



FY2018 Annual Traffic and Toll Revenue Report

Richmond Metropolitan Transportation Authority

February 2019

FINAL 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.

- Overall traffic and revenue grew from FY17 to FY18, at 1.3 and 1.0 percent, respectively
- The Downtown Expressway transactions grew the most in absolute and percent terms at 2.7 percent and an increase in toll revenue of 1.7 percent
- The Powhite Parkway transactions showed slowed growth at 0.9 percent with toll revenue increasing only 1.0 percent
- The Boulevard Bridge transactions had a loss of 2.9 percent and a toll revenue loss of 4.1 percent

Table 1: RMTA Traffic and Toll Revenue, FY17 to FY18

FY17 to FY18				
Facility	FY17	FY18	Difference	
			Absolute	Percent
Transactions				
Powhite Parkway	37,354,162	37,689,222	335,060	0.9%
Downtown Expressway	21,863,219	22,452,343	589,124	2.7%
Boulevard Bridge	4,332,640	4,206,077	-126,563	-2.9%
RMTA Total	63,550,021	64,347,642	797,621	1.3%
Toll Revenue				
Powhite Parkway	\$25,470,997	\$25,721,280	\$250,283	1.0%
Downtown Expressway	\$13,979,051	\$14,216,747	\$237,696	1.7%
Boulevard Bridge	\$1,510,119	\$1,448,133	-\$61,986	-4.1%
RMTA Total	\$40,960,167	\$41,386,160	\$425,993	1.0%

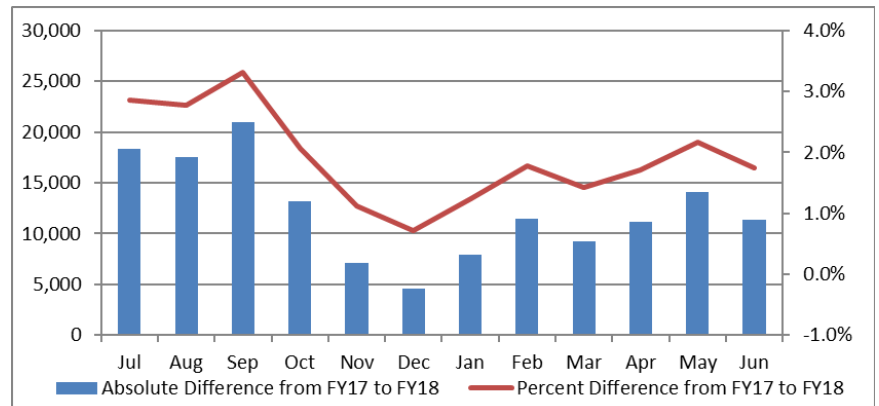
Table 2: RMTA FY18 Traffic and Toll, Actual vs. Forecast

FY18 - Actual versus Forecast				
Facility	Actual	Forecast	Difference	
			Absolute	Percent
Transactions				
Powhite Parkway	37,689,222	37,887,000	-197,778	-0.5%
Downtown Expressway	22,452,343	21,341,000	1,111,343	4.9%
Boulevard Bridge	4,206,077	4,332,000	-125,923	-3.0%
RMTA Total	64,347,642	63,560,000	787,642	1.2%
Toll Revenue				
Powhite Parkway	\$25,721,280	\$25,848,000	-\$126,720	-0.5%
Downtown Expressway	\$14,216,747	\$13,680,000	\$536,747	3.8%
Boulevard Bridge	\$1,448,133	\$1,512,000	-\$63,867	-4.4%
RMTA Total	\$41,386,160	\$41,040,000	\$346,160	0.8%

- The overall forecast was achieved due to modest growth across all of RMTA's assets

- Employment has emerged as the key economic indicator to predict traffic on the RMTA system
- Employment growth for the Richmond Metropolitan Area was generally lower and weaker than FY17 throughout FY18, with rates between 0.7 and 3.3 percent

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



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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 both the Virginia Commonwealth University Rams and the San Francisco Giants AA farm team (Richmond Flying Squirrels) of the Eastern League 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.

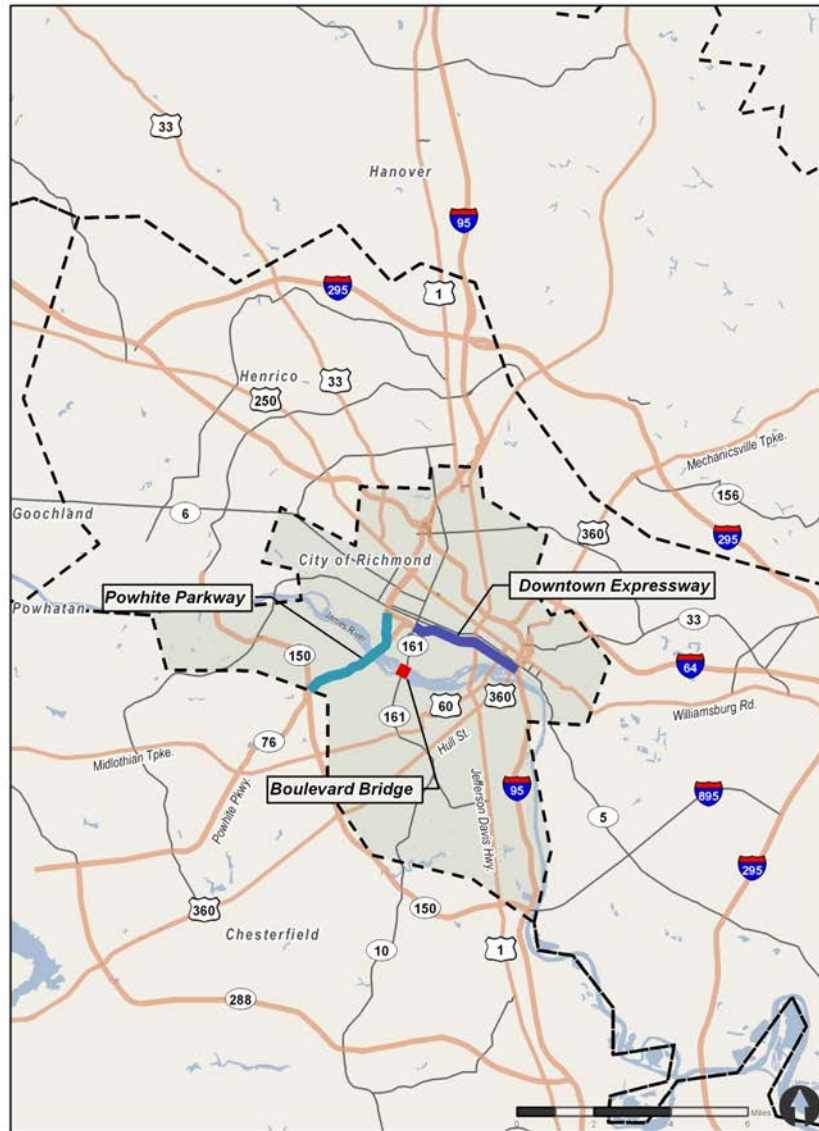
The current RMTA Expressway System consists of three facilities: the Powhite Parkway, the Downtown Expressway and the Boulevard Bridge. The location map of the RMTA Expressway System is shown in Figure 2. A further description of each of the facilities on the RMTA Expressway System follows.

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 was removed from the current plan based on traffic growth through FY17.

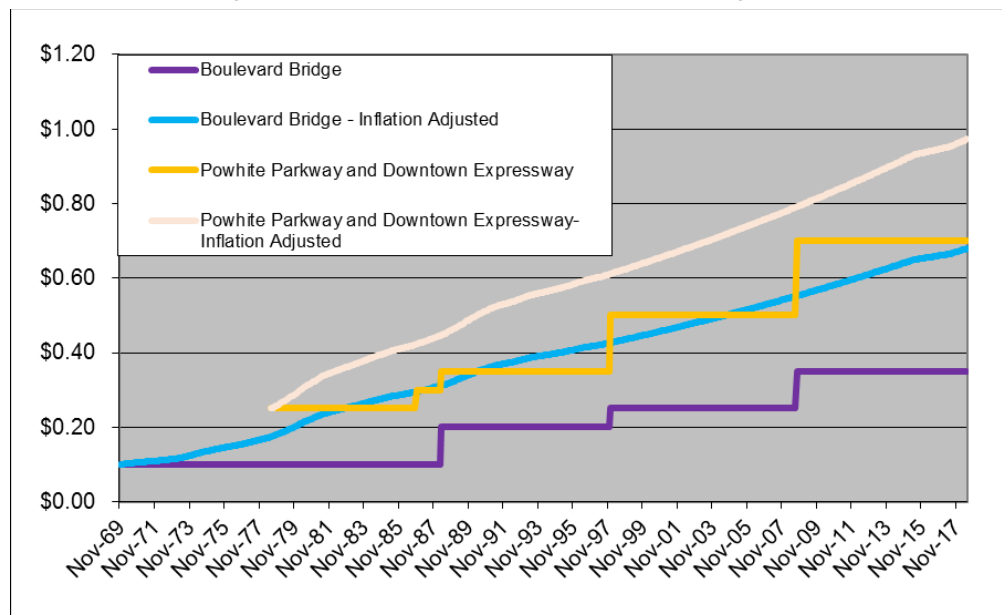
The toll rates for vehicles with more than two axles are also shown. Both of the mainline plazas and the Forest Hills ramp plaza share the characteristic of rising toll rates directly related to the number of axles the vehicle has, with a ten cent per axle surcharge above the two-axle rate. For the smaller 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 Powhite 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.

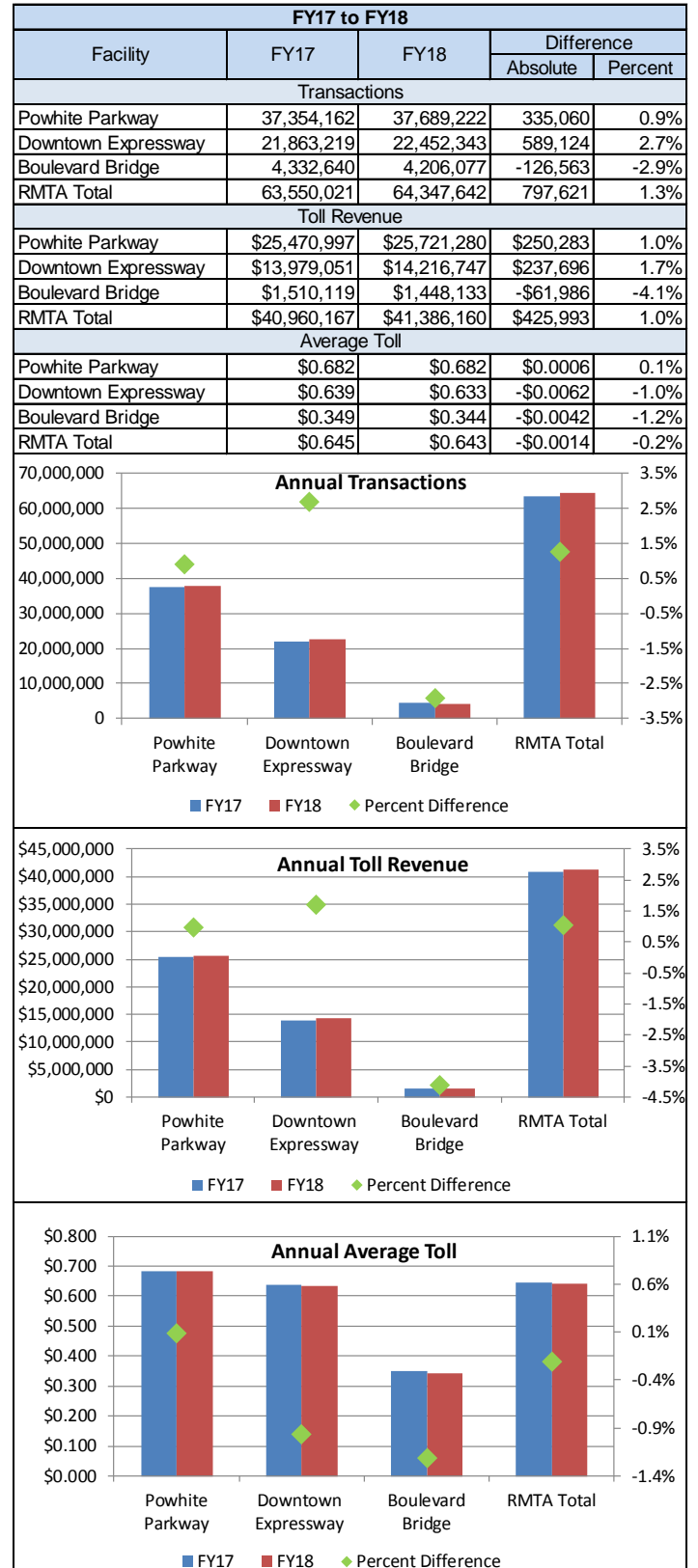
It is common for toll authorities to increase tolls to keep pace with inflation to cover operating expenses, roadway and toll plaza maintenance and other such expenses that increase over time. Figure 3 provides a look at the inflation adjusted toll rates based upon the opening toll rates for the respective 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 39 percent more (\$0.97) than the current rate for the Powhite Parkway and Downtown Expressway and 94 percent more (\$0.68) 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

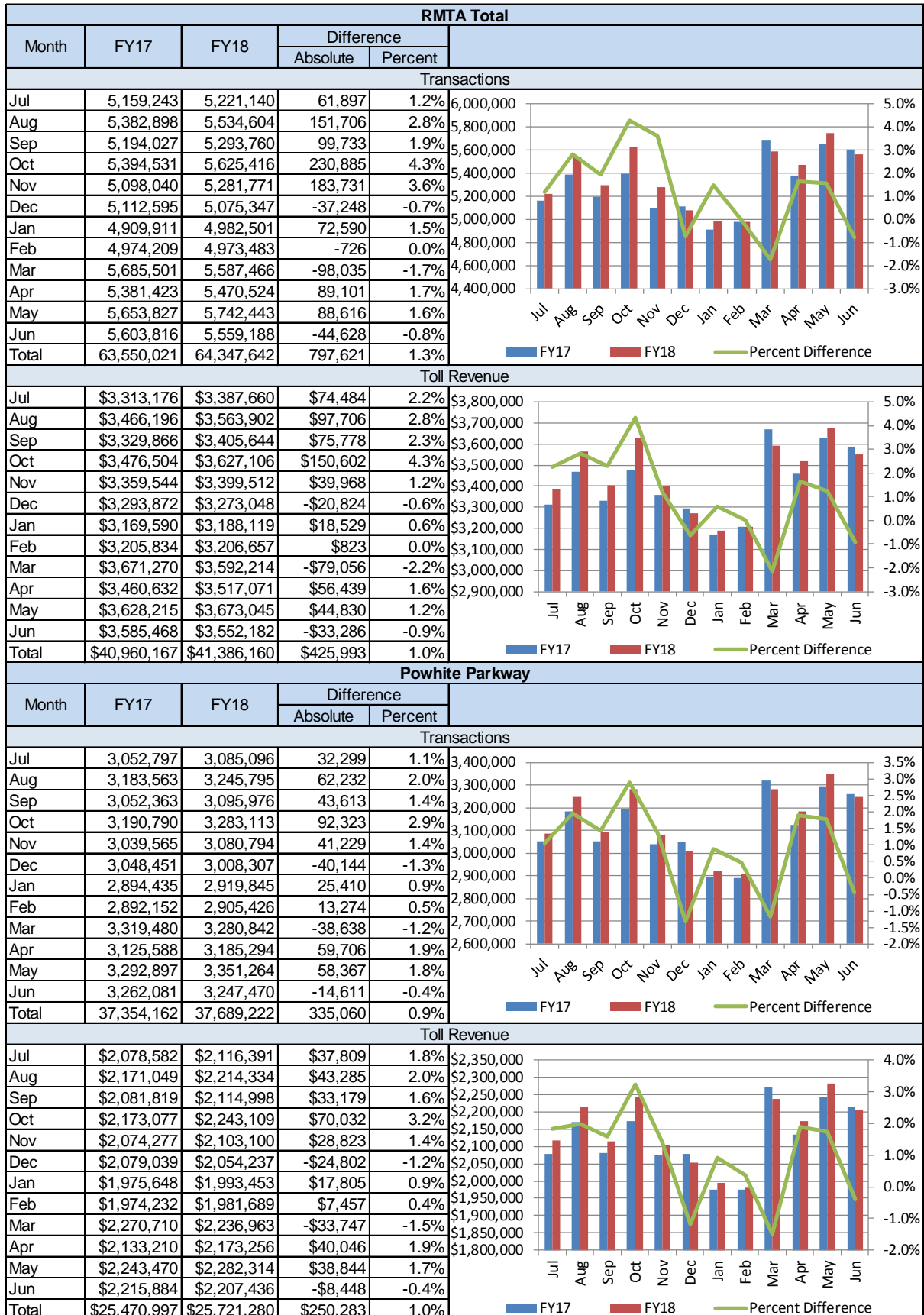


4. FY17 to FY18 Growth

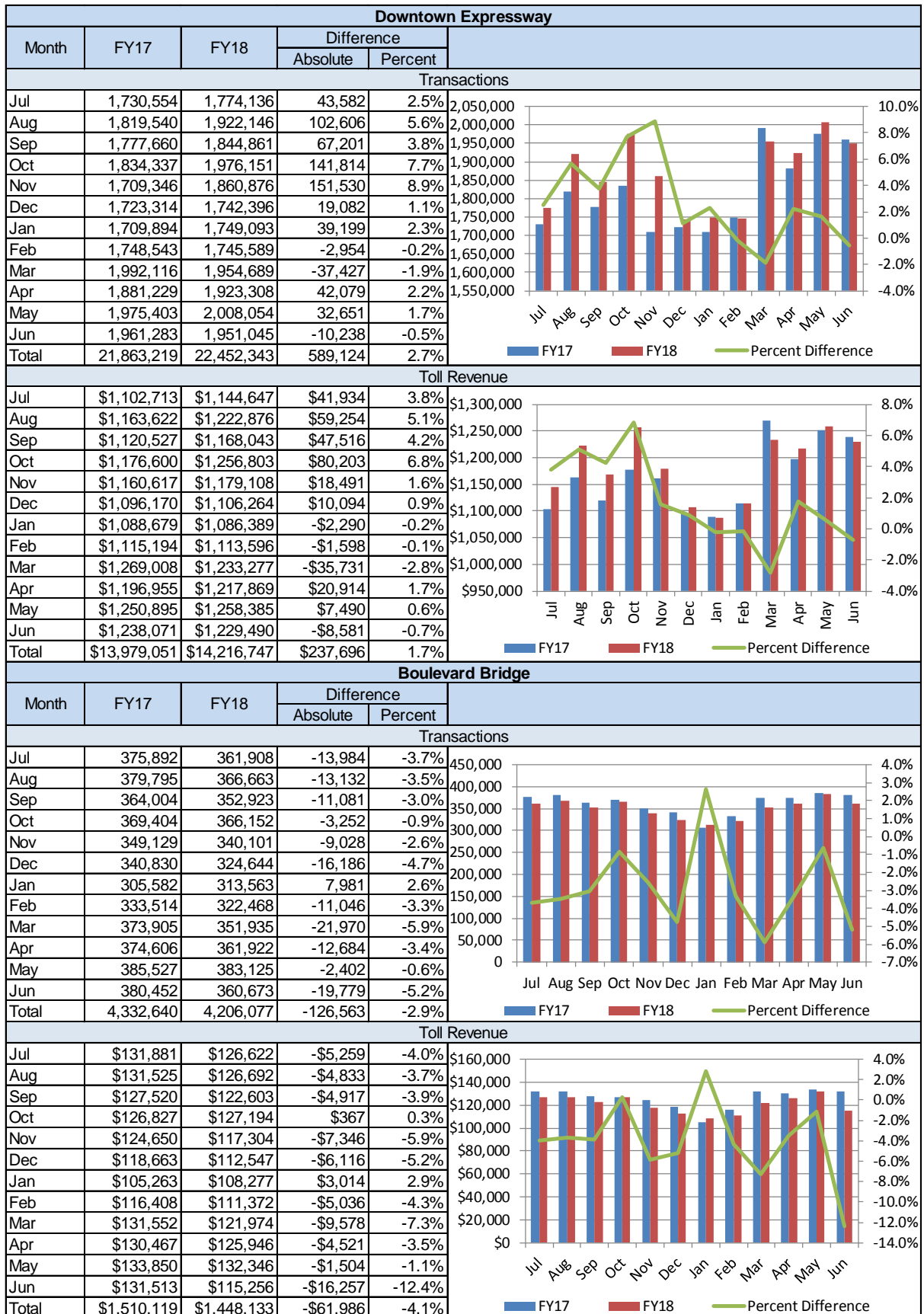
- Overall traffic and revenue grew from FY17 to FY18, at 1.3 and 1.0 percent, respectively.
- The Downtown Expressway transactions grew the most in absolute and percent terms at 2.7 percent and an increase in toll revenue of 1.7 percent.
- The Powhite Parkway transactions showed slowed growth at 0.9 percent with toll revenue increasing only 1.0 percent.
- The Boulevard Bridge transactions had a loss of 2.9 percent and a toll revenue loss of 4.1 percent.
- Average Toll is relatively stable
- Monthly data follows:
 - Modest growth throughout FY18
 - Varied monthly growths mostly as a function of days of the week in the month



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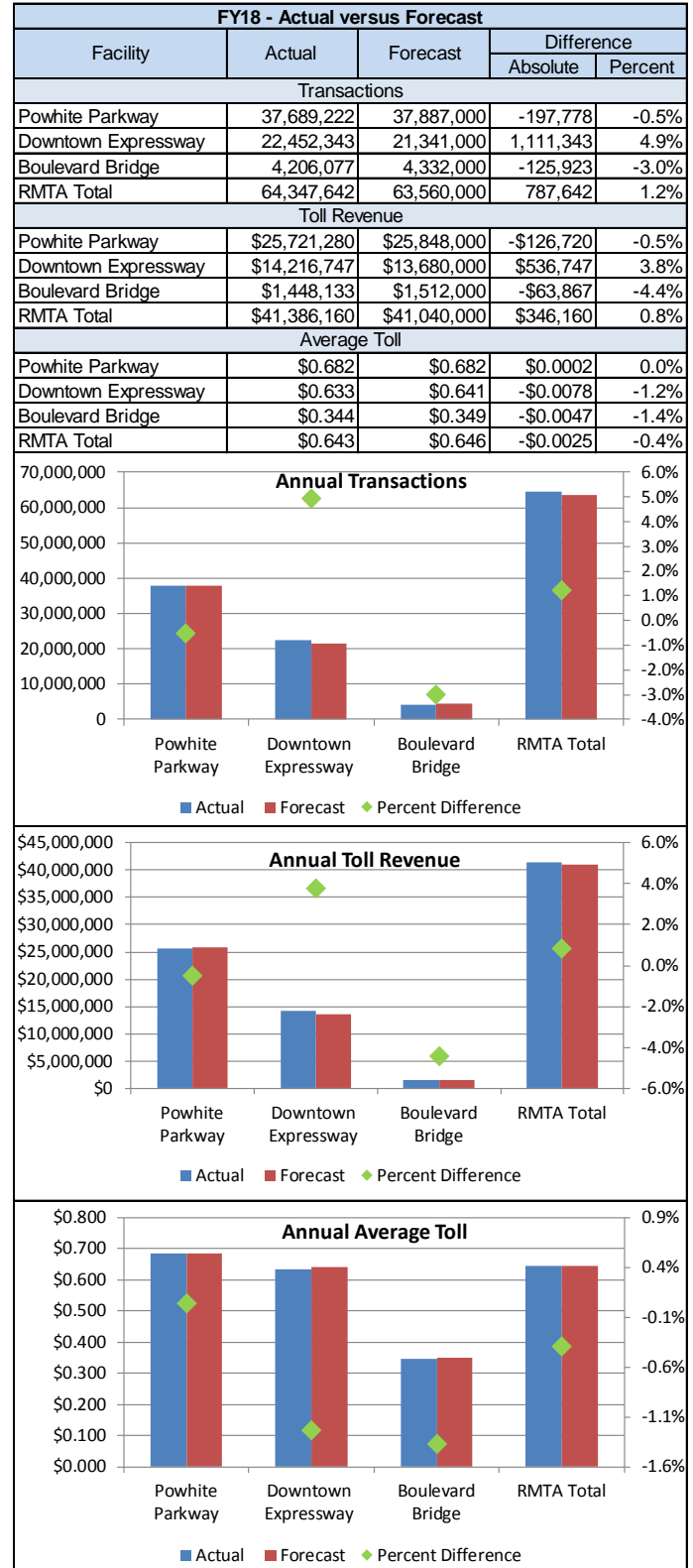


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5. FY18 Actual vs. Forecast

- The overall forecast was exceeded due to high growth on the Downtown Expressway.
- Average toll was slightly lower than forecast.

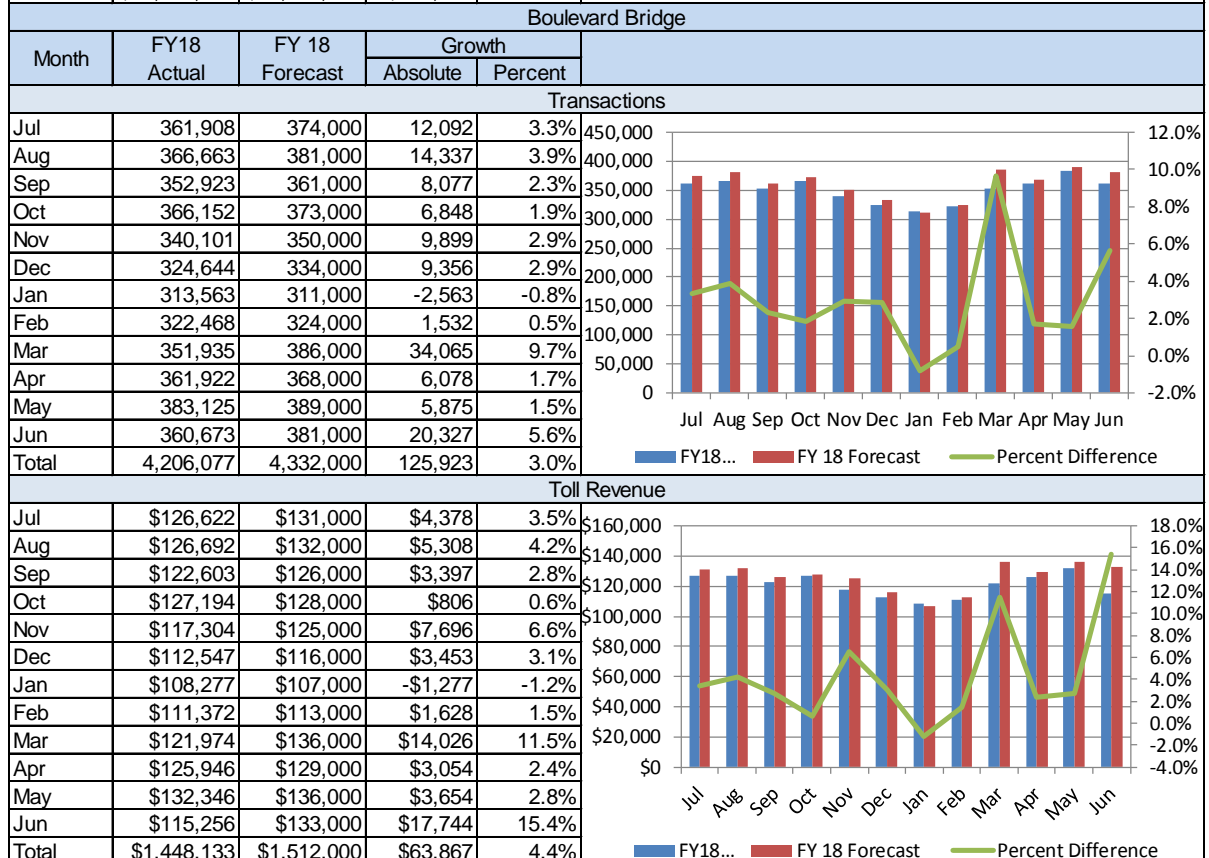
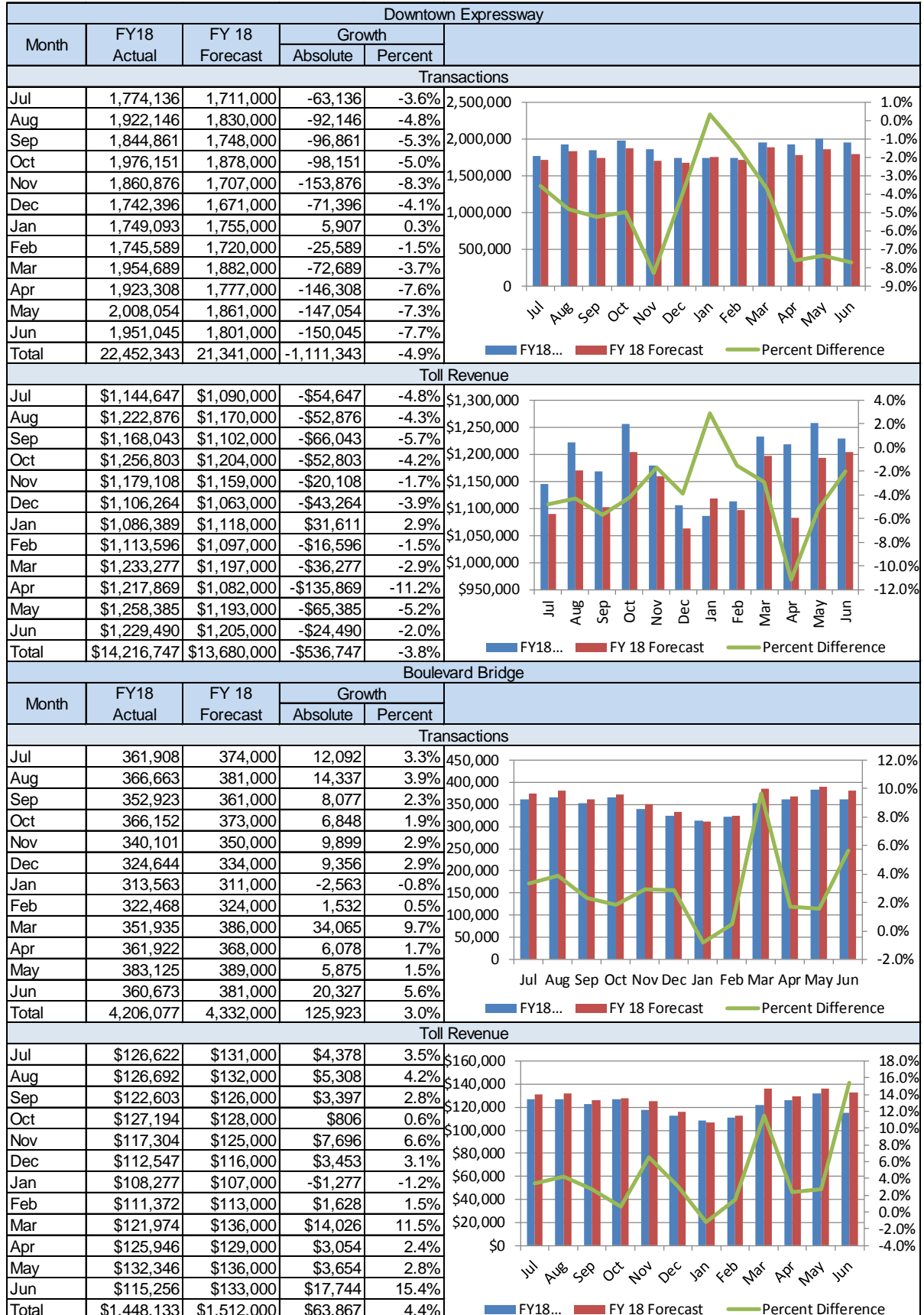


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RMTA Total					
Month	FY18 Actual	FY 18 Forecast	Growth		
			Absolute	Percent	
Transactions					
Jul	5,221,140	5,175,000	-46,140	-0.9%	<p>FY18... FY 18 Forecast Percent Difference</p>
Aug	5,534,604	5,475,000	-59,604	-1.1%	
Sep	5,293,760	5,191,000	-102,760	-1.9%	
Oct	5,625,416	5,547,000	-78,416	-1.4%	
Nov	5,281,771	5,154,000	-127,771	-2.4%	
Dec	5,075,347	5,043,000	-32,347	-0.6%	
Jan	4,982,501	5,076,000	93,499	1.9%	
Feb	4,973,483	4,952,000	-21,483	-0.4%	
Mar	5,587,466	5,599,000	11,534	0.2%	
Apr	5,470,524	5,263,000	-207,524	-3.8%	
May	5,742,443	5,603,000	-139,443	-2.4%	
Jun	5,559,188	5,482,000	-77,188	-1.4%	
Total	64,347,642	63,560,000	-787,642	-1.2%	
Toll Revenue					
Jul	\$3,387,660	\$3,325,000	-\$62,660	-1.8%	<p>FY18... FY 18 Forecast Percent Difference</p>
Aug	\$3,563,902	\$3,528,000	-\$35,902	-1.0%	
Sep	\$3,405,644	\$3,330,000	-\$75,644	-2.2%	
Oct	\$3,627,106	\$3,577,000	-\$50,106	-1.4%	
Nov	\$3,399,512	\$3,398,000	-\$1,512	0.0%	
Dec	\$3,273,048	\$3,251,000	-\$22,048	-0.7%	
Jan	\$3,188,119	\$3,280,000	\$91,881	2.9%	
Feb	\$3,206,657	\$3,195,000	-\$11,657	-0.4%	
Mar	\$3,592,214	\$3,610,000	\$17,786	0.5%	
Apr	\$3,517,071	\$3,339,000	-\$178,071	-5.1%	
May	\$3,673,045	\$3,616,000	-\$57,045	-1.6%	
Jun	\$3,552,182	\$3,591,000	\$38,818	1.1%	
Total	\$41,386,160	\$41,040,000	-\$346,160	-0.8%	
Powwhite Parkway					
Month	FY18 Actual	FY 18 Forecast	Growth		
			Absolute	Percent	
Transactions					
Jul	3,085,096	3,090,000	4,904	0.2%	<p>FY18... FY 18 Forecast Percent Difference</p>
Aug	3,245,795	3,264,000	18,205	0.6%	
Sep	3,095,976	3,082,000	-13,976	-0.5%	
Oct	3,283,113	3,296,000	12,887	0.4%	
Nov	3,080,794	3,097,000	16,206	0.5%	
Dec	3,008,307	3,038,000	29,693	1.0%	
Jan	2,919,845	3,010,000	90,155	3.1%	
Feb	2,905,426	2,908,000	2,574	0.1%	
Mar	3,280,842	3,331,000	50,158	1.5%	
Apr	3,185,294	3,118,000	-67,294	-2.1%	
May	3,351,264	3,353,000	1,736	0.1%	
Jun	3,247,470	3,300,000	52,530	1.6%	
Total	37,689,222	37,887,000	197,778	0.5%	
Toll Revenue					
Jul	\$2,116,391	\$2,104,000	-\$12,391	-0.6%	<p>FY18... FY 18 Forecast Percent Difference</p>
Aug	\$2,214,334	\$2,226,000	\$11,666	0.5%	
Sep	\$2,114,998	\$2,102,000	-\$12,998	-0.6%	
Oct	\$2,243,109	\$2,245,000	\$1,891	0.1%	
Nov	\$2,103,100	\$2,114,000	\$10,900	0.5%	
Dec	\$2,054,237	\$2,072,000	\$17,763	0.9%	
Jan	\$1,993,453	\$2,055,000	\$61,547	3.1%	
Feb	\$1,981,689	\$1,985,000	\$3,311	0.2%	
Mar	\$2,236,963	\$2,277,000	\$40,037	1.8%	
Apr	\$2,173,256	\$2,128,000	-\$45,256	-2.1%	
May	\$2,282,314	\$2,287,000	\$4,686	0.2%	
Jun	\$2,207,436	\$2,253,000	\$45,564	2.1%	
Total	\$25,721,280	\$25,848,000	\$126,720	0.5%	

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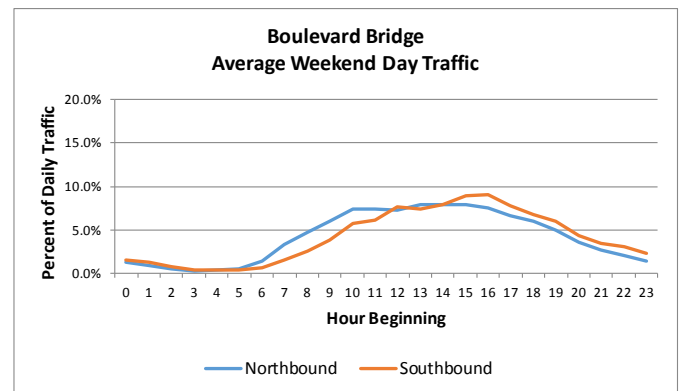
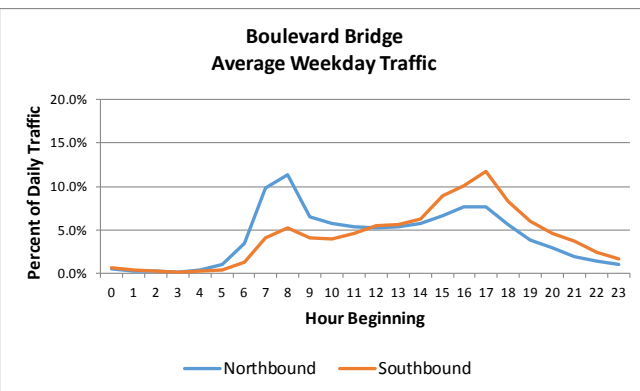
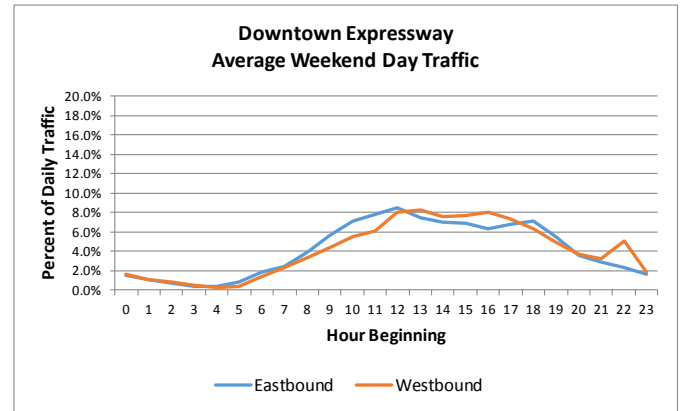
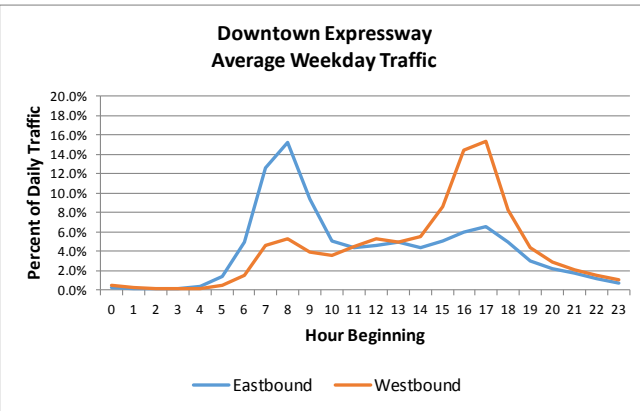
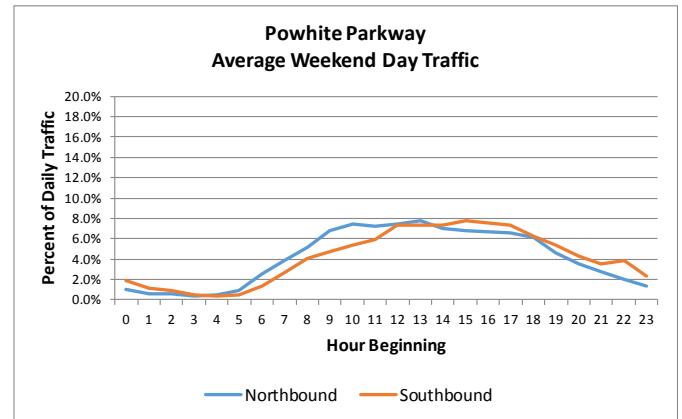
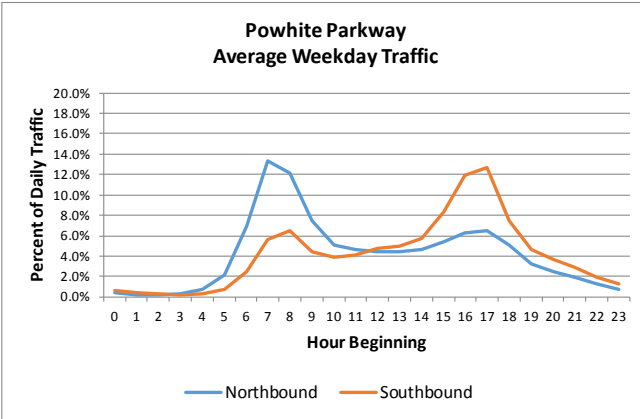
6. Hourly Traffic Profiles

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 5 to 15 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 15 percent of daily demand, respectively. The Boulevard Bridge reaches 12 percent, the high end of this typical range. The RMTA facilities reach the peak of these peak hour ranges between 7 am and 8 am for the northbound Powhite Parkway and from 8 am to 9 am for both the eastbound Downtown Expressway and northbound Boulevard Bridge. In the evening, all three facilities reach their peak period (albeit in the opposite direction) between 5 pm and 6 pm. These peak one-hour periods are the typical commuter “rush hour” and such 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 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 on 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.

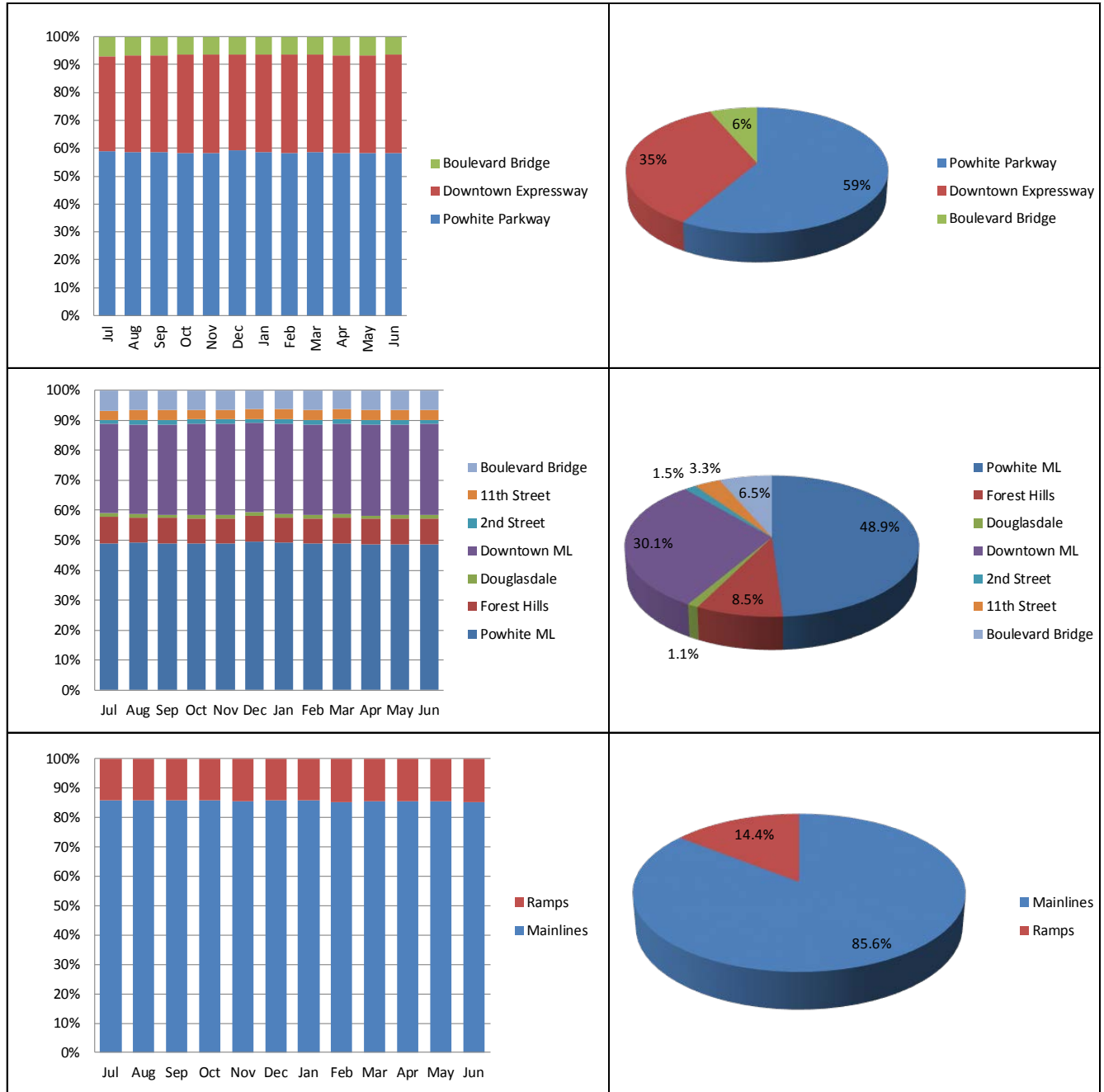
The weekend traffic is very typical of commuter routes with light traffic in the mornings and steady traffic from later morning to early evening, peaking at about 8 to 9 percent of the daily traffic in the noon to 5 pm time range. These lower peak percentages combined with lower overall traffic on weekend 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

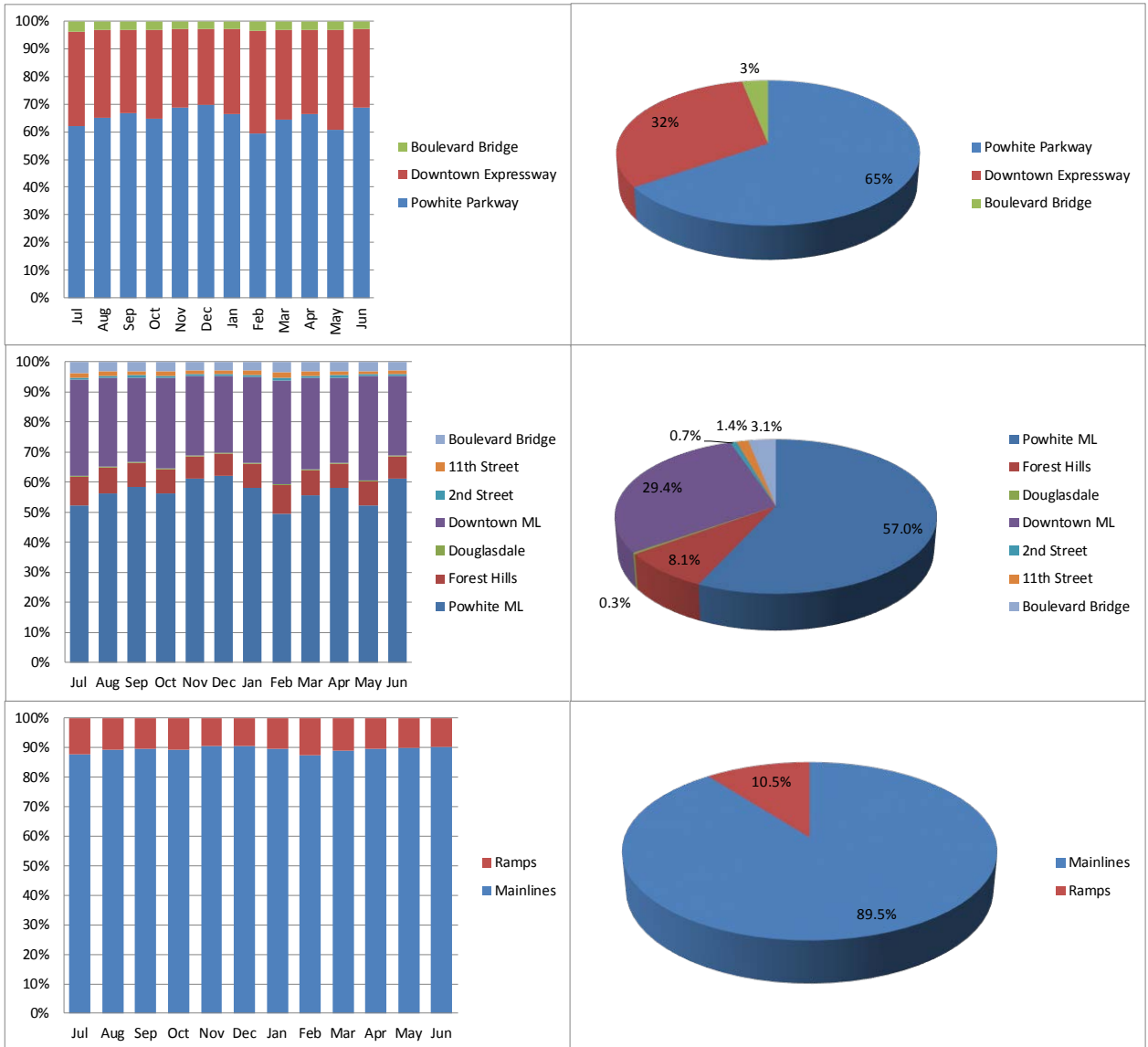


7. FY18 Percent Share of Traffic and Revenue by Facility

Percent Share of Transactions - FY 2018



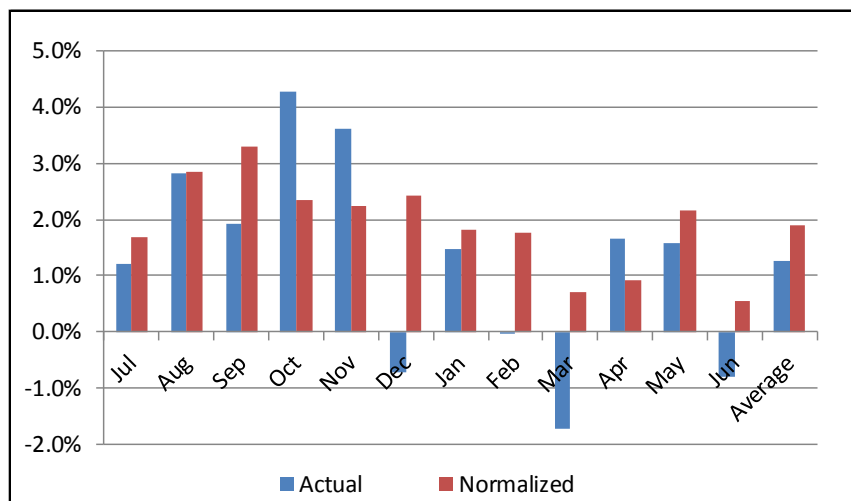
Percent Share of Toll Revenue - FY2018



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 difference 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, which are very close in many cases.
- 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 overall growth ranged from +0.5 percent to +3.3 percent with an average +1.6 percent.

Month	FY17 to FY18 Actual and Estimated Normalized Growth				
	Actual	Normalized			
	Overall	Overall	Weekday	Saturday	Sunday
Jul	1.2%	1.7%	1.3%	3.1%	4.3%
Aug	2.8%	2.8%	1.8%	7.5%	8.9%
Sep	1.9%	3.3%	3.3%	1.5%	5.9%
Oct	4.3%	2.3%	2.3%	3.1%	1.5%
Nov	3.6%	2.2%	2.8%	-0.8%	0.1%
Dec	-0.7%	2.4%	1.8%	6.1%	4.2%
Jan	1.5%	1.8%	1.4%	6.6%	0.1%
Feb	0.0%	1.8%	1.8%	4.5%	-1.8%
Mar	-1.7%	0.7%	0.4%	0.8%	3.5%
Apr	1.7%	0.9%	1.3%	2.8%	-4.7%
May	1.6%	2.2%	1.5%	6.2%	4.0%
Jun	-0.8%	0.5%	0.8%	0.0%	-1.8%
Average	1.3%	1.9%	1.7%	3.5%	2.0%



9. Distributions of Traffic Growth Rates

This section presents the distribution of the daily traffic growth rates by facility and day of week comparing the same day from FY17 to FY18. Because weekday and weekend traffic is so different on the RMTA system, comparisons are not made between, for example, Sunday, June 4, 2017 and Monday, June 4, 2018 but between the like days of Monday, June 5, 2017 and Monday, June 4, 2018.

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, an almost normal distribution emerges.

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.

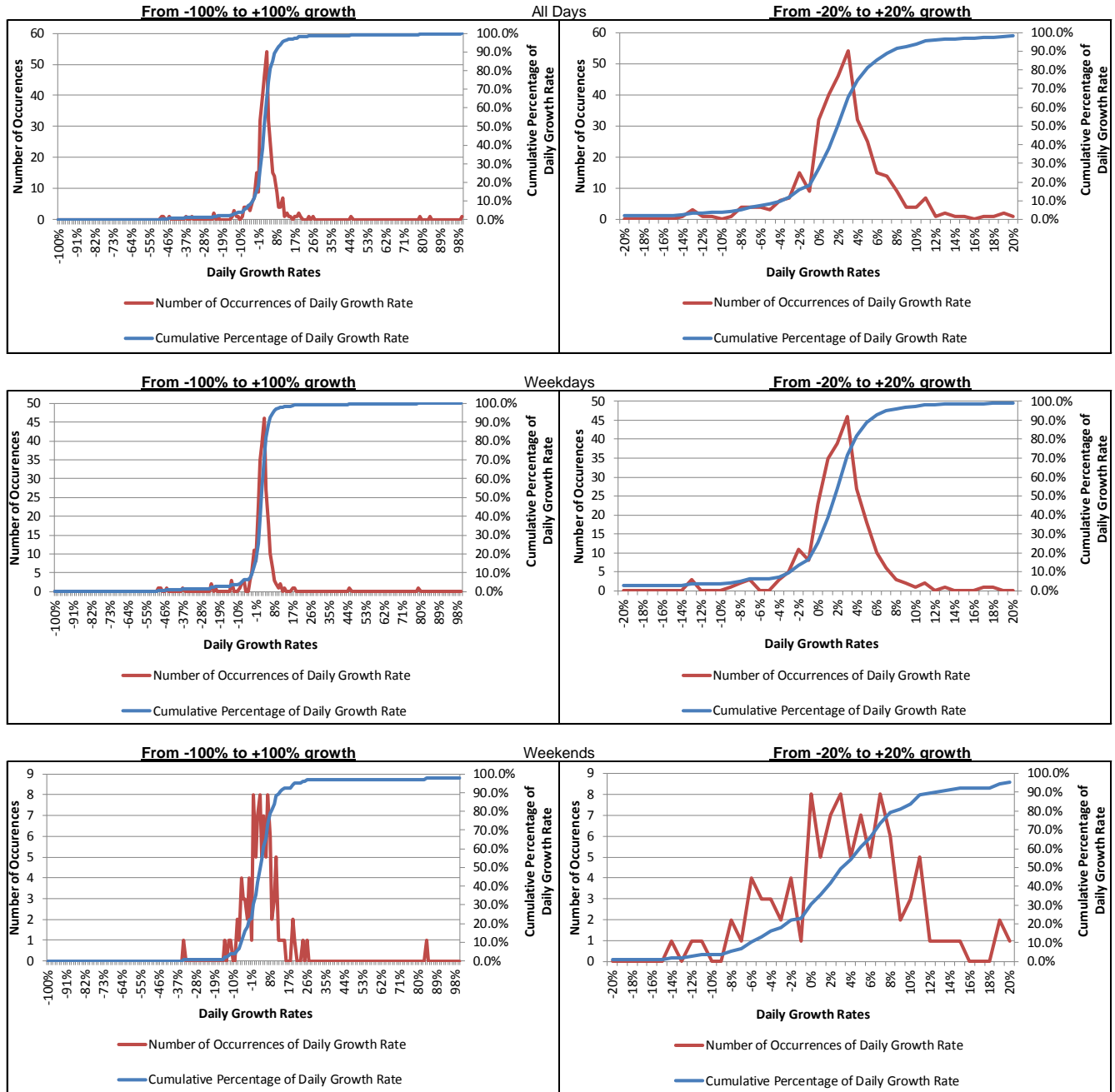
An analysis of all days, weekdays and weekend days is provided for all facilities combined (RMTA Total) and the three facilities individually. Two different scales are presented to be able to detail the middle range of growth rates, ranging from -20% to +20% on the right-hand side graphs. Additionally,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

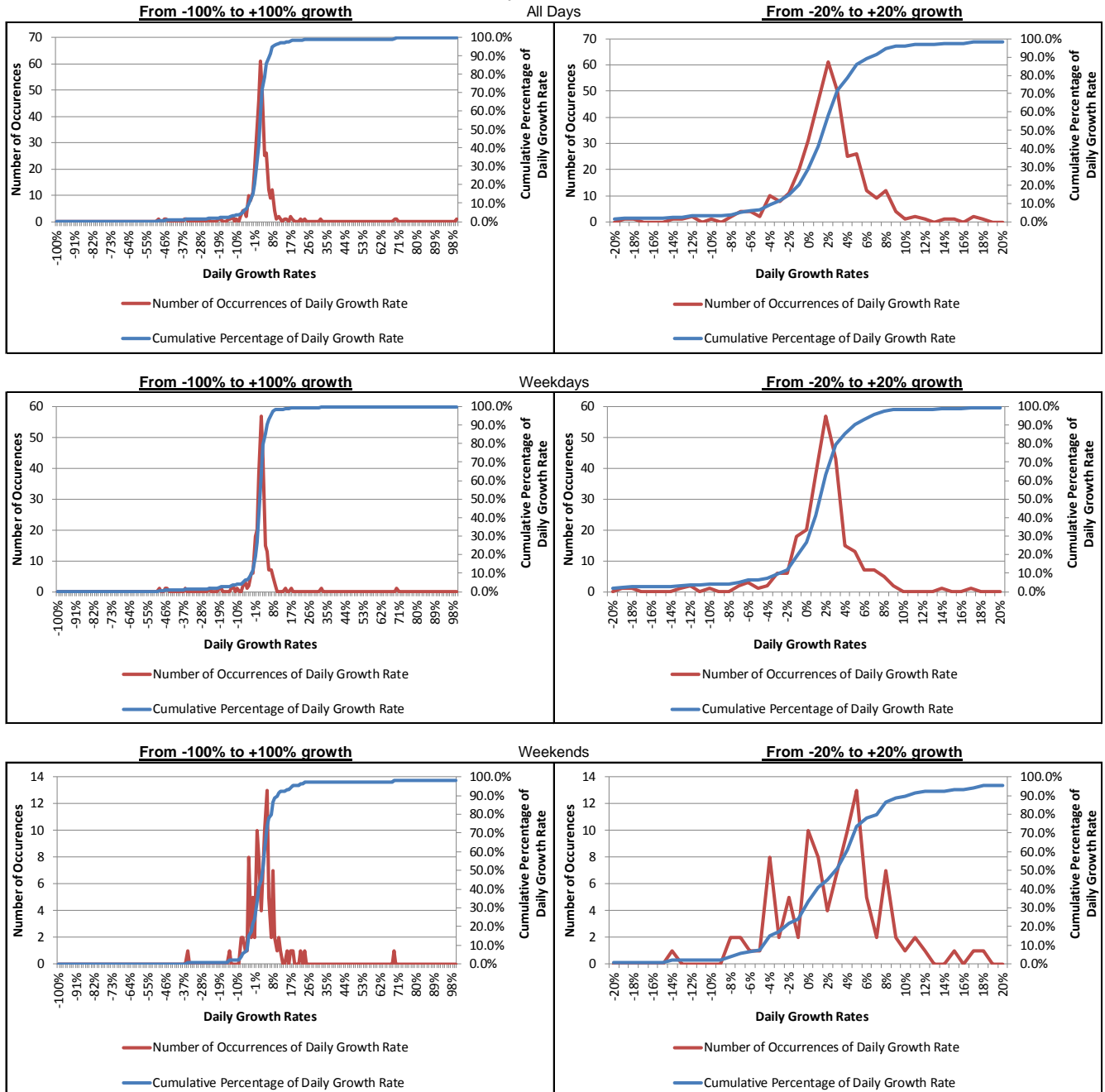
- Weekend traffic has a wider distribution of growth rates than weekday traffic as a function of low traffic levels and various special events that occur;
- Weekday traffic on the Powhite Parkway has the narrowest distribution of growth rates; and
- The Boulevard Bridge has the widest distributions.

RMTA Total Daily Traffic Growth Distributions



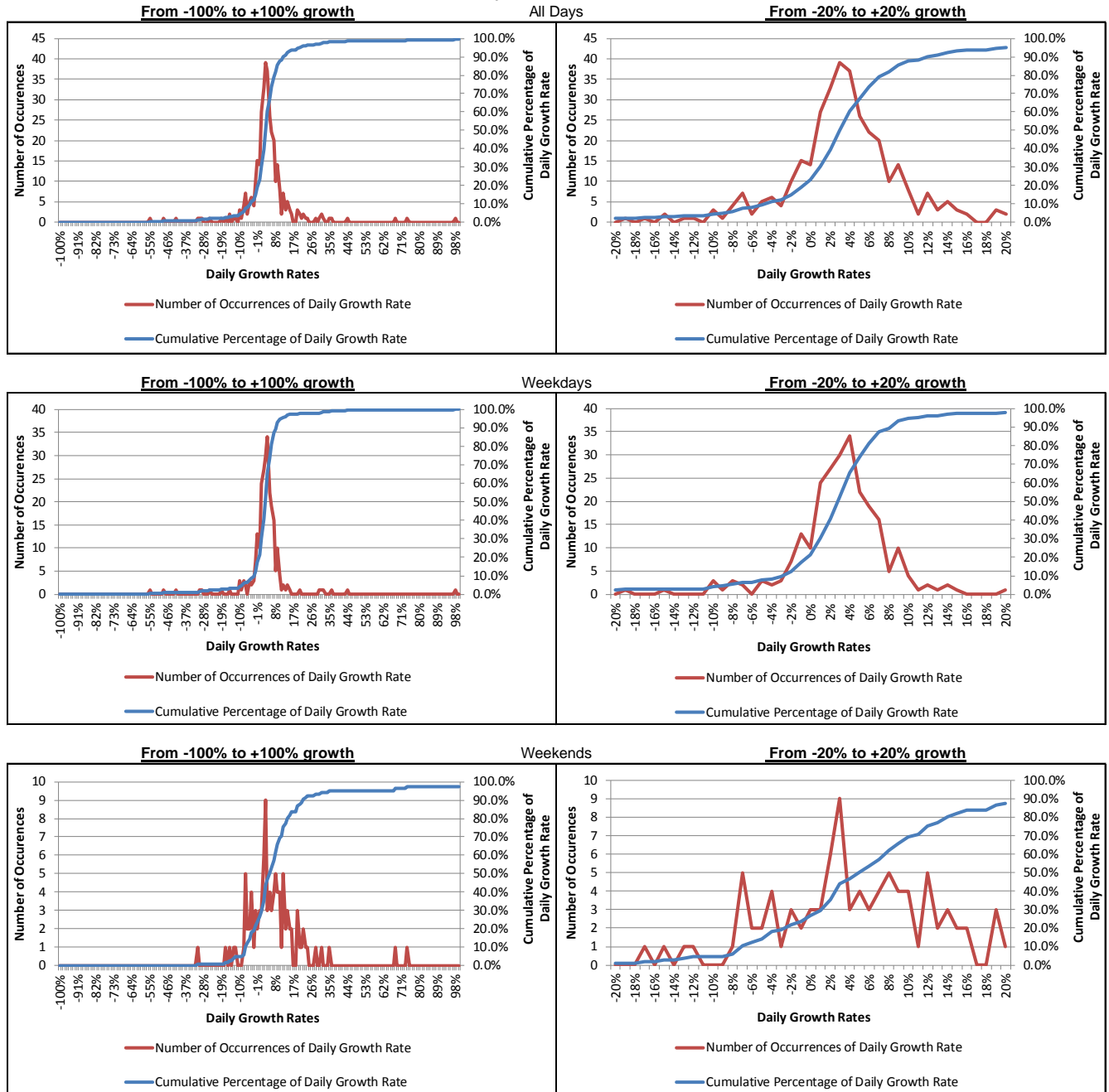
Days of the Week	Daily Growth Rates		
	Actual	Mean	Median
All Days	2.4%	2.5%	1.9%
Weekdays	2.5%	1.1%	1.8%
Weekend Days	2.1%	6.0%	2.9%

Powhite Total Daily Traffic Growth Distributions



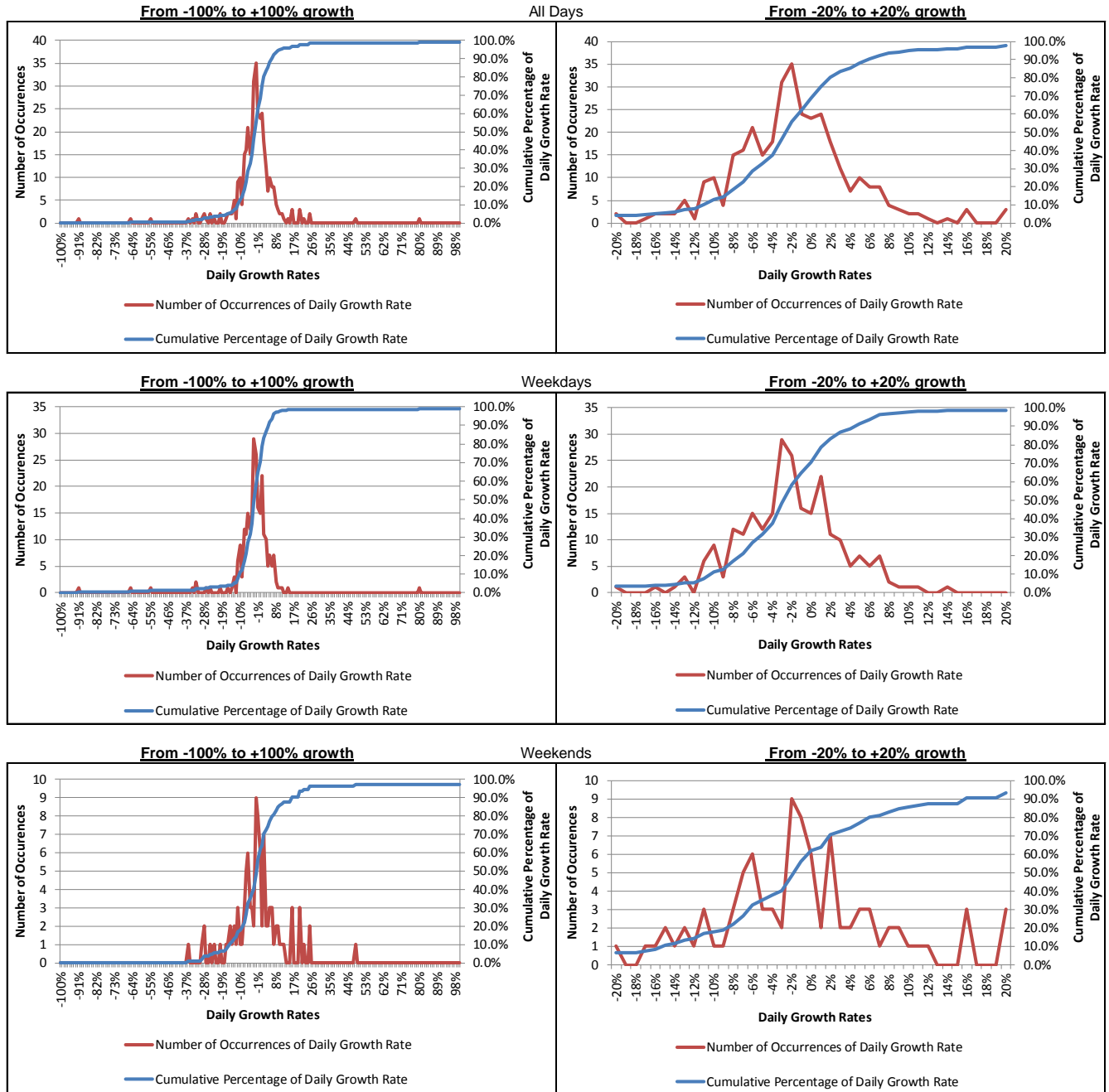
Days of the Week	Daily Growth Rates		
	Actual	Mean	Median
All Days	3.0%	1.9%	1.5%
Weekdays	3.1%	0.7%	1.5%
Weekend Days	3.0%	4.9%	2.7%

DTE Total Daily Traffic Growth Distributions



Days of the Week	Daily Growth Rates		
	Actual	Mean	Median
All Days	1.7%	4.5%	3.0%
Weekdays	1.9%	2.5%	2.8%
Weekend Days	1.0%	9.3%	4.5%

Boulevard Bridge Daily Traffic Growth Distributions



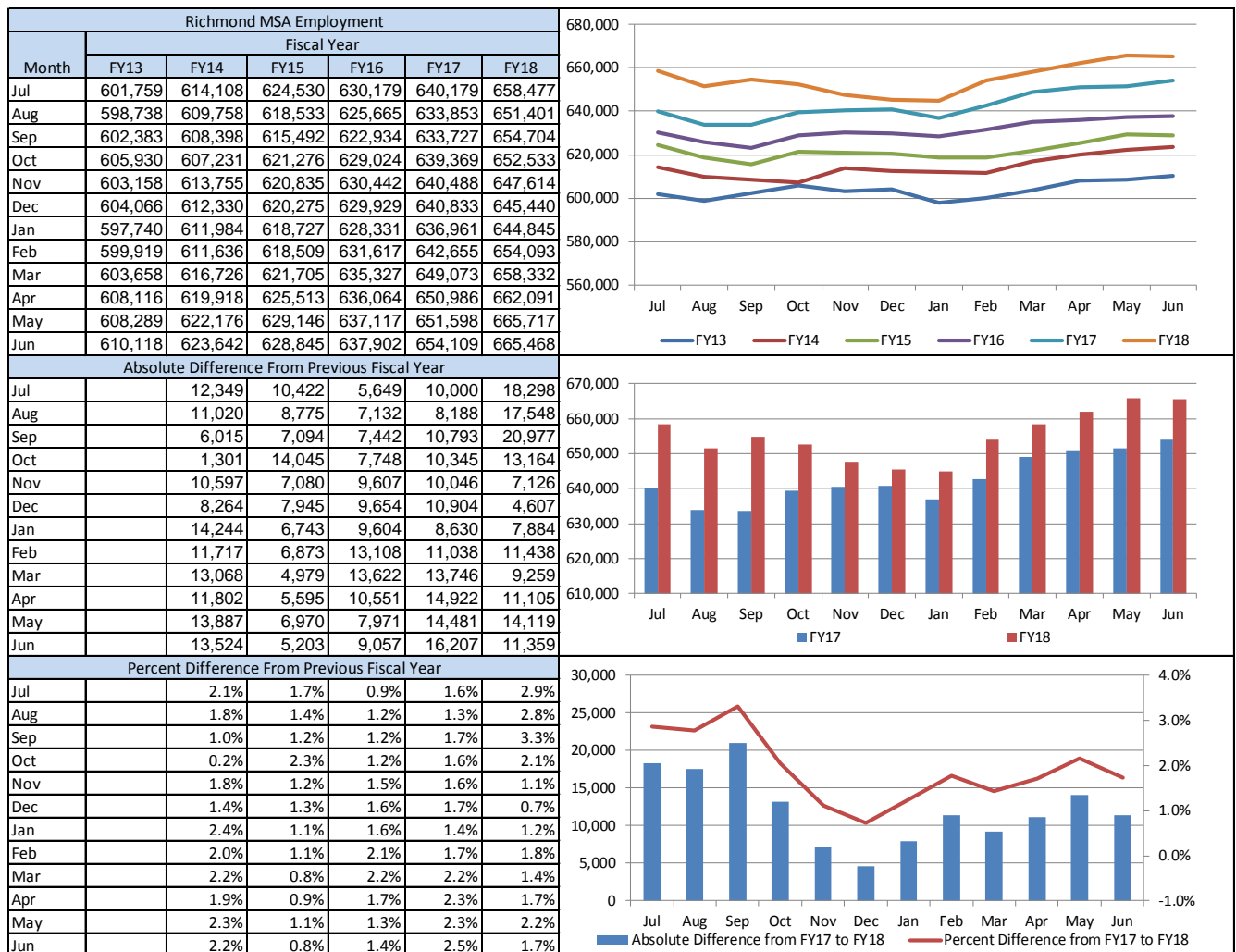
Days of the Week	Daily Growth Rates		
	Actual	Mean*	Median
All Days	0.0%	20.3%	-2.5%
Weekdays	0.2%	-3.0%	-2.9%
Weekend Days	-0.5%	78.7%	-1.9%

* Outliers as a result of weather closures in January 2017 were removed to achieve more realistic averages.

10. Employment Trends

- Employment in the Richmond Metropolitan Area has grown consistently for the last 5 years
- Average and median growth from FY13 to FY17 was 1.6 and 1.6 percent, respectively, fairly consistent
- Average and median growth for FY18 was 1.9 and 1.8 percent, respectively, which shows stronger growth than in the recent past (FY13 to FY17)

Richmond MSA Employment Analysis



*Monthly Employment for Richmond MSA as defined by BLS

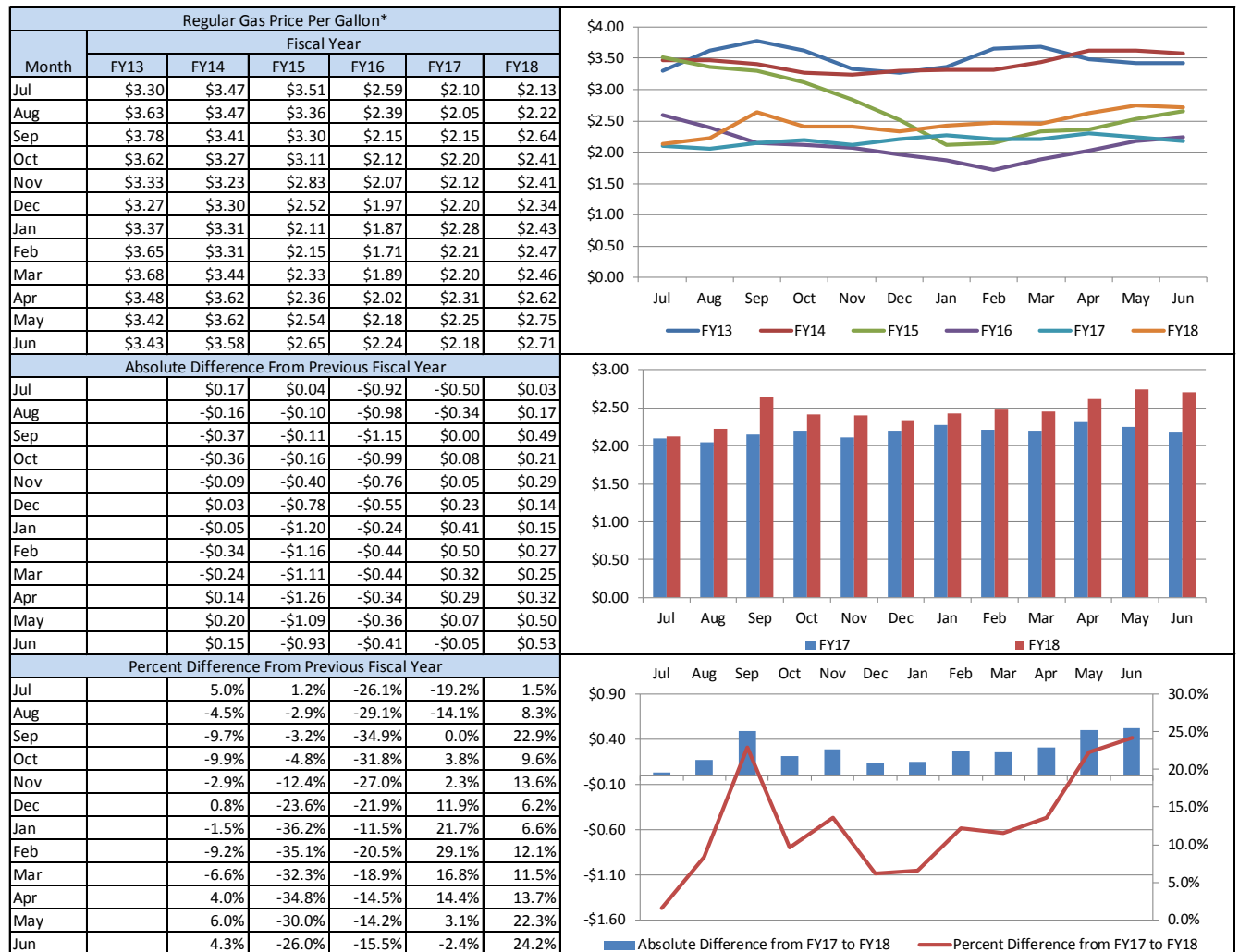
**Data were subject to revision on April 20, 2018.

Source: Bureau of Labor Statistics

11. Gas Price Trends

- Increases in gas prices from FY17 to FY18 can be seen throughout the year, especially in the latter half.
- Prices have increased consistently in FY18.
- There is little indication that these fluctuations in prices cause a significant decrease in trips 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.

Gasoline Price Analysis

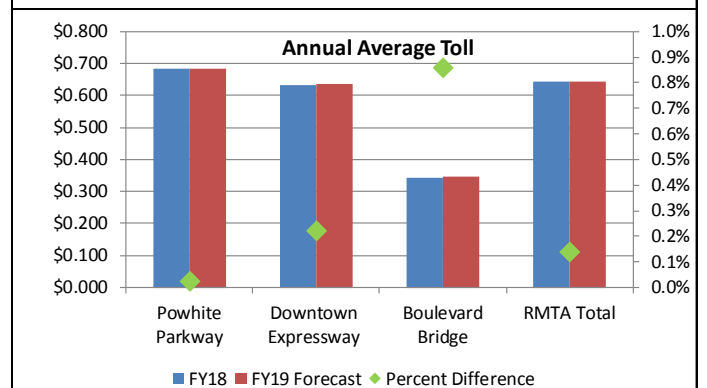
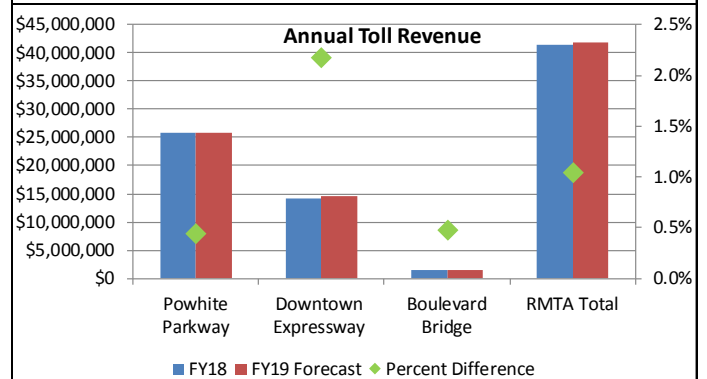
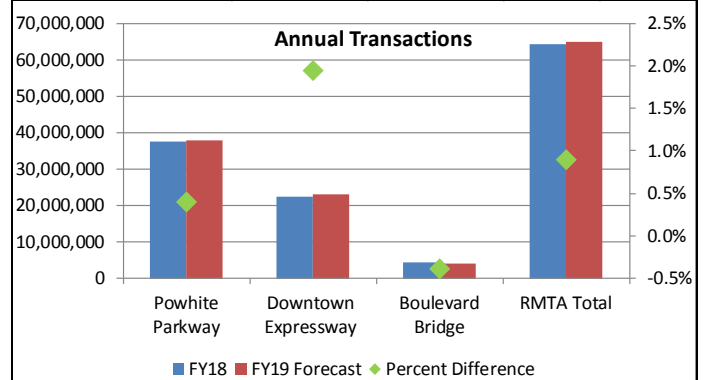


*Lower Atlantic (PADD 1C) Regular Conventional Retail Gasoline Prices
Source: US Energy Information Administration

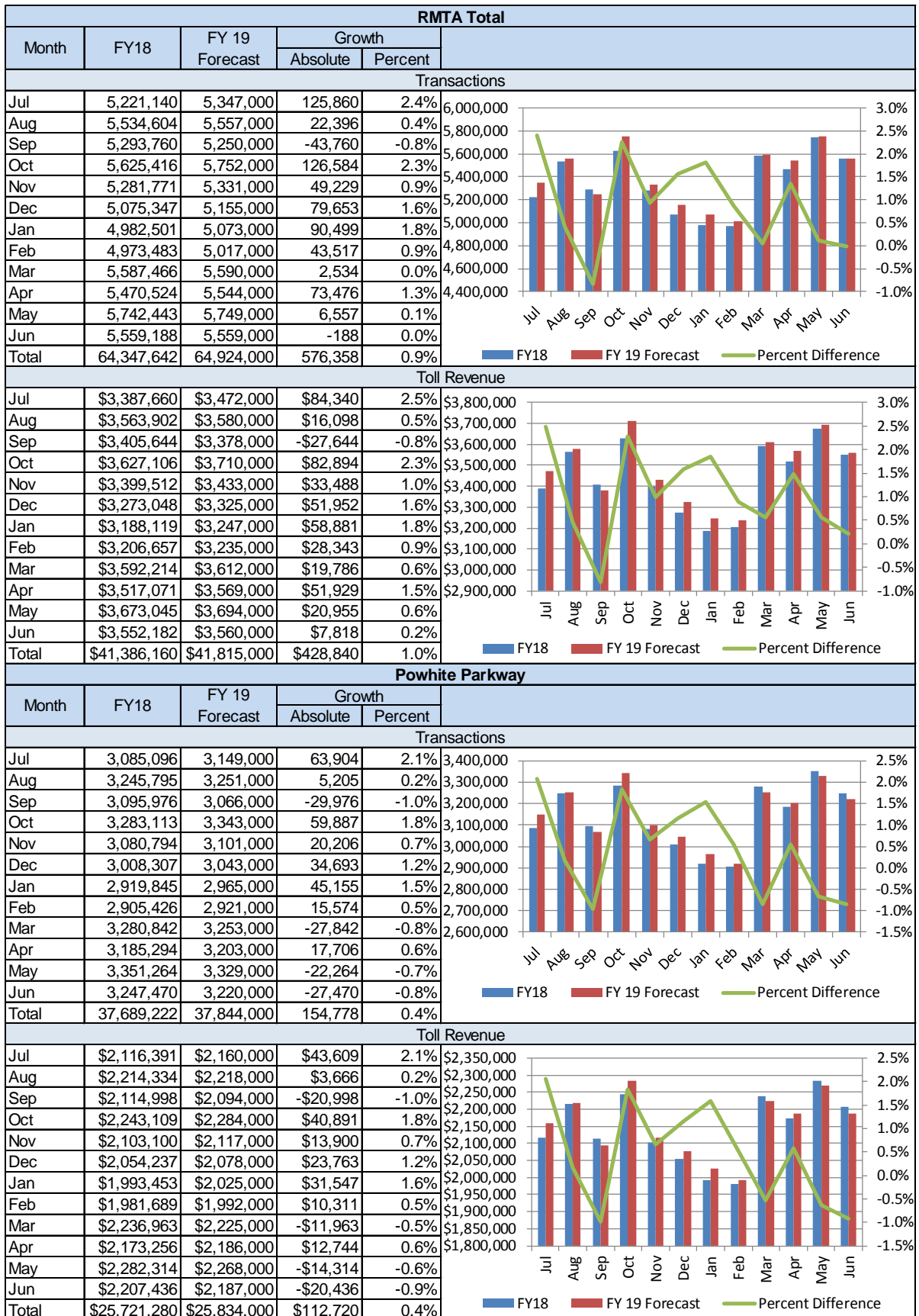
12. FY18 Actual to FY19 Forecast

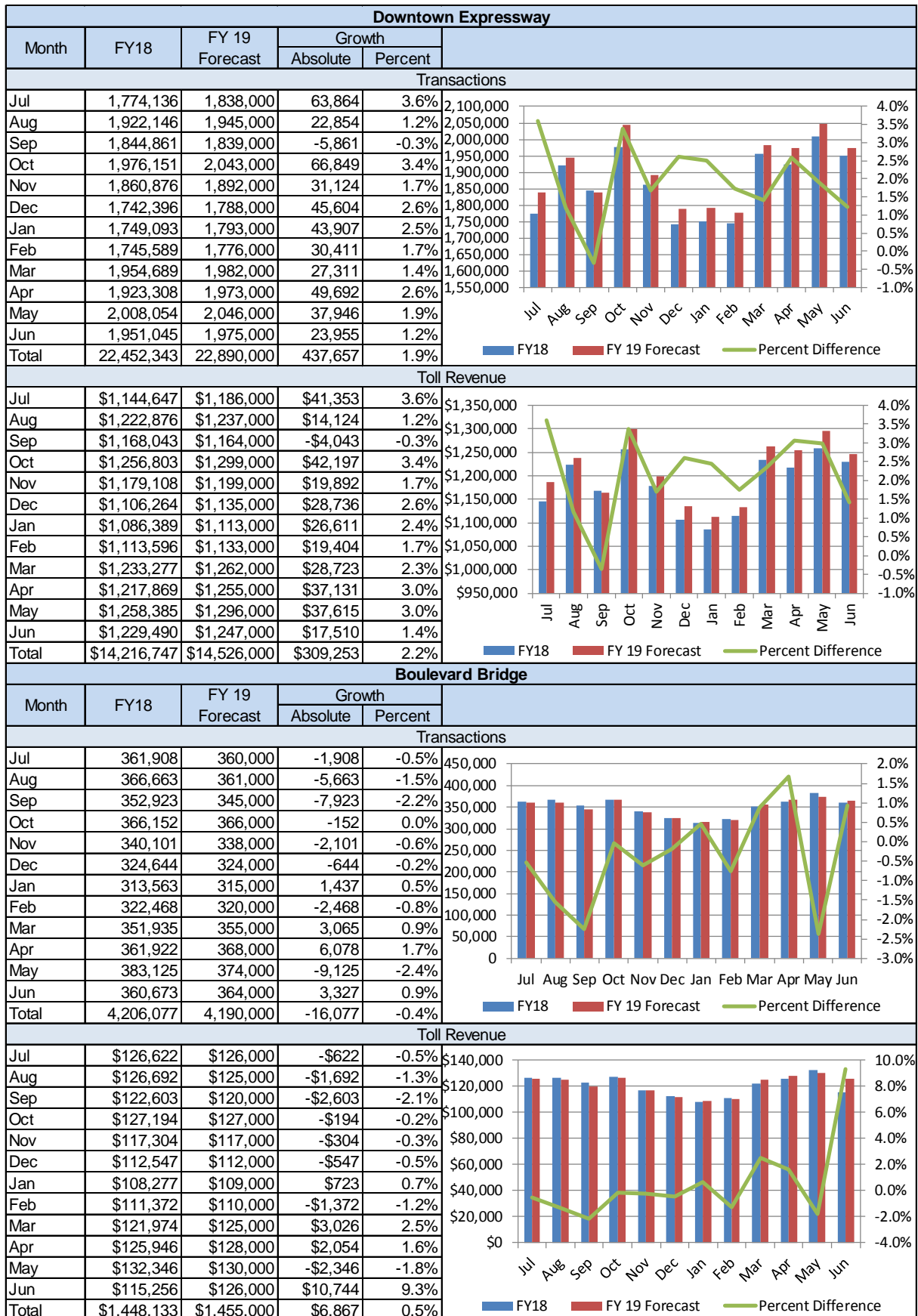
- The growth of T&R throughout FY17 caused the FY18 actual results to come very near the FY19 forecast.
- The average toll is expected to remain stable.
- The FY19 forecast is conservative and should easily be met.

FY 18 to FY19 Forecast				
Facility	FY18	FY19 Forecast	Difference	
			Absolute	Percent
Transactions				
Powhite Parkway	37,689,222	37,844,000	154,778	0.4%
Downtown Expressway	22,452,343	22,890,000	437,657	1.9%
Boulevard Bridge	4,206,077	4,190,000	-16,077	-0.4%
RMTA Total	64,347,642	64,924,000	576,358	0.9%
Toll Revenue				
Powhite Parkway	\$25,721,280	\$25,834,000	\$112,720	0.4%
Downtown Expressway	\$14,216,747	\$14,526,000	\$309,253	2.2%
Boulevard Bridge	\$1,448,133	\$1,455,000	\$6,867	0.5%
RMTA Total	\$41,386,160	\$41,815,000	\$428,840	1.0%
Average Toll				
Powhite Parkway	\$0.682	\$0.683	\$0.0002	0.0%
Downtown Expressway	\$0.633	\$0.635	\$0.0014	0.2%
Boulevard Bridge	\$0.344	\$0.347	\$0.0030	0.9%
RMTA Total	\$0.643	\$0.644	\$0.0009	0.1%



Richmond Metropolitan Transportation Authority
FY2018 Annual Traffic and Toll Revenue Report





13. T&R Trends by Facility

13.1 T&R Growth Trends for All Facilities

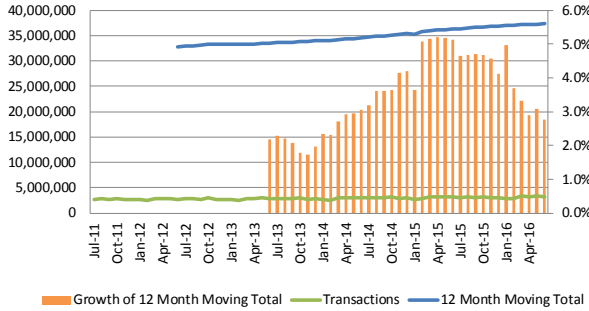
In this section the long term and short term historical transactions and toll revenue by facility are provided. On the graphs on the following pages, the 12-month moving total is charted for each facility as well as the annualized percent change of that moving total. These two items allow for the review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

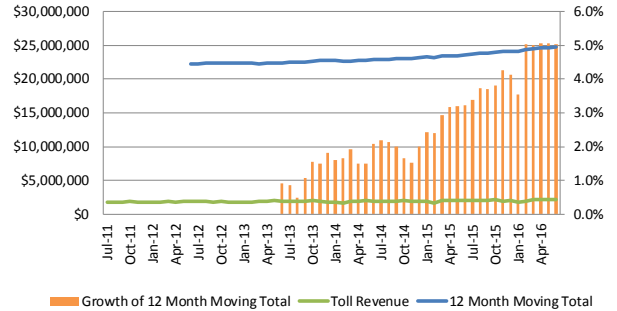
The Powhite Parkway had a decrease in traffic and toll revenue around 2004/2005 due to the opening of SH 288, which offers a limited access highway to parts west of the City of Richmond.

Over the last few years, as shown on the latter figures, the Powhite Parkway and Downtown Expressway have maintained steady growth of between 2 and 5 percent. The Boulevard Bridge halted a negative trend in FY16 with 2 percent growth; it then showed 0 percent growth in FY17 and exhibited a negative growth (2.9 percent) again in FY18.

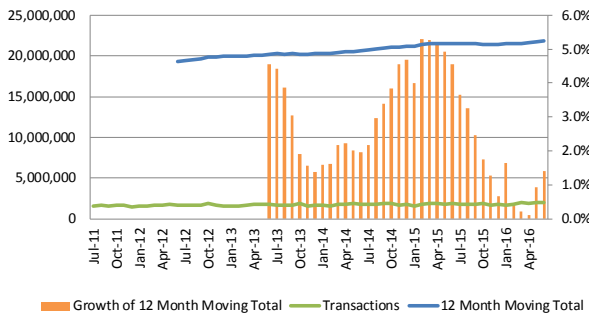
Powhite Total Transactions



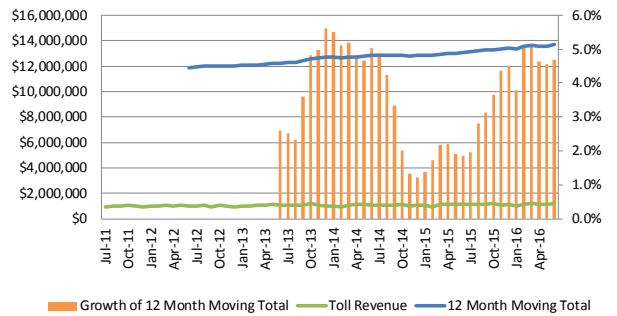
Powhite Total Toll Revenue



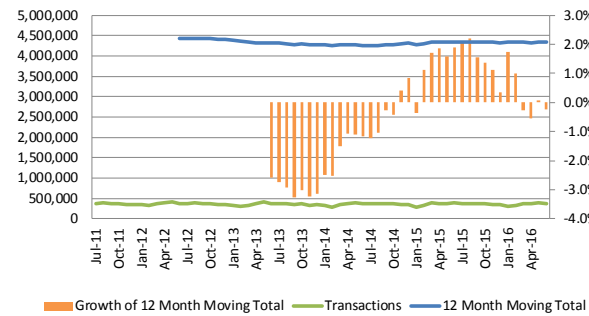
DTE Total Transactions



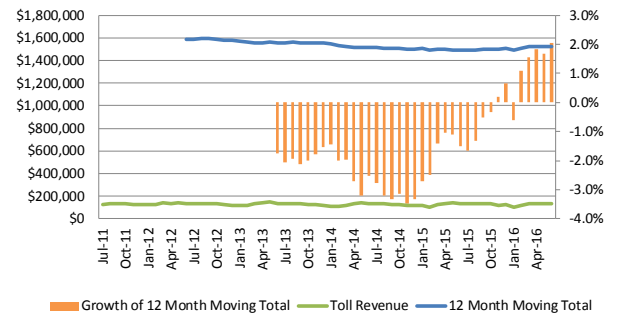
DTE Total Toll Revenue



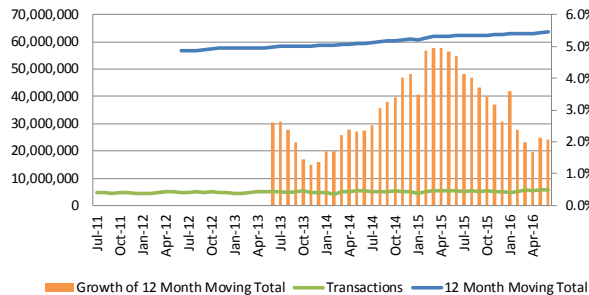
Boulevard Bridge Transactions



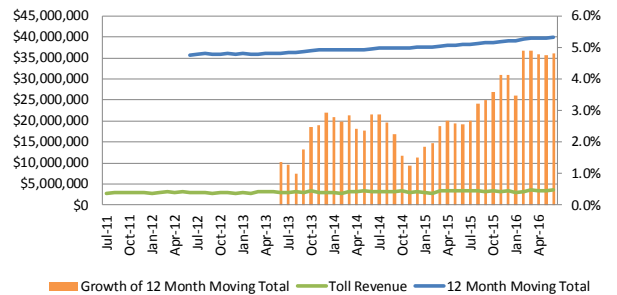
Boulevard Bridge Toll Revenue



RMTA Total Transactions



RMTA Total Toll Revenue

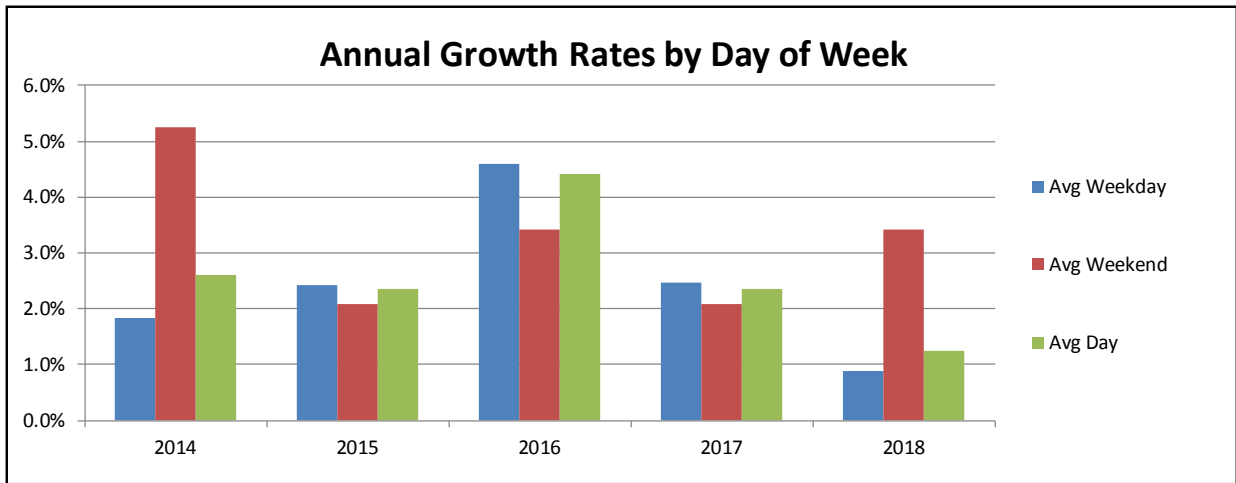


13.2 RMTA Total T&R Trends

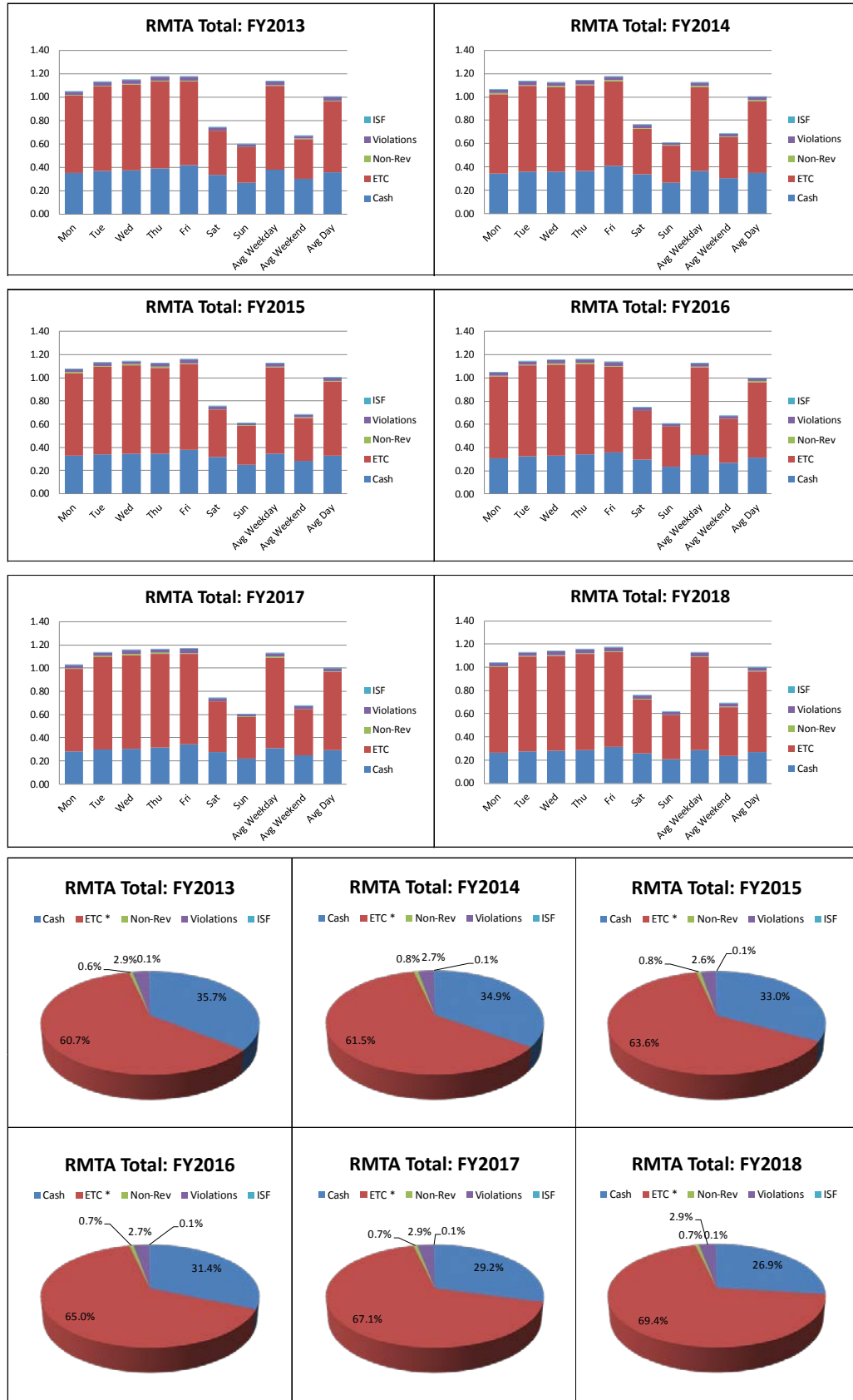
RMTA Total: Transactions by Payment Type by Day of Week for FY2013 to FY2018									
2013	Cash	ETC *	Non-Rev	Violations	ISF	Total			
Mon	54,082	102,948	1,038	4,500	173	162,741			
Tue	56,859	112,153	1,277	4,715	185	175,189			
Wed	58,248	112,967	1,230	4,807	200	177,453			
Thu	60,141	115,506	1,243	4,962	208	182,060			
Fri	64,662	111,334	1,160	5,200	212	182,567			
Sat	52,132	58,099	572	3,834	133	114,771			
Sun	41,309	47,233	474	3,044	100	92,160			
Avg Weekday	58,799	110,982	1,190	4,837	196	176,002			
Avg Weekend	46,669	52,614	523	3,435	117	103,357			
Avg Day	55,309	94,191	998	4,434	173	155,104	Growth from previous FY		
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	58,378	114,506	1,451	4,701	188	179,223	-0.7%	3.2%	1.8%
Avg Weekend	48,186	56,281	675	3,529	125	108,796	3.3%	7.0%	5.3%
Avg Day	55,474	97,916	1,230	4,367	170	159,156	0.3%	4.0%	2.6%
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	56,126	124,037	1,604	4,400	223	186,390	-1.2%	7.4%	4.3%
Thu	55,911	120,840	1,479	4,504	226	182,960	-4.5%	3.9%	0.9%
Fri	62,157	119,889	1,413	4,953	233	188,645	-4.5%	3.9%	0.7%
Sat	51,653	66,355	716	3,983	160	122,867	-4.1%	6.8%	1.7%
Sun	41,117	54,309	610	3,088	123	99,248	-3.2%	7.7%	2.6%
Avg Weekday	56,618	120,791	1,451	4,505	219	183,584	-3.0%	5.5%	2.4%
Avg Weekend	46,385	60,332	663	3,536	141	111,058	-3.7%	7.2%	2.1%
Avg Day	53,702	103,565	1,227	4,229	197	162,919	-3.2%	5.8%	2.4%
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	0.4%	7.3%	5.2%
Thu	57,689	132,821	1,498	5,020	222	197,248	3.2%	9.9%	7.8%
Fri	61,097	125,313	1,377	5,305	230	193,322	-1.7%	4.5%	2.5%
Sat	50,848	70,757	731	4,332	164	126,833	-1.6%	6.6%	3.2%
Sun	40,285	58,462	645	3,387	120	102,899	-2.0%	7.6%	3.7%
Avg Weekday	56,604	128,829	1,448	4,925	211	192,018	0.0%	6.7%	4.6%
Avg Weekend	45,567	64,609	688	3,860	142	114,866	-1.8%	7.1%	3.4%
Avg Day	53,468	110,581	1,232	4,622	191	170,095	-0.4%	6.8%	4.4%
2017	Cash	ETC *	Non-Rev	Violations	ISF	Total	Cash	ETC	Total
Mon	49,057	123,799	1,290	4,752	138	179,036	-6.2%	3.1%	0.3%
Tue	52,401	138,542	1,480	5,317	159	197,899	-5.7%	4.4%	1.6%
Wed	53,446	140,464	1,504	5,481	167	201,062	-5.2%	5.5%	2.5%
Thu	54,625	140,844	1,469	5,617	171	202,726	-5.3%	6.0%	2.8%
Fri	59,419	136,080	1,373	5,891	184	202,946	-2.7%	8.6%	5.0%
Sat	48,402	75,543	714	4,757	131	129,547	-4.8%	6.8%	2.1%
Sun	38,333	62,385	630	3,555	95	104,997	-4.8%	6.7%	2.0%
Avg Weekday	53,811	135,946	1,423	5,413	164	196,758	-4.9%	5.5%	2.5%
Avg Weekend	43,367	68,964	672	4,156	113	117,272	-4.8%	6.7%	2.1%
Avg Day	50,835	116,861	1,209	5,055	149	174,110	-4.9%	5.7%	2.4%
2018	Cash	ETC *	Non-Rev	Violations	ISF	Total	Cash	ETC	Total
Mon	46,076	130,855	1,223	4,733	133	183,021	-6.1%	5.7%	2.2%
Tue	48,643	143,708	1,401	5,030	141	198,922	-7.2%	3.7%	0.5%
Wed	49,120	144,349	1,445	5,326	153	200,394	-8.1%	2.8%	-0.3%
Thu	50,649	145,985	1,416	5,541	159	203,751	-7.3%	3.7%	0.5%
Fri	55,595	143,476	1,318	5,935	168	206,492	-6.4%	5.4%	1.7%
Sat	45,944	81,639	724	5,529	125	133,961	-5.1%	8.1%	3.4%
Sun	36,341	67,006	605	4,292	95	108,338	-5.2%	7.4%	3.2%
Avg Weekday	50,017	141,675	1,361	5,313	151	198,516	-7.1%	4.2%	0.9%
Avg Weekend	41,188	74,392	665	4,916	110	121,272	-5.0%	7.9%	3.4%
Avg Day	47,477	122,319	1,161	5,199	139	176,295	-6.6%	4.7%	1.3%

RMTA Total: Historical Traffic by Payment Type									
FY	Cash	ETC *	Non-Rev	Violations	ISF	Total	% ETC *	% Cash	% Viol
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%
2017	18,554,882	42,654,178	441,292	1,845,142	54,527	63,550,021	67.1%	29.2%	2.9%
2018	17,329,072	44,646,593	423,601	1,897,560	50,817	64,347,642	69.4%	26.9%	2.9%
Growth							% Point Growth		
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%
2016 to 2017	-5.2%	5.4%	-2.2%	9.1%	-22.2%	2.1%	2.1%	-2.2%	0.2%
2017 to 2018	-6.6%	4.7%	-4.0%	2.8%	-6.8%	1.3%	2.3%	-2.3%	0.0%

* ETC transactions are reporting only paid E-ZPass transactions and not non-rev or violation transactions that are from E-ZPass



Day of Week by Payment Type by Fiscal Year

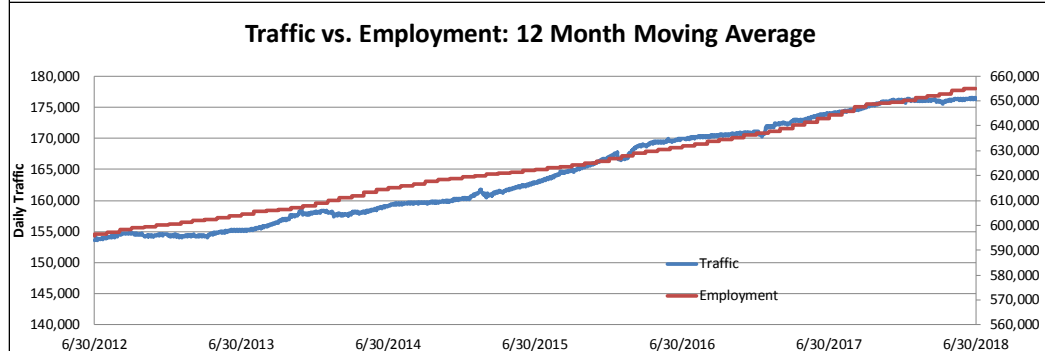
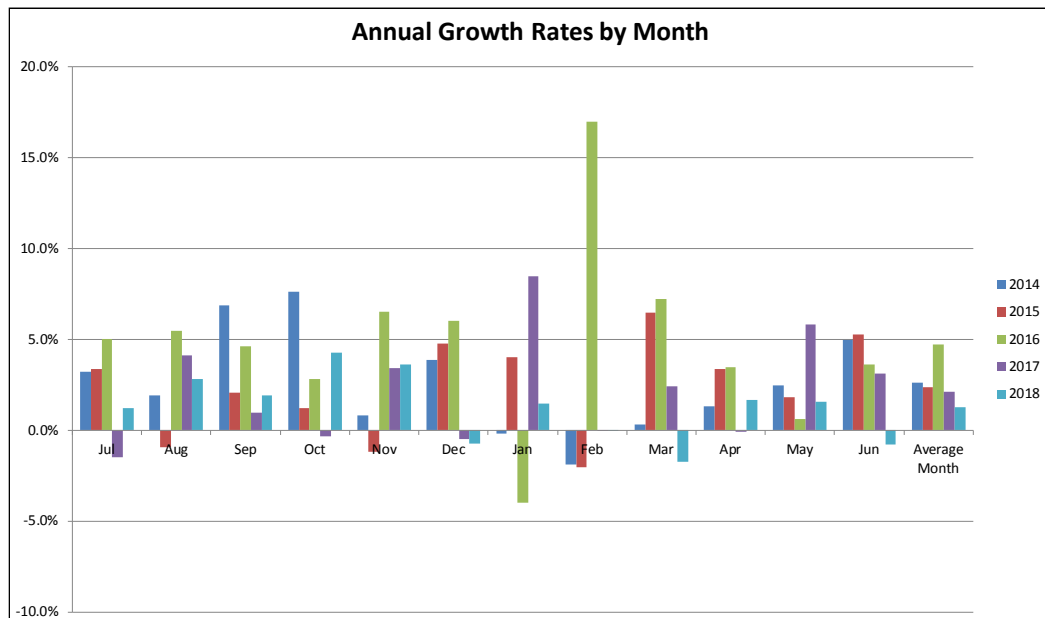
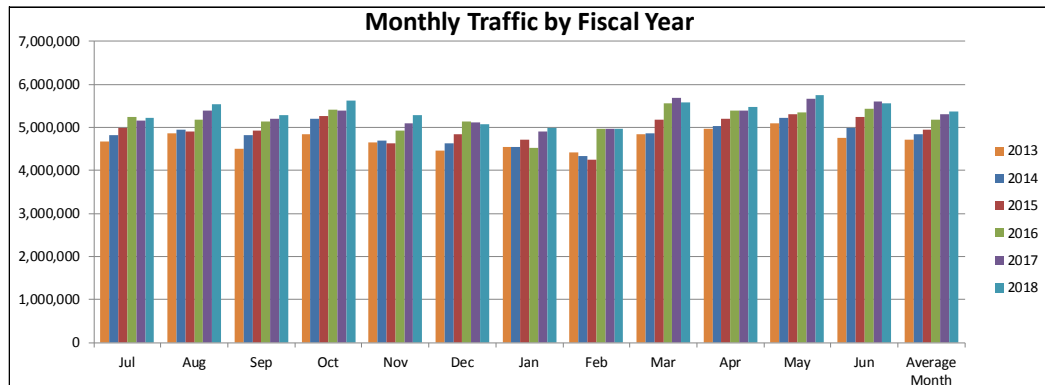


* ETC transactions are reporting only paid E-ZPass transactions and not non-rev or violation transactions that are from E-ZPass

Richmond Metropolitan Transportation Authority FY2018 Annual Traffic and Toll Revenue Report



Month	RMTA Total: Historical Traffic by Month and Fiscal Year											
	2013	Growth	2014	Growth	2015	Growth	2016	Growth	2017	Growth	2018	
Jul	4,676,346	3.2%	4,825,959	3.4%	4,988,209	5.0%	5,238,336	-1.5%	5,159,243	1.2%	5,221,140	
Aug	4,858,057	1.9%	4,950,969	-0.9%	4,904,305	5.4%	5,171,293	4.1%	5,382,898	2.8%	5,534,604	
Sep	4,510,690	6.9%	4,820,514	2.1%	4,920,145	4.6%	5,146,077	0.9%	5,194,027	1.9%	5,293,760	
Oct	4,835,121	7.6%	5,202,860	1.2%	5,264,488	2.8%	5,412,545	-0.3%	5,394,531	4.3%	5,625,416	
Nov	4,645,323	0.8%	4,683,594	-1.2%	4,628,374	6.5%	4,929,144	3.4%	5,098,040	3.6%	5,281,771	
Dec	4,452,573	3.9%	4,624,583	4.8%	4,845,554	6.0%	5,137,215	-0.5%	5,112,595	-0.7%	5,075,347	
Jan	4,542,652	-0.2%	4,534,167	4.0%	4,716,822	-4.0%	4,527,838	8.4%	4,909,911	1.5%	4,982,501	
Feb	4,425,292	-1.9%	4,341,518	-2.0%	4,253,228	17.0%	4,974,342	0.0%	4,974,209	0.0%	4,973,483	
Mar	4,849,265	0.3%	4,864,862	6.4%	5,178,384	7.2%	5,550,915	2.4%	5,685,501	-1.7%	5,587,466	
Apr	4,973,917	1.3%	5,039,104	3.3%	5,207,484	3.4%	5,386,899	-0.1%	5,381,423	1.7%	5,470,524	
May	5,094,049	2.5%	5,219,473	1.8%	5,312,390	0.6%	5,344,537	5.8%	5,653,827	1.6%	5,742,443	
Jun	4,749,758	4.9%	4,984,489	5.2%	5,246,047	3.6%	5,435,728	3.1%	5,603,816	-0.8%	5,559,188	
Total	56,613,043	2.6%	58,092,092	2.4%	59,465,430	4.7%	62,254,869	2.1%	63,550,021	1.3%	64,347,642	

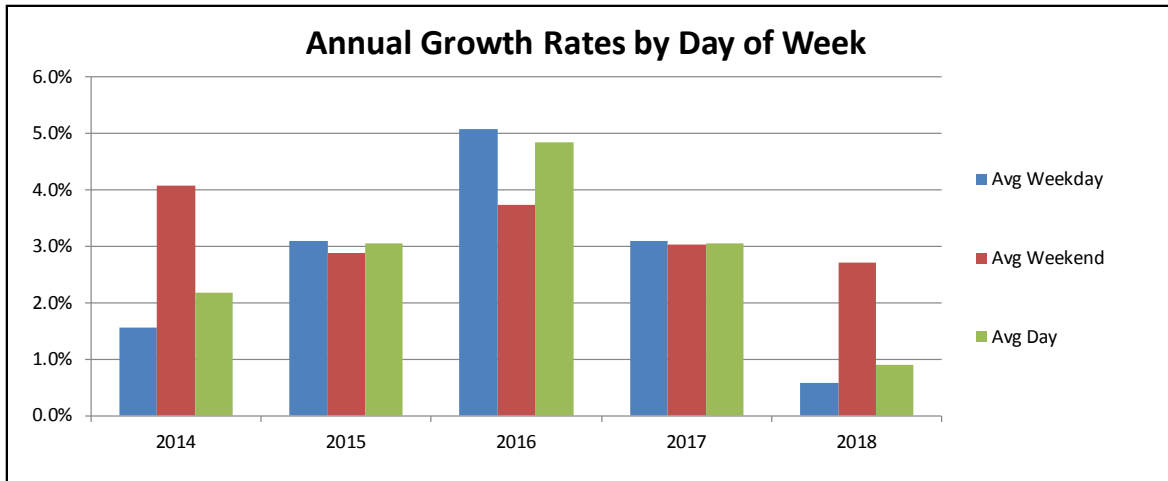


13.3 Powhite Parkway T&R Trends

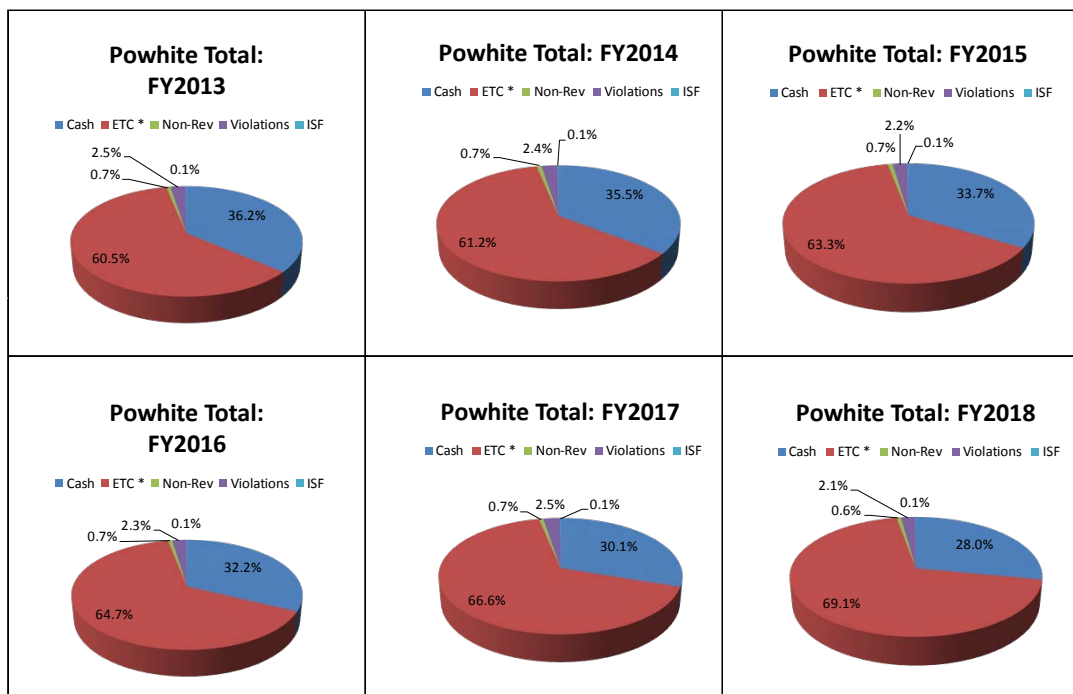
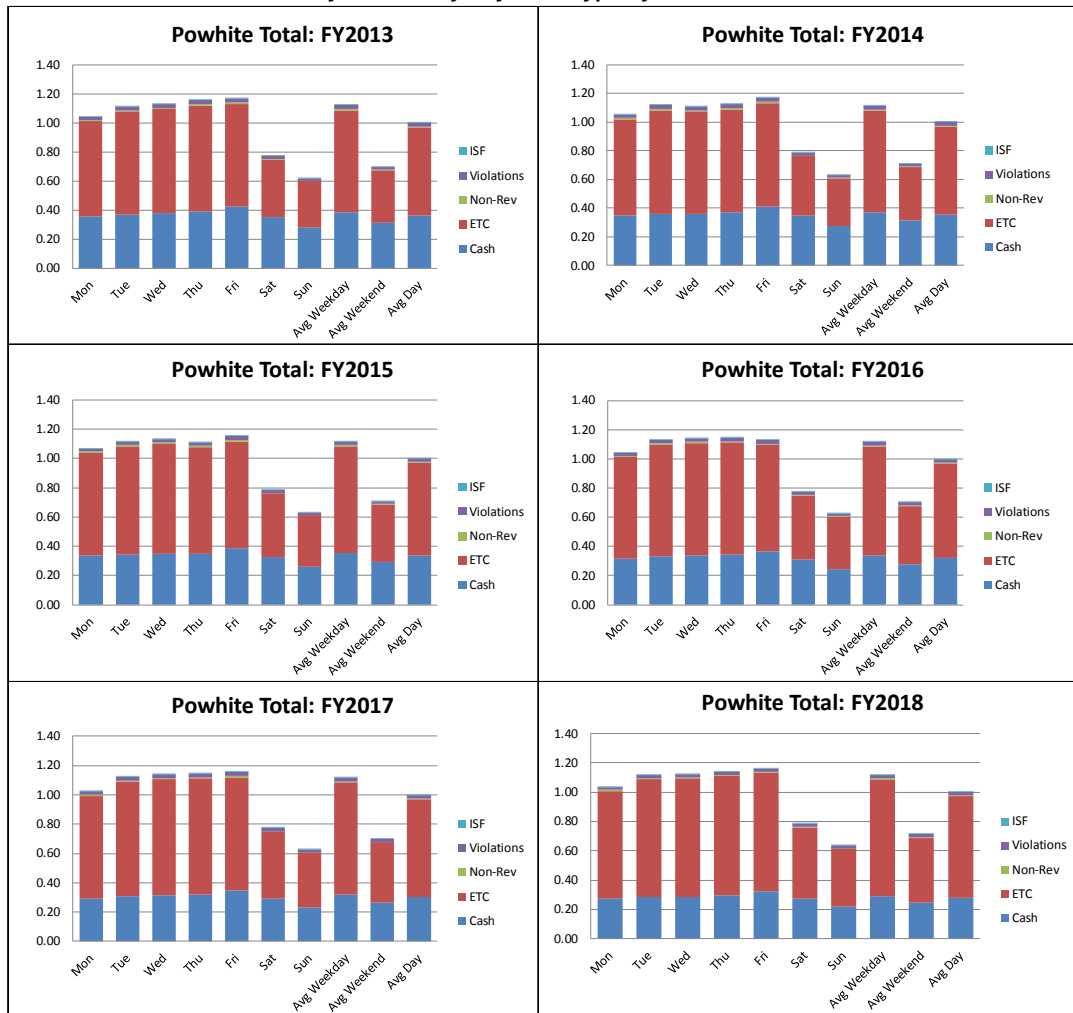
Powhite Total: Transactions by Payment Type by Day of Week for FY2013 to FY2018									
	Cash	ETC *	Non-Rev	Violations	ISF	Total			
2013									
Mon	31,860	59,008	661	2,181	112	93,821			
Tue	33,169	63,697	772	2,319	118	100,076			
Wed	33,992	64,473	783	2,323	128	101,699			
Thu	35,021	65,661	785	2,431	133	104,032			
Fri	37,880	63,891	725	2,604	134	105,234			
Sat	31,384	35,922	356	2,070	82	69,815			
Sun	24,937	28,910	297	1,624	63	55,831			
Avg Weekday	34,384	63,346	745	2,372	125	100,972			
Avg Weekend	28,130	32,383	327	1,845	73	62,756			
Avg Day	32,585	54,439	625	2,220	110	89,979			
	Cash	ETC *	Non-Rev	Violations	ISF	Total	Cash	ETC	Total
2014									
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	34,164	65,056	811	2,384	121	102,536	-0.6%	2.7%	1.5%
Avg Weekend	28,756	34,234	374	1,871	77	65,311	2.2%	5.7%	4.1%
Avg Day	32,623	56,274	687	2,238	108	91,929	0.1%	3.4%	2.2%
	Cash	ETC *	Non-Rev	Violations	ISF	Total	Cash	ETC	Total
2015									
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	33,493	69,090	824	2,163	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	31,908	59,941	693	2,071	126	94,739	-2.2%	6.5%	3.1%
	Cash	ETC *	Non-Rev	Violations	ISF	Total	Cash	ETC	Total
2016									
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	33,660	74,082	813	2,388	130	111,073	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	31,955	64,291	688	2,267	116	99,318	0.1%	7.3%	4.8%
	Cash	ETC *	Non-Rev	Violations	ISF	Total	Cash	ETC	Total
2017									
Mon	29,785	71,848	736	2,512	83	104,963	-5.0%	3.7%	1.2%
Tue	31,563	79,845	842	2,612	92	114,954	-4.4%	5.1%	2.3%
Wed	32,108	80,910	844	2,691	98	116,650	-4.3%	5.8%	2.9%
Thu	32,799	80,912	823	2,739	101	117,374	-4.0%	6.3%	3.2%
Fri	35,670	78,937	758	3,015	106	118,486	-1.4%	8.9%	5.7%
Sat	29,861	46,514	383	2,553	72	79,383	-3.3%	6.7%	2.9%
Sun	23,745	38,154	340	1,969	53	64,261	-2.9%	7.0%	3.2%
Avg Weekday	32,397	78,492	800	2,715	96	114,501	-3.8%	6.0%	3.1%
Avg Weekend	26,803	42,334	361	2,261	62	71,822	-3.1%	6.8%	3.0%
Avg Day	30,803	68,190	675	2,586	86	102,340	-3.6%	6.1%	3.0%
	Cash	ETC *	Non-Rev	Violations	ISF	Total	Cash	ETC	Total
2018									
Mon	28,141	75,960	699	1,860	82	106,741	-5.5%	5.7%	1.7%
Tue	29,443	82,923	792	1,964	86	115,209	-6.7%	3.9%	0.2%
Wed	29,668	83,123	816	2,243	92	115,942	-7.6%	2.7%	-0.6%
Thu	30,548	84,033	800	2,367	97	117,846	-6.9%	3.9%	0.4%
Fri	33,506	83,265	730	2,502	102	120,105	-6.1%	5.5%	1.4%
Sat	28,479	50,029	383	2,540	72	81,503	-4.6%	7.6%	2.7%
Sun	22,629	40,869	321	2,006	54	65,879	-4.7%	7.1%	2.5%
Avg Weekday	30,261	81,861	767	2,187	92	115,169	-6.6%	4.3%	0.6%
Avg Weekend	25,582	45,492	353	2,276	63	73,765	-4.6%	7.5%	2.7%
Avg Day	28,915	71,399	648	2,213	83	103,258	-6.1%	4.7%	0.9%

Powhite Total: Historical Traffic by Payment Type									
FY	Cash	ETC *	Non-Rev	Violations	ISF	Total	% ETC	% Cash	% Viol
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%
2017	11,243,265	24,889,194	246,470	943,723	31,510	37,354,162	66.6%	30.1%	2.5%
2018	10,554,095	26,060,547	236,527	807,618	30,435	37,689,222	69.1%	28.0%	2.1%
Growth							% Point Growth		
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%
2016 to 2017	-3.9%	5.8%	-2.2%	13.7%	-25.8%	2.8%	1.9%	-2.1%	0.2%
2017 to 2018	-6.1%	4.7%	-4.0%	-14.4%	-3.4%	0.9%	2.5%	-2.1%	-0.4%

* ETC transactions are reporting only paid E-ZPass transactions and not non-rev or violation transactions that are from E-ZPass



Day of Week by Payment Type by Fiscal Year

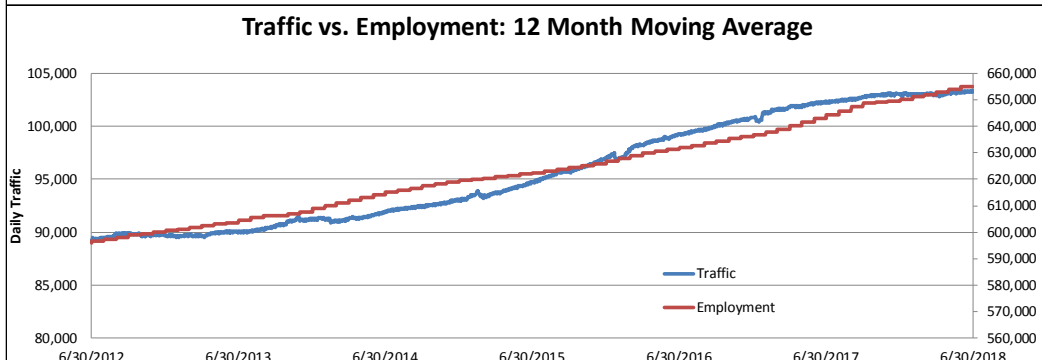
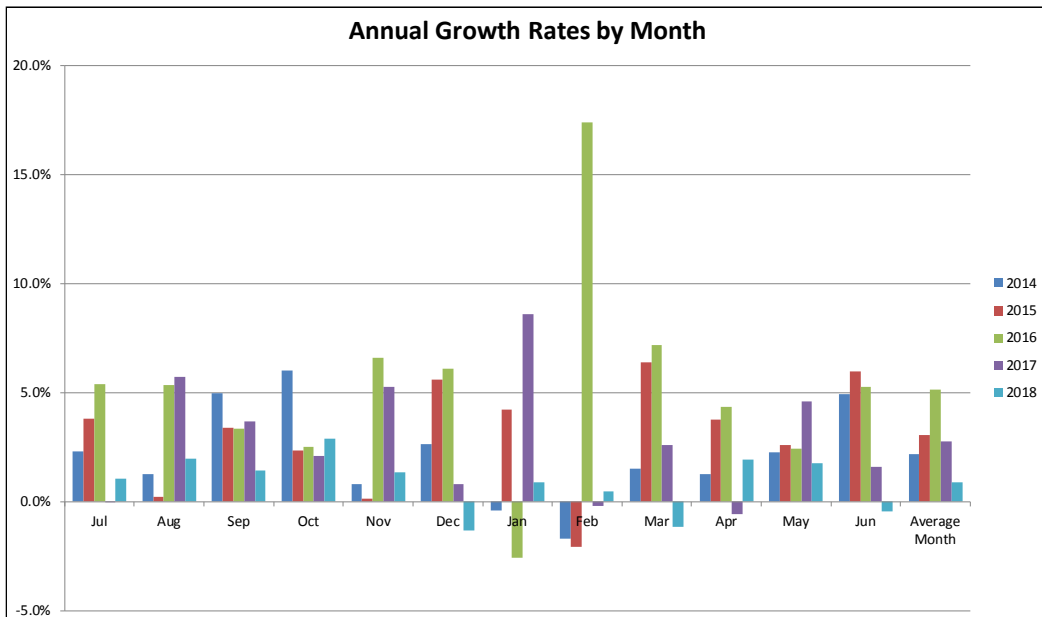
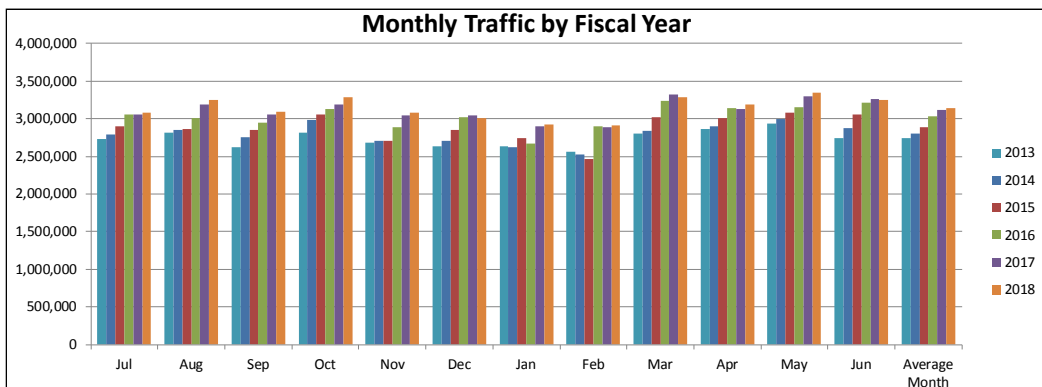


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Richmond Metropolitan Transportation Authority FY2018 Annual Traffic and Toll Revenue Report



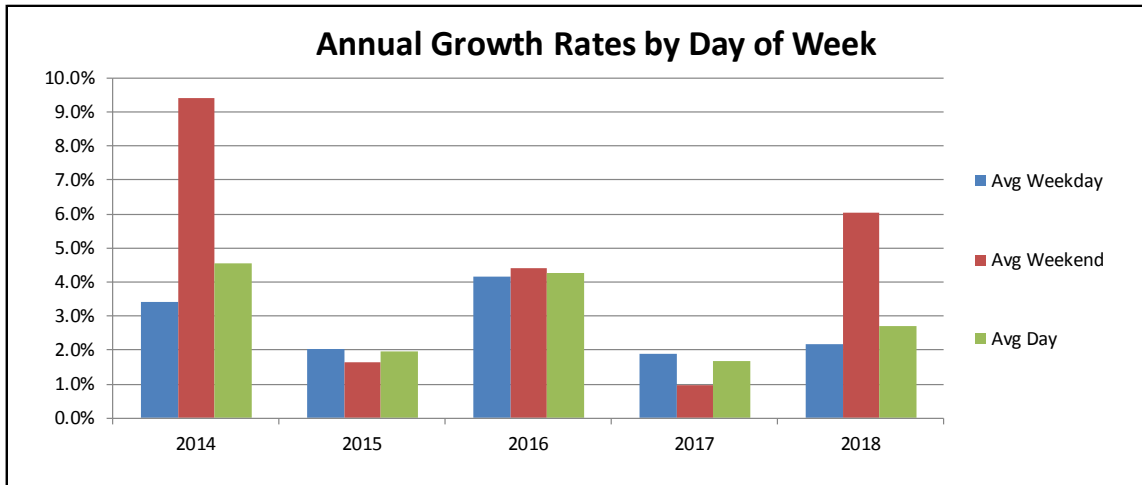
Month	Powhite Total: Historical Traffic by Month and Fiscal Year										
	2013	Growth	2014	Growth	2015	Growth	2016	Growth	2017	Growth	2018
Jul	2,729,646	2.3%	2,792,285	3.8%	2,897,937	5.4%	3,053,511	0.0%	3,052,797	1.1%	3,085,096
Aug	2,818,384	1.2%	2,853,185	0.2%	2,859,680	5.3%	3,011,736	5.7%	3,183,563	2.0%	3,245,795
Sep	2,625,798	5.0%	2,756,077	3.4%	2,849,083	3.3%	2,943,992	3.7%	3,052,363	1.4%	3,095,976
Oct	2,811,961	6.0%	2,981,204	2.3%	3,050,326	2.5%	3,126,198	2.1%	3,190,790	2.9%	3,283,113
Nov	2,683,992	0.8%	2,705,220	0.1%	2,708,576	6.6%	2,887,396	5.3%	3,039,565	1.4%	3,080,794
Dec	2,631,739	2.6%	2,700,512	5.6%	2,851,897	6.1%	3,025,021	0.8%	3,048,451	-1.3%	3,008,307
Jan	2,636,071	-0.4%	2,625,428	4.2%	2,736,397	-2.6%	2,665,391	8.6%	2,894,435	0.9%	2,919,845
Feb	2,566,164	-1.7%	2,522,110	-2.1%	2,469,324	17.4%	2,898,470	-0.2%	2,892,152	0.5%	2,905,426
Mar	2,796,450	1.5%	2,838,483	6.4%	3,019,201	7.2%	3,235,731	2.6%	3,319,480	-1.2%	3,280,842
Apr	2,867,609	1.3%	2,904,082	3.8%	3,013,069	4.3%	3,143,904	-0.6%	3,125,588	1.9%	3,185,294
May	2,931,127	2.2%	2,996,824	2.6%	3,074,381	2.4%	3,148,539	4.6%	3,292,897	1.8%	3,351,264
Jun	2,743,297	4.9%	2,878,786	5.9%	3,049,857	5.3%	3,210,539	1.6%	3,262,081	-0.4%	3,247,470
Total	32,842,238	2.2%	33,554,196	3.1%	34,579,728	5.1%	36,350,428	2.8%	37,354,162	0.9%	37,689,222



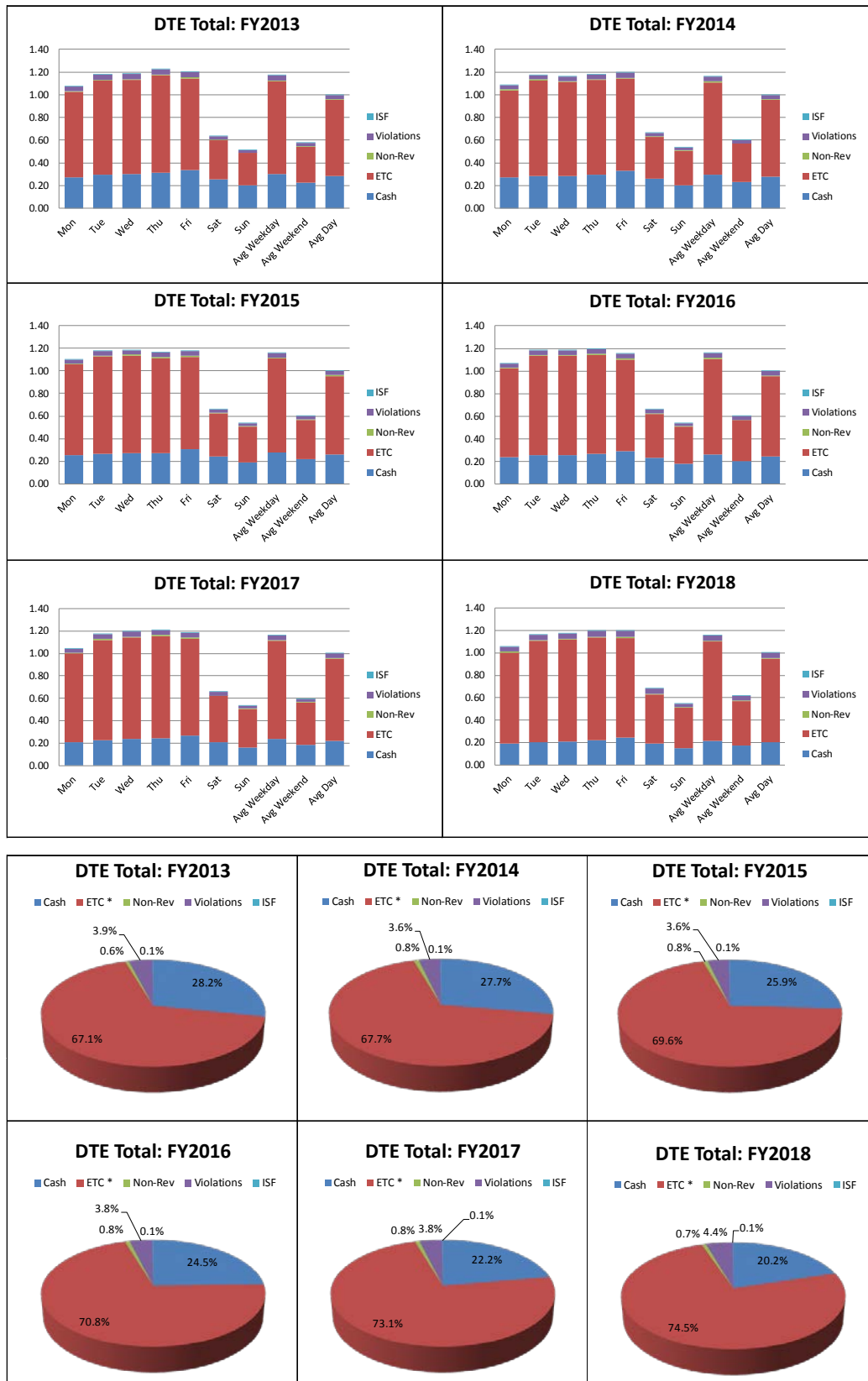
13.4 Downtown Expressway T&R Trends

DTE Total: Transactions by Payment Type by Day of Week for FY2013 to FY2018									
	Cash	ETC *	Non-Rev	Violations	ISF	Total			
2013									
Mon	14,482	39,823	341	2,190	50	56,886			
Tue	15,636	43,967	456	2,251	54	62,364			
Wed	15,977	43,966	405	2,335	57	62,740			
Thu	16,762	45,272	413	2,409	60	64,916			
Fri	17,885	42,809	391	2,447	63	63,595			
Sat	13,486	18,307	186	1,653	42	33,674			
Sun	10,608	15,192	151	1,332	30	27,311			
Avg Weekday	16,148	43,168	401	2,326	57	62,100			
Avg Weekend	12,034	16,734	168	1,491	36	30,462			
Avg Day	14,965	35,563	334	2,086	51	52,999			
							Growth from previous FY		
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	16,316	45,095	553	2,191	57	64,211	1.0%	4.5%	3.4%
Avg Weekend	12,962	18,530	244	1,554	42	33,331	7.7%	10.7%	9.4%
Avg Day	15,360	37,526	465	2,009	53	55,413	2.6%	5.5%	4.6%
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	15,561	47,171	534	2,187	65	65,519	-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	14,634	39,347	451	2,009	61	56,502	-4.7%	4.9%	2.0%
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	15,364	49,863	547	2,409	72	68,255	-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	14,426	41,723	464	2,231	67	58,911	-1.4%	6.0%	4.3%
2017	Cash	ETC *	Non-Rev	Violations	ISF	Total	Cash	ETC	Total
Mon	12,630	47,273	479	2,048	51	62,480	-9.0%	2.1%	-0.7%
Tue	13,703	53,403	552	2,489	61	70,207	-8.7%	3.1%	0.6%
Wed	14,133	54,212	566	2,571	63	71,545	-6.9%	5.1%	2.5%
Thu	14,564	54,549	557	2,665	64	72,399	-7.8%	5.6%	2.6%
Fri	16,031	51,763	529	2,636	72	71,030	-5.5%	8.0%	4.3%
Sat	12,450	24,658	269	1,988	55	39,419	-8.0%	7.0%	1.3%
Sun	9,702	20,630	235	1,392	40	31,999	-8.4%	6.5%	0.6%
Avg Weekday	14,219	52,238	536	2,482	62	69,538	-7.5%	4.8%	1.9%
Avg Weekend	11,076	22,644	252	1,690	47	35,709	-8.2%	6.7%	1.0%
Avg Day	13,324	43,806	455	2,257	58	59,899	-7.6%	5.0%	1.7%
2018	Cash	ETC *	Non-Rev	Violations	ISF	Total	Cash	ETC	Total
Mon	11,787	49,941	447	2,664	46	64,885	-6.7%	5.6%	3.8%
Tue	12,688	55,299	520	2,804	51	71,363	-7.4%	3.6%	1.6%
Wed	13,003	55,754	537	2,850	56	72,200	-8.0%	2.8%	0.9%
Thu	13,501	56,406	525	2,944	57	73,433	-7.3%	3.4%	1.4%
Fri	15,081	54,625	500	3,162	61	73,429	-5.9%	5.5%	3.4%
Sat	11,866	26,983	280	2,681	50	41,860	-4.7%	9.4%	6.2%
Sun	9,202	22,283	231	2,048	38	33,801	-5.2%	8.0%	5.6%
Avg Weekday	13,212	54,405	506	2,885	54	71,062	-7.1%	4.1%	2.2%
Avg Weekend	10,547	24,655	255	2,368	44	37,869	-4.8%	8.9%	6.0%
Avg Day	12,445	45,847	434	2,736	51	61,513	-6.6%	4.7%	2.7%
DTE Total: Historical Traffic by Payment Type									
FY	Cash	ETC *	Non-Rev	Violations	ISF	Total	% ETC	% Cash	% Viol
2013	5,462,089	12,980,651	121,933	761,371	18,536	19,344,580	67.1%	28.2%	3.9%
2014	5,606,489	13,696,895	169,638	733,373	19,183	20,225,578	67.7%	27.7%	3.6%
2015	5,341,515	14,361,825	164,719	733,173	22,104	20,623,336	69.6%	25.9%	3.6%
2016	5,279,821	15,270,437	169,986	816,546	24,479	21,561,269	70.8%	24.5%	3.8%
2017	4,863,154	15,989,100	166,224	823,629	21,112	21,863,219	73.1%	22.2%	3.8%
2018	4,542,569	16,734,130	158,352	998,603	18,690	22,452,343	74.5%	20.2%	4.4%
Growth							% Point Growth		
2013 to 2014	2.6%	5.5%	39.1%	-3.7%	3.5%	4.6%	0.6%	-0.5%	-0.3%
2014 to 2015	-4.7%	4.9%	-2.9%	0.0%	15.2%	2.0%	1.9%	-1.8%	-0.1%
2015 to 2016	-1.2%	6.3%	3.2%	11.4%	10.7%	4.5%	1.2%	-1.4%	0.2%
2016 to 2017	-7.9%	4.7%	-2.2%	0.9%	-13.8%	1.4%	2.3%	-2.2%	0.0%
2017 to 2018	-6.6%	4.7%	-4.7%	21.2%	-11.5%	2.7%	1.4%	-2.0%	0.7%

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Day of Week by Payment Type by Fiscal Year

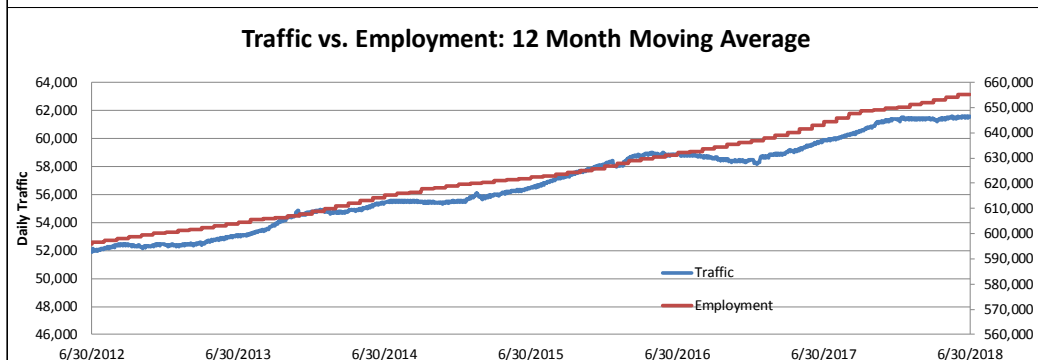
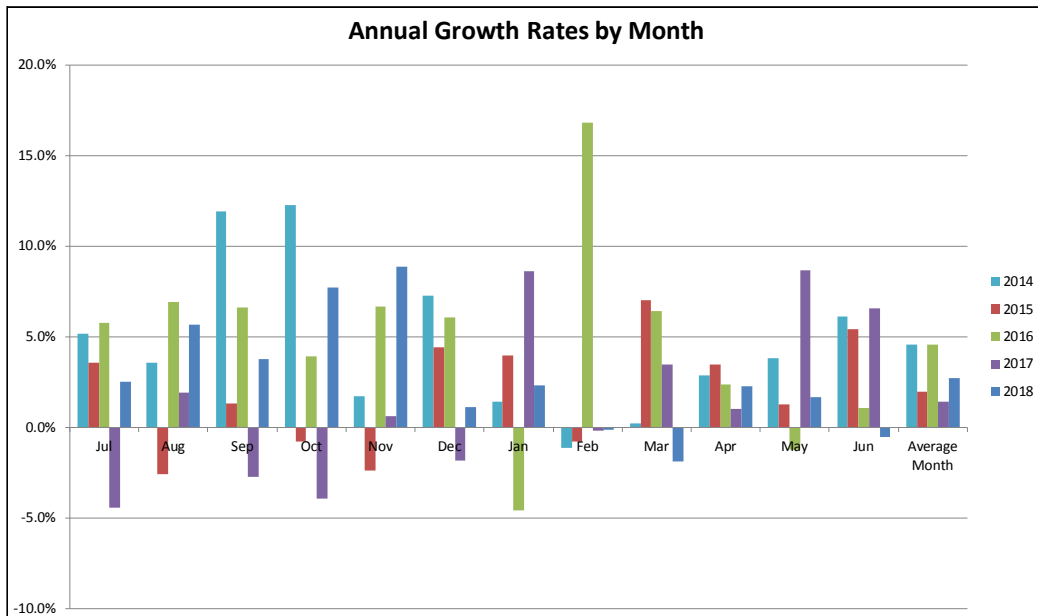
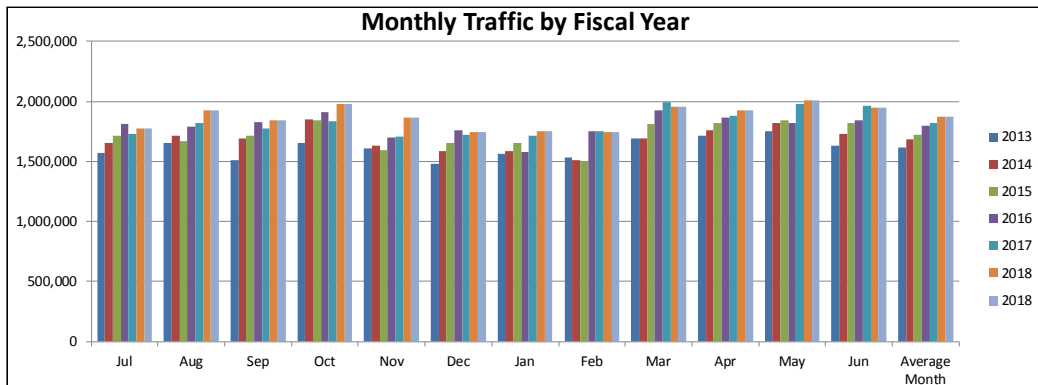


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Month	DTE Total: Historical Traffic by Month and Fiscal Year										
	2013	Growth	2014	Growth	2015	Growth	2016	Growth	2017	Growth	2018
Jul	1,572,616	5.2%	1,653,976	3.5%	1,712,509	5.8%	1,811,358	-4.5%	1,730,554	2.5%	1,774,136
Aug	1,655,141	3.6%	1,714,111	-2.6%	1,669,792	6.9%	1,785,443	1.9%	1,819,540	5.6%	1,922,146
Sep	1,511,453	11.9%	1,691,708	1.3%	1,713,906	6.6%	1,827,435	-2.7%	1,777,660	3.8%	1,844,861
Oct	1,650,154	12.3%	1,852,799	-0.8%	1,838,214	3.9%	1,909,895	-4.0%	1,834,337	7.7%	1,976,151
Nov	1,605,071	1.7%	1,632,199	-2.4%	1,593,145	6.6%	1,699,005	0.6%	1,709,346	8.9%	1,860,876
Dec	1,477,539	7.3%	1,585,006	4.4%	1,654,865	6.1%	1,755,379	-1.8%	1,723,314	1.1%	1,742,396
Jan	1,565,613	1.4%	1,587,933	3.9%	1,650,396	-4.6%	1,574,408	8.6%	1,709,894	2.3%	1,749,093
Feb	1,529,483	-1.2%	1,511,850	-0.8%	1,499,449	16.8%	1,751,598	-0.2%	1,748,543	-0.2%	1,745,589
Mar	1,687,781	0.2%	1,691,150	7.0%	1,809,483	6.4%	1,925,773	3.4%	1,992,116	-1.9%	1,954,689
Apr	1,709,898	2.9%	1,758,946	3.4%	1,819,566	2.4%	1,862,466	1.0%	1,881,229	2.2%	1,923,308
May	1,751,793	3.8%	1,818,381	1.2%	1,840,747	-1.2%	1,817,800	8.7%	1,975,403	1.7%	2,008,054
Jun	1,628,038	6.1%	1,727,519	5.4%	1,821,264	1.1%	1,840,709	6.6%	1,961,283	-0.5%	1,951,045
Total	19,344,580	4.6%	20,225,578	2.0%	20,623,336	4.5%	21,561,269	1.4%	21,863,219	2.7%	22,452,343

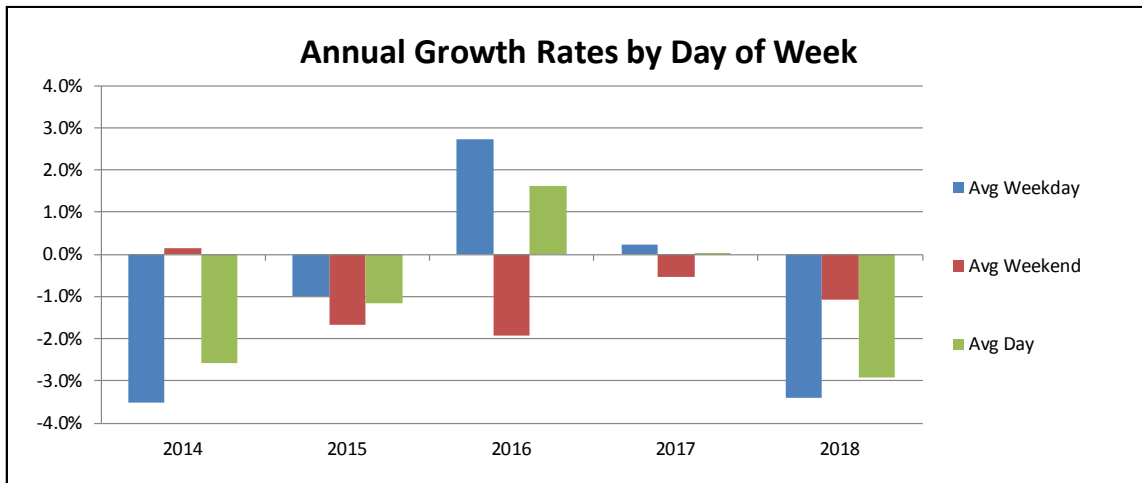


13.5 Boulevard Bridge T&R Trends

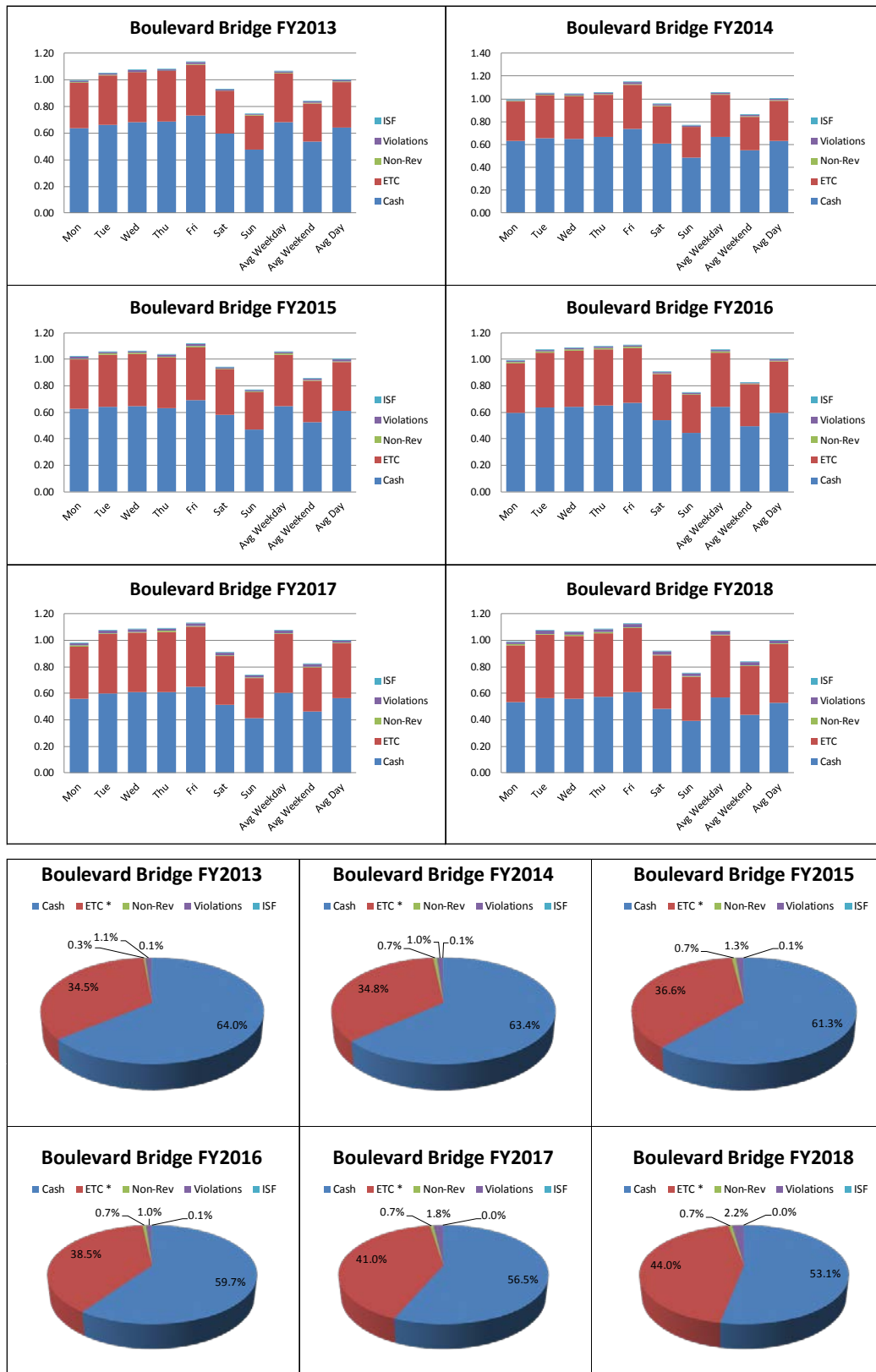
Boulevard Bridge Transactions by Payment Type by Day of Week for FY2013 to FY2018									
Year	Cash	ETC *	Non-Rev	Violations	ISF	Total			
2013									
Mon	7,741	4,118	36	128	11	12,035			
Tue	8,054	4,488	49	145	13	12,749			
Wed	8,279	4,528	42	149	14	13,013			
Thu	8,358	4,573	45	122	15	13,113			
Fri	8,896	4,634	44	149	15	13,738			
Sat	7,262	3,870	30	111	9	11,282			
Sun	5,763	3,131	26	89	7	9,017			
Avg Weekday	8,266	4,468	43	139	14	12,929			
Avg Weekend	6,505	3,497	28	100	8	10,139			
Avg Day	7,759	4,189	39	127	12	12,127	Growth from previous FY		
2014									
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	7,898	4,355	87	126	11	12,476	-4.4%	-2.5%	-3.5%
Avg Weekend	6,468	3,517	58	105	6	10,154	-0.6%	0.6%	0.1%
Avg Day	7,491	4,116	78	120	9	11,815	-3.5%	-1.7%	-2.6%
2015									
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	7,160	4,276	83	149	10	11,678	-4.4%	3.9%	-1.2%
2016									
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	7,580	4,883	88	129	10	12,690	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	7,087	4,567	80	124	9	11,867	-1.0%	6.8%	1.6%
2017									
Mon	6,642	4,678	75	192	5	11,593	-5.8%	4.6%	-1.1%
Tue	7,135	5,294	87	216	6	12,737	-5.3%	6.9%	0.2%
Wed	7,206	5,342	94	219	6	12,867	-5.5%	6.3%	-0.2%
Thu	7,262	5,383	89	213	6	12,953	-5.9%	6.7%	-0.3%
Fri	7,718	5,380	86	240	6	13,430	-3.1%	9.4%	2.3%
Sat	6,090	4,371	62	217	5	10,744	-5.4%	6.3%	0.0%
Sun	4,885	3,601	55	194	3	8,737	-6.9%	5.0%	-1.2%
Avg Weekday	7,195	5,216	86	216	6	12,719	-5.1%	6.8%	0.2%
Avg Weekend	5,487	3,986	58	206	4	9,741	-6.1%	5.7%	-0.5%
Avg Day	6,708	4,865	78	213	5	11,870	-5.3%	6.5%	0.0%
2018									
Mon	6,148	4,955	77	210	5	11,394	-7.4%	5.9%	-1.7%
Tue	6,511	5,485	88	262	5	12,351	-8.7%	3.6%	-3.0%
Wed	6,449	5,472	92	233	5	12,251	-10.5%	2.4%	-4.8%
Thu	6,600	5,546	91	230	5	12,472	-9.1%	3.0%	-3.7%
Fri	7,008	5,586	89	271	5	12,958	-9.2%	3.8%	-3.5%
Sat	5,598	4,627	61	307	4	10,598	-8.1%	5.9%	-1.4%
Sun	4,510	3,854	53	238	3	8,659	-7.7%	7.0%	-0.9%
Avg Weekday	6,543	5,409	87	241	5	12,285	-9.1%	3.7%	-3.4%
Avg Weekend	5,059	4,244	57	273	4	9,637	-7.8%	6.5%	-1.1%
Avg Day	6,116	5,074	79	250	5	11,523	-8.8%	4.3%	-2.9%

Boulevard Bridge Historical Traffic by Payment Type									
FY	Cash	ETC *	Non-Rev	Violations	ISF	Total	% ETC	% Cash	% Viol
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%
2017	2,448,463	1,775,884	28,598	77,790	1,905	4,332,640	41.0%	56.5%	1.8%
2018	2,232,408	1,851,916	28,722	91,339	1,692	4,206,077	44.0%	53.1%	2.2%
Growth							% Point Growth		
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%
2016 to 2017	-5.6%	6.2%	-1.8%	71.0%	-39.8%	-0.2%	2.5%	-3.2%	0.7%
2017 to 2018	-8.8%	4.3%	0.4%	17.4%	-11.2%	-2.9%	3.0%	-3.4%	0.4%

* ETC transactions are reporting only paid E-ZPass transactions and not non-rev or violation transactions that are from E-ZPass



Day of Week by Payment Type by Fiscal Year

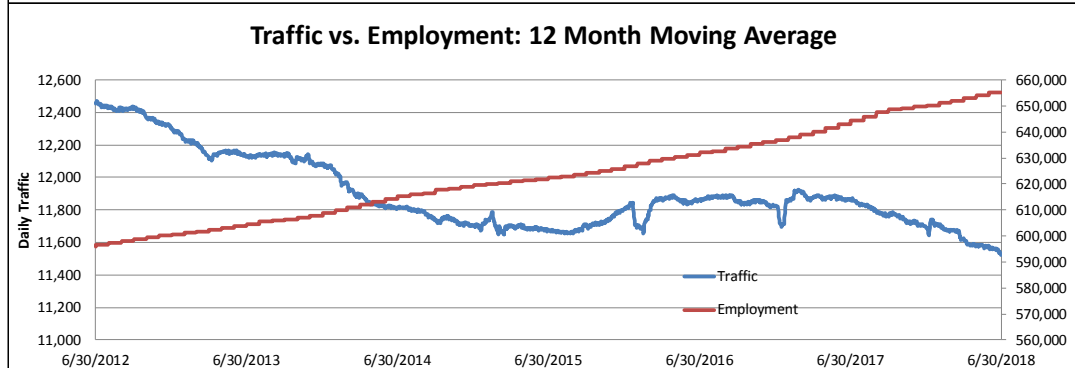
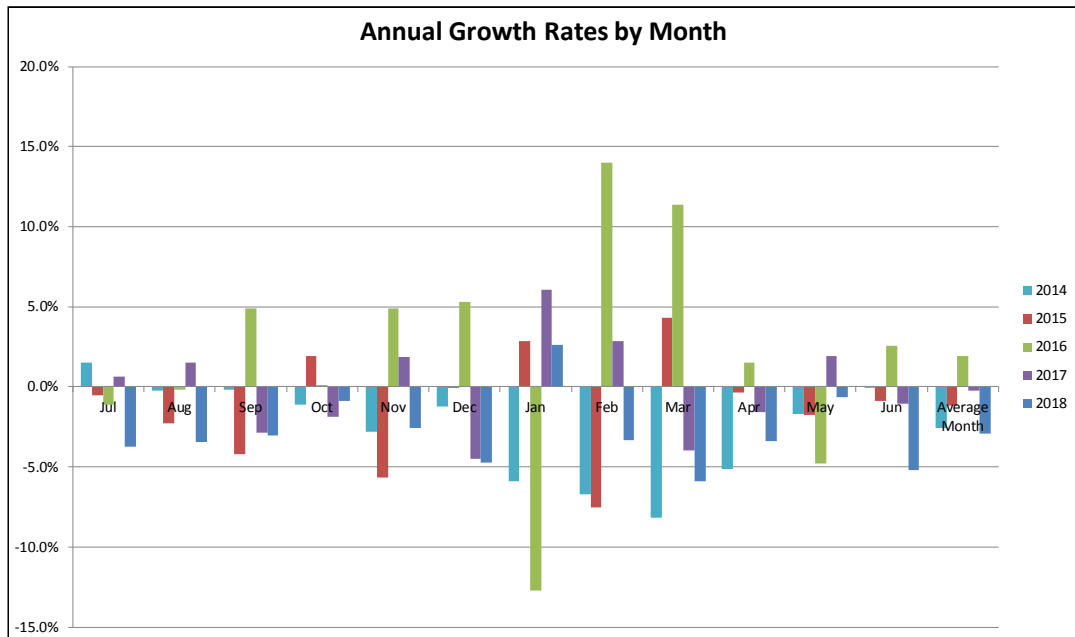
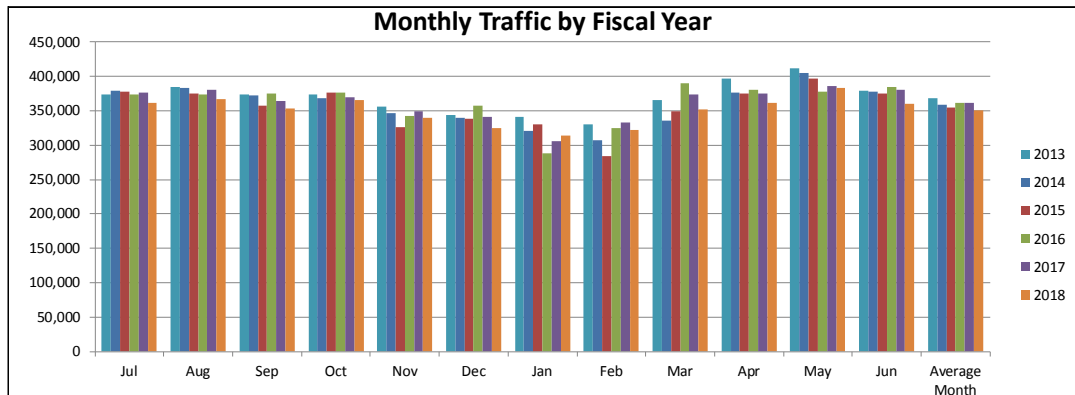


* ETC transactions are reporting only paid E-ZPass transactions and not non-rev or violation transactions that are from E-ZPass

Richmond Metropolitan Transportation Authority FY2018 Annual Traffic and Toll Revenue Report



Month	Boulevard Bridge Historical Traffic by Month and Fiscal Year											
	2013	Growth	2014	Growth	2015	Growth	2016	Growth	2017	Growth	2018	
Jul	374,084	1.5%	379,698	-0.5%	377,763	-1.1%	373,467	0.6%	375,892	-3.7%	361,908	
Aug	384,532	-0.2%	383,673	-2.3%	374,833	-0.2%	374,114	1.5%	379,795	-3.5%	366,663	
Sep	373,439	-0.2%	372,729	-4.2%	357,156	4.9%	374,650	-2.8%	364,004	-3.0%	352,923	
Oct	373,006	-1.1%	368,857	1.9%	375,948	0.1%	376,452	-1.9%	369,404	-0.9%	366,152	
Nov	356,260	-2.8%	346,175	-5.6%	326,653	4.9%	342,743	1.9%	349,129	-2.6%	340,101	
Dec	343,295	-1.2%	339,065	-0.1%	338,792	5.3%	356,815	-4.5%	340,830	-4.7%	324,644	
Jan	340,968	-5.9%	320,806	2.9%	330,029	-12.7%	288,039	6.1%	305,582	2.6%	313,563	
Feb	329,645	-6.7%	307,558	-7.5%	284,455	14.0%	324,274	2.8%	333,514	-3.3%	322,468	
Mar	365,034	-8.2%	335,229	4.3%	349,700	11.4%	389,411	-4.0%	373,905	-5.9%	351,935	
Apr	396,410	-5.1%	376,076	-0.3%	374,849	1.5%	380,529	-1.6%	374,606	-3.4%	361,922	
May	411,129	-1.7%	404,268	-1.7%	397,262	-4.8%	378,198	1.9%	385,527	-0.6%	383,125	
Jun	378,423	-0.1%	378,184	-0.9%	374,926	2.5%	384,480	-1.0%	380,452	-5.2%	360,673	
Total	4,426,225	-2.6%	4,312,318	-1.2%	4,262,366	1.9%	4,343,172	-0.2%	4,332,640	-2.9%	4,206,077	



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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