactions would move down the video transaction “waterfall,” and would end up as violators. More violators will mean that more violation fee revenue is collected, and this would slightly outweigh any losses due to uncollectable tolls. With this sensitivity, an additional $0.8M per year would be collected with Scenario A2 and less than $0.1M additional revenue per year would be collected with Scenario B1.

While these sensitivity analyses show how individual assumptions might affect toll revenues, the risk analysis presented previously in Section 8.1 provided a better estimate of possible ranges using the combined effects of multiple model inputs and their estimated upper and lower limits.

9.0 LIMITS AND DISCLAIMERS

It is Jacobs' opinion that the traffic and gross toll revenue forecasts 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 forecasts will be subject to future economic and social conditions, demographic developments and regional transportation construction activities that cannot be predicted with certainty.

iii. The forecasts 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 forecasts only represent our best judgment and we do not warrant or represent that the actual gross toll revenues will not vary from our forecasts.

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 DRJTBC toll 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 greatly appreciate the invaluable assistance provided by the staff of the Delaware River Joint Toll Bridge Commission.

Sincerely,

Richard J. Gobeille, P.E.
National Toll / Finance Unit Manager
Jacobs Engineering Group, Inc.

APPENDIX

- Memorandum: Scudder Falls Bridge Data Collection and Survey Results
- Annual Traffic and Revenue for 16 Toll Scenarios
- Additional Toll Scenario Details

Scudder Falls Bridge

Data Collection and Survey Results Memo

JACOBS

Technical Memorandum

2 Penn Plaza Suite 603
New York, NY 10121
212.944.2000

Date	**9 May 2014**
To	Delaware River Joint Toll Bridge Commission
From	Jacobs Engineering Group Inc.
Subject	Scudder Falls Bridge Data Collection and Survey Results Delaware River Joint Toll Bridge Commission C-549AR – Level 3 - Investment Grade Traffic and Revenue Forecasts Capital Project No. 0920A

Introduction

Jacobs is providing an investment-grade traffic and revenue study for the Scudder Falls Bridge. As part of the study, Jacobs is collecting relevant data to support the forecasts. In addition to data readily available, Jacobs conducted an extensive data collection program in and around the Bridge specifically for this project. These studies included:

- hourly traffic counts on the Bridge
- license plate surveys
- counts of vehicles equipped with *E-ZPass*
- travel time surveys, and
- Bridge customer characteristic surveys via Jacobs-designed online surveys.

The results of these data collection efforts have been incorporated into Jacobs' traffic and revenue forecasting model, and are discussed and presented herein.

Traffic Counts

Traffic counts were conducted on the Scudder Falls Bridge by Arora and Associates, PC, between March 31st and April 7th 2014. The automatic traffic recorders (ATRs) were placed on the Pennsylvania side of the bridge separately for northbound and southbound traffic, as shown in Figure 1. Figure 2 and Figure 3 show the daily counts by hour for southbound and northbound traffic.

Figure 1: Scudder Falls Bridge Count Locations

Data from the Commission's facilities reveals that April is an average month in terms of daily traffic volumes. Therefore, 2014 AADT and AAWDT were estimated to be the same as the counted traffic.

Table 1: 2014 Estimated AADT and AAWDT, based on March 31-April 7 2014 Count Data

	Southbound	Northbound*
Annual Average Daily Traffic (AADT)	29,799	26,159
Annual Average Weekday Traffic (AAWDT)	32,207	27,980

**Eight hours during the one week period had missing or faulty counts in the Northbound direction; Jacobs estimated counts for these hours.*

The count data also separated vehicles by class. It was calculated from the data that 8.0 percent of average daily traffic is trucks – 6.4 percent light trucks, with fewer than five axles, and 1.6 percent heavy trucks, with five or more axles. The light trucks on the Bridge have an average of 3.1 axles per vehicle, while heavy trucks have an average of 5.2 axles. The overall average number of axles per truck is 3.5.

Figure 2: Southbound Hourly Traffic on Scudder Falls Bridge, 3/31/14-4/7/14

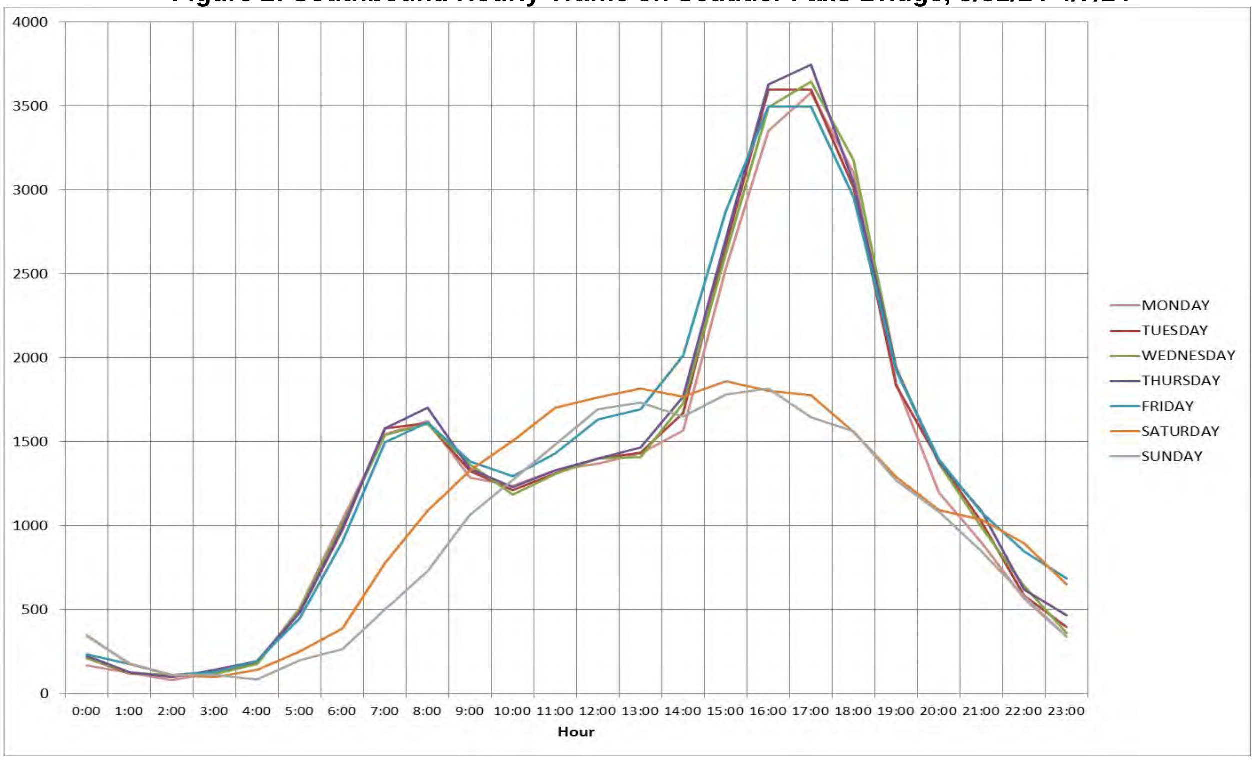
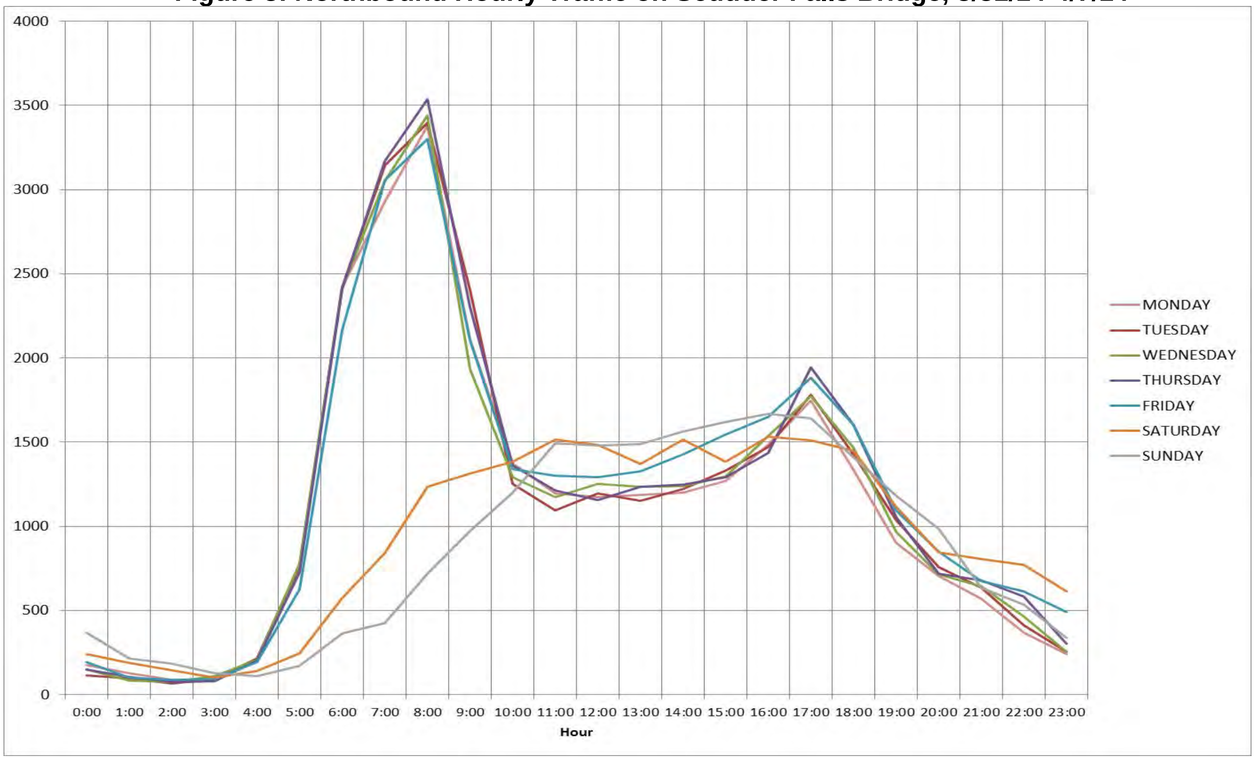


Figure 3: Northbound Hourly Traffic on Scudder Falls Bridge, 3/31/14-4/7/14



License Plate Surveys

In order to determine the amount of traffic currently using the Bridge that is from New Jersey and Pennsylvania, and in order to help us determine potential invoicing for an All Electronic Toll Facility (AET), a license plate survey was conducted on the Scudder Falls Bridge by Arora and Associates, PC, on Tuesday, April 1st for two hours each during the AM peak, midday and PM peak periods. This survey was done in the southbound direction only (the direction of potential future tolling). Results are shown in Table 2. As expected, the majority of vehicles (some 90 percent) are registered in PA or NJ, with more from PA overall (as Pennsylvania to New Jersey is the major commute direction). Note that 8 percent of peak period and 12 percent of off-peak vehicles are from neither PA nor NJ.

Table 2: Southbound Scudder Falls Bridge License Plate Count Results

	Traffic Volume by State License Plate								
PERIOD	PA	NJ	NY	CT	DE	MD	OTHER NE*	OTHERS**	PERIOD TOTAL
7:30AM TO 9:30AM	671	2221	22	11	10	49	74	82	**3140**
	21%	71%	1%	0%	0%	2%	2%	3%	
12:00PM TO 2:00PM	1383	1062	45	12	15	29	60	185	**2791**
	50%	38%	2%	0%	1%	1%	2%	7%	
3:00PM TO 5:00PM	4920	1033	71	12	34	35	145	256	**6506**
	76%	16%	1%	0%	1%	1%	2%	4%	

**- New England States of MA, RI, VT, NH, ME*

***- All other States except PA, NJ, NY, CT, DE, MD, RI, NH, VT, MA, ME*

Counts of Vehicles Equipped with *E-ZPass*

A temporary *E-ZPass* reader was installed by the Commission at the Bridge for one week, from April 1st through April 7th 2014. This was done to determine how many vehicles currently crossing the Bridge in the southbound direction already are equipped with *E-ZPass*. Table 3 summarizes the counts of *E-ZPass* vehicles by tag agency. Along with this data collection effort, traffic counts were made during the same timeframe (see previous sections for details); these two data collection efforts helped us to determine the percentage of existing vehicles equipped with *E-ZPass.*

It was found that 49 percent of weekday vehicles and 46 percent of weekend vehicles crossing on the survey days had a readable *E-ZPass* transponder. Some 78 percent of those with *E-ZPass* have obtained it from the NJ Turnpike or the Pennsylvania Turnpike Commission. Only 5 percent have a DRJTBC-issued *E-ZPass* transponder. It is assumed that there were a small percentage of E-ZPass transponders that were not displayed and/or not read.

Table 3: Southbound Scudder Falls Bridge *E-ZPass* Counts (Raw Data)

	Southbound Transponder Reads			Avg Day
Agency	**Avg Weekday**	**Avg Weekend Day**	**Avg Day**	**Share by Agency**
NYSTA/NYSBA	509	336	460	3.2%
PANYNJ	990	795	934	6.5%
PTC	5,581	3,090	4,869	33.7%
MTAB&T	501	458	489	3.4%
DRPA	9	4	8	0.1%
VDOT	58	83	65	0.4%
Peace Br	4	2	4	0.0%
Illinois	57	37	51	0.4%
MdTA	121	160	132	0.9%
DelDOT	143	145	143	1.0%
MassPike	92	64	84	0.6%
NJTPKE	6,854	5,270	6,401	44.3%
WV	6	3	5	0.0%
DRBA	17	13	16	0.1%
NHDOT	12	10	11	0.1%
Maine	10	7	9	0.1%
DRJTBC	875	468	759	5.2%
Indiana	5	5	5	0.0%
Ohio	10	7	9	0.1%
RITBA	5	3	4	0.0%
NC	1	1	1	0.0%
Total E-ZPass Reads	**15,860**	**10,959**	**14,460**	**100.0%**
Total SB Traffic	**32,207**	**23,779**	**29,799**	
% E-Zpass	**49.2%**	**46.1%**	**48.5%**	

Travel Time Surveys

Travel time surveys were conducted in order to indicate time differences between trips taking the Scudder Falls Bridge and alternate routes. These results factor into our forecasts of who would remain on the Scudder Falls Bridge versus using another bridge in the area. The southbound origin-destination (O-D) study that was part of the surveys conducted by Jacobs during the Level II Scudder Falls Bridge T&R Study in 2008/2009, indicated two major clusters of origin points in New Jersey for Bridge customers. These were used as the starting locations for the travel time surveys:

- Ewing, NJ at Scotch Road and Parkway Avenue
- The I-95/Rte 1 interchange in Lawrence, NJ (which will include the majority of trips from the north and east)

Three major clusters of destination points were identified on the Pennsylvania side, and were used as the ending points for the travel time surveys:

- Newtown, PA at Lincoln Ave. and Washington Ave.
- Yardley, PA at Afton Ave. and Schuyler Dr.
- The I-95/Rte 1 interchange in Langhorne, PA (which will include the majority of the trips from the south and west)

The travel time surveys were conducted by Arora and Associates, PC, between each combination of O-D pairs during peak and off-peak periods. The surveys were conducted during the first week of April, from Tuesday through Thursday. Different routes were traveled between each O-D pair, using the Scudder Falls Bridge and using alternative bridges where they made sense as alternate routes (as an example, for a trip between Lawrence and Langhorne, the Washington Crossing Toll Supported Bridge is *not* a reasonable alternative because it is located well outside the area of travel and would add significant journey time, but the Route 1/Trenton-Morrisville Toll Bridge and the Lower Trenton Toll-Supported Bridge are). As shown in the following Table, the Scudder Falls Bridge is always the fastest route between these points, except between the two I-95/ Route 1 interchanges, where the travel time using the Trenton-Morrisville Toll Bridge is very similar to and sometimes shorter than the travel time using the Scudder Falls Bridge.

Table 4: Travel Times between O-D Pairs, Using Scudder Falls Bridge and Alternative Crossings (in minutes)

From	To	Scudder Falls Br.	Trenton-Morrisville Toll Br.	Lower Trenton Toll Supported Br.	Calhoun St. Toll Supported Br.	Washington Crossing Toll Supported Br.
AM Peak Period						
Ewing, NJ	Yardley, PA	12.4			18.3	
Ewing, NJ	I-95/Rte 1 Int., PA	11.5	18.0	17.8		
Ewing, NJ	Newtown, PA	13.0				23.0
I-95/Rte 1 Int., NJ	Yardley, PA	14.1		18.5		
I-95/Rte 1 Int., NJ	I-95/Rte 1 Int., PA	13.6	13.4	18.0		
I-95/Rte 1 Int., NJ	Newtown, PA	16.9	23.0	25.5		
Midday / Off-Peak Period						
From	To	Scudder Falls Br.	Trenton-Morrisville Toll Br.	Lower Trenton Toll Supported Br.	Calhoun St. Toll Supported Br.	Washington Crossing Toll Supported Br.
Ewing, NJ	Yardley, PA	10.8			18.4	
Ewing, NJ	I-95/Rte 1 Int., PA	13.0	17.5	18.3		
Ewing, NJ	Newtown, PA	14.0				21.5
I-95/Rte 1 Int., NJ	Yardley, PA	14.4		18.0		
I-95/Rte 1 Int., NJ	I-95/Rte 1 Int., PA	13.7	14.3	17.0		
I-95/Rte 1 Int., NJ	Newtown, PA	16.8	21.0	25.0		
PM Peak Period						
From	To	Scudder Falls Br.	Trenton-Morrisville Toll Br.	Lower Trenton Toll Supported Br.	Calhoun St. Toll Supported Br.	Washington Crossing Toll Supported Br.
Ewing, NJ	Yardley, PA	10.4			20.2	
Ewing, NJ	I-95/Rte 1 Int., PA	11.5	18.5	21.5		
Ewing, NJ	Newtown, PA	14.5				22.0
I-95/Rte 1 Int., NJ	Yardley, PA	14.2		24.0		
I-95/Rte 1 Int., NJ	I-95/Rte 1 Int., PA	13.7	13.9	17.9		
I-95/Rte 1 Int., NJ	Newtown, PA	17.5	23.5	32.0		

Online Customer Characteristic Surveys

The purpose of the online surveys was to obtain information on Scudder Falls Bridge current customer travel characteristics such as frequency of travel, state of residence, trip origin/destination, familiarity with electronic tolling, and stated preference (i.e., what a driver states they would do if the Scudder Falls Bridge were to be tolled). For the Level II Scudder Falls Bridge T&R Study in 2008/2009, Jacobs had conducted a survey advertised through roadside variable message signs (VMS). Our 2014 surveys contain almost all of the same questions as in the previous study, plus several new questions. The actual survey questions have been included at the end of this memorandum. Results of the surveys will be used in Jacobs' traffic and revenue forecasting model.

Two different methods were used to direct patrons to take the survey:

1. through e-Rewards, a service whereby e-Rewards members are e-mailed a survey link and earn e-Rewards points for completion of surveys, and
2. through variable message signs (VMS) displayed for several weeks near the Scudder Falls Bridge directing drivers to an internet link, "www.SURVEY-U.com".

eRewards Survey

The purpose of conducting an eRewards survey in addition to the roadside VMS survey was:

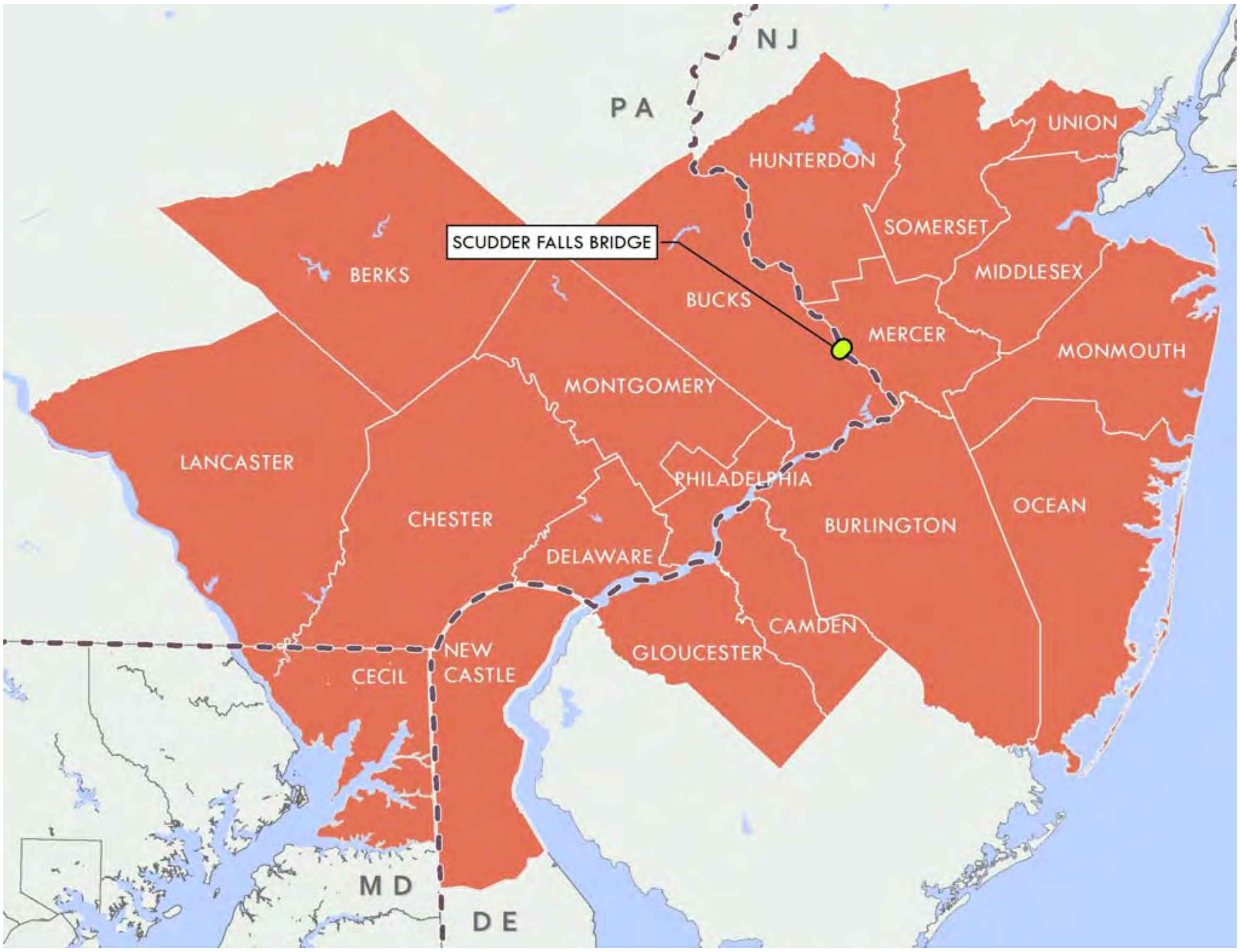
- to obtain responses from additional customers, and
- to include infrequent customers who may not have seen - or did not respond to - the VMS sign.

The e-Rewards survey, since it is sent to essentially a random sampling of people throughout the area, provides a far better indication of frequency of travel across the Bridge than the VMS survey, mainly because a person who sees the VMS sign advertising the survey over and over again (i.e., a frequent traveler) is much more likely to complete the survey than someone who sees it only once or not at all.

Research Now (parent company of e-Rewards) conducted the survey through their e-Rewards program. e-Rewards participants who did not meet the survey requirements – such as people without a driver's license, and people who state that they have not crossed the Scudder Falls Bridge at all in the past year – were screened out of the survey and were not included in Jacobs' quota of 1,000 completed surveys.

Research Now e-mailed the survey link to all e-Rewards participants within an area specified by Jacobs. This area, chosen by Jacobs to cover the parts of the DVRPC model region that were proximate to the Scudder Falls Bridge and I-95 – and therefore likely to contain both frequent and infrequent Bridge customers – consisted of 19 counties, as shown in Figure 4. The e-mails were sent and the survey commenced on March 25th 2014; the 1,000 quota was reached and the survey concluded on March 28th.

Figure 4: Counties Included in eRewards Survey Area



VMS-Advertised SurveyMonkey Survey

The roadside VMS-advertised survey was administered through the internet survey site *SurveyMonkey*. Jacobs owns the web address "www.SURVEY-U.com," which was linked to the Scudder Falls survey. "WWW.SURVEY-U.COM" was publicized to patrons of the Scudder Falls Bridge via four strategically located roadside variable message signs.

The two phases for the VMS were as follows:

Phase 1 -
**"TAKE
TRAVEL
SURVEY"**

Phase 2 -
**"WWW.
SURVEY-U
.COM"**

The Commission placed the VMS signs and displayed the messages on the two Pennsylvania signs for about three and a half weeks, from March 5th through March 28th 2014. The two signs in New Jersey were displayed from March 5th through March 14th 2014. The survey was kept open to collect responses until March 31st. Locations for these variable message signs are shown in Figure 5.

Figure 5: Location of Variable Message Signs at Scudder Falls Bridge

Notes:
VMS 1 & 3 faced Northbound (NB) traffic. VMS 2 & 4 faced Southbound (SB) traffic.
VMS 3 & 4 were removed on March 14, the 10th day of the survey.

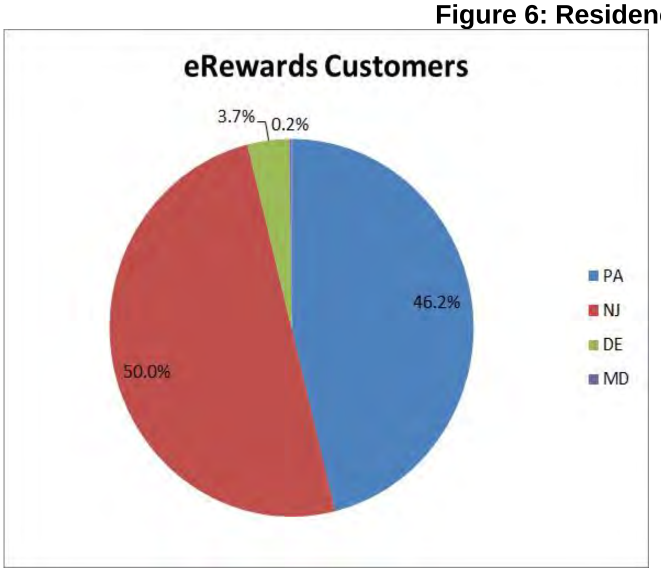
Online Customer Characteristic Survey Results: Customer Responses

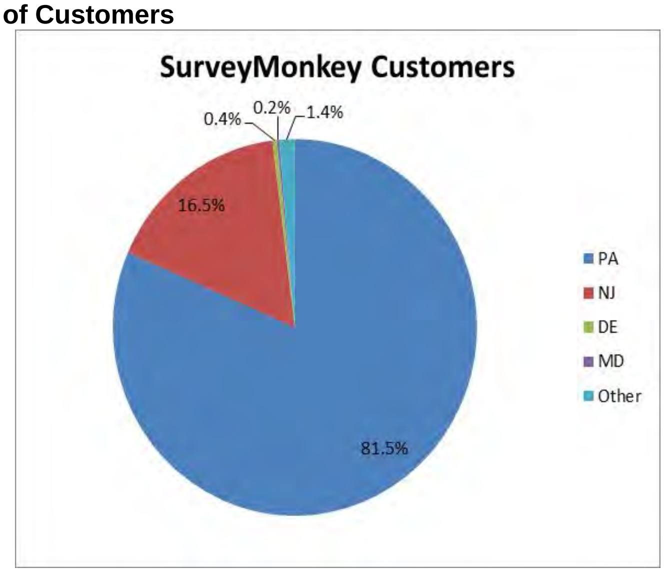
We received 1,001 fully completed surveys from e-Rewards and 477 completed plus 32 partially-completed surveys from SurveyMonkey, the VMS-advertised survey. (This is in comparison to the 445 full and 27 partial surveys completed via the VMS surveys in the 2008-2009 Level II Traffic & Revenue study.) This section presents the customer responses for each survey. The results for several of the questions that were expanded to represent total trips are presented in the following section on page 28.

What is your city, state, and zip code of residence?

Customers were asked in which city and state they reside. As Figure 6 shows, eRewards survey respondents were almost evenly split between Pennsylvania and New Jersey residents, with a small number of Delaware residents. Meanwhile the VMS (SurveyMonkey) survey was mainly taken by people who live in Pennsylvania, as the work commute across the Scudder Falls Bridge is primarily made by Pennsylvania residents traveling to work in New Jersey, and these commuters (frequent travelers) were more likely to see the VMS than other travelers.

Figure 6: Residence of Customers

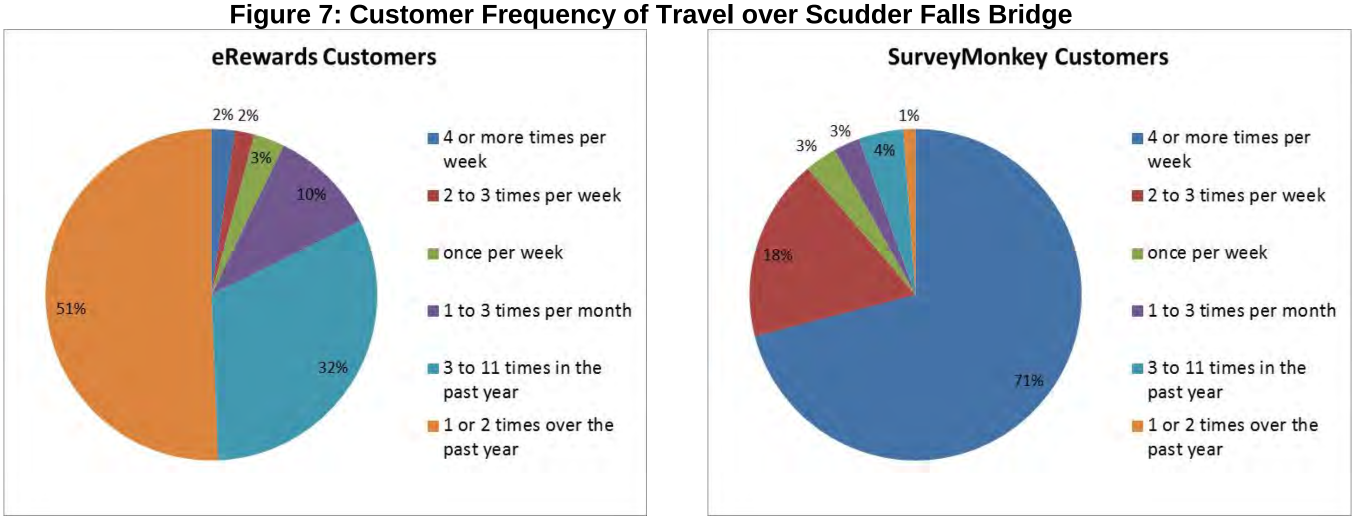




How often have you driven across the Scudder Falls Bridge over the past year?

Figure 7 shows how customers responded to the question on trip frequency. Anyone who stated that they had not used the Scudder Falls Bridge at all in the past year were screened out of the survey. As expected, there was a very large difference between the two surveys, as the eRewards survey was taken by a sampling of people throughout the central NJ and southeastern PA area, who are part of the eRewards program, and the SurveyMonkey survey was only taken by those who saw the roadside variable message sign, remembered the website name, and later went online to take the survey. Only 2 percent of the eRewards respondents cross the Bridge four or more times per week, while 71 percent of those responding to the VMS/SurveyMonkey survey do. The majority of eRewards customers – 51 percent – took the Bridge only once or twice in the past year, as compared to 1 percent of the SurveyMonkey respondents.

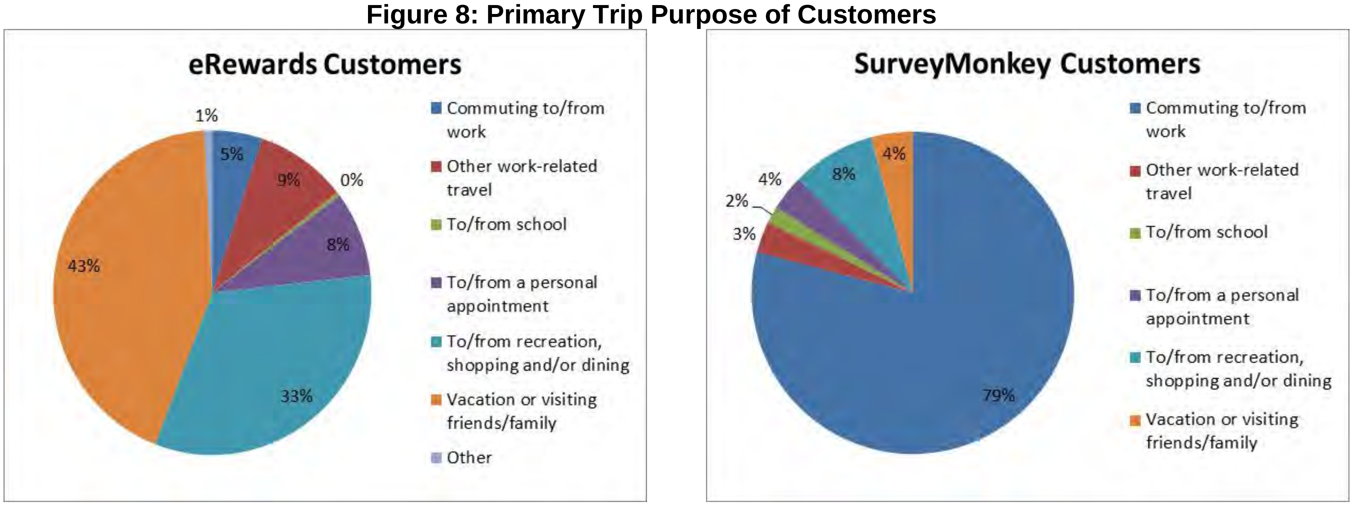
Figure 7: Customer Frequency of Travel over Scudder Falls Bridge



What was the primary purpose of your trip across the Scudder Falls Bridge?

Figure 8 compares the primary purpose of travel among Bridge customers for their most recent southbound crossing. Those taking the SurveyMonkey survey were primarily commuters while eRewards customers using the bridge used it for more discretionary trip purposes such as vacation travel, recreation and shopping.

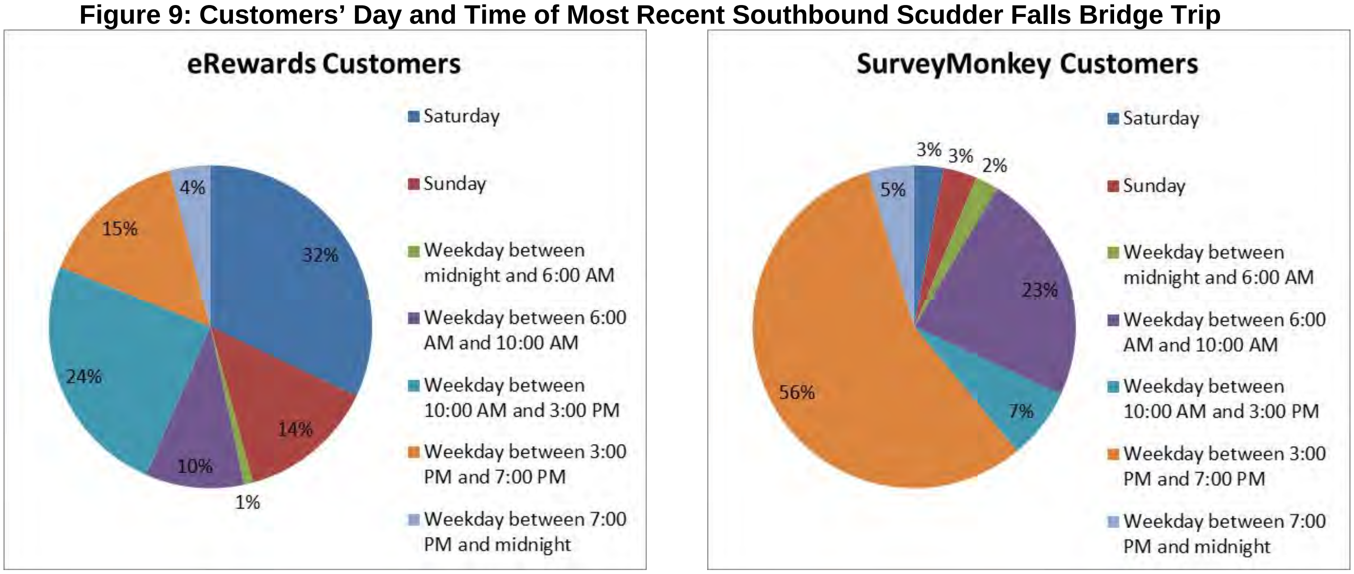
Figure 8: Primary Trip Purpose of Customers



What day / time of day did you take this trip?

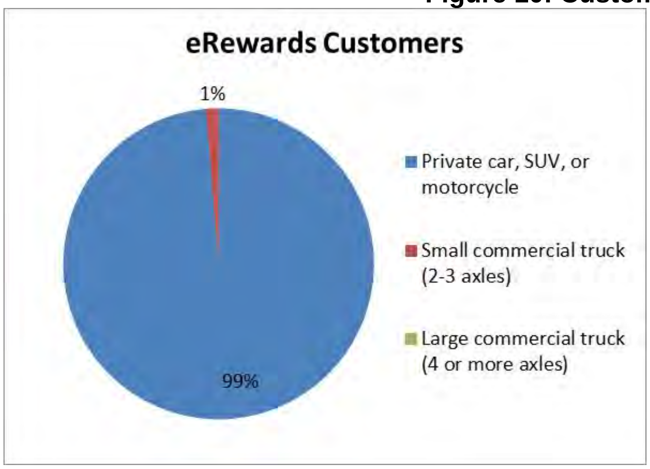
Customers' most recent time of crossing the Bridge in the southbound direction is shown in Figure 9. This follows the same pattern of the previous responses, with mainly infrequent, discretionary trips by eRewards customers and mainly commutation trips by SurveyMonkey respondents. Therefore, the eRewards' responses show more off-peak and weekend travel than those for the VMS surveys.

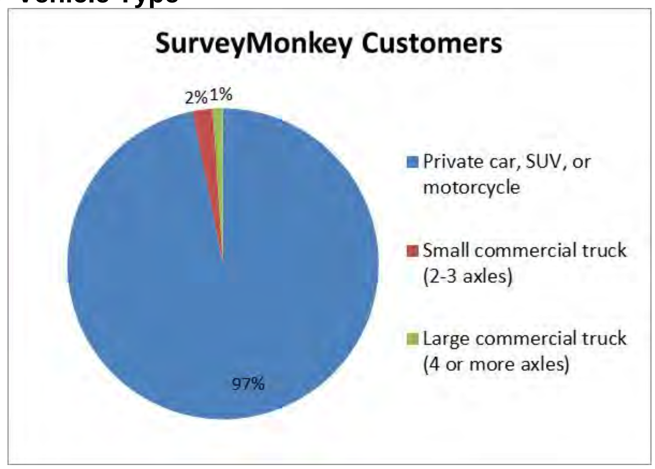
Figure 9: Customers' Day and Time of Most Recent Southbound Scudder Falls Bridge Trip



What type of vehicle were you driving for this trip?
The vast majority of respondents drove a car across the Bridge during their most recent southbound trip, as shown in Figure 10.

Figure 10: Customers' Vehicle Type





Where did this trip begin? Where did this trip end?

Customers were asked the origin and destination of their most recent southbound trip across the Bridge. A small number of patrons mistakenly gave their origin as Pennsylvania or south and their destination as New Jersey or north, corresponding to a northbound trip across the bridge; these origin-destination pairs were flipped to represent a southbound trip. Origins and destinations for the eRewards and SurveyMonkey respondents are shown in Figure 11 and Figure 12, respectively. Figure 13 shows the results of both surveys together, within about a 15-mile range of the Scudder Falls Bridge.

These results show, first of all, that there were differences between the two sets of customers. The respondents to the eRewards survey mainly took trips with origins and destinations outside the immediate area of the Scudder Falls Bridge, while those surveyed through SurveyMonkey were clustered in areas around the bridge, such as Newton, Langhorne, Yardley, the Trenton/Ewing area, and Princeton. This was expected because the eRewards survey link was emailed to people throughout the area including many who only use the bridge occasionally, while the SurveyMonkey respondents were more likely to be locals and commuters who took the survey because they saw the sign advertising it on multiple trips across the bridge.

The origins and destinations from the SurveyMonkey survey match well with those from the surveys conducted by Jacobs during the Level II Scudder Falls Bridge T&R Study in 2008/2009.

Figure 11: Origins and Destinations of Customers on Most Recent Southbound Trip, eRewards

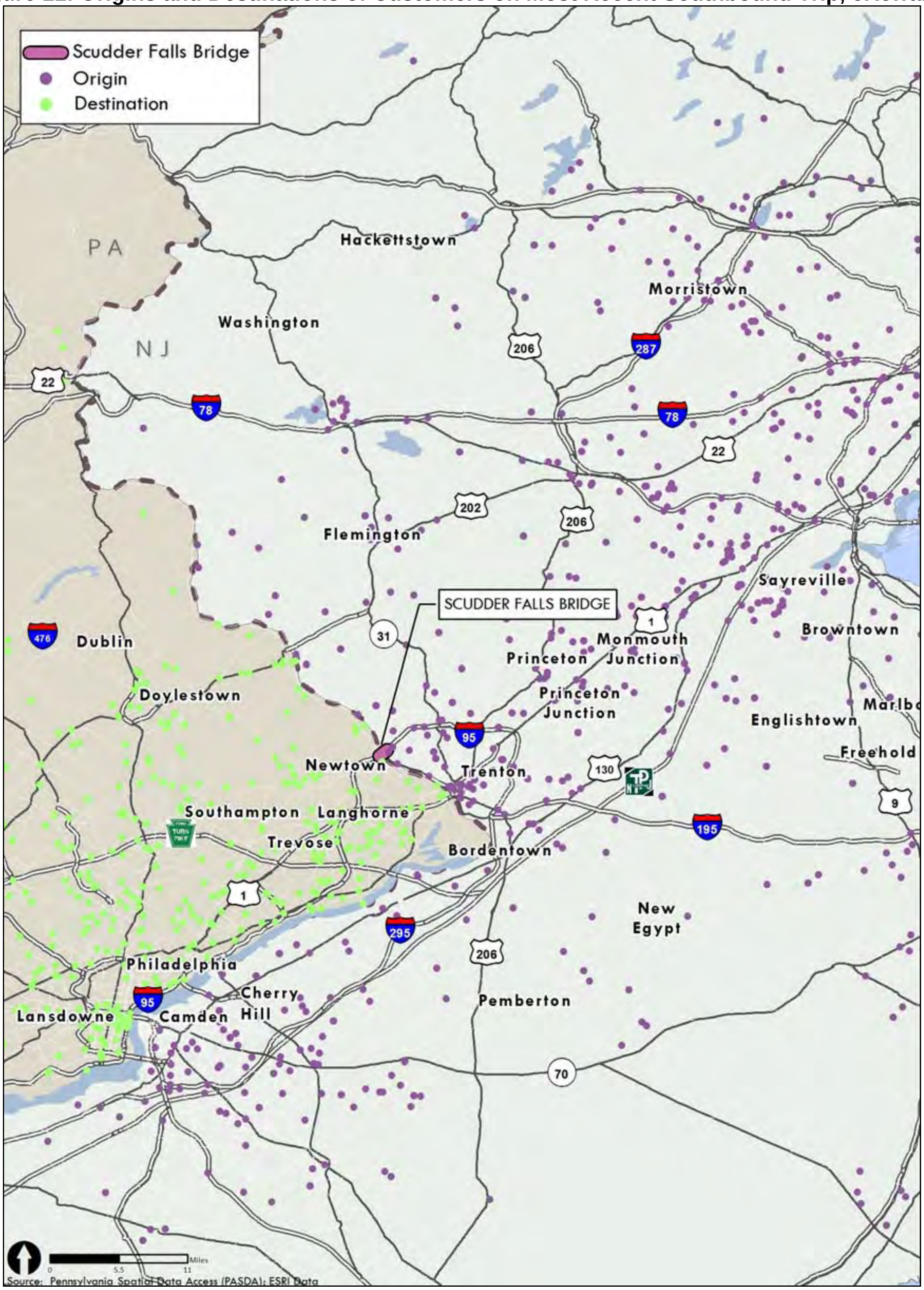


Figure 12: Origins and Destinations of Customers on Most Recent Southbound Trip, SurveyMonkey

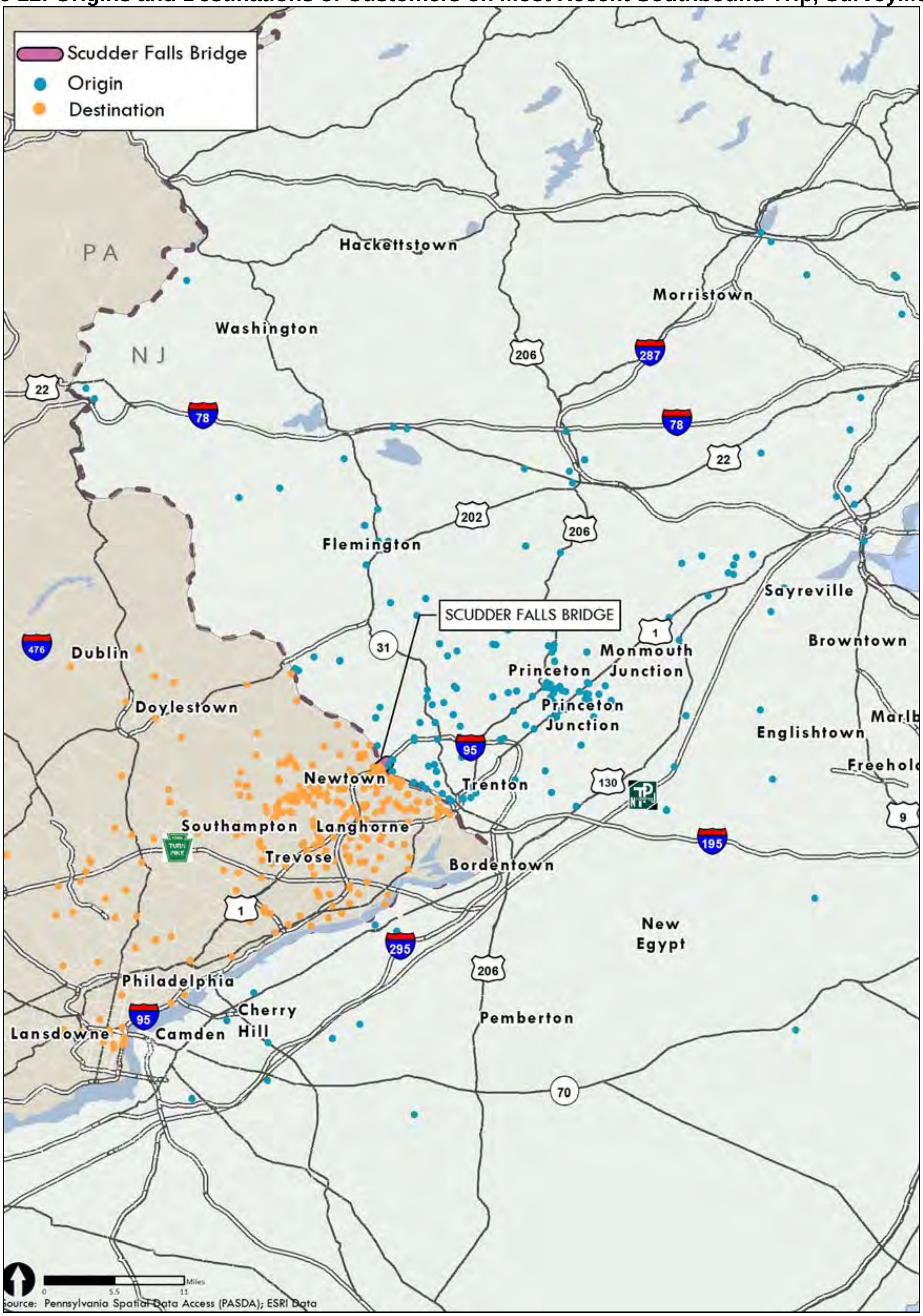
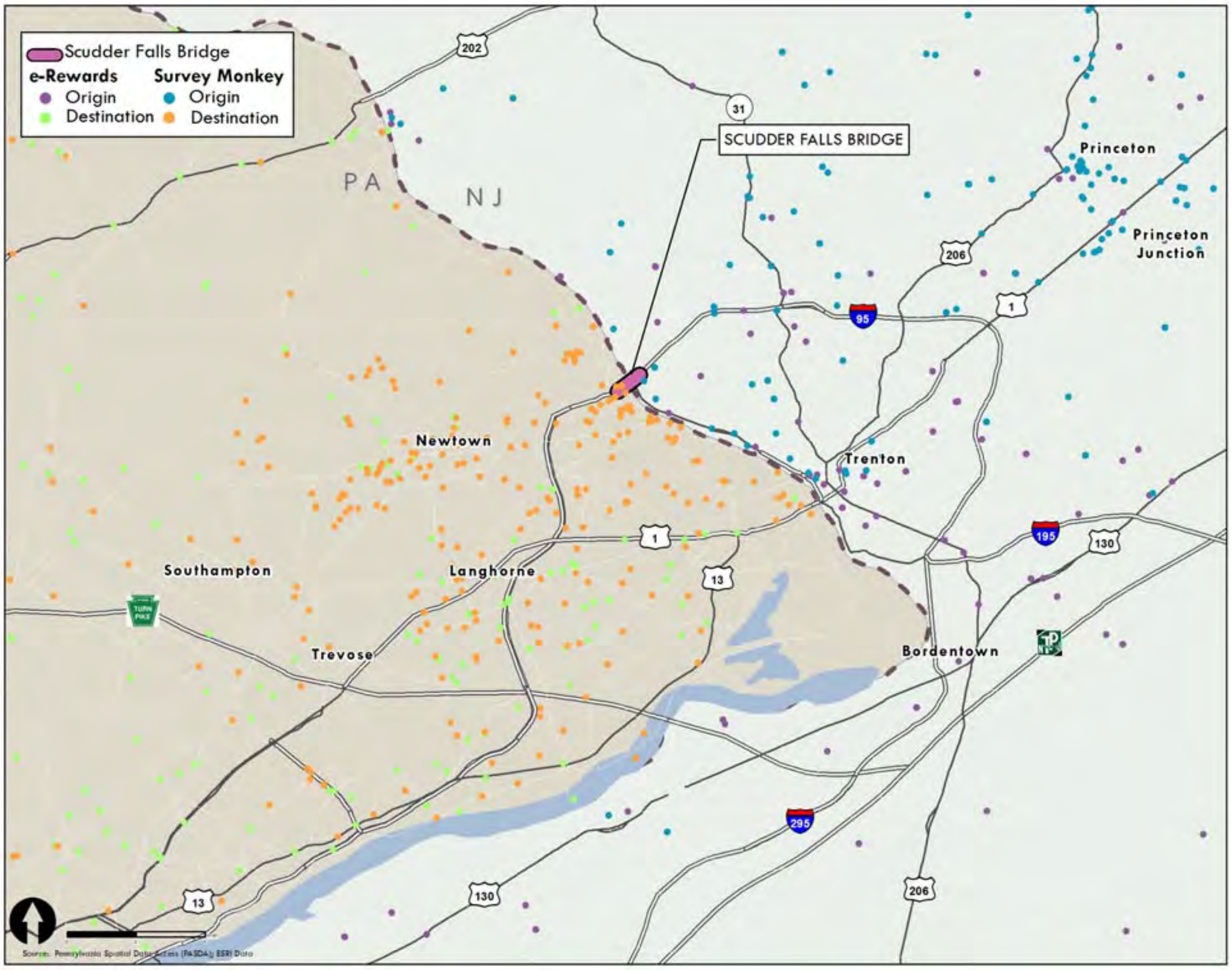


Figure 13: Origins and Destinations of Customers on Most Recent Southbound Trip, Vicinity of Scudder Falls Bridge



What was your total approximate travel distance? What was your total approximate travel time?

As shown in Figure 14 and

Figure 15, the majority of eRewards customers drove more than 50 miles the last time they crossed the Scudder Falls Bridge in the southbound direction, with a travel time of more than an hour. Most SurveyMonkey respondents drove 20 miles or less with a travel time of 15 to 45 minutes.

Figure 14: Customers' Travel Distance

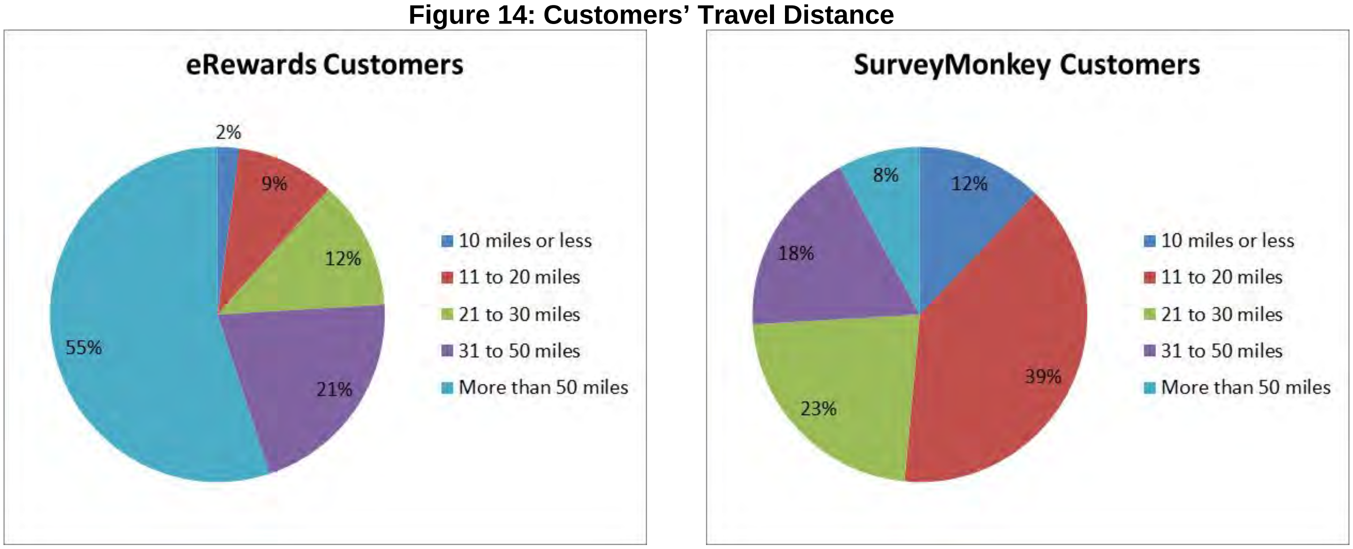
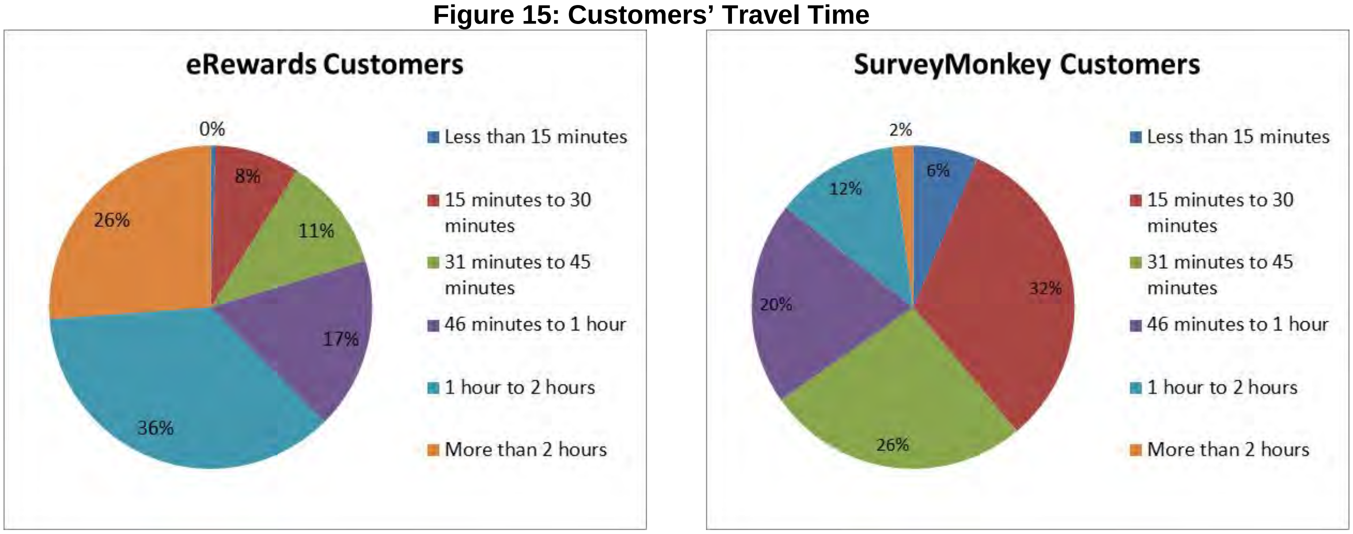


Figure 15: Customers' Travel Time



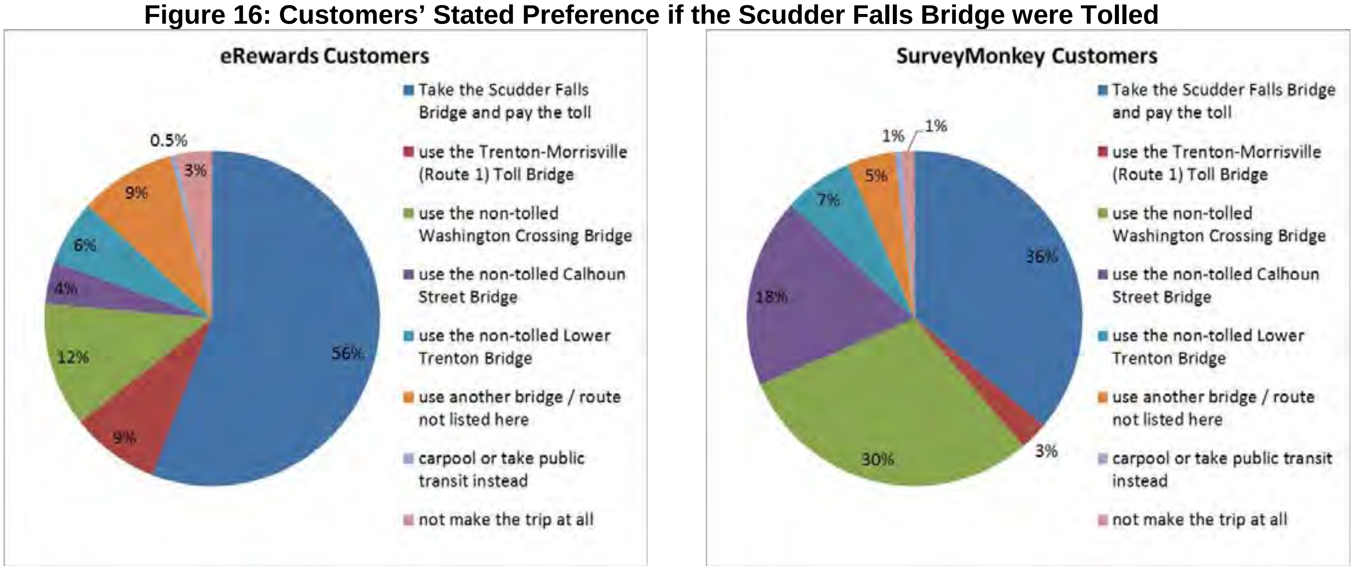
If the new Scudder Falls Bridge had the same Pennsylvania-bound toll as the Trenton-Morrisville Route 1 Toll Bridge, what would you do when you wanted to make this trip again across the Delaware River? {Stated Preference}

Customers were asked what they would do if they were to make the same trip but with a southbound toll on the Scudder Falls Bridge that is similar to the toll on the Trenton-Morrisville (Route 1) Bridge. A majority of the eRewards customers (56 percent) stated that they would stay on the Scudder Falls Bridge and pay the toll, while only 36 percent of SurveyMonkey respondents said they would; most of them stated that they would move to a non-tolled bridge.

It should be noted that stated preference surveys and their results rely on hypothetical questions to elicit preferences or values. Hypothetical bias arises in stated preference valuation studies when respondents report a willingness to do something in laboratory or field experiments that in fact they would not normally do in the real world, and hypothetical biases typically exceed the actual values. In this situation, many respondents were likely to state that they would take a free bridge as a protest against tolling on the Scudder Falls Bridge, or in the belief that the collective answers would be used to decide whether or not to toll the bridge. Therefore, the results of this particular question – and stated preference data in general - should be looked at with a note of caution, especially prior to the expansion of these customer results to 'total trips.'

Note that this question was not asked in the survey conducted by Jacobs during the Level II Scudder Falls Bridge T&R Study in 2008/2009.

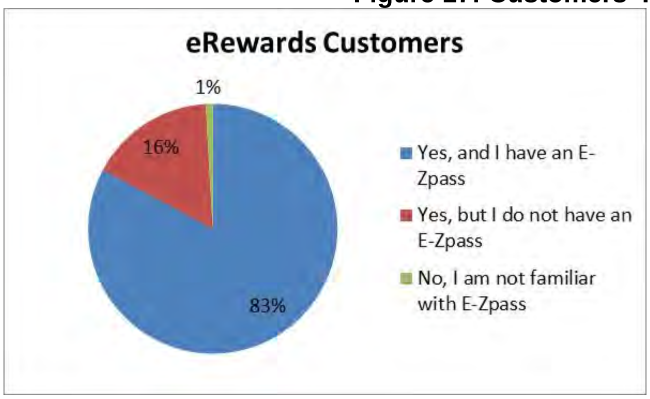
Figure 16: Customers' Stated Preference if the Scudder Falls Bridge were Tolled



Are you familiar with *E-ZPass*? If you do not have an *E-ZPass*, why not?

Customers were asked if they are familiar with *E-ZPass* and if they have *E-ZPass*. As Figure 17 shows, almost all customers are familiar with *E-ZPass,* and the vast majority stated that they have it. Those who do not have *E-ZPass* were asked to select all the reasons why not (see Figure 18). For both surveys, the majority of non-*E-ZPass* customers stated that they do not use toll facilities often enough to get *E-ZPass*. Other reasons chosen by many customers were that they have privacy concerns, don't like automatic credit card charges, and that they do not like the idea of prepaying for tolls. Other reasons customers specified were that they were afraid that *E-ZPass* would be error-prone, they wanted to keep toll collector jobs, or they do not own a vehicle.

Figure 17: Customers' Familiarity with *E-ZPass*



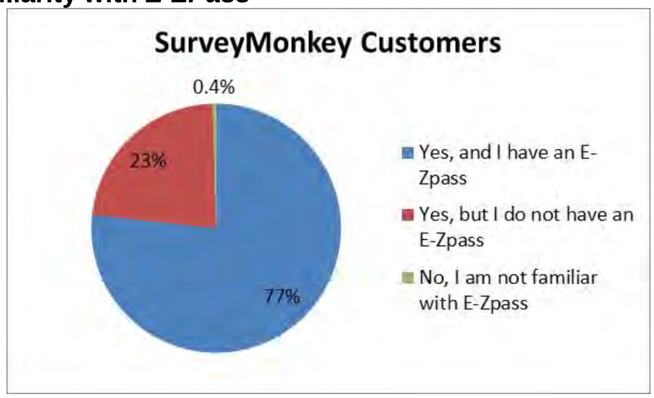
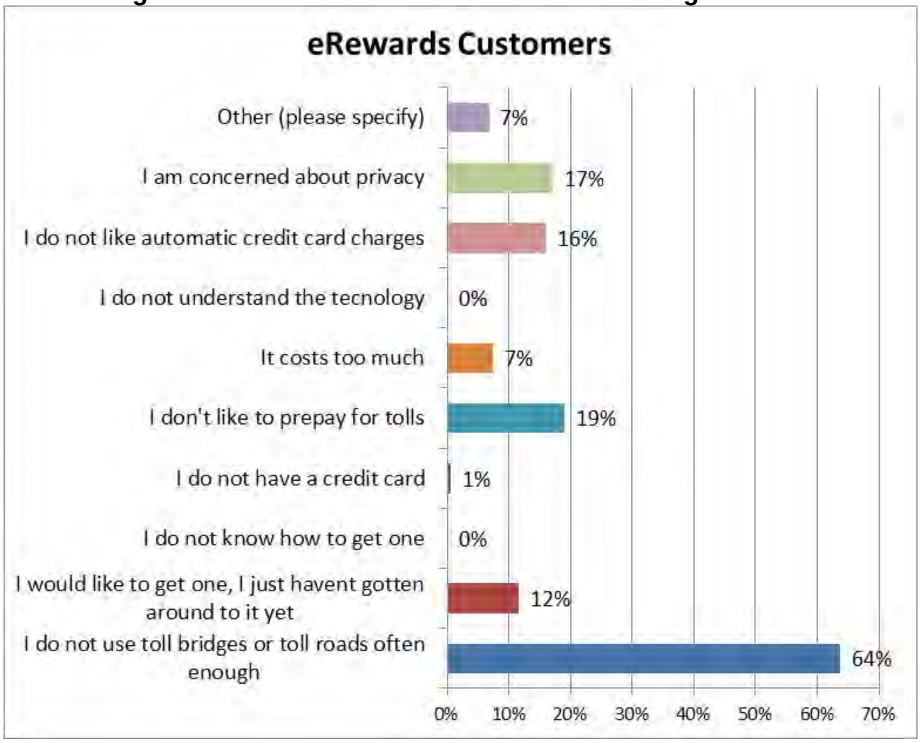
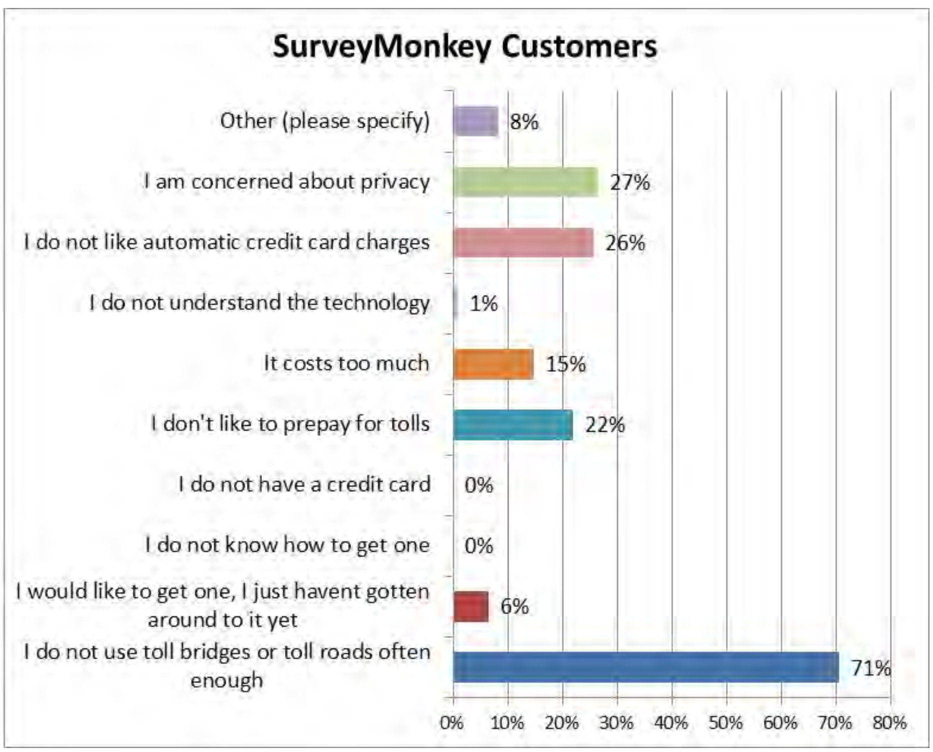


Figure 18: Customers' Reasons for Not Having *E-ZPass*

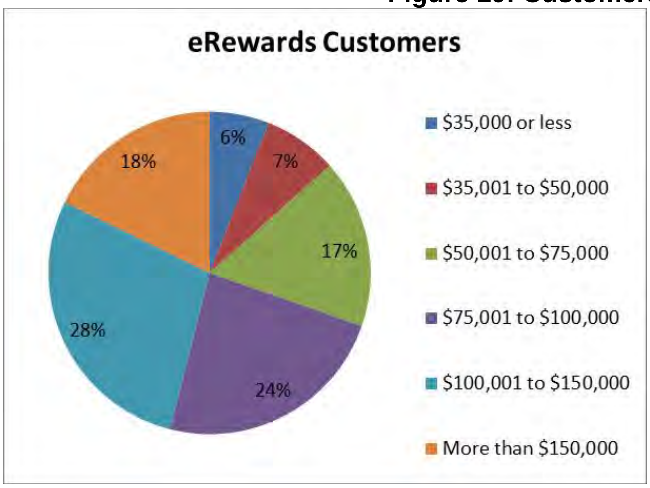


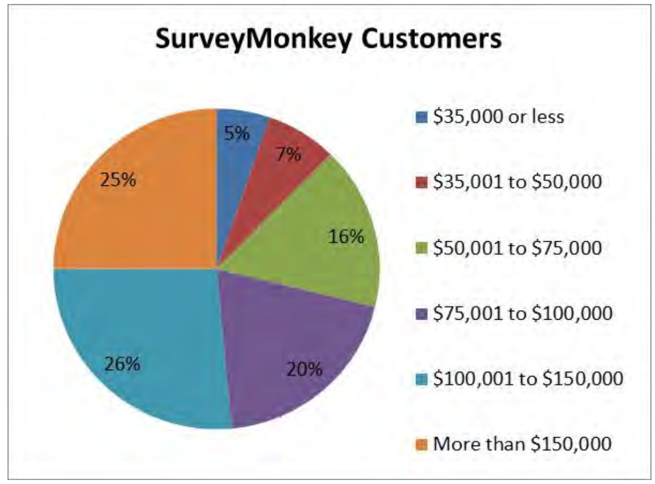


What is your annual household income?

Figure 19 graphs the household income of customers who took each survey. Those who preferred not to answer this question have been excluded from the resulting graphics.

Figure 19: Customers' Household Income

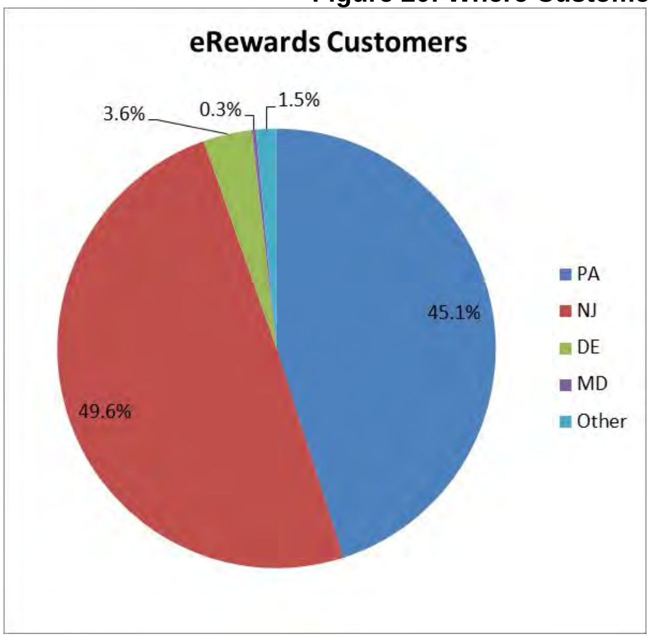


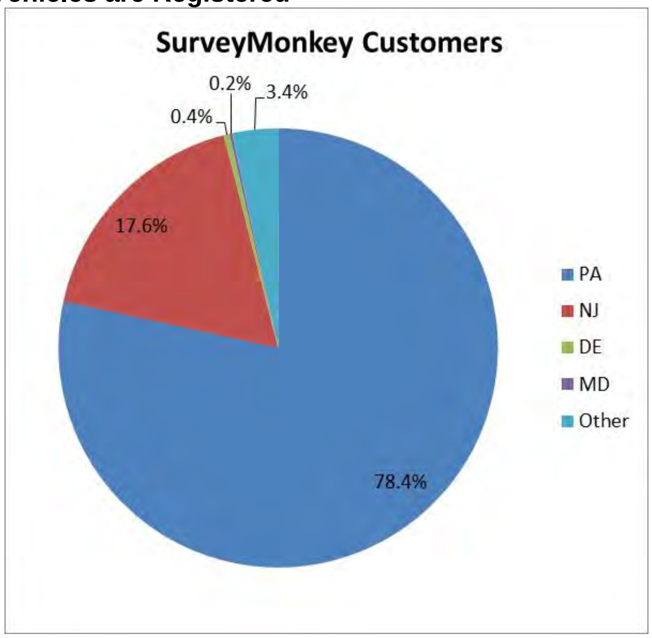


In what state is your vehicle registered?

Figure 20 shows the state of registration of each customer's vehicle. There are some small differences between this and Figure 6 (residence of customers), signifying that a person's state of residence does not always match the state on their license plate. Also, there is a greater share of customers in the "Other" category for state of vehicle registration. Some of these are due to car rentals.

Figure 20: Where Customers' Vehicles are Registered





Online Customer Characteristic Survey Results – Expanded to Total Trips

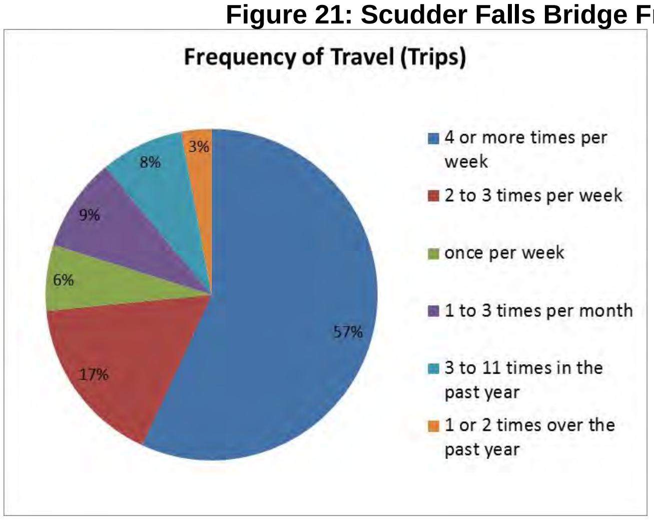
While the previous section presented the raw data from the surveys, some of the customer responses, in order to be effectively used in our traffic and revenue modeling, need to be expanded to represent total trips across the Bridge. This expansion was achieved using the customer trip frequency profile.

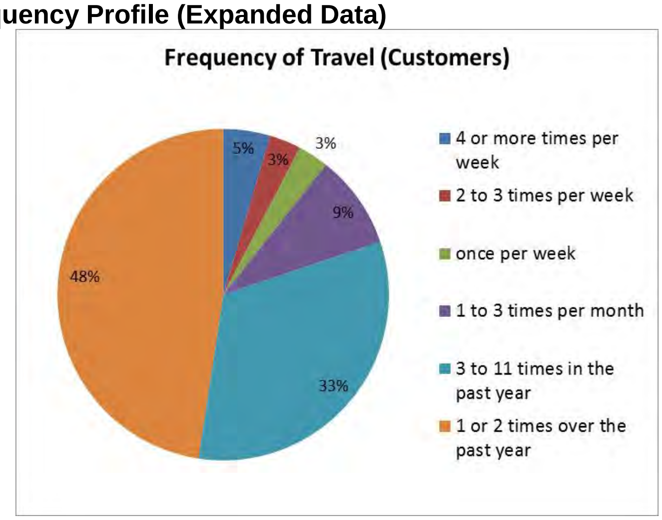
Trip Frequency
Jacobs developed the frequency profile by taking the following steps:

- Each SurveyMonkey response to the frequency question was assumed to represent one trip, as the survey captured travelers across the bridge for nearly one month.
- The eRewards survey, since it was not advertised to people crossing the bridge, represented customers. Factors were applied to turn each customer (survey response) into trips. This is detailed in the paragraph following Figure 21.
- Because the SurveyMonkey responses were biased towards frequent users who saw the survey advertisements multiple times, and the eRewards respondents tended to be more infrequent users, the frequency profiles between the two surveys differed somewhat. We felt that by combining the eRewards and SurveyMonkey frequency data with equal weight, we would remove most of this bias.

Figure 21 represents the overall adjusted frequencies of trips and customers. As seen from these results, 5 percent of customers who travel four or more times a week across the Scudder Falls Bridge make 57 percent of the trips. The 48 percent of customers who cross the bridge once or twice a year make only 3 percent of the trips.

Figure 21: Scudder Falls Bridge Frequency Profile (Expanded Data)



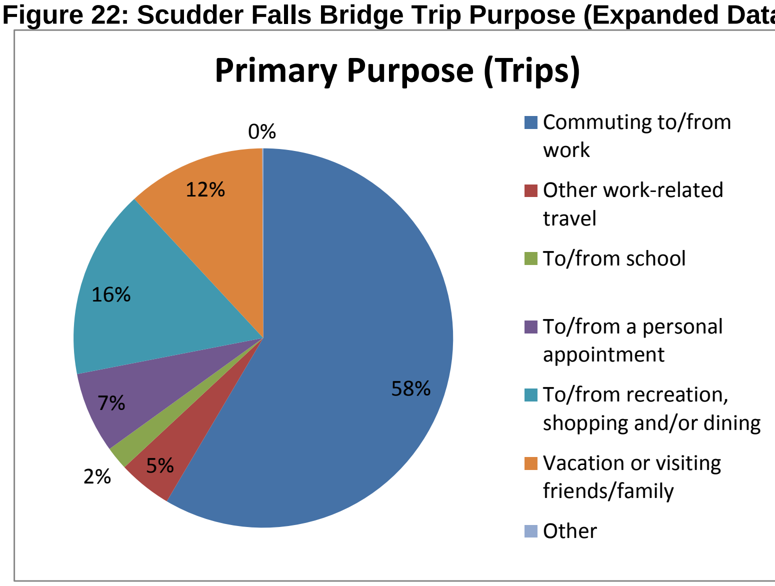


The remaining expanded data charts shown in this section apply the trip frequency of each customer in order to turn customers into trips. For example, if a customer takes one trip per week across the bridge, this represents 52 trips per year. A customer who takes 4 or more trips per week makes about 300 trips per year. A customer who states they traveled over the bridge one or two times over the past year was assumed to make, on average, 1.5 trips per year. Therefore the survey results had to be expanded using the appropriate factors to represent trips. It is important to expand customer results to trips because a trip represents a potential *toll transaction*, and we would like to know if this *toll transaction* will be made by someone who has E-ZPass (rather than know the general population that has E-ZPass), or if a potential video toll transaction will be made by someone who travels frequently (and therefore receives one toll invoice with multiple transactions) or very infrequently (and receives one toll invoice with only one transaction on it). This is significant data that we incorporated into our forecasting models and estimates of video toll collection costs.

Trip Purpose

Figure 22 shows survey customer data expanded to represent southbound total trips across the Bridge in terms of trip purpose. The expanded data shows that almost two-thirds of the trips (58 percent plus 5 percent) on the Bridge are for commuting or work-related travel. Only 2 percent of the trips are made for school, and the remaining one-third of trips on the Bridge are for more discretionary travel, such as personal trips, shopping, or vacation.

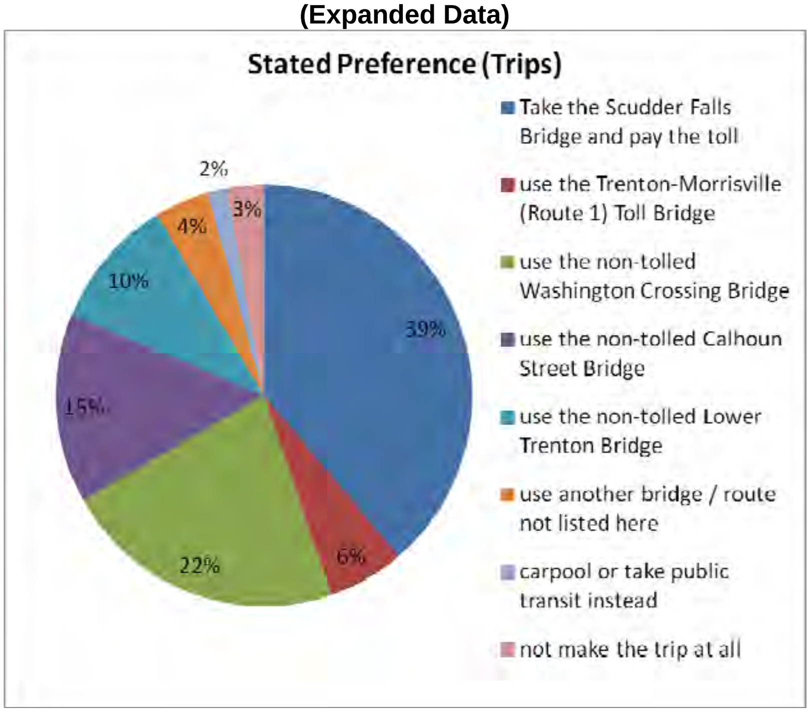
Figure 22: Scudder Falls Bridge Trip Purpose (Expanded Data)



Stated Preference Survey Question (What would you do if…?)
As mentioned previously, customers were asked what they would do if they were to make the same trip but with a southbound toll on the Scudder Falls Bridge that is similar to the toll on the Trenton-Morrisville (Route 1) Bridge. From a *customer* standpoint, a majority of the eRewards customers (56 percent) stated that they would stay on the Scudder Falls Bridge and pay the toll, while only 36 percent of SurveyMonkey respondents said they would; most of them stated that they would move to a non-tolled bridge. However, on a total trip (expanded data) basis, 39 percent of the trips would stay on the Bridge after implementation of tolling, with 6 percent using other tolled Trenton-Morrisville Bridge, 50 percent switching to non-tolled bridges, and 5 percent changing travel patterns.

As mentioned previously, the results of this particular question – and stated preference data in general - should be looked at with a note of caution as many users of a currently-free bridge would be biased against tolling it. The answers to this question were used only to inform Jacobs' analyses and have not been used directly.

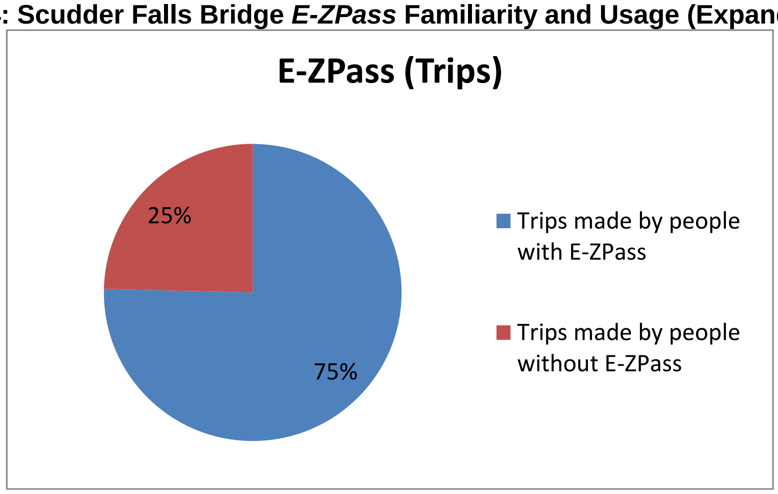
Figure 23: Stated Preference if the Scudder Falls Bridge were Tolled (Expanded Data)



E-ZPass Familiarity and Ownership

Figure 24 shows customer data expanded to percent *E-ZPass* trips. Customers for this online survey were asked if they are familiar with *E-ZPass* and if they have *E-ZPass*. As may be seen in the Figure, according to the data, three-quarters of the trips would be made by *E-ZPass* customers. However, it must be noted that as these surveys were administered and completed online, the results are somewhat skewed to the more tech-savvy person, who would in fact be more likely to have and use *E-ZPass* than would a non-tech-savvy person. As such, one should keep in mind while looking at these data that the answers noted herein would be on the high side of the range of *E-ZPass* usage.

Figure 24: Scudder Falls Bridge _E-ZPass_ Familiarity and Usage (Expanded Data)



Scudder Falls Bridge Customer Characteristic Online Surveys

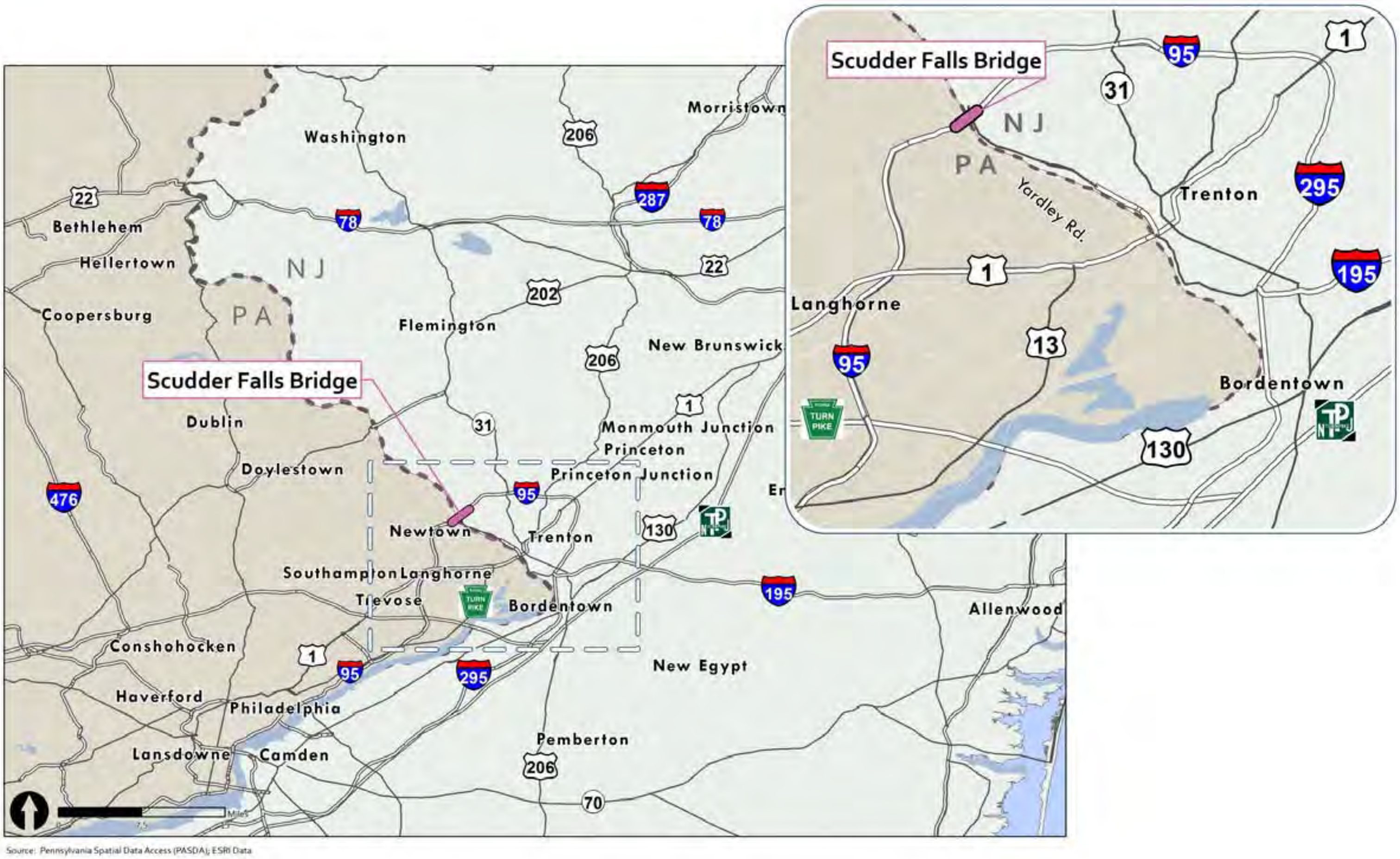
Scudder Falls Bridge Driver Survey

The Scudder Falls Bridge carries I-95 across the Delaware River between New Jersey and Pennsylvania. It is DRJTBC's most heavily used non-tolled bridge.

This survey seeks feedback/input from people who traveled across this bridge in the past year. Please take a few minutes to answer the following questions. Your responses will aid in future transportation planning.

Your participation is very much appreciated!

Below are a photo of the Scudder Falls Bridge and a map of its location northwest of Trenton.



1. *Do you currently have a valid driver's license?*

- *Yes*
- *No* *go to Disqualification page*

2. What is your city, state, and zip code of residence?

- ***City/Town:*** *Blank text box*
- ***State:*** *Drop Down*
- ***ZIP:*** *Blank text box*

3. How often have you driven across the Scudder Falls Bridge over the past year, in the <u>southbound</u> direction (traveling west from New Jersey to Pennsylvania)?

- *4 or more times per week*
- *2 to 3 times per week*
- *Once per week*
- *1 to 3 times per month*
- *3 to 11 times in the past year*
- *1 or 2 times over the past year*
- *I have not traveled southbound (Pennsylvania-bound) across this bridge in the past year* *go to Disqualification page*

For the next set of questions, we are going to ask you about your **<u>most recent southbound (traveling west from New Jersey to Pennsylvania) trip</u>** across the Scudder Falls Bridge.

4. ***What was the primary purpose of your <u>most recent southbound trip</u> across the Scudder Falls Bridge?***

   - *Commuting to/from work*
   - *Other work-related travel*
   - *To/from school*
   - *To/from a personal appointment*
   - *To/from recreation, shopping and/or dining*
   - *Vacation or visiting friends/family*
   - *Other (please specify)* *Blank text box*

5. ***What day / time of day did you take <u>this trip</u>?***

   - *On a Saturday*
   - *On a Sunday*
   - *On a weekday between midnight and 6:00 AM*
   - *On a weekday between 6:00 AM and 10:00 AM*
   - *On a weekday between 10:00 AM and 3:00 PM*
   - *On a weekday between 3:00 PM and 7:00 PM*
   - *On a weekday between 7:00 PM and midnight*

6. ***What type of vehicle were you driving for <u>this trip</u>?***

    - *Private car, SUV, or motorcycle*
    - *Small commercial truck (2-3 axles)*
    - *Large commercial truck (4 or more axles)*
    - *Other (please specify)* *Blank text box*

7. ***Where did <u>this trip</u> begin? Please be as specific as possible.***

    - ***Street, intersection, or nearest landmark:*** *Blank text box, answer not required*
    - ***City:*** *Blank text box*
    - ***State:*** *Drop Down*
    - ***Zip (if known):*** *Blank text box, answer not required*

8. ***Where did <u>this trip</u> end? Please be as specific as possible; answer should be different than the previous response.***

    - ***Street, intersection, or nearest landmark:*** **Blank text box, answer not required**
    - ***City:*** *Blank text box*
    - ***State:*** *Drop Down*
    - ***Zip (if known):*** *Blank text box, answer not required*

9. What was your total approximate travel distance (in one direction) for <u>this trip</u>?

- *10 miles or less*
- *11 to 20 miles*
- *21 to 30 miles*
- *31 to 50 miles*
- *More than 50 miles*

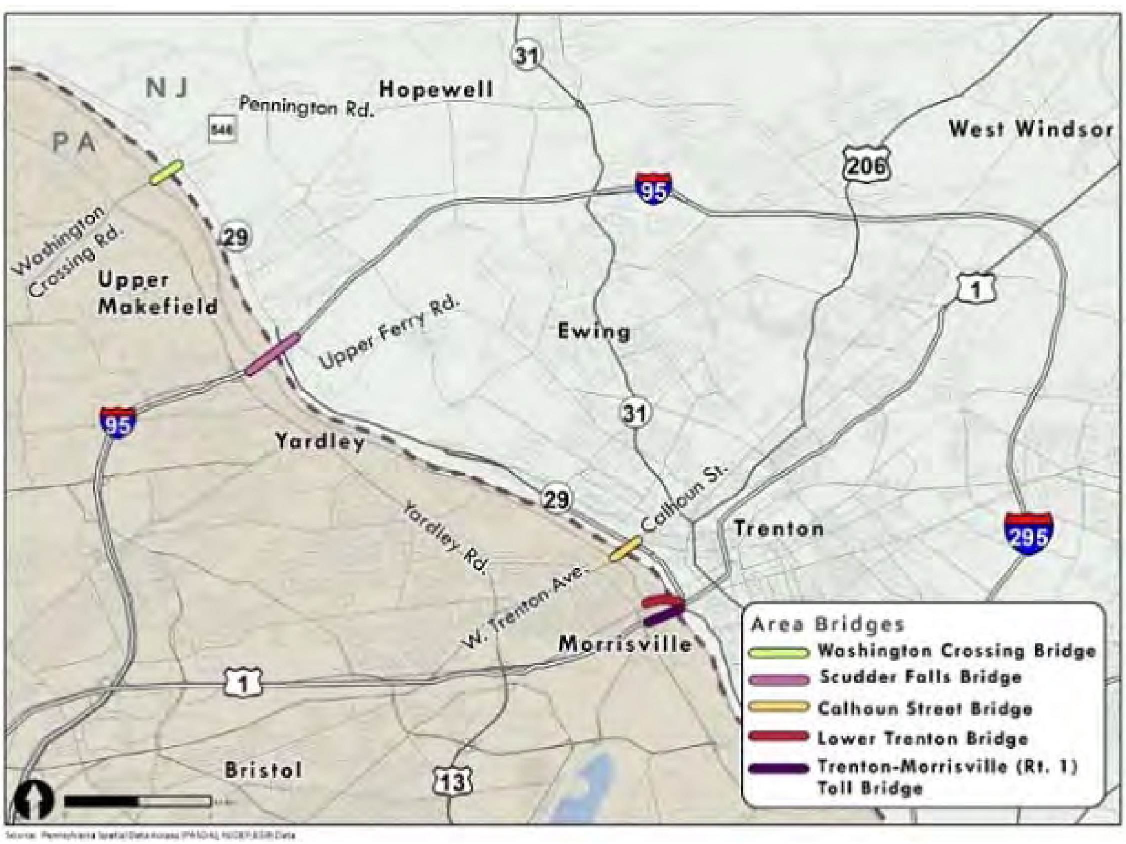
10. What was your total approximate travel time (in one direction) for <u>this trip</u>?

- *Less than 15 minutes*
- *15 minutes to 30 minutes*
- *31 minutes to 45 minutes*
- *46 minutes to 1 hour*
- *1 hour to 2 hours*
- *More than 2 hours*

The Scudder Falls Bridge is going to be replaced with a new crossing that will have an additional through lane in each direction. The project also will involve significant improvements along I-95 and at the adjoining interchanges in New Jersey and Pennsylvania.

11. If this new Scudder Falls Bridge had the same Pennsylvania-bound toll as the Trenton-Morrisville Route 1 Toll Bridge, what would you do when you wanted to make <u>this trip</u> again across the Delaware River? (Refer to the map below.)

- *I would still take the Scudder Falls Bridge and pay the toll*
- *I would use the Trenton-Morrisville (Route 1) Toll Bridge*
- *I would use the non-tolled Washington Crossing Bridge*
- *I would use the non-tolled Calhoun Street Bridge (aka “Trenton City Bridge”)*
- *I would use the non-tolled Lower Trenton Bridge (aka “Trenton Makes Bridge”)*
- *I would use another bridge / route not listed here*
- *I would carpool or take public transit instead*
- *I would not make the trip at all*



12. Are you familiar with E-ZPass?

- *Yes, and I have an E-ZPass* *Skip to Question 14*
- *Yes, but I do not have an E-ZPass* *Go to next question*
- *No, I am not familiar with E-ZPass* *Skip to Question 14*

13. Why do you not have an E-ZPass? (check all that apply)

- *I do not use toll bridges or toll roads often enough.*
- *I would like to get one, I just have not gotten around to it yet.*
- *I do not know how to get one.*
- *I do not have a credit card.*
- *I do not like to prepay for tolls.*
- *It costs too much.*
- *I do not understand the technology.*
- *I do not like automatic credit card charges.*
- *I am concerned about privacy.*
- *Other (please specify)* *Blank text box*

14. What is your annual household income?

- *$35,000 or less*
- *$35,001 to $50,000*
- *$50,001 to $75,000*
- *$75,001 to $100,000*
- *$100,001 to $150,000*
- *More than $150,000*
- *Prefer not to answer*

15. In what state is your vehicle registered?

Drop down list of states

Final Page for people who completed the survey:

The Delaware River Joint Toll Bridge Commission thanks you for your participation in this important travel survey. Your responses will aid in future transportation planning.

Disqualification Page:

Sorry, you do not meet the criteria for this travel survey. The Delaware River Joint Toll Bridge Commission thanks you for your interest.

Scudder Falls Bridge

Annual Traffic and Revenue for 16 Toll Scenarios

Scudders Falls Bridge

2020 Comparison of Alternatives			A1	A2	B1	B2	C1	C2	D1	D2	E1	E2	F1	F2	G1	G2	H1	H2
Toll Scenario:			$1/$4	$1/$4	$1/$4	$1/$4	$2/$4	$2/$4	$2/$4	$2/$4	$3/$4	$3/$4	$3/$4	$3/$4	$1.25/$5	$1.25/$5	$1.25/$5	$1.25/$5
Video surcharge:			$3.10	$1.20	$3.40	$1.20	$4.20	$1.20	$4.60	$1.20	$5.40	$1.30	$6.10	$1.30	$3.60	$1.30	$4.00	$1.30
Annual toll incs at CPI?			no	no	yes	yes	no	no	yes	yes	no	no	yes	yes	no	no	yes	yes
Surcharge covers uncollectables?			y	n	y	n	y	n	y	n	y	n	y	n	y	n	y	n
Vehicle Type	Payment Type	Discount/Full Price																
Annual SFB Transactions	**Total Vehicles**		**9,702,018**	**10,054,314**	**9,633,034**	**10,026,988**	**8,743,881**	**9,270,231**	**8,634,530**	**9,249,364**	**7,749,769**	**8,452,173**	**7,601,995**	**8,431,187**	**9,408,927**	**9,804,213**	**9,303,375**	**9,783,321**
Annual Transactions	E-ZPass	Commuter	3,050,840	3,050,840	3,041,687	3,041,687	2,888,609	2,888,609	2,881,388	2,881,388	2,739,898	2,739,898	2,733,048	2,733,048	3,023,802	3,023,802	3,016,242	3,016,242
Passsenger Vehicles		Full Price	4,359,127	4,359,127	4,349,149	4,349,196	3,908,228	3,908,228	3,903,512	3,903,606	3,457,330	3,457,330	3,451,787	3,451,881	4,268,947	4,268,947	4,263,509	4,263,556
	Video		1,628,995	1,972,916	1,582,112	1,967,796	1,285,074	1,800,955	1,195,394	1,795,060	898,163	1,586,005	765,708	1,580,432	1,500,024	1,886,936	1,410,237	1,881,902
	Total Passenger Vehicles		*9,038,961*	*9,382,882*	*8,972,948*	*9,358,680*	*8,081,911*	*8,597,793*	*7,980,294*	*8,580,053*	*7,095,390*	*7,783,232*	*6,950,542*	*7,765,360*	*8,792,773*	*9,179,684*	*8,689,988*	*9,161,700*
Annual Transactions	E-ZPass	Off Peak	77,633	77,633	77,245	77,245	78,223	78,223	77,832	77,832	79,207	79,207	78,811	78,811	72,912	72,912	72,547	72,547
Light Commercial Vehs		Peak	335,399	335,399	333,960	333,963	335,399	335,399	333,960	333,963	335,399	335,399	333,960	333,963	314,363	314,363	313,029	313,033
	Video		118,115	125,762	117,522	125,018	117,159	126,718	111,804	125,970	109,192	121,938	108,627	121,209	106,643	114,291	106,085	113,592
	Total Light Commercial Vehicles		*531,146*	*538,794*	*528,727*	*536,226*	*530,780*	*540,340*	*523,595*	*537,765*	*523,798*	*536,544*	*521,397*	*533,983*	*493,918*	*501,566*	*491,662*	*499,173*
Annual Transactions	E-ZPass	Off Peak	24,382	24,382	24,260	24,260	23,843	23,843	23,723	23,723	24,142	24,142	24,022	24,022	22,224	22,224	22,113	22,113
Heavy Commercial Vehs		Peak	85,085	85,085	84,790	84,790	85,085	85,085	84,790	84,790	85,085	85,085	84,789	84,790	79,748	79,748	79,475	79,475
	Video		22,444	23,170	22,308	23,032	22,262	23,170	22,127	23,032	21,354	23,170	21,245	23,032	20,264	20,991	20,137	20,861
	Total Heavy Commercial Vehicles		*131,911*	*132,637*	*131,359*	*132,082*	*131,189*	*132,098*	*130,641*	*131,546*	*130,581*	*132,398*	*130,056*	*131,844*	*122,236*	*122,963*	*121,725*	*122,449*
Annual SFB Toll Revenue	**Total Toll Revenue (Collected)**		**$18,187,906**	**$16,969,091**	**$18,720,261**	**$17,343,819**	**$24,060,314**	**$22,900,933**	**$24,458,732**	**$23,376,815**	**$27,887,891**	**$27,525,129**	**$28,200,632**	**$28,139,346**	**$21,297,440**	**$20,029,093**	**$21,777,674**	**$20,430,655**
Annual Toll Revenue	E-ZPass	Commuter	$1,866,319	$1,873,880	$1,921,775	$1,930,533	$3,524,660	$3,548,075	$3,599,680	$3,627,557	$4,995,430	$5,044,148	$5,111,850	$5,171,126	$2,309,367	$2,320,075	$2,362,549	$2,375,941
Passsenger Vehicle Rev		Full Price	$4,444,416	$4,462,422	$4,564,968	$4,585,822	$7,947,985	$8,000,786	$8,127,677	$8,190,818	$10,505,775	$10,608,233	$10,748,646	$10,873,582	$5,433,869	$5,459,065	$5,551,381	$5,582,911
	Video		$3,361,068	$2,184,263	$3,527,074	$2,208,303	$4,009,531	$2,900,192	$4,000,428	$2,935,865	$3,796,716	$3,431,995	$3,537,362	$3,483,562	$3,661,119	$2,421,425	$3,747,139	$2,443,377
	Total Passenger Vehicle Revenue		*$9,671,803*	*$8,520,566*	*$10,013,817*	*$8,724,658*	*$15,482,176*	*$14,449,053*	*$15,727,785*	*$14,754,239*	*$19,297,921*	*$19,084,376*	*$19,397,859*	*$19,528,270*	*$11,404,354*	*$10,200,565*	*$11,661,070*	*$10,402,229*
Annual Toll Revenue	E-ZPass	Off Peak	$886,194	$887,374	$903,868	$905,055	$892,767	$894,253	$909,879	$912,071	$902,670	$904,758	$920,674	$922,785	$1,039,548	$1,041,028	$1,060,275	$1,061,765
Light Commercial Veh Rev		Peak	$4,254,043	$4,259,709	$4,341,598	$4,347,343	$4,253,264	$4,260,346	$4,337,497	$4,347,994	$4,247,044	$4,256,872	$4,334,462	$4,344,448	$4,980,065	$4,987,154	$5,083,579	$5,090,780
	Video		$833,363	$769,095	$862,911	$781,862	$890,382	$774,941	$887,304	$787,817	$894,671	$751,744	$942,710	$764,041	$926,021	$862,367	$960,544	$876,767
	Total Light Commercial Vehicle Rev		*$5,973,600*	*$5,916,178*	*$6,108,376*	*$6,034,260*	*$6,036,413*	*$5,929,540*	*$6,134,680*	*$6,047,881*	*$6,044,385*	*$5,913,374*	*$6,197,846*	*$6,031,273*	*$6,945,633*	*$6,890,548*	*$7,104,399*	*$7,029,312*
Annual Toll Revenue	E-ZPass	Off Peak	$466,873	$467,495	$476,192	$476,817	$456,457	$457,217	$465,214	$466,334	$461,520	$462,588	$470,733	$471,813	$531,504	$532,260	$542,167	$542,929
Heavy Commercial Veh Rev		Peak	$1,810,228	$1,812,639	$1,849,025	$1,851,452	$1,809,896	$1,812,910	$1,847,279	$1,851,729	$1,807,250	$1,811,432	$1,845,971	$1,850,219	$2,119,173	$2,122,189	$2,164,659	$2,167,700
	Video		$265,403	$252,213	$272,850	$256,631	$275,372	$252,213	$283,775	$256,631	$276,816	$253,360	$288,223	$257,771	$296,776	$283,530	$305,379	$288,486
	Total Heavy Commercial Vehicle Rev		*$2,542,504*	*$2,532,347*	*$2,598,067*	*$2,584,901*	*$2,541,725*	*$2,522,340*	*$2,596,268*	*$2,574,695*	*$2,545,585*	*$2,527,379*	*$2,604,928*	*$2,579,802*	*$2,947,452*	*$2,937,980*	*$3,012,205*	*$2,999,115*
Uncollectable Toll Revenue *(not included below, but is used in some scenarios to calculate the video toll surcharge)*			-$1,374,595	-$1,540,577	-$1,391,591	-$1,576,177	-$1,682,488	-$2,092,695	-$1,629,734	-$2,135,901	-$1,665,191	-$2,442,681	-$1,567,800	-$2,496,296	-$1,562,454	-$1,787,974	-$1,557,417	-$1,824,437
Annual SFB Net Revenue	Toll Revenue Collected		$18,187,906	$16,969,091	$18,720,261	$17,343,819	$24,060,314	$22,900,933	$24,458,732	$23,376,815	$27,887,891	$27,525,129	$28,200,632	$28,139,346	$21,297,440	$20,029,093	$21,777,674	$20,430,655
	Fee Revenue ($30 Violation Fee)		$1,345,013	$1,613,926	$1,308,648	$1,609,387	$1,081,215	$1,483,104	$1,008,758	$1,477,969	$779,076	$1,315,355	$677,311	$1,310,480	$1,236,743	$1,538,530	$1,167,600	$1,534,095
	ETC Transaction Costs		-$859,992	-$863,617	-$863,900	-$867,957	-$903,589	-$909,647	-$908,948	-$916,135	-$927,686	-$936,672	-$934,672	-$945,340	-$895,741	-$899,962	-$900,151	-$905,259
	Video Toll Collection Costs		-$2,698,173	-$2,987,795	-$2,679,326	-$2,980,275	-$2,328,932	-$2,763,829	-$2,228,519	-$2,755,441	-$1,839,492	-$2,514,072	-$1,611,189	-$2,506,264	-$2,589,467	-$2,909,929	-$2,477,175	-$2,902,450
	Net Revenue		**$15,974,755**	**$14,731,604**	**$16,485,682**	**$15,104,973**	**$21,909,008**	**$20,710,561**	**$22,330,024**	**$21,183,208**	**$25,899,788**	**$25,389,739**	**$26,332,082**	**$25,998,222**	**$19,048,975**	**$17,757,732**	**$19,567,948**	**$18,157,041**
Effects on T+R at Trenton-Morrisville Bridge																		
Change in AADT at TMB due to toll incs and diversion from SFE			2,185	1,802	2,120	1,704	(386)	(677)	(425)	(757)	(2,651)	(2,914)	(2,694)	(2,995)	1,368	1,024	1,353	945
Additional TMB revenue due to toll incs and diversion from SFE			**$2,339,500**	**$2,167,333**	**$2,787,327**	**$2,599,054**	**$8,943,739**	**$8,694,138**	**$9,497,645**	**$9,195,942**	**$14,017,823**	**$13,681,873**	**$14,714,155**	**$14,328,219**	**$5,880,231**	**$5,690,868**	**$6,326,953**	**$6,104,242**

Notes: There is a 3-month lag in video toll collection in 2019.
An estimated 41.4% of car video tolls and 42.7% of truck video tolls are uncollectible.

a1

Scudders Falls Bridge
Revenue Build Up Detail

Toll Scenario:	$1/$4
Video surcharge:	$3.10
Annual toll incs at CPI?	no
Surcharge covers uncollectables?	y

Vehicle Type	Payment Type	Discount/Full Price	Operating Year 2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Annual SFB Transactions	**Total Vehicles**		**9,521,378**	**9,702,018**	**9,826,850**	**9,938,400**	**10,040,061**	**10,134,395**	**10,223,337**	**10,308,349**	**10,390,208**	**10,462,340**	**10,535,039**	**10,608,309**
Total Vehicles	Annual Growth Rate			1.90%	1.29%	1.14%	1.02%	0.94%	0.88%	0.83%	0.79%	0.69%	0.69%	0.70%
Annual Transactions	E-ZPass	Commuter	2,852,501	3,050,840	3,160,719	3,249,003	3,321,024	3,380,804	3,431,380	3,475,044	3,513,013	3,534,952	3,557,029	3,579,243
Passsenger Vehicles		Full Price	4,075,734	4,359,127	4,516,125	4,642,268	4,745,173	4,830,588	4,902,853	4,965,242	5,019,493	5,050,840	5,082,383	5,114,123
	Video		1,941,502	1,628,995	1,475,839	1,361,793	1,277,274	1,215,047	1,169,654	1,136,974	1,114,823	1,121,785	1,128,791	1,135,840
	Total Passenger Vehicles		*8,869,736*	*9,038,961*	*9,152,683*	*9,253,064*	*9,343,470*	*9,426,438*	*9,503,886*	*9,577,260*	*9,647,328*	*9,707,577*	*9,768,202*	*9,829,206*
Annual Transactions	E-ZPass	Off Peak	71,889	77,633	81,208	84,286	86,989	89,413	91,630	93,695	95,637	97,167	98,721	100,300
Light Commercial Vehs		Peak	310,584	335,399	350,846	364,140	375,819	386,292	395,870	404,792	413,181	419,790	426,505	433,328
	Video		139,423	118,115	108,047	100,663	95,331	91,565	88,999	87,350	86,479	87,862	89,267	90,695
	Total Light Commercial Vehicles		*521,896*	*531,146*	*540,101*	*549,089*	*558,139*	*567,270*	*576,498*	*585,838*	*595,296*	*604,819*	*614,493*	*624,323*
Annual Transactions	E-ZPass	Off Peak	23,551	24,382	25,003	25,579	26,122	26,642	27,146	27,640	28,127	28,577	29,035	29,499
Heavy Commercial Vehs		Peak	82,184	85,085	87,251	89,261	91,157	92,972	94,730	96,453	98,154	99,724	101,319	102,940
	Video		24,011	22,444	21,812	21,406	21,173	21,073	21,076	21,158	21,302	21,643	21,989	22,341
	Total Heavy Commercial Vehicles		*129,745*	*131,911*	*134,067*	*136,246*	*138,452*	*140,687*	*142,953*	*145,251*	*147,584*	*149,944*	*152,343*	*154,780*
Annual SFB Toll Revenue	**Total Toll Revenue (Collected)**		**$16,884,114**	**$18,187,906**	**$18,280,155**	**$18,400,995**	**$18,543,965**	**$18,704,235**	**$18,878,191**	**$19,063,133**	**$19,257,668**	**$19,472,982**	**$19,691,162**	**$19,912,249**
Total Vehicle Rev	Growth Rate			7.72%	0.51%	0.66%	0.78%	0.86%	0.93%	0.98%	1.02%	1.12%	1.12%	1.12%
Annual Toll Revenue	E-ZPass	Commuter	$1,754,186	$1,866,319	$1,928,879	$1,979,342	$2,020,696	$2,055,196	$2,084,544	$2,110,024	$2,132,318	$2,145,635	$2,159,035	$2,172,518
Passsenger Vehicle Rev		Full Price	$4,177,385	$4,444,416	$4,593,395	$4,713,567	$4,812,047	$4,894,204	$4,964,092	$5,024,770	$5,077,861	$5,109,573	$5,141,483	$5,173,592
	Video		$3,004,392	$3,361,068	$3,045,064	$2,809,757	$2,635,371	$2,506,979	$2,413,320	$2,345,893	$2,300,188	$2,314,553	$2,329,008	$2,343,553
	Total Passenger Vehicle Revenue		*$8,935,963*	*$9,671,803*	*$9,567,339*	*$9,502,667*	*$9,468,113*	*$9,456,379*	*$9,461,956*	*$9,480,686*	*$9,510,368*	*$9,569,761*	*$9,629,526*	*$9,689,664*
Annual Toll Revenue	E-ZPass	Off Peak	$825,112	$886,194	$924,663	$957,954	$987,368	$1,013,895	$1,038,290	$1,061,128	$1,082,701	$1,100,021	$1,117,617	$1,135,495
Light Commercial Veh Rev		Peak	$3,960,831	$4,254,043	$4,438,711	$4,598,517	$4,739,713	$4,867,052	$4,984,156	$5,093,787	$5,197,349	$5,280,487	$5,364,955	$5,450,775
	Video		$737,777	$833,363	$762,328	$710,235	$672,610	$646,042	$627,933	$616,304	$610,153	$619,913	$629,829	$639,904
	Total Light Commercial Vehicle Rev		*$5,523,720*	*$5,973,600*	*$6,125,702*	*$6,266,707*	*$6,399,691*	*$6,526,989*	*$6,650,379*	*$6,771,218*	*$6,890,203*	*$7,000,421*	*$7,112,402*	*$7,226,174*
Annual Toll Revenue	E-ZPass	Off Peak	$453,419	$466,873	$477,552	$487,662	$497,358	$506,766	$515,983	$525,086	$534,141	$542,686	$551,367	$560,186
Heavy Commercial Veh Rev		Peak	$1,758,065	$1,810,228	$1,851,633	$1,890,833	$1,928,431	$1,964,909	$2,000,646	$2,035,939	$2,071,051	$2,104,180	$2,137,839	$2,172,037
	Video		$212,947	$265,403	$257,930	$253,127	$250,372	$249,192	$249,227	$250,204	$251,905	$255,934	$260,028	$264,188
	Total Heavy Commercial Vehicle Rev		*$2,424,431*	*$2,542,504*	*$2,587,115*	*$2,631,621*	*$2,676,161*	*$2,720,867*	*$2,765,857*	*$2,811,228*	*$2,857,097*	*$2,902,800*	*$2,949,234*	*$2,996,411*
Uncollectable Toll Revenue *(not included below, but is used in some scenarios to calculate the video toll surcharge)*			-$1,618,411	-$1,374,595	-$1,258,567	-$1,173,396	-$1,111,573	-$1,067,449	-$1,036,763	-$1,016,298	-$1,004,355	-$1,016,718	-$1,029,256	-$1,041,971
Annual SFB Net Revenue	Toll Revenue Collected		$16,884,114	$18,187,906	$18,280,155	$18,400,995	$18,543,965	$18,704,235	$18,878,191	$19,063,133	$19,257,668	$19,472,982	$19,691,162	$19,912,249
	Fee Revenue ($30 Violation Fee)		$1,600,151	$1,345,013	$1,220,334	$1,127,620	$1,059,055	$1,008,739	$972,215	$946,119	$928,666	$935,208	$941,803	$948,452
	ETC Transaction Costs		-$809,551	-$859,992	-$889,127	-$913,121	-$933,251	-$950,478	-$965,532	-$978,965	-$991,069	-$999,292	-$1,007,599	-$1,015,991
	Video Toll Collection Costs		-$3,185,523	-$2,698,173	-$2,448,507	-$2,262,879	-$2,125,635	-$2,024,955	-$1,951,913	-$1,899,768	-$1,864,945	-$1,878,234	-$1,891,632	-$1,905,140
	Net Revenue		**$14,489,192**	**$15,974,755**	**$16,162,855**	**$16,352,614**	**$16,544,135**	**$16,737,542**	**$16,932,961**	**$17,130,519**	**$17,330,319**	**$17,530,664**	**$17,733,734**	**$17,939,569**
Effects on T+R at Trenton-Morrisville Bridge														
Change in AADT at TMB due to toll incs and diversion from SFB			2,300	2,185	2,144	2,112	2,092	2,075	2,076	2,077	2,081	2,091	2,113	2,130
Additional TMB revenue due to toll incs and diversion from SFB			**$2,362,616**	**$2,339,500**	**$2,343,369**	**$2,354,182**	**$2,370,358**	**$2,390,705**	**$2,414,324**	**$2,440,538**	**$2,468,993**	**$2,502,830**	**$2,537,173**	**$2,572,030**

Scudders Falls Bridge

Revenue Build Up Detail

Toll Scenario:	$1/$4
Video surcharge:	$1.20
Annual toll incs at CPI?	no
Surcharge covers uncollectables?	n

Vehicle Type	Payment Type	Discount/Full Price	Operating Year 2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Annual SFB Transactions	**Total Vehicles**		**9,941,081**	**10,054,314**	**10,146,138**	**10,233,119**	**10,316,583**	**10,397,532**	**10,476,725**	**10,554,733**	**10,631,863**	**10,705,566**	**10,779,846**	**10,854,709**
Total Vehicles	Annual Growth Rate			1.14%	0.91%	0.86%	0.82%	0.78%	0.76%	0.74%	0.73%	0.69%	0.69%	0.69%
Annual Transactions	E-ZPass	Commuter	2,852,501	3,050,840	3,160,719	3,249,003	3,321,024	3,380,804	3,431,380	3,475,044	3,513,013	3,534,952	3,557,029	3,579,243
Passsenger Vehicles		Full Price	4,075,734	4,359,127	4,516,125	4,642,268	4,745,173	4,830,588	4,902,853	4,965,242	5,019,493	5,050,840	5,082,383	5,114,123
	Video		2,351,400	1,972,916	1,787,425	1,649,301	1,546,938	1,471,573	1,416,596	1,377,017	1,350,189	1,358,621	1,367,106	1,375,644
	Total Passenger Vehicles		*9,279,635*	*9,382,882*	*9,464,269*	*9,540,573*	*9,613,134*	*9,682,965*	*9,750,829*	*9,817,303*	*9,882,695*	*9,944,414*	*10,006,518*	*10,069,010*
Annual Transactions	E-ZPass	Off Peak	71,889	77,633	81,208	84,286	86,989	89,413	91,630	93,695	95,637	97,167	98,721	100,300
Light Commercial Vehs		Peak	310,584	335,399	350,846	364,140	375,819	386,292	395,870	404,792	413,181	419,790	426,505	433,328
	Video		148,450	125,762	115,042	107,181	101,503	97,494	94,761	93,006	92,078	93,551	95,047	96,568
	Total Light Commercial Vehicles		*530,924*	*538,794*	*547,097*	*555,607*	*564,311*	*573,198*	*582,261*	*591,494*	*600,895*	*610,507*	*620,273*	*630,195*
Annual Transactions	E-ZPass	Off Peak	23,551	24,382	25,003	25,579	26,122	26,642	27,146	27,640	28,127	28,577	29,035	29,499
Heavy Commercial Vehs		Peak	82,184	85,085	87,251	89,261	91,157	92,972	94,730	96,453	98,154	99,724	101,319	102,940
	Video		24,788	23,170	22,518	22,099	21,858	21,755	21,758	21,843	21,992	22,344	22,701	23,064
	Total Heavy Commercial Vehicles		*130,523*	*132,637*	*134,773*	*136,939*	*139,137*	*141,369*	*143,635*	*145,936*	*148,273*	*150,645*	*153,055*	*155,503*
Annual SFB Toll Revenue	**Total Toll Revenue (Collected)**		**$15,806,800**	**$16,969,091**	**$17,174,616**	**$17,379,719**	**$17,585,037**	**$17,791,095**	**$17,998,327**	**$18,207,087**	**$18,417,604**	**$18,627,163**	**$18,839,543**	**$19,054,786**
Total Vehicle Rev	Growth Rate			7.35%	1.21%	1.19%	1.18%	1.17%	1.16%	1.16%	1.16%	1.14%	1.14%	1.14%
Annual Toll Revenue	E-ZPass	Commuter	$1,763,198	$1,873,880	$1,935,730	$1,985,663	$2,026,625	$2,060,836	$2,089,973	$2,115,301	$2,137,493	$2,150,842	$2,164,274	$2,177,790
Passsenger Vehicle Rev		Full Price	$4,198,846	$4,462,422	$4,609,709	$4,728,620	$4,826,165	$4,907,635	$4,977,021	$5,037,338	$5,090,184	$5,121,973	$5,153,961	$5,186,148
	Video		$1,952,470	$2,184,263	$1,978,901	$1,825,982	$1,712,653	$1,629,215	$1,568,348	$1,524,529	$1,494,827	$1,504,163	$1,513,557	$1,523,009
	Total Passenger Vehicle Revenue		*$7,914,514*	*$8,520,566*	*$8,524,340*	*$8,540,265*	*$8,565,443*	*$8,597,686*	*$8,635,343*	*$8,677,169*	*$8,722,505*	*$8,776,978*	*$8,831,791*	*$8,886,947*
Annual Toll Revenue	E-ZPass	Off Peak	$826,482	$887,374	$925,753	$958,978	$988,343	$1,014,837	$1,039,209	$1,062,033	$1,083,600	$1,100,933	$1,118,544	$1,136,437
Light Commercial Veh Rev		Peak	$3,967,405	$4,259,709	$4,443,943	$4,603,431	$4,744,396	$4,871,573	$4,988,569	$5,098,132	$5,201,661	$5,284,868	$5,369,407	$5,455,298
	Video		$680,881	$769,095	$703,538	$655,463	$620,739	$596,220	$579,508	$568,775	$563,099	$572,106	$581,258	$590,556
	Total Light Commercial Vehicle Rev		*$5,474,768*	*$5,916,178*	*$6,073,235*	*$6,217,871*	*$6,353,479*	*$6,482,630*	*$6,607,286*	*$6,728,940*	*$6,848,359*	*$6,957,908*	*$7,069,209*	*$7,182,290*
Annual Toll Revenue	E-ZPass	Off Peak	$454,172	$467,495	$478,114	$488,183	$497,850	$507,237	$516,440	$525,533	$534,584	$543,136	$551,824	$560,651
Heavy Commercial Veh Rev		Peak	$1,760,983	$1,812,639	$1,853,816	$1,892,853	$1,930,336	$1,966,734	$2,002,417	$2,037,676	$2,072,769	$2,105,926	$2,139,613	$2,173,839
	Video		$202,364	$252,213	$245,112	$240,547	$237,929	$236,808	$236,841	$237,769	$239,386	$243,215	$247,106	$251,058
	Total Heavy Commercial Vehicle Rev		*$2,417,519*	*$2,532,347*	*$2,577,042*	*$2,621,583*	*$2,666,115*	*$2,710,779*	*$2,755,699*	*$2,800,978*	*$2,846,740*	*$2,892,277*	*$2,938,543*	*$2,985,549*
Uncollectable Toll Revenue *(not included below, but is used in some scenarios to calculate the video toll surcharge)*			-$1,815,446	-$1,540,577	-$1,409,527	-$1,313,238	-$1,243,246	-$1,193,184	-$1,158,250	-$1,134,817	-$1,120,970	-$1,134,417	-$1,148,051	-$1,161,875
Annual SFB Net Revenue	Toll Revenue Collected		$15,806,800	$16,969,091	$17,174,616	$17,379,719	$17,585,037	$17,791,095	$17,998,327	$18,207,087	$18,417,604	$18,627,163	$18,839,543	$19,054,786
	Fee Revenue ($30 Violation Fee)		$1,920,526	$1,613,926	$1,464,045	$1,352,571	$1,270,112	$1,209,575	$1,165,605	$1,134,159	$1,113,093	$1,120,831	$1,128,629	$1,136,489
	ETC Transaction Costs		-$813,867	-$863,617	-$892,414	-$916,158	-$936,101	-$953,192	-$968,147	-$981,509	-$993,566	-$1,001,806	-$1,010,131	-$1,018,541
	Video Toll Collection Costs		-$3,537,615	-$2,987,795	-$2,710,787	-$2,504,792	-$2,352,448	-$2,240,643	-$2,159,477	-$2,101,474	-$2,062,671	-$2,077,166	-$2,091,777	-$2,106,505
	Net Revenue		**$13,375,845**	**$14,731,604**	**$15,035,460**	**$15,311,341**	**$15,566,600**	**$15,806,835**	**$16,036,308**	**$16,258,263**	**$16,474,460**	**$16,669,022**	**$16,866,265**	**$17,066,230**
Effects on T+R at Trenton-Morrisville Bridge														
Change in AADT at TMB due to toll incs and diversion from SFB			1,842	1,802	1,796	1,791	1,791	1,789	1,800	1,808	1,818	1,827	1,847	1,861
Additional TMB revenue due to toll incs and diversion from SFB			**$2,158,234**	**$2,167,333**	**$2,186,869**	**$2,209,308**	**$2,234,053**	**$2,260,654**	**$2,288,776**	**$2,318,166**	**$2,348,694**	**$2,381,526**	**$2,414,852**	**$2,448,682**

b1

Scudders Falls Bridge

Revenue Build Up Detail

Toll Scenario:	$1/$4
Video surcharge:	$3.40
Annual toll incs at CPI?	yes
Surcharge covers uncollectables?	y

Vehicle Type	Payment Type	Discount/Full Price	Operating Year 2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Annual SFB Transactions	**Total Vehicles**		**9,470,140**	**9,633,034**	**9,773,341**	**9,877,716**	**9,991,096**	**10,076,662**	**10,168,154**	**10,258,479**	**10,335,489**	**10,409,712**	**10,482,534**	**10,554,954**
Total Vehicles	Annual Growth Rate			1.72%	1.46%	1.07%	1.15%	0.86%	0.91%	0.89%	0.75%	0.72%	0.70%	0.69%
Annual Transactions	E-ZPass	Commuter	2,852,501	3,041,687	3,155,978	3,239,256	3,316,042	3,370,661	3,422,801	3,471,569	3,504,230	3,526,115	3,548,136	3,570,295
Passsenger Vehicles		Full Price	4,075,734	4,349,149	4,509,351	4,633,254	4,738,055	4,820,824	4,892,821	4,954,992	5,009,065	5,042,873	5,074,367	5,106,057
	Video		1,890,264	1,582,112	1,436,890	1,322,600	1,243,566	1,180,078	1,135,991	1,104,251	1,082,738	1,089,499	1,096,304	1,103,150
	Total Passenger Vehicles		*8,818,499*	*8,972,948*	*9,102,219*	*9,195,110*	*9,297,663*	*9,371,562*	*9,451,613*	*9,530,813*	*9,596,033*	*9,658,487*	*9,718,806*	*9,779,501*
Annual Transactions	E-ZPass	Off Peak	71,889	77,245	80,802	83,948	86,641	88,966	91,263	93,227	95,254	96,778	98,326	99,798
Light Commercial Vehs		Peak	310,584	333,960	349,309	362,886	374,132	384,931	394,466	402,947	411,289	417,871	424,979	431,347
	Video		139,423	117,522	107,505	100,159	94,853	91,106	88,552	86,822	86,045	87,331	88,820	90,147
	Total Light Commercial Vehicles		*521,896*	*528,727*	*537,616*	*546,994*	*555,626*	*565,003*	*574,281*	*582,996*	*592,588*	*601,980*	*612,125*	*621,292*
Annual Transactions	E-ZPass	Off Peak	23,551	24,260	24,878	25,477	26,018	26,509	27,011	27,529	27,987	28,463	28,889	29,381
Heavy Commercial Vehs		Peak	82,184	84,790	86,947	88,859	90,744	92,643	94,300	96,110	97,707	99,270	100,858	102,574
	Video		24,011	22,308	21,680	21,276	21,045	20,946	20,949	21,031	21,174	21,512	21,856	22,206
	Total Heavy Commercial Vehicles		*129,745*	*131,359*	*133,505*	*135,612*	*137,807*	*140,097*	*142,259*	*144,670*	*146,867*	*149,245*	*151,603*	*154,161*
Annual SFB Toll Revenue	**Total Toll Revenue (Collected)**		**$17,033,244**	**$18,720,261**	**$19,176,961**	**$19,744,671**	**$20,291,104**	**$20,945,048**	**$21,640,987**	**$22,333,428**	**$23,086,877**	**$23,886,666**	**$24,708,222**	**$25,546,367**
Total Vehicle Rev	Growth Rate			9.90%	2.44%	2.96%	2.77%	3.22%	3.32%	3.20%	3.37%	3.46%	3.44%	3.39%
Annual Toll Revenue	E-ZPass	Commuter	$1,753,060	$1,921,775	$2,021,437	$2,136,999	$2,218,663	$2,321,437	$2,425,092	$2,493,561	$2,587,044	$2,674,512	$2,762,980	$2,852,449
Passsenger Vehicle Rev		Full Price	$4,174,702	$4,564,968	$4,813,811	$5,078,734	$5,283,480	$5,517,376	$5,744,679	$5,965,210	$6,180,232	$6,374,922	$6,568,688	$6,764,625
	Video		$3,139,136	$3,527,074	$3,217,788	$2,981,813	$2,816,146	$2,690,187	$2,606,834	$2,550,671	$2,517,323	$2,549,492	$2,581,966	$2,614,745
	Total Passenger Vehicle Revenue		*$9,066,898*	*$10,013,817*	*$10,053,036*	*$10,197,545*	*$10,318,289*	*$10,529,000*	*$10,776,604*	*$11,009,442*	*$11,284,599*	*$11,598,926*	*$11,913,634*	*$12,231,819*
Annual Toll Revenue	E-ZPass	Off Peak	$825,112	$903,868	$967,015	$1,027,620	$1,085,623	$1,141,683	$1,199,054	$1,255,415	$1,314,130	$1,368,513	$1,424,321	$1,482,092
Light Commercial Veh Rev		Peak	$3,960,831	$4,341,598	$4,643,720	$4,933,643	$5,209,234	$5,487,313	$5,759,389	$6,027,287	$6,304,159	$6,566,041	$6,841,573	$7,119,082
	Video		$753,298	$862,911	$804,782	$764,160	$737,758	$722,590	$715,918	$716,108	$723,745	$749,252	$776,968	$804,636
	Total Light Commercial Vehicle Rev		*$5,539,241*	*$6,108,376*	*$6,415,517*	*$6,725,424*	*$7,032,614*	*$7,351,586*	*$7,674,361*	*$7,998,810*	*$8,342,034*	*$8,683,806*	*$9,042,862*	*$9,405,810*
Annual Toll Revenue	E-ZPass	Off Peak	$453,419	$476,192	$499,269	$523,059	$546,698	$570,481	$595,393	$621,589	$647,581	$675,051	$702,453	$731,989
Heavy Commercial Veh Rev		Peak	$1,758,065	$1,849,025	$1,938,286	$2,027,044	$2,119,029	$2,214,893	$2,309,387	$2,410,985	$2,511,576	$2,616,168	$2,724,527	$2,839,555
	Video		$215,620	$272,850	$270,853	$271,598	$274,473	$279,087	$285,242	$292,603	$301,087	$312,716	$324,747	$337,194
	Total Heavy Commercial Vehicle Rev		*$2,427,104*	*$2,598,067*	*$2,708,408*	*$2,821,702*	*$2,940,201*	*$3,064,461*	*$3,190,022*	*$3,325,176*	*$3,460,245*	*$3,603,934*	*$3,751,727*	*$3,908,737*
Uncollectable Toll Revenue *(not included below, but is used in some scenarios to calculate the video toll surcharge)*			-$1,600,959	-$1,391,591	-$1,304,081	-$1,247,027	-$1,208,885	-$1,190,307	-$1,185,981	-$1,190,065	-$1,206,709	-$1,251,854	-$1,299,292	-$1,347,417
Annual SFB Net Revenue	Toll Revenue Collected		$17,033,244	$18,720,261	$19,176,961	$19,744,671	$20,291,104	$20,945,048	$21,640,987	$22,333,428	$23,086,877	$23,886,666	$24,708,222	$25,546,367
	Fee Revenue ($30 Violation Fee)		$1,560,970	$1,308,648	$1,190,075	$1,097,201	$1,032,851	$981,584	$946,068	$920,633	$903,733	$910,052	$916,550	$922,971
	ETC Transaction Costs		-$809,047	-$863,900	-$899,771	-$930,981	-$958,422	-$983,598	-$1,007,643	-$1,030,017	-$1,051,167	-$1,069,340	-$1,087,730	-$1,106,383
	Video Toll Collection Costs		-$3,169,623	-$2,679,326	-$2,437,610	-$2,248,554	-$2,117,587	-$2,013,530	-$1,941,641	-$1,890,371	-$1,856,599	-$1,870,423	-$1,884,664	-$1,898,756
	Net Revenue		**$14,615,543**	**$16,485,682**	**$17,029,655**	**$17,662,337**	**$18,247,946**	**$18,929,504**	**$19,637,770**	**$20,333,673**	**$21,082,844**	**$21,856,955**	**$22,652,379**	**$23,464,199**
Effects on T+R at Trenton-Morrisville Bridge														
Change in AADT at TMB due to toll incs and diversion from SFB			2,356	2,120	1,973	1,821	1,704	1,575	1,454	1,334	1,230	1,127	1,035	1,004
Additional TMB revenue due to toll incs and diversion from SFB			**$2,383,111**	**$2,787,327**	**$3,065,536**	**$3,501,606**	**$3,806,576**	**$4,267,065**	**$4,735,937**	**$5,214,616**	**$5,707,049**	**$6,211,194**	**$6,723,180**	**$7,330,285**

b2

Scudders Falls Bridge

Revenue Build Up Detail

Toll Scenario:	$1/$4
Video surcharge:	$1.20
Annual toll incs at CPI?	yes
Surcharge covers uncollectables?	n

Vehicle Type	Payment Type	Discount/Full Price	Operating Year 2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Annual SFB Transactions	**Total Vehicles**		**9,941,081**	**10,026,988**	**10,130,544**	**10,207,257**	**10,300,429**	**10,370,867**	**10,451,447**	**10,534,019**	**10,605,646**	**10,681,704**	**10,756,198**	**10,830,480**
Total Vehicles	Annual Growth Rate			0.86%	1.03%	0.76%	0.91%	0.68%	0.78%	0.79%	0.68%	0.72%	0.70%	0.69%
Annual Transactions	E-ZPass	Commuter	2,852,501	3,041,687	3,155,978	3,239,256	3,316,042	3,370,661	3,422,801	3,471,569	3,504,230	3,526,115	3,548,136	3,570,295
Passsenger Vehicles		Full Price	4,075,734	4,349,196	4,512,159	4,633,293	4,740,486	4,820,859	4,892,855	4,955,025	5,009,097	5,042,905	5,074,399	5,106,089
	Video		2,351,400	1,967,796	1,783,722	1,645,022	1,543,734	1,467,755	1,412,920	1,373,444	1,346,686	1,355,096	1,363,559	1,372,074
	Total Passenger Vehicles		*9,279,635*	*9,358,680*	*9,451,860*	*9,517,571*	*9,600,261*	*9,659,274*	*9,728,576*	*9,800,038*	*9,860,013*	*9,924,116*	*9,986,093*	*10,048,458*
Annual Transactions	E-ZPass	Off Peak	71,889	77,245	80,802	83,948	86,641	88,966	91,263	93,227	95,254	96,778	98,326	99,798
Light Commercial Vehs		Peak	310,584	333,963	349,312	362,890	374,135	384,934	394,468	402,947	411,292	417,871	424,982	431,347
	Video		148,450	125,018	114,361	106,547	100,902	96,917	94,200	92,456	91,533	92,997	94,485	95,996
	Total Light Commercial Vehicles		*530,924*	*536,226*	*544,476*	*553,385*	*561,678*	*570,816*	*579,932*	*588,629*	*598,079*	*607,646*	*617,792*	*627,141*
Annual Transactions	E-ZPass	Off Peak	23,551	24,260	24,878	25,477	26,018	26,509	27,011	27,529	27,987	28,463	28,889	29,381
Heavy Commercial Vehs		Peak	82,184	84,790	86,947	88,859	90,744	92,643	94,300	96,110	97,707	99,270	100,858	102,574
	Video		24,788	23,032	22,383	21,967	21,727	21,625	21,628	21,713	21,861	22,210	22,565	22,926
	Total Heavy Commercial Vehicles		*130,523*	*132,082*	*134,209*	*136,302*	*138,490*	*140,777*	*142,939*	*145,352*	*147,554*	*149,943*	*152,312*	*154,881*
Annual SFB Toll Revenue	**Total Toll Revenue (Collected)**		**$15,806,800**	**$17,343,819**	**$17,929,552**	**$18,602,945**	**$19,220,221**	**$19,934,863**	**$20,673,639**	**$21,398,949**	**$22,174,914**	**$22,975,313**	**$23,795,800**	**$24,634,804**
Total Vehicle Rev	Growth Rate			9.72%	3.38%	3.76%	3.32%	3.72%	3.71%	3.51%	3.63%	3.61%	3.57%	3.53%
Annual Toll Revenue	E-ZPass	Commuter	$1,763,198	$1,930,533	$2,029,429	$2,144,673	$2,225,911	$2,328,601	$2,432,193	$2,500,569	$2,594,102	$2,681,807	$2,770,517	$2,860,230
Passsenger Vehicle Rev		Full Price	$4,198,846	$4,585,822	$4,835,852	$5,097,016	$5,303,460	$5,534,443	$5,761,540	$5,982,014	$6,197,134	$6,392,351	$6,586,647	$6,783,120
	Video		$1,952,470	$2,208,303	$2,019,684	$1,887,471	$1,786,792	$1,721,009	$1,678,044	$1,651,896	$1,640,043	$1,670,744	$1,701,764	$1,733,106
	Total Passenger Vehicle Revenue		*$7,914,514*	*$8,724,658*	*$8,884,965*	*$9,129,159*	*$9,316,163*	*$9,584,053*	*$9,871,777*	*$10,134,478*	*$10,431,280*	*$10,744,902*	*$11,058,927*	*$11,376,456*
Annual Toll Revenue	E-ZPass	Off Peak	$826,482	$905,055	$968,139	$1,028,702	$1,086,680	$1,142,728	$1,200,100	$1,256,486	$1,315,205	$1,369,649	$1,425,486	$1,483,322
Light Commercial Veh Rev		Peak	$3,967,405	$4,347,343	$4,649,160	$4,938,878	$5,214,349	$5,492,376	$5,764,454	$6,032,431	$6,309,358	$6,571,492	$6,847,211	$7,124,992
	Video		$680,881	$781,862	$731,626	$696,920	$674,977	$663,181	$659,040	$661,931	$670,269	$696,636	$723,674	$752,349
	Total Light Commercial Vehicle Rev		*$5,474,768*	*$6,034,260*	*$6,348,925*	*$6,664,500*	*$6,976,006*	*$7,298,285*	*$7,623,595*	*$7,950,848*	*$8,294,833*	*$8,637,777*	*$8,996,371*	*$9,360,663*
Annual Toll Revenue	E-ZPass	Off Peak	$454,172	$476,817	$499,849	$523,610	$547,230	$571,003	$595,912	$622,120	$648,111	$675,611	$703,027	$732,597
Heavy Commercial Veh Rev		Peak	$1,760,983	$1,851,452	$1,940,538	$2,029,178	$2,121,094	$2,216,920	$2,311,402	$2,413,042	$2,513,631	$2,618,339	$2,726,755	$2,841,912
	Video		$202,364	$256,631	$255,275	$256,498	$259,727	$264,602	$270,953	$278,460	$287,059	$298,684	$310,719	$323,177
	Total Heavy Commercial Vehicle Rev		*$2,417,519*	*$2,584,901*	*$2,695,662*	*$2,809,286*	*$2,928,051*	*$3,052,525*	*$3,178,267*	*$3,313,622*	*$3,448,802*	*$3,592,635*	*$3,740,502*	*$3,897,685*
Uncollectable Toll Revenue *(not included below, but is used in some scenarios to calculate the video toll surcharge)*			-$1,815,446	-$1,576,177	-$1,474,409	-$1,410,054	-$1,364,539	-$1,343,749	-$1,338,139	-$1,342,504	-$1,359,910	-$1,411,017	-$1,463,187	-$1,517,560
Annual SFB Net Revenue	Toll Revenue Collected		$15,806,800	$17,343,819	$17,929,552	$18,602,945	$19,220,221	$19,934,863	$20,673,639	$21,398,949	$22,174,914	$22,975,313	$23,795,800	$24,634,804
	Fee Revenue ($30 Violation Fee)		$1,920,526	$1,609,387	$1,460,637	$1,348,757	$1,267,145	$1,206,155	$1,162,306	$1,130,946	$1,109,936	$1,117,649	$1,125,423	$1,133,258
	ETC Transaction Costs		-$813,867	-$867,957	-$903,698	-$934,408	-$961,856	-$986,687	-$1,010,635	-$1,032,943	-$1,054,051	-$1,072,262	-$1,090,685	-$1,109,377
	Video Toll Collection Costs		-$3,537,615	-$2,980,275	-$2,706,000	-$2,499,987	-$2,349,742	-$2,237,772	-$2,157,487	-$2,100,321	-$2,062,319	-$2,077,606	-$2,093,029	-$2,108,607
	Net Revenue		**$13,375,845**	**$15,104,973**	**$15,780,491**	**$16,517,307**	**$17,175,767**	**$17,916,559**	**$18,667,823**	**$19,396,630**	**$20,168,480**	**$20,943,095**	**$21,737,509**	**$22,550,079**
Effects on T+R at Trenton-Morrisville Bridge														
Change in AADT at TMB due to toll incs and diversion from SFB			1,842	1,704	1,602	1,488	1,397	1,292	1,188	1,082	988	891	802	774
Additional TMB revenue due to toll incs and diversion from SFB			**$2,158,234**	**$2,599,054**	**$2,894,586**	**$3,343,280**	**$3,657,775**	**$4,125,022**	**$4,598,849**	**$5,080,679**	**$5,575,761**	**$6,078,481**	**$6,589,740**	**$7,195,388**

c1

Scudders Falls Bridge

Revenue Build Up Detail

Toll Scenario:	$2/$4
Video surcharge:	$4.20
Annual toll incs at CPI?	no
Surcharge covers uncollectables?	y

			Operating Year											
Vehicle Type	Payment Type	Discount/Full Price	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Annual SFB Transactions	**Total Vehicles**		**8,536,913**	**8,743,881**	**8,879,065**	**8,997,024**	**9,102,109**	**9,197,605**	**9,285,993**	**9,369,146**	**9,448,061**	**9,514,302**	**9,581,073**	**9,648,378**
Total Vehicles	Annual Growth Rate			2.42%	1.55%	1.33%	1.17%	1.05%	0.96%	0.90%	0.84%	0.70%	0.70%	0.70%
Annual Transactions	E-ZPass	Commuter	2,700,817	2,888,609	2,992,645	3,076,235	3,144,426	3,201,027	3,248,913	3,290,256	3,326,206	3,346,978	3,367,881	3,388,914
Passsenger Vehicles		Full Price	3,654,149	3,908,228	4,048,987	4,162,082	4,254,342	4,330,923	4,395,712	4,451,648	4,500,287	4,528,392	4,556,673	4,585,130
	Video		1,531,603	1,285,074	1,164,253	1,074,285	1,007,610	958,521	922,711	896,931	879,456	884,948	890,475	896,036
	Total Passenger Vehicles		*7,886,569*	*8,081,911*	*8,205,885*	*8,312,602*	*8,406,378*	*8,490,470*	*8,567,337*	*8,638,835*	*8,705,949*	*8,760,319*	*8,815,029*	*8,870,080*
Annual Transactions	E-ZPass	Off Peak	72,436	78,223	81,826	84,926	87,650	90,092	92,326	94,407	96,364	97,905	99,471	101,062
Light Commercial Vehs		Peak	310,584	335,399	350,846	364,140	375,819	386,292	395,870	404,792	413,181	419,790	426,505	433,328
	Video		138,294	117,159	107,172	99,849	94,559	90,824	88,278	86,643	85,779	87,151	88,545	89,961
	Total Light Commercial Vehicles		*521,314*	*530,780*	*539,844*	*548,915*	*558,028*	*567,208*	*576,475*	*585,843*	*595,323*	*604,846*	*614,521*	*624,351*
Annual Transactions	E-ZPass	Off Peak	23,030	23,843	24,450	25,013	25,544	26,053	26,546	27,028	27,505	27,945	28,392	28,846
Heavy Commercial Vehs		Peak	82,184	85,085	87,251	89,261	91,157	92,972	94,730	96,453	98,154	99,724	101,319	102,940
	Video		23,816	22,262	21,635	21,232	21,001	20,902	20,905	20,987	21,130	21,468	21,811	22,160
	Total Heavy Commercial Vehicles		*129,030*	*131,189*	*133,337*	*135,507*	*137,702*	*139,927*	*142,181*	*144,468*	*146,789*	*149,137*	*151,523*	*153,946*
Annual SFB Toll Revenue	**Total Toll Revenue (Collected)**		**$22,360,888**	**$24,060,314**	**$24,263,584**	**$24,477,955**	**$24,701,330**	**$24,932,169**	**$25,169,341**	**$25,412,017**	**$25,659,799**	**$25,915,550**	**$26,174,426**	**$26,436,471**
Total Vehicle Rev	Growth Rate			7.60%	0.84%	0.88%	0.91%	0.93%	0.95%	0.96%	0.98%	1.00%	1.00%	1.00%
Annual Toll Revenue	E-ZPass	Commuter	$3,310,499	$3,524,660	$3,644,019	$3,740,243	$3,819,045	$3,884,739	$3,940,577	$3,989,018	$4,031,365	$4,056,541	$4,081,875	$4,107,367
Passsenger Vehicle Rev		Full Price	$7,465,060	$7,947,985	$8,217,137	$8,434,118	$8,611,815	$8,759,951	$8,885,865	$8,995,098	$9,090,588	$9,147,360	$9,204,487	$9,261,970
	Video		$3,584,040	$4,009,531	$3,632,559	$3,351,854	$3,143,822	$2,990,659	$2,878,930	$2,798,494	$2,743,972	$2,761,108	$2,778,352	$2,795,703
	Total Passenger Vehicle Revenue		*$14,359,598*	*$15,482,176*	*$15,493,715*	*$15,526,215*	*$15,574,682*	*$15,635,349*	*$15,705,373*	*$15,782,610*	*$15,865,925*	*$15,965,010*	*$16,064,713*	*$16,165,040*
Annual Toll Revenue	E-ZPass	Off Peak	$831,197	$892,767	$931,540	$965,092	$994,735	$1,021,468	$1,046,051	$1,069,065	$1,090,803	$1,108,252	$1,125,980	$1,143,992
Light Commercial Veh Rev		Peak	$3,959,938	$4,253,264	$4,437,986	$4,597,833	$4,739,058	$4,866,417	$4,983,534	$5,093,173	$5,196,738	$5,279,867	$5,364,326	$5,450,135
	Video		$788,256	$890,382	$814,487	$758,830	$718,631	$690,245	$670,897	$658,472	$651,900	$662,328	$672,923	$683,687
	Total Light Commercial Vehicle Rev		*$5,579,392*	*$6,036,413*	*$6,184,013*	*$6,321,756*	*$6,452,424*	*$6,578,130*	*$6,700,483*	*$6,820,710*	*$6,939,442*	*$7,050,447*	*$7,163,229*	*$7,277,814*
Annual Toll Revenue	E-ZPass	Off Peak	$443,285	$456,457	$466,907	$476,798	$486,284	$495,486	$504,501	$513,403	$522,259	$530,613	$539,101	$547,725
Heavy Commercial Veh Rev		Peak	$1,757,668	$1,809,896	$1,851,331	$1,890,552	$1,928,164	$1,964,653	$2,000,397	$2,035,693	$2,070,808	$2,103,933	$2,137,588	$2,171,782
	Video		$220,945	$275,372	$267,618	$262,634	$259,775	$258,551	$258,588	$259,601	$261,366	$265,547	$269,795	$274,111
	Total Heavy Commercial Vehicle Rev		*$2,421,898*	*$2,541,725*	*$2,585,855*	*$2,629,984*	*$2,674,224*	*$2,718,690*	*$2,763,486*	*$2,808,697*	*$2,854,433*	*$2,900,093*	*$2,946,484*	*$2,993,617*
Uncollectable Toll Revenue *(not included below, but is used in some scenarios to calculate the video toll surcharge)*			-$1,985,535	-$1,682,488	-$1,537,400	-$1,430,580	-$1,352,701	-$1,296,744	-$1,257,413	-$1,230,710	-$1,214,521	-$1,228,144	-$1,241,949	-$1,255,938
Annual SFB Net Revenue	Toll Revenue Collected		$22,360,888	$24,060,314	$24,263,584	$24,477,955	$24,701,330	$24,932,169	$25,169,341	$25,412,017	$25,659,799	$25,915,550	$26,174,426	$26,436,471
	Fee Revenue ($30 Violation Fee)		$1,285,769	$1,081,215	$981,324	$907,066	$852,179	$811,931	$782,750	$761,939	$748,066	$753,474	$758,929	$764,429
	ETC Transaction Costs		-$849,865	-$903,589	-$934,521	-$959,950	-$981,240	-$999,422	-$1,015,276	-$1,029,392	-$1,042,084	-$1,050,625	-$1,059,252	-$1,067,966
	Video Toll Collection Costs		-$2,741,278	-$2,328,932	-$2,114,192	-$1,954,586	-$1,836,644	-$1,750,195	-$1,687,556	-$1,642,924	-$1,613,221	-$1,625,026	-$1,636,932	-$1,648,941
	Net Revenue		**$20,055,514**	**$21,909,008**	**$22,196,194**	**$22,470,485**	**$22,735,624**	**$22,994,483**	**$23,249,259**	**$23,501,640**	**$23,752,560**	**$23,993,374**	**$24,237,170**	**$24,483,993**
Effects on T+R at Trenton-Morrisville Bridge														
Change in AADT at TMB due to toll incs and diversion from SFB			(306)	(386)	(427)	(458)	(482)	(498)	(513)	(523)	(531)	(530)	(532)	(532)
Additional TMB revenue due to toll incs and diversion from SFB			**$8,942,130**	**$8,943,739**	**$8,980,635**	**$9,026,702**	**$9,079,879**	**$9,138,610**	**$9,201,723**	**$9,268,336**	**$9,337,984**	**$9,414,758**	**$9,492,307**	**$9,570,641**

c2

Scudders Falls Bridge

Revenue Build Up Detail

Toll Scenario:	$2/$4
Video surcharge:	$1.20
Annual toll incs at CPI?	no
Surcharge covers uncollectables?	n

Vehicle Type	Payment Type	Discount/Full Price	Operating Year 2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Annual SFB Transactions	**Total Vehicles**		**9,164,017**	**9,270,231**	**9,356,072**	**9,437,300**	**9,515,177**	**9,590,658**	**9,664,463**	**9,737,137**	**9,808,972**	**9,877,544**	**9,946,661**	**10,016,328**
Total Vehicles	Annual Growth Rate			1.16%	0.93%	0.87%	0.83%	0.79%	0.77%	0.75%	0.74%	0.70%	0.70%	0.70%
Annual Transactions	E-ZPass	Commuter	2,700,817	2,888,609	2,992,645	3,076,235	3,144,426	3,201,027	3,248,913	3,290,256	3,326,206	3,346,978	3,367,881	3,388,914
Passsenger Vehicles		Full Price	3,654,149	3,908,228	4,048,987	4,162,082	4,254,342	4,330,923	4,395,712	4,451,648	4,500,287	4,528,392	4,556,673	4,585,130
	Video		2,146,451	1,800,955	1,631,632	1,505,547	1,412,106	1,343,310	1,293,125	1,256,996	1,232,506	1,240,203	1,247,948	1,255,742
	Total Passenger Vehicles		*8,501,417*	*8,597,793*	*8,673,264*	*8,743,864*	*8,810,874*	*8,875,259*	*8,937,751*	*8,998,899*	*9,058,999*	*9,115,574*	*9,172,502*	*9,229,785*
Annual Transactions	E-ZPass	Off Peak	72,436	78,223	81,826	84,926	87,650	90,092	92,326	94,407	96,364	97,905	99,471	101,062
Light Commercial Vehs		Peak	310,584	335,399	350,846	364,140	375,819	386,292	395,870	404,792	413,181	419,790	426,505	433,328
	Video		149,578	126,718	115,917	107,996	102,275	98,235	95,481	93,713	92,778	94,262	95,770	97,302
	Total Light Commercial Vehicles		*532,598*	*540,340*	*548,588*	*557,063*	*565,744*	*574,619*	*583,678*	*592,913*	*602,322*	*611,957*	*621,746*	*631,692*
Annual Transactions	E-ZPass	Off Peak	23,030	23,843	24,450	25,013	25,544	26,053	26,546	27,028	27,505	27,945	28,392	28,846
Heavy Commercial Vehs		Peak	82,184	85,085	87,251	89,261	91,157	92,972	94,730	96,453	98,154	99,724	101,319	102,940
	Video		24,788	23,170	22,518	22,099	21,858	21,755	21,758	21,843	21,992	22,344	22,701	23,064
	Total Heavy Commercial Vehicles		*130,001*	*132,098*	*134,219*	*136,373*	*138,559*	*140,779*	*143,034*	*145,325*	*147,651*	*150,013*	*152,412*	*154,850*
Annual SFB Toll Revenue	**Total Toll Revenue (Collected)**		**$21,353,838**	**$22,900,933**	**$23,210,816**	**$23,504,413**	**$23,786,316**	**$24,060,033**	**$24,328,251**	**$24,593,022**	**$24,855,478**	**$25,105,257**	**$25,358,109**	**$25,614,076**
Total Vehicle Rev	Growth Rate			7.25%	1.35%	1.26%	1.20%	1.15%	1.11%	1.09%	1.07%	1.00%	1.01%	1.01%
Annual Toll Revenue	E-ZPass	Commuter	$3,338,406	$3,548,075	$3,665,233	$3,759,818	$3,837,405	$3,902,204	$3,957,390	$4,005,361	$4,047,389	$4,072,666	$4,098,100	$4,123,694
Passsenger Vehicle Rev		Full Price	$7,527,990	$8,000,786	$8,264,973	$8,478,259	$8,653,216	$8,799,335	$8,923,778	$9,031,951	$9,126,723	$9,183,721	$9,241,075	$9,298,786
	Video		$2,592,424	$2,900,192	$2,627,519	$2,424,478	$2,274,003	$2,163,217	$2,082,400	$2,024,219	$1,984,782	$1,997,177	$2,009,650	$2,022,200
	Total Passenger Vehicle Revenue		*$13,458,820*	*$14,449,053*	*$14,557,725*	*$14,662,554*	*$14,764,624*	*$14,864,755*	*$14,963,568*	*$15,061,531*	*$15,158,894*	*$15,253,564*	*$15,348,825*	*$15,444,680*
Annual Toll Revenue	E-ZPass	Off Peak	$832,922	$894,253	$932,913	$966,381	$995,964	$1,022,654	$1,047,209	$1,070,205	$1,091,935	$1,109,402	$1,127,148	$1,145,178
Light Commercial Veh Rev		Peak	$3,968,156	$4,260,346	$4,444,526	$4,603,974	$4,744,911	$4,872,068	$4,989,050	$5,098,604	$5,202,128	$5,285,343	$5,369,889	$5,455,788
	Video		$686,056	$774,941	$708,886	$660,445	$625,458	$600,752	$583,913	$573,099	$567,379	$576,455	$585,676	$595,045
	Total Light Commercial Vehicle Rev		*$5,487,134*	*$5,929,540*	*$6,086,325*	*$6,230,801*	*$6,366,333*	*$6,495,475*	*$6,620,172*	*$6,741,907*	*$6,861,441*	*$6,971,199*	*$7,082,713*	*$7,196,010*
Annual Toll Revenue	E-ZPass	Off Peak	$444,205	$457,217	$467,595	$477,435	$486,885	$496,062	$505,059	$513,950	$522,800	$531,163	$539,660	$548,293
Heavy Commercial Veh Rev		Peak	$1,761,316	$1,812,910	$1,854,059	$1,893,077	$1,930,546	$1,966,934	$2,002,610	$2,037,864	$2,072,956	$2,106,115	$2,139,805	$2,174,034
	Video		$202,364	$252,213	$245,112	$240,547	$237,929	$236,808	$236,841	$237,769	$239,386	$243,215	$247,106	$251,058
	Total Heavy Commercial Vehicle Rev		*$2,407,885*	*$2,522,340*	*$2,566,765*	*$2,611,058*	*$2,655,359*	*$2,699,803*	*$2,744,511*	*$2,789,583*	*$2,835,142*	*$2,880,494*	*$2,926,571*	*$2,973,385*
Uncollectable Toll Revenue *(not included below, but is used in some scenarios to calculate the video toll surcharge)*			-$2,473,450	-$2,092,695	-$1,909,770	-$1,774,859	-$1,676,250	-$1,605,126	-$1,554,835	-$1,520,354	-$1,499,029	-$1,514,873	-$1,530,920	-$1,547,172
Annual SFB Net Revenue	Toll Revenue Collected		$21,353,838	$22,900,933	$23,210,816	$23,504,413	$23,786,316	$24,060,033	$24,328,251	$24,593,022	$24,855,478	$25,105,257	$25,358,109	$25,614,076
	Fee Revenue ($30 Violation Fee)		$1,764,600	$1,483,104	$1,345,529	$1,243,219	$1,167,552	$1,112,017	$1,071,697	$1,042,879	$1,023,596	$1,030,780	$1,038,021	$1,045,320
	ETC Transaction Costs		-$857,080	-$909,647	-$940,013	-$965,021	-$986,000	-$1,003,953	-$1,019,641	-$1,033,638	-$1,046,249	-$1,054,818	-$1,063,474	-$1,072,216
	Video Toll Collection Costs		-$3,266,800	-$2,763,829	-$2,507,891	-$2,317,586	-$2,176,871	-$2,073,630	-$1,998,713	-$1,945,213	-$1,909,463	-$1,923,011	-$1,936,669	-$1,950,439
	Net Revenue		**$18,994,559**	**$20,710,561**	**$21,108,441**	**$21,465,025**	**$21,790,997**	**$22,094,467**	**$22,381,593**	**$22,657,051**	**$22,923,361**	**$23,158,207**	**$23,395,987**	**$23,636,741**
Effects on T+R at Trenton-Morrisville Bridge														
Change in AADT at TMB due to toll incs and diversion from SFB			(654)	(677)	(692)	(702)	(711)	(715)	(723)	(727)	(731)	(731)	(735)	(736)
Additional TMB revenue due to toll incs and diversion from SFB			**$8,645,663**	**$8,694,138**	**$8,753,852**	**$8,816,859**	**$8,882,531**	**$8,950,394**	**$9,020,094**	**$9,091,366**	**$9,164,075**	**$9,239,444**	**$9,315,575**	**$9,392,475**

d1

Scudders Falls Bridge

Revenue Build Up Detail

Toll Scenario:	$2/$4
Video surcharge:	$4.60
Annual toll incs at CPI?	yes
Surcharge covers uncollectables?	y

Vehicle Type	Payment Type	Discount/Full Price	Operating Year 2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Annual SFB Transactions	**Total Vehicles**		**8,428,796**	**8,634,530**	**8,779,140**	**8,903,381**	**9,007,152**	**9,111,414**	**9,199,841**	**9,282,504**	**9,363,995**	**9,430,263**	**9,496,838**	**9,566,538**
Total Vehicles	Annual Growth Rate			2.44%	1.67%	1.42%	1.17%	1.16%	0.97%	0.90%	0.88%	0.71%	0.71%	0.73%
Annual Transactions	E-ZPass	Commuter	2,700,817	2,881,388	2,986,660	3,070,083	3,134,992	3,194,625	3,242,416	3,282,030	3,319,553	3,338,611	3,359,461	3,383,830
Passsenger Vehicles		Full Price	3,654,149	3,903,512	4,043,698	4,156,349	4,246,137	4,324,573	4,386,949	4,442,683	4,491,158	4,521,470	4,549,708	4,578,121
	Video		1,429,128	1,195,394	1,083,005	999,315	937,293	891,630	858,319	834,338	818,083	823,192	828,333	833,506
	Total Passenger Vehicles		*7,784,094*	*7,980,294*	*8,113,362*	*8,225,747*	*8,318,423*	*8,410,827*	*8,487,683*	*8,559,051*	*8,628,794*	*8,683,273*	*8,737,501*	*8,795,457*
Annual Transactions	E-ZPass	Off Peak	72,436	77,832	81,416	84,587	87,299	89,642	91,957	93,935	95,978	97,513	99,073	100,557
Light Commercial Vehs		Peak	310,584	333,960	349,309	362,886	374,132	384,931	394,466	402,944	411,289	417,868	424,979	431,344
	Video		132,652	111,804	102,274	95,285	90,237	86,673	84,243	82,683	81,858	83,168	84,498	85,850
	Total Light Commercial Vehicles		*515,672*	*523,595*	*532,999*	*542,758*	*551,669*	*561,246*	*570,666*	*579,563*	*589,125*	*598,549*	*608,550*	*617,750*
Annual Transactions	E-ZPass	Off Peak	23,030	23,723	24,328	24,913	25,442	25,922	26,413	26,920	27,367	27,833	28,250	28,731
Heavy Commercial Vehs		Peak	82,184	84,790	86,947	88,859	90,744	92,643	94,300	96,110	97,707	99,270	100,858	102,574
	Video		23,816	22,127	21,504	21,104	20,874	20,776	20,779	20,860	21,002	21,338	21,679	22,026
	Total Heavy Commercial Vehicles		*129,030*	*130,641*	*132,779*	*134,875*	*137,060*	*139,341*	*141,491*	*143,890*	*146,076*	*148,441*	*150,787*	*153,331*
Annual SFB Toll Revenue	**Total Toll Revenue (Collected)**		**$22,306,096**	**$24,458,732**	**$25,220,193**	**$26,016,489**	**$26,909,424**	**$27,777,661**	**$28,700,144**	**$29,683,014**	**$30,665,706**	**$31,705,471**	**$32,767,942**	**$33,822,600**
Total Vehicle Rev	Growth Rate			9.65%	3.11%	3.16%	3.43%	3.23%	3.32%	3.42%	3.31%	3.39%	3.35%	3.22%
Annual Toll Revenue	E-ZPass	Commuter	$3,305,847	$3,599,680	$3,814,786	$4,009,149	$4,216,662	$4,390,542	$4,552,084	$4,738,419	$4,891,726	$5,054,595	$5,221,793	$5,362,112
Passsenger Vehicle Rev		Full Price	$7,454,571	$8,127,677	$8,608,188	$9,046,133	$9,490,018	$9,876,681	$10,279,628	$10,675,226	$11,060,577	$11,409,038	$11,755,816	$12,106,432
	Video		$3,560,001	$4,000,428	$3,651,563	$3,394,534	$3,212,154	$3,078,097	$2,989,018	$2,930,698	$2,898,302	$2,941,258	$2,984,637	$3,028,444
	Total Passenger Vehicle Revenue		*$14,320,419*	*$15,727,785*	*$16,074,537*	*$16,449,815*	*$16,918,834*	*$17,345,321*	*$17,820,730*	*$18,344,343*	*$18,850,605*	*$19,404,891*	*$19,962,246*	*$20,496,988*
Annual Toll Revenue	E-ZPass	Off Peak	$830,403	$909,879	$973,554	$1,034,652	$1,093,115	$1,149,612	$1,207,420	$1,264,218	$1,323,351	$1,378,132	$1,434,316	$1,492,510
Light Commercial Veh Rev		Peak	$3,956,155	$4,337,497	$4,639,849	$4,929,929	$5,205,614	$5,483,738	$5,755,819	$6,023,724	$6,300,503	$6,562,270	$6,837,608	$7,114,993
	Video		$775,787	$887,304	$826,345	$783,551	$755,436	$738,890	$731,100	$731,061	$737,129	$762,912	$789,330	$817,248
	Total Light Commercial Vehicle Rev		*$5,562,346*	*$6,134,680*	*$6,439,749*	*$6,748,132*	*$7,054,165*	*$7,372,239*	*$7,694,338*	*$8,019,003*	*$8,360,984*	*$8,703,314*	*$9,061,254*	*$9,424,751*
Annual Toll Revenue	E-ZPass	Off Peak	$442,861	$465,214	$487,813	$511,098	$534,227	$557,492	$581,855	$607,477	$632,882	$659,736	$686,509	$715,383
Heavy Commercial Veh Rev		Peak	$1,755,989	$1,847,279	$1,936,671	$2,025,518	$2,117,557	$2,213,449	$2,307,955	$2,409,575	$2,510,119	$2,614,681	$2,722,948	$2,837,942
	Video		$224,480	$283,775	$281,424	$281,926	$284,641	$289,159	$295,266	$302,615	$311,115	$322,849	$334,985	$347,536
	Total Heavy Commercial Vehicle Rev		*$2,423,331*	*$2,596,268*	*$2,705,907*	*$2,818,542*	*$2,936,425*	*$3,060,101*	*$3,185,076*	*$3,319,667*	*$3,454,117*	*$3,597,266*	*$3,744,442*	*$3,900,861*
Uncollectable Toll Revenue *(not included below, but is used in some scenarios to calculate the video toll surcharge)*			-$1,883,149	-$1,629,734	-$1,526,472	-$1,455,205	-$1,413,665	-$1,387,691	-$1,379,483	-$1,385,559	-$1,400,940	-$1,452,696	-$1,505,425	-$1,558,680
Annual SFB Net Revenue	Toll Revenue Collected		$22,306,096	$24,458,732	$25,220,193	$26,016,489	$26,909,424	$27,777,661	$28,700,144	$29,683,014	$30,665,706	$31,705,471	$32,767,942	$33,822,600
	Fee Revenue ($30 Violation Fee)		$1,203,420	$1,008,758	$915,640	$846,421	$795,264	$757,757	$730,569	$711,186	$698,273	$703,343	$708,455	$713,611
	ETC Transaction Costs		-$848,557	-$908,948	-$949,164	-$984,334	-$1,016,461	-$1,045,868	-$1,073,151	-$1,099,684	-$1,124,957	-$1,146,755	-$1,168,954	-$1,191,202
	Video Toll Collection Costs		-$2,629,450	-$2,228,519	-$2,024,088	-$1,872,262	-$1,760,303	-$1,678,341	-$1,619,213	-$1,577,317	-$1,549,712	-$1,561,940	-$1,574,287	-$1,586,769
	Net Revenue		**$20,031,509**	**$22,330,024**	**$23,162,581**	**$24,006,314**	**$24,927,924**	**$25,811,209**	**$26,738,349**	**$27,717,199**	**$28,689,310**	**$29,700,118**	**$30,733,156**	**$31,758,240**
Effects on T+R at Trenton-Morrisville Bridge														
Change in AADT at TMB due to toll incs and diversion from SFB			(245)	(425)	(569)	(698)	(829)	(939)	(1,059)	(1,171)	(1,279)	(1,375)	(1,477)	(1,519)
Additional TMB revenue due to toll incs and diversion from SFB			**$9,005,858**	**$9,497,645**	**$10,019,616**	**$10,558,834**	**$11,217,040**	**$11,785,578**	**$12,469,607**	**$13,169,861**	**$13,879,870**	**$14,609,413**	**$15,348,874**	**$16,202,421**

d2

Scudders Falls Bridge

Revenue Build Up Detail

Toll Scenario:	$2/$4
Video surcharge:	$1.20
Annual toll incs at CPI?	yes
Surcharge covers uncollectables?	n

Vehicle Type	Payment Type	Discount/Full Price	Operating Year 2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Annual SFB Transactions	**Total Vehicles**		**9,164,017**	**9,249,364**	**9,336,353**	**9,417,702**	**9,489,706**	**9,571,273**	**9,642,008**	**9,712,444**	**9,785,682**	**9,854,692**	**9,924,029**	**9,996,510**
Total Vehicles	Annual Growth Rate			0.93%	0.94%	0.87%	0.76%	0.86%	0.74%	0.73%	0.75%	0.71%	0.70%	0.73%
Annual Transactions	E-ZPass	Commuter	2,700,817	2,881,388	2,986,660	3,070,083	3,134,992	3,194,625	3,242,416	3,282,030	3,319,553	3,338,611	3,359,461	3,383,830
Passsenger Vehicles		Full Price	3,654,149	3,903,606	4,043,783	4,156,428	4,246,211	4,324,608	4,387,017	4,442,748	4,491,223	4,521,535	4,549,773	4,578,187
	Video		2,146,451	1,795,060	1,626,290	1,500,619	1,407,483	1,339,620	1,288,892	1,252,881	1,228,471	1,236,143	1,243,863	1,251,631
	Total Passenger Vehicles		*8,501,417*	*8,580,053*	*8,656,733*	*8,727,129*	*8,788,687*	*8,858,852*	*8,918,324*	*8,977,659*	*9,039,247*	*9,096,289*	*9,153,097*	*9,213,648*
Annual Transactions	E-ZPass	Off Peak	72,436	77,832	81,416	84,587	87,299	89,642	91,957	93,935	95,978	97,513	99,073	100,557
Light Commercial Vehs		Peak	310,584	333,963	349,312	362,890	374,135	384,934	394,468	402,947	411,292	417,871	424,982	431,347
	Video		149,578	125,970	115,232	107,358	101,671	97,655	94,918	93,160	92,230	93,705	95,204	96,727
	Total Light Commercial Vehicles		*532,598*	*537,765*	*545,961*	*554,834*	*563,105*	*572,230*	*581,343*	*590,042*	*599,500*	*609,090*	*619,259*	*628,631*
Annual Transactions	E-ZPass	Off Peak	23,030	23,723	24,328	24,913	25,442	25,922	26,413	26,920	27,367	27,833	28,250	28,731
Heavy Commercial Vehs		Peak	82,184	84,790	86,947	88,859	90,744	92,643	94,300	96,110	97,707	99,270	100,858	102,574
	Video		24,788	23,032	22,383	21,967	21,727	21,625	21,628	21,713	21,861	22,210	22,565	22,926
	Total Heavy Commercial Vehicles		*130,001*	*131,546*	*133,658*	*135,738*	*137,914*	*140,190*	*142,341*	*144,743*	*146,935*	*149,313*	*151,673*	*154,231*
Annual SFB Toll Revenue	**Total Toll Revenue (Collected)**		**$21,353,838**	**$23,376,815**	**$24,255,711**	**$25,141,221**	**$26,105,307**	**$27,027,584**	**$27,992,535**	**$29,010,854**	**$30,022,029**	**$31,073,928**	**$32,148,747**	**$33,215,942**
Total Vehicle Rev	Growth Rate			9.47%	3.76%	3.65%	3.83%	3.53%	3.57%	3.64%	3.49%	3.50%	3.46%	3.32%
Annual Toll Revenue	E-ZPass	Commuter	$3,338,406	$3,627,557	$3,840,667	$4,033,600	$4,240,301	$4,413,580	$4,574,721	$4,761,051	$4,914,389	$5,078,011	$5,245,983	$5,386,941
Passsenger Vehicle Rev		Full Price	$7,527,990	$8,190,818	$8,666,773	$9,101,475	$9,543,384	$9,928,586	$10,330,907	$10,726,372	$11,111,980	$11,462,055	$11,810,445	$12,162,667
	Video		$2,592,424	$2,935,865	$2,700,759	$2,529,816	$2,415,302	$2,332,552	$2,283,142	$2,257,182	$2,250,298	$2,301,676	$2,353,608	$2,406,099
	Total Passenger Vehicle Revenue		*$13,458,820*	*$14,754,239*	*$15,208,198*	*$15,664,891*	*$16,198,987*	*$16,674,718*	*$17,188,770*	*$17,744,604*	*$18,276,667*	*$18,841,743*	*$19,410,036*	*$19,955,708*
Annual Toll Revenue	E-ZPass	Off Peak	$832,922	$912,071	$975,626	$1,036,644	$1,095,059	$1,151,531	$1,209,339	$1,266,154	$1,325,322	$1,380,184	$1,436,450	$1,494,732
Light Commercial Veh Rev		Peak	$3,968,156	$4,347,994	$4,649,770	$4,939,461	$5,214,915	$5,492,933	$5,765,009	$6,032,990	$6,309,925	$6,572,082	$6,847,826	$7,125,632
	Video		$686,056	$787,817	$737,198	$702,227	$680,118	$668,232	$664,059	$666,972	$675,374	$701,941	$729,185	$758,079
	Total Light Commercial Vehicle Rev		*$5,487,134*	*$6,047,881*	*$6,362,594*	*$6,678,333*	*$6,990,092*	*$7,312,696*	*$7,638,408*	*$7,966,116*	*$8,310,621*	*$8,654,208*	*$9,013,462*	*$9,378,443*
Annual Toll Revenue	E-ZPass	Off Peak	$444,205	$466,334	$488,851	$512,082	$535,178	$558,423	$582,780	$608,408	$633,825	$660,718	$687,530	$716,448
Heavy Commercial Veh Rev		Peak	$1,761,316	$1,851,729	$1,940,793	$2,029,417	$2,121,324	$2,217,145	$2,311,624	$2,413,266	$2,513,857	$2,618,574	$2,727,000	$2,842,167
	Video		$202,364	$256,631	$255,275	$256,498	$259,727	$264,602	$270,953	$278,460	$287,059	$298,684	$310,719	$323,177
	Total Heavy Commercial Vehicle Rev		*$2,407,885*	*$2,574,695*	*$2,684,919*	*$2,797,998*	*$2,916,228*	*$3,040,170*	*$3,165,357*	*$3,300,133*	*$3,434,741*	*$3,577,977*	*$3,725,250*	*$3,881,792*
Uncollectable Toll Revenue *(not included below, but is used in some scenarios to calculate the video toll surcharge)*			-$2,473,450	-$2,135,901	-$1,997,230	-$1,900,920	-$1,844,441	-$1,808,316	-$1,794,865	-$1,800,891	-$1,818,815	-$1,884,692	-$1,951,713	-$2,018,813
Annual SFB Net Revenue	Toll Revenue Collected		$21,353,838	$23,376,815	$24,255,711	$25,141,221	$26,105,307	$27,027,584	$27,992,535	$29,010,854	$30,022,029	$31,073,928	$32,148,747	$33,215,942
	Fee Revenue ($30 Violation Fee)		$1,764,600	$1,477,969	$1,340,866	$1,238,906	$1,163,498	$1,108,693	$1,067,969	$1,039,249	$1,020,031	$1,027,187	$1,034,401	$1,041,673
	ETC Transaction Costs		-$857,080	-$916,135	-$955,723	-$990,432	-$1,022,231	-$1,051,401	-$1,078,518	-$1,104,946	-$1,130,159	-$1,152,035	-$1,174,312	-$1,196,638
	Video Toll Collection Costs		-$3,266,800	-$2,755,441	-$2,501,417	-$2,312,673	-$2,173,412	-$2,072,337	-$1,997,597	-$1,945,217	-$1,910,550	-$1,925,205	-$1,939,993	-$1,954,935
	Net Revenue		**$18,994,559**	**$21,183,208**	**$22,139,437**	**$23,077,023**	**$24,073,163**	**$25,012,539**	**$25,984,390**	**$26,999,940**	**$28,001,350**	**$29,023,876**	**$30,068,843**	**$31,106,041**
Effects on T+R at Trenton-Morrisville Bridge														
Change in AADT at TMB due to toll incs and diversion from SFB			(654)	(757)	(864)	(964)	(1,072)	(1,164)	(1,271)	(1,372)	(1,472)	(1,564)	(1,663)	(1,702)
Additional TMB revenue due to toll incs and diversion from SFB			**$8,645,663**	**$9,195,942**	**$9,745,467**	**$10,305,135**	**$10,978,415**	**$11,557,686**	**$12,249,912**	**$12,955,758**	**$13,669,421**	**$14,397,198**	**$15,134,876**	**$15,986,620**

e1

Scudders Falls Bridge

Revenue Build Up Detail

Toll Scenario:	$3/$4
Video surcharge:	$5.40
Annual toll incs at CPI?	no
Surcharge covers uncollectables?	y

Vehicle Type	Payment Type	Discount/Full Price	Operating Year 2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Annual SFB Transactions	**Total Vehicles**		**7,505,973**	**7,749,769**	**7,900,492**	**8,028,747**	**8,140,162**	**8,238,984**	**8,328,420**	**8,410,894**	**8,487,691**	**8,547,885**	**8,608,569**	**8,669,749**
Total Vehicles	Annual Growth Rate			3.25%	1.94%	1.62%	1.39%	1.21%	1.09%	0.99%	0.91%	0.71%	0.71%	0.71%
Annual Transactions	E-ZPass	Commuter	2,561,773	2,739,898	2,838,578	2,917,864	2,982,544	3,036,231	3,081,653	3,120,867	3,154,966	3,174,669	3,194,495	3,214,445
Passsenger Vehicles		Full Price	3,232,564	3,457,330	3,581,849	3,681,896	3,763,512	3,831,257	3,888,572	3,938,054	3,981,082	4,005,945	4,030,962	4,056,136
	Video		1,070,467	898,163	813,719	750,839	704,238	669,929	644,900	626,882	614,669	618,507	622,370	626,257
	Total Passenger Vehicles		*6,864,804*	*7,095,390*	*7,234,145*	*7,350,599*	*7,450,294*	*7,537,417*	*7,615,125*	*7,685,803*	*7,750,717*	*7,799,121*	*7,847,828*	*7,896,839*
Annual Transactions	E-ZPass	Off Peak	73,346	79,207	82,854	85,994	88,752	91,225	93,487	95,594	97,575	99,136	100,722	102,333
Light Commercial Vehs		Peak	310,584	335,399	350,846	364,140	375,819	386,292	395,870	404,792	413,181	419,790	426,505	433,328
	Video		128,891	109,192	99,885	93,059	88,130	84,648	82,276	80,752	79,946	81,225	82,524	83,844
	Total Light Commercial Vehicles		*512,821*	*523,798*	*533,585*	*543,194*	*552,701*	*562,165*	*571,633*	*581,139*	*590,702*	*600,151*	*609,751*	*619,505*
Annual Transactions	E-ZPass	Off Peak	23,319	24,142	24,757	25,328	25,865	26,380	26,879	27,368	27,851	28,296	28,749	29,209
Heavy Commercial Vehs		Peak	82,184	85,085	87,251	89,261	91,157	92,972	94,730	96,453	98,154	99,724	101,319	102,940
	Video		22,845	21,354	20,753	20,366	20,145	20,050	20,052	20,131	20,268	20,592	20,922	21,256
	Total Heavy Commercial Vehicles		*128,348*	*130,581*	*132,761*	*134,955*	*137,167*	*139,401*	*141,662*	*143,952*	*146,273*	*148,612*	*150,990*	*153,405*
Annual SFB Toll Revenue	**Total Toll Revenue (Collected)**		**$25,947,480**	**$27,887,891**	**$28,256,375**	**$28,602,368**	**$28,932,059**	**$29,250,159**	**$29,560,255**	**$29,865,080**	**$30,166,125**	**$30,450,181**	**$30,737,541**	**$31,028,250**
Total Vehicle Rev	Growth Rate			7.48%	1.32%	1.22%	1.15%	1.10%	1.06%	1.03%	1.01%	0.94%	0.94%	0.95%
Annual Toll Revenue	E-ZPass	Commuter	$4,687,010	$4,995,430	$5,167,073	$5,305,335	$5,418,458	$5,512,665	$5,592,651	$5,661,960	$5,722,474	$5,758,211	$5,794,172	$5,830,358
Passsenger Vehicle Rev		Full Price	$9,857,144	$10,505,775	$10,866,754	$11,157,529	$11,395,437	$11,593,561	$11,761,778	$11,907,540	$12,034,804	$12,109,963	$12,185,592	$12,261,693
	Video		$3,393,809	$3,796,716	$3,439,753	$3,173,947	$2,976,956	$2,831,923	$2,726,124	$2,649,958	$2,598,329	$2,614,556	$2,630,885	$2,647,315
	Total Passenger Vehicle Revenue		*$17,937,963*	*$19,297,921*	*$19,473,581*	*$19,636,811*	*$19,790,851*	*$19,938,150*	*$20,080,553*	*$20,219,458*	*$20,355,607*	*$20,482,731*	*$20,610,649*	*$20,739,365*
Annual Toll Revenue	E-ZPass	Off Peak	$840,116	$902,670	$942,030	$976,078	$1,006,147	$1,033,253	$1,058,170	$1,081,488	$1,103,507	$1,121,159	$1,139,094	$1,157,315
Light Commercial Veh Rev		Peak	$3,952,732	$4,247,044	$4,432,236	$4,592,428	$4,733,902	$4,861,436	$4,978,670	$5,088,381	$5,191,980	$5,275,033	$5,359,414	$5,445,145
	Video		$792,053	$894,671	$818,410	$762,485	$722,092	$693,570	$674,128	$661,644	$655,040	$665,518	$676,164	$686,980
	Total Light Commercial Vehicle Rev		*$5,584,902*	*$6,044,385*	*$6,192,676*	*$6,330,991*	*$6,462,141*	*$6,588,258*	*$6,710,968*	*$6,831,512*	*$6,950,527*	*$7,061,710*	*$7,174,672*	*$7,289,440*
Annual Toll Revenue	E-ZPass	Off Peak	$448,042	$461,520	$472,165	$482,225	$491,863	$501,203	$510,346	$519,369	$528,341	$536,793	$545,379	$554,103
Heavy Commercial Veh Rev		Peak	$1,754,470	$1,807,250	$1,848,932	$1,888,329	$1,926,067	$1,962,642	$1,998,444	$2,033,778	$2,068,912	$2,102,007	$2,135,631	$2,169,794
	Video		$222,104	$276,816	$269,021	$264,011	$261,138	$259,907	$259,944	$260,962	$262,737	$266,940	$271,210	$275,548
	Total Heavy Commercial Vehicle Rev		*$2,424,615*	*$2,545,585*	*$2,590,118*	*$2,634,566*	*$2,679,067*	*$2,723,751*	*$2,768,734*	*$2,814,109*	*$2,859,990*	*$2,905,739*	*$2,952,220*	*$2,999,445*
Uncollectable Toll Revenue *(not included below, but is used in some scenarios to calculate the video toll surcharge)*			-$1,965,849	-$1,665,191	-$1,521,062	-$1,414,884	-$1,337,404	-$1,281,657	-$1,242,391	-$1,215,637	-$1,199,297	-$1,212,446	-$1,225,767	-$1,239,264
Annual SFB Net Revenue	Toll Revenue Collected		$25,947,480	$27,887,891	$28,256,375	$28,602,368	$28,932,059	$29,250,159	$29,560,255	$29,865,080	$30,166,125	$30,450,181	$30,737,541	$31,028,250
	Fee Revenue ($30 Violation Fee)		$925,809	$779,076	$707,499	$654,319	$615,043	$586,279	$565,466	$550,666	$540,854	$544,922	$549,027	$553,168
	ETC Transaction Costs		-$871,525	-$927,686	-$959,927	-$986,390	-$1,008,506	-$1,027,359	-$1,043,766	-$1,058,346	-$1,071,429	-$1,080,156	-$1,088,970	-$1,097,872
	Video Toll Collection Costs		-$2,158,861	-$1,839,492	-$1,670,881	-$1,545,628	-$1,453,153	-$1,385,461	-$1,336,513	-$1,301,745	-$1,278,739	-$1,288,483	-$1,298,316	-$1,308,240
	Net Revenue		**$23,842,903**	**$25,899,788**	**$26,333,066**	**$26,724,669**	**$27,085,443**	**$27,423,619**	**$27,745,442**	**$28,055,655**	**$28,356,811**	**$28,626,464**	**$28,899,282**	**$29,175,308**
Effects on T+R at Trenton-Morrisville Bridge														
Change in AADT at TMB due to toll incs and diversion from SFB			(2,574)	(2,651)	(2,708)	(2,749)	(2,784)	(2,806)	(2,840)	(2,864)	(2,885)	(2,892)	(2,915)	(2,930)
Additional TMB revenue due to toll incs and diversion from SFB			**$14,010,677**	**$14,017,823**	**$14,073,352**	**$14,141,390**	**$14,219,111**	**$14,304,386**	**$14,395,604**	**$14,491,555**	**$14,591,600**	**$14,701,391**	**$14,812,165**	**$14,923,935**

Scudders Falls Bridge

Revenue Build Up Detail

Toll Scenario:	$3/$4
Video surcharge:	$1.30
Annual toll incs at CPI?	no
Surcharge covers uncollectables?	n

Vehicle Type	Payment Type	Discount/Full Price	Operating Year 2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Annual SFB Transactions	**Total Vehicles**		**8,342,760**	**8,452,173**	**8,537,089**	**8,616,359**	**8,691,491**	**8,763,623**	**8,833,616**	**8,902,119**	**8,969,481**	**9,032,791**	**9,096,613**	**9,160,952**
Total Vehicles	Annual Growth Rate			1.31%	1.00%	0.93%	0.87%	0.83%	0.80%	0.78%	0.76%	0.71%	0.71%	0.71%
Annual Transactions	E-ZPass	Commuter	2,561,773	2,739,898	2,838,578	2,917,864	2,982,544	3,036,231	3,081,653	3,120,867	3,154,966	3,174,669	3,194,495	3,214,445
Passsenger Vehicles		Full Price	3,232,564	3,457,330	3,581,849	3,681,896	3,763,512	3,831,257	3,888,572	3,938,054	3,981,082	4,005,945	4,030,962	4,056,136
	Video		1,890,264	1,586,005	1,436,890	1,325,855	1,243,566	1,182,981	1,138,786	1,106,969	1,085,402	1,092,180	1,099,001	1,105,865
	Total Passenger Vehicles		*7,684,602*	*7,783,232*	*7,857,317*	*7,925,615*	*7,989,622*	*8,050,470*	*8,109,011*	*8,165,890*	*8,221,450*	*8,272,794*	*8,324,459*	*8,376,446*
Annual Transactions	E-ZPass	Off Peak	73,346	79,207	82,854	85,994	88,752	91,225	93,487	95,594	97,575	99,136	100,722	102,333
Light Commercial Vehs		Peak	310,584	335,399	350,846	364,140	375,819	386,292	395,870	404,792	413,181	419,790	426,505	433,328
	Video		143,936	121,938	111,545	103,922	98,417	94,530	91,880	90,178	89,278	90,706	92,157	93,631
	Total Light Commercial Vehicles		*527,867*	*536,544*	*545,245*	*554,057*	*562,988*	*572,046*	*581,237*	*590,565*	*600,034*	*609,633*	*619,384*	*629,292*
Annual Transactions	E-ZPass	Off Peak	23,319	24,142	24,757	25,328	25,865	26,380	26,879	27,368	27,851	28,296	28,749	29,209
Heavy Commercial Vehs		Peak	82,184	85,085	87,251	89,261	91,157	92,972	94,730	96,453	98,154	99,724	101,319	102,940
	Video		24,788	23,170	22,518	22,099	21,858	21,755	21,758	21,843	21,992	22,344	22,701	23,064
	Total Heavy Commercial Vehicles		*130,291*	*132,398*	*134,527*	*136,687*	*138,880*	*141,107*	*143,368*	*145,664*	*147,997*	*150,364*	*152,769*	*155,213*
Annual SFB Toll Revenue	**Total Toll Revenue (Collected)**		**$25,676,396**	**$27,525,129**	**$27,925,162**	**$28,294,468**	**$28,641,223**	**$28,971,644**	**$29,290,461**	**$29,601,272**	**$29,906,026**	**$30,187,346**	**$30,471,936**	**$30,759,840**
Total Vehicle Rev	Growth Rate			7.20%	1.45%	1.32%	1.23%	1.15%	1.10%	1.06%	1.03%	0.94%	0.94%	0.94%
Annual Toll Revenue	E-ZPass	Commuter	$4,745,074	$5,044,148	$5,211,211	$5,346,062	$5,456,657	$5,549,003	$5,627,632	$5,695,964	$5,755,814	$5,791,760	$5,827,931	$5,864,327
Passsenger Vehicle Rev		Full Price	$9,979,257	$10,608,233	$10,959,579	$11,243,181	$11,475,772	$11,669,983	$11,835,344	$11,979,051	$12,104,922	$12,180,519	$12,256,588	$12,333,133
	Video		$3,067,792	$3,431,995	$3,109,323	$2,869,050	$2,690,984	$2,559,883	$2,464,247	$2,395,397	$2,348,728	$2,363,396	$2,378,156	$2,393,008
	Total Passenger Vehicle Revenue		*$17,792,123*	*$19,084,376*	*$19,280,113*	*$19,458,293*	*$19,623,413*	*$19,778,869*	*$19,927,223*	*$20,070,412*	*$20,209,465*	*$20,335,676*	*$20,462,675*	*$20,590,468*
Annual Toll Revenue	E-ZPass	Off Peak	$842,532	$904,758	$943,964	$977,897	$1,007,884	$1,034,933	$1,059,812	$1,083,106	$1,105,114	$1,122,792	$1,140,753	$1,159,000
Light Commercial Veh Rev		Peak	$3,964,095	$4,256,872	$4,441,333	$4,600,989	$4,742,076	$4,869,339	$4,986,394	$5,095,994	$5,199,542	$5,282,716	$5,367,220	$5,453,076
	Video		$665,519	$751,744	$687,666	$640,675	$606,735	$582,769	$566,434	$555,943	$550,395	$559,199	$568,144	$577,232
	Total Light Commercial Vehicle Rev		*$5,472,146*	*$5,913,374*	*$6,072,963*	*$6,219,561*	*$6,356,695*	*$6,487,041*	*$6,612,639*	*$6,735,044*	*$6,855,051*	*$6,964,707*	*$7,076,116*	*$7,189,308*
Annual Toll Revenue	E-ZPass	Off Peak	$449,330	$462,588	$473,134	$483,124	$492,712	$502,018	$511,137	$520,146	$529,111	$537,574	$546,174	$554,910
Heavy Commercial Veh Rev		Peak	$1,759,513	$1,811,432	$1,852,727	$1,891,849	$1,929,392	$1,965,832	$2,001,544	$2,036,821	$2,071,925	$2,105,068	$2,138,742	$2,172,954
	Video		$203,284	$253,360	$246,226	$241,640	$239,010	$237,884	$237,918	$238,850	$240,474	$244,321	$248,229	$252,200
	Total Heavy Commercial Vehicle Rev		*$2,412,127*	*$2,527,379*	*$2,572,087*	*$2,616,614*	*$2,661,115*	*$2,705,734*	*$2,750,599*	*$2,795,817*	*$2,841,510*	*$2,886,963*	*$2,933,144*	*$2,980,064*
Uncollectable Toll Revenue *(not included below, but is used in some scenarios to calculate the video toll surcharge)*			-$2,890,763	-$2,442,681	-$2,226,652	-$2,067,057	-$1,950,119	-$1,865,460	-$1,805,252	-$1,763,585	-$1,737,331	-$1,754,464	-$1,771,805	-$1,789,357
Annual SFB Net Revenue	Toll Revenue Collected		$25,676,396	$27,525,129	$27,925,162	$28,294,468	$28,641,223	$28,971,644	$29,290,461	$29,601,272	$29,906,026	$30,187,346	$30,471,936	$30,759,840
	Fee Revenue ($30 Violation Fee)		$1,564,709	$1,315,355	$1,193,522	$1,102,931	$1,035,944	$986,796	$951,129	$925,657	$908,634	$915,075	$921,569	$928,116
	ETC Transaction Costs		-$882,226	-$936,672	-$968,075	-$993,913	-$1,015,568	-$1,034,081	-$1,050,242	-$1,064,645	-$1,077,609	-$1,086,377	-$1,095,234	-$1,104,178
	Video Toll Collection Costs		-$2,966,367	-$2,514,072	-$2,281,623	-$2,108,807	-$1,981,050	-$1,887,347	-$1,819,384	-$1,770,885	-$1,738,521	-$1,750,981	-$1,763,543	-$1,776,210
	Net Revenue		**$23,392,512**	**$25,389,739**	**$25,868,987**	**$26,294,678**	**$26,680,549**	**$27,037,012**	**$27,371,965**	**$27,691,399**	**$27,998,529**	**$28,265,063**	**$28,534,728**	**$28,807,567**
Effects on T+R at Trenton-Morrisville Bridge														
Change in AADT at TMB due to toll incs and diversion from SFB			(2,888)	(2,914)	(2,947)	(2,970)	(2,991)	(3,003)	(3,030)	(3,049)	(3,067)	(3,074)	(3,099)	(3,115)
Additional TMB revenue due to toll incs and diversion from SFB			**$13,612,019**	**$13,681,873**	**$13,767,915**	**$13,858,597**	**$13,953,011**	**$14,050,475**	**$14,150,475**	**$14,252,627**	**$14,356,733**	**$14,464,602**	**$14,573,437**	**$14,683,247**

f1

Scudders Falls Bridge

Revenue Build Up Detail

Toll Scenario:	$3/$4
Video surcharge:	$6.10
Annual toll incs at CPI?	yes
Surcharge covers uncollectables?	y

Vehicle Type	Payment Type	Discount/Full Price	Operating Year 2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Annual SFB Transactions	**Total Vehicles**		**7,352,261**	**7,601,995**	**7,767,455**	**7,901,422**	**8,020,635**	**8,125,945**	**8,215,243**	**8,301,222**	**8,377,918**	**8,441,012**	**8,501,392**	**8,557,566**
Total Vehicles	Annual Growth Rate			3.40%	2.18%	1.72%	1.51%	1.31%	1.10%	1.05%	0.92%	0.75%	0.72%	0.66%
Annual Transactions	E-ZPass	Commuter	2,561,773	2,733,048	2,832,901	2,910,569	2,975,088	3,030,159	3,073,949	3,114,625	3,147,078	3,168,320	3,188,106	3,206,409
Passsenger Vehicles		Full Price	3,232,564	3,451,787	3,577,494	3,675,283	3,758,416	3,825,907	3,881,077	3,930,373	3,973,251	4,000,067	4,025,048	4,048,190
	Video		916,754	765,708	693,717	640,110	600,382	571,132	549,795	534,434	524,022	527,294	530,587	533,600
	Total Passenger Vehicles		*6,711,092*	*6,950,542*	*7,104,111*	*7,225,962*	*7,333,885*	*7,427,198*	*7,504,820*	*7,579,432*	*7,644,351*	*7,695,681*	*7,743,742*	*7,788,199*
Annual Transactions	E-ZPass	Off Peak	73,346	78,811	82,440	85,650	88,397	90,769	93,113	95,116	97,185	98,740	100,319	101,821
Light Commercial Vehs		Peak	310,584	333,960	349,309	362,886	374,132	384,931	394,466	402,944	411,289	417,868	424,979	431,344
	Video		128,891	108,627	99,368	92,578	87,673	84,210	81,850	80,334	79,532	80,804	82,097	83,410
	Total Light Commercial Vehicles		*512,821*	*521,397*	*531,117*	*541,114*	*550,202*	*559,910*	*569,428*	*578,394*	*588,006*	*597,412*	*607,395*	*616,575*
Annual Transactions	E-ZPass	Off Peak	23,319	24,022	24,633	25,226	25,762	26,248	26,745	27,259	27,712	28,183	28,605	29,092
Heavy Commercial Vehs		Peak	82,184	84,789	86,946	88,858	90,744	92,642	94,299	96,110	97,707	99,270	100,858	102,574
	Video		22,845	21,245	20,647	20,262	20,041	19,947	19,950	20,028	20,143	20,466	20,793	21,125
	Total Heavy Commercial Vehicles		*128,348*	*130,056*	*132,226*	*134,346*	*136,547*	*138,838*	*140,994*	*143,396*	*145,561*	*147,918*	*150,256*	*152,791*
Annual SFB Toll Revenue	**Total Toll Revenue (Collected)**		**$25,707,989**	**$28,200,632**	**$29,225,965**	**$30,306,134**	**$31,402,980**	**$32,484,228**	**$33,661,661**	**$34,836,231**	**$36,055,161**	**$37,248,962**	**$38,459,400**	**$39,754,949**
Total Vehicle Rev	Growth Rate			9.70%	3.64%	3.70%	3.62%	3.44%	3.62%	3.49%	3.50%	3.31%	3.25%	3.37%
Annual Toll Revenue	E-ZPass	Commuter	$4,676,123	$5,111,850	$5,405,750	$5,695,349	$5,967,406	$6,196,827	$6,469,752	$6,710,299	$6,968,922	$7,175,389	$7,380,649	$7,616,662
Passsenger Vehicle Rev		Full Price	$9,834,248	$10,748,646	$11,377,643	$11,973,853	$12,539,078	$13,065,983	$13,601,168	$14,126,165	$14,637,349	$15,098,455	$15,557,373	$16,054,280
	Video		$3,148,687	$3,537,362	$3,229,221	$3,005,453	$2,843,091	$2,727,573	$2,650,574	$2,600,723	$2,573,788	$2,613,743	$2,654,098	$2,696,021
	Total Passenger Vehicle Revenue		*$17,659,057*	*$19,397,859*	*$20,012,614*	*$20,674,655*	*$21,349,575*	*$21,990,384*	*$22,721,494*	*$23,437,187*	*$24,180,058*	*$24,887,587*	*$25,592,120*	*$26,366,964*
Annual Toll Revenue	E-ZPass	Off Peak	$840,116	$920,674	$985,179	$1,047,065	$1,106,272	$1,163,483	$1,222,015	$1,279,521	$1,339,381	$1,394,826	$1,451,690	$1,510,589
Light Commercial Veh Rev		Peak	$3,952,732	$4,334,462	$4,636,953	$4,927,122	$5,202,855	$5,480,993	$5,753,062	$6,020,933	$6,297,639	$6,559,287	$6,834,502	$7,111,759
	Video		$825,533	$942,710	$876,612	$829,994	$799,038	$780,392	$771,071	$769,908	$775,210	$801,203	$827,830	$855,930
	Total Light Commercial Vehicle Rev		*$5,618,382*	*$6,197,846*	*$6,498,744*	*$6,804,181*	*$7,108,165*	*$7,424,869*	*$7,746,149*	*$8,070,362*	*$8,412,230*	*$8,755,316*	*$9,114,023*	*$9,478,277*
Annual Toll Revenue	E-ZPass	Off Peak	$448,042	$470,733	$493,638	$517,230	$540,658	$564,219	$588,889	$614,830	$640,548	$667,728	$694,825	$724,048
Heavy Commercial Veh Rev		Peak	$1,754,470	$1,845,971	$1,935,447	$2,024,350	$2,116,420	$2,212,326	$2,306,834	$2,408,443	$2,508,978	$2,613,493	$2,721,711	$2,836,652
	Video		$228,038	$288,223	$285,522	$285,719	$288,162	$292,429	$298,295	$305,409	$313,346	$324,839	$336,722	$349,007
	Total Heavy Commercial Vehicle Rev		*$2,430,549*	*$2,604,928*	*$2,714,607*	*$2,827,298*	*$2,945,239*	*$3,068,975*	*$3,194,017*	*$3,328,682*	*$3,462,872*	*$3,606,059*	*$3,753,258*	*$3,909,707*
Uncollectable Toll Revenue *(not included below, but is used in some scenarios to calculate the video toll surcharge)*			-$1,811,069	-$1,567,800	-$1,467,087	-$1,399,943	-$1,357,542	-$1,332,828	-$1,326,502	-$1,331,355	-$1,347,511	-$1,396,315	-$1,446,125	-$1,499,694
Annual SFB Net Revenue	Toll Revenue Collected		$25,707,989	$28,200,632	$29,225,965	$30,306,134	$31,402,980	$32,484,228	$33,661,661	$34,836,231	$36,055,161	$37,248,962	$38,459,400	$39,754,949
	Fee Revenue ($30 Violation Fee)		$808,267	$677,311	$615,294	$569,231	$535,229	$510,348	$492,366	$479,603	$471,156	$474,785	$478,448	$481,915
	ETC Transaction Costs		-$869,613	-$934,672	-$977,849	-$1,016,308	-$1,051,460	-$1,083,381	-$1,114,324	-$1,143,847	-$1,172,543	-$1,197,053	-$1,221,629	-$1,247,373
	Video Toll Collection Costs		-$1,895,770	-$1,611,189	-$1,464,845	-$1,356,331	-$1,276,395	-$1,218,086	-$1,176,198	-$1,146,719	-$1,127,497	-$1,137,112	-$1,146,829	-$1,156,171
	Net Revenue		**$23,750,873**	**$26,332,082**	**$27,398,565**	**$28,502,727**	**$29,610,354**	**$30,693,109**	**$31,863,504**	**$33,025,268**	**$34,226,276**	**$35,389,583**	**$36,569,390**	**$37,833,320**
Effects on T+R at Trenton-Morrisville Bridge														
Change in AADT at TMB due to toll incs and diversion from SFB			(2,518)	(2,694)	(2,840)	(2,975)	(3,101)	(3,212)	(3,343)	(3,460)	(3,574)	(3,671)	(3,786)	(3,840)
Additional TMB revenue due to toll incs and diversion from SFB			**$14,072,162**	**$14,714,155**	**$15,321,388**	**$16,030,864**	**$16,761,615**	**$17,506,378**	**$18,352,664**	**$19,213,618**	**$20,091,515**	**$20,988,107**	**$21,897,262**	**$23,037,256**

f2

Scudders Falls Bridge

Revenue Build Up Detail

Toll Scenario:	$3/$4
Video surcharge:	$1.30
Annual toll incs at CPI?	yes
Surcharge covers uncollectables?	n

			Operating Year											
Vehicle Type	Payment Type	Discount/Full Price	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Annual SFB Transactions	**Total Vehicles**		**8,342,760**	**8,431,187**	**8,518,915**	**8,595,019**	**8,671,368**	**8,745,143**	**8,811,462**	**8,880,926**	**8,946,481**	**9,013,232**	**9,077,295**	**9,137,443**
Total Vehicles	Annual Growth Rate			1.06%	1.04%	0.89%	0.89%	0.85%	0.76%	0.79%	0.74%	0.75%	0.71%	0.66%
Annual Transactions	E-ZPass	Commuter	2,561,773	2,733,048	2,832,901	2,910,569	2,975,088	3,030,159	3,073,949	3,114,625	3,147,078	3,168,320	3,188,106	3,206,409
Passsenger Vehicles		Full Price	3,232,564	3,451,881	3,577,579	3,675,362	3,758,490	3,825,977	3,881,144	3,930,439	3,973,315	4,000,132	4,025,114	4,048,223
	Video		1,890,264	1,580,432	1,431,841	1,321,196	1,239,196	1,178,824	1,134,784	1,103,079	1,081,588	1,088,342	1,095,139	1,101,979
	Total Passenger Vehicles		*7,684,602*	*7,765,360*	*7,842,321*	*7,907,127*	*7,972,774*	*8,034,960*	*8,089,877*	*8,148,142*	*8,201,982*	*8,256,795*	*8,308,359*	*8,356,611*
Annual Transactions	E-ZPass	Off Peak	73,346	78,811	82,440	85,650	88,397	90,769	93,113	95,116	97,185	98,740	100,319	101,821
Light Commercial Vehs		Peak	310,584	333,963	349,312	362,890	374,135	384,934	394,468	402,947	411,292	417,871	424,982	431,347
	Video		143,936	121,209	110,878	103,301	97,829	93,964	91,330	89,639	88,744	90,164	91,606	93,072
	Total Light Commercial Vehicles		*527,867*	*533,983*	*542,630*	*551,841*	*560,361*	*569,667*	*578,912*	*587,702*	*597,221*	*606,774*	*616,907*	*626,240*
Annual Transactions	E-ZPass	Off Peak	23,319	24,022	24,633	25,226	25,762	26,248	26,745	27,259	27,712	28,183	28,605	29,092
Heavy Commercial Vehs		Peak	82,184	84,790	86,947	88,859	90,744	92,643	94,300	96,110	97,707	99,270	100,858	102,574
	Video		24,788	23,032	22,383	21,967	21,727	21,625	21,628	21,713	21,861	22,210	22,565	22,926
	Total Heavy Commercial Vehicles		*130,291*	*131,844*	*133,964*	*136,051*	*138,234*	*140,516*	*142,673*	*145,082*	*147,279*	*149,663*	*152,028*	*154,592*
Annual SFB Toll Revenue	**Total Toll Revenue (Collected)**		**$25,676,396**	**$28,139,346**	**$29,199,355**	**$30,312,510**	**$31,438,265**	**$32,545,680**	**$33,751,581**	**$34,953,598**	**$36,200,386**	**$37,425,376**	**$38,667,433**	**$39,999,995**
Total Vehicle Rev	Growth Rate			9.59%	3.77%	3.81%	3.71%	3.52%	3.71%	3.56%	3.57%	3.38%	3.32%	3.45%
Annual Toll Revenue	E-ZPass	Commuter	$4,745,074	$5,171,126	$5,460,618	$5,747,318	$6,017,394	$6,245,351	$6,517,844	$6,758,180	$7,017,173	$7,225,045	$7,431,726	$7,669,427
Passsenger Vehicle Rev		Full Price	$9,979,257	$10,873,582	$11,493,398	$12,083,372	$12,644,364	$13,168,536	$13,702,510	$14,227,199	$14,738,934	$15,203,188	$15,665,289	$16,165,628
	Video		$3,067,792	$3,483,562	$3,206,481	$3,011,890	$2,874,847	$2,782,247	$2,729,700	$2,703,393	$2,699,711	$2,765,863	$2,832,737	$2,905,884
	Total Passenger Vehicle Revenue		*$17,792,123*	*$19,528,270*	*$20,160,497*	*$20,842,581*	*$21,536,606*	*$22,196,134*	*$22,950,054*	*$23,688,772*	*$24,455,817*	*$25,194,096*	*$25,929,752*	*$26,740,939*
Annual Toll Revenue	E-ZPass	Off Peak	$842,532	$922,785	$987,183	$1,048,998	$1,108,165	$1,165,357	$1,223,893	$1,281,418	$1,341,318	$1,396,843	$1,453,788	$1,512,773
Light Commercial Veh Rev		Peak	$3,964,095	$4,344,448	$4,646,429	$4,936,259	$5,211,798	$5,489,858	$5,761,941	$6,029,901	$6,306,787	$6,568,814	$6,844,423	$7,122,089
	Video		$665,519	$764,041	$714,824	$680,800	$659,255	$647,627	$643,482	$646,201	$654,241	$679,874	$706,160	$734,034
	Total Light Commercial Vehicle Rev		*$5,472,146*	*$6,031,273*	*$6,348,436*	*$6,666,057*	*$6,979,218*	*$7,302,842*	*$7,629,316*	*$7,957,519*	*$8,302,346*	*$8,645,531*	*$9,004,372*	*$9,368,896*
Annual Toll Revenue	E-ZPass	Off Peak	$449,330	$471,813	$494,642	$518,185	$541,583	$565,128	$589,794	$615,742	$641,475	$668,693	$695,829	$725,095
Heavy Commercial Veh Rev		Peak	$1,759,513	$1,850,219	$1,939,398	$2,028,102	$2,120,056	$2,215,904	$2,310,394	$2,412,030	$2,512,607	$2,617,272	$2,725,645	$2,840,754
	Video		$203,284	$257,771	$256,382	$257,585	$260,802	$265,672	$272,023	$279,534	$288,141	$299,783	$311,836	$324,311
	Total Heavy Commercial Vehicle Rev		*$2,412,127*	*$2,579,802*	*$2,690,423*	*$2,803,872*	*$2,922,441*	*$3,046,704*	*$3,172,211*	*$3,307,306*	*$3,442,223*	*$3,585,749*	*$3,733,309*	*$3,890,160*
Uncollectable Toll Revenue *(not included below, but is used in some scenarios to calculate the video toll surcharge)*			-$2,890,763	-$2,496,296	-$2,328,550	-$2,216,376	-$2,143,680	-$2,098,910	-$2,085,052	-$2,088,232	-$2,110,041	-$2,182,876	-$2,257,036	-$2,338,096
Annual SFB Net Revenue	Toll Revenue Collected		$25,676,396	$28,139,346	$29,199,355	$30,312,510	$31,438,265	$32,545,680	$33,751,581	$34,953,598	$36,200,386	$37,425,376	$38,667,433	$39,999,995
	Fee Revenue ($30 Violation Fee)		$1,564,709	$1,310,480	$1,189,094	$1,098,836	$1,032,095	$983,126	$947,589	$922,209	$905,247	$911,662	$918,130	$924,651
	ETC Transaction Costs		-$882,226	-$945,340	-$987,595	-$1,025,386	-$1,060,056	-$1,091,630	-$1,122,349	-$1,151,724	-$1,180,347	-$1,204,981	-$1,229,683	-$1,255,564
	Video Toll Collection Costs		-$2,966,367	-$2,506,264	-$2,275,834	-$2,104,792	-$1,978,556	-$1,886,208	-$1,819,593	-$1,772,387	-$1,741,279	-$1,755,059	-$1,768,969	-$1,783,126
	Net Revenue		**$23,392,512**	**$25,998,222**	**$27,125,021**	**$28,281,167**	**$29,431,748**	**$30,550,968**	**$31,757,228**	**$32,951,696**	**$34,184,007**	**$35,376,998**	**$36,586,911**	**$37,885,956**
Effects on T+R at Trenton-Morrisville Bridge														
Change in AADT at TMB due to toll incs and diversion from SFB			(2,888)	(2,995)	(3,107)	(3,216)	(3,322)	(3,417)	(3,535)	(3,643)	(3,748)	(3,842)	(3,954)	(4,005)
Additional TMB revenue due to toll incs and diversion from SFB			**$13,612,019**	**$14,328,219**	**$14,970,680**	**$15,706,311**	**$16,456,359**	**$17,215,231**	**$18,071,699**	**$18,939,865**	**$19,822,404**	**$20,716,866**	**$21,623,870**	**$22,761,583**

g1

Scudders Falls Bridge

Revenue Build Up Detail

Toll Scenario:	$1.25/$5
Video surcharge:	$3.60
Annual toll incs at CPI?	no
Surcharge covers uncollectables?	y

Vehicle Type	Payment Type	Discount/Full Price	Operating Year 2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Annual SFB Transactions	**Total Vehicles**		**9,211,105**	**9,408,927**	**9,541,325**	**9,658,071**	**9,763,133**	**9,859,508**	**9,949,459**	**10,034,696**	**10,116,126**	**10,186,051**	**10,256,521**	**10,327,540**
Total Vehicles	Annual Growth Rate			2.15%	1.41%	1.22%	1.09%	0.99%	0.91%	0.86%	0.81%	0.69%	0.69%	0.69%
Annual Transactions	E-ZPass	Commuter	2,827,220	3,023,802	3,132,707	3,220,209	3,291,591	3,350,841	3,400,969	3,444,246	3,481,878	3,503,623	3,525,504	3,547,521
Passsenger Vehicles		Full Price	3,991,417	4,268,947	4,422,697	4,546,231	4,647,007	4,730,655	4,801,425	4,862,523	4,915,651	4,946,350	4,977,241	5,008,325
	Video		1,787,789	1,500,024	1,358,994	1,253,978	1,176,150	1,118,850	1,077,050	1,046,958	1,026,560	1,032,971	1,039,422	1,045,914
	Total Passenger Vehicles		*8,606,427*	*8,792,773*	*8,914,398*	*9,020,417*	*9,114,747*	*9,200,345*	*9,279,443*	*9,353,727*	*9,424,090*	*9,482,945*	*9,542,167*	*9,601,760*
Annual Transactions	E-ZPass	Off Peak	67,518	72,912	76,270	79,160	81,699	83,976	86,058	87,997	89,821	91,258	92,718	94,201
Light Commercial Vehs		Peak	291,105	314,363	328,842	341,302	352,249	362,064	371,042	379,405	387,267	393,462	399,756	406,150
	Video		125,882	106,643	97,553	90,887	86,072	82,672	80,355	78,867	78,080	79,329	80,597	81,887
	Total Light Commercial Vehicles		*484,504*	*493,918*	*502,664*	*511,349*	*520,020*	*528,712*	*537,454*	*546,269*	*555,168*	*564,048*	*573,071*	*582,238*
Annual Transactions	E-ZPass	Off Peak	21,466	22,224	22,790	23,315	23,810	24,284	24,743	25,193	25,637	26,048	26,464	26,888
Heavy Commercial Vehs		Peak	77,029	79,748	81,779	83,663	85,440	87,141	88,789	90,403	91,998	93,470	94,965	96,484
	Video		21,679	20,264	19,693	19,327	19,116	19,026	19,029	19,104	19,233	19,541	19,854	20,171
	Total Heavy Commercial Vehicles		*120,174*	*122,236*	*124,263*	*126,304*	*128,366*	*130,451*	*132,561*	*134,700*	*136,869*	*139,058*	*141,283*	*143,543*
Annual SFB Toll Revenue	**Total Toll Revenue (Collected)**		**$19,783,576**	**$21,297,440**	**$21,449,449**	**$21,624,326**	**$21,817,098**	**$22,024,067**	**$22,242,481**	**$22,470,295**	**$22,706,473**	**$22,958,951**	**$23,214,776**	**$23,473,998**
Total Vehicle Rev	Growth Rate			7.65%	0.71%	0.82%	0.89%	0.95%	0.99%	1.02%	1.05%	1.11%	1.11%	1.12%
Annual Toll Revenue	E-ZPass	Commuter	$2,169,895	$2,309,367	$2,387,142	$2,449,862	$2,501,245	$2,544,097	$2,580,536	$2,612,161	$2,639,821	$2,656,307	$2,672,896	$2,689,588
Passsenger Vehicle Rev		Full Price	$5,105,696	$5,433,869	$5,616,872	$5,764,450	$5,885,352	$5,986,181	$6,071,921	$6,146,334	$6,211,416	$6,250,207	$6,289,241	$6,328,518
	Video		$3,272,602	$3,661,119	$3,316,905	$3,060,591	$2,870,637	$2,730,783	$2,628,763	$2,555,316	$2,505,532	$2,521,179	$2,536,924	$2,552,768
	Total Passenger Vehicle Revenue		*$10,548,193*	*$11,404,354*	*$11,320,920*	*$11,274,904*	*$11,257,233*	*$11,261,060*	*$11,281,219*	*$11,313,811*	*$11,356,769*	*$11,427,693*	*$11,499,061*	*$11,570,874*
Annual Toll Revenue	E-ZPass	Off Peak	$967,714	$1,039,548	$1,084,770	$1,123,897	$1,158,460	$1,189,624	$1,218,278	$1,245,098	$1,270,429	$1,290,751	$1,311,399	$1,332,376
Light Commercial Veh Rev		Peak	$4,635,935	$4,980,065	$5,196,707	$5,384,148	$5,549,724	$5,699,019	$5,836,288	$5,964,774	$6,086,126	$6,183,482	$6,282,395	$6,382,890
	Video		$819,807	$926,021	$847,087	$789,203	$747,395	$717,873	$697,750	$684,828	$677,993	$688,838	$699,857	$711,052
	Total Light Commercial Vehicle Rev		*$6,423,456*	*$6,945,633*	*$7,128,565*	*$7,297,248*	*$7,455,578*	*$7,606,516*	*$7,752,316*	*$7,894,700*	*$8,034,548*	*$8,163,071*	*$8,293,650*	*$8,426,318*
Annual Toll Revenue	E-ZPass	Off Peak	$516,090	$531,504	$543,709	$555,255	$566,322	$577,054	$587,564	$597,940	$608,261	$617,991	$627,876	$637,920
Heavy Commercial Veh Rev		Peak	$2,057,718	$2,119,173	$2,167,836	$2,213,871	$2,257,997	$2,300,788	$2,342,693	$2,384,064	$2,425,213	$2,464,008	$2,503,423	$2,543,468
	Video		$238,119	$296,776	$288,420	$283,048	$279,968	$278,648	$278,688	$279,780	$281,682	$286,188	$290,766	$295,417
	Total Heavy Commercial Vehicle Rev		*$2,811,928*	*$2,947,452*	*$2,999,964*	*$3,052,174*	*$3,104,287*	*$3,156,490*	*$3,208,945*	*$3,261,784*	*$3,315,156*	*$3,368,186*	*$3,422,065*	*$3,476,805*
Uncollectable Toll Revenue *(not included below, but is used in some scenarios to calculate the video toll surcharge)*			-$1,839,754	-$1,562,454	-$1,430,458	-$1,333,554	-$1,263,201	-$1,212,975	-$1,178,031	-$1,154,708	-$1,141,074	-$1,155,071	-$1,169,265	-$1,183,660
Annual SFB Net Revenue	Toll Revenue Collected		$19,783,576	$21,297,440	$21,449,449	$21,624,326	$21,817,098	$22,024,067	$22,242,481	$22,470,295	$22,706,473	$22,958,951	$23,214,776	$23,473,998
	Fee Revenue ($30 Violation Fee)		$1,471,391	$1,236,743	$1,122,071	$1,036,796	$973,730	$927,447	$893,847	$869,837	$853,774	$859,777	$865,828	$871,927
	ETC Transaction Costs		-$842,906	-$895,741	-$926,306	-$951,501	-$972,659	-$990,788	-$1,006,647	-$1,020,814	-$1,033,595	-$1,042,317	-$1,051,130	-$1,060,034
	Video Toll Collection Costs		-$3,053,982	-$2,589,467	-$2,349,854	-$2,171,698	-$2,039,978	-$1,943,348	-$1,873,243	-$1,823,193	-$1,789,766	-$1,802,511	-$1,815,360	-$1,828,315
	Net Revenue		**$17,358,078**	**$19,048,975**	**$19,295,361**	**$19,537,922**	**$19,778,191**	**$20,017,378**	**$20,256,438**	**$20,496,125**	**$20,736,886**	**$20,973,901**	**$21,214,115**	**$21,457,576**
Effects on T+R at Trenton-Morrisville Bridge														
Change in AADT at TMB due to toll incs and diversion from SFB			1,479	1,368	1,323	1,288	1,264	1,245	1,238	1,233	1,232	1,238	1,251	1,261
Additional TMB revenue due to toll incs and diversion from SFB			**$5,876,177**	**$5,880,231**	**$5,917,355**	**$5,963,298**	**$6,016,155**	**$6,074,490**	**$6,137,223**	**$6,203,541**	**$6,273,028**	**$6,349,503**	**$6,427,052**	**$6,505,692**

Scudders Falls Bridge

Revenue Build Up Detail

Toll Scenario:	$1.25/$5
Video surcharge:	$1.30
Annual toll incs at CPI?	no
Surcharge covers uncollectables?	n

Vehicle Type	Payment Type	Discount/Full Price	Operating Year 2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Annual SFB Transactions	**Total Vehicles**		**9,682,046**	**9,804,213**	**9,899,561**	**9,988,728**	**10,073,363**	**10,154,711**	**10,233,715**	**10,311,085**	**10,387,203**	**10,458,882**	**10,531,118**	**10,603,915**
Total Vehicles	Annual Growth Rate			1.26%	0.97%	0.90%	0.85%	0.81%	0.78%	0.76%	0.74%	0.69%	0.69%	0.69%
Annual Transactions	E-ZPass	Commuter	2,827,220	3,023,802	3,132,707	3,220,209	3,291,591	3,350,841	3,400,969	3,444,246	3,481,878	3,503,623	3,525,504	3,547,521
Passsenger Vehicles		Full Price	3,991,417	4,268,947	4,422,697	4,546,231	4,647,007	4,730,655	4,801,425	4,862,523	4,915,651	4,946,350	4,977,241	5,008,325
	Video		2,248,926	1,886,936	1,709,528	1,577,424	1,479,522	1,407,442	1,354,861	1,317,006	1,291,348	1,299,412	1,307,527	1,315,693
	Total Passenger Vehicles		*9,067,563*	*9,179,684*	*9,264,932*	*9,343,864*	*9,418,119*	*9,488,937*	*9,557,254*	*9,623,775*	*9,688,878*	*9,749,386*	*9,810,272*	*9,871,539*
Annual Transactions	E-ZPass	Off Peak	67,518	72,912	76,270	79,160	81,699	83,976	86,058	87,997	89,821	91,258	92,718	94,201
Light Commercial Vehs		Peak	291,105	314,363	328,842	341,302	352,249	362,064	371,042	379,405	387,267	393,462	399,756	406,150
	Video		134,909	114,291	104,549	97,405	92,245	88,601	86,117	84,522	83,679	85,017	86,377	87,759
	Total Light Commercial Vehicles		*493,532*	*501,566*	*509,660*	*517,867*	*526,192*	*534,641*	*543,217*	*551,925*	*560,767*	*569,737*	*578,851*	*588,110*
Annual Transactions	E-ZPass	Off Peak	21,466	22,224	22,790	23,315	23,810	24,284	24,743	25,193	25,637	26,048	26,464	26,888
Heavy Commercial Vehs		Peak	77,029	79,748	81,779	83,663	85,440	87,141	88,789	90,403	91,998	93,470	94,965	96,484
	Video		22,456	20,991	20,400	20,020	19,802	19,709	19,711	19,789	19,923	20,242	20,566	20,895
	Total Heavy Commercial Vehicles		*120,951*	*122,963*	*124,969*	*126,997*	*129,051*	*131,133*	*133,244*	*135,385*	*137,558*	*139,759*	*141,994*	*144,266*
Annual SFB Toll Revenue	**Total Toll Revenue (Collected)**		**$18,665,761**	**$20,029,093**	**$20,299,067**	**$20,561,702**	**$20,819,415**	**$21,074,087**	**$21,327,178**	**$21,579,825**	**$21,832,679**	**$22,079,213**	**$22,329,049**	**$22,582,236**
Total Vehicle Rev	Growth Rate			7.30%	1.35%	1.29%	1.25%	1.22%	1.20%	1.18%	1.17%	1.13%	1.13%	1.13%
Annual Toll Revenue	E-ZPass	Commuter	$2,182,658	$2,320,075	$2,396,844	$2,458,814	$2,509,641	$2,552,084	$2,588,224	$2,619,635	$2,647,149	$2,663,681	$2,680,316	$2,697,055
Passsenger Vehicle Rev		Full Price	$5,135,726	$5,459,065	$5,639,700	$5,785,514	$5,905,108	$6,004,974	$6,090,012	$6,163,920	$6,228,660	$6,267,559	$6,306,701	$6,346,087
	Video		$2,164,464	$2,421,425	$2,193,765	$2,024,242	$1,898,608	$1,806,111	$1,738,636	$1,690,059	$1,657,132	$1,667,481	$1,677,895	$1,688,373
	Total Passenger Vehicle Revenue		*$9,482,848*	*$10,200,565*	*$10,230,310*	*$10,268,570*	*$10,313,357*	*$10,363,169*	*$10,416,872*	*$10,473,614*	*$10,532,941*	*$10,598,721*	*$10,664,911*	*$10,731,515*
Annual Toll Revenue	E-ZPass	Off Peak	$969,431	$1,041,028	$1,086,137	$1,125,180	$1,159,683	$1,190,805	$1,219,430	$1,246,233	$1,271,555	$1,291,896	$1,312,561	$1,333,557
Light Commercial Veh Rev		Peak	$4,644,161	$4,987,154	$5,203,254	$5,390,295	$5,555,583	$5,704,676	$5,841,810	$5,970,210	$6,091,521	$6,188,963	$6,287,964	$6,388,548
	Video		$763,454	$862,367	$788,859	$734,954	$696,019	$668,527	$649,787	$637,753	$631,388	$641,488	$651,749	$662,175
	Total Light Commercial Vehicle Rev		*$6,377,046*	*$6,890,548*	*$7,078,251*	*$7,250,429*	*$7,411,285*	*$7,564,008*	*$7,711,027*	*$7,854,197*	*$7,994,465*	*$8,122,347*	*$8,252,275*	*$8,384,281*
Annual Toll Revenue	E-ZPass	Off Peak	$517,006	$532,260	$544,394	$555,889	$566,920	$577,627	$588,120	$598,485	$608,800	$618,539	$628,433	$638,486
Heavy Commercial Veh Rev		Peak	$2,061,369	$2,122,189	$2,170,567	$2,216,399	$2,260,381	$2,303,072	$2,344,909	$2,386,237	$2,427,363	$2,466,192	$2,505,642	$2,545,723
	Video		$227,491	$283,530	$275,547	$270,415	$267,472	$266,212	$266,250	$267,292	$269,110	$273,415	$277,788	$282,232
	Total Heavy Commercial Vehicle Rev		*$2,805,867*	*$2,937,980*	*$2,990,507*	*$3,042,703*	*$3,094,773*	*$3,146,910*	*$3,199,279*	*$3,252,015*	*$3,305,273*	*$3,358,145*	*$3,411,863*	*$3,466,441*
Uncollectable Toll Revenue *(not included below, but is used in some scenarios to calculate the video toll surcharge)*			-$2,107,551	-$1,787,974	-$1,635,505	-$1,523,440	-$1,441,939	-$1,383,602	-$1,342,844	-$1,315,448	-$1,299,190	-$1,314,618	-$1,330,260	-$1,346,118
Annual SFB Net Revenue	Toll Revenue Collected		$18,665,761	$20,029,093	$20,299,067	$20,561,702	$20,819,415	$21,074,087	$21,327,178	$21,579,825	$21,832,679	$22,079,213	$22,329,049	$22,582,236
	Fee Revenue ($30 Violation Fee)		$1,830,947	$1,538,530	$1,395,565	$1,289,229	$1,210,563	$1,152,803	$1,110,841	$1,080,822	$1,060,700	$1,068,038	$1,075,433	$1,082,887
	ETC Transaction Costs		-$847,932	-$899,962	-$930,133	-$955,036	-$975,978	-$993,947	-$1,009,692	-$1,023,776	-$1,036,501	-$1,045,244	-$1,054,077	-$1,063,002
	Video Toll Collection Costs		-$3,443,236	-$2,909,929	-$2,640,030	-$2,439,314	-$2,290,863	-$2,181,905	-$2,102,793	-$2,046,245	-$2,008,398	-$2,022,461	-$2,036,636	-$2,050,925
	Net Revenue		**$16,205,541**	**$17,757,732**	**$18,124,469**	**$18,456,581**	**$18,763,137**	**$19,051,038**	**$19,325,535**	**$19,590,627**	**$19,848,479**	**$20,079,546**	**$20,313,769**	**$20,551,196**
Effects on T+R at Trenton-Morrisville Bridge														
Change in AADT at TMB due to toll incs and diversion from SFB			1,068	1,024	1,010	1,000	993	988	990	992	996	1,001	1,011	1,019
Additional TMB revenue due to toll incs and diversion from SFB			**$5,651,300**	**$5,690,868**	**$5,745,277**	**$5,804,049**	**$5,866,366**	**$5,931,613**	**$5,999,328**	**$6,069,167**	**$6,140,962**	**$6,216,357**	**$6,292,816**	**$6,370,354**

h1

Scudders Falls Bridge

Revenue Build Up Detail

Toll Scenario:	$1.25/$5
Video surcharge:	$4.00
Annual toll incs at CPI?	yes
Surcharge covers uncollectables?	y

Vehicle Type	Payment Type	Discount/Full Price	Operating Year 2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Annual SFB Transactions	**Total Vehicles**		**9,108,630**	**9,303,375**	**9,443,596**	**9,561,033**	**9,676,344**	**9,775,492**	**9,865,440**	**9,952,386**	**10,036,761**	**10,100,666**	**10,174,008**	**10,246,554**
Total Vehicles	Annual Growth Rate			2.14%	1.51%	1.24%	1.21%	1.02%	0.92%	0.88%	0.85%	0.64%	0.73%	0.71%
Annual Transactions	E-ZPass	Commuter	2,827,220	3,016,242	3,124,875	3,212,158	3,285,007	3,344,139	3,394,167	3,437,358	3,474,915	3,493,112	3,518,453	3,540,426
Passsenger Vehicles		Full Price	3,991,417	4,263,509	4,416,661	4,535,184	4,640,143	4,723,506	4,791,647	4,852,530	4,907,942	4,936,119	4,966,946	5,000,470
	Video		1,685,315	1,410,237	1,277,648	1,178,918	1,105,749	1,051,878	1,012,581	984,290	965,113	971,140	977,205	983,308
	Total Passenger Vehicles		*8,503,952*	*8,689,988*	*8,819,184*	*8,926,260*	*9,030,900*	*9,119,523*	*9,198,394*	*9,274,178*	*9,347,970*	*9,400,372*	*9,462,604*	*9,524,204*
Annual Transactions	E-ZPass	Off Peak	67,518	72,547	75,965	78,764	81,290	83,556	85,714	87,645	89,372	90,893	92,254	93,730
Light Commercial Vehs		Peak	291,105	313,029	327,744	339,798	350,679	360,441	369,366	378,063	385,507	392,068	398,339	404,305
	Video		125,882	106,085	97,043	90,411	85,622	82,154	79,935	78,454	77,590	78,832	80,093	81,374
	Total Light Commercial Vehicles		*484,504*	*491,662*	*500,751*	*508,974*	*517,592*	*526,151*	*535,014*	*544,163*	*552,470*	*561,792*	*570,686*	*579,409*
Annual Transactions	E-ZPass	Off Peak	21,466	22,113	22,676	23,221	23,715	24,162	24,644	25,067	25,535	25,943	26,358	26,753
Heavy Commercial Vehs		Peak	77,029	79,475	81,415	83,372	85,141	86,748	88,477	89,995	91,673	93,140	94,630	96,143
	Video		21,679	20,137	19,570	19,206	18,997	18,907	18,910	18,984	19,113	19,419	19,729	20,045
	Total Heavy Commercial Vehicles		*120,174*	*121,725*	*123,661*	*125,799*	*127,852*	*129,818*	*132,031*	*134,046*	*136,321*	*138,502*	*140,717*	*142,942*
Annual SFB Toll Revenue	**Total Toll Revenue (Collected)**		**$19,862,821**	**$21,777,674**	**$22,402,387**	**$23,118,732**	**$23,843,857**	**$24,594,891**	**$25,437,112**	**$26,310,227**	**$27,162,042**	**$28,135,445**	**$29,101,550**	**$30,092,531**
Total Vehicle Rev	Growth Rate			9.64%	2.87%	3.20%	3.14%	3.15%	3.42%	3.43%	3.24%	3.58%	3.43%	3.41%
Annual Toll Revenue	E-ZPass	Commuter	$2,167,059	$2,362,549	$2,505,873	$2,637,085	$2,760,414	$2,875,503	$2,985,435	$3,091,576	$3,194,574	$3,317,194	$3,412,335	$3,505,169
Passsenger Vehicle Rev		Full Price	$5,099,023	$5,551,381	$5,873,064	$6,205,416	$6,482,913	$6,737,428	$7,024,379	$7,306,674	$7,536,511	$7,779,304	$8,028,568	$8,284,799
	Video		$3,339,453	$3,747,139	$3,414,127	$3,174,031	$2,993,730	$2,863,760	$2,777,154	$2,719,375	$2,680,965	$2,717,256	$2,753,897	$2,790,889
	Total Passenger Vehicle Revenue		*$10,605,535*	*$11,661,070*	*$11,793,064*	*$12,016,533*	*$12,237,056*	*$12,476,690*	*$12,786,968*	*$13,117,626*	*$13,412,049*	*$13,813,754*	*$14,194,799*	*$14,580,857*
Annual Toll Revenue	E-ZPass	Off Peak	$967,714	$1,060,275	$1,134,609	$1,204,029	$1,272,457	$1,339,768	$1,407,351	$1,473,884	$1,540,413	$1,605,315	$1,670,514	$1,740,017
Light Commercial Veh Rev		Peak	$4,635,935	$5,083,579	$5,439,818	$5,771,857	$6,098,782	$6,420,006	$6,739,398	$7,063,231	$7,383,333	$7,695,720	$8,012,695	$8,337,736
	Video		$838,492	$960,544	$895,473	$850,834	$821,859	$804,428	$798,117	$798,863	$806,192	$835,470	$866,271	$898,246
	Total Light Commercial Vehicle Rev		*$6,442,141*	*$7,104,399*	*$7,469,900*	*$7,826,720*	*$8,193,098*	*$8,564,203*	*$8,944,867*	*$9,335,979*	*$9,729,939*	*$10,136,505*	*$10,549,480*	*$10,975,998*
Annual Toll Revenue	E-ZPass	Off Peak	$516,090	$542,167	$568,483	$595,563	$622,621	$649,726	$678,736	$707,314	$738,107	$768,581	$800,386	$832,724
Heavy Commercial Veh Rev		Peak	$2,057,718	$2,164,659	$2,267,672	$2,375,833	$2,483,731	$2,591,633	$2,707,028	$2,821,406	$2,944,533	$3,066,203	$3,192,971	$3,324,984
	Video		$241,337	$305,379	$303,268	$304,082	$307,351	$312,639	$319,513	$327,903	$337,414	$350,402	$363,914	$377,967
	Total Heavy Commercial Vehicle Rev		*$2,815,145*	*$3,012,205*	*$3,139,423*	*$3,275,479*	*$3,413,704*	*$3,553,998*	*$3,705,277*	*$3,856,623*	*$4,020,054*	*$4,185,186*	*$4,357,271*	*$4,535,676*
Uncollectable Toll Revenue *(not included below, but is used in some scenarios to calculate the video toll surcharge)*			-$1,796,185	-$1,557,417	-$1,460,971	-$1,398,644	-$1,357,357	-$1,334,313	-$1,330,160	-$1,336,875	-$1,352,034	-$1,404,509	-$1,457,020	-$1,511,558
Annual SFB Net Revenue	Toll Revenue Collected		$19,862,821	$21,777,674	$22,402,387	$23,118,732	$23,843,857	$24,594,891	$25,437,112	$26,310,227	$27,162,042	$28,135,445	$29,101,550	$30,092,531
	Fee Revenue ($30 Violation Fee)		$1,393,029	$1,167,600	$1,059,419	$978,977	$919,492	$875,784	$844,167	$821,539	$806,355	$812,058	$817,806	$823,601
	ETC Transaction Costs		-$841,865	-$900,151	-$938,676	-$972,598	-$1,003,272	-$1,030,656	-$1,056,912	-$1,082,034	-$1,105,437	-$1,125,843	-$1,146,782	-$1,168,066
	Video Toll Collection Costs		-$2,927,209	-$2,477,175	-$2,248,916	-$2,079,438	-$1,954,194	-$1,862,339	-$1,796,212	-$1,749,128	-$1,717,744	-$1,730,860	-$1,744,114	-$1,757,502
	Net Revenue		**$17,486,776**	**$19,567,948**	**$20,274,214**	**$21,045,672**	**$21,805,883**	**$22,577,680**	**$23,428,154**	**$24,300,604**	**$25,145,217**	**$26,090,800**	**$27,028,461**	**$27,990,564**
Effects on T+R at Trenton-Morrisville Bridge														
Change in AADT at TMB due to toll incs and diversion from SFB			1,569	1,353	1,198	1,033	906	792	665	542	451	349	246	208
Additional TMB revenue due to toll incs and diversion from SFB			**$5,917,167**	**$6,326,953**	**$6,762,119**	**$7,349,966**	**$7,817,355**	**$8,301,342**	**$8,931,407**	**$9,575,072**	**$10,097,145**	**$10,773,828**	**$11,460,197**	**$12,265,230**

Scudders Falls Bridge

Revenue Build Up Detail

Toll Scenario:	$1.25/$5
Video surcharge:	$1.30
Annual toll incs at CPI?	yes
Surcharge covers uncollectables?	n

Vehicle Type	Payment Type	Discount/Full Price	Operating Year 2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Annual SFB Transactions	**Total Vehicles**		**9,682,046**	**9,783,321**	**9,878,531**	**9,961,673**	**10,052,951**	**10,133,920**	**10,210,477**	**10,287,858**	**10,365,846**	**10,431,868**	**10,507,340**	**10,582,031**
Total Vehicles	Annual Growth Rate			1.05%	0.97%	0.84%	0.92%	0.81%	0.76%	0.76%	0.76%	0.64%	0.72%	0.71%
Annual Transactions	E-ZPass	Commuter	2,827,220	3,016,242	3,124,875	3,212,158	3,285,007	3,344,139	3,394,167	3,437,358	3,474,915	3,493,112	3,518,453	3,540,426
Passsenger Vehicles		Full Price	3,991,417	4,263,556	4,416,703	4,535,262	4,640,180	4,723,541	4,791,680	4,852,563	4,907,974	4,936,152	4,966,978	5,000,502
	Video		2,248,926	1,881,902	1,704,968	1,572,388	1,475,575	1,403,687	1,351,246	1,313,493	1,287,903	1,295,946	1,304,039	1,312,183
	Total Passenger Vehicles		*9,067,563*	*9,161,700*	*9,246,546*	*9,319,808*	*9,400,762*	*9,471,367*	*9,537,094*	*9,603,413*	*9,670,791*	*9,725,210*	*9,789,471*	*9,853,111*
Annual Transactions	E-ZPass	Off Peak	67,518	72,547	75,965	78,764	81,290	83,556	85,714	87,645	89,372	90,893	92,254	93,730
Light Commercial Vehs		Peak	291,105	313,033	327,747	339,802	350,682	360,441	369,369	378,066	385,507	392,068	398,339	404,305
	Video		134,909	113,592	103,910	96,809	91,681	88,059	85,591	84,006	83,167	84,498	85,849	87,223
	Total Light Commercial Vehicles		*493,532*	*499,173*	*507,622*	*515,375*	*523,653*	*532,056*	*540,673*	*549,717*	*558,047*	*567,458*	*576,443*	*585,257*
Annual Transactions	E-ZPass	Off Peak	21,466	22,113	22,676	23,221	23,715	24,162	24,644	25,067	25,535	25,943	26,358	26,753
Heavy Commercial Vehs		Peak	77,029	79,475	81,415	83,372	85,141	86,748	88,477	89,995	91,673	93,140	94,630	96,143
	Video		22,456	20,861	20,273	19,896	19,679	19,587	19,589	19,666	19,800	20,117	20,438	20,765
	Total Heavy Commercial Vehicles		*120,951*	*122,449*	*124,364*	*126,489*	*128,535*	*130,497*	*132,711*	*134,728*	*137,008*	*139,200*	*141,427*	*143,662*
Annual SFB Toll Revenue	**Total Toll Revenue (Collected)**		**$18,665,761**	**$20,430,655**	**$21,189,455**	**$22,007,643**	**$22,809,582**	**$23,618,553**	**$24,504,729**	**$25,412,179**	**$26,288,933**	**$27,265,643**	**$28,235,106**	**$29,229,604**
Total Vehicle Rev	Growth Rate			9.46%	3.71%	3.86%	3.64%	3.55%	3.75%	3.70%	3.45%	3.72%	3.56%	3.52%
Annual Toll Revenue	E-ZPass	Commuter	$2,182,658	$2,375,941	$2,518,322	$2,648,845	$2,771,737	$2,886,535	$2,996,307	$3,102,388	$3,205,410	$3,328,455	$3,423,913	$3,517,059
Passsenger Vehicle Rev		Full Price	$5,135,726	$5,582,911	$5,902,297	$6,233,197	$6,509,558	$6,763,325	$7,050,011	$7,332,277	$7,562,126	$7,805,762	$8,055,863	$8,312,957
	Video		$2,164,464	$2,443,377	$2,239,393	$2,096,908	$1,990,077	$1,914,315	$1,869,997	$1,844,190	$1,827,704	$1,865,205	$1,903,104	$1,941,402
	Total Passenger Vehicle Revenue		*$9,482,848*	*$10,402,229*	*$10,660,013*	*$10,978,951*	*$11,271,372*	*$11,564,175*	*$11,916,316*	*$12,278,856*	*$12,595,240*	*$12,999,422*	*$13,382,880*	*$13,771,419*
Annual Toll Revenue	E-ZPass	Off Peak	$969,431	$1,061,765	$1,136,019	$1,205,386	$1,273,783	$1,341,098	$1,408,666	$1,475,210	$1,541,780	$1,606,737	$1,671,995	$1,741,560
Light Commercial Veh Rev		Peak	$4,644,161	$5,090,780	$5,446,633	$5,778,414	$6,105,189	$6,426,383	$6,745,742	$7,069,634	$7,389,881	$7,702,540	$8,019,797	$8,345,131
	Video		$763,454	$876,767	$820,026	$781,714	$757,540	$744,609	$740,253	$743,170	$753,035	$782,640	$813,849	$846,288
	Total Light Commercial Vehicle Rev		*$6,377,046*	*$7,029,312*	*$7,402,678*	*$7,765,515*	*$8,136,512*	*$8,512,091*	*$8,894,661*	*$9,288,013*	*$9,684,696*	*$10,091,917*	*$10,505,641*	*$10,932,979*
Annual Toll Revenue	E-ZPass	Off Peak	$517,006	$542,929	$569,190	$596,235	$623,270	$650,372	$679,370	$707,950	$738,762	$769,263	$801,096	$833,463
Heavy Commercial Veh Rev		Peak	$2,061,369	$2,167,700	$2,270,491	$2,378,511	$2,486,320	$2,594,207	$2,709,556	$2,823,943	$2,947,144	$3,068,920	$3,195,801	$3,327,933
	Video		$227,491	$288,486	$287,083	$288,431	$292,107	$297,709	$304,826	$313,415	$323,090	$336,121	$349,689	$363,810
	Total Heavy Commercial Vehicle Rev		*$2,805,867*	*$2,999,115*	*$3,126,764*	*$3,263,177*	*$3,401,698*	*$3,542,287*	*$3,693,753*	*$3,845,309*	*$4,008,996*	*$4,174,304*	*$4,346,585*	*$4,525,206*
Uncollectable Toll Revenue *(not included below, but is used in some scenarios to calculate the video toll surcharge)*			-$2,107,551	-$1,824,437	-$1,709,514	-$1,634,754	-$1,585,079	-$1,557,303	-$1,550,439	-$1,557,150	-$1,574,093	-$1,634,644	-$1,694,816	-$1,757,220
Annual SFB Net Revenue	Toll Revenue Collected		$18,665,761	$20,430,655	$21,189,455	$22,007,643	$22,809,582	$23,618,553	$24,504,729	$25,412,179	$26,288,933	$27,265,643	$28,235,106	$29,229,604
	Fee Revenue ($30 Violation Fee)		$1,830,947	$1,534,095	$1,391,537	$1,284,870	$1,207,060	$1,149,463	$1,107,620	$1,077,684	$1,057,617	$1,064,932	$1,072,303	$1,079,732
	ETC Transaction Costs		-$847,932	-$905,259	-$943,330	-$976,916	-$1,007,350	-$1,034,559	-$1,060,693	-$1,085,733	-$1,109,088	-$1,129,543	-$1,150,529	-$1,171,862
	Video Toll Collection Costs		-$3,443,236	-$2,902,450	-$2,634,150	-$2,433,707	-$2,287,562	-$2,179,592	-$2,101,501	-$2,045,922	-$2,008,907	-$2,023,922	-$2,039,089	-$2,054,403
	Net Revenue		**$16,205,541**	**$18,157,041**	**$19,003,511**	**$19,881,888**	**$20,721,730**	**$21,553,865**	**$22,450,155**	**$23,358,207**	**$24,228,555**	**$25,177,110**	**$26,117,791**	**$27,083,071**
Effects on T+R at Trenton-Morrisville Bridge														
Change in AADT at TMB due to toll incs and diversion from SFB			1,068	945	836	709	608	515	405	297	214	118	19	(16)
Additional TMB revenue due to toll incs and diversion from SFB			**$5,651,300**	**$6,104,242**	**$6,559,834**	**$7,163,169**	**$7,641,434**	**$8,133,277**	**$8,769,591**	**$9,417,449**	**$9,941,972**	**$10,617,432**	**$11,302,566**	**$12,106,352**

Scudder Falls Bridge

Additional Toll Scenario Details

Scudder Falls T&R Estimates
Toll Scenario Options - 2020

Scenario Definition	A: $1 Car Toll, $4 Per Axle No Increase		B: $1 Toll, $4 Per Axle CPI Increase		C: $2 Car Toll, $4 Per Axle No Increase		D: $2 Car Toll, $4 Per Axle CPI Increase		E: $3 Car Toll, $4 Per Axle No Increase		F: $3 Car Toll, $4 Per Axle CPI Increase		G: $1.25 Car Toll, $5 Per Axle No Increase		H: $1.25 Car Toll, $5 Per Axle CPI Increase	
	A1	A2	B1	B2	C1	C2	D1	D2	E1	E2	F1	F2	G1	G2	H1	H2
Toll Rates																
Car Toll Rate	$ 1.00	$ 1.00	$ 1.03	$ 1.03	$ 2.00	$ 2.00	$ 2.05	$ 2.05	$ 3.00	$ 3.00	$ 3.08	$ 3.08	$ 1.25	$ 1.25	$ 1.28	$ 1.28
Truck Toll Rate (per axle)	$ 4.00	$ 4.00	$ 4.10	$ 4.10	$ 4.00	$ 4.00	$ 4.10	$ 4.10	$ 4.00	$ 4.00	$ 4.10	$ 4.10	$ 5.00	$ 5.00	$ 5.13	$ 5.13
CPI (for toll increases beginning in 2020)	0.0%	0.0%	2.5%	2.5%	0.0%	0.0%	2.5%	2.5%	0.0%	0.0%	2.5%	2.5%	0.0%	0.0%	2.5%	2.5%
Video Toll Surcharge Surcharge - All Vehicles	$3.10	$1.20	$3.40	$1.20	$4.20	$1.20	$4.60	$1.20	$5.40	$1.30	$6.10	$1.30	$3.60	$1.30	$4.00	$1.30
Toll Transactions																
Annual Toll Transactions	9,702,018	10,054,314	9,633,034	10,026,988	8,743,881	9,270,231	8,634,530	9,249,364	7,749,769	8,452,173	7,601,995	8,431,187	9,408,927	9,804,213	9,303,375	9,783,321
Car AADT	24,697	25,636	24,516	25,570	22,082	23,491	21,804	23,443	19,386	21,266	18,991	21,217	24,024	25,081	23,743	25,032
Truck AADT	1,812	1,835	1,804	1,826	1,809	1,837	1,788	1,829	1,788	1,828	1,780	1,819	1,683	1,706	1,676	1,698
Toll Diversion																
Total Diversion	-18%	-15%	-18%	-15%	-26%	-21%	-27%	-22%	-34%	-28%	-36%	-28%	-20%	-17%	-21%	-17%
Collection Costs																
ETC Toll Revenue (Received)	*$13,728,072*	*$13,763,519*	*$14,057,426*	*$14,097,022*	*$18,885,029*	*$18,973,587*	*$19,287,225*	*$19,396,502*	*$22,919,689*	*$23,088,030*	*$23,432,337*	*$23,633,973*	*$16,413,524*	*$16,461,771*	*$16,764,611*	*$16,822,026*
Video Revenue (Received) - Incl. Surcharge	*$4,459,834*	*$3,205,572*	*$4,662,835*	*$3,246,797*	*$5,175,285*	*$3,927,346*	*$5,171,507*	*$3,980,312*	*$4,968,202*	*$4,437,099*	*$4,768,295*	*$4,505,373*	*$4,883,916*	*$3,567,322*	*$5,013,063*	*$3,608,629*
Total Toll Revenue (Received)	$18,187,906	$16,969,091	$18,720,261	$17,343,819	$24,060,314	$22,900,933	$24,458,732	$23,376,815	$27,887,891	$27,525,129	$28,200,632	$28,139,346	$21,297,440	$20,029,093	$21,777,674	$20,430,655
Fee Revenue ($30 Violation Fee)	$1,345,013	$1,613,926	$1,308,648	$1,609,387	$1,081,215	$1,483,104	$1,008,758	$1,477,969	$779,076	$1,315,355	$677,311	$1,310,480	$1,236,743	$1,538,530	$1,167,600	$1,534,095
ETC Transaction Costs	-$859,992	-$863,617	-$863,900	-$867,957	-$903,589	-$909,647	-$908,948	-$916,135	-$927,686	-$936,672	-$934,672	-$945,340	-$895,741	-$899,962	-$900,151	-$905,259
Video Toll Collection Costs	-$2,698,173	-$2,987,795	-$2,679,326	-$2,980,275	-$2,328,932	-$2,763,829	-$2,228,519	-$2,755,441	-$1,839,492	-$2,514,072	-$1,611,189	-$2,506,264	-$2,589,467	-$2,909,929	-$2,477,175	-$2,902,450
Net Revenue (sum of Toll Rev, Fee Rev, and Toll Collection Costs)	$15,974,755	$14,731,604	$16,485,682	$15,104,973	$21,909,008	$20,710,561	$22,330,024	$21,183,208	$25,899,788	$25,389,739	$26,332,082	$25,998,222	$19,048,975	$17,757,732	$19,567,948	$18,157,041
Video Toll Collection Costs																
Cost of Invoicing	-$574,788	-$634,065	-$572,016	-$632,278	-$496,635	-$582,790	-$476,318	-$580,769	-$394,248	-$528,768	-$342,175	-$526,805	-$553,503	-$618,157	-$529,162	-$616,371
Video Account Costs	-$1,527,712	-$1,677,746	-$1,521,893	-$1,673,016	-$1,324,602	-$1,542,071	-$1,272,323	-$1,536,723	-$1,056,849	-$1,401,334	-$923,120	-$1,396,133	-$1,474,179	-$1,638,232	-$1,410,340	-$1,633,499
Non-EZ Trx Costs (excl Itoll)	-$491,267	-$589,300	-$478,014	-$587,638	-$395,166	-$541,656	-$368,721	-$539,777	-$285,025	-$480,507	-$247,950	-$478,723	-$451,699	-$561,706	-$426,506	-$560,083
Credit Card Fees (Video Only)	-$104,406	-$86,683	-$107,403	-$87,343	-$112,529	-$97,312	-$111,158	-$98,173	-$103,371	-$103,464	-$97,945	-$104,604	-$110,086	-$91,834	-$111,165	-$92,497
Video Toll Collection Costs	-$2,698,173	-$2,987,795	-$2,679,326	-$2,980,275	-$2,328,932	-$2,763,829	-$2,228,519	-$2,755,441	-$1,839,492	-$2,514,072	-$1,611,189	-$2,506,264	-$2,589,467	-$2,909,929	-$2,477,175	-$2,902,450
Cost per Video Transaction	$ 1.52	$ 1.41	$ 1.56	$ 1.41	$ 1.63	$ 1.42	$ 1.68	$ 1.42	$ 1.79	$ 1.45	$ 1.80	$ 1.45	$ 1.59	$ 1.44	$ 1.61	$ 1.44
Cost per ETC Transaction	$ 0.08	$ 0.08	$ 0.08	$ 0.08	$ 0.08	$ 0.08	$ 0.08	$ 0.08	$ 0.08	$ 0.08	$ 0.08	$ 0.08	$ 0.08	$ 0.08	$ 0.08	$ 0.08
Incremental Cost of Video per Transaction	$ 1.45	$ 1.33	$ 1.48	$ 1.33	$ 1.56	$ 1.34	$ 1.60	$ 1.34	$ 1.71	$ 1.38	$ 1.72	$ 1.38	$ 1.52	$ 1.36	$ 1.54	$ 1.36
Additional Cost to Collect Video Tolls (deducting cost of traditional ETC Transaction)	-$2,564,748	-$2,827,807	-$2,549,492	-$2,820,741	-$2,221,525	-$2,616,736	-$2,128,288	-$2,608,859	-$1,761,928	-$2,383,546	-$1,543,663	-$2,376,224	-$2,466,796	-$2,757,454	-$2,361,325	-$2,750,417
Video Toll Surcharge and Violation Fee Revenue																
Video Surcharge Revenue	$2,756,886	$1,279,843	$2,942,240	$1,276,227	$3,005,860	$1,176,566	$3,072,039	$1,172,479	$2,789,540	$1,130,916	$2,742,507	$1,126,712	$2,943,579	$1,321,467	$3,088,551	$1,317,641
Fee Revenue	$1,345,013	$1,613,926	$1,308,648	$1,609,387	$1,081,215	$1,483,104	$1,008,758	$1,477,969	$779,076	$1,315,355	$677,311	$1,310,480	$1,236,743	$1,538,530	$1,167,600	$1,534,095
Video Surcharge and Fee Revenue	$4,101,899	$2,893,768	$4,250,887	$2,885,614	$4,087,076	$2,659,670	$4,080,797	$2,650,448	$3,568,616	$2,446,271	$3,419,818	$2,437,192	$4,180,322	$2,859,996	$4,256,150	$2,851,736
Uncollectable Video Toll Revenue (due to bad images, etc - calculated using ETC Toll Rate)																
Uncollectable Video Toll Revenue	-$1,374,595	-$1,540,577	-$1,391,591	-$1,576,177	-$1,682,488	-$2,092,695	-$1,629,734	-$2,135,901	-$1,665,191	-$2,442,681	-$1,567,800	-$2,496,296	-$1,562,454	-$1,787,974	-$1,557,417	-$1,824,437
Uncollectable Video Toll Revenue considered in evaluation of Video Toll Surcharge?	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
% of Total Transactions that are Uncollectable	7%	9%	7%	9%	7%	9%	6%	9%	5%	8%	5%	8%	7%	8%	7%	8%
% of Car Video Transactions that are Uncollectable	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%
% of Truck Video Transactions that are Uncollectable	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%
Potential Additional Revenue at Trenton Morrisville due to Toll Diversion																
Revenue Gain from Traffic switch to TM	$2,058,084	$1,885,917	$2,096,020	$1,907,748	$2,402,500	$2,152,899	$2,474,069	$2,172,366	$2,781,716	$2,445,767	$2,851,350	$2,465,414	$2,345,999	$2,156,636	$2,398,170	$2,175,459
Revenue Gain from Toll Increase at TM	$281,416	$281,416	$691,306	$691,306	$6,541,239	$6,541,239	$7,023,576	$7,023,576	$11,236,106	$11,236,106	$11,862,805	$11,862,805	$3,534,231	$3,534,231	$3,928,783	$3,928,783
AADT Switched from SF to TM - Total	2,200	1,817	2,210	1,794	1,767	1,476	1,785	1,452	1,640	1,377	1,652	1,350	2,007	1,663	2,049	1,641
AADT Switched from SF to TM - Cars	1,913	1,537	1,928	1,518	1,480	1,198	1,498	1,178	1,346	1,095	1,362	1,073	1,746	1,408	1,793	1,390
AADT Switched from SF to TM - Trucks	287	279	282	275	287	278	287	274	294	282	289	277	261	255	257	251
AADT Loss at TM due to Toll Increase - Total	(15)	(15)	(89)	(89)	(2,153)	(2,153)	(2,210)	(2,210)	(4,291)	(4,291)	(4,345)	(4,345)	(639)	(639)	(696)	(696)
AADT Loss at TM due to Toll Increase - Cars	-	-	(64)	(64)	(2,138)	(2,138)	(2,186)	(2,186)	(4,276)	(4,276)	(4,321)	(4,321)	(534)	(534)	(585)	(585)
AADT Loss at TM due to Toll Increase - Trucks	(15)	(15)	(25)	(25)	(15)	(15)	(23)	(23)	(15)	(15)	(24)	(24)	(104)	(104)	(112)	(112)
Total Revenue Gain at TM	$2,339,500	$2,167,333	$2,787,327	$2,599,054	$8,943,739	$8,694,138	$9,497,645	$9,195,942	$14,017,823	$13,681,873	$14,714,155	$14,328,219	$5,880,231	$5,690,868	$6,326,953	$6,104,242
Total AADT Change at TM	2,185	1,802	2,120	1,704	(386)	(677)	(425)	(757)	(2,651)	(2,914)	(2,694)	(2,995)	1,368	1,024	1,353	945

Notes:
Toll Revenue includes video surcharge revenue
2019 Net Video Cost is typically negative, due to the lag in video payment seen in the starting year. Surcharges were set such that 2020 and cummulative (2019-2030) totals were positive.
Assumed base toll rate at Trenton Morrisville would be increased to match Scudder Falls base toll rates.
Surcharge was not assumed to increase with CPI.

Subcase Definitions:
1: Fixed $ Surcharge, Includes Uncollectable Toll Revenue in determination of surcharge (Net Video Cost)
2: Fixed $ Surcharge, Does NOT Include Uncollectable Toll Revenue in determination of surcharge (Net Video Cost)

a1

Year	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total 2019-2030
Toll Rates													
Car Toll Rate	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.00	
Truck Toll Rate (per axle)	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	
CPI (for toll increases beginning in 2020)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Video Toll Surcharge Surcharge - Car ($)	$3.10	$3.10	$3.10	$3.10	$3.10	$3.10	$3.10	$3.10	$3.10	$3.10	$3.10	$3.10	
Video Toll Surcharge Surcharge - Truck ($)	$3.10	$3.10	$3.10	$3.10	$3.10	$3.10	$3.10	$3.10	$3.10	$3.10	$3.10	$3.10	
Toll Transactions													
Annual Toll Transactions	9,521,378	9,702,018	9,826,850	9,938,400	10,040,061	10,134,395	10,223,337	10,308,349	10,390,208	10,462,340	10,535,039	10,608,309	
Car AADT	24,301	24,697	25,076	25,351	25,599	25,755	26,038	26,239	26,431	26,523	26,762	26,929	
Truck AADT	1,785	1,812	1,847	1,878	1,908	1,934	1,971	2,003	2,035	2,062	2,101	2,135	
Toll Diversion													
Car	-17%	-16%	-16%	-15%	-15%	-15%	-15%	-14%	-14%	-14%	-14%	-14%	
Truck	-34%	-34%	-34%	-34%	-34%	-34%	-34%	-34%	-34%	-34%	-34%	-34%	
Total Diversion	-19%	-18%	-17%	-17%	-17%	-16%	-16%	-16%	-16%	-16%	-16%	-16%	
Collectable Toll Revenue and Overall Toll Collection Costs													
ETC Toll Revenue (Received)	*$12,928,998*	*$13,728,072*	*$14,214,833*	*$14,627,875*	*$14,985,613*	*$15,302,022*	*$15,587,711*	*$15,850,732*	*$16,095,422*	*$16,282,581*	*$16,472,296*	*$16,664,604*	
Video Revenue (Received) Incl. Surcharge	*$3,955,116*	*$4,459,834*	*$4,065,322*	*$3,773,120*	*$3,558,352*	*$3,402,213*	*$3,290,480*	*$3,212,400*	*$3,162,246*	*$3,190,401*	*$3,218,866*	*$3,247,645*	
Total Toll Revenue (Received)	$16,884,114	$18,187,906	$18,280,155	$18,400,995	$18,543,965	$18,704,235	$18,878,191	$19,063,133	$19,257,668	$19,472,982	$19,691,162	$19,912,249	
Fee Revenue ($30 Violation Fee)	$1,600,151	$1,345,013	$1,220,334	$1,127,620	$1,059,055	$1,008,739	$972,215	$946,119	$928,666	$935,208	$941,803	$948,452	
ETC Transaction Costs	-$809,551	-$859,992	-$889,127	-$913,121	-$933,251	-$950,478	-$965,532	-$978,965	-$991,069	-$999,292	-$1,007,599	-$1,015,991	
Video Toll Collection Costs	-$3,185,523	-$2,698,173	-$2,448,507	-$2,262,879	-$2,125,635	-$2,024,955	-$1,951,913	-$1,899,768	-$1,864,945	-$1,878,234	-$1,891,632	-$1,905,140	
Net Revenue (sum of Toll Rev, Fee Rev, and Toll Collection Costs)	$14,489,192	$15,974,755	$16,162,855	$16,352,614	$16,544,135	$16,737,542	$16,932,961	$17,130,519	$17,330,319	$17,530,664	$17,733,734	$17,939,569	
Video Toll Collection Costs													
Cost of Invoicing	-$683,782	-$574,788	-$521,530	-$481,928	-$452,643	-$431,155	-$415,559	-$404,419	-$396,971	-$399,777	-$402,606	-$405,458	
Video Account Costs	-$1,817,404	-$1,527,712	-$1,386,159	-$1,280,902	-$1,203,067	-$1,145,954	-$1,104,502	-$1,074,892	-$1,055,097	-$1,062,556	-$1,070,076	-$1,077,656	
Non-EZ Trx Costs (excl Itoll)	-$584,420	-$491,267	-$445,750	-$411,904	-$386,876	-$368,511	-$355,183	-$345,662	-$339,298	-$341,697	-$344,116	-$346,555	
Credit Card Fees (Video Only)	-$99,917	-$104,406	-$95,068	-$88,145	-$83,049	-$79,335	-$76,669	-$74,795	-$73,579	-$74,203	-$74,834	-$75,471	
Video Toll Collection Costs	-$3,185,523	-$2,698,173	-$2,448,507	-$2,262,879	-$2,125,635	-$2,024,955	-$1,951,913	-$1,899,768	-$1,864,945	-$1,878,234	-$1,891,632	-$1,905,140	
Cost per Video Transaction	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	
Cost per ETC Transaction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Incremental Cost of Video per Transaction	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	
Additional Cost to Collect Video Tolls (deducting cost of traditional ETC Transaction)	-$3,026,811	-$2,564,748	-$2,327,438	-$2,150,996	-$2,020,544	-$1,924,847	-$1,855,421	-$1,805,858	-$1,772,761	-$1,785,395	-$1,798,132	-$1,810,975	
Video Toll Surcharge and Violation Fee Revenue													
Video Surcharge Revenue	$2,459,621	$2,756,886	$2,501,545	$2,311,682	$2,171,292	$2,068,287	$1,993,539	$1,940,156	$1,904,483	$1,917,988	$1,931,604	$1,945,331	
Fee Revenue	$1,600,151	$1,345,013	$1,220,334	$1,127,620	$1,059,055	$1,008,739	$972,215	$946,119	$928,666	$935,208	$941,803	$948,452	
Video Surcharge and Fee Revenue	$4,059,771	$4,101,899	$3,721,879	$3,439,302	$3,230,347	$3,077,026	$2,965,754	$2,886,275	$2,833,148	$2,853,196	$2,873,407	$2,893,783	
Uncollectable Video Toll Revenue (due to bad images, etc - calculated using ETC Toll Rate)													
Uncollectable Video Toll Revenue	-$1,618,411	-$1,374,595	-$1,258,567	-$1,173,396	-$1,111,573	-$1,067,449	-$1,036,763	-$1,016,298	-$1,004,355	-$1,016,718	-$1,029,256	-$1,041,971	
Uncollectable Video Toll Revenue considered in evaluation of Video Toll Surcharge?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
% of Total Transactions that are Uncollectable	9%	7%	7%	6%	6%	5%	5%	5%	5%	5%	5%	5%	
% of Car Video Transactions that are Uncollectable	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	
% of Truck Video Transactions that are Uncollectable	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	
Net Video (Sum of Additional Cost to Collect, Video Surcharge and Fee Revenue, and Uncollectable Video Toll Revenue if considered)	-$585,451	$162,556	$135,875	$114,910	$98,230	$84,729	$73,570	$64,118	$56,033	$51,084	$46,019	$40,837	**$ 291,811**
Potential Additional Revenue and traffic changes at Trenton Morrisville due to Toll Diversion from Scudder Falls and toll increases													
Revenue Gain from Traffic switch to TM	$2,085,622	$2,058,084	$2,057,457	$2,063,701	$2,075,234	$2,090,863	$2,109,687	$2,131,030	$2,154,534	$2,183,341	$2,212,573	$2,242,238	
Revenue Gain from Toll Increase at TM	$276,994	$281,416	$285,912	$290,481	$295,124	$299,842	$304,637	$309,508	$314,459	$319,489	$324,600	$329,792	
AADT Switched from SF to TM - Total	2,314	2,200	2,159	2,128	2,108	2,091	2,093	2,093	2,098	2,109	2,131	2,147	
AADT Switched from SF to TM - Cars	2,031	1,913	1,868	1,832	1,808	1,787	1,783	1,779	1,779	1,785	1,801	1,812	
AADT Switched from SF to TM - Trucks	284	287	292	296	300	304	310	315	320	324	330	335	
AADT Loss at TM due to Toll Increase - Total	(15)	(15)	(15)	(16)	(16)	(16)	(16)	(17)	(17)	(17)	(17)	(18)	
AADT Loss at TM due to Toll Increase - Cars	-	-	-	-	-	-	-	-	-	-	-	-	
AADT Loss at TM due to Toll Increase - Trucks	(15)	(15)	(15)	(16)	(16)	(16)	(16)	(17)	(17)	(17)	(17)	(18)	
Total Revenue Gain at TM	$2,362,616	$2,339,500	$2,343,369	$2,354,182	$2,370,358	$2,390,705	$2,414,324	$2,440,538	$2,468,993	$2,502,830	$2,537,173	$2,572,030	
Total AADT Change at TM	2,300	2,185	2,144	2,112	2,092	2,075	2,076	2,077	2,081	2,091	2,113	2,130	

a2

Year	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total 2019-2030
Toll Rates													
Car Toll Rate	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.00	$ 1.00	
Truck Toll Rate (per axle)	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	
CPI (for toll increases beginning in 2020)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Video Toll Surcharge Surcharge - Car ($)	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	
Video Toll Surcharge Surcharge - Truck ($)	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	
Toll Transactions													
Annual Toll Transactions	9,941,081	10,054,314	10,146,138	10,233,119	10,316,583	10,397,532	10,476,725	10,554,733	10,631,863	10,705,566	10,779,846	10,854,709	
Car AADT	25,424	25,636	25,930	26,139	26,337	26,456	26,715	26,897	27,076	27,171	27,415	27,586	
Truck AADT	1,812	1,835	1,868	1,897	1,927	1,952	1,989	2,020	2,053	2,080	2,119	2,153	
Toll Diversion													
Car	-13%	-13%	-13%	-13%	-13%	-12%	-12%	-12%	-12%	-12%	-12%	-12%	
Truck	-33%	-33%	-33%	-33%	-33%	-33%	-33%	-33%	-33%	-33%	-33%	-33%	
Total Diversion	-15%	-15%	-15%	-14%	-14%	-14%	-14%	-14%	-14%	-14%	-14%	-14%	
Collectable Toll Revenue and Overall Toll Collection Costs													
ETC Toll Revenue (Received)	*$12,971,086*	*$13,763,519*	*$14,247,065*	*$14,657,727*	*$15,013,716*	*$15,328,852*	*$15,613,629*	*$15,876,013*	*$16,120,292*	*$16,307,679*	*$16,497,623*	*$16,690,163*	
Video Revenue (Received) Incl. Surcharge	*$2,835,714*	*$3,205,572*	*$2,927,551*	*$2,721,992*	*$2,571,321*	*$2,462,243*	*$2,384,698*	*$2,331,074*	*$2,297,312*	*$2,319,484*	*$2,341,920*	*$2,364,623*	
Total Toll Revenue (Received)	$15,806,800	$16,969,091	$17,174,616	$17,379,719	$17,585,037	$17,791,095	$17,998,327	$18,207,087	$18,417,604	$18,627,163	$18,839,543	$19,054,786	
Fee Revenue ($30 Violation Fee)	$1,920,526	$1,613,926	$1,464,045	$1,352,571	$1,270,112	$1,209,575	$1,165,605	$1,134,159	$1,113,093	$1,120,831	$1,128,629	$1,136,489	
ETC Transaction Costs	-$813,867	-$863,617	-$892,414	-$916,158	-$936,101	-$953,192	-$968,147	-$981,509	-$993,566	-$1,001,806	-$1,010,131	-$1,018,541	
Video Toll Collection Costs	-$3,537,615	-$2,987,795	-$2,710,787	-$2,504,792	-$2,352,448	-$2,240,643	-$2,159,477	-$2,101,474	-$2,062,671	-$2,077,166	-$2,091,777	-$2,106,505	
Net Revenue (sum of Toll Rev, Fee Rev, and Toll Collection Costs)	$13,375,845	$14,731,604	$15,035,460	$15,311,341	$15,566,600	$15,806,835	$16,036,308	$16,258,263	$16,474,460	$16,669,022	$16,866,265	$17,066,230	
Video Toll Collection Costs													
Cost of Invoicing	-$754,483	-$634,065	-$575,204	-$531,428	-$499,048	-$475,278	-$458,016	-$445,673	-$437,408	-$440,458	-$443,532	-$446,631	
Video Account Costs	-$1,996,373	-$1,677,746	-$1,521,999	-$1,406,166	-$1,320,488	-$1,257,593	-$1,211,917	-$1,179,258	-$1,157,387	-$1,165,458	-$1,173,593	-$1,181,792	
Non-EZ Trx Costs (excl Itoll)	-$701,212	-$589,300	-$534,597	-$493,913	-$463,820	-$441,730	-$425,688	-$414,217	-$406,537	-$409,372	-$412,231	-$415,111	
Credit Card Fees (Video Only)	-$85,546	-$86,683	-$78,987	-$73,285	-$69,092	-$66,041	-$63,856	-$62,326	-$61,340	-$61,878	-$62,421	-$62,971	
Video Toll Collection Costs	-$3,537,615	-$2,987,795	-$2,710,787	-$2,504,792	-$2,352,448	-$2,240,643	-$2,159,477	-$2,101,474	-$2,062,671	-$2,077,166	-$2,091,777	-$2,106,505	
Cost per Video Transaction	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	
Cost per ETC Transaction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Incremental Cost of Video per Transaction	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	
Additional Cost to Collect Video Tolls (deducting cost of traditional ETC Transaction)	-$3,347,257	-$2,827,807	-$2,565,643	-$2,370,687	-$2,226,507	-$2,120,695	-$2,043,880	-$1,988,988	-$1,952,266	-$1,965,987	-$1,979,819	-$1,993,761	
Video Toll Surcharge and Violation Fee Revenue													
Video Surcharge Revenue	$1,142,126	$1,279,843	$1,161,075	$1,072,748	$1,007,418	$959,465	$924,644	$899,752	$883,088	$889,263	$895,488	$901,762	
Fee Revenue	$1,920,526	$1,613,926	$1,464,045	$1,352,571	$1,270,112	$1,209,575	$1,165,605	$1,134,159	$1,113,093	$1,120,831	$1,128,629	$1,136,489	
Video Surcharge and Fee Revenue	$3,062,653	$2,893,768	$2,625,120	$2,425,319	$2,277,530	$2,169,040	$2,090,250	$2,033,911	$1,996,181	$2,010,094	$2,024,117	$2,038,251	
Uncollectable Video Toll Revenue (due to bad images, etc - calculated using ETC Toll Rate)													
Uncollectable Video Toll Revenue	-$1,815,446	-$1,540,577	-$1,409,527	-$1,313,238	-$1,243,246	-$1,193,184	-$1,158,250	-$1,134,817	-$1,120,970	-$1,134,417	-$1,148,051	-$1,161,875	
Uncollectable Video Toll Revenue considered in evaluation of Video Toll Surcharge?	No	No	No	No	No	No	No	No	No	No	No	No	
% of Total Transactions that are Uncollectable	10%	9%	8%	7%	7%	6%	6%	6%	6%	6%	6%	6%	
% of Car Video Transactions that are Uncollectable	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	
% of Truck Video Transactions that are Uncollectable	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	
Net Video (Sum of Additional Cost to Collect, Video Surcharge and Fee Revenue, and Uncollectable Video Toll Revenue if considered)	-$284,604	$65,961	$59,477	$54,632	$51,023	$48,345	$46,370	$44,923	$43,915	$44,107	$44,298	$44,490	**$ 77,658**
Potential Additional Revenue and traffic changes at Trenton Morrisville due to Toll Diversion from Scudder Falls and toll increases													
Revenue Gain from Traffic switch to TM	$1,881,240	$1,885,917	$1,900,957	$1,918,827	$1,938,929	$1,960,812	$1,984,139	$2,008,658	$2,034,235	$2,062,036	$2,090,252	$2,118,890	
Revenue Gain from Toll Increase at TM	$276,994	$281,416	$285,912	$290,481	$295,124	$299,842	$304,637	$309,508	$314,459	$319,489	$324,600	$329,792	
AADT Switched from SF to TM - Total	1,857	1,817	1,811	1,807	1,807	1,805	1,816	1,825	1,835	1,844	1,864	1,879	
AADT Switched from SF to TM - Cars	1,581	1,537	1,526	1,517	1,512	1,507	1,512	1,516	1,521	1,526	1,540	1,549	
AADT Switched from SF to TM - Trucks	275	279	285	290	294	298	304	309	314	318	324	329	
AADT Loss at TM due to Toll Increase - Total	(15)	(15)	(15)	(16)	(16)	(16)	(16)	(17)	(17)	(17)	(17)	(18)	
AADT Loss at TM due to Toll Increase - Cars	-	-	-	-	-	-	-	-	-	-	-	-	
AADT Loss at TM due to Toll Increase - Trucks	(15)	(15)	(15)	(16)	(16)	(16)	(16)	(17)	(17)	(17)	(17)	(18)	
Total Revenue Gain at TM	$2,158,234	$2,167,333	$2,186,869	$2,209,308	$2,234,053	$2,260,654	$2,288,776	$2,318,166	$2,348,694	$2,381,526	$2,414,852	$2,448,682	
Total AADT Change at TM	1,842	1,802	1,796	1,791	1,791	1,789	1,800	1,808	1,818	1,827	1,847	1,861	

b1

Year	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Toll Rates													
Car Toll Rate	$ 1.00	$ 1.03	$ 1.05	$ 1.08	$ 1.10	$ 1.13	$ 1.16	$ 1.19	$ 1.22	$ 1.25	$ 1.28	$ 1.31	
Truck Toll Rate (per axle)	$ 4.00	$ 4.10	$ 4.20	$ 4.31	$ 4.42	$ 4.53	$ 4.64	$ 4.75	$ 4.87	$ 5.00	$ 5.12	$ 5.25	
CPI (for toll increases beginning in 2020)	0.0%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	
Video Toll Surcharge Surcharge - Car ($)	$3.40	$3.40	$3.40	$3.40	$3.40	$3.40	$3.40	$3.40	$3.40	$3.40	$3.40	$3.40	
Video Toll Surcharge Surcharge - Truck ($)	$3.40	$3.40	$3.40	$3.40	$3.40	$3.40	$3.40	$3.40	$3.40	$3.40	$3.40	$3.40	
Toll Transactions													
Annual Toll Transactions	9,470,140	9,633,034	9,773,341	9,877,716	9,991,096	10,076,662	10,168,154	10,258,479	10,335,489	10,409,712	10,482,534	10,554,954	
Car AADT	24,160	24,516	24,938	25,192	25,473	25,605	25,895	26,112	26,291	26,389	26,627	26,793	
Truck AADT	1,785	1,804	1,839	1,870	1,900	1,927	1,963	1,994	2,026	2,053	2,092	2,125	
Toll Diversion													
Car	-18%	-17%	-16%	-16%	-15%	-15%	-15%	-15%	-15%	-15%	-15%	-15%	
Truck	-34%	-34%	-34%	-34%	-34%	-34%	-34%	-34%	-34%	-34%	-34%	-34%	
Total Diversion	-19%	-18%	-18%	-17%	-17%	-17%	-17%	-17%	-17%	-17%	-17%	-17%	
Collectable Toll Revenue and Overall Toll Collection Costs													
ETC Toll Revenue (Received)	*$12,925,189*	*$14,057,426*	*$14,883,538*	*$15,727,099*	*$16,462,727*	*$17,253,183*	*$18,032,993*	*$18,774,047*	*$19,544,722*	*$20,275,206*	*$21,024,542*	*$21,789,793*	
Video Revenue (Received) Incl. Surcharge	*$4,108,055*	*$4,662,835*	*$4,293,423*	*$4,017,572*	*$3,828,377*	*$3,691,865*	*$3,607,993*	*$3,559,381*	*$3,542,155*	*$3,611,460*	*$3,683,680*	*$3,756,574*	
Total Toll Revenue (Received)	$17,033,244	$18,720,261	$19,176,961	$19,744,671	$20,291,104	$20,945,048	$21,640,987	$22,333,428	$23,086,877	$23,886,666	$24,708,222	$25,546,367	
Fee Revenue ($30 Violation Fee)	$1,560,970	$1,308,648	$1,190,075	$1,097,201	$1,032,851	$981,584	$946,068	$920,633	$903,733	$910,052	$916,550	$922,971	
ETC Transaction Costs	-$809,047	-$863,900	-$899,771	-$930,981	-$958,422	-$983,598	-$1,007,643	-$1,030,017	-$1,051,167	-$1,069,340	-$1,087,730	-$1,106,383	
Video Toll Collection Costs	-$3,169,623	-$2,679,326	-$2,437,610	-$2,248,554	-$2,117,587	-$2,013,530	-$1,941,641	-$1,890,371	-$1,856,599	-$1,870,423	-$1,884,664	-$1,898,756	
Net Revenue (sum of Toll Rev, Fee Rev, and Toll Collection Costs)	$14,615,543	$16,485,682	$17,029,655	$17,662,337	$18,247,946	$18,929,504	$19,637,770	$20,333,673	$21,082,844	$21,856,955	$22,652,379	$23,464,199	
Video Toll Collection Costs													
Cost of Invoicing	-$682,273	-$572,016	-$520,208	-$479,635	-$451,521	-$429,129	-$413,618	-$402,511	-$395,136	-$397,908	-$400,760	-$403,577	
Video Account Costs	-$1,815,239	-$1,521,893	-$1,384,054	-$1,276,106	-$1,201,307	-$1,141,730	-$1,100,461	-$1,070,911	-$1,051,289	-$1,058,664	-$1,066,252	-$1,073,746	
Non-EZ Trx Costs (excl Itoll)	-$570,148	-$478,014	-$434,721	-$400,818	-$377,325	-$358,614	-$345,653	-$336,372	-$330,210	-$332,528	-$334,912	-$337,267	
Credit Card Fees (Video Only)	-$101,963	-$107,403	-$98,626	-$91,994	-$87,434	-$84,057	-$81,909	-$80,578	-$79,964	-$81,324	-$82,740	-$84,166	
Video Toll Collection Costs	-$3,169,623	-$2,679,326	-$2,437,610	-$2,248,554	-$2,117,587	-$2,013,530	-$1,941,641	-$1,890,371	-$1,856,599	-$1,870,423	-$1,884,664	-$1,898,756	
Cost per Video Transaction	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	
Cost per ETC Transaction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Incremental Cost of Video per Transaction	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	
Additional Cost to Collect Video Tolls (deducting cost of traditional ETC Transaction)	-$3,014,774	-$2,549,492	-$2,319,528	-$2,139,673	-$2,015,083	-$1,916,103	-$1,847,731	-$1,798,979	-$1,766,877	-$1,780,068	-$1,793,658	-$1,807,107	
Video Toll Surcharge and Violation Fee Revenue													
Video Surcharge Revenue	$2,631,898	$2,942,240	$2,675,856	$2,467,267	$2,322,723	$2,207,624	$2,127,899	$2,070,821	$2,032,944	$2,047,246	$2,061,972	$2,076,507	
Fee Revenue	$1,560,970	$1,308,648	$1,190,075	$1,097,201	$1,032,851	$981,584	$946,068	$920,633	$903,733	$910,052	$916,550	$922,971	
Video Surcharge and Fee Revenue	$4,192,867	$4,250,887	$3,865,931	$3,564,468	$3,355,574	$3,189,208	$3,073,968	$2,991,454	$2,936,677	$2,957,298	$2,978,522	$2,999,478	
Uncollectable Video Toll Revenue (due to bad images, etc - calculated using ETC Toll Rate)													
Uncollectable Video Toll Revenue	-$1,600,959	-$1,391,591	-$1,304,081	-$1,247,027	-$1,208,885	-$1,190,307	-$1,185,981	-$1,190,065	-$1,206,709	-$1,251,854	-$1,299,292	-$1,347,417	
Uncollectable Video Toll Revenue considered in evaluation of Video Toll Surcharge?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
% of Total Transactions that are Uncollectable	9%	7%	7%	6%	6%	5%	5%	5%	5%	5%	5%	5%	
% of Car Video Transactions that are Uncollectable	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	Total
% of Truck Video Transactions that are Uncollectable	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	2019-2030
Net Video (Sum of Additional Cost to Collect, Video Surcharge and Fee Revenue, and Uncollectable Video Toll Revenue if considered)	-$422,866	$309,805	$242,321	$177,768	$131,606	$82,798	$40,255	$2,411	-$36,909	-$74,624	-$114,428	-$155,045	**$ 97,488**
Potential Additional Revenue and traffic changes at Trenton Morrisville due to Toll Diversion from Scudder Falls and toll increases													
Revenue Gain from Traffic switch to TM	$2,106,117	$2,096,020	$2,089,686	$2,097,622	$2,105,993	$2,123,927	$2,142,311	$2,162,393	$2,187,932	$2,216,715	$2,244,690	$2,276,742	
Revenue Gain from Toll Increase at TM	$276,994	$691,306	$975,850	$1,403,984	$1,700,583	$2,143,138	$2,593,626	$3,052,223	$3,519,117	$3,994,478	$4,478,490	$5,053,543	
AADT Switched from SF to TM - Total	2,371	2,210	2,112	2,032	1,964	1,906	1,856	1,805	1,769	1,732	1,709	1,683	
AADT Switched from SF to TM - Cars	2,087	1,928	1,832	1,755	1,689	1,635	1,586	1,537	1,504	1,471	1,449	1,425	
AADT Switched from SF to TM - Trucks	284	282	280	277	275	271	269	267	265	262	260	258	
AADT Loss at TM due to Toll Increase - Total	(15)	(89)	(139)	(212)	(260)	(330)	(401)	(471)	(539)	(605)	(674)	(679)	
AADT Loss at TM due to Toll Increase - Cars	-	(64)	(106)	(169)	(210)	(270)	(330)	(389)	(447)	(503)	(560)	(564)	
AADT Loss at TM due to Toll Increase - Trucks	(15)	(25)	(32)	(43)	(50)	(60)	(71)	(81)	(92)	(102)	(113)	(115)	
Total Revenue Gain at TM	$2,383,111	$2,787,327	$3,065,536	$3,501,606	$3,806,576	$4,267,065	$4,735,937	$5,214,616	$5,707,049	$6,211,194	$6,723,180	$7,330,285	
Total AADT Change at TM	2,356	2,120	1,973	1,821	1,704	1,575	1,454	1,334	1,230	1,127	1,035	1,004	

b2

Year	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total 2019-2030
Toll Rates													
Car Toll Rate	$ 1.00	$ 1.03	$ 1.05	$ 1.08	$ 1.10	$ 1.13	$ 1.16	$ 1.19	$ 1.22	$ 1.25	$ 1.28	$ 1.31	
Truck Toll Rate (per axle)	$ 4.00	$ 4.10	$ 4.20	$ 4.31	$ 4.42	$ 4.53	$ 4.64	$ 4.75	$ 4.87	$ 5.00	$ 5.12	$ 5.25	
CPI (for toll increases beginning in 2020)	0.0%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	
Video Toll Surcharge Surcharge - Car ($)	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	
Video Toll Surcharge Surcharge - Truck ($)	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	
Toll Transactions													
Annual Toll Transactions	9,941,081	10,026,988	10,130,544	10,207,257	10,300,429	10,370,867	10,451,447	10,534,019	10,605,646	10,681,704	10,756,198	10,830,480	
Car AADT	25,424	25,570	25,896	26,076	26,302	26,391	26,654	26,849	27,014	27,115	27,359	27,530	
Truck AADT	1,812	1,826	1,859	1,890	1,918	1,944	1,980	2,011	2,043	2,070	2,110	2,143	
Toll Diversion													
Car	-13%	-13%	-13%	-13%	-13%	-13%	-13%	-13%	-13%	-12%	-12%	-12%	
Truck	-33%	-33%	-33%	-33%	-33%	-33%	-33%	-33%	-33%	-33%	-33%	-33%	
Total Diversion	-15%	-15%	-15%	-15%	-14%	-14%	-14%	-14%	-14%	-14%	-14%	-14%	
Collectable Toll Revenue and Overall Toll Collection Costs													
ETC Toll Revenue (Received)	*$12,971,086*	*$14,097,022*	*$14,922,967*	*$15,762,057*	*$16,498,724*	*$17,286,071*	*$18,065,601*	*$18,806,662*	*$19,577,542*	*$20,309,250*	*$21,059,643*	*$21,826,173*	
Video Revenue (Received) Incl. Surcharge	*$2,835,714*	*$3,246,797*	*$3,006,585*	*$2,840,889*	*$2,721,496*	*$2,648,792*	*$2,608,037*	*$2,592,286*	*$2,597,372*	*$2,666,064*	*$2,736,157*	*$2,808,631*	
Total Toll Revenue (Received)	$15,806,800	$17,343,819	$17,929,552	$18,602,945	$19,220,221	$19,934,863	$20,673,639	$21,398,949	$22,174,914	$22,975,313	$23,795,800	$24,634,804	
Fee Revenue ($30 Violation Fee)	$1,920,526	$1,609,387	$1,460,637	$1,348,757	$1,267,145	$1,206,155	$1,162,306	$1,130,946	$1,109,936	$1,117,649	$1,125,423	$1,133,258	
ETC Transaction Costs	-$813,867	-$867,957	-$903,698	-$934,408	-$961,856	-$986,687	-$1,010,635	-$1,032,943	-$1,054,051	-$1,072,262	-$1,090,685	-$1,109,377	
Video Toll Collection Costs	-$3,537,615	-$2,980,275	-$2,706,000	-$2,499,987	-$2,349,742	-$2,237,772	-$2,157,487	-$2,100,321	-$2,062,319	-$2,077,606	-$2,093,029	-$2,108,607	
Net Revenue (sum of Toll Rev, Fee Rev, and Toll Collection Costs)	$13,375,845	$15,104,973	$15,780,491	$16,517,307	$17,175,767	$17,916,559	$18,667,823	$19,396,630	$20,168,480	$20,943,095	$21,737,509	$22,550,079	
Video Toll Collection Costs													
Cost of Invoicing	-$754,483	-$632,278	-$573,861	-$529,926	-$497,878	-$473,931	-$456,716	-$444,407	-$436,164	-$439,204	-$442,269	-$445,358	
Video Account Costs	-$1,996,373	-$1,673,016	-$1,518,444	-$1,402,191	-$1,317,392	-$1,254,028	-$1,208,478	-$1,175,908	-$1,154,096	-$1,162,141	-$1,170,250	-$1,178,423	
Non-EZ Trx Costs (excl Itoll)	-$701,212	-$587,638	-$533,348	-$492,516	-$462,732	-$440,478	-$424,479	-$413,040	-$405,380	-$408,207	-$411,056	-$413,928	
Credit Card Fees (Video Only)	-$85,546	-$87,343	-$80,347	-$75,355	-$71,740	-$69,335	-$67,813	-$66,966	-$66,680	-$68,054	-$69,454	-$70,899	
Video Toll Collection Costs	-$3,537,615	-$2,980,275	-$2,706,000	-$2,499,987	-$2,349,742	-$2,237,772	-$2,157,487	-$2,100,321	-$2,062,319	-$2,077,606	-$2,093,029	-$2,108,607	
Cost per Video Transaction	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	
Cost per ETC Transaction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Incremental Cost of Video per Transaction	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	
Additional Cost to Collect Video Tolls (deducting cost of traditional ETC Transaction)	-$3,347,257	-$2,820,741	-$2,561,197	-$2,366,263	-$2,224,098	-$2,118,165	-$2,042,219	-$1,988,155	-$1,952,229	-$1,966,745	-$1,981,391	-$1,996,186	
Video Toll Surcharge and Violation Fee Revenue													
Video Surcharge Revenue	$1,142,126	$1,276,227	$1,158,355	$1,069,708	$1,005,049	$956,739	$922,014	$897,189	$880,570	$886,726	$892,931	$899,185	
Fee Revenue	$1,920,526	$1,609,387	$1,460,637	$1,348,757	$1,267,145	$1,206,155	$1,162,306	$1,130,946	$1,109,936	$1,117,649	$1,125,423	$1,133,258	
Video Surcharge and Fee Revenue	$3,062,653	$2,885,614	$2,618,993	$2,418,465	$2,272,194	$2,162,894	$2,084,320	$2,028,135	$1,990,506	$2,004,375	$2,018,353	$2,032,443	
Uncollectable Video Toll Revenue (due to bad images, etc - calculated using ETC Toll Rate)													
Uncollectable Video Toll Revenue	-$1,815,446	-$1,576,177	-$1,474,409	-$1,410,054	-$1,364,539	-$1,343,749	-$1,338,139	-$1,342,504	-$1,359,910	-$1,411,017	-$1,463,187	-$1,517,560	
Uncollectable Video Toll Revenue considered in evaluation of Video Toll Surcharge?	No	No	No	No	No	No	No	No	No	No	No	No	
% of Total Transactions that are Uncollectable	10%	9%	8%	7%	7%	6%	6%	6%	6%	6%	6%	6%	
% of Car Video Transactions that are Uncollectable	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	
% of Truck Video Transactions that are Uncollectable	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	
Net Video (Sum of Additional Cost to Collect, Video Surcharge and Fee Revenue, and Uncollectable Video Toll Revenue if considered)	-$284,604	$64,873	$57,796	$52,202	$48,096	$44,729	$42,101	$39,980	$38,277	$37,630	$36,963	$36,257	$ 31,052
Potential Additional Revenue and traffic changes at Trenton Morrisville due to Toll Diversion from Scudder Falls and toll increases													
Revenue Gain from Traffic switch to TM	$1,881,240	$1,907,748	$1,918,736	$1,939,296	$1,957,192	$1,981,884	$2,005,224	$2,028,456	$2,056,644	$2,084,003	$2,111,251	$2,141,845	
Revenue Gain from Toll Increase at TM	$276,994	$691,306	$975,850	$1,403,984	$1,700,583	$2,143,138	$2,593,626	$3,052,223	$3,519,117	$3,994,478	$4,478,490	$5,053,543	
AADT Switched from SF to TM - Total	1,857	1,794	1,740	1,699	1,657	1,622	1,589	1,552	1,527	1,496	1,476	1,453	
AADT Switched from SF to TM - Cars	1,581	1,518	1,467	1,428	1,388	1,356	1,325	1,290	1,267	1,238	1,220	1,200	
AADT Switched from SF to TM - Trucks	275	275	274	271	269	266	264	263	260	257	255	253	
AADT Loss at TM due to Toll Increase - Total	(15)	(89)	(139)	(212)	(260)	(330)	(401)	(471)	(539)	(605)	(674)	(679)	
AADT Loss at TM due to Toll Increase - Cars	-	(64)	(106)	(169)	(210)	(270)	(330)	(389)	(447)	(503)	(560)	(564)	
AADT Loss at TM due to Toll Increase - Trucks	(15)	(25)	(32)	(43)	(50)	(60)	(71)	(81)	(92)	(102)	(113)	(115)	
Total Revenue Gain at TM	$2,158,234	$2,599,054	$2,894,586	$3,343,280	$3,657,775	$4,125,022	$4,598,849	$5,080,679	$5,575,761	$6,078,481	$6,589,740	$7,195,388	
Total AADT Change at TM	1,842	1,704	1,602	1,488	1,397	1,292	1,188	1,082	988	891	802	774	

c1

Year	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Toll Rates													
Car Toll Rate	$ 2.00	$ 2.00	$ 2.00	$ 2.00	$ 2.00	$ 2.00	$ 2.00	$ 2.00	$ 2.00	$ 2.00	$ 2.00	$ 2.00	
Truck Toll Rate (per axle)	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	
CPI (for toll increases beginning in 2020)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Video Toll Surcharge Surcharge - Car ($)	$4.20	$4.20	$4.20	$4.20	$4.20	$4.20	$4.20	$4.20	$4.20	$4.20	$4.20	$4.20	
Video Toll Surcharge Surcharge - Truck ($)	$4.20	$4.20	$4.20	$4.20	$4.20	$4.20	$4.20	$4.20	$4.20	$4.20	$4.20	$4.20	
Toll Transactions													
Annual Toll Transactions	8,536,913	8,743,881	8,879,065	8,997,024	9,102,109	9,197,605	9,285,993	9,369,146	9,448,061	9,514,302	9,581,073	9,648,378	
Car AADT	21,607	22,082	22,482	22,774	23,031	23,198	23,472	23,668	23,852	23,935	24,151	24,302	
Truck AADT	1,782	1,809	1,844	1,875	1,906	1,932	1,969	2,001	2,033	2,060	2,099	2,132	
Toll Diversion													
Car	-26%	-25%	-24%	-24%	-24%	-23%	-23%	-23%	-23%	-23%	-23%	-23%	
Truck	-34%	-34%	-34%	-34%	-34%	-34%	-34%	-34%	-34%	-34%	-34%	-34%	
Total Diversion	-27%	-26%	-25%	-25%	-24%	-24%	-24%	-24%	-24%	-24%	-24%	-24%	
Collectable Toll Revenue and Overall Toll Collection Costs													
ETC Toll Revenue (Received)	*$17,767,647*	*$18,885,029*	*$19,548,919*	*$20,104,637*	*$20,579,102*	*$20,992,714*	*$21,360,926*	*$21,695,450*	*$22,002,561*	*$22,226,567*	*$22,453,357*	*$22,682,970*	
Video Revenue (Received) Incl. Surcharge	*$4,593,241*	*$5,175,285*	*$4,714,664*	*$4,373,318*	*$4,122,228*	*$3,939,456*	*$3,808,415*	*$3,716,567*	*$3,657,238*	*$3,688,983*	*$3,721,069*	*$3,753,501*	
Total Toll Revenue (Received)	$22,360,888	$24,060,314	$24,263,584	$24,477,955	$24,701,330	$24,932,169	$25,169,341	$25,412,017	$25,659,799	$25,915,550	$26,174,426	$26,436,471	
Fee Revenue ($30 Violation Fee)	$1,285,769	$1,081,215	$981,324	$907,066	$852,179	$811,931	$782,750	$761,939	$748,066	$753,474	$758,929	$764,429	
ETC Transaction Costs	-$849,865	-$903,589	-$934,521	-$959,950	-$981,240	-$999,422	-$1,015,276	-$1,029,392	-$1,042,084	-$1,050,625	-$1,059,252	-$1,067,966	
Video Toll Collection Costs	-$2,741,278	-$2,328,932	-$2,114,192	-$1,954,586	-$1,836,644	-$1,750,195	-$1,687,556	-$1,642,924	-$1,613,221	-$1,625,026	-$1,636,932	-$1,648,941	
Net Revenue (sum of Toll Rev, Fee Rev, and Toll Collection Costs)	$20,055,514	$21,909,008	$22,196,194	$22,470,485	$22,735,624	$22,994,483	$23,249,259	$23,501,640	$23,752,560	$23,993,374	$24,237,170	$24,483,993	
Video Toll Collection Costs													
Cost of Invoicing	-$590,552	-$496,635	-$450,776	-$416,687	-$391,492	-$373,020	-$359,630	-$350,083	-$343,722	-$346,217	-$348,734	-$351,271	
Video Account Costs	-$1,575,095	-$1,324,602	-$1,202,290	-$1,111,370	-$1,044,172	-$994,903	-$959,189	-$933,725	-$916,760	-$923,416	-$930,127	-$936,896	
Non-EZ Trx Costs (excl Itoll)	-$469,892	-$395,166	-$358,679	-$331,556	-$311,511	-$296,814	-$286,160	-$278,565	-$273,505	-$275,491	-$277,494	-$279,514	
Credit Card Fees (Video Only)	-$105,740	-$112,529	-$102,448	-$94,973	-$89,470	-$85,458	-$82,577	-$80,550	-$79,234	-$79,902	-$80,577	-$81,259	
Video Toll Collection Costs	-$2,741,278	-$2,328,932	-$2,114,192	-$1,954,586	-$1,836,644	-$1,750,195	-$1,687,556	-$1,642,924	-$1,613,221	-$1,625,026	-$1,636,932	-$1,648,941	
Cost per Video Transaction	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	
Cost per ETC Transaction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Incremental Cost of Video per Transaction	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	
Additional Cost to Collect Video Tolls (deducting cost of traditional ETC Transaction)	-$2,613,572	-$2,221,525	-$2,016,696	-$1,864,455	-$1,751,957	-$1,669,499	-$1,609,751	-$1,567,180	-$1,538,849	-$1,550,111	-$1,561,470	-$1,572,926	
Video Toll Surcharge and Violation Fee Revenue													
Video Surcharge Revenue	$2,680,556	$3,005,860	$2,728,437	$2,522,226	$2,369,829	$2,258,106	$2,177,134	$2,119,418	$2,080,983	$2,096,145	$2,111,437	$2,126,860	
Fee Revenue	$1,285,769	$1,081,215	$981,324	$907,066	$852,179	$811,931	$782,750	$761,939	$748,066	$753,474	$758,929	$764,429	
Video Surcharge and Fee Revenue	$3,966,325	$4,087,076	$3,709,761	$3,429,292	$3,222,007	$3,070,037	$2,959,885	$2,881,357	$2,829,049	$2,849,620	$2,870,366	$2,891,288	
Uncollectable Video Toll Revenue (due to bad images, etc - calculated using ETC Toll Rate)													
Uncollectable Video Toll Revenue	-$1,985,535	-$1,682,488	-$1,537,400	-$1,430,580	-$1,352,701	-$1,296,744	-$1,257,413	-$1,230,710	-$1,214,521	-$1,228,144	-$1,241,949	-$1,255,938	
Uncollectable Video Toll Revenue considered in evaluation of Video Toll Surcharge?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
% of Total Transactions that are Uncollectable	8%	7%	6%	5%	5%	5%	5%	4%	4%	4%	4%	4%	
% of Car Video Transactions that are Uncollectable	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	Total
% of Truck Video Transactions that are Uncollectable	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	2019-2030
Net Video (Sum of Additional Cost to Collect, Video Surcharge and Fee Revenue, and Uncollectable Video Toll Revenue if considered)	-$632,783	$183,063	$155,665	$134,256	$117,348	$103,794	$92,720	$83,467	$75,679	$71,364	$66,947	$62,424	**$ 513,945**
Potential Additional Revenue and traffic changes at Trenton Morrisville due to Toll Diversion from Scudder Falls and toll increases													
Revenue Gain from Traffic switch to TM	$2,444,165	$2,402,500	$2,395,806	$2,397,967	$2,406,917	$2,421,100	$2,439,340	$2,460,751	$2,484,867	$2,515,776	$2,547,125	$2,578,919	
Revenue Gain from Toll Increase at TM	$6,497,966	$6,541,239	$6,584,828	$6,628,735	$6,672,961	$6,717,510	$6,762,384	$6,807,585	$6,853,117	$6,898,982	$6,945,183	$6,991,722	
AADT Switched from SF to TM - Total	1,839	1,767	1,745	1,728	1,718	1,710	1,715	1,719	1,725	1,734	1,753	1,767	
AADT Switched from SF to TM - Cars	1,554	1,480	1,453	1,431	1,417	1,405	1,405	1,404	1,405	1,410	1,423	1,432	
AADT Switched from SF to TM - Trucks	285	287	292	297	301	305	310	315	320	324	330	336	
AADT Loss at TM due to Toll Increase - Total	(2,145)	(2,153)	(2,172)	(2,186)	(2,200)	(2,208)	(2,228)	(2,242)	(2,256)	(2,264)	(2,285)	(2,299)	
AADT Loss at TM due to Toll Increase - Cars	(2,130)	(2,138)	(2,157)	(2,171)	(2,184)	(2,192)	(2,212)	(2,225)	(2,239)	(2,247)	(2,267)	(2,281)	
AADT Loss at TM due to Toll Increase - Trucks	(15)	(15)	(15)	(16)	(16)	(16)	(16)	(17)	(17)	(17)	(17)	(18)	
Total Revenue Gain at TM	$8,942,130	$8,943,739	$8,980,635	$9,026,702	$9,079,879	$9,138,610	$9,201,723	$9,268,336	$9,337,984	$9,414,758	$9,492,307	$9,570,641	
Total AADT Change at TM	(306)	(386)	(427)	(458)	(482)	(498)	(513)	(523)	(531)	(530)	(532)	(532)	

c2

Year	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total 2019-2030
Toll Rates													
Car Toll Rate	$ 2.00	$ 2.00	$ 2.00	$ 2.00	$ 2.00	$ 2.00	$ 2.00	$ 2.00	$ 2.00	$ 2.00	$ 2.00	$ 2.00	
Truck Toll Rate (per axle)	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	
CPI (for toll increases beginning in 2020)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Video Toll Surcharge Surcharge - Car ($)	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	
Video Toll Surcharge Surcharge - Truck ($)	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	
Toll Transactions													
Annual Toll Transactions	9,164,017	9,270,231	9,356,072	9,437,300	9,515,177	9,590,658	9,664,463	9,737,137	9,808,972	9,877,544	9,946,661	10,016,328	
Car AADT	23,292	23,491	23,762	23,956	24,139	24,249	24,487	24,655	24,819	24,906	25,130	25,287	
Truck AADT	1,815	1,837	1,871	1,900	1,930	1,955	1,991	2,023	2,055	2,082	2,121	2,155	
Toll Diversion													
Car	-21%	-20%	-20%	-20%	-20%	-20%	-20%	-20%	-20%	-20%	-20%	-20%	
Truck	-33%	-33%	-33%	-33%	-33%	-33%	-33%	-33%	-33%	-33%	-33%	-33%	
Total Diversion	-22%	-21%	-21%	-21%	-21%	-21%	-21%	-21%	-21%	-21%	-21%	-21%	
Collectable Toll Revenue and Overall Toll Collection Costs													
ETC Toll Revenue (Received)	*$17,872,994*	*$18,973,587*	*$19,629,299*	*$20,178,943*	*$20,648,926*	*$21,059,256*	*$21,425,096*	*$21,757,935*	*$22,063,931*	*$22,288,410*	*$22,515,677*	*$22,745,773*	
Video Revenue (Received) Incl. Surcharge	*$3,480,844*	*$3,927,346*	*$3,581,516*	*$3,325,470*	*$3,137,390*	*$3,000,777*	*$2,903,155*	*$2,835,087*	*$2,791,546*	*$2,816,847*	*$2,842,431*	*$2,868,303*	
Total Toll Revenue (Received)	$21,353,838	$22,900,933	$23,210,816	$23,504,413	$23,786,316	$24,060,033	$24,328,251	$24,593,022	$24,855,478	$25,105,257	$25,358,109	$25,614,076	
Fee Revenue ($30 Violation Fee)	$1,764,600	$1,483,104	$1,345,529	$1,243,219	$1,167,552	$1,112,017	$1,071,697	$1,042,879	$1,023,596	$1,030,780	$1,038,021	$1,045,320	
ETC Transaction Costs	-$857,080	-$909,647	-$940,013	-$965,021	-$986,000	-$1,003,953	-$1,019,641	-$1,033,638	-$1,046,249	-$1,054,818	-$1,063,474	-$1,072,216	
Video Toll Collection Costs	-$3,266,800	-$2,763,829	-$2,507,891	-$2,317,586	-$2,176,871	-$2,073,630	-$1,998,713	-$1,945,213	-$1,909,463	-$1,923,011	-$1,936,669	-$1,950,439	
Net Revenue (sum of Toll Rev, Fee Rev, and Toll Collection Costs)	$18,994,559	$20,710,561	$21,108,441	$21,465,025	$21,790,997	$22,094,467	$22,381,593	$22,657,051	$22,923,361	$23,158,207	$23,395,987	$23,636,741	
Video Toll Collection Costs													
Cost of Invoicing	-$693,368	-$582,790	-$528,752	-$488,568	-$458,850	-$437,041	-$421,209	-$409,897	-$402,330	-$405,163	-$408,019	-$410,898	
Video Account Costs	-$1,834,662	-$1,542,071	-$1,399,086	-$1,292,757	-$1,214,123	-$1,156,416	-$1,114,525	-$1,084,592	-$1,064,571	-$1,072,067	-$1,079,624	-$1,087,241	
Non-EZ Trx Costs (excl Itoll)	-$644,426	-$541,656	-$491,435	-$454,088	-$426,469	-$406,201	-$391,488	-$380,975	-$373,943	-$376,577	-$379,233	-$381,909	
Credit Card Fees (Video Only)	-$94,345	-$97,312	-$88,618	-$82,172	-$77,429	-$73,973	-$71,492	-$69,749	-$68,619	-$69,203	-$69,794	-$70,390	
Video Toll Collection Costs	-$3,266,800	-$2,763,829	-$2,507,891	-$2,317,586	-$2,176,871	-$2,073,630	-$1,998,713	-$1,945,213	-$1,909,463	-$1,923,011	-$1,936,669	-$1,950,439	
Cost per Video Transaction	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	
Cost per ETC Transaction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Incremental Cost of Video per Transaction	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	
Additional Cost to Collect Video Tolls (deducting cost of traditional ETC Transaction)	-$3,091,811	-$2,616,736	-$2,374,428	-$2,194,258	-$2,061,039	-$1,963,297	-$1,892,372	-$1,841,722	-$1,807,879	-$1,820,707	-$1,833,641	-$1,846,680	
Video Toll Surcharge and Violation Fee Revenue													
Video Surcharge Revenue	$1,049,804	$1,176,566	$1,067,513	$986,421	$926,453	$882,449	$850,509	$827,692	$812,436	$818,174	$823,959	$829,791	
Fee Revenue	$1,764,600	$1,483,104	$1,345,529	$1,243,219	$1,167,552	$1,112,017	$1,071,697	$1,042,879	$1,023,596	$1,030,780	$1,038,021	$1,045,320	
Video Surcharge and Fee Revenue	$2,814,405	$2,659,670	$2,413,042	$2,229,640	$2,094,005	$1,994,465	$1,922,206	$1,870,571	$1,836,032	$1,848,954	$1,861,979	$1,875,110	
Uncollectable Video Toll Revenue (due to bad images, etc - calculated using ETC Toll Rate)													
Uncollectable Video Toll Revenue	-$2,473,450	-$2,092,695	-$1,909,770	-$1,774,859	-$1,676,250	-$1,605,126	-$1,554,835	-$1,520,354	-$1,499,029	-$1,514,873	-$1,530,920	-$1,547,172	
Uncollectable Video Toll Revenue considered in evaluation of Video Toll Surcharge?	No	No	No	No	No	No	No	No	No	No	No	No	
% of Total Transactions that are Uncollectable	10%	9%	8%	7%	7%	6%	6%	6%	6%	6%	6%	6%	
% of Car Video Transactions that are Uncollectable	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	
% of Truck Video Transactions that are Uncollectable	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	
Net Video (Sum of Additional Cost to Collect, Video Surcharge and Fee Revenue, and Uncollectable Video Toll Revenue if considered)	-$277,406	$42,934	$38,615	$35,382	$32,967	$31,168	$29,834	$28,849	$28,154	$28,246	$28,339	$28,430	**$ 75,512**
Potential Additional Revenue and traffic changes at Trenton Morrisville due to Toll Diversion from Scudder Falls and toll increases													
Revenue Gain from Traffic switch to TM	$2,147,697	$2,152,899	$2,169,023	$2,188,124	$2,209,570	$2,232,884	$2,257,710	$2,283,782	$2,310,958	$2,340,462	$2,370,392	$2,400,754	
Revenue Gain from Toll Increase at TM	$6,497,966	$6,541,239	$6,584,828	$6,628,735	$6,672,961	$6,717,510	$6,762,384	$6,807,585	$6,853,117	$6,898,982	$6,945,183	$6,991,722	
AADT Switched from SF to TM - Total	1,491	1,476	1,481	1,484	1,489	1,492	1,505	1,515	1,525	1,533	1,550	1,563	
AADT Switched from SF to TM - Cars	1,217	1,198	1,197	1,195	1,196	1,195	1,202	1,206	1,212	1,216	1,227	1,234	
AADT Switched from SF to TM - Trucks	274	278	284	289	294	298	303	308	313	317	323	329	
AADT Loss at TM due to Toll Increase - Total	(2,145)	(2,153)	(2,172)	(2,186)	(2,200)	(2,208)	(2,228)	(2,242)	(2,256)	(2,264)	(2,285)	(2,299)	
AADT Loss at TM due to Toll Increase - Cars	(2,130)	(2,138)	(2,157)	(2,171)	(2,184)	(2,192)	(2,212)	(2,225)	(2,239)	(2,247)	(2,267)	(2,281)	
AADT Loss at TM due to Toll Increase - Trucks	(15)	(15)	(15)	(16)	(16)	(16)	(16)	(17)	(17)	(17)	(17)	(18)	
Total Revenue Gain at TM	$8,645,663	$8,694,138	$8,753,852	$8,816,859	$8,882,531	$8,950,394	$9,020,094	$9,091,366	$9,164,075	$9,239,444	$9,315,575	$9,392,475	
Total AADT Change at TM	(654)	(677)	(692)	(702)	(711)	(715)	(723)	(727)	(731)	(731)	(735)	(736)	

d1

Year	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Toll Rates												
Car Toll Rate	$ 2.00	$ 2.05	$ 2.10	$ 2.15	$ 2.21	$ 2.26	$ 2.32	$ 2.38	$ 2.44	$ 2.50	$ 2.56	$ 2.62
Truck Toll Rate (per axle)	$ 4.00	$ 4.10	$ 4.20	$ 4.31	$ 4.42	$ 4.53	$ 4.64	$ 4.75	$ 4.87	$ 5.00	$ 5.12	$ 5.25
CPI (for toll increases beginning in 2020)	0.0%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Video Toll Surcharge Surcharge - Car ($)	$4.60	$4.60	$4.60	$4.60	$4.60	$4.60	$4.60	$4.60	$4.60	$4.60	$4.60	$4.60
Video Toll Surcharge Surcharge - Truck ($)	$4.60	$4.60	$4.60	$4.60	$4.60	$4.60	$4.60	$4.60	$4.60	$4.60	$4.60	$4.60
Toll Transactions												
Annual Toll Transactions	8,428,796	8,634,530	8,779,140	8,903,381	9,007,152	9,111,414	9,199,841	9,282,504	9,363,995	9,430,263	9,496,838	9,566,538
Car AADT	21,326	21,804	22,228	22,536	22,790	22,980	23,254	23,449	23,641	23,725	23,938	24,097
Truck AADT	1,766	1,788	1,824	1,857	1,887	1,914	1,951	1,982	2,014	2,041	2,080	2,113
Toll Diversion												
Car	-27%	-26%	-25%	-25%	-24%	-24%	-24%	-24%	-23%	-23%	-23%	-23%
Truck	-35%	-35%	-35%	-34%	-34%	-34%	-34%	-34%	-34%	-34%	-34%	-34%
Total Diversion	-28%	-27%	-26%	-26%	-25%	-25%	-25%	-25%	-24%	-24%	-24%	-24%
Collectable Toll Revenue and Overall Toll Collection Costs												
ETC Toll Revenue (Received)	*$17,745,827*	*$19,287,225*	*$20,460,861*	*$21,556,479*	*$22,657,193*	*$23,671,514*	*$24,684,761*	*$25,718,640*	*$26,719,160*	*$27,678,453*	*$28,658,990*	*$29,629,372*
Video Revenue (Received) Incl. Surcharge	*$4,560,268*	*$5,171,507*	*$4,759,333*	*$4,460,010*	*$4,252,231*	*$4,106,147*	*$4,015,384*	*$3,964,374*	*$3,946,546*	*$4,027,018*	*$4,108,953*	*$4,193,228*
Total Toll Revenue (Received)	$22,306,096	$24,458,732	$25,220,193	$26,016,489	$26,909,424	$27,777,661	$28,700,144	$29,683,014	$30,665,706	$31,705,471	$32,767,942	$33,822,600
Fee Revenue ($30 Violation Fee)	$1,203,420	$1,008,758	$915,640	$846,421	$795,264	$757,757	$730,569	$711,186	$698,273	$703,343	$708,455	$713,611
ETC Transaction Costs	-$848,557	-$908,948	-$949,164	-$984,334	-$1,016,461	-$1,045,868	-$1,073,151	-$1,099,684	-$1,124,957	-$1,146,755	-$1,168,954	-$1,191,202
Video Toll Collection Costs	-$2,629,450	-$2,228,519	-$2,024,088	-$1,872,262	-$1,760,303	-$1,678,341	-$1,619,213	-$1,577,317	-$1,549,712	-$1,561,940	-$1,574,287	-$1,586,769
Net Revenue (sum of Toll Rev, Fee Rev, and Toll Collection Costs)	$20,031,509	$22,330,024	$23,162,581	$24,006,314	$24,927,924	$25,811,209	$26,738,349	$27,717,199	$28,689,310	$29,700,118	$30,733,156	$31,758,240
Video Toll Collection Costs												
Cost of Invoicing	-$568,196	-$476,318	-$432,373	-$399,709	-$375,571	-$357,875	-$345,051	-$335,911	-$329,825	-$332,229	-$334,655	-$337,100
Video Account Costs	-$1,517,746	-$1,272,323	-$1,154,940	-$1,067,690	-$1,003,211	-$955,944	-$921,688	-$897,273	-$881,016	-$887,440	-$893,918	-$900,451
Non-EZ Trx Costs (excl Itoll)	-$439,842	-$368,721	-$334,705	-$309,421	-$290,737	-$277,040	-$267,113	-$260,039	-$255,329	-$257,191	-$259,069	-$260,964
Credit Card Fees (Video Only)	-$103,666	-$111,158	-$102,070	-$95,441	-$90,784	-$87,482	-$85,361	-$84,095	-$83,542	-$85,080	-$86,646	-$88,254
Video Toll Collection Costs	-$2,629,450	-$2,228,519	-$2,024,088	-$1,872,262	-$1,760,303	-$1,678,341	-$1,619,213	-$1,577,317	-$1,549,712	-$1,561,940	-$1,574,287	-$1,586,769
Cost per Video Transaction	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2
Cost per ETC Transaction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Incremental Cost of Video per Transaction	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2
Additional Cost to Collect Video Tolls (deducting cost of traditional ETC Transaction)	-$2,509,896	-$2,128,288	-$1,933,097	-$1,788,138	-$1,681,253	-$1,603,010	-$1,546,577	-$1,506,601	-$1,480,273	-$1,491,992	-$1,503,825	-$1,515,789
Video Toll Surcharge and Violation Fee Revenue												
Video Surcharge Revenue	$2,748,302	$3,072,039	$2,788,760	$2,578,211	$2,422,624	$2,308,582	$2,225,948	$2,167,068	$2,127,884	$2,143,456	$2,159,161	$2,175,002
Fee Revenue	$1,203,420	$1,008,758	$915,640	$846,421	$795,264	$757,757	$730,569	$711,186	$698,273	$703,343	$708,455	$713,611
Video Surcharge and Fee Revenue	$3,951,722	$4,080,797	$3,704,400	$3,424,632	$3,217,888	$3,066,338	$2,956,517	$2,878,255	$2,826,157	$2,846,798	$2,867,617	$2,888,613
Uncollectable Video Toll Revenue (due to bad images, etc - calculated using ETC Toll Rate)												
Uncollectable Video Toll Revenue	-$1,883,149	-$1,629,734	-$1,526,472	-$1,455,205	-$1,413,665	-$1,387,691	-$1,379,483	-$1,385,559	-$1,400,940	-$1,452,696	-$1,505,425	-$1,558,680
Uncollectable Video Toll Revenue considered in evaluation of Video Toll Surcharge?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
% of Total Transactions that are Uncollectable	8%	6%	6%	5%	5%	4%	4%	4%	4%	4%	4%	4%
% of Car Video Transactions that are Uncollectable	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%
% of Truck Video Transactions that are Uncollectable	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%
Net Video (Sum of Additional Cost to Collect, Video Surcharge and Fee Revenue, and Uncollectable Video Toll Revenue if considered)	-$441,324	$322,775	$244,831	$181,289	$122,970	$75,637	$30,457	-$13,906	-$55,056	-$97,889	-$141,633	-$185,856
Potential Additional Revenue and traffic changes at Trenton Morrisville due to Toll Diversion from Scudder Falls and toll increases												
Revenue Gain from Traffic switch to TM	$2,507,892	$2,474,069	$2,462,446	$2,459,927	$2,470,205	$2,479,598	$2,496,696	$2,519,932	$2,542,622	$2,574,348	$2,605,287	$2,637,240
Revenue Gain from Toll Increase at TM	$6,497,966	$7,023,576	$7,557,170	$8,098,907	$8,746,835	$9,305,980	$9,972,911	$10,649,929	$11,337,248	$12,035,065	$12,743,587	$13,565,182
AADT Switched from SF to TM - Total	1,900	1,785	1,716	1,657	1,604	1,556	1,521	1,486	1,454	1,426	1,407	1,385
AADT Switched from SF to TM - Cars	1,610	1,498	1,432	1,376	1,326	1,282	1,249	1,216	1,186	1,162	1,145	1,124
AADT Switched from SF to TM - Trucks	290	287	284	281	278	274	272	270	268	264	263	261
AADT Loss at TM due to Toll Increase - Total	(2,145)	(2,210)	(2,285)	(2,354)	(2,434)	(2,495)	(2,580)	(2,657)	(2,733)	(2,802)	(2,885)	(2,904)
AADT Loss at TM due to Toll Increase - Cars	(2,130)	(2,186)	(2,253)	(2,313)	(2,382)	(2,435)	(2,509)	(2,576)	(2,642)	(2,699)	(2,772)	(2,789)
AADT Loss at TM due to Toll Increase - Trucks	(15)	(23)	(32)	(41)	(52)	(60)	(71)	(81)	(92)	(102)	(113)	(115)
Total Revenue Gain at TM	$9,005,858	$9,497,645	$10,019,616	$10,558,834	$11,217,040	$11,785,578	$12,469,607	$13,169,861	$13,879,870	$14,609,413	$15,348,874	$16,202,421
Total AADT Change at TM	(245)	(425)	(569)	(698)	(829)	(939)	(1,059)	(1,171)	(1,279)	(1,375)	(1,477)	(1,519)

Total 2019-2030 (Net Video): **$ 42,295**

d2

Year	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total 2019-2030
Toll Rates													
Car Toll Rate	$ 2.00	$ 2.05	$ 2.10	$ 2.15	$ 2.21	$ 2.26	$ 2.32	$ 2.38	$ 2.44	$ 2.50	$ 2.56	$ 2.62	
Truck Toll Rate (per axle)	$ 4.00	$ 4.10	$ 4.20	$ 4.31	$ 4.42	$ 4.53	$ 4.64	$ 4.75	$ 4.87	$ 5.00	$ 5.12	$ 5.25	
CPI (for toll increases beginning in 2020)	0.0%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	
Video Toll Surcharge Surcharge - Car ($)	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	
Video Toll Surcharge Surcharge - Truck ($)	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	$1.20	
Toll Transactions													
Annual Toll Transactions	9,164,017	9,249,364	9,336,353	9,417,702	9,489,706	9,571,273	9,642,008	9,712,444	9,785,682	9,854,692	9,924,029	9,996,510	
Car AADT	23,292	23,443	23,717	23,910	24,079	24,205	24,434	24,596	24,765	24,853	25,077	25,243	
Truck AADT	1,815	1,829	1,862	1,892	1,921	1,947	1,983	2,013	2,045	2,072	2,112	2,145	
Toll Diversion													
Car	-21%	-20%	-20%	-20%	-20%	-20%	-20%	-20%	-20%	-20%	-20%	-20%	
Truck	-33%	-33%	-33%	-33%	-33%	-33%	-33%	-33%	-33%	-33%	-33%	-33%	
Total Diversion	-22%	-22%	-21%	-21%	-21%	-21%	-21%	-21%	-21%	-21%	-21%	-21%	
Collectable Toll Revenue and Overall Toll Collection Costs													
ETC Toll Revenue (Received)	*$17,872,994*	*$19,396,502*	*$20,562,480*	*$21,652,679*	*$22,750,161*	*$23,762,198*	*$24,774,381*	*$25,808,240*	*$26,809,297*	*$27,771,626*	*$28,755,234*	*$29,728,588*	
Video Revenue (Received) Incl. Surcharge	*$3,480,844*	*$3,980,312*	*$3,693,231*	*$3,488,542*	*$3,355,146*	*$3,265,386*	*$3,218,154*	*$3,202,614*	*$3,212,732*	*$3,302,302*	*$3,393,513*	*$3,487,354*	
Total Toll Revenue (Received)	$21,353,838	$23,376,815	$24,255,711	$25,141,221	$26,105,307	$27,027,584	$27,992,535	$29,010,854	$30,022,029	$31,073,928	$32,148,747	$33,215,942	
Fee Revenue ($30 Violation Fee)	$1,764,600	$1,477,969	$1,340,866	$1,238,906	$1,163,498	$1,108,693	$1,067,969	$1,039,249	$1,020,031	$1,027,187	$1,034,401	$1,041,673	
ETC Transaction Costs	-$857,080	-$916,135	-$955,723	-$990,432	-$1,022,231	-$1,051,401	-$1,078,518	-$1,104,946	-$1,130,159	-$1,152,035	-$1,174,312	-$1,196,638	
Video Toll Collection Costs	-$3,266,800	-$2,755,441	-$2,501,417	-$2,312,673	-$2,173,412	-$2,072,337	-$1,997,597	-$1,945,217	-$1,910,550	-$1,925,205	-$1,939,993	-$1,954,935	
Net Revenue (sum of Toll Rev, Fee Rev, and Toll Collection Costs)	$18,994,559	$21,183,208	$22,139,437	$23,077,023	$24,073,163	$25,012,539	$25,984,390	$26,999,940	$28,001,350	$29,023,876	$30,068,843	$31,106,041	
Video Toll Collection Costs													
Cost of Invoicing	-$693,368	-$580,769	-$526,916	-$486,870	-$457,254	-$435,731	-$419,741	-$408,467	-$400,926	-$403,748	-$406,593	-$409,461	
Video Account Costs	-$1,834,662	-$1,536,723	-$1,394,229	-$1,288,265	-$1,209,900	-$1,152,951	-$1,110,642	-$1,080,810	-$1,060,856	-$1,068,324	-$1,075,852	-$1,083,441	
Non-EZ Trx Costs (excl Itoll)	-$644,426	-$539,777	-$489,728	-$452,510	-$424,986	-$404,983	-$390,123	-$379,646	-$372,638	-$375,262	-$377,908	-$380,574	
Credit Card Fees (Video Only)	-$94,345	-$98,173	-$90,543	-$85,028	-$81,272	-$78,672	-$77,090	-$76,294	-$76,130	-$77,870	-$79,640	-$81,459	
Video Toll Collection Costs	-$3,266,800	-$2,755,441	-$2,501,417	-$2,312,673	-$2,173,412	-$2,072,337	-$1,997,597	-$1,945,217	-$1,910,550	-$1,925,205	-$1,939,993	-$1,954,935	
Cost per Video Transaction	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	
Cost per ETC Transaction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Incremental Cost of Video per Transaction	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	
Additional Cost to Collect Video Tolls (deducting cost of traditional ETC Transaction)	-$3,091,811	-$2,608,859	-$2,368,418	-$2,189,775	-$2,057,983	-$1,962,336	-$1,891,627	-$1,842,089	-$1,809,321	-$1,823,259	-$1,837,326	-$1,851,541	
Video Toll Surcharge and Violation Fee Revenue													
Video Surcharge Revenue	$1,049,804	$1,172,479	$1,063,801	$982,987	$923,225	$879,798	$847,541	$824,801	$809,596	$815,313	$821,075	$826,885	
Fee Revenue	$1,764,600	$1,477,969	$1,340,866	$1,238,906	$1,163,498	$1,108,693	$1,067,969	$1,039,249	$1,020,031	$1,027,187	$1,034,401	$1,041,673	
Video Surcharge and Fee Revenue	$2,814,405	$2,650,448	$2,404,667	$2,221,894	$2,086,723	$1,988,491	$1,915,510	$1,864,050	$1,829,627	$1,842,500	$1,855,476	$1,868,558	
Uncollectable Video Toll Revenue (due to bad images, etc - calculated using ETC Toll Rate)													
Uncollectable Video Toll Revenue	-$2,473,450	-$2,135,901	-$1,997,230	-$1,900,920	-$1,844,441	-$1,808,316	-$1,794,865	-$1,800,891	-$1,818,815	-$1,884,692	-$1,951,713	-$2,018,813	
Uncollectable Video Toll Revenue considered in evaluation of Video Toll Surcharge?	No	No	No	No	No	No	No	No	No	No	No	No	
% of Total Transactions that are Uncollectable	10%	9%	8%	7%	7%	6%	6%	6%	6%	6%	6%	6%	
% of Car Video Transactions that are Uncollectable	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	
% of Truck Video Transactions that are Uncollectable	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	
Net Video (Sum of Additional Cost to Collect, Video Surcharge and Fee Revenue, and Uncollectable Video Toll Revenue if considered)	-$277,406	$41,589	$36,249	$32,119	$28,740	$26,155	$23,884	$21,962	$20,306	$19,241	$18,150	$17,017	**$ 8,006**
Potential Additional Revenue and traffic changes at Trenton Morrisville due to Toll Diversion from Scudder Falls and toll increases													
Revenue Gain from Traffic switch to TM	$2,147,697	$2,172,366	$2,188,297	$2,206,228	$2,231,579	$2,251,706	$2,277,001	$2,305,829	$2,332,173	$2,362,134	$2,391,289	$2,421,439	
Revenue Gain from Toll Increase at TM	$6,497,966	$7,023,576	$7,557,170	$8,098,907	$8,746,835	$9,305,980	$9,972,911	$10,649,929	$11,337,248	$12,035,065	$12,743,587	$13,565,182	
AADT Switched from SF to TM - Total	1,491	1,452	1,421	1,391	1,362	1,331	1,309	1,285	1,262	1,238	1,222	1,202	
AADT Switched from SF to TM - Cars	1,217	1,178	1,148	1,120	1,093	1,065	1,045	1,023	1,002	981	967	949	
AADT Switched from SF to TM - Trucks	274	274	273	270	268	265	264	262	260	257	255	253	
AADT Loss at TM due to Toll Increase - Total	(2,145)	(2,210)	(2,285)	(2,354)	(2,434)	(2,495)	(2,580)	(2,657)	(2,733)	(2,802)	(2,885)	(2,904)	
AADT Loss at TM due to Toll Increase - Cars	(2,130)	(2,186)	(2,253)	(2,313)	(2,382)	(2,435)	(2,509)	(2,576)	(2,642)	(2,699)	(2,772)	(2,789)	
AADT Loss at TM due to Toll Increase - Trucks	(15)	(23)	(32)	(41)	(52)	(60)	(71)	(81)	(92)	(102)	(113)	(115)	
Total Revenue Gain at TM	$8,645,663	$9,195,942	$9,745,467	$10,305,135	$10,978,415	$11,557,686	$12,249,912	$12,955,758	$13,669,421	$14,397,198	$15,134,876	$15,986,620	
Total AADT Change at TM	(654)	(757)	(864)	(964)	(1,072)	(1,164)	(1,271)	(1,372)	(1,472)	(1,564)	(1,663)	(1,702)	

e1

Year	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Toll Rates													
Car Toll Rate	$ 3.00	$ 3.00	$ 3.00	$ 3.00	$ 3.00	$ 3.00	$ 3.00	$ 3.00	$ 3.00	$ 3.00	$ 3.00	$ 3.00	
Truck Toll Rate (per axle)	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	
CPI (for toll increases beginning in 2020)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Video Toll Surcharge Surcharge - Car ($)	$5.40	$5.40	$5.40	$5.40	$5.40	$5.40	$5.40	$5.40	$5.40	$5.40	$5.40	$5.40	
Video Toll Surcharge Surcharge - Truck ($)	$5.40	$5.40	$5.40	$5.40	$5.40	$5.40	$5.40	$5.40	$5.40	$5.40	$5.40	$5.40	
Toll Transactions													
Annual Toll Transactions	7,505,973	7,749,769	7,900,492	8,028,747	8,140,162	8,238,984	8,328,420	8,410,894	8,487,691	8,547,885	8,608,569	8,669,749	
Car AADT	18,808	19,386	19,820	20,139	20,412	20,594	20,863	21,057	21,235	21,309	21,501	21,635	
Truck AADT	1,757	1,788	1,826	1,858	1,890	1,917	1,954	1,987	2,019	2,046	2,084	2,118	
Toll Diversion													
Car	-36%	-34%	-33%	-33%	-32%	-32%	-32%	-31%	-31%	-31%	-31%	-31%	
Truck	-35%	-35%	-34%	-34%	-34%	-34%	-34%	-34%	-34%	-34%	-34%	-34%	
Total Diversion	-36%	-34%	-33%	-33%	-32%	-32%	-32%	-32%	-31%	-31%	-31%	-31%	
Collectable Toll Revenue and Overall Toll Collection Costs													
ETC Toll Revenue (Received)	*$21,539,514*	*$22,919,689*	*$23,729,191*	*$24,401,925*	*$24,971,873*	*$25,464,759*	*$25,900,058*	*$26,292,516*	*$26,650,019*	*$26,903,167*	*$27,159,283*	*$27,418,408*	
Video Revenue (Received) Incl. Surcharge	*$4,407,966*	*$4,968,202*	*$4,527,184*	*$4,200,443*	*$3,960,186*	*$3,785,400*	*$3,660,197*	*$3,572,563*	*$3,516,106*	*$3,547,014*	*$3,578,258*	*$3,609,843*	
Total Toll Revenue (Received)	$25,947,480	$27,887,891	$28,256,375	$28,602,368	$28,932,059	$29,250,159	$29,560,255	$29,865,080	$30,166,125	$30,450,181	$30,737,541	$31,028,250	
Fee Revenue ($30 Violation Fee)	$925,809	$779,076	$707,499	$654,319	$615,043	$586,279	$565,466	$550,666	$540,854	$544,922	$549,027	$553,168	
ETC Transaction Costs	-$871,525	-$927,686	-$959,927	-$986,390	-$1,008,506	-$1,027,359	-$1,043,766	-$1,058,346	-$1,071,429	-$1,080,156	-$1,088,970	-$1,097,872	
Video Toll Collection Costs	-$2,158,861	-$1,839,492	-$1,670,881	-$1,545,628	-$1,453,153	-$1,385,461	-$1,336,513	-$1,301,745	-$1,278,739	-$1,288,483	-$1,298,316	-$1,308,240	
Net Revenue (sum of Toll Rev, Fee Rev, and Toll Collection Costs)	$23,842,903	$25,899,788	$26,333,066	$26,724,669	$27,085,443	$27,423,619	$27,745,442	$28,055,655	$28,356,811	$28,626,464	$28,899,282	$29,175,308	
Video Toll Collection Costs													
Cost of Invoicing	-$468,461	-$394,248	-$358,051	-$331,160	-$311,302	-$296,761	-$286,242	-$278,765	-$273,811	-$275,880	-$277,969	-$280,076	
Video Account Costs	-$1,255,792	-$1,056,849	-$959,820	-$887,732	-$834,499	-$795,520	-$767,321	-$747,277	-$733,997	-$739,546	-$745,144	-$750,793	
Non-EZ Trx Costs (excl Itoll)	-$338,675	-$285,025	-$258,858	-$239,418	-$225,063	-$214,552	-$206,948	-$201,543	-$197,962	-$199,460	-$200,970	-$202,495	
Credit Card Fees (Video Only)	-$95,933	-$103,371	-$94,151	-$87,318	-$82,290	-$78,629	-$76,003	-$74,160	-$72,968	-$73,598	-$74,233	-$74,876	
Video Toll Collection Costs	-$2,158,861	-$1,839,492	-$1,670,881	-$1,545,628	-$1,453,153	-$1,385,461	-$1,336,513	-$1,301,745	-$1,278,739	-$1,288,483	-$1,298,316	-$1,308,240	
Cost per Video Transaction	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	
Cost per ETC Transaction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Incremental Cost of Video per Transaction	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	
Additional Cost to Collect Video Tolls (deducting cost of traditional ETC Transaction)	-$2,066,707	-$1,761,928	-$1,600,430	-$1,480,463	-$1,391,890	-$1,327,054	-$1,280,172	-$1,246,872	-$1,224,837	-$1,234,171	-$1,243,590	-$1,253,095	
Video Toll Surcharge and Violation Fee Revenue													
Video Surcharge Revenue	$2,485,790	$2,789,540	$2,533,590	$2,343,445	$2,203,045	$2,100,255	$2,025,909	$1,973,084	$1,938,106	$1,952,821	$1,967,669	$1,982,653	
Fee Revenue	$925,809	$779,076	$707,499	$654,319	$615,043	$586,279	$565,466	$550,666	$540,854	$544,922	$549,027	$553,168	
Video Surcharge and Fee Revenue	$3,411,599	$3,568,616	$3,241,089	$2,997,764	$2,818,088	$2,686,534	$2,591,375	$2,523,750	$2,478,960	$2,497,743	$2,516,696	$2,535,821	
Uncollectable Video Toll Revenue (due to bad images, etc - calculated using ETC Toll Rate)													
Uncollectable Video Toll Revenue	-$1,965,849	-$1,665,191	-$1,521,062	-$1,414,884	-$1,337,404	-$1,281,657	-$1,242,391	-$1,215,637	-$1,199,297	-$1,212,446	-$1,225,767	-$1,239,264	
Uncollectable Video Toll Revenue considered in evaluation of Video Toll Surcharge?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
% of Total Transactions that are Uncollectable	7%	5%	5%	4%	4%	4%	4%	4%	3%	3%	3%	3%	
% of Car Video Transactions that are Uncollectable	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	Total
% of Truck Video Transactions that are Uncollectable	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	2019-2030
Net Video (Sum of Additional Cost to Collect, Video Surcharge and Fee Revenue, and Uncollectable Video Toll Revenue if considered)	-$620,957	$141,497	$119,597	$102,417	$88,794	$77,823	$68,813	$61,241	$54,826	$51,126	$47,339	$43,462	**$ 235,977**
Potential Additional Revenue and traffic changes at Trenton Morrisville due to Toll Diversion from Scudder Falls and toll increases													
Revenue Gain from Traffic switch to TM	$2,846,982	$2,781,716	$2,764,336	$2,758,964	$2,762,772	$2,773,625	$2,789,910	$2,810,413	$2,834,490	$2,867,789	$2,901,546	$2,935,766	
Revenue Gain from Toll Increase at TM	$11,163,695	$11,236,106	$11,309,016	$11,382,425	$11,456,339	$11,530,761	$11,605,694	$11,681,142	$11,757,111	$11,833,602	$11,910,620	$11,988,169	
AADT Switched from SF to TM - Total	1,702	1,640	1,622	1,608	1,600	1,594	1,599	1,604	1,610	1,619	1,637	1,650	
AADT Switched from SF to TM - Cars	1,409	1,346	1,323	1,306	1,294	1,284	1,284	1,284	1,286	1,290	1,302	1,310	
AADT Switched from SF to TM - Trucks	293	294	298	302	306	310	315	320	325	329	335	340	
AADT Loss at TM due to Toll Increase - Total	(4,276)	(4,291)	(4,330)	(4,357)	(4,384)	(4,400)	(4,439)	(4,467)	(4,495)	(4,511)	(4,552)	(4,581)	
AADT Loss at TM due to Toll Increase - Cars	(4,261)	(4,276)	(4,314)	(4,341)	(4,368)	(4,384)	(4,423)	(4,451)	(4,479)	(4,494)	(4,535)	(4,563)	
AADT Loss at TM due to Toll Increase - Trucks	(15)	(15)	(15)	(16)	(16)	(16)	(16)	(17)	(17)	(17)	(17)	(18)	
Total Revenue Gain at TM	$14,010,677	$14,017,823	$14,073,352	$14,141,390	$14,219,111	$14,304,386	$14,395,604	$14,491,555	$14,591,600	$14,701,391	$14,812,165	$14,923,935	
Total AADT Change at TM	(2,574)	(2,651)	(2,708)	(2,749)	(2,784)	(2,806)	(2,840)	(2,864)	(2,885)	(2,892)	(2,915)	(2,930)	

Year	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Toll Rates													
Car Toll Rate	$ 3.00	$ 3.00	$ 3.00	$ 3.00	$ 3.00	$ 3.00	$ 3.00	$ 3.00	$ 3.00	$ 3.00	$ 3.00	$ 3.00	
Truck Toll Rate (per axle)	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	$ 4.00	
CPI (for toll increases beginning in 2020)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Video Toll Surcharge Surcharge - Car ($)	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	
Video Toll Surcharge Surcharge - Truck ($)	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	
Toll Transactions													
Annual Toll Transactions	8,342,760	8,452,173	8,537,089	8,616,359	8,691,491	8,763,623	8,833,616	8,902,119	8,969,481	9,032,791	9,096,613	9,160,952	
Car AADT	21,054	21,266	21,527	21,714	21,889	21,996	22,216	22,372	22,525	22,603	22,807	22,949	
Truck AADT	1,803	1,828	1,862	1,892	1,923	1,949	1,985	2,017	2,049	2,076	2,115	2,149	
Toll Diversion													
Car	-28%	-28%	-28%	-27%	-27%	-27%	-27%	-27%	-27%	-27%	-27%	-27%	
Truck	-33%	-33%	-33%	-33%	-33%	-33%	-33%	-33%	-33%	-33%	-33%	-33%	
Total Diversion	-29%	-28%	-28%	-28%	-28%	-28%	-28%	-28%	-28%	-28%	-28%	-28%	
Collectable Toll Revenue and Overall Toll Collection Costs													
ETC Toll Revenue (Received)	*$21,739,800*	*$23,088,030*	*$23,881,947*	*$24,543,102*	*$25,104,494*	*$25,591,108*	*$26,021,863*	*$26,411,082*	*$26,766,429*	*$27,020,430*	*$27,277,407*	*$27,537,400*	
Video Revenue (Received) Incl. Surcharge	*$3,936,596*	*$4,437,099*	*$4,043,215*	*$3,751,366*	*$3,536,729*	*$3,380,536*	*$3,268,599*	*$3,190,190*	*$3,139,597*	*$3,166,916*	*$3,194,529*	*$3,222,440*	
Total Toll Revenue (Received)	$25,676,396	$27,525,129	$27,925,162	$28,294,468	$28,641,223	$28,971,644	$29,290,461	$29,601,272	$29,906,026	$30,187,346	$30,471,936	$30,759,840	
Fee Revenue ($30 Violation Fee)	$1,564,709	$1,315,355	$1,193,522	$1,102,931	$1,035,944	$986,796	$951,129	$925,657	$908,634	$915,075	$921,569	$928,116	
ETC Transaction Costs	-$882,226	-$936,672	-$968,075	-$993,913	-$1,015,568	-$1,034,081	-$1,050,242	-$1,064,645	-$1,077,609	-$1,086,377	-$1,095,234	-$1,104,178	
Video Toll Collection Costs	-$2,966,367	-$2,514,072	-$2,281,623	-$2,108,807	-$1,981,050	-$1,887,347	-$1,819,384	-$1,770,885	-$1,738,521	-$1,750,981	-$1,763,543	-$1,776,210	
Net Revenue (sum of Toll Rev, Fee Rev, and Toll Collection Costs)	$23,392,512	$25,389,739	$25,868,987	$26,294,678	$26,680,549	$27,037,012	$27,371,965	$27,691,399	$27,998,529	$28,265,063	$28,534,728	$28,807,567	
Video Toll Collection Costs													
Cost of Invoicing	-$628,970	-$528,768	-$479,814	-$443,415	-$416,502	-$396,758	-$382,433	-$372,204	-$365,372	-$367,971	-$370,592	-$373,234	
Video Account Costs	-$1,666,890	-$1,401,334	-$1,271,598	-$1,175,134	-$1,103,810	-$1,051,485	-$1,013,520	-$986,412	-$968,304	-$975,194	-$982,139	-$989,142	
Non-EZ Trx Costs (excl Itoll)	-$571,560	-$480,507	-$436,023	-$402,948	-$378,494	-$360,553	-$347,536	-$338,242	-$332,034	-$334,397	-$336,780	-$339,182	
Credit Card Fees (Video Only)	-$98,946	-$103,464	-$94,188	-$87,309	-$82,244	-$78,551	-$75,896	-$74,028	-$72,811	-$73,419	-$74,032	-$74,652	
Video Toll Collection Costs	-$2,966,367	-$2,514,072	-$2,281,623	-$2,108,807	-$1,981,050	-$1,887,347	-$1,819,384	-$1,770,885	-$1,738,521	-$1,750,981	-$1,763,543	-$1,776,210	
Cost per Video Transaction	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	
Cost per ETC Transaction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Incremental Cost of Video per Transaction	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	
Additional Cost to Collect Video Tolls (deducting cost of traditional ETC Transaction)	-$2,811,119	-$2,383,546	-$2,163,173	-$1,999,335	-$1,878,217	-$1,789,382	-$1,724,952	-$1,678,974	-$1,648,292	-$1,660,106	-$1,672,018	-$1,684,029	
Video Toll Surcharge and Violation Fee Revenue													
Video Surcharge Revenue	$1,008,866	$1,130,916	$1,026,259	$948,446	$890,916	$848,714	$818,098	$796,244	$781,651	$787,230	$792,856	$798,528	
Fee Revenue	$1,564,709	$1,315,355	$1,193,522	$1,102,931	$1,035,944	$986,796	$951,129	$925,657	$908,634	$915,075	$921,569	$928,116	
Video Surcharge and Fee Revenue	$2,573,575	$2,446,271	$2,219,780	$2,051,376	$1,926,860	$1,835,510	$1,769,228	$1,721,900	$1,690,285	$1,702,305	$1,714,425	$1,726,643	
Uncollectable Video Toll Revenue (due to bad images, etc - calculated using ETC Toll Rate)													
Uncollectable Video Toll Revenue	-$2,890,763	-$2,442,681	-$2,226,652	-$2,067,057	-$1,950,119	-$1,865,460	-$1,805,252	-$1,763,585	-$1,737,331	-$1,754,464	-$1,771,805	-$1,789,357	
Uncollectable Video Toll Revenue considered in evaluation of Video Toll Surcharge?	No	No	No	No	No	No	No	No	No	No	No	No	
% of Total Transactions that are Uncollectable	10%	8%	8%	7%	6%	6%	6%	6%	5%	5%	5%	5%	
% of Car Video Transactions that are Uncollectable	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	Total
% of Truck Video Transactions that are Uncollectable	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	2019-2030
Net Video (Sum of Additional Cost to Collect, Video Surcharge and Fee Revenue, and Uncollectable Video Toll Revenue if considered)	-$237,544	$62,724	$56,608	$52,041	$48,643	$46,127	$44,276	$42,927	$41,992	$42,199	$42,406	$42,614	**$ 285,014**
Potential Additional Revenue and traffic changes at Trenton Morrisville due to Toll Diversion from Scudder Falls and toll increases													
Revenue Gain from Traffic switch to TM	$2,448,324	$2,445,767	$2,458,899	$2,476,171	$2,496,672	$2,519,714	$2,544,781	$2,571,485	$2,599,622	$2,631,001	$2,662,817	$2,695,078	
Revenue Gain from Toll Increase at TM	$11,163,695	$11,236,106	$11,309,016	$11,382,425	$11,456,339	$11,530,761	$11,605,694	$11,681,142	$11,757,111	$11,833,602	$11,910,620	$11,988,169	
AADT Switched from SF to TM - Total	1,388	1,377	1,383	1,387	1,393	1,397	1,409	1,419	1,429	1,437	1,453	1,465	
AADT Switched from SF to TM - Cars	1,110	1,095	1,096	1,096	1,097	1,097	1,104	1,108	1,114	1,118	1,128	1,135	
AADT Switched from SF to TM - Trucks	278	282	287	291	296	300	305	310	315	319	325	330	
AADT Loss at TM due to Toll Increase - Total	(4,276)	(4,291)	(4,330)	(4,357)	(4,384)	(4,400)	(4,439)	(4,467)	(4,495)	(4,511)	(4,552)	(4,581)	
AADT Loss at TM due to Toll Increase - Cars	(4,261)	(4,276)	(4,314)	(4,341)	(4,368)	(4,384)	(4,423)	(4,451)	(4,479)	(4,494)	(4,535)	(4,563)	
AADT Loss at TM due to Toll Increase - Trucks	(15)	(15)	(15)	(16)	(16)	(16)	(16)	(17)	(17)	(17)	(17)	(18)	
Total Revenue Gain at TM	$13,612,019	$13,681,873	$13,767,915	$13,858,597	$13,953,011	$14,050,475	$14,150,475	$14,252,627	$14,356,733	$14,464,602	$14,573,437	$14,683,247	
Total AADT Change at TM	(2,888)	(2,914)	(2,947)	(2,970)	(2,991)	(3,003)	(3,030)	(3,049)	(3,067)	(3,074)	(3,099)	(3,115)	

f1

Year	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Toll Rates													
Car Toll Rate	$ 3.00	$ 3.08	$ 3.15	$ 3.23	$ 3.31	$ 3.39	$ 3.48	$ 3.57	$ 3.66	$ 3.75	$ 3.84	$ 3.94	
Truck Toll Rate (per axle)	$ 4.00	$ 4.10	$ 4.20	$ 4.31	$ 4.42	$ 4.53	$ 4.64	$ 4.75	$ 4.87	$ 5.00	$ 5.12	$ 5.25	
CPI (for toll increases beginning in 2020)	0.0%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	
Video Toll Surcharge Surcharge - Car ($)	$6.10	$6.10	$6.10	$6.10	$6.10	$6.10	$6.10	$6.10	$6.10	$6.10	$6.10	$6.10	
Video Toll Surcharge Surcharge - Truck ($)	$6.10	$6.10	$6.10	$6.10	$6.10	$6.10	$6.10	$6.10	$6.10	$6.10	$6.10	$6.10	
Toll Transactions													
Annual Toll Transactions	7,352,261	7,601,995	7,767,455	7,901,422	8,020,635	8,125,945	8,215,243	8,301,222	8,377,918	8,441,012	8,501,392	8,557,566	
Car AADT	18,387	18,991	19,463	19,797	20,093	20,293	20,561	20,766	20,943	21,026	21,216	21,338	
Truck AADT	1,757	1,780	1,817	1,851	1,882	1,909	1,946	1,978	2,010	2,036	2,076	2,108	
Toll Diversion													
Car	-37%	-36%	-35%	-34%	-33%	-33%	-33%	-32%	-32%	-32%	-32%	-32%	
Truck	-35%	-35%	-35%	-35%	-35%	-34%	-34%	-34%	-34%	-34%	-34%	-34%	
Total Diversion	-37%	-36%	-35%	-34%	-33%	-33%	-33%	-33%	-32%	-32%	-32%	-32%	
Collectable Toll Revenue and Overall Toll Collection Costs													
ETC Toll Revenue (Received)	*$21,505,731*	*$23,432,337*	*$24,834,610*	*$26,184,969*	*$27,472,689*	*$28,683,833*	*$29,941,721*	*$31,160,191*	*$32,392,818*	*$33,509,177*	*$34,640,750*	*$35,853,991*	
Video Revenue (Received) Incl. Surcharge	*$4,202,258*	*$4,768,295*	*$4,391,355*	*$4,121,165*	*$3,930,291*	*$3,800,395*	*$3,719,940*	*$3,676,040*	*$3,662,343*	*$3,739,785*	*$3,818,650*	*$3,900,958*	
Total Toll Revenue (Received)	$25,707,989	$28,200,632	$29,225,965	$30,306,134	$31,402,980	$32,484,228	$33,661,661	$34,836,231	$36,055,161	$37,248,962	$38,459,400	$39,754,949	
Fee Revenue ($30 Violation Fee)	$808,267	$677,311	$615,294	$569,231	$535,229	$510,348	$492,366	$479,603	$471,156	$474,785	$478,448	$481,915	
ETC Transaction Costs	-$869,613	-$934,672	-$977,849	-$1,016,308	-$1,051,460	-$1,083,381	-$1,114,324	-$1,143,847	-$1,172,543	-$1,197,053	-$1,221,629	-$1,247,373	
Video Toll Collection Costs	-$1,895,770	-$1,611,189	-$1,464,845	-$1,356,331	-$1,276,395	-$1,218,086	-$1,176,198	-$1,146,719	-$1,127,497	-$1,137,112	-$1,146,829	-$1,156,171	
Net Revenue (sum of Toll Rev, Fee Rev, and Toll Collection Costs)	$23,750,873	$26,332,082	$27,398,565	$28,502,727	$29,610,354	$30,693,109	$31,863,504	$33,025,268	$34,226,276	$35,389,583	$36,569,390	$37,833,320	
Video Toll Collection Costs													
Cost of Invoicing	-$408,294	-$342,175	-$310,868	-$287,617	-$270,456	-$257,901	-$248,829	-$242,393	-$238,137	-$239,981	-$241,842	-$243,606	
Video Account Costs	-$1,101,497	-$923,120	-$838,661	-$775,934	-$729,637	-$695,765	-$671,291	-$653,929	-$642,446	-$647,421	-$652,443	-$657,200	
Non-EZ Trx Costs (excl Itoll)	-$295,859	-$247,950	-$225,266	-$208,419	-$195,985	-$186,888	-$180,315	-$175,653	-$172,569	-$173,907	-$175,256	-$176,535	
Credit Card Fees (Video Only)	-$90,119	-$97,945	-$90,050	-$84,361	-$80,317	-$77,533	-$75,763	-$74,743	-$74,345	-$75,803	-$77,288	-$78,830	
Video Toll Collection Costs	-$1,895,770	-$1,611,189	-$1,464,845	-$1,356,331	-$1,276,395	-$1,218,086	-$1,176,198	-$1,146,719	-$1,127,497	-$1,137,112	-$1,146,829	-$1,156,171	
Cost per Video Transaction	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	
Cost per ETC Transaction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Incremental Cost of Video per Transaction	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	
Additional Cost to Collect Video Tolls (deducting cost of traditional ETC Transaction)	-$1,815,206	-$1,543,663	-$1,403,489	-$1,299,559	-$1,223,004	-$1,167,170	-$1,127,068	-$1,098,855	-$1,080,471	-$1,089,718	-$1,099,065	-$1,108,055	
Video Toll Surcharge and Violation Fee Revenue													
Video Surcharge Revenue	$2,454,128	$2,742,507	$2,491,761	$2,305,547	$2,168,123	$2,067,597	$1,994,981	$1,943,487	$1,909,452	$1,924,311	$1,939,309	$1,953,525	
Fee Revenue	$808,267	$677,311	$615,294	$569,231	$535,229	$510,348	$492,366	$479,603	$471,156	$474,785	$478,448	$481,915	
Video Surcharge and Fee Revenue	$3,262,395	$3,419,818	$3,107,055	$2,874,778	$2,703,353	$2,577,945	$2,487,347	$2,423,090	$2,380,608	$2,399,096	$2,417,757	$2,435,440	
Uncollectable Video Toll Revenue (due to bad images, etc - calculated using ETC Toll Rate)													
Uncollectable Video Toll Revenue	-$1,811,069	-$1,567,800	-$1,467,087	-$1,399,943	-$1,357,542	-$1,332,828	-$1,326,502	-$1,331,355	-$1,347,511	-$1,396,315	-$1,446,125	-$1,499,694	
Uncollectable Video Toll Revenue considered in evaluation of Video Toll Surcharge?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
% of Total Transactions that are Uncollectable	6%	5%	4%	4%	4%	3%	3%	3%	3%	3%	3%	3%	
% of Car Video Transactions that are Uncollectable	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	Total
% of Truck Video Transactions that are Uncollectable	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	2019-2030
Net Video (Sum of Additional Cost to Collect, Video Surcharge and Fee Revenue, and Uncollectable Video Toll Revenue if considered)	-$363,880	$308,356	$236,479	$175,277	$122,807	$77,948	$33,778	-$7,120	-$47,374	-$86,938	-$127,434	-$172,309	**$ 149,589**
Potential Additional Revenue and traffic changes at Trenton Morrisville due to Toll Diversion from Scudder Falls and toll increases													
Revenue Gain from Traffic switch to TM	$2,908,467	$2,851,350	$2,828,307	$2,819,582	$2,822,089	$2,828,373	$2,845,401	$2,865,525	$2,890,788	$2,922,726	$2,954,979	$2,992,415	
Revenue Gain from Toll Increase at TM	$11,163,695	$11,862,805	$12,493,081	$13,211,281	$13,939,526	$14,678,005	$15,507,263	$16,348,093	$17,200,727	$18,065,382	$18,942,283	$20,044,842	
AADT Switched from SF to TM - Total	1,758	1,652	1,592	1,538	1,491	1,447	1,416	1,383	1,354	1,328	1,311	1,289	
AADT Switched from SF to TM - Cars	1,465	1,362	1,306	1,255	1,211	1,172	1,142	1,112	1,086	1,062	1,047	1,028	
AADT Switched from SF to TM - Trucks	293	289	286	283	280	276	274	271	269	266	264	262	
AADT Loss at TM due to Toll Increase - Total	(4,276)	(4,345)	(4,432)	(4,512)	(4,593)	(4,660)	(4,758)	(4,843)	(4,928)	(4,998)	(5,096)	(5,129)	
AADT Loss at TM due to Toll Increase - Cars	(4,261)	(4,321)	(4,399)	(4,471)	(4,542)	(4,600)	(4,687)	(4,762)	(4,836)	(4,896)	(4,983)	(5,014)	
AADT Loss at TM due to Toll Increase - Trucks	(15)	(24)	(32)	(42)	(51)	(60)	(71)	(81)	(92)	(102)	(113)	(115)	
Total Revenue Gain at TM	$14,072,162	$14,714,155	$15,321,388	$16,030,864	$16,761,615	$17,506,378	$18,352,664	$19,213,618	$20,091,515	$20,988,107	$21,897,262	$23,037,256	
Total AADT Change at TM	(2,518)	(2,694)	(2,840)	(2,975)	(3,101)	(3,212)	(3,343)	(3,460)	(3,574)	(3,671)	(3,786)	(3,840)	

f2

Year	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Toll Rates												
Car Toll Rate	$ 3.00	$ 3.08	$ 3.15	$ 3.23	$ 3.31	$ 3.39	$ 3.48	$ 3.57	$ 3.66	$ 3.75	$ 3.84	$ 3.94
Truck Toll Rate (per axle)	$ 4.00	$ 4.10	$ 4.20	$ 4.31	$ 4.42	$ 4.53	$ 4.64	$ 4.75	$ 4.87	$ 5.00	$ 5.12	$ 5.25
CPI (for toll increases beginning in 2020)	0.0%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Video Toll Surcharge Surcharge - Car ($)	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30
Video Toll Surcharge Surcharge - Truck ($)	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30
Toll Transactions												
Annual Toll Transactions	8,342,760	8,431,187	8,518,915	8,595,019	8,671,368	8,745,143	8,811,462	8,880,926	8,946,481	9,013,232	9,077,295	9,137,443
Car AADT	21,054	21,217	21,486	21,663	21,843	21,953	22,164	22,324	22,471	22,560	22,763	22,895
Truck AADT	1,803	1,819	1,854	1,885	1,914	1,940	1,977	2,008	2,040	2,067	2,107	2,139
Toll Diversion												
Car	-28%	-28%	-28%	-28%	-27%	-27%	-27%	-27%	-27%	-27%	-27%	-27%
Truck	-33%	-33%	-33%	-33%	-33%	-33%	-33%	-33%	-33%	-33%	-33%	-33%
Total Diversion	-29%	-28%	-28%	-28%	-28%	-28%	-28%	-28%	-28%	-28%	-28%	-28%
Collectable Toll Revenue and Overall Toll Collection Costs												
ETC Toll Revenue (Received)	*$21,739,800*	*$23,633,973*	*$25,021,669*	*$26,362,234*	*$27,643,361*	*$28,850,134*	*$30,106,376*	*$31,324,470*	*$32,558,293*	*$33,679,855*	*$34,816,700*	*$36,035,767*
Video Revenue (Received) Incl. Surcharge	*$3,936,596*	*$4,505,373*	*$4,177,687*	*$3,950,275*	*$3,794,904*	*$3,695,546*	*$3,645,205*	*$3,629,128*	*$3,642,093*	*$3,745,521*	*$3,850,733*	*$3,964,229*
Total Toll Revenue (Received)	$25,676,396	$28,139,346	$29,199,355	$30,312,510	$31,438,265	$32,545,680	$33,751,581	$34,953,598	$36,200,386	$37,425,376	$38,667,433	$39,999,995
Fee Revenue ($30 Violation Fee)	$1,564,709	$1,310,480	$1,189,094	$1,098,836	$1,032,095	$983,126	$947,589	$922,209	$905,247	$911,662	$918,130	$924,651
ETC Transaction Costs	-$882,226	-$945,340	-$987,595	-$1,025,386	-$1,060,056	-$1,091,630	-$1,122,349	-$1,151,724	-$1,180,347	-$1,204,981	-$1,229,683	-$1,255,564
Video Toll Collection Costs	-$2,966,367	-$2,506,264	-$2,275,834	-$2,104,792	-$1,978,556	-$1,886,208	-$1,819,593	-$1,772,387	-$1,741,279	-$1,755,059	-$1,768,969	-$1,783,126
Net Revenue (sum of Toll Rev, Fee Rev, and Toll Collection Costs)	$23,392,512	$25,998,222	$27,125,021	$28,281,167	$29,431,748	$30,550,968	$31,757,228	$32,951,696	$34,184,007	$35,376,998	$36,586,911	$37,885,956
Video Toll Collection Costs												
Cost of Invoicing	-$628,970	-$526,805	-$478,031	-$441,766	-$414,952	-$395,280	-$381,007	-$370,815	-$364,007	-$366,596	-$369,207	-$371,839
Video Account Costs	-$1,666,890	-$1,396,133	-$1,266,873	-$1,170,764	-$1,099,701	-$1,047,568	-$1,009,741	-$982,731	-$964,689	-$971,550	-$978,468	-$985,443
Non-EZ Trx Costs (excl Itoll)	-$571,560	-$478,723	-$434,403	-$401,450	-$377,084	-$359,209	-$346,240	-$336,980	-$330,794	-$333,148	-$335,521	-$337,913
Credit Card Fees (Video Only)	-$98,946	-$104,604	-$96,527	-$90,813	-$86,818	-$84,151	-$82,606	-$81,860	-$81,788	-$83,764	-$85,773	-$87,931
Video Toll Collection Costs	-$2,966,367	-$2,506,264	-$2,275,834	-$2,104,792	-$1,978,556	-$1,886,208	-$1,819,593	-$1,772,387	-$1,741,279	-$1,755,059	-$1,768,969	-$1,783,126
Cost per Video Transaction	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1
Cost per ETC Transaction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Incremental Cost of Video per Transaction	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1
Additional Cost to Collect Video Tolls (deducting cost of traditional ETC Transaction)	-$2,811,119	-$2,376,224	-$2,157,825	-$1,995,729	-$1,876,106	-$1,788,609	-$1,725,514	-$1,680,818	-$1,651,387	-$1,664,525	-$1,677,787	-$1,691,291
Video Toll Surcharge and Violation Fee Revenue												
Video Surcharge Revenue	$1,008,866	$1,126,712	$1,022,440	$944,913	$887,594	$845,547	$815,043	$793,268	$778,728	$784,285	$789,888	$795,537
Fee Revenue	$1,564,709	$1,310,480	$1,189,094	$1,098,836	$1,032,095	$983,126	$947,589	$922,209	$905,247	$911,662	$918,130	$924,651
Video Surcharge and Fee Revenue	$2,573,575	$2,437,192	$2,211,534	$2,043,748	$1,919,689	$1,828,673	$1,762,632	$1,715,477	$1,683,975	$1,695,947	$1,708,018	$1,720,188
Uncollectable Video Toll Revenue (due to bad images, etc - calculated using ETC Toll Rate)												
Uncollectable Video Toll Revenue	-$2,890,763	-$2,496,296	-$2,328,550	-$2,216,376	-$2,143,680	-$2,098,910	-$2,085,052	-$2,088,232	-$2,110,041	-$2,182,876	-$2,257,036	-$2,338,096
Uncollectable Video Toll Revenue considered in evaluation of Video Toll Surcharge?	No	No	No	No	No	No	No	No	No	No	No	No
% of Total Transactions that are Uncollectable	10%	8%	8%	7%	6%	6%	6%	6%	5%	5%	5%	5%
% of Car Video Transactions that are Uncollectable	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%
% of Truck Video Transactions that are Uncollectable	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%
Net Video (Sum of Additional Cost to Collect, Video Surcharge and Fee Revenue, and Uncollectable Video Toll Revenue if considered)	-$237,544	$60,968	$53,709	$48,020	$43,583	$40,064	$37,119	$34,658	$32,587	$31,422	$30,231	$28,897
Potential Additional Revenue and traffic changes at Trenton Morrisville due to Toll Diversion from Scudder Falls and toll increases												
Revenue Gain from Traffic switch to TM	$2,448,324	$2,465,414	$2,477,598	$2,495,030	$2,516,833	$2,537,226	$2,564,436	$2,591,772	$2,621,677	$2,651,484	$2,681,587	$2,716,742
Revenue Gain from Toll Increase at TM	$11,163,695	$11,862,805	$12,493,081	$13,211,281	$13,939,526	$14,678,005	$15,507,263	$16,348,093	$17,200,727	$18,065,382	$18,942,283	$20,044,842
AADT Switched from SF to TM - Total	1,388	1,350	1,324	1,297	1,270	1,243	1,223	1,200	1,180	1,157	1,142	1,124
AADT Switched from SF to TM - Cars	1,110	1,073	1,049	1,024	1,000	976	958	937	919	899	886	870
AADT Switched from SF to TM - Trucks	278	277	275	273	270	267	265	263	261	258	256	254
AADT Loss at TM due to Toll Increase - Total	(4,276)	(4,345)	(4,432)	(4,512)	(4,593)	(4,660)	(4,758)	(4,843)	(4,928)	(4,998)	(5,096)	(5,129)
AADT Loss at TM due to Toll Increase - Cars	(4,261)	(4,321)	(4,399)	(4,471)	(4,542)	(4,600)	(4,687)	(4,762)	(4,836)	(4,896)	(4,983)	(5,014)
AADT Loss at TM due to Toll Increase - Trucks	(15)	(24)	(32)	(42)	(51)	(60)	(71)	(81)	(92)	(102)	(113)	(115)
Total Revenue Gain at TM	$13,612,019	$14,328,219	$14,970,680	$15,706,311	$16,456,359	$17,215,231	$18,071,699	$18,939,865	$19,822,404	$20,716,866	$21,623,870	$22,761,583
Total AADT Change at TM	(2,888)	(2,995)	(3,107)	(3,216)	(3,322)	(3,417)	(3,535)	(3,643)	(3,748)	(3,842)	(3,954)	(4,005)

Total 2019-2030 (Net Video): $ 203,714

g1

Year	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total 2019-2030
Toll Rates													
Car Toll Rate	$ 1.25	$ 1.25	$ 1.25	$ 1.25	$ 1.25	$ 1.25	$ 1.25	$ 1.25	$ 1.25	$ 1.25	$ 1.25	$ 1.25	
Truck Toll Rate (per axle)	$ 5.00	$ 5.00	$ 5.00	$ 5.00	$ 5.00	$ 5.00	$ 5.00	$ 5.00	$ 5.00	$ 5.00	$ 5.00	$ 5.00	
CPI (for toll increases beginning in 2020)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Video Toll Surcharge Surcharge - Car ($)	$3.60	$3.60	$3.60	$3.60	$3.60	$3.60	$3.60	$3.60	$3.60	$3.60	$3.60	$3.60	
Video Toll Surcharge Surcharge - Truck ($)	$3.60	$3.60	$3.60	$3.60	$3.60	$3.60	$3.60	$3.60	$3.60	$3.60	$3.60	$3.60	
Toll Transactions													
Annual Toll Transactions	9,211,105	9,408,927	9,541,325	9,658,071	9,763,133	9,859,508	9,949,459	10,034,696	10,116,126	10,186,051	10,256,521	10,327,540	
Car AADT	23,579	24,024	24,423	24,713	24,972	25,138	25,423	25,627	25,819	25,910	26,143	26,306	
Truck AADT	1,657	1,683	1,718	1,747	1,776	1,801	1,836	1,866	1,896	1,921	1,957	1,988	
Toll Diversion													
Car	-20%	-19%	-18%	-17%	-17%	-17%	-17%	-16%	-16%	-16%	-16%	-16%	
Truck	-39%	-38%	-38%	-38%	-38%	-38%	-38%	-38%	-38%	-38%	-38%	-38%	
Total Diversion	-21%	-20%	-20%	-19%	-19%	-19%	-19%	-18%	-18%	-18%	-18%	-18%	
Collectable Toll Revenue and Overall Toll Collection Costs													
ETC Toll Revenue (Received)	*$15,453,048*	*$16,413,524*	*$16,997,037*	*$17,491,483*	*$17,919,099*	*$18,296,762*	*$18,637,279*	*$18,950,371*	*$19,241,266*	*$19,462,745*	*$19,687,229*	*$19,914,761*	
Video Revenue (Received) Incl. Surcharge	*$4,330,528*	*$4,883,916*	*$4,452,412*	*$4,132,843*	*$3,897,999*	*$3,727,304*	*$3,605,201*	*$3,519,924*	*$3,465,207*	*$3,496,205*	*$3,527,547*	*$3,559,237*	
Total Toll Revenue (Received)	$19,783,576	$21,297,440	$21,449,449	$21,624,326	$21,817,098	$22,024,067	$22,242,481	$22,470,295	$22,706,473	$22,958,951	$23,214,776	$23,473,998	
Fee Revenue ($30 Violation Fee)	$1,471,391	$1,236,743	$1,122,071	$1,036,796	$973,730	$927,447	$893,847	$869,837	$853,774	$859,777	$865,828	$871,927	
ETC Transaction Costs	-$842,906	-$895,741	-$926,306	-$951,501	-$972,659	-$990,788	-$1,006,647	-$1,020,814	-$1,033,595	-$1,042,317	-$1,051,130	-$1,060,034	
Video Toll Collection Costs	-$3,053,982	-$2,589,467	-$2,349,854	-$2,171,698	-$2,039,978	-$1,943,348	-$1,873,243	-$1,823,193	-$1,789,766	-$1,802,511	-$1,815,360	-$1,828,315	
Net Revenue (sum of Toll Rev, Fee Rev, and Toll Collection Costs)	$17,358,078	$19,048,975	$19,295,361	$19,537,922	$19,778,191	$20,017,378	$20,256,438	$20,496,125	$20,736,886	$20,973,901	$21,214,115	$21,457,576	
Video Toll Collection Costs													
Cost of Invoicing	-$658,483	-$553,503	-$502,204	-$464,057	-$435,847	-$415,147	-$400,121	-$389,386	-$382,208	-$384,905	-$387,623	-$390,363	
Video Account Costs	-$1,753,778	-$1,474,179	-$1,337,550	-$1,235,952	-$1,160,819	-$1,105,685	-$1,065,667	-$1,037,076	-$1,017,958	-$1,025,140	-$1,032,379	-$1,039,677	
Non-EZ Trx Costs (excl Itoll)	-$537,367	-$451,699	-$409,837	-$378,708	-$355,688	-$338,796	-$326,535	-$317,776	-$311,918	-$314,120	-$316,339	-$318,576	
Credit Card Fees (Video Only)	-$104,353	-$110,086	-$100,263	-$92,981	-$87,623	-$83,720	-$80,920	-$78,954	-$77,681	-$78,347	-$79,019	-$79,699	
Video Toll Collection Costs	-$3,053,982	-$2,589,467	-$2,349,854	-$2,171,698	-$2,039,978	-$1,943,348	-$1,873,243	-$1,823,193	-$1,789,766	-$1,802,511	-$1,815,360	-$1,828,315	
Cost per Video Transaction	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	
Cost per ETC Transaction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Incremental Cost of Video per Transaction	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	
Additional Cost to Collect Video Tolls (deducting cost of traditional ETC Transaction)	-$2,908,057	-$2,466,796	-$2,238,545	-$2,068,838	-$1,943,365	-$1,851,319	-$1,784,540	-$1,736,865	-$1,705,026	-$1,717,170	-$1,729,413	-$1,741,757	
Video Toll Surcharge and Violation Fee Revenue													
Video Surcharge Revenue	$2,626,274	$2,943,579	$2,670,872	$2,468,092	$2,318,144	$2,208,119	$2,128,269	$2,071,234	$2,033,110	$2,047,498	$2,062,002	$2,076,624	
Fee Revenue	$1,471,391	$1,236,743	$1,122,071	$1,036,796	$973,730	$927,447	$893,847	$869,837	$853,774	$859,777	$865,828	$871,927	
Video Surcharge and Fee Revenue	$4,097,664	$4,180,322	$3,792,943	$3,504,888	$3,291,874	$3,135,565	$3,022,116	$2,941,071	$2,886,885	$2,907,274	$2,927,829	$2,948,551	
Uncollectable Video Toll Revenue (due to bad images, etc - calculated using ETC Toll Rate)													
Uncollectable Video Toll Revenue	-$1,839,754	-$1,562,454	-$1,430,458	-$1,333,554	-$1,263,201	-$1,212,975	-$1,178,031	-$1,154,708	-$1,141,074	-$1,155,071	-$1,169,265	-$1,183,660	
Uncollectable Video Toll Revenue considered in evaluation of Video Toll Surcharge?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
% of Total Transactions that are Uncollectable	9%	7%	6%	6%	5%	5%	5%	5%	5%	5%	5%	5%	
% of Car Video Transactions that are Uncollectable	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	
% of Truck Video Transactions that are Uncollectable	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	
Net Video (Sum of Additional Cost to Collect, Video Surcharge and Fee Revenue, and Uncollectable Video Toll Revenue if considered)	-$650,147	$151,072	$123,940	$102,496	$85,308	$71,271	$59,546	$49,498	$40,784	$35,034	$29,151	$23,133	**$ 291,811**
Potential Additional Revenue and traffic changes at Trenton Morrisville due to Toll Diversion from Scudder Falls and toll increases													
Revenue Gain from Traffic switch to TM	$2,381,214	$2,345,999	$2,343,319	$2,348,916	$2,360,878	$2,377,765	$2,398,489	$2,422,231	$2,448,557	$2,481,289	$2,514,504	$2,548,210	
Revenue Gain from Toll Increase at TM	$3,494,964	$3,534,231	$3,574,036	$3,614,382	$3,655,276	$3,696,724	$3,738,733	$3,781,310	$3,824,471	$3,868,215	$3,912,549	$3,957,482	
AADT Switched from SF to TM - Total	2,114	2,007	1,968	1,939	1,920	1,904	1,904	1,905	1,909	1,918	1,938	1,953	
AADT Switched from SF to TM - Cars	1,855	1,746	1,703	1,670	1,647	1,627	1,623	1,619	1,619	1,624	1,639	1,649	
AADT Switched from SF to TM - Trucks	259	261	265	269	273	276	281	286	290	294	299	304	
AADT Loss at TM due to Toll Increase - Total	(635)	(639)	(645)	(650)	(656)	(659)	(666)	(671)	(677)	(680)	(687)	(693)	
AADT Loss at TM due to Toll Increase - Cars	(533)	(534)	(539)	(543)	(546)	(548)	(553)	(556)	(560)	(562)	(567)	(570)	
AADT Loss at TM due to Toll Increase - Trucks	(103)	(104)	(106)	(108)	(110)	(111)	(113)	(115)	(117)	(118)	(120)	(122)	
Total Revenue Gain at TM	$5,876,177	$5,880,231	$5,917,355	$5,963,298	$6,016,155	$6,074,490	$6,137,223	$6,203,541	$6,273,028	$6,349,503	$6,427,052	$6,505,692	
Total AADT Change at TM	1,479	1,368	1,323	1,288	1,264	1,245	1,238	1,233	1,232	1,238	1,251	1,261	

g2

Year	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total 2019-2030
Toll Rates													
Car Toll Rate	$ 1.25	$ 1.25	$ 1.25	$ 1.25	$ 1.25	$ 1.25	$ 1.25	$ 1.25	$ 1.25	$ 1.25	$ 1.25	$ 1.25	
Truck Toll Rate (per axle)	$ 5.00	$ 5.00	$ 5.00	$ 5.00	$ 5.00	$ 5.00	$ 5.00	$ 5.00	$ 5.00	$ 5.00	$ 5.00	$ 5.00	
CPI (for toll increases beginning in 2020)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Video Toll Surcharge Surcharge - Car ($)	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	
Video Toll Surcharge Surcharge - Truck ($)	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	
Toll Transactions													
Annual Toll Transactions	9,682,046	9,804,213	9,899,561	9,988,728	10,073,363	10,154,711	10,233,715	10,311,085	10,387,203	10,458,882	10,531,118	10,603,915	
Car AADT	24,843	25,081	25,383	25,600	25,803	25,926	26,184	26,367	26,545	26,638	26,877	27,045	
Truck AADT	1,684	1,706	1,739	1,767	1,795	1,819	1,853	1,883	1,913	1,939	1,975	2,007	
Toll Diversion													
Car	-15%	-15%	-15%	-14%	-14%	-14%	-14%	-14%	-14%	-14%	-14%	-14%	
Truck	-38%	-38%	-38%	-38%	-38%	-38%	-38%	-38%	-38%	-38%	-38%	-38%	
Total Diversion	-17%	-17%	-17%	-16%	-16%	-16%	-16%	-16%	-16%	-16%	-16%	-16%	
Collectable Toll Revenue and Overall Toll Collection Costs													
ETC Toll Revenue (Received)	*$15,510,352*	*$16,461,771*	*$17,040,896*	*$17,532,091*	*$17,957,316*	*$18,333,238*	*$18,672,506*	*$18,984,721*	*$19,275,049*	*$19,496,829*	*$19,721,617*	*$19,949,456*	
Video Revenue (Received) Incl. Surcharge	*$3,155,409*	*$3,567,322*	*$3,258,171*	*$3,029,612*	*$2,862,100*	*$2,740,849*	*$2,654,672*	*$2,595,105*	*$2,557,630*	*$2,582,384*	*$2,607,432*	*$2,632,780*	
Total Toll Revenue (Received)	$18,665,761	$20,029,093	$20,299,067	$20,561,702	$20,819,415	$21,074,087	$21,327,178	$21,579,825	$21,832,679	$22,079,213	$22,329,049	$22,582,236	
Fee Revenue ($30 Violation Fee)	$1,830,947	$1,538,530	$1,395,565	$1,289,229	$1,210,563	$1,152,803	$1,110,841	$1,080,822	$1,060,700	$1,068,038	$1,075,433	$1,082,887	
ETC Transaction Costs	-$847,932	-$899,962	-$930,133	-$955,036	-$975,978	-$993,947	-$1,009,692	-$1,023,776	-$1,036,501	-$1,045,244	-$1,054,077	-$1,063,002	
Video Toll Collection Costs	-$3,443,236	-$2,909,929	-$2,640,030	-$2,439,314	-$2,290,863	-$2,181,905	-$2,102,793	-$2,046,245	-$2,008,398	-$2,022,461	-$2,036,636	-$2,050,925	
Net Revenue (sum of Toll Rev, Fee Rev, and Toll Collection Costs)	$16,205,541	$17,757,732	$18,124,469	$18,456,581	$18,763,137	$19,051,038	$19,325,535	$19,590,627	$19,848,479	$20,079,546	$20,313,769	$20,551,196	
Video Toll Collection Costs													
Cost of Invoicing	-$735,611	-$618,157	-$560,737	-$518,030	-$486,438	-$463,244	-$446,395	-$434,345	-$426,270	-$429,228	-$432,209	-$435,214	
Video Account Costs	-$1,949,509	-$1,638,232	-$1,486,059	-$1,372,878	-$1,289,153	-$1,227,683	-$1,183,033	-$1,151,096	-$1,129,697	-$1,137,536	-$1,145,436	-$1,153,399	
Non-EZ Trx Costs (excl Itoll)	-$668,432	-$561,706	-$509,532	-$470,727	-$442,021	-$420,946	-$405,638	-$394,689	-$387,352	-$390,041	-$392,751	-$395,482	
Credit Card Fees (Video Only)	-$89,685	-$91,834	-$83,702	-$77,679	-$73,251	-$70,031	-$67,727	-$66,115	-$65,079	-$65,656	-$66,240	-$66,830	
Video Toll Collection Costs	-$3,443,236	-$2,909,929	-$2,640,030	-$2,439,314	-$2,290,863	-$2,181,905	-$2,102,793	-$2,046,245	-$2,008,398	-$2,022,461	-$2,036,636	-$2,050,925	
Cost per Video Transaction	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	
Cost per ETC Transaction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Incremental Cost of Video per Transaction	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	
Additional Cost to Collect Video Tolls (deducting cost of traditional ETC Transaction)	-$3,261,801	-$2,757,454	-$2,501,711	-$2,311,522	-$2,170,859	-$2,067,617	-$1,992,657	-$1,939,078	-$1,903,219	-$1,916,549	-$1,929,985	-$1,943,529	
Video Toll Surcharge and Violation Fee Revenue													
Video Surcharge Revenue	$1,179,366	$1,321,467	$1,198,758	$1,107,495	$1,039,988	$990,428	$954,434	$928,693	$911,450	$917,792	$924,184	$930,627	
Fee Revenue	$1,830,947	$1,538,530	$1,395,565	$1,289,229	$1,210,563	$1,152,803	$1,110,841	$1,080,822	$1,060,700	$1,068,038	$1,075,433	$1,082,887	
Video Surcharge and Fee Revenue	$3,010,314	$2,859,996	$2,594,324	$2,396,724	$2,250,551	$2,143,231	$2,065,275	$2,009,515	$1,972,150	$1,985,830	$1,999,618	$2,013,513	
Uncollectable Video Toll Revenue (due to bad images, etc - calculated using ETC Toll Rate)													
Uncollectable Video Toll Revenue	-$2,107,551	-$1,787,974	-$1,635,505	-$1,523,440	-$1,441,939	-$1,383,602	-$1,342,844	-$1,315,448	-$1,299,190	-$1,314,618	-$1,330,260	-$1,346,118	
Uncollectable Video Toll Revenue considered in evaluation of Video Toll Surcharge?	No	No	No	No	No	No	No	No	No	No	No	No	
% of Total Transactions that are Uncollectable	10%	8%	8%	7%	6%	6%	6%	6%	5%	5%	5%	5%	
% of Car Video Transactions that are Uncollectable	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	
% of Truck Video Transactions that are Uncollectable	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	
Net Video (Sum of Additional Cost to Collect, Video Surcharge and Fee Revenue, and Uncollectable Video Toll Revenue if considered)	-$251,488	$102,542	$92,613	$85,202	$79,692	$75,614	$72,618	$70,437	$68,931	$69,281	$69,632	$69,984	**$ 77,658**
Potential Additional Revenue and traffic changes at Trenton Morrisville due to Toll Diversion from Scudder Falls and toll increases													
Revenue Gain from Traffic switch to TM	$2,156,337	$2,156,636	$2,171,241	$2,189,667	$2,211,090	$2,234,888	$2,260,594	$2,287,856	$2,316,490	$2,348,142	$2,380,267	$2,412,872	
Revenue Gain from Toll Increase at TM	$3,494,964	$3,534,231	$3,574,036	$3,614,382	$3,655,276	$3,696,724	$3,738,733	$3,781,310	$3,824,471	$3,868,215	$3,912,549	$3,957,482	
AADT Switched from SF to TM - Total	1,703	1,663	1,656	1,650	1,649	1,647	1,656	1,663	1,672	1,681	1,699	1,712	
AADT Switched from SF to TM - Cars	1,451	1,408	1,396	1,386	1,381	1,375	1,380	1,382	1,386	1,391	1,404	1,413	
AADT Switched from SF to TM - Trucks	252	255	260	264	268	272	277	281	286	290	295	300	
AADT Loss at TM due to Toll Increase - Total	(635)	(639)	(645)	(650)	(656)	(659)	(666)	(671)	(677)	(680)	(687)	(693)	
AADT Loss at TM due to Toll Increase - Cars	(533)	(534)	(539)	(543)	(546)	(548)	(553)	(556)	(560)	(562)	(567)	(570)	
AADT Loss at TM due to Toll Increase - Trucks	(103)	(104)	(106)	(108)	(110)	(111)	(113)	(115)	(117)	(118)	(120)	(122)	
Total Revenue Gain at TM	$5,651,300	$5,690,868	$5,745,277	$5,804,049	$5,866,366	$5,931,613	$5,999,328	$6,069,167	$6,140,962	$6,216,357	$6,292,816	$6,370,354	
Total AADT Change at TM	1,068	1,024	1,010	1,000	993	988	990	992	996	1,001	1,011	1,019	

h1

Year	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Toll Rates													
Car Toll Rate	$ 1.25	$ 1.28	$ 1.31	$ 1.35	$ 1.38	$ 1.41	$ 1.45	$ 1.49	$ 1.52	$ 1.56	$ 1.60	$ 1.64	
Truck Toll Rate (per axle)	$ 5.00	$ 5.13	$ 5.25	$ 5.38	$ 5.52	$ 5.66	$ 5.80	$ 5.94	$ 6.09	$ 6.24	$ 6.40	$ 6.56	
CPI (for toll increases beginning in 2020)	0.0%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	
Video Toll Surcharge Surcharge - Car ($)	$4.00	$4.00	$4.00	$4.00	$4.00	$4.00	$4.00	$4.00	$4.00	$4.00	$4.00	$4.00	
Video Toll Surcharge Surcharge - Truck ($)	$4.00	$4.00	$4.00	$4.00	$4.00	$4.00	$4.00	$4.00	$4.00	$4.00	$4.00	$4.00	
Toll Transactions													
Annual Toll Transactions	9,108,630	9,303,375	9,443,596	9,561,033	9,676,344	9,775,492	9,865,440	9,952,386	10,036,761	10,100,666	10,174,008	10,246,554	
Car AADT	23,298	23,743	24,162	24,456	24,742	24,917	25,201	25,409	25,611	25,684	25,925	26,094	
Truck AADT	1,657	1,676	1,711	1,739	1,768	1,792	1,828	1,858	1,887	1,913	1,949	1,979	
Toll Diversion													
Car	-21%	-19%	-19%	-18%	-18%	-18%	-17%	-17%	-17%	-17%	-17%	-17%	
Truck	-39%	-39%	-39%	-39%	-39%	-39%	-38%	-38%	-38%	-38%	-38%	-38%	
Total Diversion	-22%	-21%	-20%	-20%	-20%	-19%	-19%	-19%	-19%	-19%	-19%	-19%	
Collectable Toll Revenue and Overall Toll Collection Costs													
ETC Toll Revenue (Received)	*$15,443,539*	*$16,764,611*	*$17,789,519*	*$18,789,784*	*$19,720,917*	*$20,614,064*	*$21,542,327*	*$22,464,086*	*$23,337,471*	*$24,232,317*	*$25,117,469*	*$26,025,429*	
Video Revenue (Received) Incl. Surcharge	*$4,419,282*	*$5,013,063*	*$4,612,868*	*$4,328,947*	*$4,122,940*	*$3,980,827*	*$3,894,785*	*$3,846,141*	*$3,824,571*	*$3,903,128*	*$3,984,082*	*$4,067,102*	
Total Toll Revenue (Received)	$19,862,821	$21,777,674	$22,402,387	$23,118,732	$23,843,857	$24,594,891	$25,437,112	$26,310,227	$27,162,042	$28,135,445	$29,101,550	$30,092,531	
Fee Revenue ($30 Violation Fee)	$1,393,029	$1,167,600	$1,059,419	$978,977	$919,492	$875,784	$844,167	$821,539	$806,355	$812,058	$817,806	$823,601	
ETC Transaction Costs	-$841,865	-$900,151	-$938,676	-$972,598	-$1,003,272	-$1,030,656	-$1,056,912	-$1,082,034	-$1,105,437	-$1,125,843	-$1,146,782	-$1,168,066	
Video Toll Collection Costs	-$2,927,209	-$2,477,175	-$2,248,916	-$2,079,438	-$1,954,194	-$1,862,339	-$1,796,212	-$1,749,128	-$1,717,744	-$1,730,860	-$1,744,114	-$1,757,502	
Net Revenue (sum of Toll Rev, Fee Rev, and Toll Collection Costs)	$17,486,776	$19,567,948	$20,274,214	$21,045,672	$21,805,883	$22,577,680	$23,428,154	$24,300,604	$25,145,217	$26,090,800	$27,028,461	$27,990,564	
Video Toll Collection Costs													
Cost of Invoicing	-$631,296	-$529,162	-$480,156	-$443,718	-$416,774	-$396,978	-$382,662	-$372,418	-$365,546	-$368,140	-$370,756	-$373,393	
Video Account Costs	-$1,682,549	-$1,410,340	-$1,279,728	-$1,182,611	-$1,110,801	-$1,058,039	-$1,019,883	-$992,580	-$974,266	-$981,180	-$988,151	-$995,178	
Non-EZ Trx Costs (excl Itoll)	-$508,823	-$426,506	-$387,009	-$357,641	-$335,926	-$319,971	-$308,433	-$300,178	-$294,640	-$296,732	-$298,841	-$300,967	
Credit Card Fees (Video Only)	-$104,540	-$111,165	-$102,022	-$95,468	-$90,693	-$87,351	-$85,235	-$83,953	-$83,292	-$84,807	-$86,367	-$87,964	
Video Toll Collection Costs	-$2,927,209	-$2,477,175	-$2,248,916	-$2,079,438	-$1,954,194	-$1,862,339	-$1,796,212	-$1,749,128	-$1,717,744	-$1,730,860	-$1,744,114	-$1,757,502	
Cost per Video Transaction	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	
Cost per ETC Transaction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Incremental Cost of Video per Transaction	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	$2	
Additional Cost to Collect Video Tolls (deducting cost of traditional ETC Transaction)	-$2,789,010	-$2,361,325	-$2,143,789	-$1,982,283	-$1,862,933	-$1,775,408	-$1,712,411	-$1,667,566	-$1,637,683	-$1,650,228	-$1,662,906	-$1,675,713	
Video Toll Surcharge and Violation Fee Revenue													
Video Surcharge Revenue	$2,763,374	$3,088,551	$2,802,637	$2,590,052	$2,432,873	$2,317,395	$2,233,903	$2,174,171	$2,134,115	$2,149,309	$2,164,628	$2,180,073	
Fee Revenue	$1,393,029	$1,167,600	$1,059,419	$978,977	$919,492	$875,784	$844,167	$821,539	$806,355	$812,058	$817,806	$823,601	
Video Surcharge and Fee Revenue	$4,156,403	$4,256,150	$3,862,056	$3,569,029	$3,352,365	$3,193,179	$3,078,069	$2,995,710	$2,940,471	$2,961,367	$2,982,434	$3,003,674	
Uncollectable Video Toll Revenue (due to bad images, etc - calculated using ETC Toll Rate)													
Uncollectable Video Toll Revenue	-$1,796,185	-$1,557,417	-$1,460,971	-$1,398,644	-$1,357,357	-$1,334,313	-$1,330,160	-$1,336,875	-$1,352,034	-$1,404,509	-$1,457,020	-$1,511,558	
Uncollectable Video Toll Revenue considered in evaluation of Video Toll Surcharge?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
% of Total Transactions that are Uncollectable	8%	7%	6%	6%	5%	5%	5%	4%	4%	4%	4%	4%	
% of Car Video Transactions that are Uncollectable	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	Total
% of Truck Video Transactions that are Uncollectable	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	2019-2030
Net Video (Sum of Additional Cost to Collect, Video Surcharge and Fee Revenue, and Uncollectable Video Toll Revenue if considered)	-$428,792	$337,408	$257,296	$188,102	$132,076	$83,458	$35,498	-$8,731	-$49,247	-$93,370	-$137,492	-$183,598	**$ 97,488**
Potential Additional Revenue and traffic changes at Trenton Morrisville due to Toll Diversion from Scudder Falls and toll increases													
Revenue Gain from Traffic switch to TM	$2,422,203	$2,398,170	$2,391,751	$2,397,326	$2,406,104	$2,423,202	$2,442,184	$2,464,138	$2,491,288	$2,525,260	$2,557,603	$2,592,131	
Revenue Gain from Toll Increase at TM	$3,494,964	$3,928,783	$4,370,368	$4,952,640	$5,411,252	$5,878,140	$6,489,224	$7,110,934	$7,605,857	$8,248,568	$8,902,594	$9,673,098	
AADT Switched from SF to TM - Total	2,204	2,049	1,959	1,874	1,807	1,752	1,705	1,659	1,626	1,596	1,570	1,542	
AADT Switched from SF to TM - Cars	1,945	1,793	1,705	1,622	1,558	1,505	1,460	1,417	1,386	1,359	1,335	1,309	
AADT Switched from SF to TM - Trucks	259	257	254	252	249	246	244	242	240	237	236	234	
AADT Loss at TM due to Toll Increase - Total	(635)	(696)	(761)	(841)	(902)	(960)	(1,040)	(1,116)	(1,175)	(1,247)	(1,324)	(1,335)	
AADT Loss at TM due to Toll Increase - Cars	(533)	(585)	(639)	(707)	(759)	(807)	(875)	(939)	(988)	(1,048)	(1,113)	(1,120)	
AADT Loss at TM due to Toll Increase - Trucks	(103)	(112)	(122)	(134)	(143)	(152)	(165)	(177)	(187)	(198)	(211)	(215)	
Total Revenue Gain at TM	$5,917,167	$6,326,953	$6,762,119	$7,349,966	$7,817,355	$8,301,342	$8,931,407	$9,575,072	$10,097,145	$10,773,828	$11,460,197	$12,265,230	
Total AADT Change at TM	1,569	1,353	1,198	1,033	906	792	665	542	451	349	246	208	

h2

Year	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Toll Rates													
Car Toll Rate	$ 1.25	$ 1.28	$ 1.31	$ 1.35	$ 1.38	$ 1.41	$ 1.45	$ 1.49	$ 1.52	$ 1.56	$ 1.60	$ 1.64	
Truck Toll Rate (per axle)	$ 5.00	$ 5.13	$ 5.25	$ 5.38	$ 5.52	$ 5.66	$ 5.80	$ 5.94	$ 6.09	$ 6.24	$ 6.40	$ 6.56	
CPI (for toll increases beginning in 2020)	0.0%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	
Video Toll Surcharge Surcharge - Car ($)	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	
Video Toll Surcharge Surcharge - Truck ($)	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	$1.30	
Toll Transactions													
Annual Toll Transactions	9,682,046	9,783,321	9,878,531	9,961,673	10,052,951	10,133,920	10,210,477	10,287,858	10,365,846	10,431,868	10,507,340	10,582,031	
Car AADT	24,843	25,032	25,333	25,534	25,756	25,878	26,129	26,311	26,495	26,572	26,820	26,995	
Truck AADT	1,684	1,698	1,731	1,759	1,787	1,810	1,845	1,875	1,904	1,931	1,967	1,997	
Toll Diversion													
Car	-15%	-15%	-15%	-15%	-14%	-14%	-14%	-14%	-14%	-14%	-14%	-14%	
Truck	-38%	-38%	-38%	-38%	-38%	-38%	-38%	-38%	-38%	-38%	-38%	-38%	
Total Diversion	-17%	-17%	-17%	-17%	-17%	-16%	-16%	-16%	-16%	-16%	-16%	-16%	
Collectable Toll Revenue and Overall Toll Collection Costs													
ETC Toll Revenue (Received)	*$15,510,352*	*$16,822,026*	*$17,842,951*	*$18,840,590*	*$19,769,858*	*$20,661,920*	*$21,589,652*	*$22,511,403*	*$23,385,104*	*$24,281,677*	*$25,168,465*	*$26,078,104*	
Video Revenue (Received) Incl. Surcharge	*$3,155,409*	*$3,608,629*	*$3,346,503*	*$3,167,053*	*$3,039,724*	*$2,956,633*	*$2,915,077*	*$2,900,775*	*$2,903,829*	*$2,983,966*	*$3,066,641*	*$3,151,500*	
Total Toll Revenue (Received)	$18,665,761	$20,430,655	$21,189,455	$22,007,643	$22,809,582	$23,618,553	$24,504,729	$25,412,179	$26,288,933	$27,265,643	$28,235,106	$29,229,604	
Fee Revenue ($30 Violation Fee)	$1,830,947	$1,534,095	$1,391,537	$1,284,870	$1,207,060	$1,149,463	$1,107,620	$1,077,684	$1,057,617	$1,064,932	$1,072,303	$1,079,732	
ETC Transaction Costs	-$847,932	-$905,259	-$943,330	-$976,916	-$1,007,350	-$1,034,559	-$1,060,693	-$1,085,733	-$1,109,088	-$1,129,543	-$1,150,529	-$1,171,862	
Video Toll Collection Costs	-$3,443,236	-$2,902,450	-$2,634,150	-$2,433,707	-$2,287,562	-$2,179,592	-$2,101,501	-$2,045,922	-$2,008,907	-$2,023,922	-$2,039,089	-$2,054,403	
Net Revenue (sum of Toll Rev, Fee Rev, and Toll Collection Costs)	$16,205,541	$18,157,041	$19,003,511	$19,881,888	$20,721,730	$21,553,865	$22,450,155	$23,358,207	$24,228,555	$25,177,110	$26,117,791	$27,083,071	
Video Toll Collection Costs													
Cost of Invoicing	-$735,611	-$616,371	-$559,114	-$516,275	-$485,027	-$461,898	-$445,098	-$433,080	-$425,028	-$427,976	-$430,948	-$433,943	
Video Account Costs	-$1,949,509	-$1,633,499	-$1,481,760	-$1,368,228	-$1,285,413	-$1,224,118	-$1,179,593	-$1,147,746	-$1,126,405	-$1,134,219	-$1,142,094	-$1,150,031	
Non-EZ Trx Costs (excl Itoll)	-$668,432	-$560,083	-$508,058	-$469,132	-$440,739	-$419,723	-$404,458	-$393,540	-$386,223	-$388,903	-$391,604	-$394,327	
Credit Card Fees (Video Only)	-$89,685	-$92,497	-$85,218	-$80,072	-$76,383	-$73,852	-$72,352	-$71,557	-$71,251	-$72,823	-$74,443	-$76,103	
Video Toll Collection Costs	-$3,443,236	-$2,902,450	-$2,634,150	-$2,433,707	-$2,287,562	-$2,179,592	-$2,101,501	-$2,045,922	-$2,008,907	-$2,023,922	-$2,039,089	-$2,054,403	
Cost per Video Transaction	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	
Cost per ETC Transaction	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Incremental Cost of Video per Transaction	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	$1	
Additional Cost to Collect Video Tolls (deducting cost of traditional ETC Transaction)	-$3,261,801	-$2,750,417	-$2,496,232	-$2,306,350	-$2,167,907	-$2,065,637	-$1,991,686	-$1,939,068	-$1,904,035	-$1,918,320	-$1,932,750	-$1,947,322	
Video Toll Surcharge and Violation Fee Revenue													
Video Surcharge Revenue	$1,179,366	$1,317,641	$1,195,283	$1,103,738	$1,036,964	$987,545	$951,652	$925,983	$908,788	$915,110	$921,481	$927,902	
Fee Revenue	$1,830,947	$1,534,095	$1,391,537	$1,284,870	$1,207,060	$1,149,463	$1,107,620	$1,077,684	$1,057,617	$1,064,932	$1,072,303	$1,079,732	
Video Surcharge and Fee Revenue	$3,010,314	$2,851,736	$2,586,820	$2,388,608	$2,244,024	$2,137,008	$2,059,272	$2,003,667	$1,966,406	$1,980,041	$1,993,784	$2,007,635	
Uncollectable Video Toll Revenue (due to bad images, etc - calculated using ETC Toll Rate)													
Uncollectable Video Toll Revenue	-$2,107,551	-$1,824,437	-$1,709,514	-$1,634,754	-$1,585,079	-$1,557,303	-$1,550,439	-$1,557,150	-$1,574,093	-$1,634,644	-$1,694,816	-$1,757,220	
Uncollectable Video Toll Revenue considered in evaluation of Video Toll Surcharge?	No	No	No	No	No	No	No	No	No	No	No	No	
% of Total Transactions that are Uncollectable	10%	8%	8%	7%	6%	6%	6%	6%	5%	5%	5%	5%	
% of Car Video Transactions that are Uncollectable	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%	Total
% of Truck Video Transactions that are Uncollectable	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%	2019-2030
Net Video (Sum of Additional Cost to Collect, Video Surcharge and Fee Revenue, and Uncollectable Video Toll Revenue if considered)	-$251,488	$101,319	$90,587	$82,258	$76,117	$71,371	$67,585	$64,599	$62,370	$61,722	$61,034	$60,313	**$ 31,052**
Potential Additional Revenue and traffic changes at Trenton Morrisville due to Toll Diversion from Scudder Falls and toll increases													
Revenue Gain from Traffic switch to TM	$2,156,337	$2,175,459	$2,189,465	$2,210,529	$2,230,183	$2,255,137	$2,280,367	$2,306,515	$2,336,115	$2,368,864	$2,399,972	$2,433,254	
Revenue Gain from Toll Increase at TM	$3,494,964	$3,928,783	$4,370,368	$4,952,640	$5,411,252	$5,878,140	$6,489,224	$7,110,934	$7,605,857	$8,248,568	$8,902,594	$9,673,098	
AADT Switched from SF to TM - Total	1,703	1,641	1,596	1,550	1,509	1,475	1,445	1,413	1,389	1,365	1,343	1,319	
AADT Switched from SF to TM - Cars	1,451	1,390	1,347	1,303	1,264	1,233	1,204	1,175	1,153	1,132	1,111	1,089	
AADT Switched from SF to TM - Trucks	252	251	249	247	245	242	240	238	236	233	232	230	
AADT Loss at TM due to Toll Increase - Total	(635)	(696)	(761)	(841)	(902)	(960)	(1,040)	(1,116)	(1,175)	(1,247)	(1,324)	(1,335)	
AADT Loss at TM due to Toll Increase - Cars	(533)	(585)	(639)	(707)	(759)	(807)	(875)	(939)	(988)	(1,048)	(1,113)	(1,120)	
AADT Loss at TM due to Toll Increase - Trucks	(103)	(112)	(122)	(134)	(143)	(152)	(165)	(177)	(187)	(198)	(211)	(215)	
Total Revenue Gain at TM	$5,651,300	$6,104,242	$6,559,834	$7,163,169	$7,641,434	$8,133,277	$8,769,591	$9,417,449	$9,941,972	$10,617,432	$11,302,566	$12,106,352	
Total AADT Change at TM	1,068	945	836	709	608	515	405	297	214	118	19	(16)	