

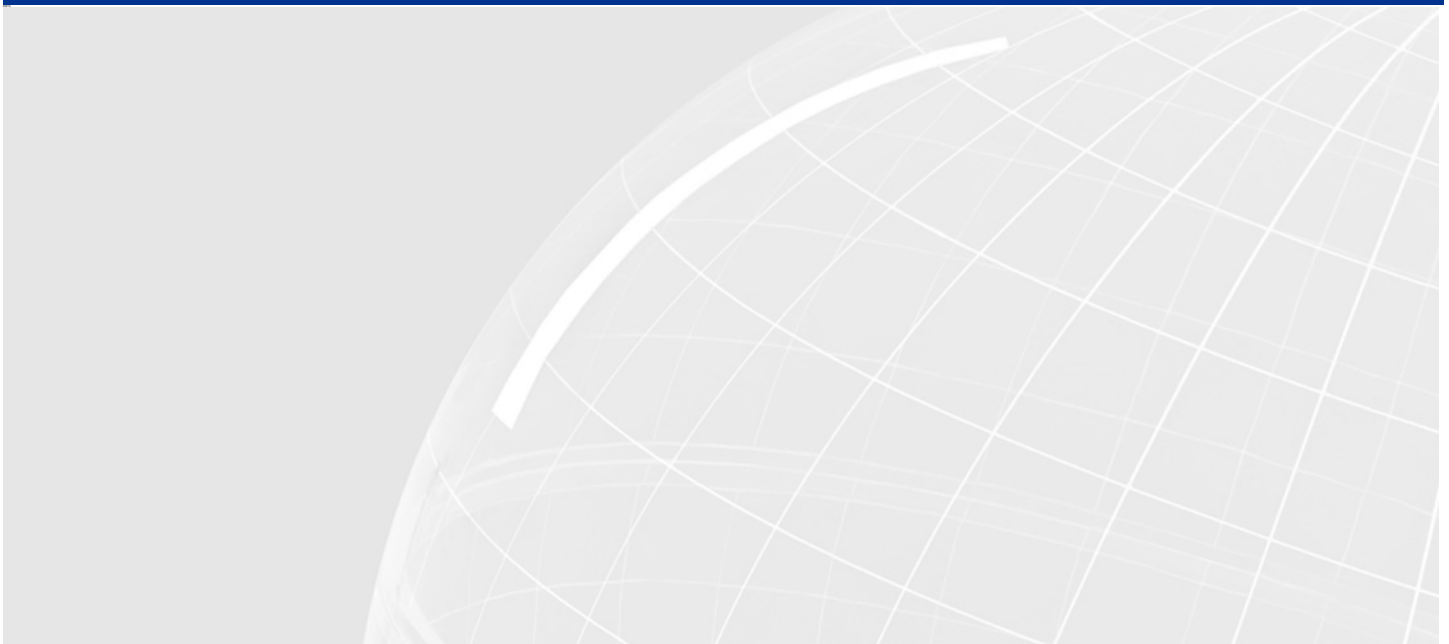


# RMTA FY2016 Annual Traffic and Toll Revenue Report

Richmond Metropolitan Transportation Authority

August 2016

Final Report





## **RMTA FY2016 Annual Traffic and Toll Revenue Report**

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## Executive Summary

The annual traffic and toll revenue report for the Richmond Metropolitan Transportation Authority (RMTA) provides a snapshot of the performance of the RMTA traffic and toll revenue in reference to historical traffic and revenue, forecasted traffic and revenue and the underlying reasons for these emerging trends. The figures below present these findings at high level.

Table 1: RMTA Traffic and Toll Revenue, FY15 to FY16

- Overall traffic and revenue grew from FY15 to FY16, at 4.7 and 4.8 percent, respectively
- The Powhite Parkway grew the most in absolute and percent terms at over 5 percent
- The Downtown Expressway showed strong growth at over 4 percent
- The Boulevard Bridge reversed its long trend of declining transactions and revenue with growth of nearly 2 percent

FY15 to FY16				
Facility	FY15	FY16	Difference	
			Absolute	Percent
Transactions				
Powhite Parkway	34,579,728	36,350,428	1,770,700	5.1%
Downtown Expressway	20,623,336	21,561,269	937,933	4.5%
Boulevard Bridge	4,262,366	4,343,172	80,806	1.9%
RMTA Total	59,465,430	62,254,869	2,789,439	4.7%
Toll Revenue				
Powhite Parkway	\$23,606,375	\$24,796,350	\$1,189,975	5.0%
Downtown Expressway	\$13,061,677	\$13,674,656	\$612,979	4.7%
Boulevard Bridge	\$1,492,920	\$1,523,353	\$30,433	2.0%
RMTA Total	\$38,160,972	\$39,994,359	\$1,833,387	4.8%

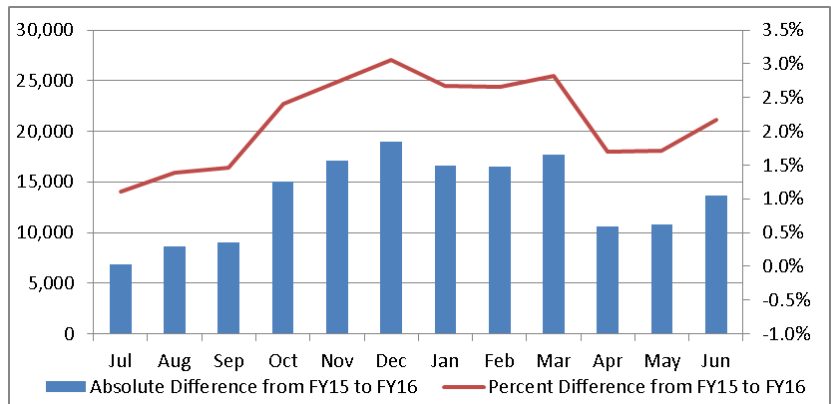
Table 2: RMTA FY16 Traffic and Toll, Actual vs. Forecast

Actual versus Forecast				
Facility	Actual	Forecast	Difference	
			Absolute	Percent
Transactions				
Powhite Parkway	36,350,428	34,552,000	1,798,428	4.9%
Downtown Expressway	21,561,269	20,258,000	1,303,269	6.0%
Boulevard Bridge	4,343,172	4,118,000	225,172	5.2%
RMTA Total	62,254,869	58,928,000	3,326,869	5.3%
Toll Revenue				
Powhite Parkway	\$24,796,350	\$23,577,000	\$1,219,350	4.9%
Downtown Expressway	\$13,674,656	\$12,835,000	\$839,656	6.1%
Boulevard Bridge	\$1,523,353	\$1,445,000	\$78,353	5.1%
RMTA Total	\$39,994,359	\$37,857,000	\$2,137,359	5.3%

- The overall forecast was easily achieved due to stronger than anticipated growth across all of RMTA's assets

Figure 1: Year over Year Employment Growth, in Absolute and Percent Terms

- Employment has emerged as the key economic indicator to predict traffic on the RMTA system
- Employment growth for the Richmond Metropolitan Area was positive and strong throughout FY16, with rates between 1.1 and 3.1 percent







## 1. Introduction

Jacobs, as the traffic and revenue consultant for the Richmond Metropolitan Transportation Authority (RMTA), provides an annual traffic and toll revenue report at the conclusion of each fiscal year. The purpose of the report is the following:

1. Provide a definitive dataset of the traffic and toll revenue achieved in the fiscal year for reference
2. Review the performance of the traffic and toll revenue forecast
3. Identify long standing and emerging trends in traffic and toll revenue on the RMTA system
4. Review external economic factors that affect traffic and toll revenue on the RMTA system; and
5. Present the current fiscal year's forecast in reference to previous year's final result.

In order to efficiently realize the stated purposes above and provide the RMTA an accessible review of the data, a series of tables and charts were developed with explanatory bullet points to provide deeper insight of trends as necessary.

The table of contents, which precedes this introduction, provides an outline of the presentation of the data.

## 2. RMTA Expressway System Overview

The Richmond Metropolitan Authority (RMA) was created by an act of the Virginia General Assembly in 1966, as an independent authority and political subdivision. The RMA was originally formed to build and maintain a toll expressway system in the City of Richmond and the surrounding areas. Over the years, the role of the RMA expanded to include parking decks, The Diamond, a baseball stadium home to the San Francisco Giants AA farm team (Richmond Flying Squirrels) and operation of the Main Street Station, a completely restored Amtrak train station in Downtown Richmond, as well as the power to construct, own, and operate coliseums and arenas. However, the RMA Expressway System was always a separate financial entity; therefore, there is no co-mingling of funds to subsidize non-Expressway projects. This allowed for the transfer of some of the non-Expressway system assets to the City of Richmond in 2013 and 2014, including the parking decks and The Diamond. On July 1, 2014 the Virginia General Assembly changed the Authority's name to the Richmond Metropolitan Transportation Authority (RMTA) to align the name with the current focus on transportation and mobility aspects of the region. This legislation also equalized representation on the Authority's Board of Directors, which consists of five appointees of the City of Richmond and Counties of Chesterfield and Henrico, and one appointee of the Commonwealth Transportation Board.

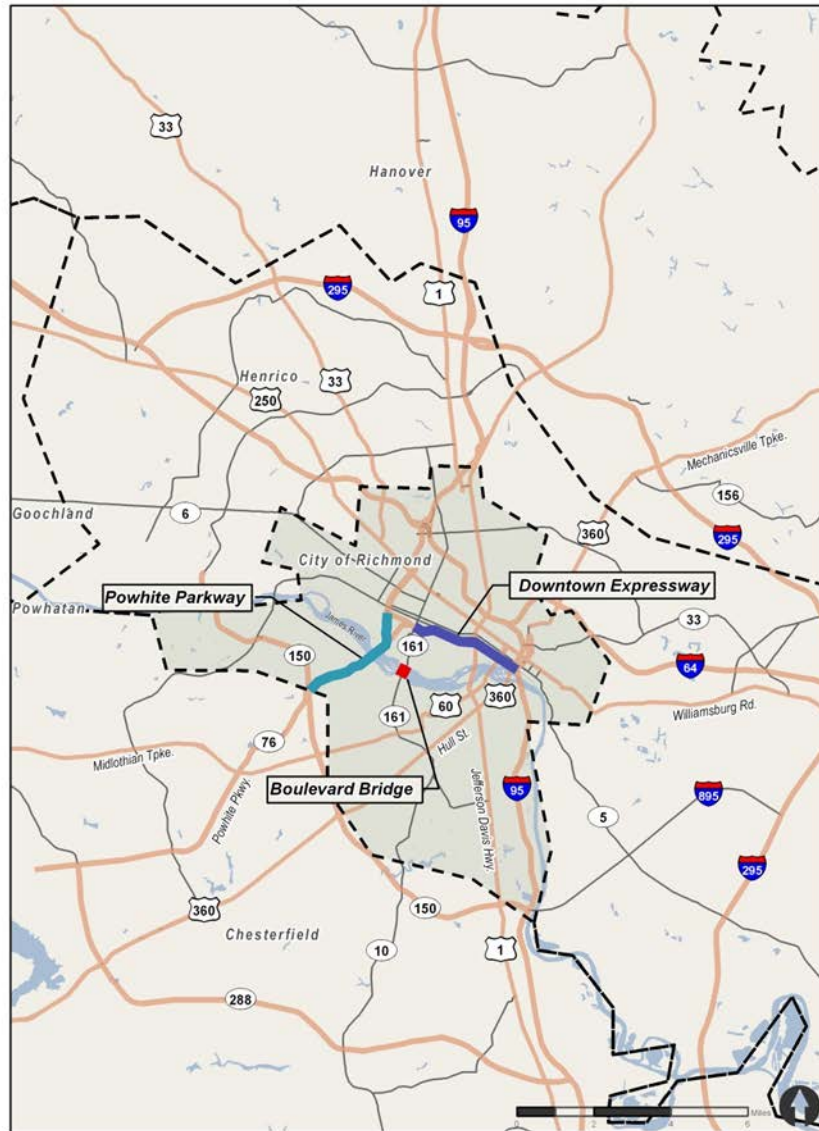
The current RMTA Expressway System consists of three facilities: the Powhite Parkway, the Downtown Expressway and the Boulevard Bridge. The location map of the RMTA Expressway System is shown in Figure 2. A further description of each of the facilities on the RMTA Expressway System follows.

The **Powhite Parkway** was opened to traffic on January 24, 1973. The limited access expressway extends 3.4 miles from Chippenham Parkway to the Cary Street ramps. The major function of the Powhite Parkway is as a crossing of the James River. There are currently three toll plazas on the Powhite Parkway, including the mainline plaza near the southern terminus, the Forest Hill ramp plaza and the Douglasdale Road ramp plaza that serve traffic to and from the north.

The **Downtown Expressway** opened to traffic in 1976, and was fully completed in 1977 with the connections to southbound I-95. The Downtown Expressway extends 2.5 miles from the Meadow Street Ramp in the west to I-95 in the east. The continuation of the Downtown Expressway to the west of Meadow Street is maintained by VDOT and offers a connection to I-195 to the north and the Powhite Parkway to the south. The Downtown Expressway has three toll plazas including the mainline plaza and two ramp plazas at 2nd and 11th streets.

The **Boulevard Bridge** was the first acquisition for the RMTA, having been purchased in November 1969. The steel truss bridge was built in 1925 to improve connectivity of the Westover Hills neighborhood south of the river to areas north of the river. With the opening of the Powhite Parkway, the Boulevard Bridge essentially serves the same role, as a neighborhood bridge for those with origins and/or destinations in close proximity to the bridge itself.

Figure 2: RMTA Expressway System



Source: City of Richmond Geographic Information Systems; ESRI Data

### 3. RMTA Toll Rates

In order to build and maintain the RMTA Expressway System, the RMTA historically has issued toll revenue bonds that are backed by the future earnings potential of the Expressway System through collection of toll revenue. The current toll schedule is shown in Table 3.

Table 3: RMTA Expressway Current Toll Schedule

Facility	Vehicle Class			
	Two Axle	Three Axle	Four Axle	Five Axle
Powwhite Parkway				
Mainline Plaza	\$0.70	\$0.80	\$0.90	\$1.00
Forest Hill Avenue	\$0.70	\$0.80	\$0.90	\$1.00
Douglasdale Road	\$0.20	\$0.40	\$0.40	\$0.40
Downtown Expressway				
Mainline Plaza	\$0.70	\$0.80	\$0.90	\$1.00
Second Street	\$0.35	\$0.70	\$0.70	\$0.70
Eleventh Street	\$0.30	\$0.60	\$0.60	\$0.60
Boulevard Bridge	\$0.35	\$0.70	N/A	N/A

The current RMTA Expressway toll schedule went into effect September 8, 2008. The previous toll schedule, which was in place for approximately 10 years, charged a \$0.50 toll for passenger cars (2-axle) at the mainline plazas of the Powwhite Parkway and the Downtown Expressway and \$0.25 for the Boulevard Bridge. A previously planned toll increase in 2018 has been removed from the current plan based on recent traffic growth.

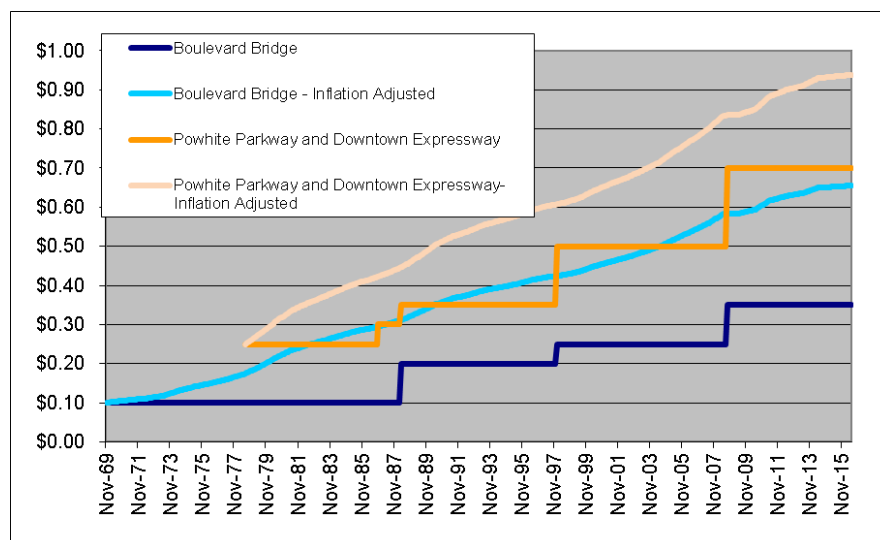
The toll rates for vehicles with more than two axles are also shown. Both of the mainline plazas and the Forest Hills ramp plaza share the characteristic of rising toll rates directly related to the number of axles the vehicle has, with a ten cent per axle surcharge above the two-axle rate. For the smaller ramp plazas of Douglasdale Road, Second Street and Eleventh Street, vehicles with more than two axles pay standard rates specific to each plaza. Vehicles with more than three axles are not allowed to access the Boulevard Bridge; therefore, no toll schedule is available for these vehicle classes.

The RMTA has increased tolls throughout the history of the Authority to fund operations, maintenance, and capital needs of their facilities while continuing to meet the demands of the growing traffic base in Richmond. The first toll increase was on July 20, 1978, which raised the two-axle toll at the Powwhite Parkway Mainline from

\$0.20 to \$0.25 and at the Downtown Expressway Mainline from \$0.15 to \$0.25. Over eight years later, the next toll increase occurred on November 1, 1986, raising mainline tolls from \$0.25 to \$0.30. A further adjustment was made on April 2, 1988 raising the two-axle toll from \$0.30 to \$0.35 at the mainline plazas, while the Boulevard Bridge saw its first toll increase from \$0.10 to \$0.20 for the same class of vehicle. Almost ten years later, January 5, 1998 the two-axle rate at the mainline plazas increased from \$0.35 to \$0.50 and the Boulevard Bridge from \$0.20 to \$0.25. On July 1, 1999 the RMTA System offered toll payment through the E-ZPass program (SmartTag at the time of implementation) which allowed motorists to pay tolls electronically. The electronic payment of tolls was \$0.45 offering a 10 percent discount to cash payment for two-axle vehicles. All other vehicle classes paid the same rate regardless of payment option. Again, the toll increase effective September 8, 2008 was the most recent adjustment providing the toll schedule shown in Table 3, removing the difference between cash and electronic payments.

It is common for toll authorities to increase tolls to keep pace with inflation to cover operating expenses, roadway and toll plaza maintenance and other such expenses that increase over time. Figure 3 provides a look at the inflation adjusted toll rates based upon the opening toll rates for the respective facilities. The inflation rate was derived from the growth in the Consumer Price Index for the region over the same time period. As shown in the Figure, inflation-adjusted toll rates are much higher than the current mainline toll rates at both the Powhite Parkway and Downtown Expressway and the bridge toll at the Boulevard Bridge. It should be noted that in July 1978 the mainline toll for the Powhite Parkway and Downtown Expressway were increased to the same level and since have shared the same toll rate and this is the basis for the analysis. Based on the inflation-adjusted rates, the opening year toll rate (1978 toll rate) would be approximately 35 percent more (\$0.95) than the current rate for the Powhite Parkway and Downtown Expressway and 89 percent more (\$0.66) for the Boulevard Bridge. This means that in real terms, the tolls are much lower than they were in the past and in each successive year continue to retreat.

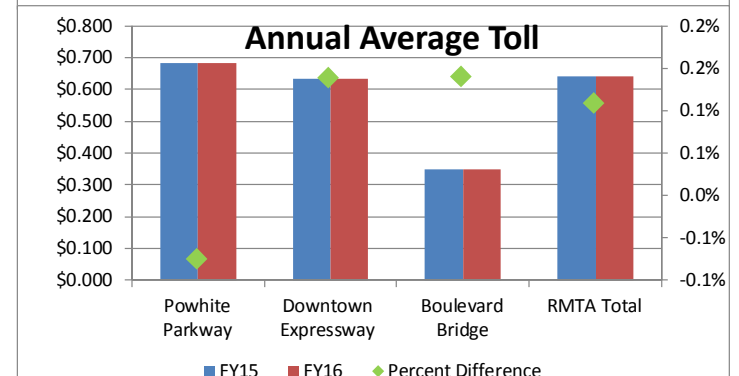
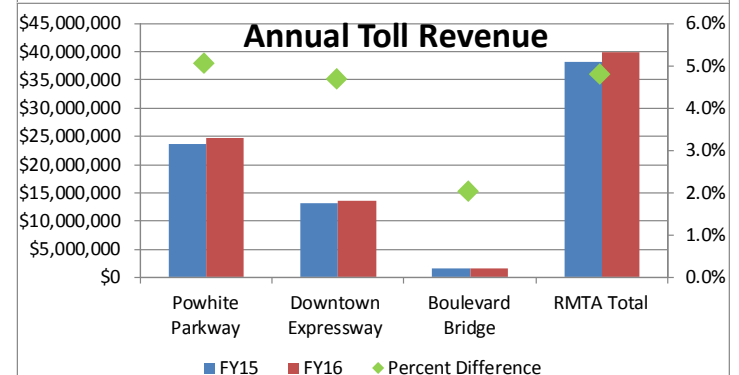
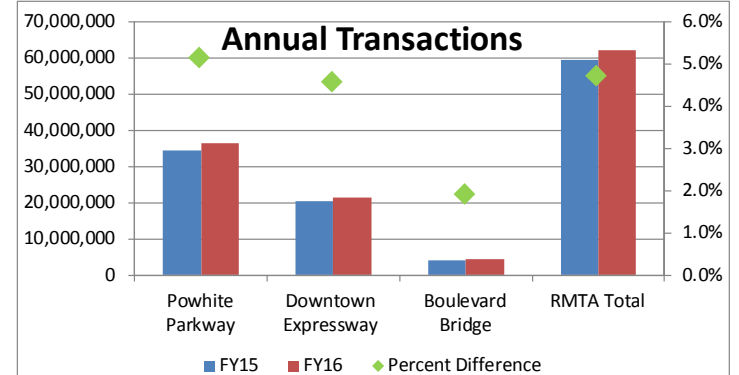
Figure 3: RMTA Historical Toll Rates since Opening Years



## 4. FY15 to FY16 Growth

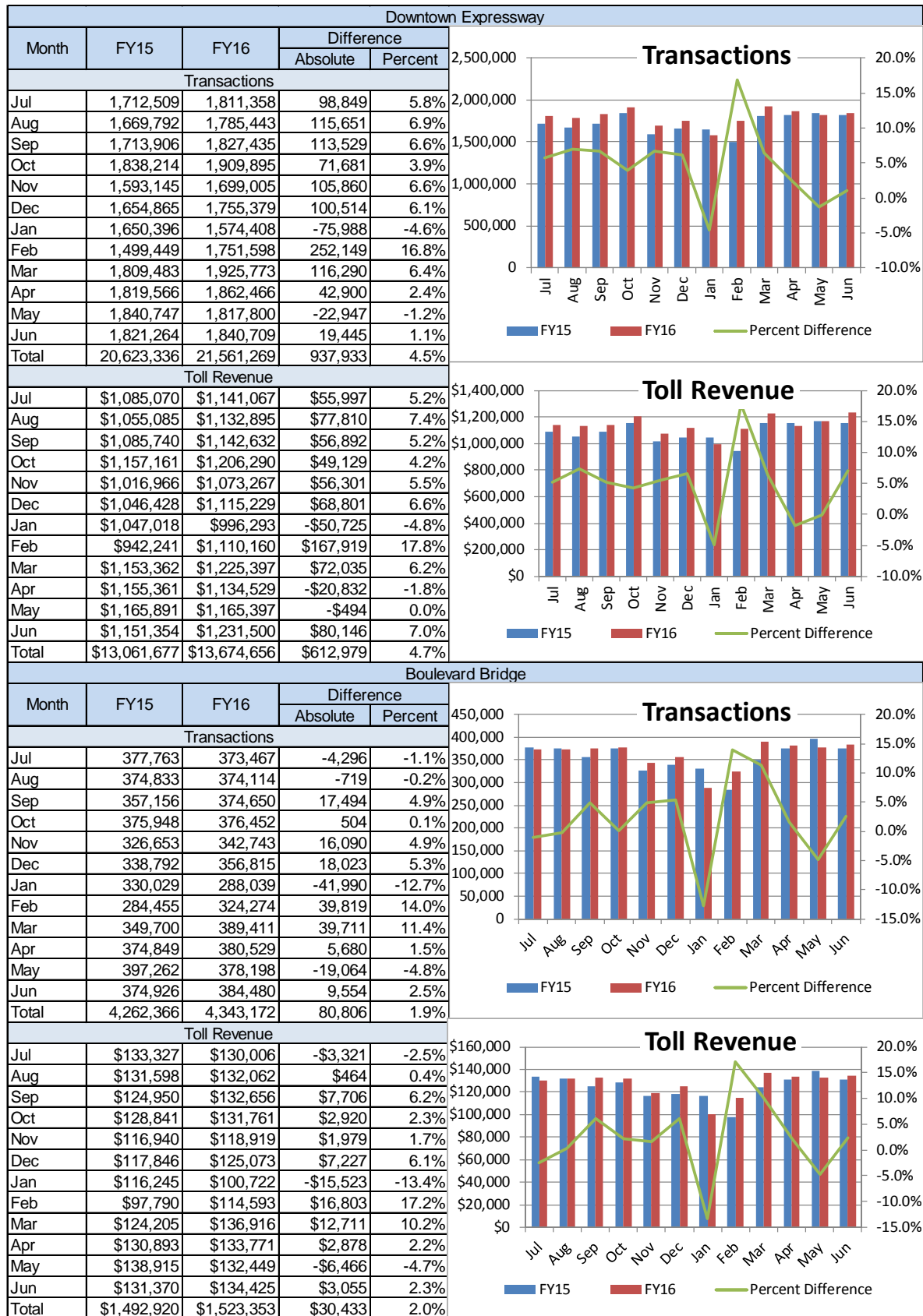
- Overall traffic and revenue grew from FY15 to FY16, at 4.7 and 4.8 percent, respectively.
- The Powhite Parkway grew the most in absolute and percent terms at over 5 percent.
- Downtown Expressway experienced healthy growth at over 4 percent.
- The Boulevard Bridge reversed its long trend of declining transactions and revenue, showing positive growth of 2 percent.
- Average Toll is relatively stable
- Monthly data follows:
  - Strong growth throughout FY16
  - Varied monthly growths mostly as a function of days of the week in the month
  - Exceptionally strong growth in February due to additional day on account of 2016 being a leap year

FY15 to FY16				
Facility	FY15	FY16	Difference	
			Absolute	Percent
Transactions				
Powhite Parkway	34,579,728	36,350,428	1,770,700	5.1%
Downtown Expressway	20,623,336	21,561,269	937,933	4.5%
Boulevard Bridge	4,262,366	4,343,172	80,806	1.9%
RMTA Total	59,465,430	62,254,869	2,789,439	4.7%
Toll Revenue				
Powhite Parkway	\$23,606,375	\$24,796,350	\$1,189,975	5.0%
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RMTA Total	\$38,160,972	\$39,994,359	\$1,833,387	4.8%
Average Toll				
Powhite Parkway	\$0.683	\$0.682	-\$0.0005	-0.1%
Downtown Expressway	\$0.633	\$0.634	\$0.0009	0.1%
Boulevard Bridge	\$0.350	\$0.351	\$0.0005	0.1%
RMTA Total	\$0.642	\$0.642	\$0.0007	0.1%







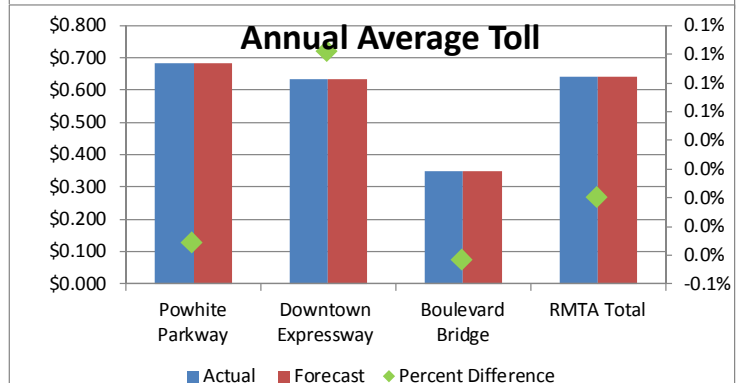
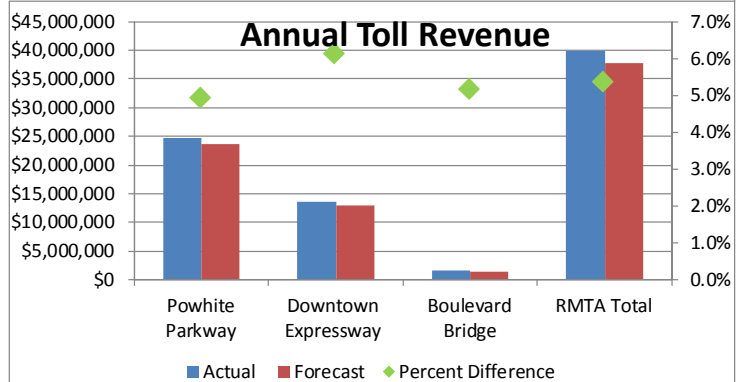
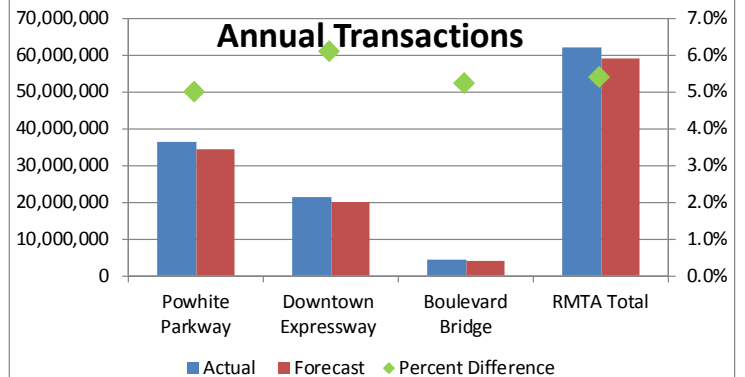




## 5. FY16 Actual vs. Forecast

- The overall forecast was easily achieved due to the stronger than anticipated growth across all assets.
- Average toll was in line with forecast.

Actual versus Forecast				
Facility	Actual	Forecast	Difference	
			Absolute	Percent
Transactions				
Powhite Parkway	36,350,428	34,552,000	1,798,428	4.9%
Downtown Expressway	21,561,269	20,258,000	1,303,269	6.0%
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RMTA Total	\$39,994,359	\$37,857,000	\$2,137,359	5.3%
Average Toll				
Powhite Parkway	\$0.682	\$0.682	-\$0.0002	0.0%
Downtown Expressway	\$0.634	\$0.634	\$0.0006	0.1%
Boulevard Bridge	\$0.351	\$0.351	-\$0.0002	0.0%
RMTA Total	\$0.642	\$0.642	\$0.0000	0.0%







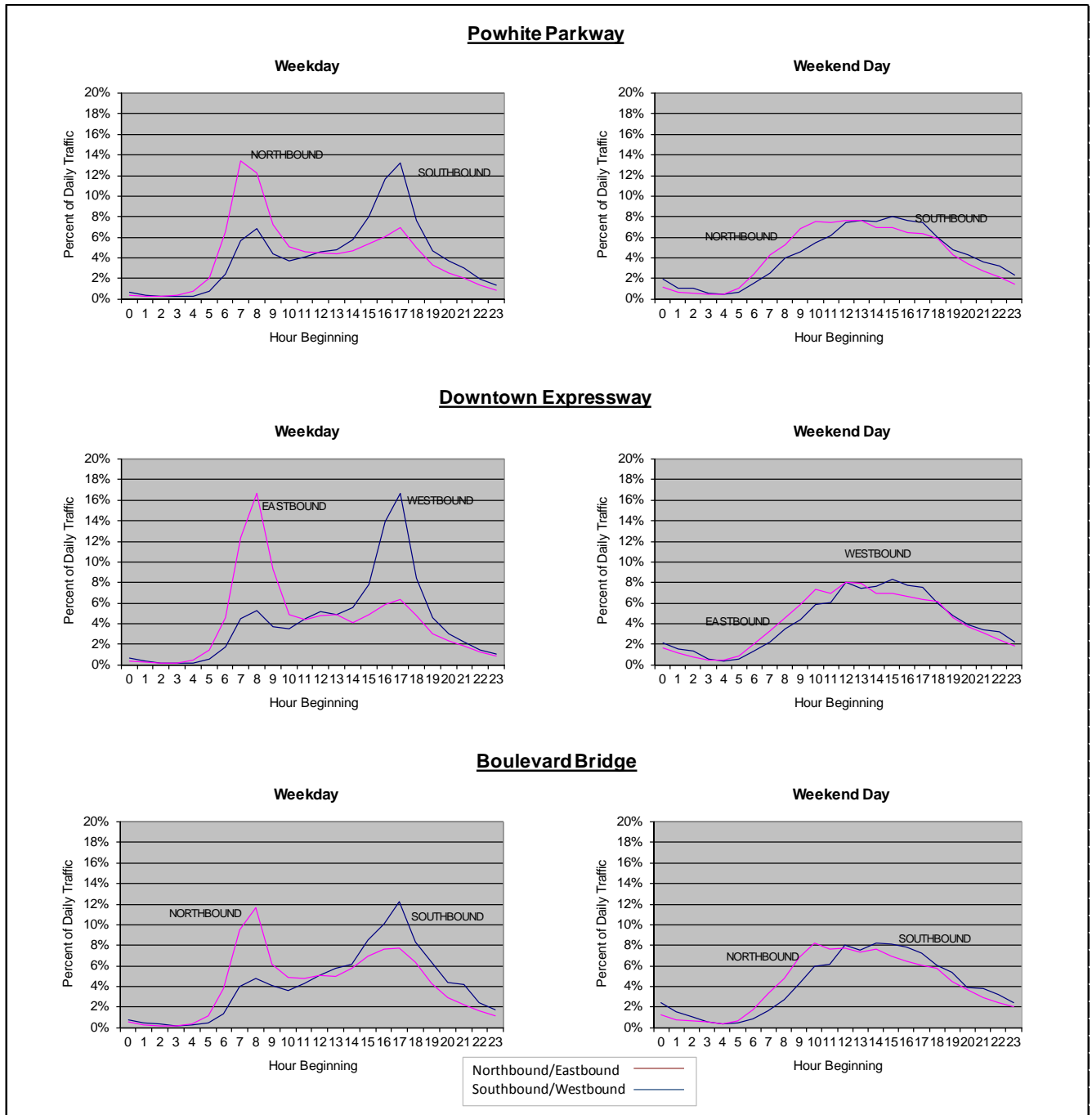
## 6. Hourly Traffic Profiles

Similar to daily traffic trends, the review of hourly traffic trends by facility provides a comprehensive understanding of the traffic on the RMTA Expressway System. Figure 4 presents the hourly traffic by facility for a typical weekday and weekend day. Each day is presented with respect to the day and the direction of travel, such that the percentage shown by direction will add up to 100 percent.

The Powhite Parkway and the Downtown Expressway show peaking characteristics by both direction and time period. Peak hour factors typically range from 8 to 12 percent of daily traffic in the peak hour. This is far exceeded for the Powhite Parkway and Downtown Expressway with the peak hours achieving up to 13 and 17 percent of daily demand, respectively. The Boulevard Bridge reaches 12 percent, the high end of this typical range. The RMTA facilities reach these peak hour ranges at 8 am in the morning, and again at 5 pm in the evening (typical commuter “rush hour”). These hourly trends have been static for a number of years. The fact that the peak hour is more pronounced on the RMTA Expressway System points to the unique nature of these facilities and the need to use specific RMTA Expressway data when conducting analysis for the System and not general traffic factors. These factors influence toll plaza sizing, ramp operations and a myriad of other items unique to the RMTA Expressway System. To address peak-hour congestion on its roadways, the RMTA has implemented open road tolling (ORT), an electronic toll collection system, on both the Powhite Parkway and Downtown Expressway. The Powhite Parkway was the first of RMTA’s facilities to use ORT, opening northbound and southbound ORT lanes in fall of 2008. Westbound ORT lanes were opened to traffic on the Downtown Expressway in fall 2012. The eastbound toll plaza did not implement ORT lanes due to the congestion and potential safety issues downstream at the exiting ramps and the downtown roadway network that may occur during the AM peak period. With the implementation of ORT both roadways experienced a reduction in peak hour congestion. Additionally, improvements have been made to existing collection equipment in an effort to modernize technologies and decrease congestion during peak hours.

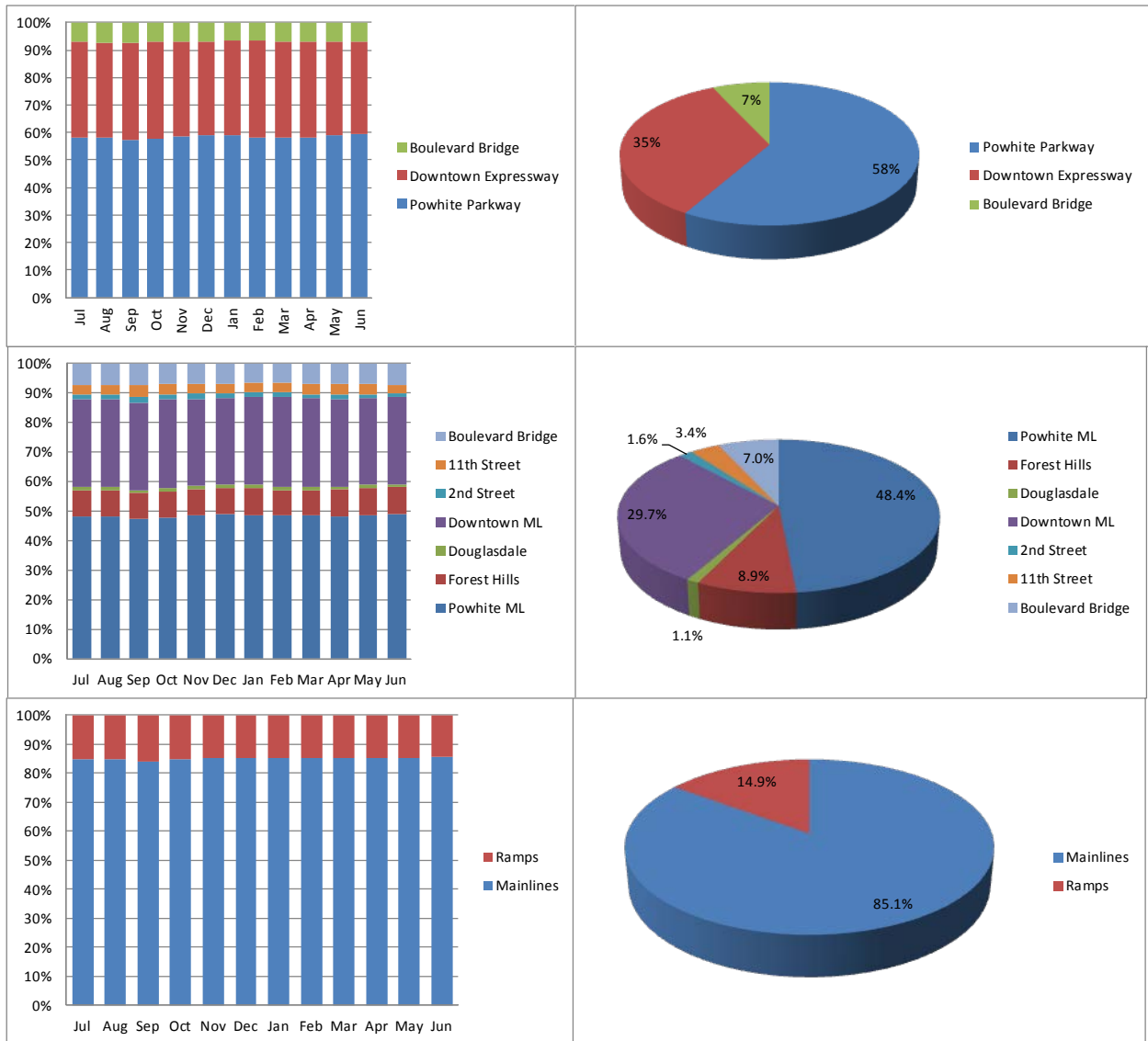
The weekend traffic is very typical of commuter routes with light traffic in the mornings and steady traffic from later morning to early evening. These lower peak percentages combined with lower overall traffic on weekend indicate that the typical weekend is congestion-free as is the known experience on the RMTA system.

Figure 4: Hourly Traffic Trends on the RMTA Expressway System

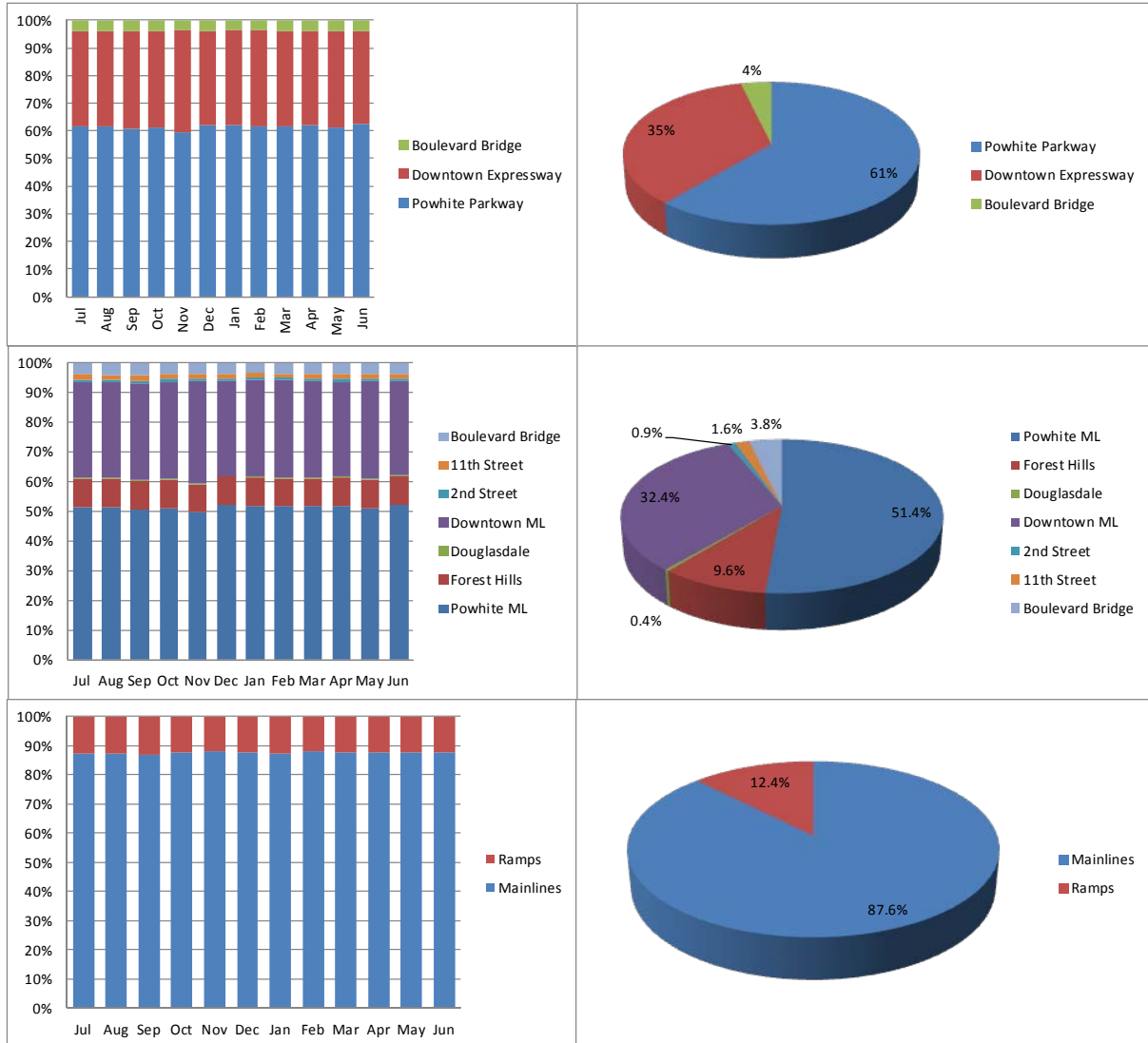


## 7. FY16 Percent Share of Traffic and Revenue by Facility

### Percent Share of Transactions - FY2016



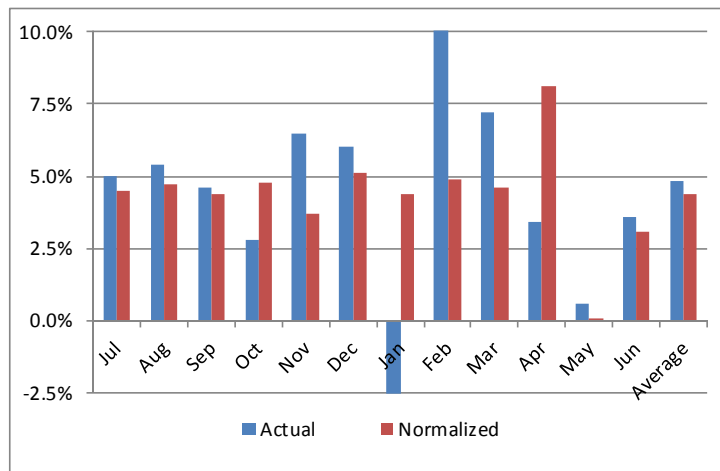
## Percent Share of Toll Revenue - FY2016



## 8. Normalized Traffic Growth

- Normalization of traffic growth rates takes into account the following:
  - Days of the week in the month
  - Timing of holidays
  - Weather events
  - Special events
- The most significant differences between actual growth and normalized growth for overall growth rates is accounting for the days of the week in the month year over year. This is demonstrated with the comparison of the average growth rates for normalized and actual (rightmost bars in the graph), which are very close.
- Even with the attempted normalization, growth rates have a wide range, which illustrates the difficulty of normalizing on small scales and the importance of the reliance of longer term trends.
- Normalized growth ranged from 0.1% to 8.1% with an average 4.4%.

Month	FY15 to FY16 Actual and Estimated Normalized Growth				
	Actual	Normalized			
	Overall	Overall	Weekday	Saturday	Sunday
Jul	5.0%	4.5%	4.5%	3.2%	6.2%
Aug	5.4%	4.7%	4.2%	9.0%	4.6%
Sep	4.6%	4.4%	4.6%	1.2%	6.0%
Oct	2.8%	4.8%	4.3%	8.1%	6.5%
Nov	6.5%	3.7%	2.4%	10.2%	7.0%
Dec	6.0%	5.1%	4.1%	11.2%	7.7%
Jan	-4.0%	4.4%	3.7%	8.2%	7.4%
Feb	17.0%	4.9%	4.6%	6.2%	7.0%
Mar	7.2%	4.6%	5.1%	1.1%	4.1%
Apr	3.4%	8.1%	9.2%	1.8%	5.4%
May	0.6%	0.1%	0.1%	0.9%	-1.0%
Jun	3.6%	3.1%	3.0%	4.1%	2.9%
Average	4.8%	4.4%	4.1%	5.4%	5.3%





## 9. Distributions of Traffic Growths

This section presents the distribution of the daily traffic growth rates by facility and day of week comparing the same day from FY15 to FY16. Because weekday and weekend traffic is so different on the RMTA system, comparisons are not made between Sunday, June 7, 2015 and Tuesday, June 7, 2016 but between the like days of Tuesday, June 9, 2015 and Tuesday, June 7, 2016.

The red lines represent the number of occurrences of a particular growth rate during the year, which provides a distribution of growth rates. On the larger scale of the full RMTA system for all days, we see an almost normal distribution emerge.

The blue lines represent the cumulative percentage share at each growth rate so that at any growth rate it can be determined the percent of daily growth rates above and below. As the distribution spreads or gets more erratic, this line flattens.

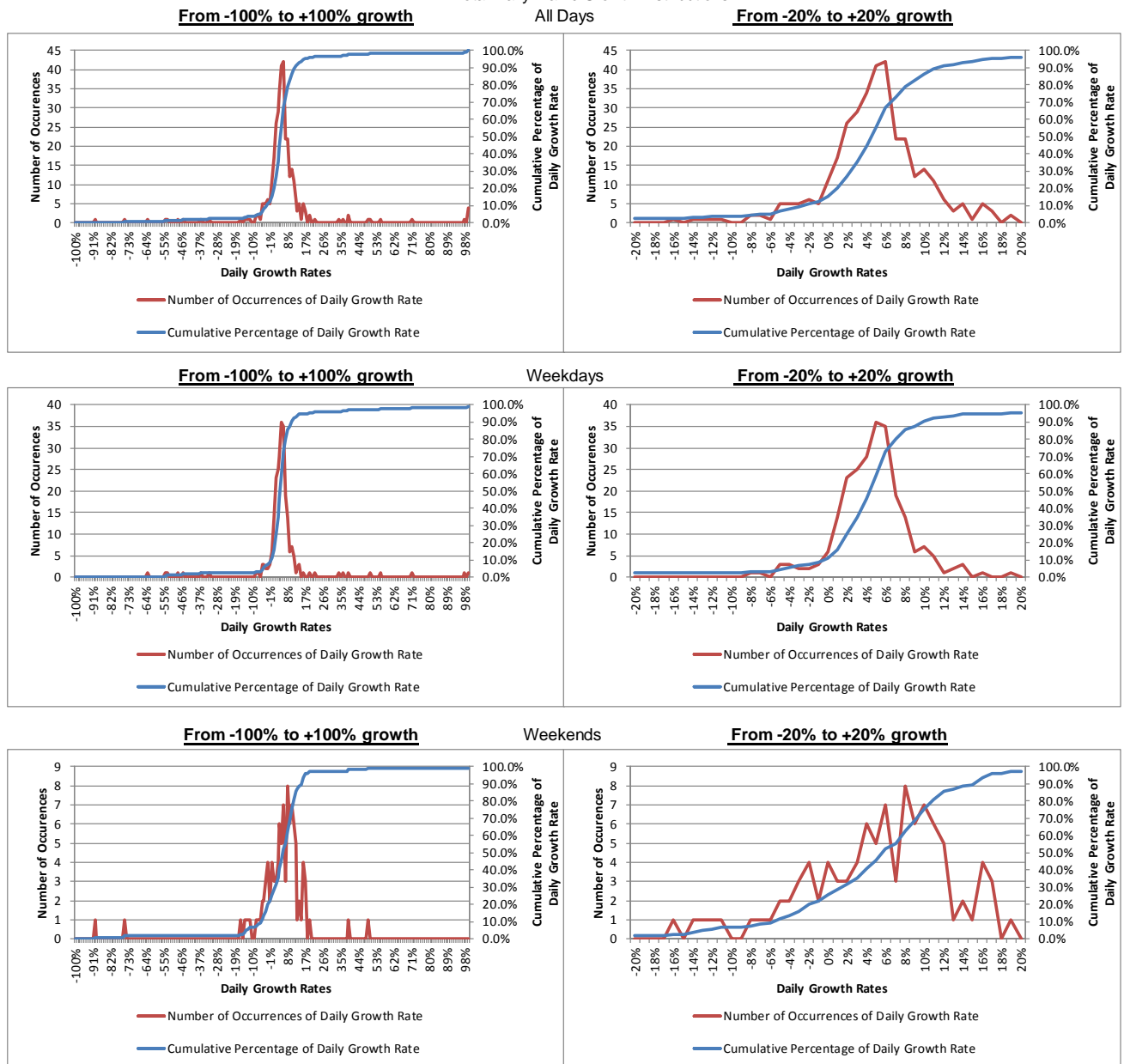
An analysis of all days, weekdays and weekend days is provided for all facilities combined (RMTA Total) and the three facilities individually. Two different scales are presented to be able to detail the middle range of growth rates, ranging from -20% to +20% on the right-hand side graphs. Additionally, the actual, the mean and the median growth rate are provided by facility for all days, weekdays, weekend days.

This analysis aids in the determination of normalized traffic growths which feed into the forecasting process.

Key takeaways:

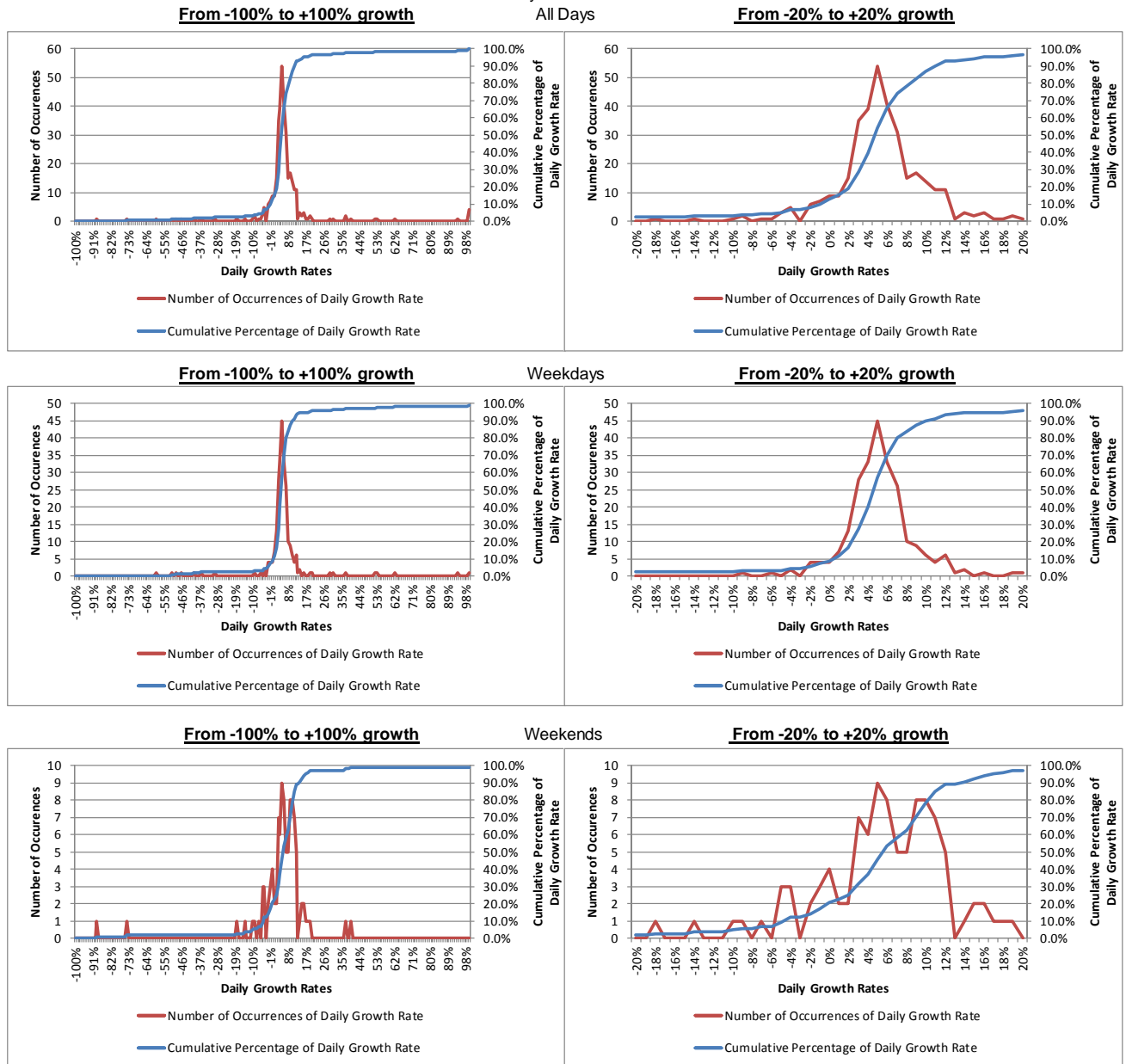
- Weekend traffic has a wider distribution of growth rates than weekday traffic as a function of low traffic levels and various special events that occur;
- Weekday traffic on the Powhite Parkway has the narrowest distribution of growth rates; and
- The Boulevard Bridge has the widest distributions.

### RMTA Total Daily Traffic Growth Distributions



Days of the Week	Daily Growth Rates		
	Actual	Mean	Median
All Days	4.8%	5.9%	4.4%
Weekdays	4.9%	6.8%	4.2%
Weekend Days	4.3%	3.7%	5.3%

### Powhite Total Daily Traffic Growth Distributions



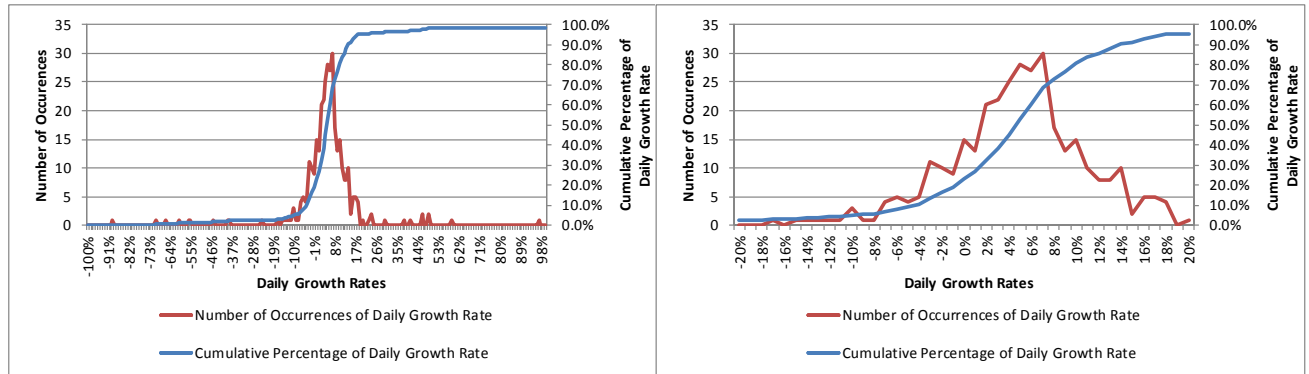
Days of the Week	Daily Growth Rates		
	Actual	Mean	Median
All Days	4.8%	6.1%	4.6%
Weekdays	5.1%	7.0%	4.5%
Weekend Days	3.7%	3.9%	5.6%

### DTE Total Daily Traffic Growth Distributions

**From -100% to +100% growth**

All Days

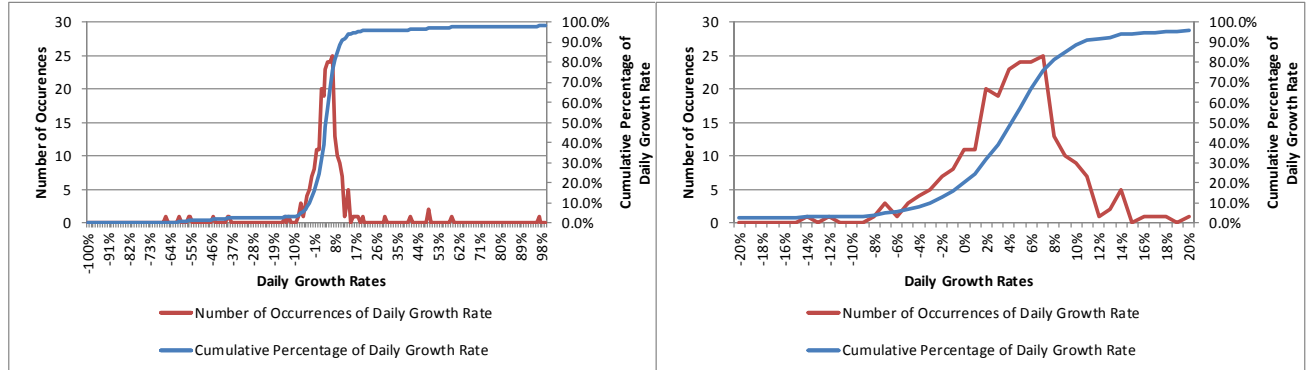
**From -20% to +20% growth**



**From -100% to +100% growth**

Weekdays

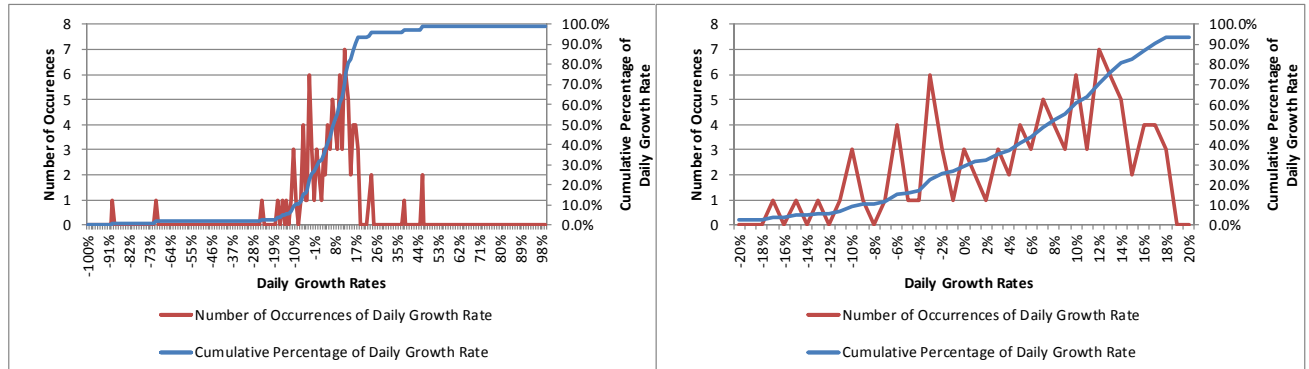
**From -20% to +20% growth**



**From -100% to +100% growth**

Weekends

**From -20% to +20% growth**



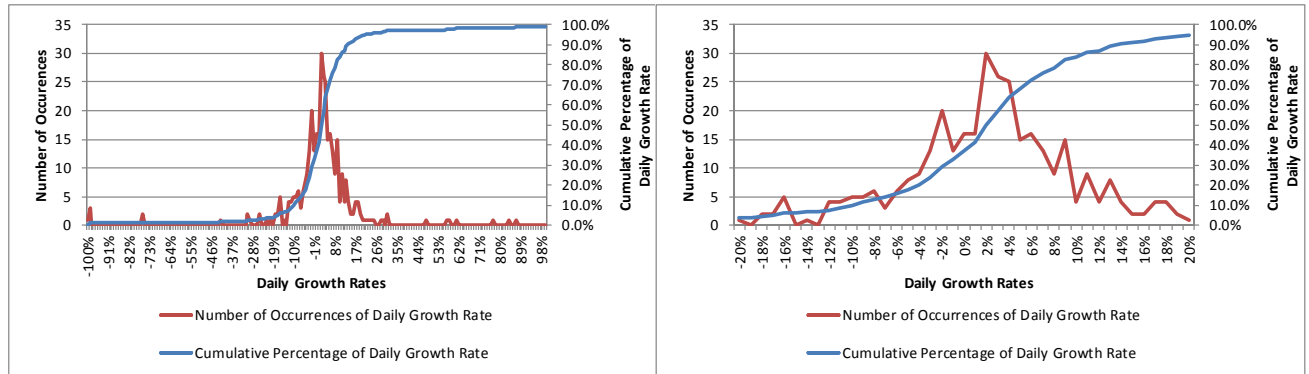
Days of the Week	Daily Growth Rates		
	Actual	Mean	Median
All Days	4.2%	6.4%	4.6%
Weekdays	4.2%	7.0%	4.2%
Weekend Days	4.4%	4.8%	7.8%

### Boulevard Bridge Daily Traffic Growth Distributions

**From -100% to +100% growth**

All Days

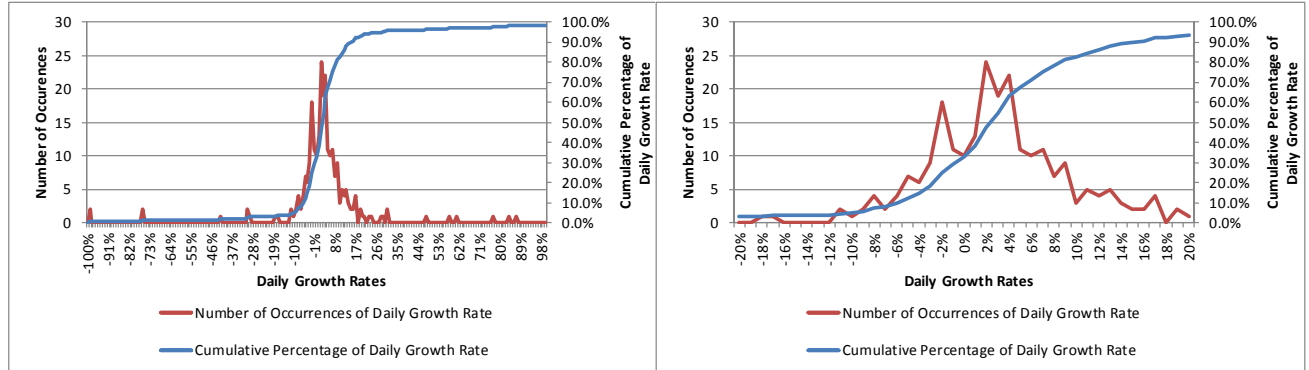
**From -20% to +20% growth**



**From -100% to +100% growth**

Weekdays

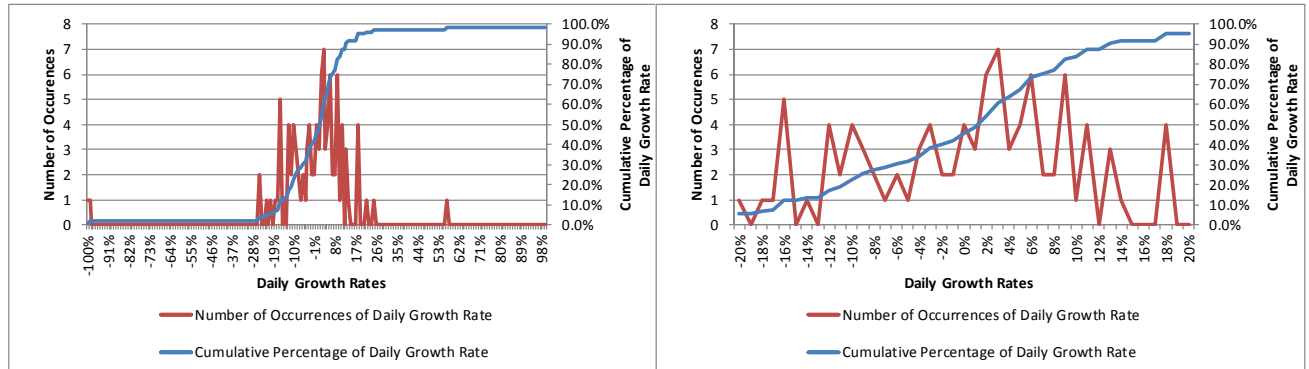
**From -20% to +20% growth**



**From -100% to +100% growth**

Weekends

**From -20% to +20% growth**



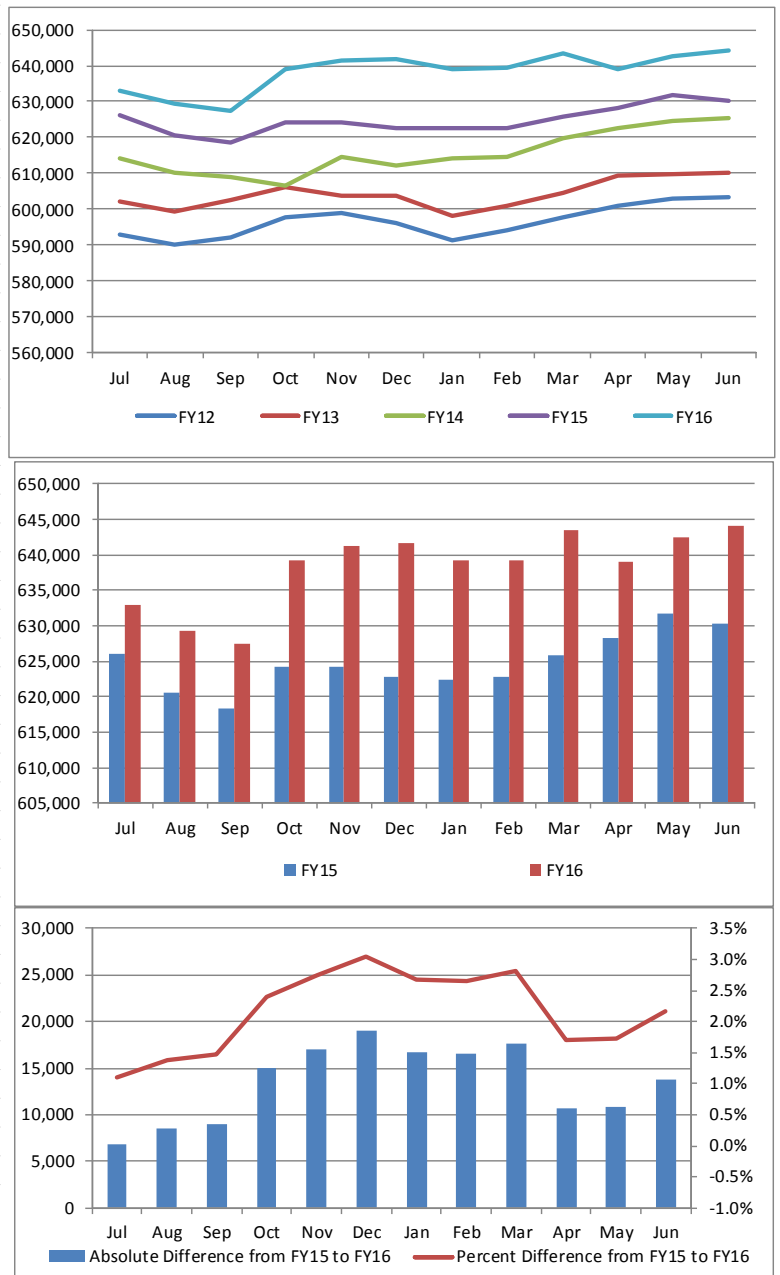
Days of the Week	Daily Growth Rates		
	Actual	Mean	Median
All Days	1.6%	4.3%	2.0%
Weekdays	2.7%	6.2%	2.3%
Weekend Days	-1.9%	-0.4%	1.3%

## 10. Employment Trends

- Employment in the Richmond Metropolitan Area has grown consistently for the last 4 years
- Average and median growth from FY12 to FY15 was 1.6 and 1.5 percent, fairly consistent
- Average and median growth for FY16 was 2.2 and 2.3 percent, respectively, which shows stronger growth than the recent past

Richmond MSA Employment					
Month	Fiscal Year				
	FY12	FY13	FY14	FY15	FY16
Jul	592,911	602,215	613,987	626,020	632,911
Aug	590,058	599,372	610,058	620,628	629,211
Sep	591,987	602,684	608,956	618,386	627,449
Oct	597,550	606,273	606,583	624,185	639,172
Nov	598,771	603,683	614,563	624,218	641,285
Dec	596,160	603,888	612,330	622,722	641,723
Jan	591,391	598,180	614,128	622,476	639,130
Feb	594,141	600,910	614,417	622,714	639,271
Mar	597,843	604,504	619,695	625,816	643,478
Apr	600,764	609,195	622,515	628,335	638,982
May	602,938	609,578	624,733	631,699	642,543
Jun	603,533	610,156	625,279	630,346	644,048
Absolute Difference From Previous Fiscal Year					
Jul		9,304	11,772	12,033	6,891
Aug		9,314	10,686	10,570	8,583
Sep		10,697	6,272	9,430	9,063
Oct		8,723	310	17,602	14,987
Nov		4,912	10,880	9,655	17,067
Dec		7,728	8,442	10,392	19,001
Jan		6,789	15,948	8,348	16,654
Feb		6,769	13,507	8,297	16,557
Mar		6,661	15,191	6,121	17,662
Apr		8,431	13,320	5,820	10,647
May		6,640	15,155	6,966	10,844
Jun		6,623	15,123	5,067	13,702
Percent Difference From Previous Fiscal Year					
Jul		1.6%	2.0%	2.0%	1.1%
Aug		1.6%	1.8%	1.7%	1.4%
Sep		1.8%	1.0%	1.5%	1.5%
Oct		1.5%	0.1%	2.9%	2.4%
Nov		0.8%	1.8%	1.6%	2.7%
Dec		1.3%	1.4%	1.7%	3.1%
Jan		1.1%	2.7%	1.4%	2.7%
Feb		1.1%	2.2%	1.4%	2.7%
Mar		1.1%	2.5%	1.0%	2.8%
Apr		1.4%	2.2%	0.9%	1.7%
May		1.1%	2.5%	1.1%	1.7%
Jun		1.1%	2.5%	0.8%	2.2%

\*Monthly Employment for Richmond MSA as defined by BLS  
Source: Bureau of Labor Statistics



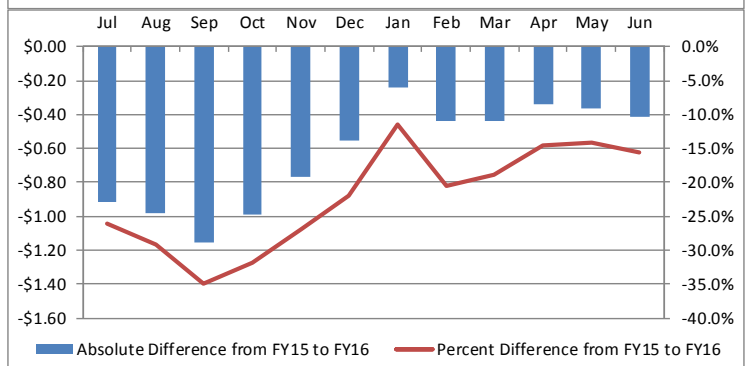
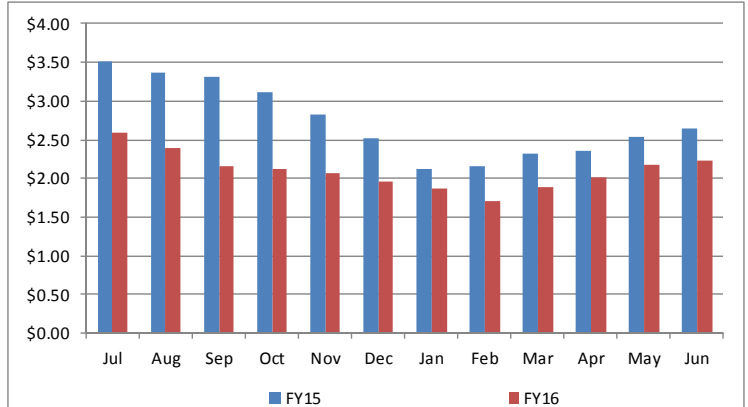
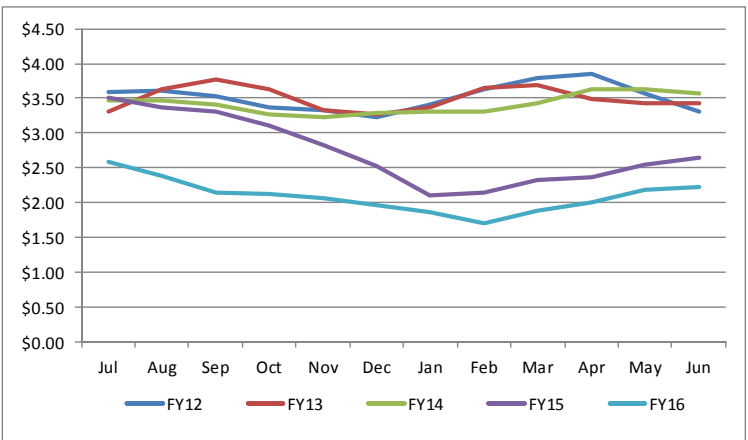
## 11. Gas Price Trends

- Substantial decrease in gas prices from FY15 to FY16 can be seen throughout the year, but peaked in the first half of FY16
- Prices have been rising since the low of \$1.70 in February 2016
- It is possible that the lower gas prices in FY16 contributed to the high growth rates on the RMTA system. There is an inverse relationship between gas prices and travel; as gas prices decrease, trip frequency and length typically increases. It is estimated that gas price changes must be substantial and quick, not gradual, to have the most impact. Also, major thresholds of whole dollar amounts may cause change in behavior as they are newsworthy events and noticeable to the public.

Regular Gas Price Per Gallon*					
Month	Fiscal Year				
	FY12	FY13	FY14	FY15	FY16
Jul	\$3.59	\$3.30	\$3.47	\$3.51	\$2.59
Aug	\$3.61	\$3.63	\$3.47	\$3.36	\$2.39
Sep	\$3.53	\$3.78	\$3.41	\$3.30	\$2.15
Oct	\$3.38	\$3.63	\$3.27	\$3.11	\$2.12
Nov	\$3.33	\$3.33	\$3.23	\$2.83	\$2.07
Dec	\$3.24	\$3.27	\$3.30	\$2.52	\$1.97
Jan	\$3.40	\$3.37	\$3.31	\$2.12	\$1.87
Feb	\$3.62	\$3.65	\$3.31	\$2.15	\$1.71
Mar	\$3.79	\$3.68	\$3.44	\$2.33	\$1.89
Apr	\$3.86	\$3.48	\$3.62	\$2.36	\$2.02
May	\$3.57	\$3.42	\$3.63	\$2.54	\$2.18
Jun	\$3.32	\$3.43	\$3.58	\$2.65	\$2.24
Absolute Difference From Previous Fiscal Year					
Jul		-\$0.29	\$0.17	\$0.04	-\$0.92
Aug		\$0.02	-\$0.16	-\$0.10	-\$0.98
Sep		\$0.25	-\$0.37	-\$0.11	-\$1.15
Oct		\$0.25	-\$0.36	-\$0.16	-\$0.99
Nov		-\$0.01	-\$0.09	-\$0.40	-\$0.76
Dec		\$0.03	\$0.03	-\$0.78	-\$0.55
Jan		-\$0.03	-\$0.05	-\$1.20	-\$0.24
Feb		\$0.02	-\$0.34	-\$1.16	-\$0.44
Mar		-\$0.10	-\$0.24	-\$1.11	-\$0.44
Apr		-\$0.37	\$0.14	-\$1.26	-\$0.34
May		-\$0.15	\$0.21	-\$1.09	-\$0.36
Jun		\$0.11	\$0.15	-\$0.93	-\$0.41
Percent Difference From Previous Fiscal Year					
Jul		-8.2%	5.0%	1.2%	-26.1%
Aug		0.6%	-4.5%	-2.9%	-29.1%
Sep		7.0%	-9.7%	-3.2%	-34.9%
Oct		7.4%	-9.9%	-4.8%	-31.8%
Nov		-0.2%	-2.9%	-12.4%	-27.0%
Dec		1.0%	0.8%	-23.6%	-21.9%
Jan		-1.0%	-1.5%	-36.2%	-11.5%
Feb		0.6%	-9.2%	-35.1%	-20.5%
Mar		-2.7%	-6.6%	-32.3%	-18.9%
Apr		-9.7%	4.0%	-34.9%	-14.5%
May		-4.1%	6.0%	-30.0%	-14.2%
Jun		3.4%	4.3%	-26.0%	-15.6%

\*Lower Atlantic (PADD 1C) Regular Conventional Retail Gasoline Prices

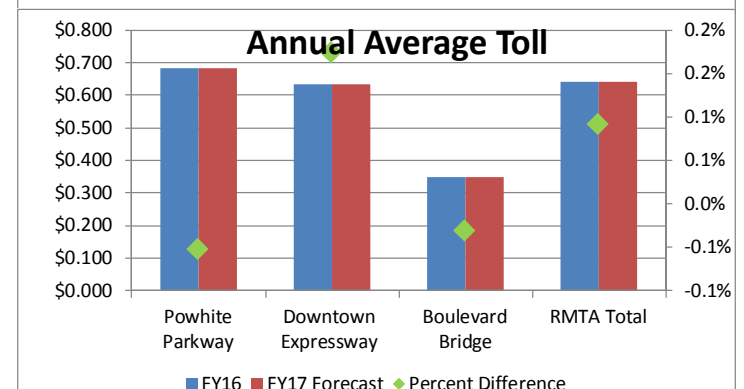
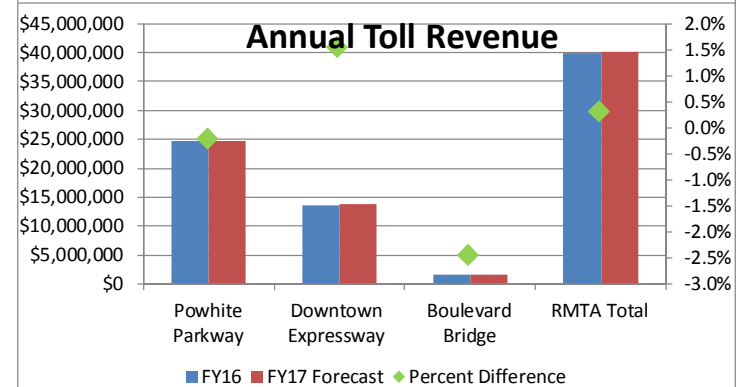
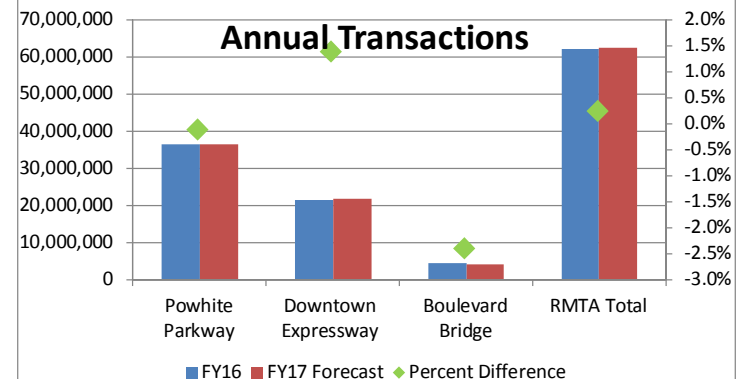
Source: US Energy Information Administration



## 12. FY16 Actual to FY17 Forecast

- The strong growth of T&R throughout FY16 has caused the FY16 actual results to meet the FY17 forecast.
- The average toll is expected to remain stable.
- The FY17 forecast is conservative and should easily be met.

FY 16 to FY17 Forecast				
Facility	FY16	FY17 Forecast	Difference	
			Absolute	Percent
Transactions				
Powhite Parkway	36,350,428	36,294,000	-56,428	-0.2%
Downtown Expressway	21,561,269	21,855,000	293,731	1.4%
Boulevard Bridge	4,343,172	4,238,000	-105,172	-2.4%
RMTA Total	62,254,869	62,387,000	132,131	0.2%
Toll Revenue				
Powhite Parkway	\$24,796,350	\$24,745,000	-\$51,350	-0.2%
Downtown Expressway	\$13,674,656	\$13,885,000	\$210,344	1.5%
Boulevard Bridge	\$1,523,353	\$1,486,000	-\$37,353	-2.5%
RMTA Total	\$39,994,359	\$40,116,000	\$121,641	0.3%
Average Toll				
Powhite Parkway	\$0.682	\$0.682	-\$0.0004	-0.1%
Downtown Expressway	\$0.634	\$0.635	\$0.0011	0.2%
Boulevard Bridge	\$0.351	\$0.351	-\$0.0001	0.0%
RMTA Total	\$0.642	\$0.643	\$0.0006	0.1%









## **13. T&R Trends by Facility**

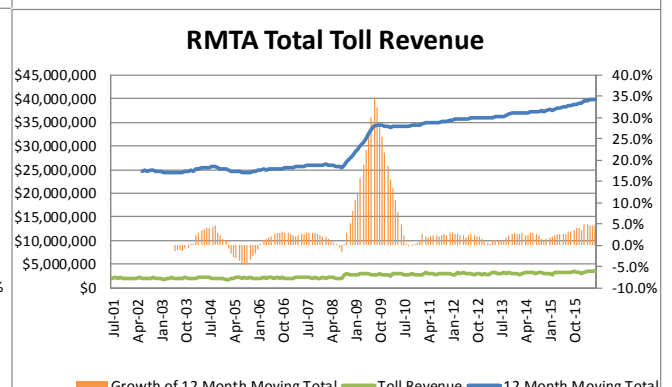
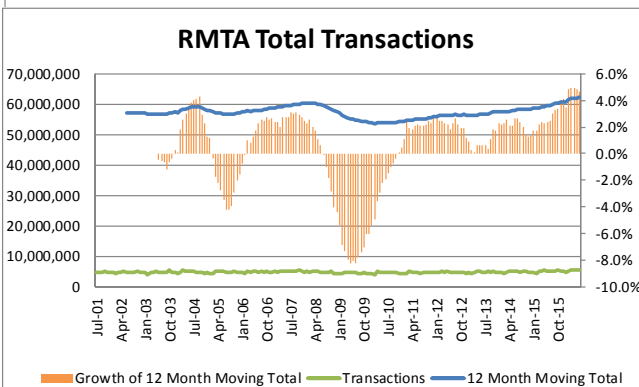
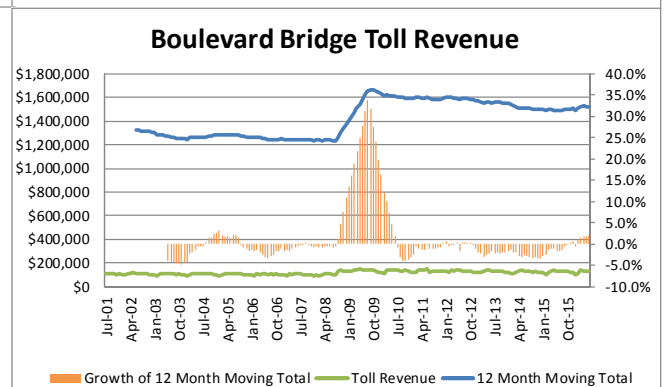
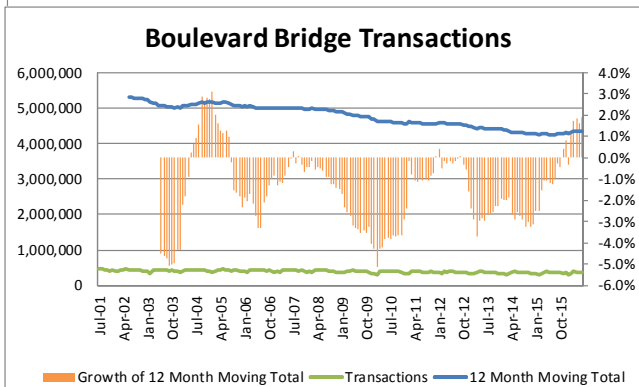
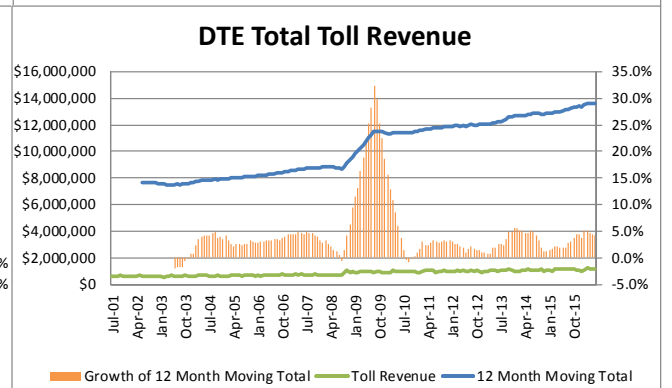
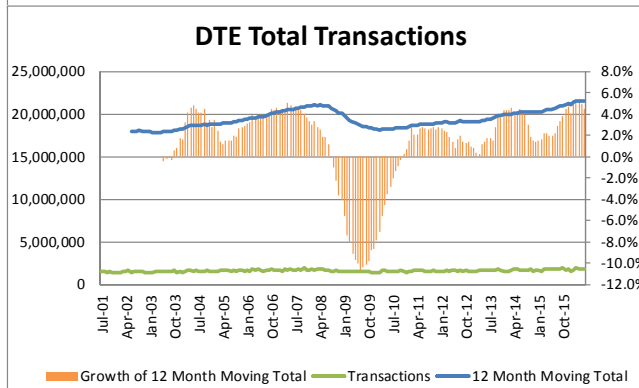
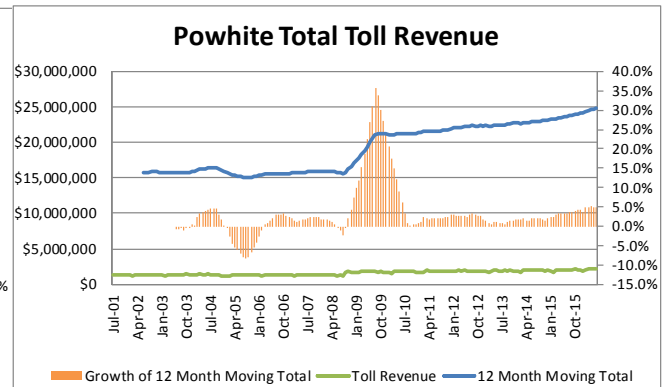
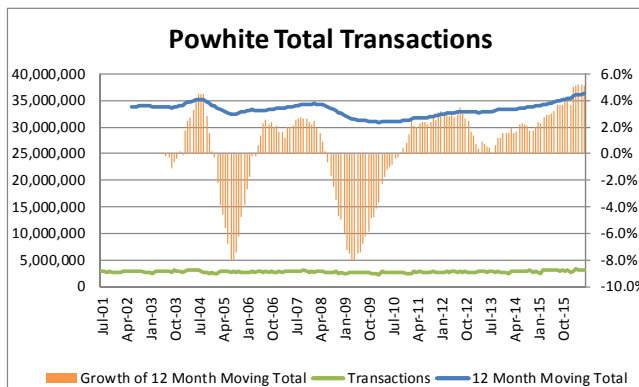
### **13.1 T&R Growth Trends for All Facilities**

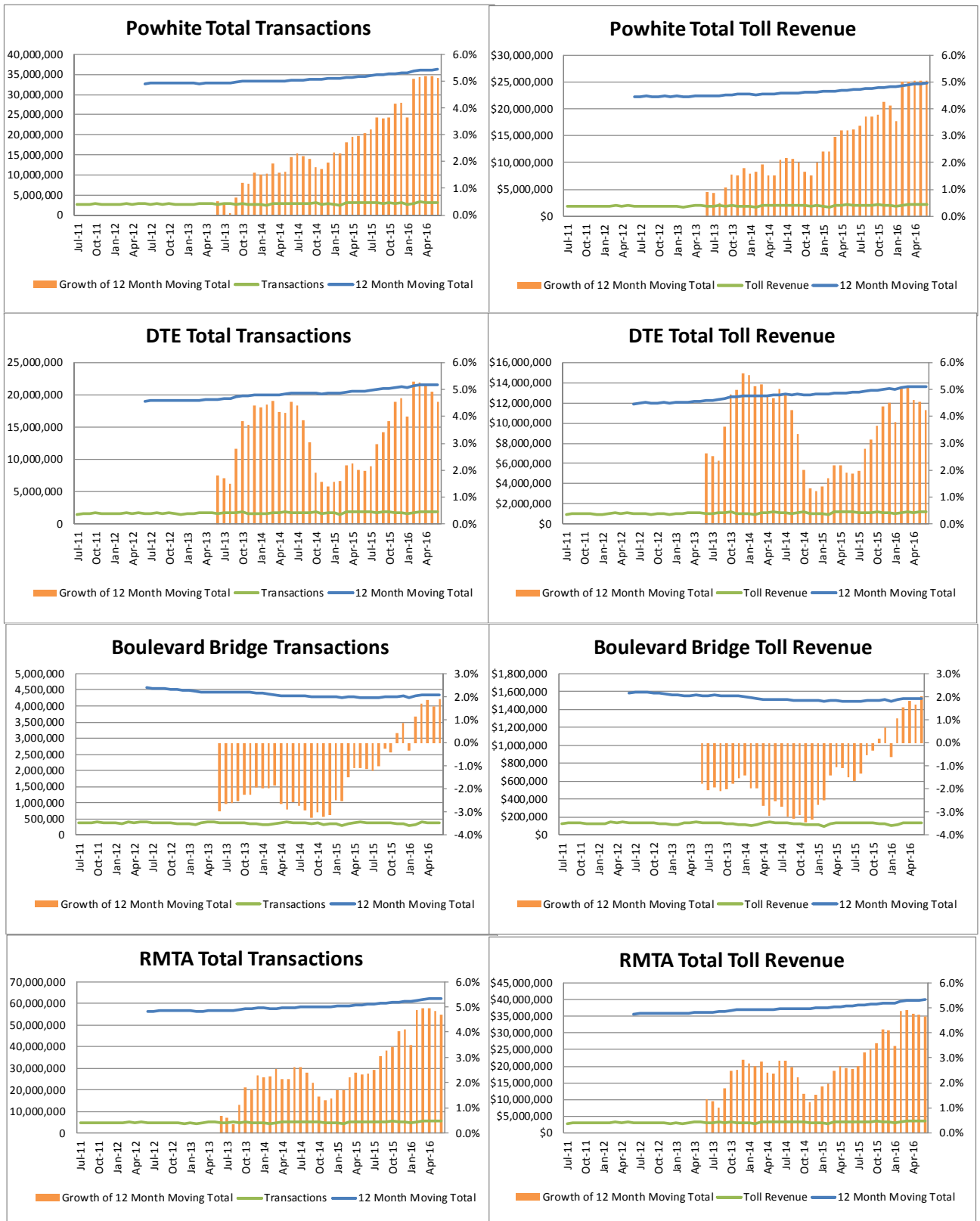
In this section the long term and short term historical transactions and toll revenue by facility are provided. On the graphs on the following pages, the 12 month moving total is charted for each facility as well as the annualized percent change of that moving total. These two items allow for the review of growth by facility.

All facilities demonstrated a loss in transactions in 2008-2010 due to two major factors, the Great Recession and the toll increase in September 2008. During this time toll revenue increased in spite of the loss in traffic, because the increase in toll rates outweighed the loss in traffic.

The Powhite Parkway had a decrease in traffic and toll revenue around 2004/2005 due to the opening of SH 288, which offers a limited access highway to parts west of the City of Richmond.

Over the last couple of years, as shown on the latter figures, the Powhite Parkway and Downtown Expressway have shown steady growth of between 2 and 5 percent. The Boulevard Bridge in FY16 reversed its long trend of decreasing traffic, showing 2 percent growth.



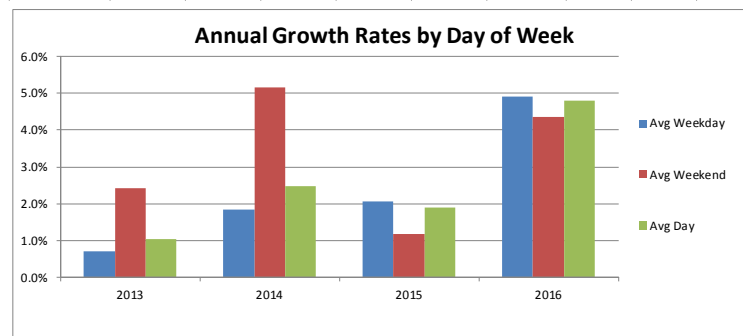


## 13.2 RMTA Total T&R Trends

RMTA Total: Transactions by Payment Type by Day of Week for FY2012 to FY2016									
2012	Cash	ETC	Non-Rev	Violations	ISF	Total			
Mon	54,832	99,005	754	4,693	187	159,472			
Tue	58,927	110,976	858	5,319	207	176,286			
Wed	59,564	111,645	812	5,208	217	177,447			
Thu	61,528	112,390	814	5,340	225	180,297			
Fri	66,203	107,470	747	5,581	226	180,228			
Sat	52,397	54,717	390	4,008	148	111,659			
Sun	41,712	45,097	346	3,142	107	90,403			
Avg Weekday	60,211	108,297	797	5,228	212	174,746			
Avg Weekend	47,054	49,907	368	3,575	127	101,031			
Avg Day	56,452	91,614	674	4,756	188	153,685	Growth from previous FY		
2013	Cash	ETC	Non-Rev	Violations	ISF	Total	Cash	ETC	Total
Mon	54,082	102,948	1,038	4,500	173	162,741	-1.4%	4.0%	2.1%
Tue	56,859	112,153	1,277	4,715	185	175,189	-3.5%	1.1%	-0.6%
Wed	58,248	112,967	1,230	4,807	200	177,453	-2.2%	1.2%	0.0%
Thu	60,141	115,506	1,243	4,962	208	182,060	-2.3%	2.8%	1.0%
Fri	64,662	111,334	1,160	5,200	212	182,567	-2.3%	3.6%	1.3%
Sat	52,132	58,099	572	3,834	133	114,771	-0.5%	6.2%	2.8%
Sun	41,309	47,233	474	3,044	100	92,160	-1.0%	4.7%	1.9%
Avg Weekday	58,793	110,982	1,190	4,837	196	176,002	-2.3%	2.5%	0.7%
Avg Weekend	46,720	52,666	523	3,439	117	103,465	-0.7%	5.5%	2.4%
Avg Day	55,348	94,320	999	4,437	173	155,277	-2.0%	3.0%	1.0%
2014	Cash	ETC	Non-Rev	Violations	ISF	Total	Cash	ETC	Total
Mon	54,656	108,228	1,341	4,289	164	168,678	1.1%	5.1%	3.6%
Tue	56,829	117,168	1,483	4,692	182	180,354	-0.1%	4.5%	2.9%
Wed	56,826	115,543	1,471	4,699	190	178,730	-2.4%	2.3%	0.7%
Thu	58,551	116,280	1,507	4,717	199	181,253	-2.6%	0.7%	-0.4%
Fri	65,100	115,431	1,454	5,114	206	187,305	0.7%	3.7%	2.6%
Sat	53,887	62,136	726	3,967	143	120,859	3.4%	6.9%	5.3%
Sun	42,484	50,427	624	3,091	107	96,733	2.8%	6.8%	5.0%
Avg Weekday	58,392	114,530	1,451	4,702	188	179,264	-0.7%	3.2%	1.9%
Avg Weekend	48,186	56,281	675	3,529	125	108,796	3.1%	6.9%	5.2%
Avg Day	55,476	97,887	1,229	4,367	170	159,130	0.2%	3.8%	2.5%
2015	Cash	ETC	Non-Rev	Violations	ISF	Total	Cash	ETC	Total
Mon	53,691	115,997	1,301	4,265	195	175,449	-1.8%	7.2%	4.0%
Tue	55,232	123,150	1,459	4,405	214	184,460	-2.8%	5.1%	2.3%
Wed	55,358	124,037	1,604	4,400	223	185,622	-2.6%	7.4%	3.9%
Thu	54,822	120,840	1,479	4,504	226	181,871	-6.4%	3.9%	0.3%
Fri	61,032	119,889	1,413	4,953	233	187,520	-6.2%	3.9%	0.1%
Sat	50,619	66,355	716	3,983	160	121,834	-6.1%	6.8%	0.8%
Sun	40,198	54,309	610	3,088	123	98,329	-5.4%	7.7%	1.6%
Avg Weekday	56,027	120,782	1,451	4,505	219	182,984	-4.1%	5.5%	2.1%
Avg Weekend	45,409	60,332	663	3,536	141	110,081	-5.8%	7.2%	1.2%
Avg Day	52,993	103,511	1,226	4,228	196	162,155	-4.5%	5.7%	1.9%
2016	Cash	ETC	Non-Rev	Violations	ISF	Total	Cash	ETC	Total
Mon	52,290	120,038	1,343	4,570	185	178,426	-2.6%	3.5%	1.7%
Tue	55,559	132,714	1,497	4,864	206	194,840	0.6%	7.8%	5.6%
Wed	56,371	133,102	1,525	4,865	213	196,076	1.8%	7.3%	5.6%
Thu	57,689	132,821	1,498	5,020	222	197,248	5.2%	9.9%	8.5%
Fri	61,097	125,313	1,377	5,305	230	193,322	0.1%	4.5%	3.1%
Sat	50,848	70,757	731	4,332	164	126,833	0.5%	6.6%	4.1%
Sun	40,285	58,462	645	3,387	120	102,899	0.2%	7.6%	4.6%
Avg Weekday	56,601	128,797	1,448	4,925	211	191,983	1.0%	6.6%	4.9%
Avg Weekend	45,567	64,609	688	3,860	142	114,866	0.3%	7.1%	4.3%
Avg Day	53,449	110,458	1,231	4,621	191	169,949	0.9%	6.7%	4.8%

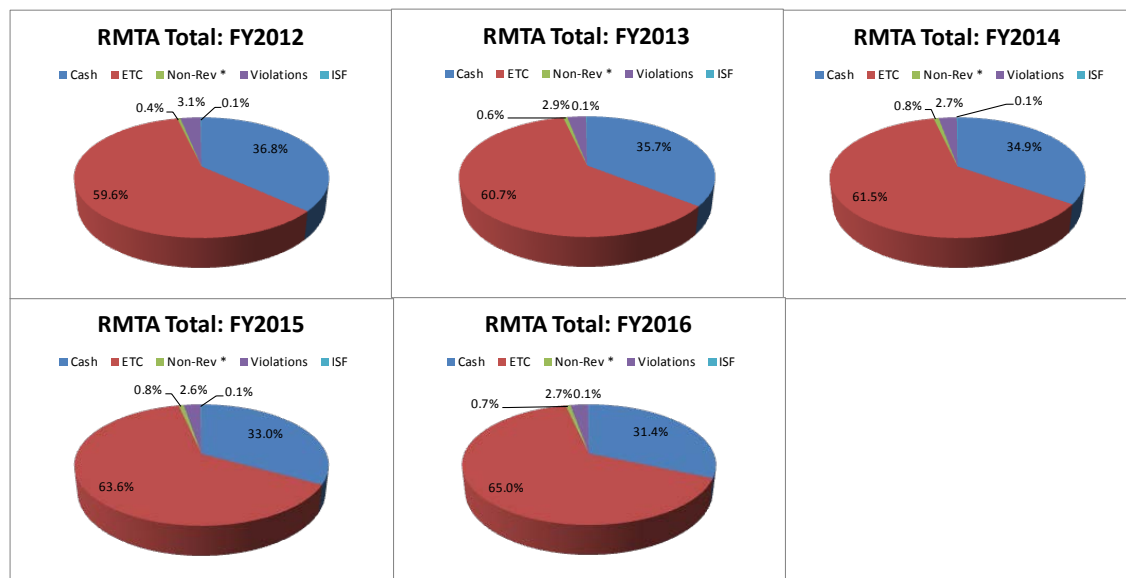
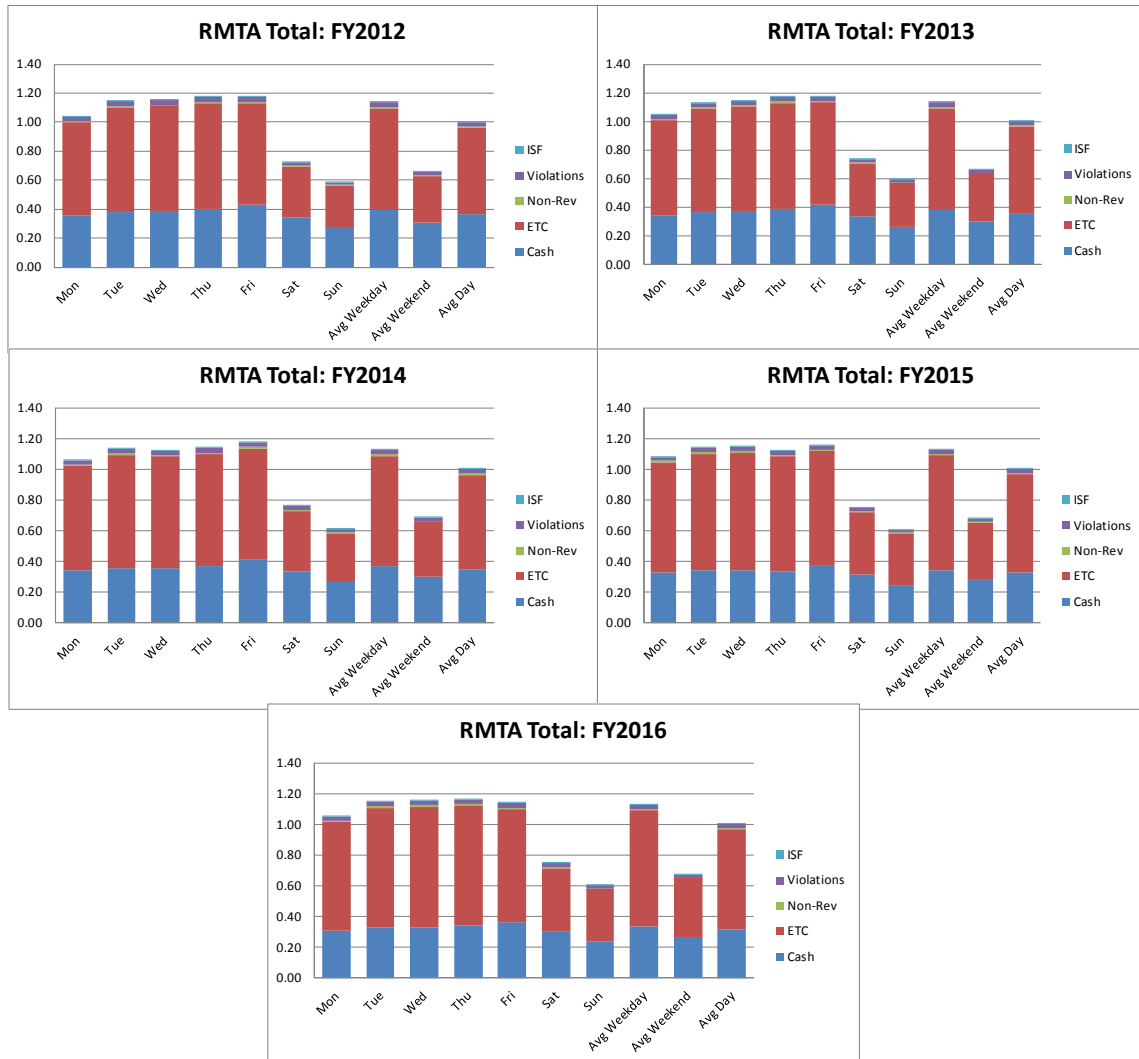
  

RMTA Total: Historical Traffic by Payment Type									
FY	Cash	ETC	Non-Rev *	Violations	ISF	Total	% ETC	% Cash	% Viol
2012	20,667,082	33,509,786	246,643	1,740,721	68,815	56,233,047	59.6%	36.8%	3.1%
2013	20,187,861	34,379,674	364,185	1,618,229	63,094	56,613,043	60.7%	35.7%	2.9%
2014	20,247,976	35,739,274	448,875	1,593,897	62,070	58,092,092	61.5%	34.9%	2.7%
2015	19,601,321	37,801,078	447,809	1,543,487	71,735	59,465,430	63.6%	33.0%	2.6%
2016	19,569,321	40,472,616	451,060	1,691,787	70,085	62,254,869	65.0%	31.4%	2.7%
Growth							% Point Growth		
2012 to 2013	-2.3%	2.6%	47.7%	-7.0%	-8.3%	0.7%	1.1%	-1.1%	-0.2%
2013 to 2014	0.3%	4.0%	23.3%	-1.5%	-1.6%	2.6%	0.8%	-0.8%	-0.1%
2014 to 2015	-3.2%	5.8%	-0.2%	-3.2%	15.6%	2.4%	2.0%	-1.9%	-0.1%
2015 to 2016	-0.2%	7.1%	0.7%	9.6%	-2.3%	4.7%	1.4%	-1.5%	0.1%

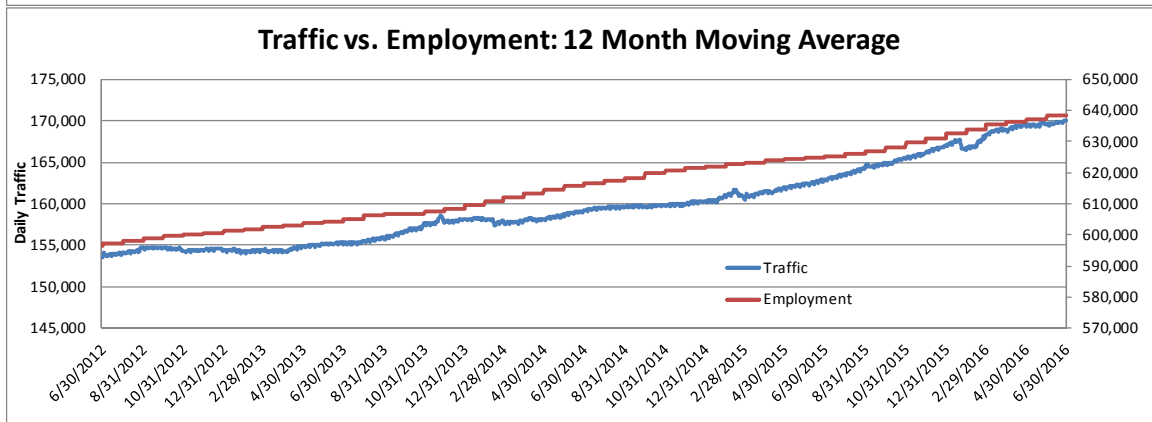
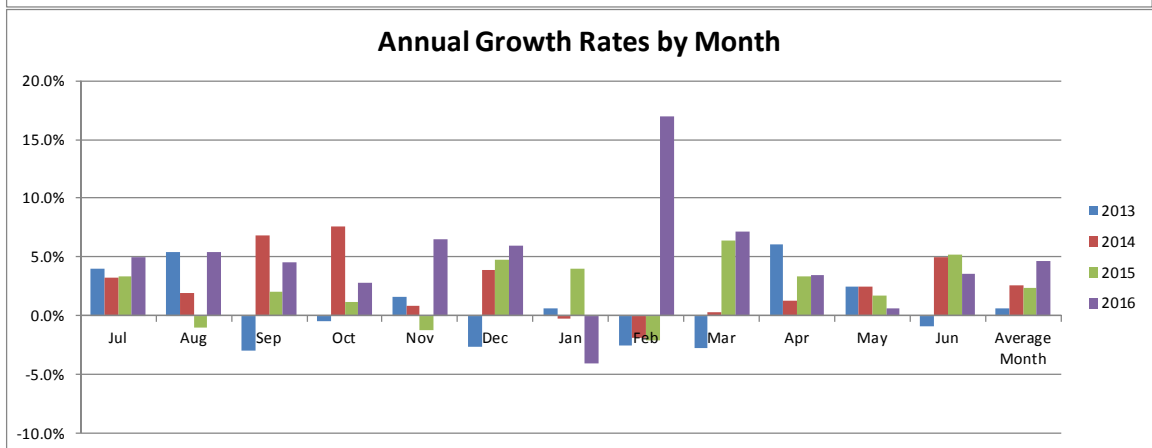
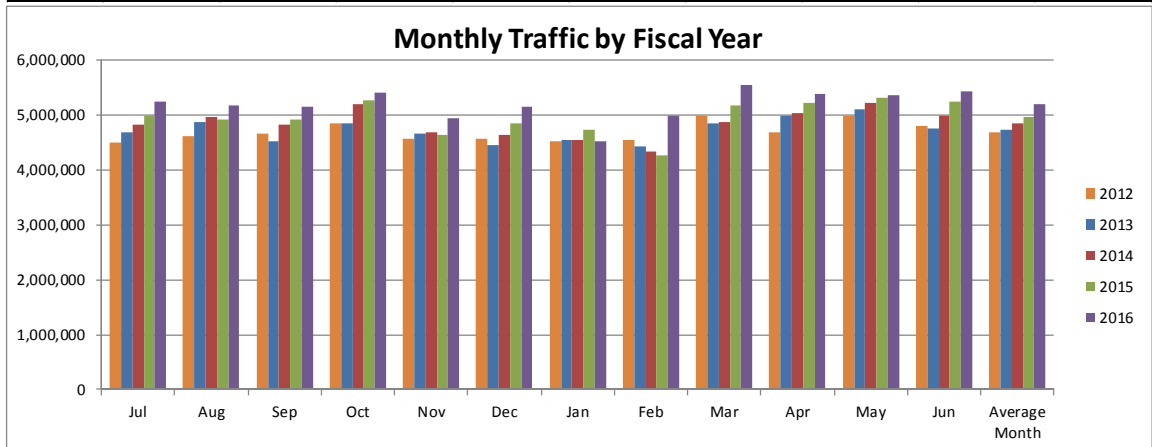


\* Before 2013, E-ZPass Non-Revenue transactions were included in E-ZPass (ETC) totals, after those transactions were shown in Non-Revenue class

**Day of Week by Payment Type by Fiscal Year**



Month	RMTA Total: Historical Traffic by Month and Fiscal Year									
	2012	Growth	2013	Growth	2014	Growth	2015	Growth	2016	
Jul	4,494,640	4.0%	4,676,346	3.2%	4,825,959	3.4%	4,988,209	5.0%	5,238,336	
Aug	4,609,079	5.4%	4,858,057	1.9%	4,950,969	-0.9%	4,904,305	5.4%	5,171,293	
Sep	4,645,449	-2.9%	4,510,690	6.9%	4,820,514	2.1%	4,920,145	4.6%	5,146,077	
Oct	4,854,305	-0.4%	4,835,121	7.6%	5,202,860	1.2%	5,264,488	2.8%	5,412,545	
Nov	4,569,128	1.7%	4,645,323	0.8%	4,683,594	-1.2%	4,628,374	6.5%	4,929,144	
Dec	4,574,868	-2.7%	4,452,573	3.9%	4,624,583	4.8%	4,845,554	6.0%	5,137,215	
Jan	4,513,361	0.6%	4,542,652	-0.2%	4,534,167	4.0%	4,716,822	-4.0%	4,527,838	
Feb	4,538,354	-2.5%	4,425,292	-1.9%	4,341,518	-2.0%	4,253,228	17.0%	4,974,342	
Mar	4,982,775	-2.7%	4,849,265	0.3%	4,864,862	6.4%	5,178,384	7.2%	5,550,915	
Apr	4,687,980	6.1%	4,973,917	1.3%	5,039,104	3.3%	5,207,484	3.4%	5,386,899	
May	4,971,424	2.5%	5,094,049	2.5%	5,219,473	1.8%	5,312,390	0.6%	5,344,537	
Jun	4,791,684	-0.9%	4,749,758	4.9%	4,984,489	5.2%	5,246,047	3.6%	5,435,728	
Total	56,233,047	0.7%	56,613,043	2.6%	58,092,092	2.4%	59,465,430	4.7%	62,254,869	

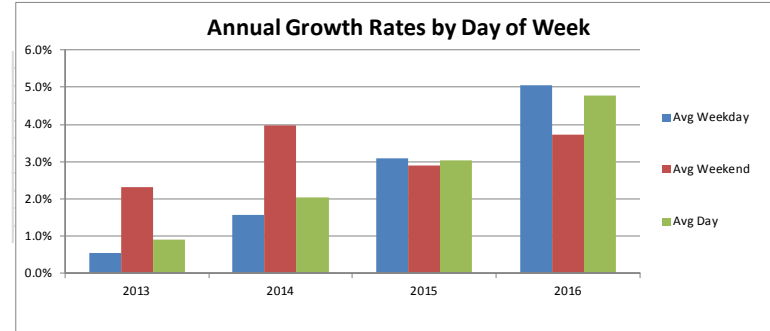




### 13.3 Powhite Parkway T&R Trends

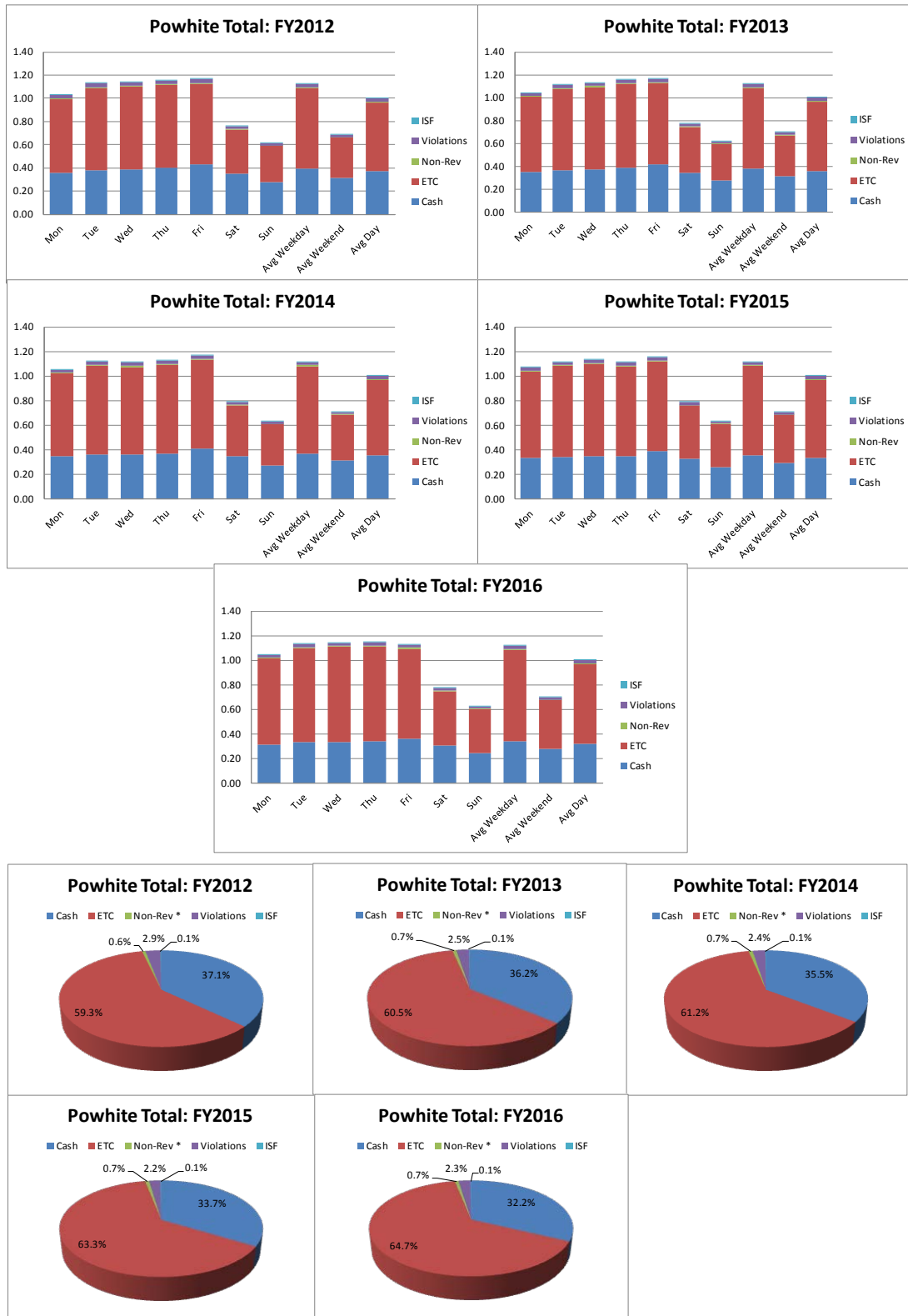
Powhite Total: Transactions by Payment Type by Day of Week for FY2012 to FY2016									
2012	Cash	ETC	Non-Rev	Violations	ISF	Total			
Mon	32,129	56,593	622	2,483	119	91,946			
Tue	34,241	63,014	716	2,773	135	100,879			
Wed	34,630	63,541	671	2,759	142	101,743			
Thu	35,622	63,967	671	2,859	146	103,264			
Fri	38,645	61,881	612	2,993	148	104,279			
Sat	31,391	33,883	313	2,248	94	67,929			
Sun	25,079	27,676	276	1,772	66	54,870			
Avg Weekday	35,053	61,799	658	2,773	138	100,422			
Avg Weekend	28,235	30,780	295	2,010	80	61,400			
Avg Day	33,105	52,937	554	2,555	121	89,273	Growth from previous FY		
2013	Cash	ETC	Non-Rev	Violations	ISF	Total	Cash	ETC	Total
Mon	31,860	59,008	661	2,181	112	93,821	-0.8%	4.3%	2.0%
Tue	33,169	63,697	772	2,319	118	100,076	-3.1%	1.1%	-0.8%
Wed	33,992	64,473	783	2,323	128	101,699	-1.8%	1.5%	0.0%
Thu	35,021	65,661	785	2,431	133	104,032	-1.7%	2.6%	0.7%
Fri	37,880	63,891	725	2,604	134	105,234	-2.0%	3.2%	0.9%
Sat	31,384	35,922	356	2,070	82	69,815	0.0%	6.0%	2.8%
Sun	24,937	28,910	297	1,624	63	55,831	-0.6%	4.5%	1.8%
Avg Weekday	34,384	63,346	745	2,372	125	100,972	-1.9%	2.5%	0.5%
Avg Weekend	28,161	32,416	327	1,847	73	62,823	-0.3%	5.3%	2.3%
Avg Day	32,606	54,509	626	2,222	110	90,073	-1.5%	3.0%	0.9%
2014	Cash	ETC	Non-Rev	Violations	ISF	Total	Cash	ETC	Total
Mon	32,204	61,629	762	2,172	106	96,872	1.1%	4.4%	3.3%
Tue	33,242	66,311	833	2,361	118	102,864	0.2%	4.1%	2.8%
Wed	33,254	65,458	819	2,413	123	102,066	-2.2%	1.5%	0.4%
Thu	34,197	65,890	841	2,398	129	103,456	-2.4%	0.3%	-0.6%
Fri	37,961	66,058	803	2,580	128	107,529	0.2%	3.4%	2.2%
Sat	32,134	38,000	401	2,109	88	72,731	2.4%	5.8%	4.2%
Sun	25,378	30,468	347	1,632	65	57,891	1.8%	5.4%	3.7%
Avg Weekday	34,172	65,069	811	2,385	121	102,558	-0.6%	2.7%	1.6%
Avg Weekend	28,756	34,234	374	1,871	77	65,311	2.1%	5.6%	4.0%
Avg Day	32,624	56,259	686	2,238	108	91,916	0.1%	3.2%	2.0%
2015	Cash	ETC	Non-Rev	Violations	ISF	Total	Cash	ETC	Total
Mon	31,919	66,445	759	2,041	128	101,292	-0.9%	7.8%	4.6%
Tue	32,558	70,136	825	2,113	139	105,772	-2.1%	5.8%	2.8%
Wed	33,162	70,806	909	2,109	146	107,132	-0.3%	8.2%	5.0%
Thu	33,069	68,977	837	2,143	149	105,176	-3.3%	4.7%	1.7%
Fri	36,772	69,068	792	2,411	149	109,192	-3.1%	4.6%	1.5%
Sat	31,068	40,858	386	2,097	96	74,505	-3.3%	7.5%	2.4%
Sun	24,796	33,104	337	1,581	75	59,892	-2.3%	8.7%	3.5%
Avg Weekday	33,496	69,086	824	2,164	142	105,713	-2.0%	6.2%	3.1%
Avg Weekend	27,932	36,981	362	1,839	86	67,199	-2.9%	8.0%	2.9%
Avg Day	31,906	59,913	692	2,071	126	94,709	-2.2%	6.5%	3.0%
2016	Cash	ETC	Non-Rev	Violations	ISF	Total	Cash	ETC	Total
Mon	31,365	69,253	767	2,257	114	103,755	-1.7%	4.2%	2.4%
Tue	33,025	75,950	848	2,378	127	112,327	1.4%	8.3%	6.2%
Wed	33,566	76,504	851	2,317	131	113,369	1.2%	8.0%	5.8%
Thu	34,175	76,140	840	2,415	137	113,707	3.3%	10.4%	8.1%
Fri	36,163	72,479	760	2,571	139	112,113	-1.7%	4.9%	2.7%
Sat	30,871	43,594	394	2,213	93	77,167	-0.6%	6.7%	3.6%
Sun	24,449	35,658	353	1,714	70	62,243	-1.4%	7.7%	3.9%
Avg Weekday	33,659	74,065	813	2,388	130	111,054	0.5%	7.2%	5.1%
Avg Weekend	27,660	39,626	374	1,964	81	69,705	-1.0%	7.2%	3.7%
Avg Day	31,945	64,225	688	2,267	116	99,240	0.1%	7.2%	4.8%

Powhite Total: Historical Traffic by Payment Type									
FY	Cash	ETC	Non-Rev *	Violations	ISF	Total	% ETC	% Cash	% Viol.
2012	12,120,421	19,364,680	202,737	935,344	44,424	32,667,606	59.3%	37.1%	2.9%
2013	11,893,586	19,870,133	228,042	810,357	40,120	32,842,238	60.5%	36.2%	2.5%
2014	11,907,409	20,539,935	250,619	816,748	39,485	33,554,196	61.2%	35.5%	2.4%
2015	11,646,458	21,878,582	252,789	755,851	46,048	34,579,728	63.3%	33.7%	2.2%
2016	11,695,626	23,530,670	251,949	829,739	42,444	36,350,428	64.7%	32.2%	2.3%
Growth							% Point Growth		
2012 to 2013	-1.9%	2.6%	12.5%	-13.4%	-9.7%	0.5%	1.2%	-0.9%	-0.4%
2013 to 2014	0.1%	3.4%	9.9%	0.8%	-1.6%	2.2%	0.7%	-0.7%	0.0%
2014 to 2015	-2.2%	6.5%	0.9%	-7.5%	16.6%	3.1%	2.1%	-1.8%	-0.2%
2015 to 2016	0.4%	7.6%	-0.3%	9.8%	-7.8%	5.1%	1.5%	-1.5%	0.1%

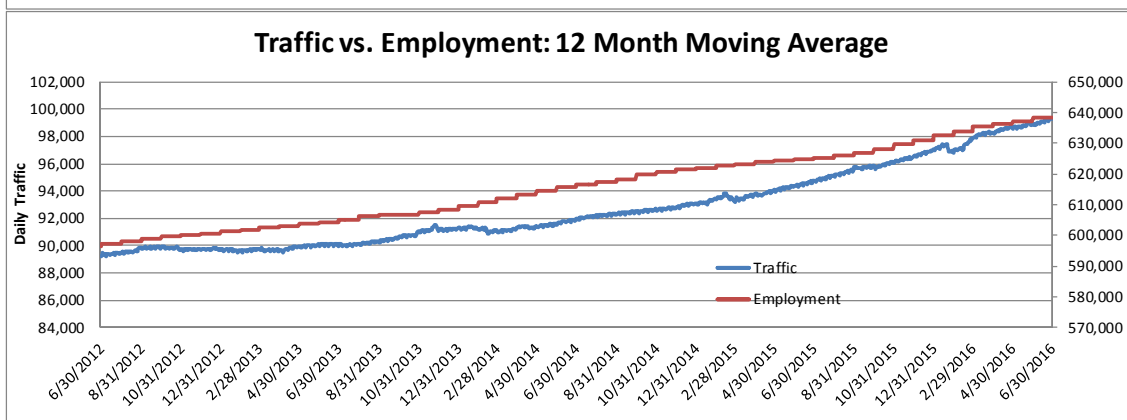
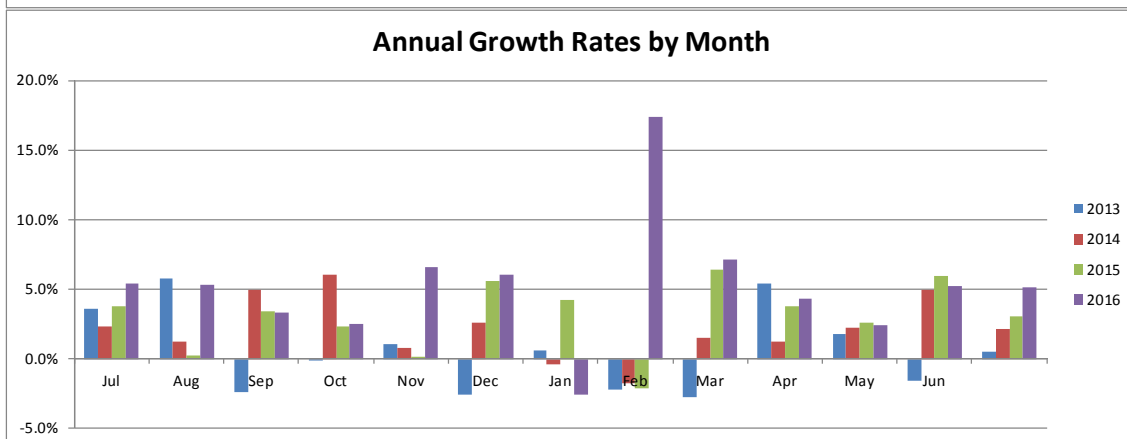
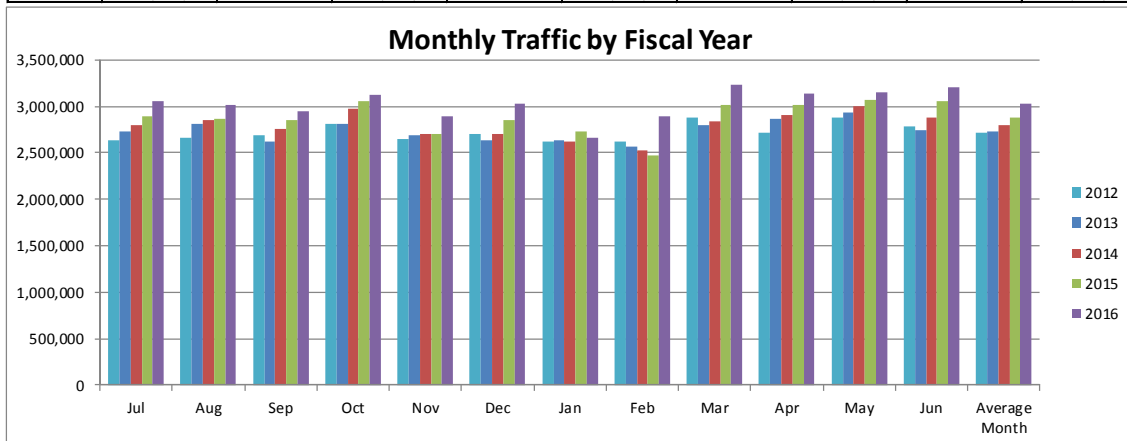


\* Before 2013, E-ZPass Non-Revenue transactions were included in E-ZPass (ETC) totals, after those transactions were shown in Non-Revenue class

Day of Week by Payment Type by Fiscal Year



Month	Powhite Total: Historical Traffic by Month and Fiscal Year									
	2012	Growth	2013	Growth	2014	Growth	2015	Growth	2016	
Jul	2,634,152	3.6%	2,729,646	2.3%	2,792,285	3.8%	2,897,937	5.4%	3,053,511	
Aug	2,665,678	5.7%	2,818,384	1.2%	2,853,185	0.2%	2,859,680	5.3%	3,011,736	
Sep	2,691,348	-2.4%	2,625,798	5.0%	2,756,077	3.4%	2,849,083	3.3%	2,943,992	
Oct	2,814,801	-0.1%	2,811,961	6.0%	2,981,204	2.3%	3,050,326	2.5%	3,126,198	
Nov	2,654,881	1.1%	2,683,992	0.8%	2,705,220	0.1%	2,708,576	6.6%	2,887,396	
Dec	2,700,518	-2.5%	2,631,739	2.6%	2,700,512	5.6%	2,851,897	6.1%	3,025,021	
Jan	2,620,993	0.6%	2,636,071	-0.4%	2,625,428	4.2%	2,736,397	-2.6%	2,665,391	
Feb	2,623,539	-2.2%	2,566,164	-1.7%	2,522,110	-2.1%	2,469,324	17.4%	2,898,470	
Mar	2,874,766	-2.7%	2,796,450	1.5%	2,838,483	6.4%	3,019,201	7.2%	3,235,731	
Apr	2,719,490	5.4%	2,867,609	1.3%	2,904,082	3.8%	3,013,069	4.3%	3,143,904	
May	2,880,652	1.8%	2,931,127	2.2%	2,996,824	2.6%	3,074,381	2.4%	3,148,539	
Jun	2,786,788	-1.6%	2,743,297	4.9%	2,878,786	5.9%	3,049,857	5.3%	3,210,539	
Total	32,667,606	0.5%	32,842,238	2.2%	33,554,196	3.1%	34,579,728	5.1%	36,350,428	

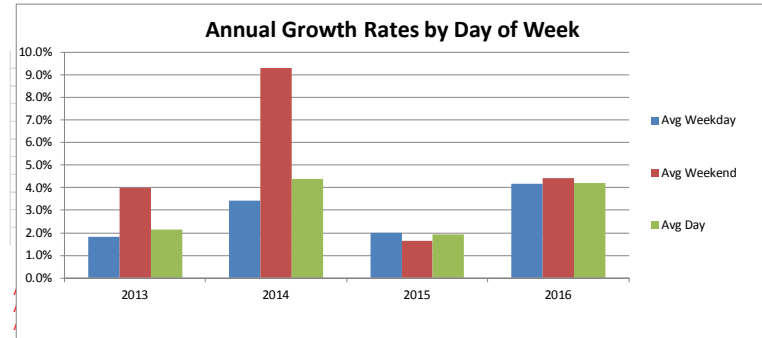


## 13.4 Downtown Expressway T&R Trends

DTE Total: Transactions by Payment Type by Day of Week for FY2012 to FY2016									
2012	Cash	ETC	Non-Rev	Violations	ISF	Total			
Mon	14,622	38,357	114	2,077	55	55,225			
Tue	16,078	43,435	123	2,389	59	62,083			
Wed	16,351	43,554	121	2,297	61	62,384			
Thu	17,143	43,825	122	2,341	64	63,495			
Fri	18,224	40,971	114	2,426	64	61,800			
Sat	13,482	17,078	60	1,637	45	32,303			
Sun	10,625	14,359	56	1,273	34	26,347			
Avg Weekday	16,484	42,028	119	2,306	61	60,997			
Avg Weekend	12,054	15,719	58	1,455	40	29,325			
Avg Day	15,218	34,511	101	2,063	55	51,948	Growth from previous FY		
2013	Cash	ETC	Non-Rev	Violations	ISF	Total	Cash	ETC	Total
Mon	14,482	39,823	341	2,190	50	56,886	-1.0%	3.8%	3.0%
Tue	15,636	43,967	456	2,251	54	62,364	-2.8%	1.2%	0.5%
Wed	15,977	43,966	405	2,335	57	62,740	-2.3%	0.9%	0.6%
Thu	16,762	45,272	413	2,409	60	64,916	-2.2%	3.3%	2.2%
Fri	17,885	42,809	391	2,447	63	63,595	-1.9%	4.5%	2.9%
Sat	13,486	18,307	186	1,653	42	33,674	0.0%	7.2%	4.2%
Sun	10,608	15,192	151	1,332	30	27,311	-0.2%	5.8%	3.7%
Avg Weekday	16,148	43,168	401	2,326	57	62,100	-2.0%	2.7%	1.8%
Avg Weekend	12,047	16,749	168	1,492	36	30,493	-0.1%	6.6%	4.0%
Avg Day	14,977	35,619	335	2,088	51	53,069	-1.6%	3.2%	2.2%
2014	Cash	ETC	Non-Rev	Violations	ISF	Total	Cash	ETC	Total
Mon	14,961	42,554	503	2,011	49	60,078	3.3%	6.9%	5.6%
Tue	15,816	46,461	562	2,194	53	65,087	1.2%	5.7%	4.4%
Wed	15,884	45,700	565	2,167	56	64,373	-0.6%	3.9%	2.6%
Thu	16,502	46,021	575	2,200	59	65,356	-1.6%	1.7%	0.7%
Fri	18,442	44,788	560	2,384	68	66,242	3.1%	4.6%	4.2%
Sat	14,567	20,250	265	1,742	48	36,872	8.0%	10.6%	9.5%
Sun	11,357	16,810	222	1,366	35	29,790	7.1%	10.7%	9.1%
Avg Weekday	16,321	45,105	553	2,191	57	64,227	1.1%	4.5%	3.4%
Avg Weekend	12,962	18,530	244	1,554	42	33,331	7.6%	10.6%	9.3%
Avg Day	15,361	37,512	465	2,009	53	55,400	2.6%	5.3%	4.4%
2015	Cash	ETC	Non-Rev	Violations	ISF	Total	Cash	ETC	Total
Mon	14,435	45,229	463	2,071	58	62,256	-3.5%	6.3%	3.6%
Tue	15,162	48,445	538	2,131	64	66,340	-4.1%	4.3%	1.9%
Wed	15,437	48,613	593	2,145	66	66,853	-2.8%	6.4%	3.9%
Thu	15,478	47,391	548	2,213	66	65,698	-6.2%	3.0%	0.5%
Fri	17,301	46,154	529	2,373	73	66,429	-6.2%	3.0%	0.3%
Sat	13,808	21,498	267	1,747	56	37,376	-5.2%	6.2%	1.4%
Sun	10,809	17,927	219	1,378	41	30,374	-4.8%	6.6%	2.0%
Avg Weekday	15,563	47,166	534	2,187	65	65,515	-4.6%	4.6%	2.0%
Avg Weekend	12,308	19,713	243	1,562	49	33,875	-5.0%	6.4%	1.6%
Avg Day	14,633	39,322	451	2,008	61	56,475	-4.7%	4.8%	1.9%
2016	Cash	ETC	Non-Rev	Violations	ISF	Total	Cash	ETC	Total
Mon	13,874	46,315	498	2,196	62	62,945	-3.9%	2.4%	1.1%
Tue	15,003	51,813	561	2,357	69	69,802	-1.0%	7.0%	5.2%
Wed	15,176	51,571	578	2,421	72	69,817	-1.7%	6.1%	4.4%
Thu	15,795	51,636	569	2,477	75	70,552	2.0%	9.0%	7.4%
Fri	16,967	47,917	530	2,591	81	68,086	-1.9%	3.8%	2.5%
Sat	13,537	23,052	275	1,996	65	38,925	-2.0%	7.2%	4.1%
Sun	10,587	19,375	236	1,571	45	31,813	-2.1%	8.1%	4.7%
Avg Weekday	15,363	49,850	547	2,408	72	68,240	-1.3%	5.7%	4.2%
Avg Weekend	12,062	21,214	256	1,783	55	35,369	-2.0%	7.6%	4.4%
Avg Day	14,420	41,668	464	2,230	67	58,849	-1.5%	6.0%	4.2%

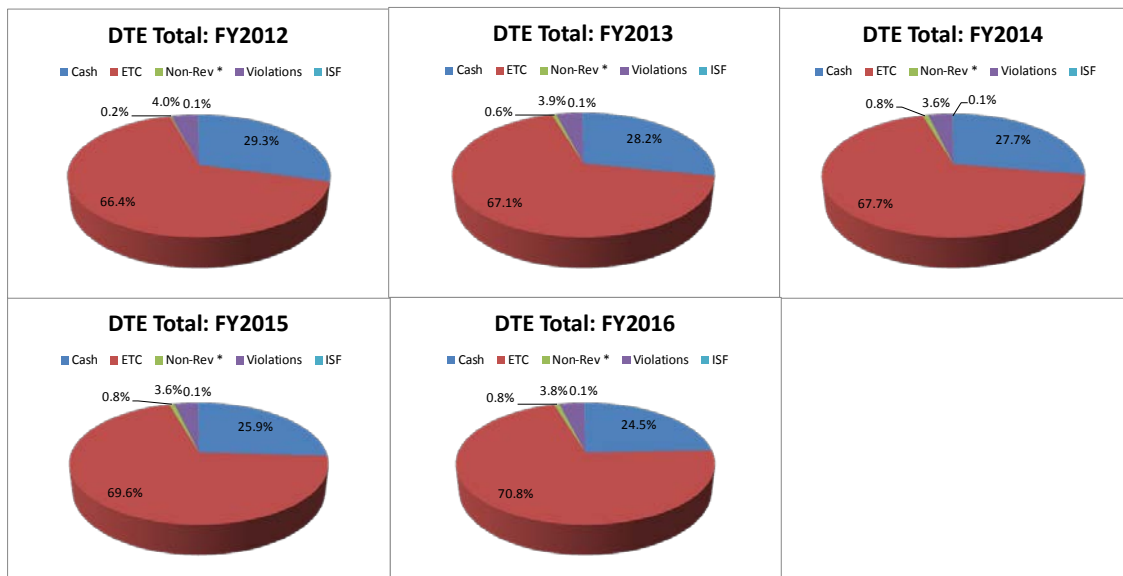
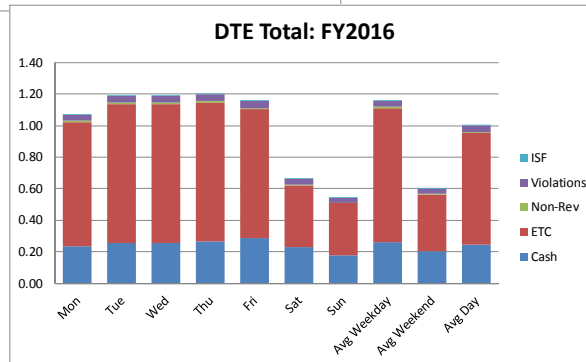
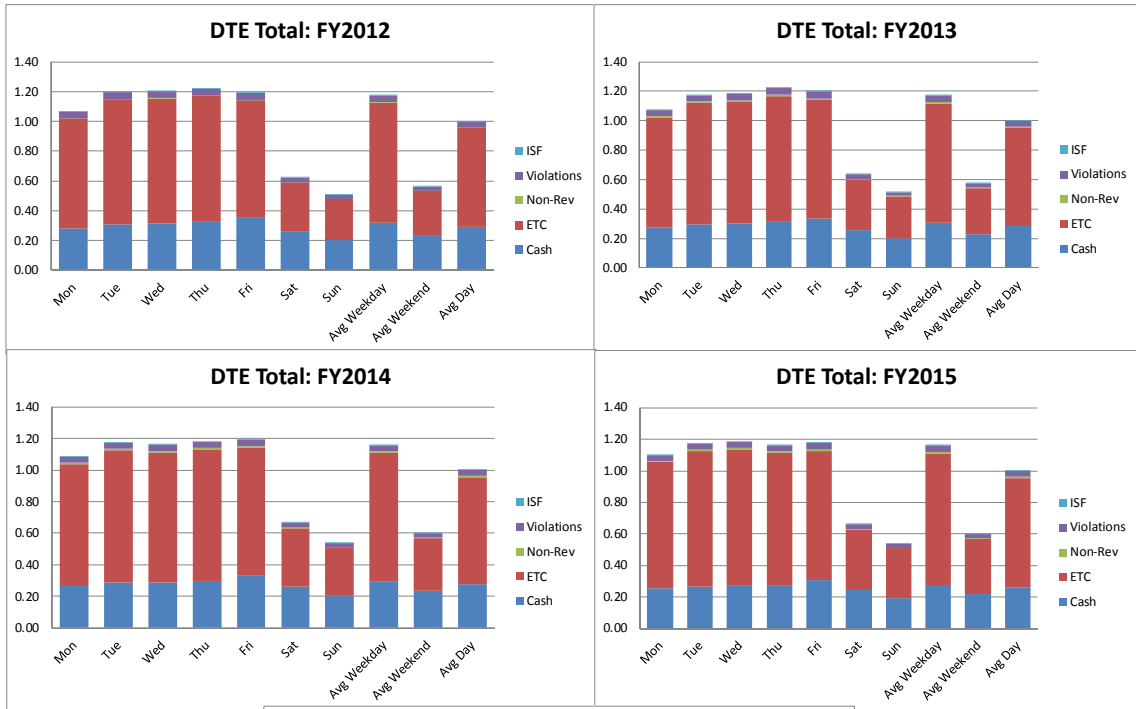
  

DTE Total: Historical Traffic by Payment Type								
FY	Cash	ETC	Non-Rev *	Violations	ISF	Total	% ETC	% Cash
2012	5,570,994	12,620,137	37,115	754,947	19,995	19,003,188	66.4%	29.3%
2013	5,462,089	12,980,651	121,933	761,371	18,536	19,344,580	67.1%	28.2%
2014	5,606,489	13,696,895	169,638	733,373	19,183	20,225,578	67.7%	27.7%
2015	5,341,515	14,361,825	164,719	733,173	22,104	20,623,336	69.6%	25.9%
2016	5,279,821	15,270,437	169,986	816,546	24,479	21,561,269	70.8%	24.5%
Growth							% Point Growth	
2012 to 2013	-2.0%	2.9%	228.5%	0.9%	-7.3%	1.8%	0.7%	-1.1%
2013 to 2014	2.6%	5.5%	39.1%	-3.7%	3.5%	4.6%	0.6%	-0.5%
2014 to 2015	-4.7%	4.9%	-2.9%	0.0%	15.2%	2.0%	1.9%	-1.8%
2015 to 2016	-1.2%	6.3%	3.2%	11.4%	10.7%	4.5%	1.2%	-1.4%

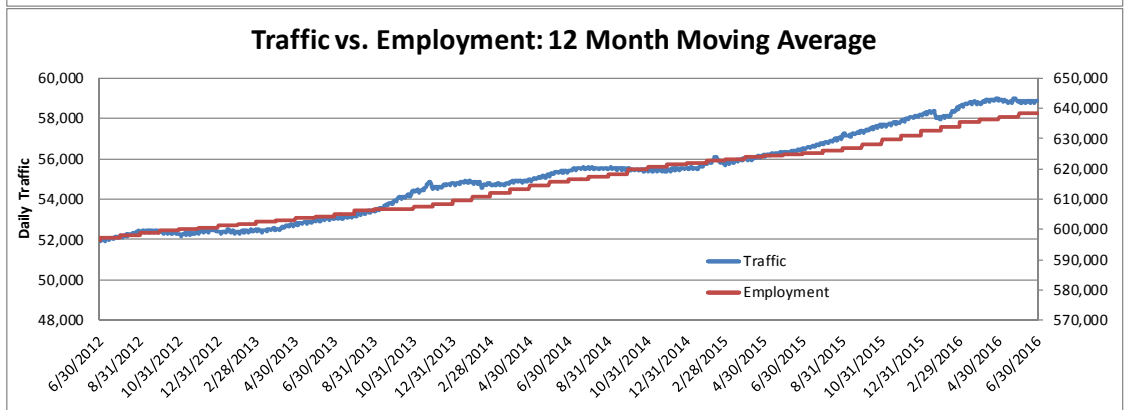
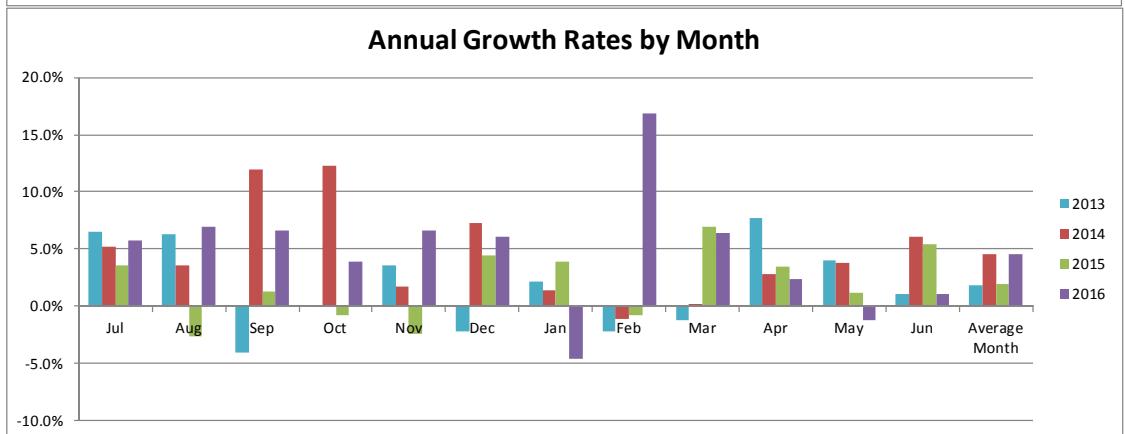
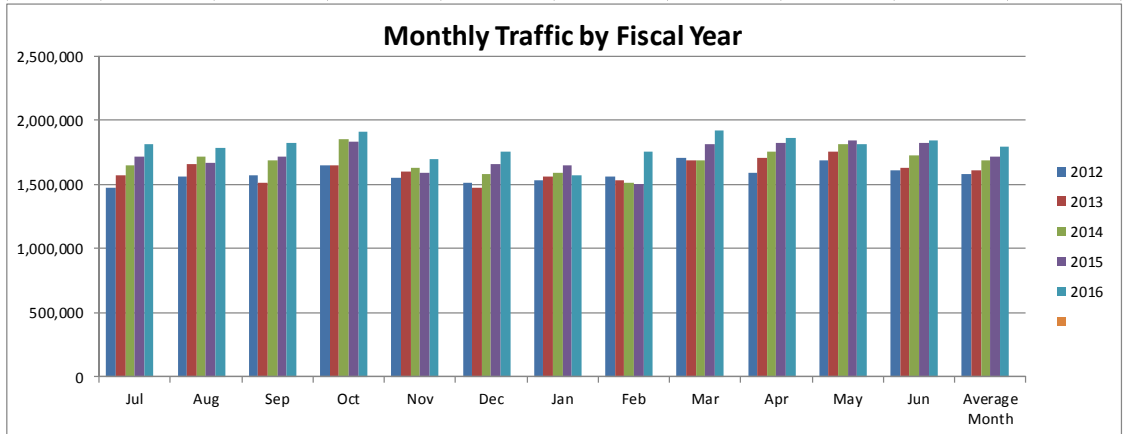


\* Before 2013, E-ZPass Non-Revenue transactions were included in E-ZPass (ETC) totals, after those transactions were shown in Non-Revenue class

**Day of Week by Payment Type by Fiscal Year**



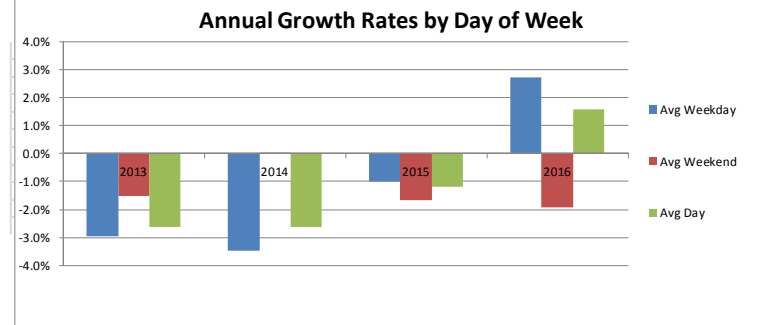
Month	DTE Total: Historical Traffic by Month and Fiscal Year								
	2012	Growth	2013	Growth	2014	Growth	2015	Growth	2016
Jul	1,476,337	6.5%	1,572,616	5.2%	1,653,976	3.5%	1,712,509	5.8%	1,811,358
Aug	1,557,268	6.3%	1,655,141	3.6%	1,714,111	-2.6%	1,669,792	6.9%	1,785,443
Sep	1,575,563	-4.1%	1,511,453	11.9%	1,691,708	1.3%	1,713,906	6.6%	1,827,435
Oct	1,649,156	0.1%	1,650,154	12.3%	1,852,799	-0.8%	1,838,214	3.9%	1,909,895
Nov	1,548,810	3.6%	1,605,071	1.7%	1,632,199	-2.4%	1,593,145	6.6%	1,699,005
Dec	1,511,292	-2.2%	1,477,539	7.3%	1,585,006	4.4%	1,654,865	6.1%	1,755,379
Jan	1,531,704	2.2%	1,565,613	1.4%	1,587,933	3.9%	1,650,396	-4.6%	1,574,408
Feb	1,563,194	-2.2%	1,529,483	-1.2%	1,511,850	-0.8%	1,499,449	16.8%	1,751,598
Mar	1,707,530	-1.2%	1,687,781	0.2%	1,691,150	7.0%	1,809,483	6.4%	1,925,773
Apr	1,587,072	7.7%	1,709,898	2.9%	1,758,946	3.4%	1,819,566	2.4%	1,862,466
May	1,683,873	4.0%	1,751,793	3.8%	1,818,381	1.2%	1,840,747	-1.2%	1,817,800
Jun	1,611,389	1.0%	1,628,038	6.1%	1,727,519	5.4%	1,821,264	1.1%	1,840,709
Total	19,003,188	1.8%	19,344,580	4.6%	20,225,578	2.0%	20,623,336	4.5%	21,561,269



### 13.5 Boulevard Bridge T&R Trends

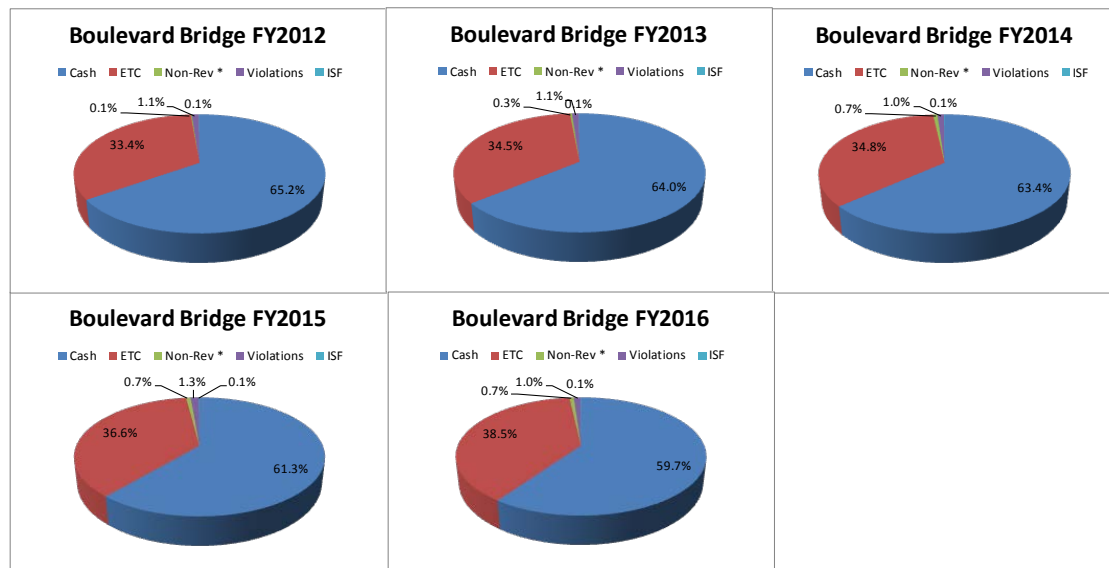
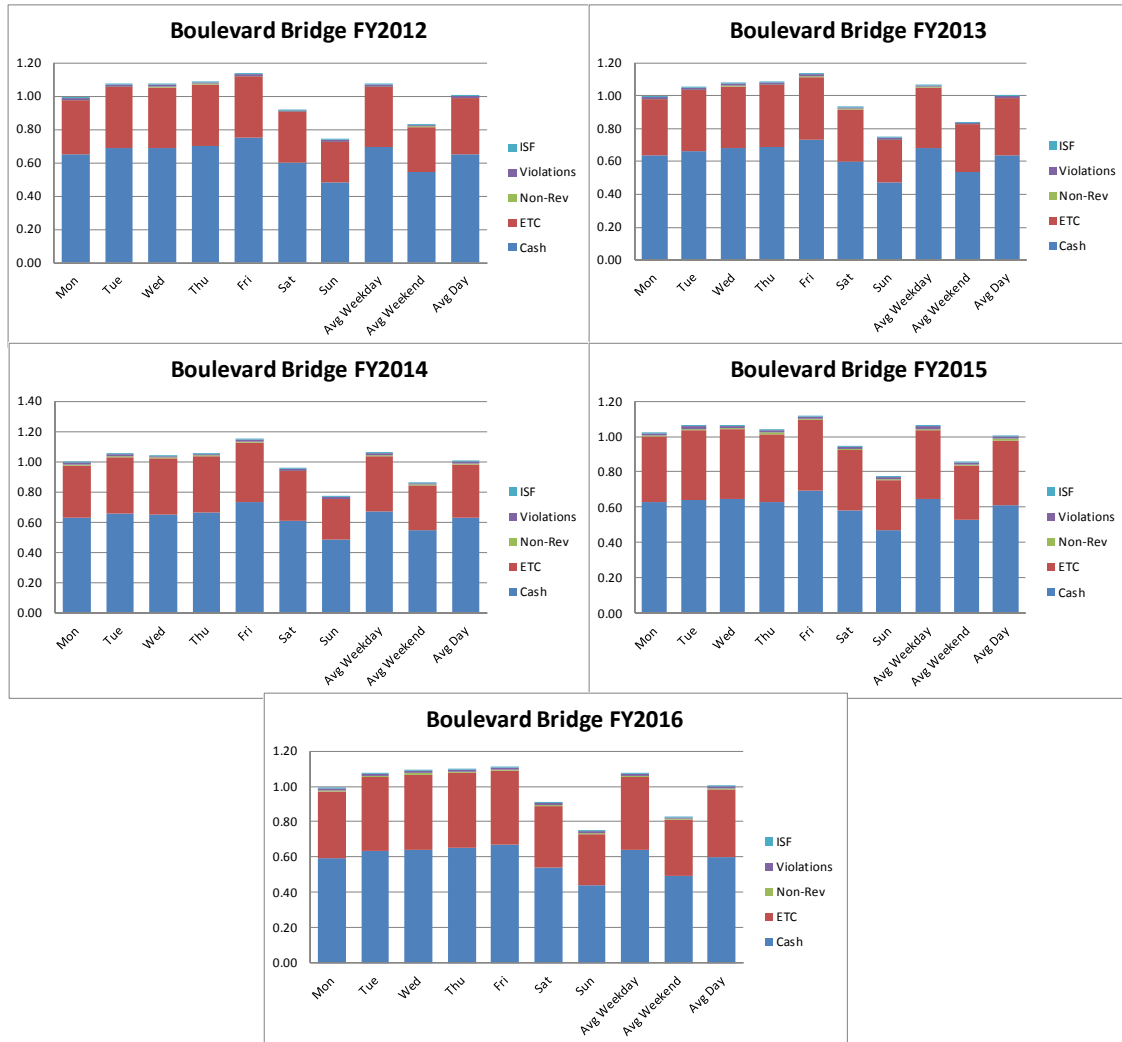
2012	Cash	ETC	Non-Rev	Violations	ISF	Total			
Mon	8,082	4,055	18	134	12	12,301			
Tue	8,608	4,527	19	157	12	13,323			
Wed	8,583	4,550	21	152	14	13,320			
Thu	8,763	4,597	21	141	16	13,538			
Fri	9,334	4,618	21	162	15	14,149			
Sat	7,523	3,755	17	123	9	11,427			
Sun	6,007	3,063	14	96	7	9,187			
Avg Weekday	8,674	4,470	20	149	14	13,326			
Avg Weekend	6,765	3,409	15	109	8	10,307			
Avg Day	8,129	4,166	19	138	12	12,463	Growth from previous FY		
2013	Cash	ETC	Non-Rev	Violations	ISF	Total	Cash	ETC	Total
Mon	7,741	4,118	36	128	11	12,035	-4.2%	1.5%	-2.2%
Tue	8,054	4,488	49	145	13	12,749	-6.4%	-0.9%	-4.3%
Wed	8,279	4,528	42	149	14	13,013	-3.5%	-0.5%	-2.3%
Thu	8,358	4,573	45	122	15	13,113	-4.6%	-0.5%	-3.1%
Fri	8,896	4,634	44	149	15	13,738	-4.7%	0.3%	-2.9%
Sat	7,262	3,870	30	111	9	11,282	-3.5%	3.1%	-1.3%
Sun	5,763	3,131	26	89	7	9,017	-4.1%	2.2%	-1.8%
Avg Weekday	8,266	4,468	43	139	14	12,929	-4.7%	0.0%	-3.0%
Avg Weekend	6,513	3,501	28	100	8	10,149	-3.7%	2.7%	-1.5%
Avg Day	7,765	4,192	39	128	12	12,135	-4.5%	0.6%	-2.6%
2014	Cash	ETC	Non-Rev	Violations	ISF	Total	Cash	ETC	Total
Mon	7,491	4,044	76	107	9	11,727	-3.2%	-1.8%	-2.6%
Tue	7,771	4,396	88	137	11	12,402	-3.5%	-2.0%	-2.7%
Wed	7,688	4,386	86	119	11	12,291	-7.1%	-3.1%	-5.6%
Thu	7,852	4,369	92	118	11	12,442	-6.1%	-4.5%	-5.1%
Fri	8,696	4,586	91	150	11	13,534	-2.2%	-1.0%	-1.5%
Sat	7,187	3,886	60	116	6	11,256	-1.0%	0.4%	-0.2%
Sun	5,749	3,149	55	93	6	9,052	-0.2%	0.5%	0.4%
Avg Weekday	7,900	4,356	87	126	11	12,479	-4.4%	-2.5%	-3.5%
Avg Weekend	6,468	3,517	58	105	6	10,154	-0.7%	0.5%	0.0%
Avg Day	7,491	4,116	78	120	9	11,815	-3.5%	-1.8%	-2.6%
2015	Cash	ETC	Non-Rev	Violations	ISF	Total	Cash	ETC	Total
Mon	7,336	4,323	79	153	10	11,901	-2.1%	6.9%	1.5%
Tue	7,512	4,569	96	160	11	12,347	-3.3%	3.9%	-0.4%
Wed	7,527	4,618	103	146	11	12,405	-2.1%	5.3%	0.9%
Thu	7,364	4,471	93	147	11	12,087	-6.2%	2.4%	-2.9%
Fri	8,083	4,668	93	169	11	13,024	-7.0%	1.8%	-3.8%
Sat	6,777	3,999	63	140	7	10,985	-5.7%	2.9%	-2.4%
Sun	5,513	3,278	55	130	6	8,982	-4.1%	4.1%	-0.8%
Avg Weekday	7,564	4,530	93	155	11	12,353	-4.2%	4.0%	-1.0%
Avg Weekend	6,145	3,638	59	135	7	9,984	-5.0%	3.4%	-1.7%
Avg Day	7,159	4,275	83	149	10	11,676	-4.4%	3.9%	-1.2%
2016	Cash	ETC	Non-Rev	Violations	ISF	Total	Cash	ETC	Total
Mon	7,052	4,471	78	117	9	11,726	-3.9%	3.4%	-1.5%
Tue	7,531	4,951	89	130	10	12,711	0.3%	8.4%	2.9%
Wed	7,629	5,027	96	128	10	12,891	1.4%	8.9%	3.9%
Thu	7,719	5,046	89	127	10	12,990	4.8%	12.8%	7.5%
Fri	7,967	4,916	86	143	11	13,123	-1.4%	5.3%	0.8%
Sat	6,440	4,110	61	123	6	10,741	-5.0%	2.8%	-2.2%
Sun	5,249	3,429	56	102	6	8,843	-4.8%	4.6%	-1.6%
Avg Weekday	7,579	4,882	88	129	10	12,688	0.2%	7.8%	2.7%
Avg Weekend	5,845	3,770	59	113	6	9,792	-4.9%	3.6%	-1.9%
Avg Day	7,084	4,564	80	124	9	11,861	-1.0%	6.8%	1.6%

FY	Cash	ETC	Non-Rev*	Violations	ISF	Total	% ETC	% Cash	% Viol
2012	2,975,667	1,524,969	6,791	50,430	4,396	4,562,253	33.4%	65.2%	1.1%
2013	2,832,186	1,528,890	14,210	46,501	4,438	4,426,225	34.5%	64.0%	1.1%
2014	2,734,078	1,502,444	28,618	43,776	3,402	4,312,318	34.8%	63.4%	1.0%
2015	2,613,348	1,560,671	30,301	54,463	3,583	4,262,366	36.6%	61.3%	1.3%
2016	2,593,874	1,671,509	29,125	45,502	3,162	4,343,172	38.5%	59.7%	1.0%
Growth							% Point Growth		
2012 to 2013	-4.8%	0.3%	109.2%	-7.8%	1.0%	-3.0%	1.1%	-1.2%	-0.1%
2013 to 2014	-3.5%	-1.7%	101.4%	-5.9%	-23.3%	-2.6%	0.3%	-0.6%	0.0%
2014 to 2015	-4.4%	3.9%	5.9%	24.4%	5.3%	-1.2%	1.8%	-2.1%	0.3%
2015 to 2016	-0.7%	7.1%	-3.9%	-16.5%	-11.7%	1.9%	1.9%	-1.6%	-0.2%



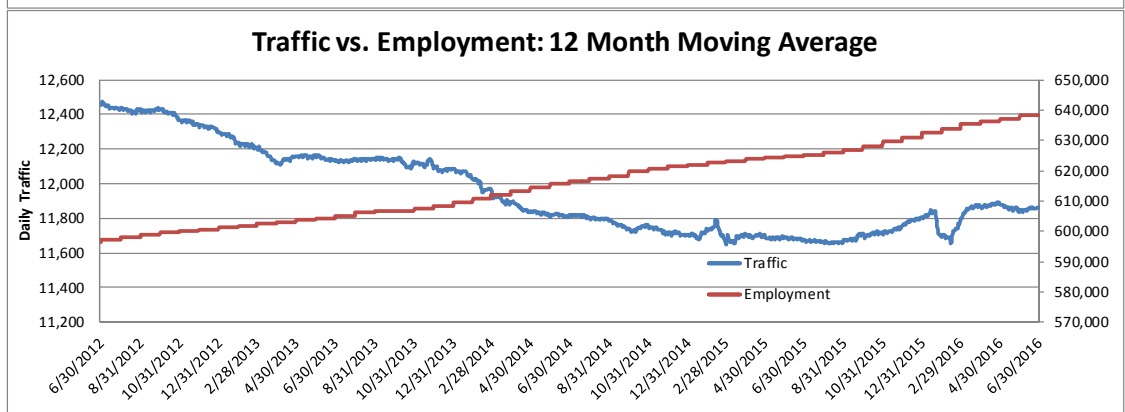
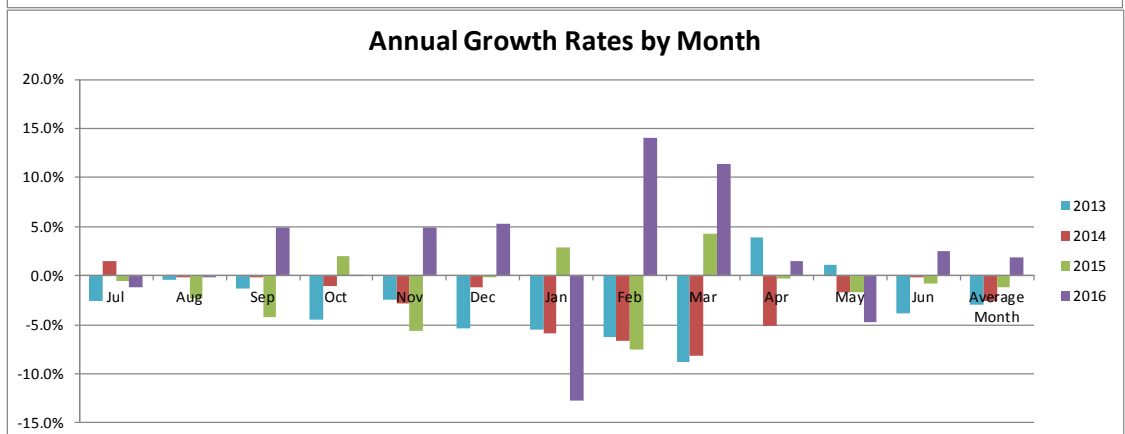
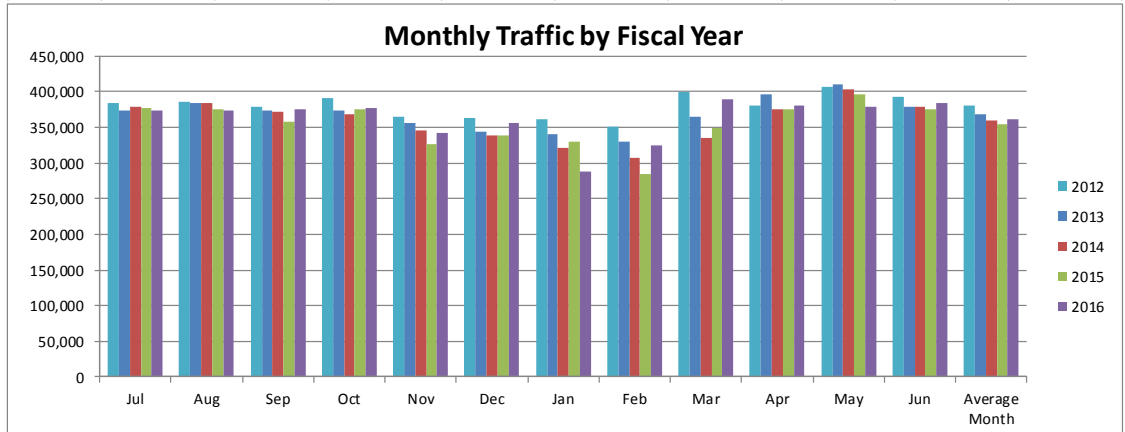
\* Before 2013, E-ZPass Non-Revenue transactions were included in E-ZPass (ETC) totals, after those transactions were shown in Non-Revenue class

Day of Week by Payment Type by Fiscal Year





Month	Boulevard Bridge Historical Traffic by Month and Fiscal Year									
	2012	Growth	2013	Growth	2014	Growth	2015	Growth	2016	
Jul	384,151	-2.6%	374,084	1.5%	379,698	-0.5%	377,763	-1.1%	373,467	
Aug	386,133	-0.4%	384,532	-0.2%	383,673	-2.3%	374,833	-0.2%	374,114	
Sep	378,538	-1.3%	373,439	-0.2%	372,729	-4.2%	357,156	4.9%	374,650	
Oct	390,348	-4.4%	373,006	-1.1%	368,857	1.9%	375,948	0.1%	376,452	
Nov	365,437	-2.5%	356,260	-2.8%	346,175	-5.6%	326,653	4.9%	342,743	
Dec	363,058	-5.4%	343,295	-1.2%	339,065	-0.1%	338,792	5.3%	356,815	
Jan	360,664	-5.5%	340,968	-5.9%	320,806	2.9%	330,029	-12.7%	288,039	
Feb	351,621	-6.2%	329,645	-6.7%	307,558	-7.5%	284,455	14.0%	324,274	
Mar	400,479	-8.9%	365,034	-8.2%	335,229	4.3%	349,700	11.4%	389,411	
Apr	381,418	3.9%	396,410	-5.1%	376,076	-0.3%	374,849	1.5%	380,529	
May	406,899	1.0%	411,129	-1.7%	404,268	-1.7%	397,262	-4.8%	378,198	
Jun	393,507	-3.8%	378,423	-0.1%	378,184	-0.9%	374,926	2.5%	384,480	
Total	4,562,253	-3.0%	4,426,225	-2.6%	4,312,318	-1.2%	4,262,366	1.9%	4,343,172	



## 14. 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:

- 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.
- 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.
- 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.
- 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.
- 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.
- 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 these projects' toll traffic, except those identified within this report.
- Major highway improvements that are currently underway or fully funded will be completed as planned.
- The system will be well maintained, efficiently operated, and effectively signed to encourage maximum usage.
- No reduced growth initiatives or related controls that would significantly inhibit normal development patterns will be introduced during the estimate period.
- There will be no future serious protracted recession during the estimate period.
- There will be no protracted fuel shortage during the estimate period.
- 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.

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