

Central Florida Expressway Authority

FY 2018

General Traffic and Earnings
Consultant's Annual Report



Prepared for

**CENTRAL
FLORIDA
EXPRESSWAY
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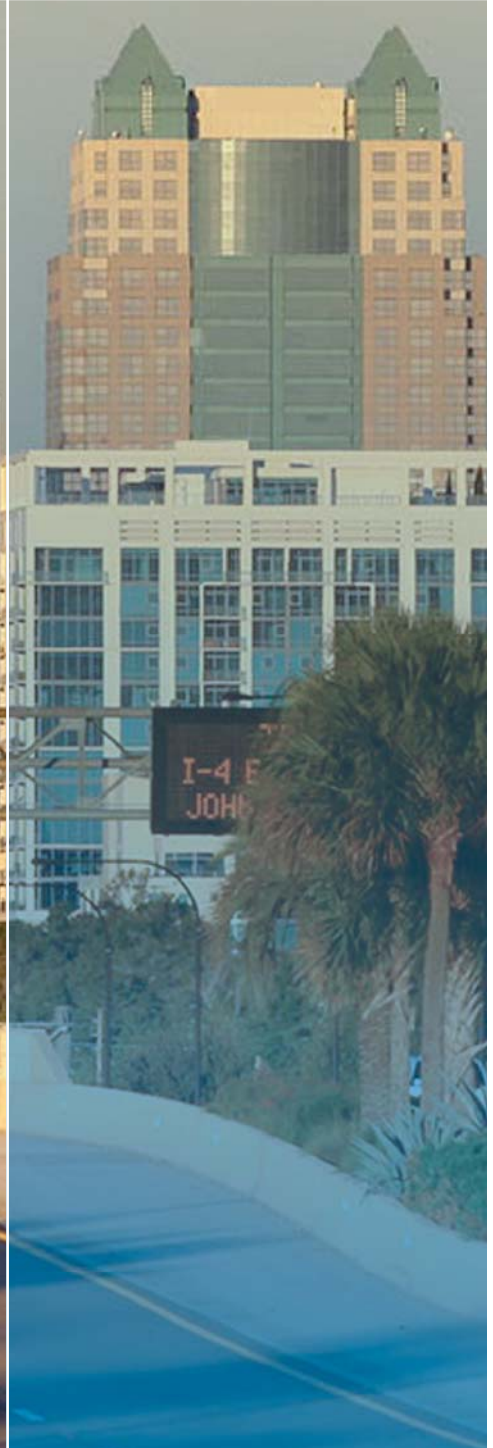
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Chapter 1

Introduction and System Overview



INTRODUCTION AND SYSTEM OVERVIEW

1.1 Introduction

This Annual Report was prepared for the Central Florida Expressway Authority (CFX). The report contains a summary of the Fiscal Year (FY) 2018 traffic and revenue (T&R) performance characteristics and 30-year forecasts of T&R for the six toll facilities that constitute the CFX System (the "System"). This report also includes a brief discussion of the external factors that influence future T&R. Any changes in sources or methodologies that have occurred since the last report are noted in the text.

The purposes of this report are to describe current T&R trends for the System, to summarize the forecasting methodology used to develop the projections and to provide both short-term and long-term forecasts of T&R for the CFX System. This report contains a description of historical T&R from FY 1999 through FY 2018, along with projected T&R for FY 2019 through FY 2048. CFX's fiscal year ends on June 30th and begins on July 1st of the preceding calendar year. Future year traffic projections are also presented as Annual Average Daily Traffic (AADT), but on a calendar year basis.

This chapter is an overview of the CFX System, a description of the current toll rate schedule, a comparison of CFX toll rates with other toll facilities across the nation, a summary of historical annual transactions and revenue with percentages by facility, monthly transactions and revenue, historical electronic toll collection (ETC) usage, a summary of the forecasting methodology and the T&R forecasts for the System.

Chapter 2 contains a presentation of historical trends and current socioeconomic conditions. Chapters 3 through 8 contain summaries of T&R performance and forecasts for each of CFX's toll facilities. Traffic profiles for each facility are included in the Appendix.

1.2 System Description

The current CFX System consists of six toll facilities:

- S.R. 528 – Martin B. Andersen Beachline Expressway
- S.R. 408 – Spessard Lindsay Holland East-West Expressway
- S.R. 417 – Central Florida GreeneWay
- S.R. 429 – Daniel Webster Western Beltway
- S.R. 414 – John Land Apopka Expressway
- S.R. 453

A location map of the six facilities and the region they serve can be found in **Figure 1-1**, Central Florida Expressway System. S.R. 451 is the Western Beltway Connector Road.

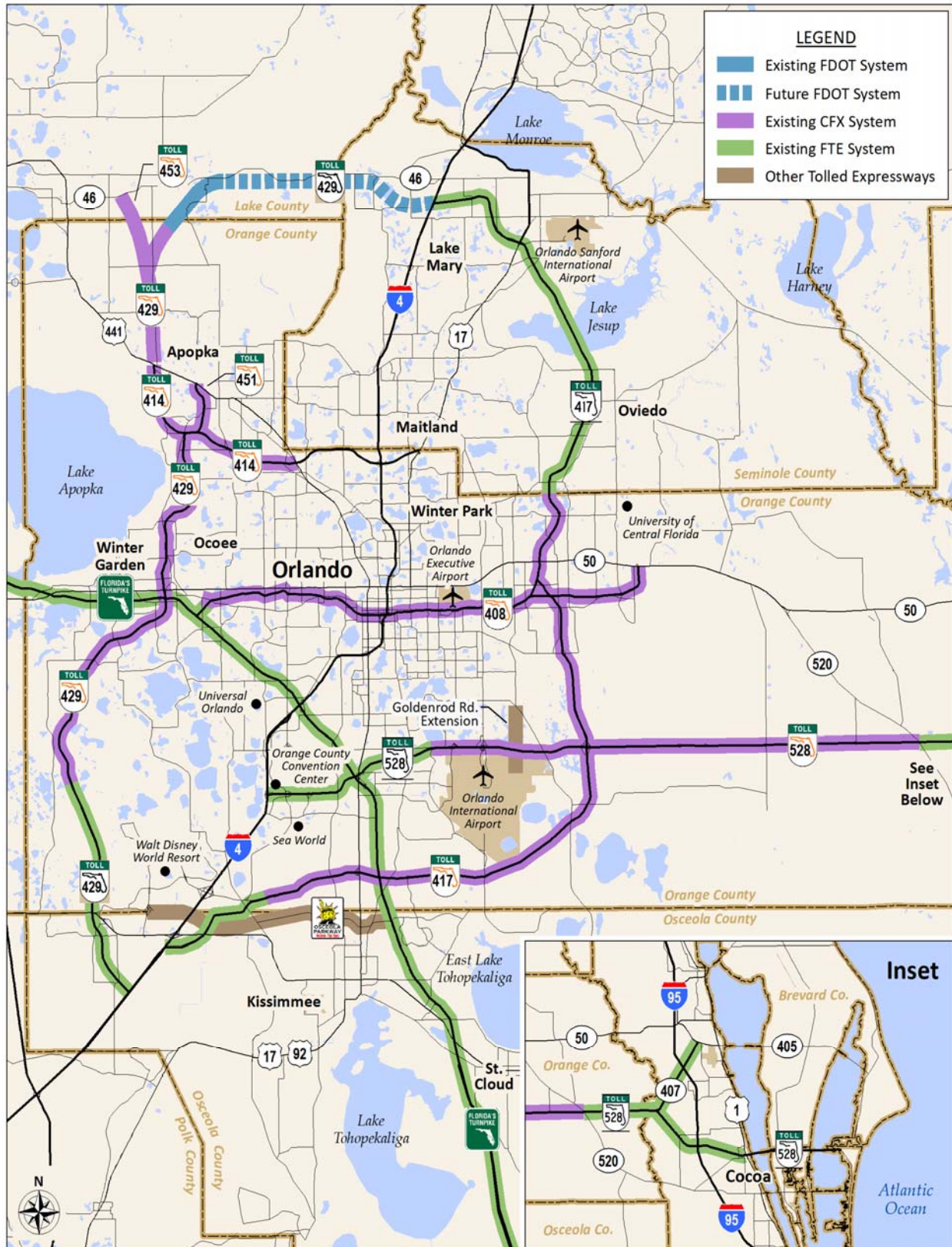
The System as it exists today is the result of many improvement and expansion projects, constructed over the 55-year period between 1963 and 2018. The first facility is the 23-mile S.R. 528 Beachline Expressway, which opened to traffic in 1967. Presently, the facility extends from the S.R. 482/Sand Lake Road/Boggy Creek Road interchange on the west end to S.R. 520 on the eastern end, connecting Orlando to the Space Coast. Until recently it had three mainline toll plazas: Airport Main, Beachline Main, and Dallas Main, and two pairs of ramp plazas. In March 2016, the Airport Main Plaza was removed, and toll collection was transferred to FTE's Beachline West Main Plaza. New ramp plazas were also installed at the Conway Road and Boggy Creek Road Interchanges with tolls collected to and from the east. Florida's Turnpike Enterprise (FTE) owns and operates the western 8 miles of S.R. 528 from Boggy Creek Road to Interstate 4 (I-4) and the eastern end from S.R. 520 to S.R. 407 and U.S. 1 in Brevard County.

The second facility is S.R. 408 East-West Expressway, which first opened to traffic in 1973. This facility currently runs 22 miles from the Florida's Turnpike/Old Winter Garden Road overpass on the western end to the S.R. 50/East Colonial Drive interchange on the eastern end. S.R. 50 is another main parallel highway. S.R. 408 has four mainline toll plazas: Hiawassee Main, Pine Hills Main, Conway Main, and Dean Main, along with 10 pairs of ramp plazas plus two single ramp plazas.

The next facility is S.R. 417 Central Florida GreeneWay, which first opened to traffic in 1988. S.R. 417 is the eastern beltway around Orlando with the CFX portion extending 33 miles from International Drive on the southern end to the Aloma Avenue/Seminole County Line on the northern end. It has four mainline plazas: John Young Main, Boggy Creek Main, Curry Ford Main, and University Main, along with 12 pairs of ramp plazas. FTE owns and operates toll facilities on S.R. 417 on either side of the CFX toll facility completing the beltway.

The fourth facility is S.R. 429 Western Beltway, which as its name suggests is the western beltway around Orlando. S.R. 429 first opened to traffic in 2000. The CFX portion of S.R. 429 extends 31 miles from Seidel Road in west Orange County on the southern end to Mt. Plymouth Road on the northern end. Of the 31 miles, three are part of a dual route with S.R. 414 (John Land Apopka Expressway). Until recently it had two mainline toll plazas: Forest Lake Main and Independence Main, along with five pairs of ramp plazas. In July 2017, the Ponkan Main Plaza opened to traffic. In April 2018, the Mt. Plymouth Main Plaza also opened to traffic. The 2-mile Western Beltway Connector Road (S.R. 451) is the former S.R. 429 connection to U.S. 441 extending from the Apopka Expressway on the southern end to U.S. 441 on the northern end. FTE owns and operates the toll facility on S.R. 429 from Seidel Road to I-4 in Osceola County.

Figure 1-1
Central Florida Expressway System



The fifth facility, which opened to traffic in 2009, is the 9-mile S.R. 414 John Land Apopka Expressway. Of the nine miles, three are part of a dual route with S.R. 429. S.R. 414 extends Maitland Boulevard from U.S. 441 westerly to S.R. 429/Western Beltway, to relieve congestion on U.S. 441. The Apopka Expressway has one mainline plaza, Coral Hills Main, and two pairs of ramp plazas.

The sixth facility, which opened to traffic in 2018, is the 2-mile portion of the S.R. 453 project locally known as the Wekiva Parkway. S.R. 453 provides a connection from the Wekiva Parkway northwest to Mount Dora via S.R. 46 in Lake County. S.R. 453 has one mainline plaza, Coronado Main, and no ramp plazas.

Goldenrod Road Extension is a 2-mile toll facility built and operated by CFX, but not part of the CFX System. Opened to traffic in 2003, this toll facility extends Goldenrod Road from S.R. 15/Narcoossee Road southerly to Heintzelman Boulevard and serves as a reliever to S.R. 15/Narcoossee Road. The facility has an interchange with S.R. 528 and one mainline toll plaza, the Goldenrod Main.

Table 1-1 is a summary of CFX System facilities with the corresponding lengths and opening years.

**Table 1-1
CFX System Facilities**

CFX System Current	Length (miles)	Year
S.R. 528 - Martin Andersen Beachline Expressway	23	1967
S.R. 408 - Spessard Holland East West Expressway	22	1973
S.R. 417 - Central Florida Greeneway	32	1988
S.R. 429 - Daniel Webster Western Beltway	31	2000
S.R. 414 - John Land Apopka Expressway	9	2009
S.R. 451 - Western Beltway Connector Road	2	2012
S.R. 453	2	2018
Current System Total ^A	118	
CFX Non-System		
Goldenrod Road Extension	2	2003

Notes:

A - Of the 31 miles on S.R. 429 and nine miles on S.R. 414, three are part of a dual route between the two expressways. The three miles are only included once in the calculation of CFX System total miles.

1.3 Toll Rates

On February 26, 2009, the CFX Board approved a series of System wide toll rate adjustments. The toll rate policy included a one-time adjustment and a series of increases to keep pace with inflation. The policy stated that all tolls be adjusted to reflect the higher of either the combined annual increases to the Consumer Price Index for All Urban Consumers (CPI-U) in the South or three percent per year (applied linearly, i.e., a 15 percent increase on the original toll every five years). The one-time adjustment occurred on April 5, 2009, in which toll rates at all mainline plazas (except the recently opened Coral Hills) and most toll ramp locations increased by \$0.25.

The purpose of the rate increase was to counterbalance declining System revenues, to stabilize the fiscal integrity of CFX, and to fortify the ability to improve and expand the System in the future. Since then, there were several changes to the tolls collected at main and ramp plazas, including the addition of the Dallas Main plaza and Dallas ramp plazas, the addition of C.R. 437A ramp plazas, and the removal of the Valencia College Lane ramp plazas, the removal of the Airport Main plaza and the addition of ramp plazas at Boggy Creek Road and Conway Road. The Schofield Road ramps on S.R. 429 opened in FY 2015 and were added to the table. The Airport Plaza was removed, and the Boggy Creek Road/McCoy Road and Conway Road/Tradeport Drive interchanges added in March 2016.

Then on July 1, 2012 (the beginning of FY 2013), CFX implemented a rate differential for the first time for cash and electronic customers. Customers who paid tolls with ETC now paid a lower toll rate than cash customers. The rate differential encouraged participation in the ETC program, thereby helping CFX maintain lower toll collection costs. Also, as previously explained, CFX implemented the first toll rate adjustment to keep pace with inflation.

On February 9, 2017, the Board voted unanimously to eliminate the 15 percent planned toll adjustment scheduled for July 1, 2017 (FY 2018). A new "Customer First" toll policy was adopted, which delayed the next toll rate adjustment until July 1, 2018 (FY 2019). The Board cited the agency's strong financial health in recent years as the primary reason for this decision. Customers will now see an annual increase in tolls based on CPI (with a floor of 1.5%), which is lower and more gradual than the original 15 percent increase every five years.

The FY 2018 toll rates are presented in **Table 1-2**. The rates shown in this table come from the FY 2013 toll rate adjustment with the addition of new plazas identified above. In accordance with CFX's Toll Policy, the next toll rate adjustment was implemented on July 1, 2018 (FY 2019) and will be reflected in next year's annual report.

1.3.1 DISCOUNT PROGRAMS

In 1998, CFX began a frequent-user discount program for customers who utilize E-PASS transponders. The discount program helped CFX with a Florida Transportation Commission (FTC) performance measure that requires 75 percent of the total transactions to be completed utilizing ETC transponders. This performance measure was instituted by the FTC in 2007. The E-PASS discount program offered a five percent rebate to ETC customers with 40 or more CFX electronic transactions per month and a ten percent rebate to customers with 80 or more CFX electronic transactions per month. While E-PASS is compatible with SunPass (FDOT/Turnpike) and LeeWay (Lee County) ETC systems, transactions on those systems were not eligible for the frequent user discount. Only transactions on CFX facilities that were paid through ETC received this discount, including SunPass and LeeWay.

**Table 1-2
CFX System Toll Rates, FY 2018 (as of June 30, 2018)**

Roadway	Electronic Toll Schedule					Cash Toll Schedule					PAY BY PLATE Toll Schedule				
	2 Axles ^A	3 Axles	4 Axles	5 Axles	6 Axles	2 Axles ^A	3 Axles	4 Axles	5 Axles	6 Axles	2 Axles ^A	3 Axles	4 Axles	5 Axles	6 Axles
S.R. 528															
Boggy Creek Road/McCoy Road	\$1.09	\$1.09	\$1.09	\$1.09	\$1.09	\$1.25	\$1.25	\$1.25	\$1.25	\$1.25					
Conway Road/Tradeport Drive	\$1.09	\$1.09	\$1.09	\$1.09	\$1.09	\$1.25	\$1.25	\$1.25	\$1.25	\$1.25					
Beachline Main Plaza	\$0.87	\$1.71	\$2.00	\$2.55	\$2.55	\$1.00	\$1.75	\$2.00	\$2.75	\$2.75					
Innovation Way	\$0.59	\$0.59	\$0.59	\$0.59	\$0.59	\$0.75	\$0.75	\$0.75	\$0.75	\$0.75					
Dallas Blvd.	\$0.50	\$0.50	\$0.50	\$0.50	\$0.50	\$0.50	\$0.50	\$0.50	\$0.50	\$0.50					
Dallas Main Plaza ^B	\$0.76	\$1.01	\$1.26	\$1.26	\$1.26	\$1.00	\$1.25	\$1.50	\$1.50	\$1.50					
S.R. 408															
Good Homes Road	\$0.28	\$0.28	\$0.28	\$0.28	\$0.28	\$0.50	\$0.50	\$0.50	\$0.50	\$0.50					
Hiawassee Main Plaza	\$0.82	\$1.64	\$1.91	\$2.46	\$2.46	\$1.00	\$1.75	\$2.00	\$2.50	\$2.50					
Hiawassee Road	\$0.55	\$0.55	\$0.55	\$0.55	\$0.55	\$0.75	\$0.75	\$0.75	\$0.75	\$0.75					
Pine Hills Main Plaza	\$1.09	\$1.64	\$1.91	\$2.46	\$2.46	\$1.25	\$1.75	\$2.00	\$2.50	\$2.50					
Old Winter Garden Road	\$0.82	\$0.82	\$0.82	\$0.82	\$0.82	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00					
John Young Parkway (S.R. 423)	\$0.82	\$0.82	\$0.82	\$0.82	\$0.82	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00					
Orange Blossom Trail	\$0.55	\$0.55	\$0.55	\$0.55	\$0.55	\$0.75	\$0.75	\$0.75	\$0.75	\$0.75					
Mills Avenue	\$0.55	\$0.55	\$0.55	\$0.55	\$0.55	\$0.75	\$0.75	\$0.75	\$0.75	\$0.75					
Bumby Avenue	\$0.55	\$0.55	\$0.55	\$0.55	\$0.55	\$0.75	\$0.75	\$0.75	\$0.75	\$0.75					
Conway Road	\$0.82	\$0.82	\$0.82	\$0.82	\$0.82	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00					
Andes/Semorán Blvd.	\$1.09	\$1.09	\$1.09	\$1.09	\$1.09	\$1.25	\$1.25	\$1.25	\$1.25	\$1.25					
Conway Main Plaza	\$1.09	\$1.64	\$1.91	\$2.46	\$2.46	\$1.25	\$1.75	\$2.00	\$2.50	\$2.50					
Semorán Blvd. (S.R. 436)	\$0.82	\$0.82	\$0.82	\$0.82	\$0.82	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00					
Dean Road	\$0.55	\$0.55	\$0.55	\$0.55	\$0.55	\$0.75	\$0.75	\$0.75	\$0.75	\$0.75					
Dean Main Plaza	\$0.82	\$1.64	\$1.91	\$2.46	\$2.46	\$1.00	\$1.75	\$2.00	\$2.50	\$2.50					
Rouse Road	\$0.55	\$0.55	\$0.55	\$0.55	\$0.55	\$0.75	\$0.75	\$0.75	\$0.75	\$0.75					
S.R. 417															
John Young Main Plaza	\$1.37	\$1.91	\$2.46	\$3.00	\$3.00	\$1.50	\$2.00	\$2.50	\$3.00	\$3.00					
John Young Parkway (S.R. 423)	\$0.82	\$0.82	\$0.82	\$0.82	\$0.82	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00					
Orange Blossom Trail	\$0.55	\$0.55	\$0.55	\$0.55	\$0.55	\$0.75	\$0.75	\$0.75	\$0.75	\$0.75					
Landstar Blvd.	\$0.50	\$0.50	\$0.50	\$0.50	\$0.50	\$0.50	\$0.50	\$0.50	\$0.50	\$0.50					
Boggy Creek Main Plaza	\$1.37	\$1.91	\$2.46	\$3.00	\$3.00	\$1.50	\$2.00	\$2.50	\$3.00	\$3.00					
Boggy Creek Road	\$1.09	\$1.09	\$1.09	\$1.09	\$1.09	\$1.25	\$1.25	\$1.25	\$1.25	\$1.25					
Lake Nona Blvd.	\$0.82	\$0.82	\$0.82	\$0.82	\$0.82	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00					
Narcoossee Road	\$0.82	\$0.82	\$0.82	\$0.82	\$0.82	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00					
Moss Park Road	\$0.55	\$0.55	\$0.55	\$0.55	\$0.55	\$0.75	\$0.75	\$0.75	\$0.75	\$0.75					
Innovation Way	\$0.55	\$0.55	\$0.55	\$0.55	\$0.55	\$0.75	\$0.75	\$0.75	\$0.75	\$0.75					
Lee Vista Blvd.	\$0.55	\$0.55	\$0.55	\$0.55	\$0.55	\$0.75	\$0.75	\$0.75	\$0.75	\$0.75					
Curry Ford Main Plaza	\$0.82	\$1.64	\$1.91	\$2.46	\$2.46	\$1.00	\$1.75	\$2.00	\$2.50	\$2.50					
Curry Ford Road (S.R. 552)	\$0.55	\$0.55	\$0.55	\$0.55	\$0.55	\$0.75	\$0.75	\$0.75	\$0.75	\$0.75					
Colonial Drive (S.R. 50)	\$0.55	\$0.55	\$0.55	\$0.55	\$0.55	\$0.75	\$0.75	\$0.75	\$0.75	\$0.75					
University Main Plaza	\$0.82	\$1.64	\$1.91	\$2.46	\$2.46	\$1.00	\$1.75	\$2.00	\$2.50	\$2.50					
University Blvd.	\$0.55	\$0.55	\$0.55	\$0.55	\$0.55	\$0.75	\$0.75	\$0.75	\$0.75	\$0.75					
S.R. 429															
Schofield Road	\$0.55	\$0.55	\$0.55	\$0.55	\$0.55	\$0.75	\$0.75	\$0.75	\$0.75	\$0.75					
New Independence Parkway	\$0.82	\$0.82	\$0.82	\$0.82	\$0.82	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00					
Independence Main Plaza	\$1.37	\$1.91	\$2.46	\$3.00	\$3.00	\$1.50	\$2.00	\$2.50	\$3.00	\$3.00					
C.R. 535	\$0.55	\$0.55	\$0.55	\$0.55	\$0.55	\$0.75	\$0.75	\$0.75	\$0.75	\$0.75					
S.R. 438	\$0.28	\$0.28	\$0.28	\$0.28	\$0.28	\$0.50	\$0.50	\$0.50	\$0.50	\$0.50					
West Road	\$0.82	\$0.82	\$0.82	\$0.82	\$0.82	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00					
Forest Lake Main Plaza	\$1.37	\$1.91	\$2.46	\$3.00	\$3.00	\$1.50	\$2.00	\$2.50	\$3.00	\$3.00					
C.R. 437A	\$0.55	\$0.55	\$0.55	\$0.55	\$0.55	\$0.75	\$0.75	\$0.75	\$0.75	\$0.75					
Ponkan Main Plaza	\$0.80	\$1.20	\$1.60	\$2.00	\$2.00	N/A	N/A	N/A	N/A	N/A	\$1.39	\$1.79	\$2.19	\$2.59	\$2.59
Mt. Plymouth Main Plaza	\$0.75	\$1.13	\$1.50	\$1.88	\$1.88	N/A	N/A	N/A	N/A	N/A	\$1.34	\$1.72	\$2.09	\$2.47	\$2.47
S.R. 453															
Coronado Main Plaza	\$0.65	\$0.98	\$1.30	\$1.63	\$1.63	N/A	N/A	N/A	N/A	N/A	\$1.24	\$1.57	\$1.89	\$2.22	\$2.22
S.R. 414															
Coral Hills Main Plaza	\$1.09	\$1.64	\$2.18	\$2.73	\$2.73	\$1.25	\$1.75	\$2.25	\$2.75	\$2.75					
Keene Road	\$0.55	\$0.55	\$0.55	\$0.55	\$0.55	\$0.75	\$0.75	\$0.75	\$0.75	\$0.75					
Hiawassee Road	\$0.28	\$0.28	\$0.28	\$0.28	\$0.28	\$0.50	\$0.50	\$0.50	\$0.50	\$0.50					

Notes:

A - Includes motorcycles.

B - The toll listed for this plaza includes the toll collected for FDOT, which is \$0.26 for transponder transactions or \$0.50 for cash transactions regardless of the number of axles.

In May 2016, CFX replaced the frequent-user discount program with a new Customer Loyalty Discount Program. The Customer Loyalty Discount Programs is exclusive to E-PASS customers and is a tiered program that provides toll discounts based on the number of transactions per transponder each month. All E-PASS customers are automatically eligible to participate in the program so there is no enrollment process or monthly fee. The program offers a ten percent rebate to E-PASS customers with 40 or more CFX electronic transactions per month and a 15 percent rebate to customers with 80 or more CFX electronic transactions per month. The discount will only be offered in months when actual toll revenue exceeds the revenue projections by more than 2.0 percent.

In the first fiscal year of implementation (FY 1998), the rebates totaled approximately \$0.7 million, or approximately 0.7 percent of the total System revenues. In FY 2018, the discount program has grown to \$16.3 million, or nearly 4.0 percent of the total System revenues. This growth is indicative of the significant increase in transponder usage overall and the frequency of trips made by electronic toll customers. In FY 2018 the ETC participation rate reached 84.4 percent.

Beginning in FY 2016 (July 2015), CFX implemented the Beltway Discount Program. This discount program will be offered for a seven-year period, to provide relief for and options to customers during the planned construction activities on I-4. The program provides an additional 5.0 percent discount to customers with 20 or more transactions in a month on the CFX "beltway" facilities, which include S.R. 417, S.R. 429 and S.R. 414. The discount will only be offered in months when actual toll revenue exceeds the revenue projections by more than 2.0 percent. In FY 2018, this discount program provided \$5.4 million in rebates to customers.

Beginning February 1, 2016 (FY 2016), CFX launched a discount program offering rebates to school buses using CFX facilities. A 99.0 percent discount is now given to school buses equipped with special E-PASS transponders transporting students on official school business from school districts in Orange, Brevard, Lake, Osceola, Seminole, Polk and Volusia Counties. The discount is only offered in months when actual toll revenue exceeds the revenue projections by more than 2.0 percent. In FY 2018, this discount program provided \$0.3 million in rebates to Central Florida school districts.

1.3.2 TOLL RATE COMPARISON TO OTHER U.S. TOLL FACILITIES

As shown in **Table 1-3**, the FY 2018 average toll rates per mile on CFX's six facilities are comparable to the average toll rates on other toll facilities across the United States. The average toll rates on CFX facilities are comparable to the toll rates for other similar toll roads. The average rates per mile for CFX's facilities are between 13.0 and 20.9 cents per mile for cash/video rates, and 11.1 and 18.1 cents per mile for electronic toll rates. The average cash rate for the CFX System is 18.1 cents per mile and the average ETC rate is 14.5 cents per mile. Toll rates on CFX facilities vary depending on the opening year toll rates and the relative toll adjustments that have taken place since the opening of the facilities.

**Table 1-3
Toll Rate Comparison with Other U.S. Toll Facilities**

State	Toll Facility	Notes	Initial Opening Year	Most Recent Toll Increase	Facility Type	Length (miles)	Passenger Cars			
							Toll Rates		Rate-Per-Mile (cents)	
							Base (Cash/Video)	Electronic	Base (Cash/Video)	Electronic
TX	TX DOT, Grand Parkway		2011	Jan-19	U	58	-	\$12.54	-	21.6
TX	Harris County Toll Road Authority - Westpark Tollway		2004	Sep-15	U	13	-	\$3.00	-	23.1
TX	Harris County Toll Road Authority - Sam Houston Tollway		1987	Jan-16	U	70	-	\$12.00	-	17.1
TX	Harris County Toll Road Authority - Hardy Toll Road		1988	Jul-16	U	21	-	\$3.00	-	14.2
NY	New York State Thruway		1954	Apr-16	R/U	496	-	\$23.99	-	4.8
CA	San Joaquin Hills Corridor (SR 73)		1996	Jul-18	R/U	15	\$8.48	\$7.48	56.5	49.9
CO	Northwest Parkway		2003	Jan-19	U	10	\$5.00	\$4.00	52.6	42.1
VA	Chesapeake Expressway (Route 168)		2001	May-16	R	16	\$8.00	\$8.00	50.0	50.0
CO	E-470		1991	Jan-19	R/U	47	\$22.55	\$14.25	48.3	30.5
CA	Eastern Toll Road (SR 241)		1998	Jul-18	R/U	24	\$10.57	\$7.57	44.0	31.5
VA	Dulles Greenway		1995	Mar-18	R/U	14	\$5.65	\$5.65	40.4	40.4
DE	Delaware Turnpike (I-95)		1963	Oct-07	R/U	11	\$4.00	\$4.00	35.7	35.7
VA	Dulles Toll Road		1984	Jan-19	C	13	\$4.75	\$4.75	35.4	35.4
CA	South Bay Expressway		2007	Jun-12	C	10	\$3.50	\$2.75	35.0	27.5
FL	Miami Dade Expressway, Gratigny Parkway, SR 924		1992	Jul-18	U	5	\$1.88	\$0.94	34.8	17.4
MD	Maryland Inter County Connector		2011	Jul-15	P	18	\$5.78	\$3.86	32.3	21.6
FL	Miami Dade Expressway Authority - Dolphin Expressway (SR 836)		1965	Jul-18	U	14	\$4.52	\$2.26	32.3	16.1
FL	Miami Dade Expressway, Airport Expressway, SR 112		1961	Jul-18	U	4	\$1.32	\$0.66	31.4	15.7
TX	North Texas Tollway Authority - President George Bush TPK		1998	Oct-17	U	51	\$13.98	\$9.31	27.2	18.1
FL	Miami Dade Expressway, Don Shula Expressway (SR 874)		1971	Jul-18	U	7	\$1.86	\$0.92	26.6	13.1
TX	North Texas Tollway Authority - Dallas North Tollway		1968	Jul-17	U	32	\$8.16	\$5.44	25.5	17.0
IL	Veterans Memorial Tollway		1989	Jan-19	R/U	30	\$7.60	\$3.80	25.5	12.7
TX	North Texas Tollway Authority - Sam Rayburn Tollway		2006	Jul-17	U	26	\$6.37	\$4.24	24.5	16.3
FL	Lee Roy Selmon Crosstown Expressway (SR 618)		1976	Jul-18	U	15	\$3.47	\$2.97	23.1	19.8
SC	Greenville Southern Connector		2001	Jan-16	R/U	16	\$3.50	\$3.00	21.9	18.8
FL	CFX S.R. 453	E	2018	Apr-18	R/U	4	\$0.75	\$0.65	20.9	18.1
FL	CFX S.R. 408 (East-West Expressway)		1973	Jul-18	U	22	\$4.50	\$3.90	20.3	17.6
FL	CFX S.R. 429 (Western Beltway)	B	2000	Jul-18	R/U	31	\$6.23	\$4.35	20.1	14.0
FL	CFX System (All Facilities)	A	-	Jul-18	R/U	118	\$21.23	\$17.05	18.1	14.5
FL	Florida's Turnpike, Polk Parkway		1998	Oct-17	U	25	\$4.50	\$3.21	18.0	12.8
FL	CFX S.R. 417 (Central Florida Greenway)		1988	Jul-18	R/U	32	\$5.50	\$4.48	17.2	14.0
FL	Osceola Parkway (S.R. 522)		1995	Oct-14	U	12	\$2.00	\$2.00	16.1	16.1
FL	Florida's Turnpike, Veterans Expressway		1994	Oct-17	U	15	\$2.41	\$1.87	16.1	12.5
FL	Florida's Turnpike, Beachline West		1973	Oct-17	U	8	\$1.25	\$0.80	15.3	9.8
PA	Pennsylvania Turnpike		1940	Jan-19	R	360	\$54.35	\$38.95	15.1	10.8
FL	CFX S.R. 414 (Apopka Expressway)	B	2009	Jul-18	R/U	9	\$1.25	\$1.11	13.9	12.3
FL	Florida's Turnpike, Western Beltway		2005	Oct-17	R/U	11	\$1.50	\$1.07	13.6	9.7
WV	West Virginia Turnpike		1954	Jan-19	R	88	\$12.00	\$7.80	13.6	8.9
FL	CFX S.R. 528 (Beachline Expressway)		1967	Jul-18	R/U	23	\$3.00	\$2.56	13.0	11.1
NH	Blue Star Turnpike		1950	Jul-09	R	16	\$2.00	\$1.40	12.3	8.6
NJ	New Jersey Turnpike		1951	Jan-12	R/U	118	\$13.85	\$13.85	11.7	11.7
DE	Korean War Veterans Memorial Highway (SR 1)		1991	Aug-14	R/U	51	\$6.00	\$6.00	11.7	11.7
FL	Florida's Turnpike, Sawgrass Expressway		1990	Oct-17	U	23	\$2.68	\$2.14	11.7	9.3
IL	Tri-State Tollway		1958	Jan-19	U	77	\$9.00	\$4.50	11.6	5.8
FL	Florida's Turnpike, Homestead Extension		1974	Oct-17	U	47	\$5.36	\$4.28	11.4	9.1
FL	Florida's Turnpike, Suncoast Parkway		2001	Oct-17	U	42	\$4.50	\$3.21	10.7	7.6
FL	Florida's Turnpike, Ticket System		1957	Oct-17	R	155	\$16.50	\$12.37	10.6	8.0
IL	Reagan Memorial Tollway		1958	Jan-19	C	96	\$10.20	\$5.10	10.6	5.3
IL	Jane Addams Memorial Tollway		1958	Jan-19	C	79	\$7.90	\$3.95	10.1	5.0
FL	Florida's Turnpike, Southern Coin System		1957	Oct-17	U	43	\$4.18	\$3.21	9.7	7.5
OH	Ohio Turnpike		1954	Jan-19	R	241	\$19.25	\$13.25	8.0	5.5
FL	Florida's Turnpike, Northern Coin System		1957	Oct-17	U	67	\$5.00	\$4.28	7.5	6.4
IN	Indiana Toll Road		1956	Oct-18	R	157	\$11.10	\$11.12	7.1	7.1
MA	Massachusetts Turnpike	C	1957	Oct-16	C	123	\$7.95	\$4.25	6.5	3.5
KS	Kansas Turnpike		1956	Oct-18	R	236	\$15.00	\$11.15	6.4	4.7
ME	Maine Turnpike		1947	Nov-12	R	111	\$7.00	\$6.45	6.3	5.8
NJ	Garden State Parkway	D	1954	Jan-12	R/U	173	\$8.25	\$8.25	4.8	4.8
NH	Spaulding Turnpike		1957	Oct-07	R	33	\$1.50	\$1.06	4.5	3.2
FL	FDOT, Alligator Alley		1969	Oct-17	R	78	\$3.25	\$2.94	4.2	3.8

R:Rural, U:Urban, C:Commuter

Notes:

A - CFX System total length (miles) does not include the two miles for S.R. 451 (Wester Beltway Connector Road). It also only includes 2 miles of S.R. 453 since the other 2 miles are part of S.R. 429.

B - Of the 31 miles on S.R. 429 and nine miles on S.R. 414, three are part of a dual route between the two expressways. The three miles are only included once in the calculation of CFX System total miles.

C - Commuter rate of \$1.50 available with minimum purchase of 25 trips good for 45 days.

D - For passenger cars, no toll charged for 48-mile portion between interchanges 1 and 6.

initial opening year is from previous CFX files (not Ron's update)

length (mi) is from previous CFX (not Ron's update), excepting expansion on George Bush

CFX system includes SR 453, previous did not; SR 429 extended to 31 mi

E - S.R. 453 is a 2-mile facility, but toll collected at Coronado Main accounts for 2 miles of travel on S.R. 429.

1.3.3 ELASTICITY

The effect of a change in toll rates on T&R can be analyzed with the microeconomic concept of elasticity. Elasticity represents the relative change in traffic (or revenue) as a result of a relative change in toll rate with other factors held constant. Generally, a number of factors can affect elasticity, including diversion to competing facilities, changes in travel modes, trip consolidation/trip chaining, and/or adjustment in timeframe of travel. The effects of changes in toll rate on the various facilities of the CFX System depend on the availability of alternative parallel highways, local driver's knowledge of alternative/substitute routes and the level of congestion. Evaluating the degree of elasticity of a historic toll rate increase on the CFX facilities provides guidance in forecasting the elasticity of future toll rate increases.

Elasticity is calculated as the percentage change in traffic (or revenue) divided by the percentage change in toll rate. Traffic elasticity typically (and logically) has a negative algebraic sign, in that an increase in toll will result in a reduction in traffic. For traffic, the higher the absolute value of elasticity the greater the decline in traffic. Typically, but with limitations, revenue elasticity has a positive algebraic sign. An elasticity value of 1.0 would represent a case in which the response to a change in toll was unitary (perfectly elastic). That is, the relative change in revenue would be the same as the change in toll rate. Expected elasticity values are lower than 1.0, or relatively inelastic, which would yield smaller percentage decreases in traffic, and consequently smaller revenue increases.

The effect of the July 2012 toll rate increase on traffic was not profound for several reasons. This rate increase created a toll differential for the first time on CFX facilities. Electronic toll rates were increased by 9.0 percent, which equates to between \$0.03 and \$0.12 depending on the location. Cash toll rates were increased by \$0.25 at most locations, based on the policy to round the cash rate up to the next quarter. There was a shift in the method of payment from cash to E-PASS as a result of the rate increase. Customers wanted to take advantage of the toll rate differential. To determine elasticity of the FY 2013 toll rate increase, T&R from four months (July – October) in FY 2012 was compared against the T&R for the same four months in FY 2013. Comparing the traffic from the same timeframe of the prior year avoided seasonality issues but involved issues of growth in traffic. The impacts from the July 1, 2012 toll rate adjustment on T&R, including the calculated elasticity for a four-month period (July through October) are presented in **Table 1-4**.

Table 1-4
Elasticity of July 2012 Toll Rate Increase

Facility	Toll Increase	Traffic		Revenue	
		Impact	Elasticity	Impact	Elasticity
S.R. 528	11%	1.3%	N/A	12.5%	N/A
S.R. 408	13%	-1.8%	-0.14	10.8%	0.83
S.R. 417	14%	-1.9%	-0.14	12.1%	0.86
S.R. 429	15%	0.7%	N/A	15.3%	N/A
S.R. 414	17%	13.7%	N/A	33.6%	N/A

The traffic elasticity on both S.R. 408 and S.R. 417 were -0.14, with a very minor impact to the traffic. This elasticity is comparable to Florida's Turnpike Southern Connector Extension elasticity of -0.07 and Seminole Expressway elasticity of -0.21¹ for the toll rate adjustment that occurred in June of 2012. S.R. 528 was excluded from the elasticity calculation due to the recent opening of Dallas Boulevard Main Plaza and the reduction of the \$1.50 toll rate to \$0.75 at Beachline Main Plaza. S.R. 429 and S.R. 414 were excluded from the elasticity calculation since these facilities experienced increases in traffic over the period. Both facilities were just recently opened to traffic with higher initial annual growth rates and had influences beyond the toll rate change. These facilities also serve areas that were still experiencing development growth, as compared to S.R. 408 and S.R. 417 that served developed urban areas of Orlando.

S.R. 408 and S.R. 417 had revenue elasticity of 0.83 and 0.86, respectively. This means that some customers responded to the toll rate increase by using alternative routes or switching from cash to E-PASS. For the entire CFX System, E-PASS participation increased approximately 4.0 percent over the prior year (July – October). The 4.0 percent increase was not entirely a result of the conversion of cash customers to E-PASS because normal growth is embedded in the T&R calculations and it is difficult to identify and remove.

1.3.4 WRONG-WAY DRIVING DETECTION AND PREVENTION PROGRAM

As part of CFX's mission to ensure the safety of their customers, the Authority began the Wrong-Way Driving Prevention and Detection Pilot Program in 2012 in partnership with the University of Central Florida. The program was broken out into three phases. Phase 1, which was completed in May 2013, included extensive research to determine the extent of the wrong-way driving problem and examine potential solutions. Through this research it was determined that current technology in use on the roadways did not adequately address wrong-way driving. Phase 2 of the program included the development of technology to help detect wrong-way drivers and take appropriate action. Testing began in January 2015 at the S.R. 528/S.R. 520 interchange and included data collection for a one-year period.

In January 2016, CFX installed the first wrong-way driving detection system at the S.R. 528/S.R. 520 interchange and has continued to install the devices throughout the expressway system at 34 locations. Preliminary results indicate that the system has been successful in detecting wrong-way drivers. In reported cases the driver turned around when the flashing wrong way beacons were activated. From 2015 through June 2018, this innovative technology detected 356 wrong-way incidents and 287 documented turnarounds. In FY 2017, CFX was awarded the International Bridge, Tunnel and Turnpike Association (IBTTA) National Toll Excellence Award for the program. These awards recognize the very best projects the international tolling industry has to offer and allows IBTTA to celebrate members whose creative, innovative and positive programs set a new standard of excellence.

¹ October 2012 Traffic and Earnings Report for Florida's Turnpike System

1.4 System Historical Toll Transactions and Revenue

1.4.1 DEFINITIONS

When a customer drives through a CFX toll location and pays the toll, the transaction and revenue is classified as “Paid In-Lane.” The customer has the option to pay the toll in the lane with cash or through electronic toll collection (ETC). When a customer drives through a CFX toll location and does not pay the toll while passing through, the transaction and revenue is classified as “Unpaid In-Lane.” Non-revenue producing transactions are another very small portion of Unpaid In-Lane transactions. The only way for the customer to pay the toll afterwards is through a process known as Pay By Plate (PBP). Total transactions are the sum of paid in-lane and unpaid in-lane transactions. Total revenue is the sum of paid in-lane revenue and the revenue collected through PBP, estimated as an accrued amount.

PBP toll invoicing is an option for customers that do not pay the toll in the lane and choose to forgo the benefits of ETC toll rates. With PBP, an image of the customer’s license plate is captured when the vehicle passes through the toll plaza location. During processing, the cash toll rate for that particular plaza plus a 20-cent processing fee is assessed to the vehicle’s owner. A monthly toll invoice is generated and mailed to the registered owner of the vehicle. Payment is due within 30 days to avoid toll violations and fines.

1.4.2 HISTORICAL ANNUAL PAID IN-LANE TRANSACTIONS AND REVENUE

A history of annual transactions and revenues for the six facilities from FY 1999 to FY 2018 are presented in **Table 1-5**. The annual data is based on the CFX Monthly Statistical Reports and is not reconciled to the fiscal year end results. Also, more detailed information on history is presented in Chapters 3 through 8 of this report. These historical tables do not include PBP transactions and revenues, only those that are paid in-lane. For this and other reasons, the information presented in this section may differ slightly from the data presented in the FY 2018 Comprehensive Annual Financial Report (CAFR) and other information in this report.

S.R. 417 had the greatest number of annual paid in-lane transactions with 145.9 million and the greatest amount of paid in-lane revenue with \$148.4 million in FY 2018, which for the first time surpassed paid in-lane transactions and revenues on S.R. 408. In FY 2018, S.R. 408 had 145.2 million paid in-lane transactions and \$138.3 million in paid in-lane revenue, and S.R. 528 had 76.7 million paid in-lane transactions and \$71.8 million in paid in-lane revenue. With the northern section of S.R. 429 opened in 2000 and the southern section opened in 2006, paid in-lane transactions and revenue have steadily grown on S.R. 429 to 51.7 million transactions and \$58.3 million in revenue for FY 2018. The recently opened Ponkan Main and Mt. Plymouth Main Plazas in FY 2018 also contributed to the growth on S.R. 429. S.R. 414 has been open to traffic for just nine full years and is still experiencing “ramp-up” with 13.4 million in paid in-lane transactions and \$13.8 million in paid in-lane revenue for FY 2018. S.R. 453, the newest facility on the CFX System, had 0.5 million paid in-lane transactions and \$0.3 million in paid in-lane revenues in FY 2018. The Coronado Main Plaza on S.R. 453 opened to traffic in April 2018 (FY 2018).

As shown in the table, total System paid in-lane transactions in FY 2018 have increased by 12.5 million transactions or 3.0 percent over FY 2017. All facilities, except S.R. 528 and S.R. 408, experienced growth in paid in-lane transactions in FY 2018 compared to FY 2017. Total System

paid in-lane revenues in FY 2018 increased \$13.0 million or 3.1 percent over FY 2017. All facilities, except S.R. 528 and S.R. 408, experienced increases in revenue.

Historical paid in-lane transactions for the CFX System since FY 1999 are displayed in **Figure 1-2**. The green line represents the number of transactions and shows how overall transactions have increased over the last 20 years. The bars represent the annual growth (percent change) of transactions. The same information for paid in-lane revenues is depicted in **Figure 1-3**. Paid in-lane transaction and revenue growth patterns exhibited on the System follow roughly the same growth pattern. This pattern does shift in times of toll rate increases, as shown in the revenue growth in FY 2009/2010 and FY 2013.

Paid in-lane transaction and revenue growth on the System was consistently strong up through FY 2007. Transactions and revenue exhibited double-digit growth in FY 2000 and in FY 2004. The growth in paid in-lane transactions and revenue fell to below 5 percent in FY 2002, the first time annual growth rates fell below 5 percent since FY 1992. The downturn in growth was primarily due to a national economic slowdown in the first half of FY 2002, accompanied by the events of September 11, 2001. In FY 2005, System paid in-lane transaction and revenue growth was over 5 percent even though the State of Florida was impacted by four hurricanes that resulted in toll suspensions on all CFX plazas for 21 days in August and September of 2004. Then, in FY 2008 the first signs of the Great Recession appeared with paid in-lane transaction and revenue growth slowing down as the housing and construction industry across the State of Florida slowed down.

In FY 2009, paid in-lane transactions actually decreased by 7.1 percent, which can be attributed to the economic recession and the Systemwide toll rate increase. Paid in-lane revenues only dipped into negative growth in FY 2009. The April 2009 toll rate increase slowed the negative revenue growth in FY 2009 to only -0.2 percent growth. The negative growth would have been worse without the toll rate increase, which included the last three months of FY 2009. The first nine months of FY 2010 were also impacted by the toll rate increase with paid in-lane revenues increasing 22.3 percent in FY 2010, while paid in-lane transactions still experienced a negative 2.1 percent annual growth. Also, during FY 2009, paid in-lane transactions were negatively impacted by two days of toll suspensions during Tropical Storm Fay. FY 2011 through FY 2013 showed stable paid in-lane transaction growth with each year increasing 2 to 3 percent despite the toll rate increase at the beginning of FY 2013. From FY 2014 through FY 2016, or the period of extraordinary growth, paid in-lane transactions on CFX facilities grew at faster rates than those seen prior to the Great Recession. Since FY 2016, paid in-lane transactions increased over prior years, but growth has tapered off. Paid in-lane revenues have climbed to nearly \$431 million in FY 2018.

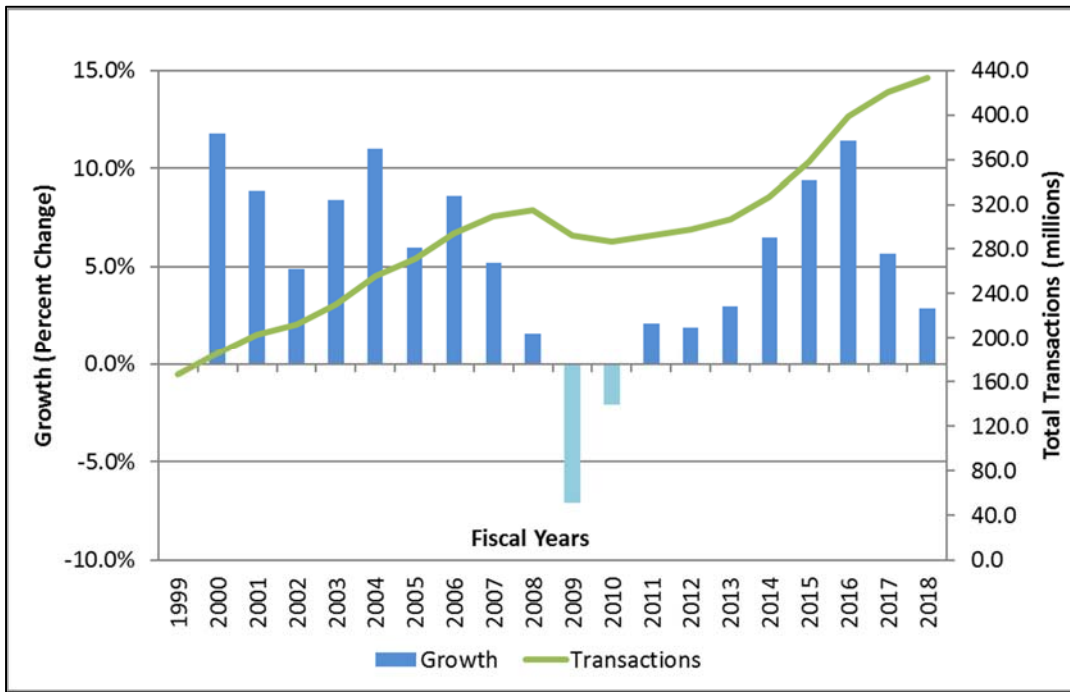
**Table 1-5
System Totals – Historical Paid In-Lane Transactions and Revenue
FY 1999 – FY 2018**

Fiscal Year Ending	S.R. 528	S.R. 408	S.R. 417	S.R. 429	S.R. 414	S.R. 453	TOTAL	Percent Change
TRANSACTIONS (millions)								
1999	27.3	88.2	50.9				166.4	
2000	30.8	97.6	57.9				186.3	12.0%
2001 ^A	32.4	104.4	62.3	3.5			202.6	8.7%
2002 ^{B,C}	31.6	110.1	64.9	5.8			212.4	4.8%
2003	33.7	116.1	71.3	9.5			230.6	8.6%
2004 ^D	37.5	124.7	79.6	13.8			255.6	10.8%
2005 ^{E,F}	39.7	127.8	87.2	16.4			271.1	6.1%
2006 ^G	42.4	135.4	96.2	20.2			294.2	8.5%
2007 ^H	44.5	138.3	102.4	24.4			309.6	5.2%
2008 ^{I,J}	44.8	139.0	104.5	26.6			314.9	1.7%
2009 ^{K,L}	40.7	131.3	94.8	25.1	0.6		292.5	-7.1%
2010 ^K	40.9	126.0	89.3	25.0	5.3		286.5	-2.1%
2011	42.5	126.7	90.9	25.9	6.5		292.5	2.1%
2012 ^M	47.5	126.2	90.7	26.4	7.3		298.1	1.9%
2013 ^N	57.6	123.5	90.3	27.2	8.3		306.9	3.0%
2014	59.7	129.7	97.2	30.7	9.5		326.8	6.5%
2015	64.3	138.2	109.3	35.2	10.6		357.6	9.4%
2016 ^O	71.5	146.2	127.4	41.2	12.0		398.3	11.4%
2017 ^P	76.8	147.7	138.1	45.5	12.8		420.9	5.7%
2018 ^{Q,R,S}	76.7	145.2	145.9	51.7	13.4	0.5	433.4	3.0%
TOLL REVENUES (millions)								
1999	\$24.6	\$56.6	\$33.4				\$114.6	
2000	\$27.7	\$62.3	\$38.3				\$128.3	12.0%
2001 ^A	\$29.2	\$66.2	\$41.3	\$3.3			\$140.0	9.1%
2002 ^{B,C}	\$28.7	\$69.7	\$42.6	\$5.1			\$146.1	4.4%
2003	\$30.6	\$73.2	\$46.5	\$7.2			\$157.5	7.8%
2004 ^D	\$34.3	\$78.7	\$51.6	\$9.2			\$173.8	10.3%
2005 ^{E,F}	\$36.1	\$80.4	\$56.7	\$10.5			\$183.7	5.7%
2006 ^G	\$38.4	\$85.1	\$62.6	\$13.5			\$199.6	8.7%
2007 ^H	\$40.0	\$86.5	\$66.9	\$17.4			\$210.8	5.6%
2008 ^{I,J}	\$40.1	\$86.1	\$68.5	\$19.0			\$213.7	1.4%
2009 ^{K,L}	\$38.5	\$88.3	\$66.8	\$19.0	\$0.6		\$213.2	-0.2%
2010 ^K	\$46.6	\$107.7	\$79.0	\$23.5	\$4.2		\$261.0	22.4%
2011	\$48.4	\$108.3	\$80.1	\$24.4	\$5.1		\$266.3	2.0%
2012 ^M	\$48.7	\$107.7	\$80.5	\$24.9	\$5.7		\$267.5	0.5%
2013 ^N	\$54.5	\$119.3	\$91.2	\$29.4	\$7.7		\$302.1	12.9%
2014	\$56.3	\$125.2	\$98.3	\$33.5	\$9.1		\$322.4	6.7%
2015	\$60.4	\$133.0	\$110.4	\$38.9	\$10.4		\$353.1	9.5%
2016 ^O	\$66.7	\$140.1	\$129.0	\$46.1	\$12.0		\$393.9	11.6%
2017 ^P	\$71.8	\$141.0	\$140.4	\$51.7	\$13.0		\$417.9	6.1%
2018 ^{Q,R,S}	\$71.8	\$138.3	\$148.4	\$58.3	\$13.8	\$0.3	\$430.9	3.1%

Notes:

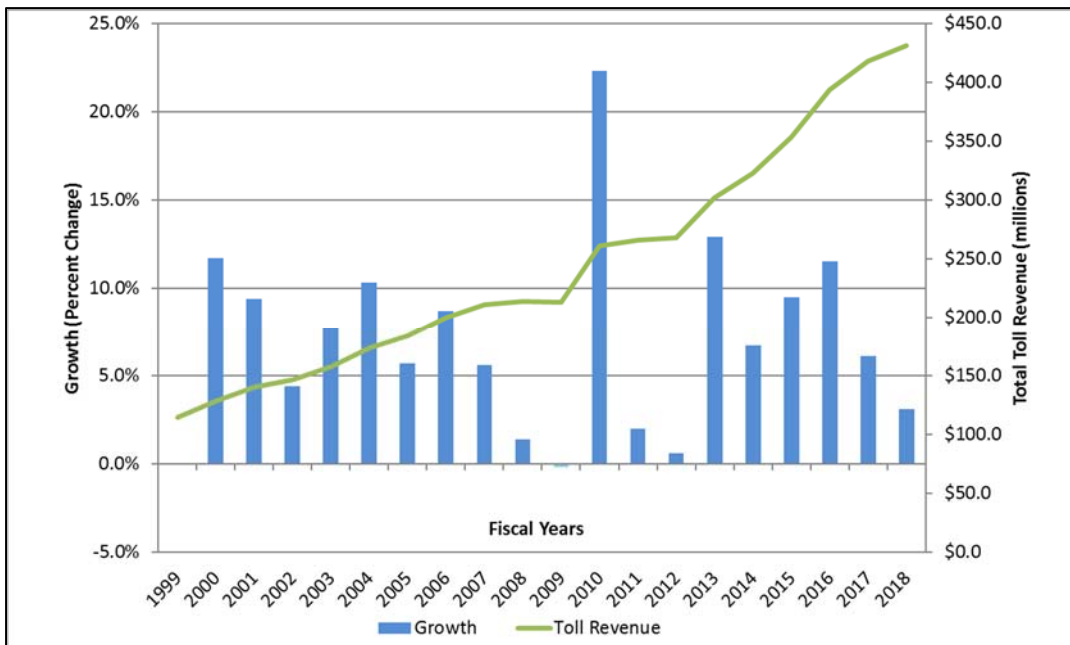
- A - Forest Lake Plaza on S.R. 429 opened in 2000.
- B - C.R. 535 ramps on S.R. 429 opened in 2002.
- C - Effects of the events on September 11, 2001.
- D - Express lanes opened at University Main plaza.
- E - Express lanes opened at Curry Ford and Dean Main plazas.
- F - Effects from 2004 hurricane season (4 storms with toll suspensions).
- G - Express lanes opened at Bogy Creek, John Young Parkway, and Hiawassee Main Plazas.
- H - Express lanes opened at Pine Hills main plaza.
- I - Express lanes opened at Conway Main plaza.
- J - First effects of national economic recession.
- K - Tolls increased Systemwide in April 2009.
- L - Coral Hills Plaza opened 2009.
- M - Dallas Main Plaza opened to traffic on March 19, 2012.
- N - Tolls increased Systemwide in July 2012.
- O - Beachline Airport Main plaza closed in March 2016.
- P - Effects from Hurricane Matthew in October 2016.
- Q - Effects from Hurricane Irma in September 2017.
- R - Ponkan Main Plaza opened in July 2017.
- S - Mt. Plymouth Main Plaza and Coronado Main Plaza opened in April 2018.

Figure 1-2
CFX System Historical Paid In-Lane Transactions and Annual Growth
FY 1999 – FY 2018



Source: CFX Statistical Report June 2018

Figure 1-3
CFX System Historical Paid In-Lane Revenue and Annual Growth
FY 1999 – FY 2018



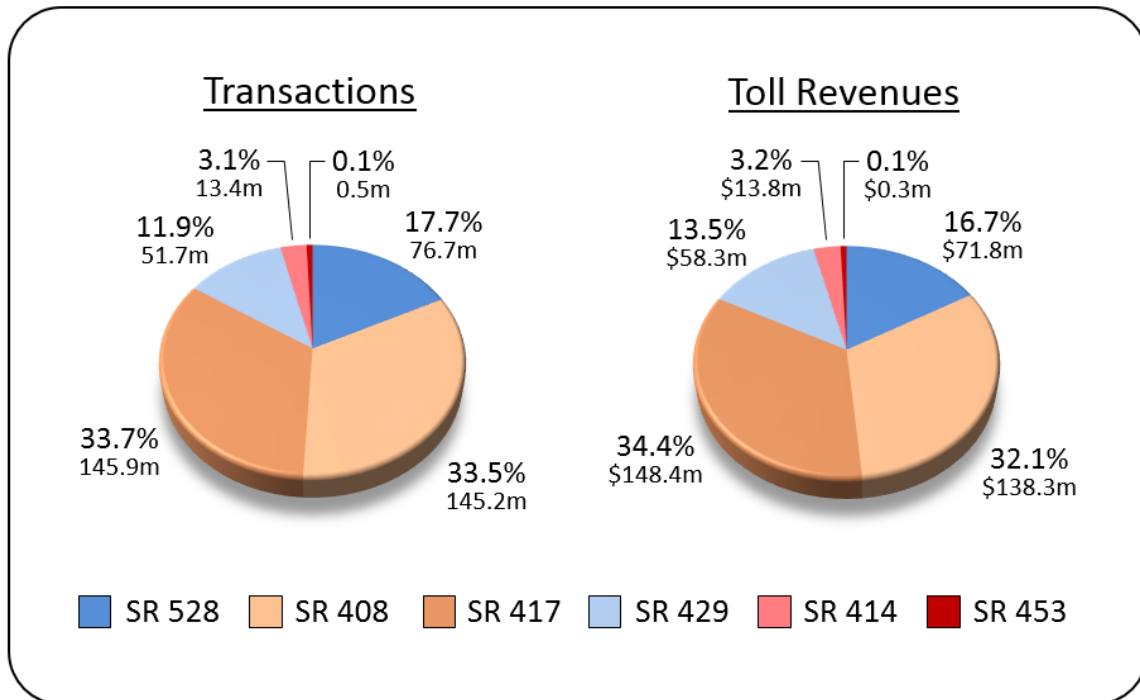
Source: CFX Statistical Report June 2018

In October 2016 (FY 2017), Hurricane Matthew tracked parallel to the Florida coast as a Category 3 storm with winds up to 130 miles per hour. Tolls were suspended on the CFX System beginning at 8:00 pm on October 5, 2016 through early on October 10, 2016. The toll suspension resulted in a loss of approximately 4.6 million transactions and \$4.5 million in toll revenues on the CFX System. In September 2017 (FY 2018), Hurricane Irma tracked parallel to the Florida coast as a Category 4 storm with winds up to 155 miles per hour. Tolls were suspended on CFX toll facilities beginning on September 5, 2017 through September 20, 2017 resulting in a transaction loss of approximately 19.3 million and a toll revenue loss of \$19.2 million on the CFX System.

1.4.3 ANNUAL PAID IN-LANE TRANSACTIONS AND REVENUE BY FACILITY

Figure 1-4 contains a summary of the FY 2018 paid in-lane transactions and revenues by facility, both the number and as a percentage of the System. The largest portion of the paid in-lane transactions and revenue were reported on S.R. 417, with 33.7 percent, or 145.9 million of the paid in-lane transactions and 34.4 percent, or \$148.4 million of the revenues. Paid in-lane transactions on S.R. 408 are 33.5 percent of the System or 145.2 million and paid in-lane revenues are 32.1 percent of the System or \$138.3 million. S.R. 528 comprises 17.7 percent, or 76.7 million of the paid in-lane transactions and 16.7 percent, or \$71.8 million of the paid in-lane revenues. S.R. 429 paid in-lane transactions represent 11.9 percent, or 51.7 million of the System paid in-lane transactions and 13.5 percent, or \$58.3 million of the System paid in-lane revenues. S.R. 414 paid in-lane transactions were reported at 13.4 million or 3.1 percent, while paid in-lane revenues were reported at \$13.8 million or 3.2 percent of the System paid in-lane revenues. Paid in-lane transactions on S.R. 453 are 0.5 million or 0.1 percent of the System and paid in-lane revenues are \$0.3 million or 0.1 percent of the System for FY 2018.

Figure 1-4
CFX System Annual Paid In-Lane Transactions and Revenue by Facility
FY 2018



Source: CFX Statistical Report June 2018

1.4.4 MONTHLY PAID IN-LANE TRANSACTION SEASONAL VARIATION

The seasonal variation in paid in-lane transactions is presented in **Table 1-6**. The average number of paid in-lane transactions per day on the System in FY 2018 ranged from a high of 1,326,086 in March 2018 to a low of 1,145,357 in July of 2017. This data is presented in a graphical format in **Figure 1-5**. Each month's average paid in-lane transactions per day appear as a percentage of the average for the fiscal year. As shown in the figure, March paid in-lane transactions were 7.1 percent above average and July paid in-lane transactions were 7.5 percent below the average. September average daily paid in-lane transactions were adjusted to only include 15 days of toll collection during the month. Tolls were suspended the remaining 15 days due to Hurricane Irma.

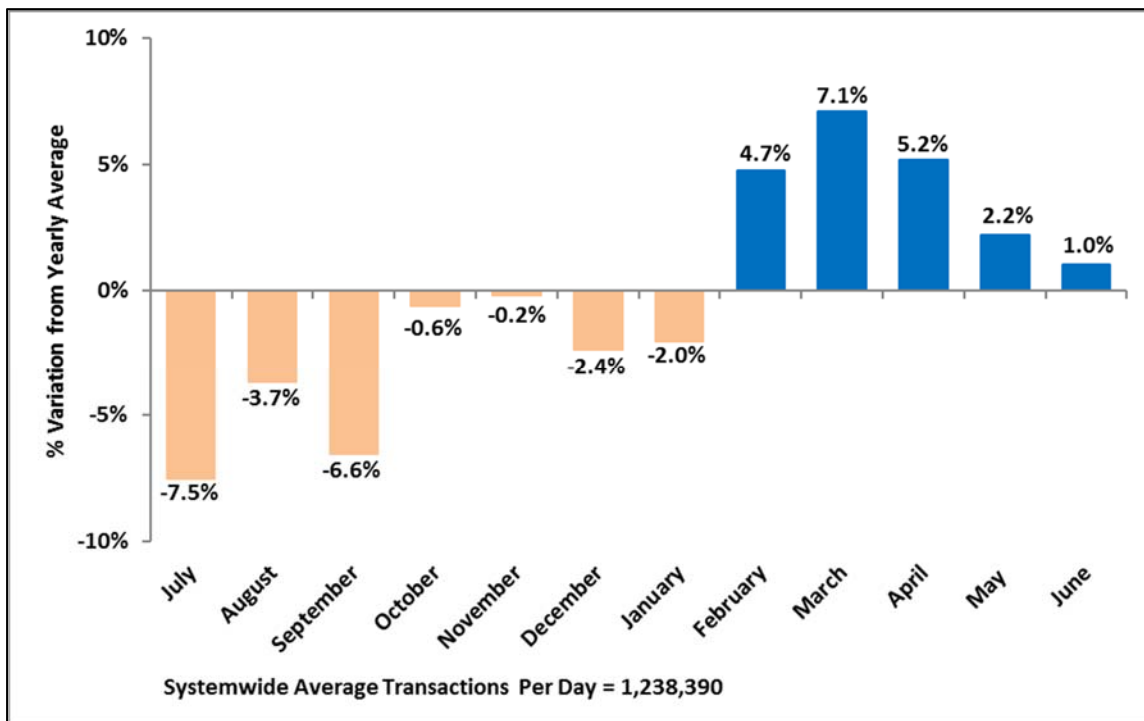
For FY 2018, the paid in-lane transactions were lower than average for the first half of the year and higher than average for the second half of the year. This is a normal pattern for seasonal variation, with the spring months being the peak season, due to an increase in the number of tourists and seasonal residents in the area. The seasonal patterns vary on different facilities, with the Beachline Expressway having the strongest seasonal variation due to its proximity to the Orlando International Airport (OIA) and the tourist attractions.

Table 1-6
CFX System - Monthly Seasonal Variation in Paid In-Lane Transactions
FY 2018

Month	Number of Days in Month	Total Toll Paying Transactions	Average Transactions Per Day	Seasonal Factor
July	31	35,506,076	1,145,357	0.925
August	31	36,977,961	1,192,837	0.963
September	15	17,357,376	1,157,158	0.934
October	31	38,153,288	1,230,751	0.994
November	30	37,079,417	1,235,981	0.998
December	31	37,481,972	1,209,096	0.976
January	31	37,616,721	1,213,443	0.980
February	28	36,314,065	1,296,931	1.047
March	31	41,108,655	1,326,086	1.071
April	30	39,073,203	1,302,440	1.052
May	31	39,235,759	1,265,670	1.022
June	30	37,531,984	1,251,066	1.010
Average		36,119,706	1,238,390	1.000
Total Year	350	433,436,477		

Source: CFX Statistical Report June 2018

Figure 1-5
CFX System Variation in Paid In-Lane Transactions Per Day, By Month
FY 2018



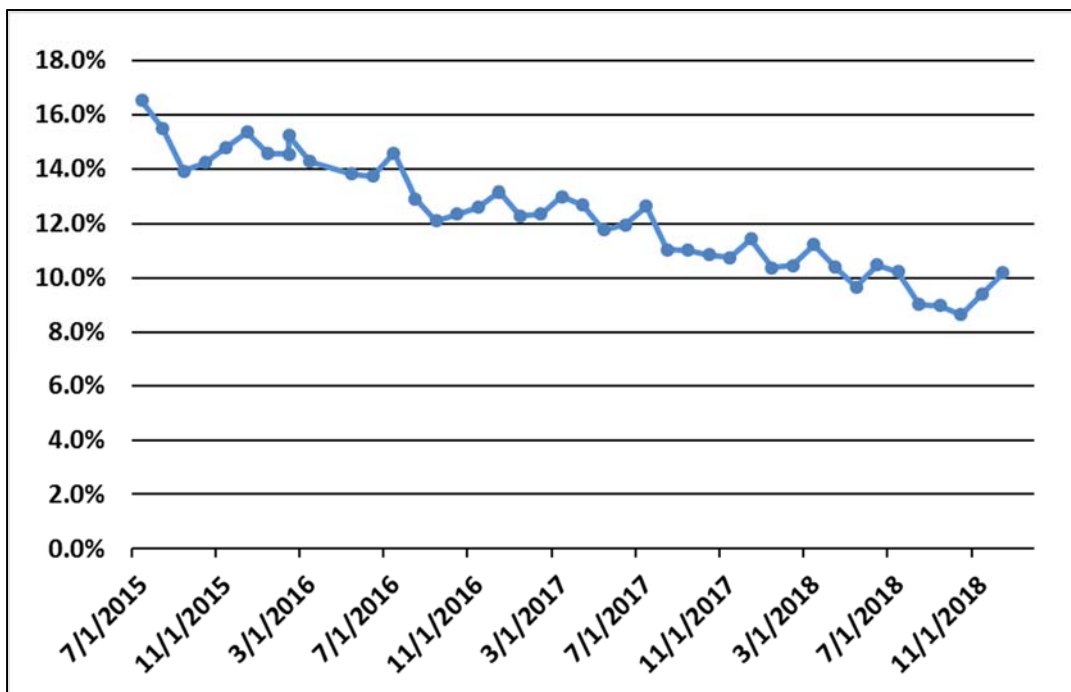
Source: CFX Statistical Report June 2018

1.4.5 RECENT TRENDS

Several trends in transaction and revenue conditions influence recent and future results. Some of these are long-term trends and others have been developing over the past few years. We have used the latest information from the first half of FY 2019.

The proportion of paid in-lane transactions that were paid with cash has been declining. **Figure 1-6** contains a graph of the proportion paid with cash by month. At the beginning of FY 2016, approximately 15% of paid in-lane transactions were paid with cash. During the first half of FY 2019, only 9% of these paid in-lane revenue transactions were paid with cash. An increasing share of the customers who pay in the lane are paying with ETC rather than cash.

Figure 1-6
Proportion Paid In-Lane Transactions Paid with Cash
By Month, July 2015 to December 2018

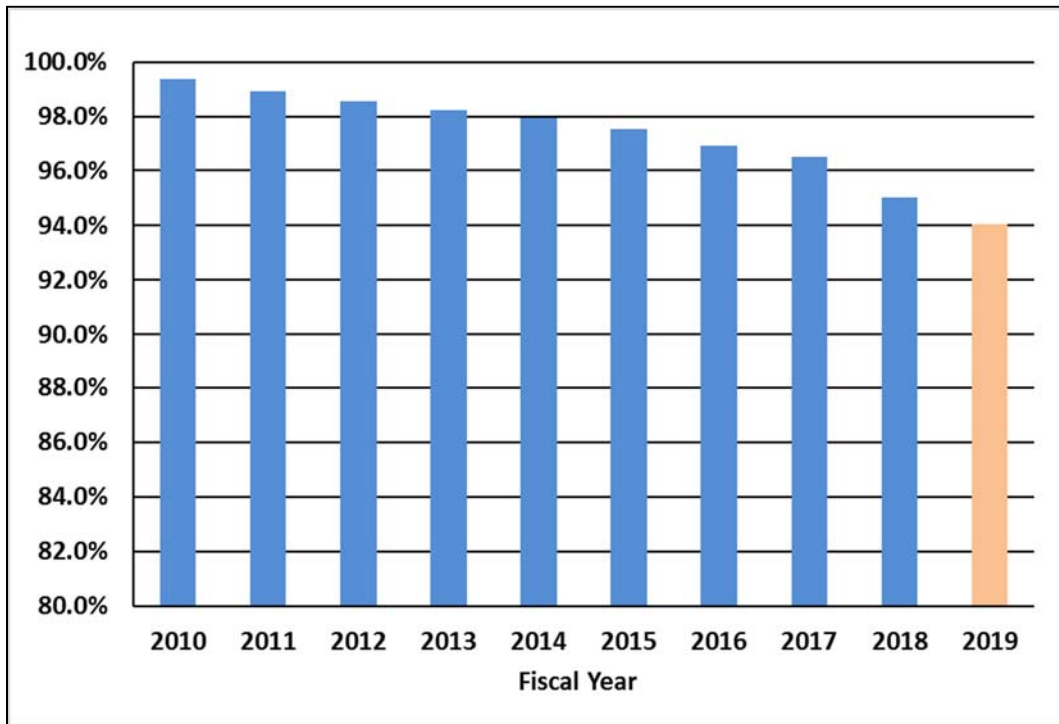


Source: CFX Monthly T&R Analysis

The proportion of transactions that are paid in-lane has also been declining for some time. **Figure 1-7** is a graph with the proportion of all transactions that were paid in-lane since FY 2010. In FY 2010, 99 percent of all paid in-lane transactions were paid with cash or ETC. In FY 2018, this number dropped to 95 percent. Expectations are that this value will decline further in FY 2019 to 94 percent. A similar pattern occurs on all CFX expressways. This means that more customers are using the PBP process.

This trend is difficult to explain, since CFX has taken many steps to incentivize customers to pay tolls in the lane. Customers can pay with cash at every toll location except the three toll locations associated with the recently opened Wekiva Parkway. CFX offers convenient ways for customers to obtain transponders (including free sticker tags) and provides easy ways to put funds into their accounts (including the ability use cash in the reload lanes at mainline toll plazas).

Figure 1-7
Proportion of Transactions Paid In-Lane
FY 2010 – FY 2019



Source: CFX Monthly T&R Analysis

The increase in the number and proportion of customers choosing PBP means that it takes CFX a longer time and costs more to collect the toll. Furthermore, CFX is not able to collect all toll revenue owed by PBP customers. Like the private sector, CFX now has an accounts receivable (AR). The December 2018 aging report is provided in **Table 1-7**. A portion of the initial unpaid in-lane transactions are recognized and reclassified as transactions by E-PASS account holders. CFX now accrues revenue for unpaid in-lane transactions at 63 percent of the initial billed amount.

**Table 1-7
CFX Pay By Plate Aging Report
As of December 31, 2018**

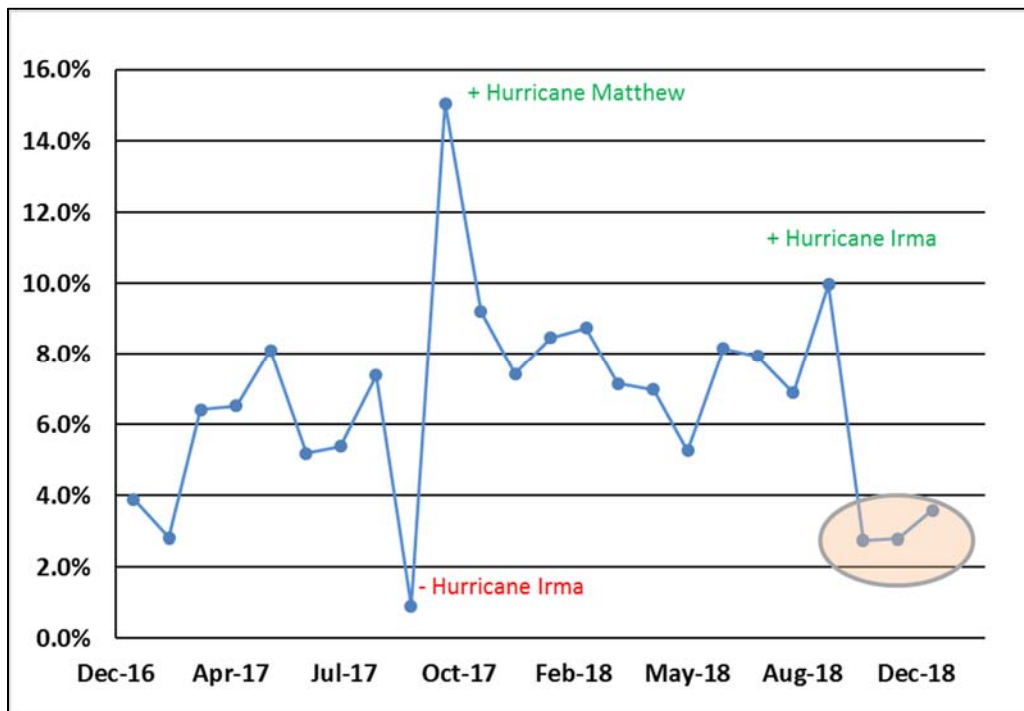
Month UTN/PBP was Created	Total Transactions Associated with an UTN/PBP(1)	Toll Revenue Billed	Toll Revenue Paid-to-Date	Toll Revenue M-Tolled-to- Date(2)	Total Toll Revenue Collected-to- Date	Percentage of Billed Revenue Collected-to- Date
Dec-16	2,410,239	\$2,707,096.06	\$1,821,220.12	\$267,676.36	\$2,088,896.48	77.16%
Jan-17	2,647,270	\$2,974,710.86	\$1,989,083.94	\$311,887.08	\$2,300,971.02	77.35%
Feb-17	2,428,864	\$2,743,172.31	\$1,845,146.34	\$282,073.34	\$2,127,219.68	77.55%
Mar-17	2,429,632	\$2,736,524.74	\$1,826,442.91	\$277,510.42	\$2,103,953.33	76.88%
Apr-17	2,582,235	\$2,905,272.61	\$1,911,229.02	\$280,680.02	\$2,191,909.04	75.45%
May-17	2,663,419	\$2,988,571.71	\$1,951,495.12	\$291,620.93	\$2,243,116.05	75.06%
Jun-17	2,753,812	\$3,106,561.75	\$2,030,510.72	\$319,689.61	\$2,350,200.33	75.65%
Jul-17	2,522,982	\$2,864,918.03	\$1,867,625.77	\$285,597.22	\$2,153,222.99	75.16%
Aug-17	2,550,779	\$2,891,241.46	\$1,876,580.47	\$293,777.98	\$2,170,358.45	75.07%
Sep-17	2,108,620	\$2,389,695.37	\$1,571,341.35	\$229,069.14	\$1,800,410.49	75.34%
Oct-17	2,088,346	\$2,360,949.95	\$1,540,306.44	\$237,094.51	\$1,777,400.95	75.28%
Nov-17	2,702,406	\$3,059,437.51	\$1,972,293.13	\$280,355.55	\$2,252,648.68	73.63%
Dec-17	2,865,816	\$3,279,908.43	\$2,097,778.73	\$276,817.91	\$2,374,596.64	72.40%
Jan-18	3,022,244	\$3,455,365.60	\$2,159,036.67	\$299,480.34	\$2,458,517.01	71.15%
Feb-18	3,178,122	\$3,630,692.17	\$2,175,215.75	\$309,347.61	\$2,484,563.36	68.43%
Mar-18	2,680,845	\$3,063,533.63	\$1,778,966.45	\$244,836.78	\$2,023,803.23	66.06%
Apr-18	2,681,927	\$3,073,298.83	\$1,674,280.93	\$234,839.32	\$1,909,120.25	62.12%
May-18	2,811,413	\$3,226,110.55	\$1,664,126.04	\$248,649.78	\$1,912,775.82	59.29%
Jun-18	2,442,134	\$2,818,413.80	\$1,398,305.09	\$178,349.43	\$1,576,654.52	55.94%
Jul-18	4,552,201	\$5,215,698.39	\$2,349,114.83	\$317,765.36	\$2,666,880.19	51.13%
Aug-18	2,887,957	\$3,397,749.17	\$1,596,340.84	\$120,743.22	\$1,717,084.06	50.54%
Sep-18	3,080,107	\$3,714,191.75	\$1,746,789.17	\$88,015.46	\$1,834,804.63	49.40%
Oct-18	3,539,827	\$4,256,584.51	\$1,788,618.87	\$90,336.06	\$1,878,954.93	44.14%
Nov-18	3,473,140	\$4,067,453.95	\$1,317,656.29	\$73,915.92	\$1,391,572.21	34.21%
Dec-18	2,103,211	\$2,512,093.99	\$321,440.38	\$33,994.26	\$355,434.64	14.15%
TOTALS	69,207,548	\$79,439,247.13	\$44,270,945.37	\$5,874,123.61	\$50,145,068.98	63.12%

(1) Transactions associated with an PBP could have occurred up to one year prior to PBP creation.
(2) M-tolls are paid from an E-PASS account after the PBP is created.

Source: CFX Statistical Report December 2018

Another, more recent change concerns the growth rate in transactions. **Figure 1-8** is a graph of the monthly growth rates (year-over-year) in “raw” systemwide transactions. These are transactions before any processing. Making allowances for months with a hurricane (a lower growth rate) and months one year after a hurricane (a higher growth rate), over the past two years transactions grew at rates between 5 and 9 percent year over year. This period of extraordinary growth appears to have ended early in FY 2019, as shown by the growth rates for October through December 2018. The year over year growth for these months was approximately 3 percent.

Figure 1-8
Monthly Growth in “Raw” Systemwide Transactions
January 2017 through December 2018



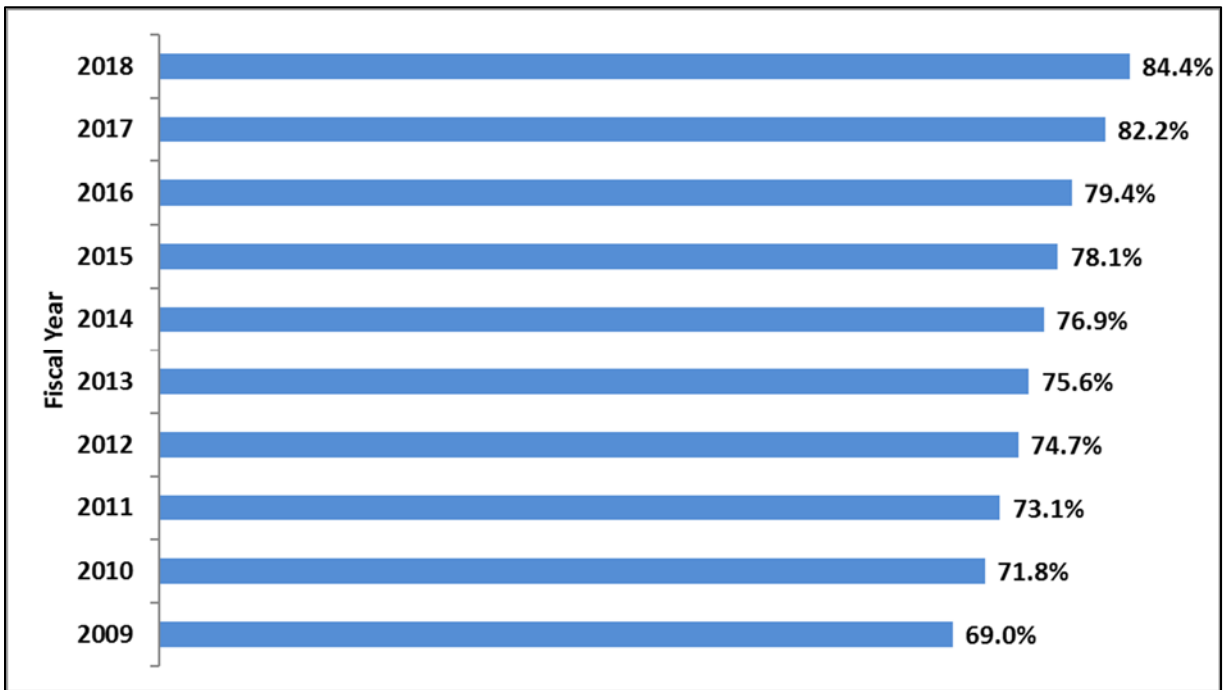
Source: CFX Traffic Reports

1.5 ETC Usage

In 1994, CFX introduced the first ETC program in Florida, known as E-PASS. During that year there were approximately 2,300 E-PASS transponders in use on the System. As of FY 2018 the number has grown to 690,500 transponders and approximately 393,600 active E-PASS accounts. As shown in **Figure 1-9**, revenues collected through ETC during FY 2018 account for 84.4 percent of the total System revenues. The percent of revenues from ETC has grown steadily for the past 10 years, from only 69.0 percent in FY 2009. ETC transactions account for over 80% of daily revenue at several Mainline plazas. The percentage of revenues collected through ETC is over 75 percent at the remainder of the mainline toll plazas. Many customers purchased E-PASS in FY 2018 to take advantage of the lower electronic toll rate and pay on average 23 percent less in tolls. In FY 2013, E-PASS became interoperable with North Carolina Quick Pass. This means that Quick Pass transponders are accepted on CFX facilities and E-PASS transponders are accepted on the North Carolina Turnpike facilities.

Beginning May 11, 2016, CFX implemented a pilot program called The Reload Lane to encourage and increase E-PASS usage. CFX offered this drive-through lane on S.R. 408 at the Conway Main Plaza for customers to sign up for an E-PASS electronic transponder or replenish an existing E-PASS account from 6:00 a.m. to 8:00 p.m. daily. This program was the first of its kind in the continental United States and provided customer convenience and multiple payment options (cash, check, and debit/credit card). The program was expanded to S.R. 417 and S.R. 429 in FY 2017.

Figure 1-9
CFX System Percent of Revenue from Electronic Toll Collection
FY 2009 – FY 2018



Source: CFX Statistical Report June 2018

CFX continues to offer toll discount incentives to customers through various discount programs. The Beltway Discount Program, implemented in July 2015, offers discounts for transactions on S.R. 417, S.R. 429 and S.R. 414 during construction activities on I-4. Also, the Customer Loyalty Discount Program introduced in May 2016 offers discounts to frequent users of all facilities for E-PASS transactions. Both of these programs are discussed in more detail in Section 1.3.1 of this chapter. Recently, CFX began offering CollegePass in its first branded E-PASS partnership with the University of Central Florida (UCF), the University of Florida (UF) and Florida State University (FSU). These special sticker tags cost \$18.50 plus tax and an additional \$10 for customers to activate a prepaid toll account. CollegePass works the same way as regular sticker tag transponders and offer the same discounts and benefits exclusive to E-PASS customers. Regular sticker tags are still available at no cost to the customer.



In November 2017, CFX announced the development of an interoperability agreement with the E-ZPass group, the largest group of toll road operators in the United States. The agreement made CFX the first expressway system in Florida to accept E-ZPass, which is a network of toll road agencies operating from Maine to North Carolina and west through Illinois. Following the announcement of the new agreement, CFX began working on a new toll collection portable transponder that would be accepted on facilities that use both E-PASS and E-ZPass.

1.6 Forecasting Methodology

The estimates of future annual T&R for the CFX System, contained in this annual report, were derived from a complex process involving both a traditional four-step, travel demand model and a series of T&R models both designed specifically for this purpose. The overall approach was to develop estimates of future paid in-lane transactions and then separate estimates of future unpaid in-lane transactions. The forecasts of paid in-lane transactions were obtained through the application of annual growth rates by plaza group. The early-year growth rates came from recent experience and trends and the out-year growth rates reflect results from the travel demand model. With estimates of both types of transactions, the final step was to prepare estimates of future toll revenue and the effects of the discount programs. At the risk of over simplification, the forecasts of future toll revenues were estimated as the sum of the product of the traffic forecasts (converted to the number of annual transactions) and the toll rate at each tolling point on the CFX System. This section of the report provides an overview of the forecasting methodology and general approach used to estimate the traffic and revenue.

1.6.1 TRAVEL DEMAND MODEL

The long-term growth rates are based on results from the travel demand model known as the CFX Model 2.1. This model was completed in January 2017 by updating and improving the prior model. The more recent model CFX Model 3.x was not used because of time constraints. The foundation for the model used was the 2009 Orlando Urban Area Transportation Study (OUATS) Model, developed by MetroPlan Orlando. Model features outside of the MetroPlan Orlando area (Orange, Seminole and Osceola Counties) are based on the 2005 Central Florida Regional Planning Model (CFRPM) produced by Florida Department of Transportation, District 5.

The model was calibrated to 2010 conditions, including socioeconomic (SE) data from the US Census and Woods and Poole data in the new OUATS and traditional CFRPM zone systems. The calibration was based on the transportation networks taken from the two operational models. The networks and associated counts were reviewed using 2010 aerial photography and updated as necessary. Data from the National Highway Travel Survey (NHTS) Florida was acquired and used to calibrate the trip length distributions for five trip purposes (home-based work, home-based shopping, home-based social recreation, home-based other and non-home-based trips). The treatment of external trips was also carefully reviewed and improved, as was the use of time penalties and turn prohibitions.

To make the model more sensitive to network and tolling considerations, it was calibrated to match historical traffic counts on mainline and ramp segments on the CFX System. In the validation year, almost all transactions were Paid In-Lane transactions. The calibration process utilized an approach called Origin-Destination Matrix Estimation (ODME) to enhance the replication of observed traffic patterns, especially on the CFX System. Technical documentation

of the model development process is available separately. At the conclusion, the model provided a very close fit to travel patterns in general and especially close to travel on the CFX System.

Turning to the production of traffic forecasts, SE data forecasts were developed in six planning horizon years (2018, 2023, 2028, 2033, 2038 and 2043) corresponding to the then planned future year toll rate adjustments from the previous toll rate policy. The SE data forecasts were developed from a combination of growth rates by county and the spatial pattern of development from the MPO plans. Population growth rates were developed from the Medium level population projections by county from the most recent publication by the Bureau of Economic and Business Research (BEBR), College of Business Administration at the University of Florida. Forecasts of employment were based on estimates of future employment by county produced by Woods and Poole. Control totals for each county by data set were developed and applied to the spatial distribution of growth by zone as adopted by the MPOs.

Future year transportation networks were created for each of the planning horizon years. The future year networks were updated to include the latest network improvements from the Long-Range Transportation Plans (LRTPs) and Transportation Improvement Programs (TIPs) for all MPOs covered by the model. These included MetroPlan Orlando, Lake-Sumter MPO, Space Coast TPO, River to Sea TPO and Polk County TPO. The future networks included all improvements identified in the CFX Work Program and Master Plan. The future year networks also included improvement projects identified in the Florida DOT Strategic Intermodal System's (SIS) 1st and 2nd 5-year plans, and SIS Cost Feasible 2040 Plan, as well as Florida Turnpike Enterprise's 5-Year Work Program along with the 2010 Update of Florida's Turnpike Enterprise Master Plan.

While several toll conditions were modeled in each of the future years, the clear focus for this work was the toll amounts envisioned in the "Customer First Toll Policy" (adopted by the CFX Board). In this way, the model provided direct estimates of the effect of future SE data, network improvements and toll rate adjustments on CFX System traffic.

1.6.2 HISTORIC TRANSACTIONS AND REVENUE

The T&R Model was built on an up to date history of transactions and revenue for each plaza group by month, found in the CFX Monthly Statistical Report. The data, which describes the paid in-lane transactions and revenue, has been used in the past as the basis for development of the travel demand model and for the T&R estimates. In prior forecasts, the impacts of Uniform Toll Notices (UTNs) and PBP were handled separately at a system level. Given recent changes, these are now separately forecast by plaza group. Since the historic data includes the effect of vehicle class on T&R, the forecasts of future T&R already include these effects.

Data on unpaid in-lane transactions and revenue also comes from the CFX Monthly Statistical Report and the **2018 Comprehensive Annual Financial Report** (2018 CAFR). The separate analysis and forecasts of unpaid in-lane (PBP) transactions and revenue necessarily includes violations and leakage.

The revenue impacts of the discount programs are based on information contained in the 2018 CAFR and handled separately at a system level.

1.6.3 PAID IN-LANE TRANSACTIONS

The T&R Model is a spreadsheet that includes a combination of history and prior forecasts, along with the new forecasts.

Recent paid in-lane transaction data was used to assess the impacts of the two recent weather events (Hurricane Matthew in FY 2017 and Hurricane Irma in FY 2018). This data was then used to identify growth trends by plaza group with and without the hurricanes. The transaction estimates for FY 2019 were developed from the first half year of actual results extended to the remainder of the year. The estimates for FY 2020 and beyond were adjusted or “trued up” to reflect achievable expectations for the first fiscal year in the new forecast.

Then, mid-term growth rates were developed from the combination of recent growth and the growth rates derived from the travel demand model. The long-term growth rates come from the travel demand model with some adjustment.

The effect of the combination of travel demand model and the T&R model is such that the paid in-lane transaction estimates are controlled to match base year values. Growth in the paid in-lane transaction estimates is primarily determined by changes from the travel demand model, modified by recent experience. This includes the effects of changes in the spatial pattern of SE activity, changes in transportation network and changes in toll rate.

1.6.4 PAY BY PLATE (PBP) TRANSACTIONS

The estimates of PBP transactions utilize preliminary results by plaza group from the first six months of FY 2019. The estimate of PBP transactions will be added to the paid in-lane transactions. Smaller values produce more achievable forecasts.

The unpaid in-lane transactions were described as a proportion of the paid in-lane transactions. For FY 2019, the average proportion of the first six months was used to estimate the unpaid in-lane transactions, with a reduction of 12.5%. July and August 2018, the first two months, exhibited lower values than the other four months, which had some disturbance because of SunPass processing issues. For FY 2020 and beyond, the average of the first two months was used. **Table 1-8** contains the proportions of paid in-lane transactions used to determine the PBP transactions. It’s interesting to note that the increase in PBP transactions has occurred across the entire CFX System.

**Table 1-8
Unpaid In-Lane Transactions as Proportion of Paid In-Lane Transactions**

Plaza Group		FY 2019	FY 2020 and Beyond
Airport	S.R. 528	11.9%	10.3%
Beachline Main		17.9%	12.2%
Dallas		19.2%	13.9%
Hiwassee	S.R. 408	19.6%	14.0%
Pine Hills		22.7%	17.2%
Conway		21.2%	14.2%
Dean		20.2%	14.8%
John Young	S.R. 417	22.9%	15.9%
Boggy Creek		20.6%	14.4%
Curry Ford		21.2%	15.2%
University		19.3%	14.2%
Forest Lake	S.R. 429	18.3%	12.6%
Independence		18.1%	11.7%
Ponkan		20.2%	14.4%
Mt Plymouth		21.7%	17.0%
Coral Hills	S.R. 414	17.4%	12.7%
Coronado	S.R. 453	20.2%	13.6%

Source: CFX Monthly T&R Analysis

1.6.5 TOLL REVENUE

Just like the process with transactions, recent paid in-lane revenue data was used to assess the impacts of the two recent hurricanes. This data was then used to identify growth trends by plaza group. The transaction estimates for FY 2019 were developed from the first half year of actual results extended to the remainder of the year. The estimates for FY 2020 and beyond were adjusted or “trued up” to reflect achievable expectations for the first fiscal year in the new forecast.

Then, once again, mid-term growth rates were developed from the combination of recent growth and the growth rates derived from the travel demand model. The long-term growth rates from the travel demand model with some adjustment.

The effect of the combination of travel demand model and the T&R model is such that the paid in-lane revenue estimates are controlled to match base year values. Growth in the paid in-lane revenue estimates is primarily determined by changes from the travel demand model, modified by recent experience. This includes the effects of changes in the spatial pattern of SE activity, changes in transportation network and changes in toll rate. Because of the indexed toll rates, the growth rates in revenue are higher than the growth rates in transactions.

The revenue collected from the PBP process in each plaza group is determined by calculating the initial billed amount of revenue and then using the 60% accrual rate. The initial billed amount was calculated as the PBP transactions times effective cash rate, escalated according to the Customer First toll policy (1.5% per year) with no surcharge because the surcharge is considered a fee and accounted for separately. The only exception is the PBP revenue from the three Wekiva Parkway plazas which is the PBP transactions times the escalated PBP toll rate. **Table 1-9** contains a summary of the effective toll rates by plaza group. The total revenue is the sum of the revenue from paid in lane transactions and the revenue collected from the PBP process.

**Table 1-9
Effective Toll Rates (FY 2018)**

Plaza Group		ETC	Cash and PBP for Wekiva
Airport	SR 528	\$1.17	\$0.94
Beachline Main		\$0.94	\$1.02
Dallas		\$0.53	\$0.51
Hiawassee	SR 408	\$0.78	\$0.91
Pine Hills		\$1.04	\$1.19
Conway		\$1.03	\$1.17
Dean		\$0.80	\$0.97
John Young	SR 417	\$1.14	\$1.28
Boggy Creek		\$1.18	\$1.41
Curry Ford		\$0.84	\$0.99
University		\$0.83	\$0.98
Forest Lake	SR 429	\$1.20	\$1.30
Independence		\$1.05	\$1.34
Ponkan		\$0.86	\$1.19
Mt Plymouth		\$0.82	\$1.20
Coral Hills	S.R. 414	\$1.03	\$1.05
Coronado	S.R. 453	\$0.68	\$1.05
Wekiva Parkway			

Source: CFX Monthly T&R Analysis

1.6.6 FORECASTING ASSUMPTIONS

T&R estimates for the CFX System are predicated on the following basic assumptions, all of which are considered reasonable for the purposes of this T&R study:

- Toll rates at each location are in nominal or future-year dollars, conforming to the recent toll rate policy. Toll rate adjustments (indexed tolls) are applied every year based on the net change in CPI of 2.05 percent in FY 2019 and 1.5 percent each year thereafter.
- Inflation is assumed to be 2.5 percent annually which includes the adjustment for real income growth. The value of time is likewise expected to increase by 2.5 percent per year.
- Future transportation projects were assumed as defined in the locally adopted plans. The projects listed in the locally adopted Transportation Improvement Programs (TIP) and the 2040 Long Range Transportation Plans (LRTP) were reviewed and compared with the prior model and with the CFRPM. Most of the projects in the TIP were assumed to be built by FY 2018, but some occur later depending on the horizon year. The Cost Feasible LRTP projects were reviewed and included in the corresponding future-year networks. CFX improvements were assumed and included based on projects identified in the 2040 Master Plan. Details on future projects that impact specific system components are provided in each chapter.
- The complete Wekiva Parkway, from US 441 to I-4, was included in the models by the horizon year of 2023. T&R from the CFX portion of the Wekiva Parkway are included in the System totals reported in this annual report. The new toll facility is reported as part of S.R. 429 and the new facility S.R. 453.
- The estimates assume that the I-4 Ultimate project will be completed and opened to traffic in FY 2022.
- No local, regional or national emergency will arise which would abnormally restrict the use of motor vehicles, or substantially alter economic activity or freedom of mobility.
- Motor fuel will remain in adequate supply, and long-term increases in price will not significantly exceed the overall rate of inflation throughout the forecast period.
- The CFX System will be well-maintained, efficiently operated and effectively signed and promoted to encourage maximum usage.
- Forecasted transactions are the sum of paid in-lane and unpaid in-lane transactions. Forecasted revenue is the sum of paid in-lane revenue and revenue accrued for unpaid in-lane transactions. Allowances for the discount programs are included separately on a System-wide basis.

Any significant departure from the above basic assumptions could materially affect estimated traffic and toll revenues for the CFX System.

1.7 System Forecasts

1.7.1 SYSTEM TRANSACTION AND TOLL REVENUE FORECASTS

Based on the recently adopted “Customer First Toll Policy,” toll rate adjustments (indexed tolls) were applied to the T&R forecasts every year based on the net change in CPI of 2.05 percent in FY 2019 and 1.5 percent every year thereafter.

The total transactions and toll revenue by facility and for the System as a whole are summarized in **Table 1-10** and **Table 1-11**. The tables are divided into paid in-lane transactions and revenue and PBP transactions and revenue. Paid in-lane transactions and revenue by plaza group include ETC and cash collection. PBP is only reported as a total on the facility level. This information is presented for historical transactions and toll revenue since FY 2000 and estimates in a 30-year forecast. The forecasts were produced by mainline plaza groups, aggregated to toll facility and then to the CFX System.

**Table 1-10
CFX System Transaction Forecast (Millions)**

Fiscal Year		Paid In-Lane	PBP	Total	Percent Annual Change
2010	Actual	286.5	1.8	288.3	
2011		292.5	3.1	295.6	2.5%
2012		298.1	4.4	302.5	2.3%
2013 ^A		306.9	5.4	312.3	3.2%
2014		326.8	6.8	333.6	6.8%
2015		357.6	8.8	366.4	9.8%
2016 ^B		398.3	12.2	410.5	12.0%
2017 ^C		420.9	14.6	435.5	6.1%
2018 ^{D,E}		433.4	21.6	455.0	4.5%
2019 ^F	Forecast	440.6	38.5	479.1	5.3%
2020		451.8	33.3	485.1	1.3%
2021		462.3	33.9	496.2	2.3%
2022 ^G		472.0	34.8	506.8	2.1%
2023		481.0	35.4	516.4	1.9%
2024		489.9	36.0	525.9	1.8%
2025		498.1	36.5	534.6	1.7%
2026		506.4	37.2	543.6	1.7%
2027		514.1	37.6	551.7	1.5%
2028		521.6	38.4	560.0	1.5%
2029		528.8	38.7	567.5	1.3%
2030		536.0	39.4	575.4	1.4%
2031		542.5	39.9	582.4	1.2%
2032		549.0	40.2	589.2	1.2%
2033		555.2	40.7	595.9	1.1%
2034		561.3	41.1	602.4	1.1%
2035		566.5	41.5	608.0	0.9%
2036		572.1	42.0	614.1	1.0%
2037		577.7	42.5	620.2	1.0%
2038		583.1	42.8	625.9	0.9%
2039		588.4	43.2	631.6	0.9%
2040		593.7	43.5	637.2	0.9%
2041		598.6	43.9	642.5	0.8%
2042		603.4	44.3	647.7	0.8%
2043		608.3	44.9	653.2	0.8%
2044		613.2	45.1	658.3	0.8%
2045		617.5	45.4	662.9	0.7%
2046		622.4	45.7	668.1	0.8%
2047	626.6	46.1	672.7	0.7%	
2048	630.9	46.5	677.4	0.7%	

Fiscal Year	Compound Annual Average Growth Rates (CAAGR)		
2010 - 2018	5.3%	36.4%	5.9%
2018 - 2028	1.9%	5.9%	2.1%
2028 - 2038	1.1%	1.1%	1.1%
2038 - 2048	0.8%	0.8%	0.8%

Notes:

- Actual transaction data provided by CFX from Monthly Statistical Reports.
- A - Systemwide toll rate increase.
- B - Airport Main Plaza closes, new ramp plazas open at beginning of FY 2016. Transactions for tolls collected at the Turnpike plaza not included.
- C - Effects from Hurricane Matthew in October 2016.
- D - Ponkan Main plaza opened on July 27, 2017 and Mount Plymouth Main opened on April 1, 2018 (S.R. 429). Coronado Main plaza opened on April 1, 2018 (S.R. 453).
- E - Effects from Hurricane Irma in September 2017.
- F - First year of implementation of "Customer First" toll rate policy and assumed toll rate increase of 2.05% in FY 2019. Annual toll rate increase of 2.05% in FY 2019 and 1.5% assumed annually throughout forecast period.
- G - Completion of I-4 Ultimate project.

**Table 1-11
CFX System Toll Revenue Forecast - Before Discounts (Millions)**

Fiscal Year		Paid In-Lane	PBP	Total	Percent Annual Change
2010	Actual	\$261.0	\$2.2	\$263.2	
2011		\$266.3	\$3.3	\$269.6	2.4%
2012		\$267.5	\$4.6	\$272.1	0.9%
2013 ^A		\$302.1	\$6.9	\$309.0	13.6%
2014		\$322.4	\$8.4	\$330.8	7.1%
2015		\$353.1	\$11.0	\$364.1	10.1%
2016 ^B		\$393.9	\$15.7	\$409.6	12.5%
2017 ^C		\$417.9	\$22.4	\$440.3	7.5%
2018 ^{D,E}		\$430.9	\$24.4	\$455.3	3.4%
2019 ^F	Forecast	\$444.7	\$43.5	\$488.2	7.2%
2020		\$462.6	\$38.0	\$500.6	2.5%
2021		\$480.0	\$39.3	\$519.3	3.7%
2022 ^G		\$497.5	\$41.1	\$538.6	3.7%
2023		\$513.4	\$42.4	\$555.8	3.2%
2024		\$529.5	\$43.8	\$573.3	3.1%
2025		\$544.8	\$45.0	\$589.8	2.9%
2026		\$559.9	\$46.5	\$606.4	2.8%
2027		\$575.1	\$47.8	\$622.9	2.7%
2028		\$590.6	\$49.3	\$639.9	2.7%
2029		\$605.8	\$50.7	\$656.5	2.6%
2030		\$620.7	\$52.7	\$673.4	2.6%
2031		\$636.2	\$53.9	\$690.1	2.5%
2032		\$651.4	\$55.1	\$706.5	2.4%
2033		\$666.8	\$57.0	\$723.8	2.4%
2034		\$682.1	\$58.2	\$740.3	2.3%
2035		\$697.2	\$59.9	\$757.1	2.3%
2036		\$712.7	\$61.2	\$773.9	2.2%
2037		\$728.6	\$63.1	\$791.7	2.3%
2038		\$743.8	\$64.2	\$808.0	2.1%
2039	\$759.7	\$66.1	\$825.8	2.2%	
2040	\$775.8	\$67.4	\$843.2	2.1%	
2041	\$791.7	\$69.0	\$860.7	2.1%	
2042	\$807.9	\$71.0	\$878.9	2.1%	
2043	\$823.9	\$73.1	\$897.0	2.1%	
2044	\$840.3	\$74.3	\$914.6	2.0%	
2045	\$856.4	\$76.1	\$932.5	2.0%	
2046	\$873.0	\$77.5	\$950.5	1.9%	
2047	\$889.3	\$79.4	\$968.7	1.9%	
2048	\$905.7	\$81.6	\$987.3	1.9%	

Fiscal Year	Compound Annual Average Growth Rates (CAAGR)		
2010 - 2018	6.5%	35.1%	7.1%
2018 - 2028	3.2%	7.3%	3.5%
2028 - 2038	2.3%	2.7%	2.4%
2038 - 2048	2.0%	2.4%	2.0%

Notes:

Actual transaction data provided by CFX from Monthly Statistical Reports.

A - Systemwide toll rate increase.

B - Airport Main Plaza closes, new ramp plazas open at beginning of FY 2016.

Transactions for tolls collected at the Turnpike plaza not included.

C - Effects from Hurricane Matthew in October 2016.

D - Ponkan Main plaza opened on July 27, 2017 and Mount Plymouth Main opened on April 1, 2018 (S.R. 429).

Coronado Main plaza opened on April 1, 2018 (S.R. 453).

E - Effects from Hurricane Irma in September 2017.

F - First year of implementation of "Customer First" toll rate policy and assumed toll rate increase of 2.05% in FY 2019.

Annual toll rate increase of 2.05% in FY 2019 and 1.5% assumed annually throughout forecast period.

G - Completion of I-4 Ultimate project.

1.7.2 SYSTEM AVAILABLE REVENUES

The System available revenue is defined as paid in-lane revenue plus revenue from PBP, less the discounts. The calculations are summarized in **Table 1-12**. CFX instituted a more convenient method of payment for PBP tolls in June 2009. CFX's PBP business rules were also modified in March 2016 to require all outstanding tolls be paid in order for a customer to renew their Florida vehicle registration. The paid in-lane revenues plus the revenue from PBP is expected to increase from the actual \$458.1 million collected in FY 2018 to \$639.9 million in FY 2028, \$808.0 million in FY 2038 and \$987.3 million in FY 2048.

The System currently has experienced an increasing violation rate. In FY 2018, the unadjusted violations of all System transactions recorded as violations were 6.3 percent. This violation rate is mostly due to open road tolling at all System mainline plazas and the opportunity to pay through PBP.

Table 1-12 also shows total revenue less the discounts during the fiscal year to equal Available Revenue. The discount programs are discussed in detail in Section 1.3.1 of this chapter. The resulting Available System Revenue can be used by CFX for their operating and maintenance budget and debt service. The Available Revenues are projected to increase from the actual \$441.8 million in FY 2018 to estimated amounts of \$618.2 million in FY 2028, \$777.0 million in FY 2038 and \$945.4 million in FY 2048.

1.7.3 NON-SYSTEM REVENUES

The Goldenrod Road Extension is a toll facility operated by CFX. It was constructed as an extension of the existing Goldenrod Road (S.R. 551) to provide an additional north-south facility operated by CFX as a Non-System project in the vicinity of the OIA. Goldenrod Road was a four-lane state-maintained facility that terminated at Narcoossee Road. The Goldenrod Road Extension continues the roadway south from the terminus at Narcoossee Road to Cargo Road on the airport property. There is one interchange on the facility at S.R. 528, just east of the airport. The Greater Orlando Aviation Authority (GOAA) constructed Heintzelman Boulevard, a four-lane facility that connects with the Goldenrod Road Extension at Cargo Road and then extends south through the OIA. South of the existing terminal building, Heintzelman Boulevard interchanges with the Airport South Access Road. Heintzelman Boulevard is not currently signed for use by the general public and serves as an access road for airport employees.

**Table 1-12
CFX System Toll Revenues Available (Millions)**

Fiscal Year		Paid In-Lane Revenue ^D	PBP Revenue ^E	Total Revenue	Discounts ^F	Available Revenue	Percent Annual Change
2010	Actual	\$262.0	\$1.1	\$263.1	\$9.4	\$253.6	22.9%
2011		\$266.5	\$3.0	\$269.5	\$9.5	\$260.0	2.5%
2012		\$267.9	\$4.3	\$272.2	\$9.6	\$262.6	1.0%
2013 ^A		\$302.7	\$6.3	\$309.0	\$10.8	\$298.2	13.5%
2014		\$322.8	\$8.1	\$330.9	\$11.7	\$319.1	7.0%
2015		\$353.1	\$11.0	\$364.1	\$13.2	\$350.9	10.0%
2016		\$393.9	\$15.7	\$409.6	\$18.7	\$390.9	11.4%
2017		\$418.5	\$21.8	\$440.3	\$16.6	\$423.7	8.4%
2018		\$430.8	\$27.3	\$458.1	\$16.3	\$441.8	4.3%
2019 ^B	Forecast	\$444.7	\$43.5	\$488.2	\$19.9	\$468.3	6.0%
2020		\$462.6	\$38.0	\$500.6	\$21.2	\$479.4	2.4%
2021		\$480.0	\$39.3	\$519.3	\$22.5	\$496.8	3.6%
2022 ^C		\$497.5	\$41.1	\$538.6	\$23.8	\$514.8	3.6%
2023		\$513.4	\$42.4	\$555.8	\$17.6	\$538.2	4.5%
2024		\$529.5	\$43.8	\$573.3	\$18.4	\$554.9	3.1%
2025		\$544.8	\$45.0	\$589.8	\$19.2	\$570.6	2.8%
2026		\$559.9	\$46.5	\$606.4	\$20.0	\$586.4	2.8%
2027		\$575.1	\$47.8	\$622.9	\$20.8	\$602.1	2.7%
2028		\$590.6	\$49.3	\$639.9	\$21.7	\$618.2	2.7%
2029		\$605.8	\$50.7	\$656.5	\$22.6	\$633.9	2.5%
2030		\$620.7	\$52.7	\$673.4	\$23.4	\$650.0	2.5%
2031		\$636.2	\$53.9	\$690.1	\$24.3	\$665.8	2.4%
2032		\$651.4	\$55.1	\$706.5	\$25.2	\$681.3	2.3%
2033		\$666.8	\$57.0	\$723.8	\$26.2	\$697.6	2.4%
2034	\$682.1	\$58.2	\$740.3	\$27.1	\$713.2	2.2%	
2035	\$697.2	\$59.9	\$757.1	\$28.0	\$729.1	2.2%	
2036	\$712.7	\$61.2	\$773.9	\$29.0	\$744.9	2.2%	
2037	\$728.6	\$63.1	\$791.7	\$30.0	\$761.7	2.3%	
2038	\$743.8	\$64.2	\$808.0	\$31.0	\$777.0	2.0%	
2039	\$759.7	\$66.1	\$825.8	\$32.1	\$793.7	2.1%	
2040	\$775.8	\$67.4	\$843.2	\$33.1	\$810.1	2.1%	
2041	\$791.7	\$69.0	\$860.7	\$34.2	\$826.5	2.0%	
2042	\$807.9	\$71.0	\$878.9	\$35.3	\$843.6	2.1%	
2043	\$823.9	\$73.1	\$897.0	\$36.4	\$860.6	2.0%	
2044	\$840.3	\$74.3	\$914.6	\$37.6	\$877.0	1.9%	
2045	\$856.4	\$76.1	\$932.5	\$38.7	\$893.8	1.9%	
2046	\$873.0	\$77.5	\$950.5	\$39.9	\$910.6	1.9%	
2047	\$889.3	\$79.4	\$968.7	\$40.7	\$928.0	1.9%	
2048	\$905.7	\$81.6	\$987.3	\$41.9	\$945.4	1.9%	

Fiscal Year	Compound Annual Average Growth Rate (CAAGR)				
2010 - 2018	6.4%	50.3%	7.2%	7.1%	7.2%
2018 - 2028	3.2%	6.1%	3.4%	2.9%	3.4%
2028 - 2038	2.3%	2.7%	2.4%	3.6%	2.3%
2038 - 2048	2.0%	2.4%	2.0%	3.1%	2.0%

Notes:

A - Systemwide toll rate adjustments.

B - CFX Board adopted "Customer First" toll policy on February 9, 2017, implemented with Systemwide increase of 2.05% on July 1, 2018 (FY 2019). Further adjustments (estimated at 1.5%) are included at the beginning of all subsequent fiscal years.

C - Adjustment for completion of I-4 Ultimate.

D - **Paid In-Lane Revenue** is provided and audited by CFX. System paid in-lane revenue may not equal the sum of paid in-lane revenue by plaza group, presented in Table 1-11 due to rounding and end-of-year adjustments. The adjustments occur periodically throughout the fiscal year and are not tied to the collected revenue of any particular plaza group.

E - **PBP Revenue** is the revenue collected through the "Pay By Plate" process, which involves identifying the customer license plate and mailing an invoice to their home. This revenue is not collected in the toll lanes. There has been a dramatic increase in the proportion of revenue collected through PBP. In FY 2010, PBP revenue was less than 1% of the revenue collected in-lane; in FY 2018, PBP revenue was 5.7% of the in-lane revenue; in FY 2019, the PBP revenue is forecasted to be nearly 10% of the in-lane revenue; these long-term forecasts maintain PBP revenue as just under 9% of the in-lane revenue.

F - CFX operates three Discount Programs. On May 2016 CFX replaced an earlier frequent-user discount program with the **Customer Loyalty Discount Program** which provides a 10 percent discount to E-PASS customers with at least 40 transactions in a month and a 15 percent discount to E-PASS customers with at least 80 transactions per month. The **Beltway Discount Program**, instituted in FY 2016 for the six-year period coinciding with construction of the I-4 Ultimate, provides an additional 5 percent discount to customers with 20 or more transactions per month on the CFX "beltway" facilities (SR 417, SR 429 and SR 414). This discount program has been extended one more year in these estimates. The **Regional School Bus Discount Program**, which began on February 1, 2016, provides a 99 percent discount to school buses from Orange, Brevard, Lake, Osceola, Polk, Seminole and Volusia Counties transporting students on official school business on CFX facilities. All discounts will only be offered during months when actual total revenue exceeds the current revenue projections by more than 2.0 percent. Historical information on the E-PASS discount comes from the 2018 CAFR.

Construction of the Goldenrod Road Extension began in January 2001 and was opened to traffic in March 2003. This project was jointly funded by CFX, Orange County, the City of Orlando, GOAA and private developers, with CFX serving as the lead agency on the project. The Goldenrod Road Extension is tolled at one location. A mainline plaza, with a toll of \$0.50 is located north of the interchange with S.R. 528. Revenues generated by the toll on the Goldenrod Road Extension are not included as part of CFX's System revenues. Revenues generated by this non-System roadway are not pledged as part of the System revenues available for debt service. Such revenues will be used to repay funds used by the partners for the construction of the roadway as well as the continued operations and maintenance expenses. According to the agreements between the project's partners, once toll revenues have paid for project costs (including toll operations and maintenance), the toll plaza will be removed, and the City of Orlando will assume ownership of the roadway.

1.8 Disclaimer

CDM Smith used currently-accepted professional practices and procedures in the development of these traffic and revenue estimates. However, as with any forecast, it should be understood that differences between forecasted and actual results may occur, as caused by events and circumstances beyond the control of the forecasters. In formulating the estimates, CDM Smith reasonably relied upon the accuracy and completeness of information provided (both written and oral) by CFX. CDM Smith also relied upon the reasonable assurances of other independent parties and is not aware of any material facts that would make such information misleading.

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

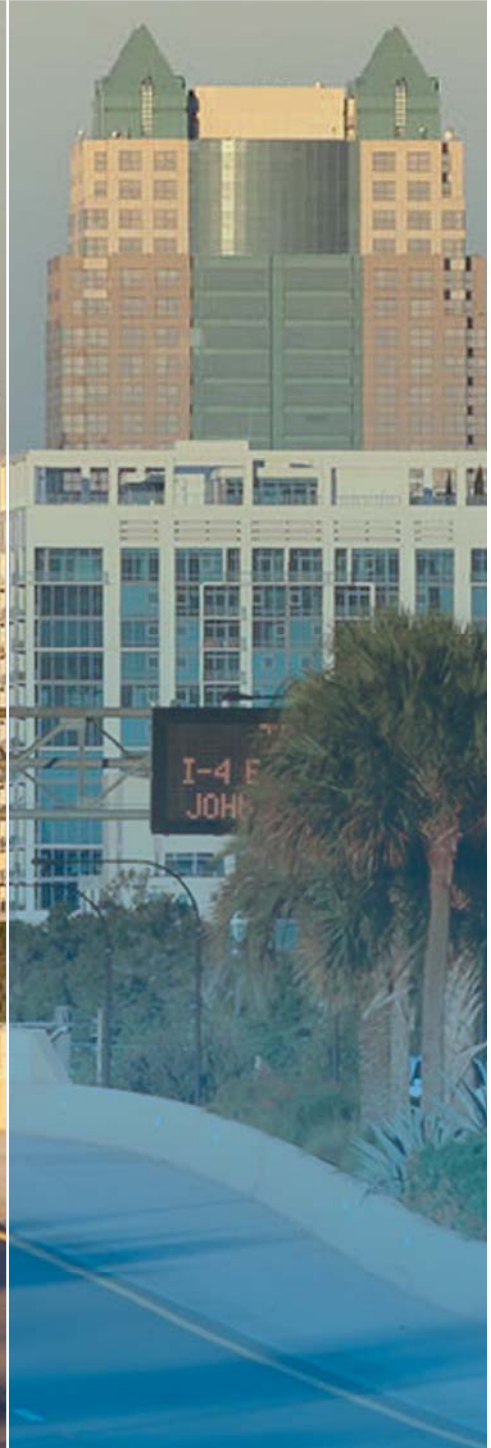
All estimates and projections reported herein are based on CDM Smith's experience and judgment and on a review of information obtained from multiple agencies, including CFX. These estimates and projections may not be indicative of actual or future values and are therefore subject to substantial uncertainty.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

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

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

Chapter 2

Economic Indicators



ECONOMIC INDICATORS

Regional travel demand is driven in part by the levels, growth rates, and location of socioeconomic activity, such as population, housing, employment, retail sales and tourism. Socioeconomic growth is a major factor in determining future use of toll roads. Other important factors specific to the Central Florida area include enplanement activity at the Orlando International Airport (OIA), enrollment at the University of Central Florida (UCF) and attendance at area attractions. These factors can all be fundamentally traced to underlying socioeconomic variables, so it is important to understand the socioeconomic conditions in which the CFX facilities operate. This chapter contains a review of socioeconomic factors relevant to CFX and comparative data (historical and forecast) for the counties within the study area and the State of Florida.



2.1 Population

2.1.1 HISTORICAL TRENDS

Historical population trends for the seven counties in the study area and the State of Florida from 1980 through 2017 are included in **Table 2-1**. The corresponding population compound average annual growth rates (CAAGR) for the same years are included in **Table 2-2**. Population in the study area more than doubled since 1980 from approximately 1.7 million to over 4.3 million in 2017, or equivalent to a growth rate of 2.6 percent per year. Long-term historical population growth decelerated from 3.8 percent per year in the 1980s to 2.2 percent per year between 2000 and 2010, and 2.0 percent since 2010. Since 1980, Osceola County was the fastest growing county in the study area, with average growth of 5.5 percent per year. Volusia County experienced the slowest relative growth of 2.0 percent per year from 1980 to 2017. Nearly one third of the study area population is in Orange County, which is home to over 1.3 million residents. The State's total population grew from 9.7 million in 1980 to nearly 21.0 million in 2017, or an increase of 2.1 percent per year on average. Historically, population growth in the study area has outpaced the State of Florida over the last three decades. The rates of growth in each county and for the State have gradually declined over this period.

Table 2-1
Population – Historical Trend
1980 – 2017

County	1980	1990	2000	2010	2017
Brevard	272,959	398,978	476,230	543,376	589,162
Lake	104,870	152,104	210,528	297,052	346,017
Orange	470,865	677,491	896,344	1,145,956	1,348,975
Osceola	49,287	107,728	172,493	268,685	352,180
Polk	321,652	405,382	483,924	602,095	686,483
Seminole	179,752	287,529	365,196	422,718	462,659
Volusia	258,762	370,712	443,343	494,593	538,692
Area Total	1,658,147	2,399,924	3,048,058	3,774,475	4,324,168
Florida	9,746,961	12,937,926	15,982,378	18,801,310	20,984,400

Source: U.S. Census Bureau

Table 2-2
Population – Historical Growth Rates (CAAGR)
1980 – 2017

County	1980-'90	1990-'00	2000-'10	2010-'17	1980-'17
Brevard	3.9%	1.8%	1.3%	1.2%	2.1%
Lake	3.8%	3.3%	3.5%	2.2%	3.3%
Orange	3.7%	2.8%	2.5%	2.4%	2.9%
Osceola	8.1%	4.8%	4.5%	3.9%	5.5%
Polk	2.3%	1.8%	2.2%	1.9%	2.1%
Seminole	4.8%	2.4%	1.5%	1.3%	2.6%
Volusia	3.7%	1.8%	1.1%	1.2%	2.0%
Area Total	3.8%	2.4%	2.2%	2.0%	2.6%
Florida	2.9%	2.1%	1.6%	1.6%	2.1%

Source: U.S. Census Bureau

School enrollment is an additional indicator of activity in Central Florida. **Table 2-3** summarizes school enrollment by year and county in the study area, including the total percent change and CAAGR. School enrollment in Osceola County experienced the most growth since 2009 at an average pace of 3.1 percent annually. School enrollment was essentially unchanged in the last decade in Brevard and Volusia Counties (0.2 percent per year). Overall, school enrollment in the study area grew 1.4 percent per year on average since 2009. These numbers are not directly comparable to total population due to the number of families in the study area without school-age children.

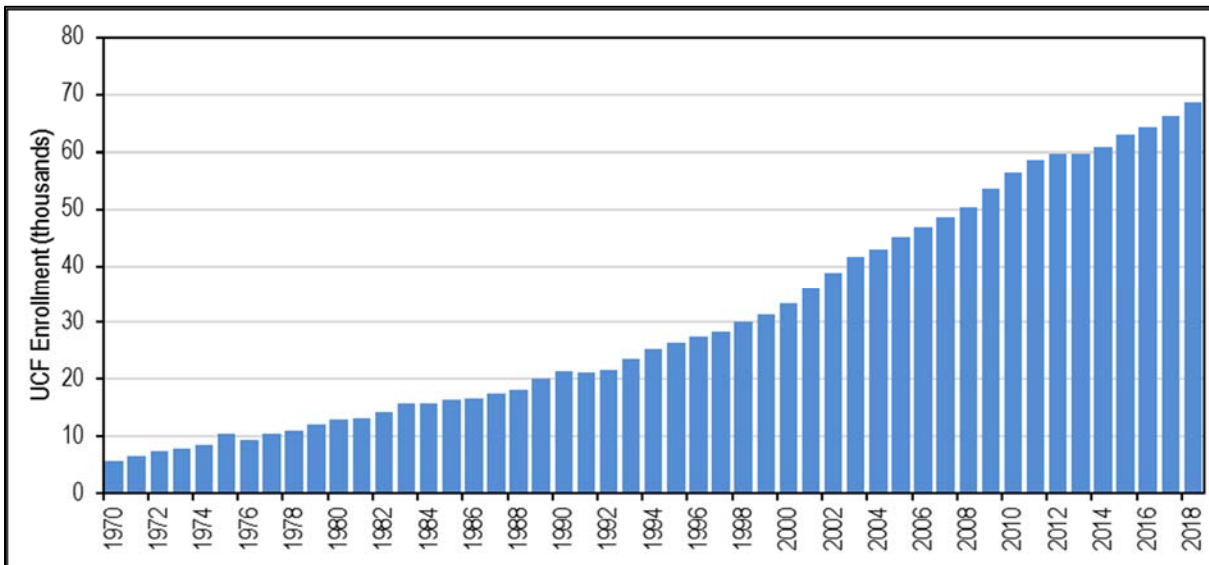
Table 2-3
Historical School Enrollment by County
2009 – 2018

County	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2009-'18 % Δ	2009-18 CAAGR
Brevard	72,402	71,866	71,786	71,217	71,234	72,285	72,704	73,446	73,524	73,734	1.8%	0.2%
Lake	41,099	41,110	41,315	41,478	41,789	42,152	42,462	42,516	43,174	43,947	6.9%	0.7%
Orange	173,021	175,986	179,989	183,021	187,092	191,648	196,951	200,667	204,837	209,114	20.9%	2.1%
Osceola	52,142	53,466	54,776	56,369	58,203	59,320	61,893	63,023	65,982	68,561	31.5%	3.1%
Polk	94,577	95,178	96,034	96,943	97,957	99,723	101,635	102,318	104,136	105,673	11.7%	1.2%
Seminole	64,460	64,228	64,335	64,368	64,846	66,134	66,996	67,816	67,915	68,289	5.9%	0.6%
Volusia	62,329	61,559	61,524	61,054	61,237	61,777	62,928	63,100	62,977	63,249	1.5%	0.2%
Area Total	560,030	563,393	569,759	574,450	582,358	593,039	605,569	612,886	622,545	632,567	13.0%	1.4%

Source: Florida Department of Education

UCF opened in 1968 with fewer than 2,000 enrolled students. As shown in **Figure 2-1**, annual enrollment increased over the years to become a large-scale university, with over 68,000 students in 2018. Long-term annual growth averaged 4.5 percent per year from 1980 to 2018, due to opening of new programs, campus facilities and the increasing number of transfer students. While the enrollment numbers are significant, many students only attend part-time. Many students attend classes on-line and for that reason may not travel to the main campus in Orlando.

**Figure 2-1
Historical UCF Enrollment
1980 – 2018**



Source: University of Central Florida (UCF)

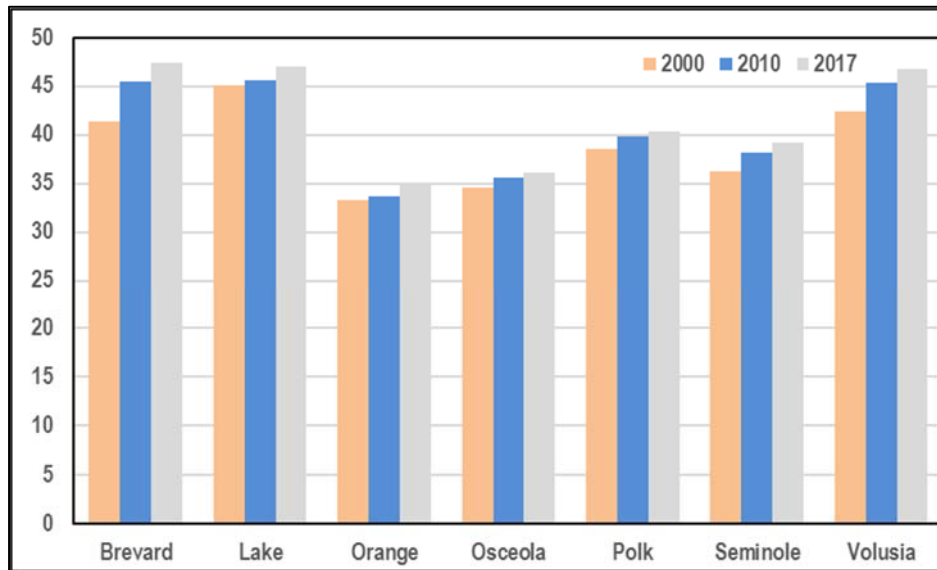
A comparison of the age distributions of study area population in 2000, 2010, and 2017 is shown in **Table 2-4**. A majority of the 2017 population (59 percent) is made up of the working age group, ages 20 to 64, who typically make the majority of commuter and business-related trips. The previous 2000 and 2010 census years' population data reflects similar trends. The median ages for the study area counties in years 2000, 2010, and 2017 are shown in **Figure 2-2**. Brevard County has the highest median age reflecting the presence of retirement communities. Lake and Volusia Counties also have significantly older median ages than other counties in the area. All counties had a higher median age in 2010 than in 2000, and in 2017 over 2010, indicating a general aging of the population.

**Table 2-4
Historical Population by Age
2000, 2010, 2017**

Age	2000 Census		2010 Census		2017 Estimate	
	Population	Percent	Population	Percent	Population	Percent
0-4	184,700	6.1%	221,562	5.9%	241,346	5.6%
5-19	615,697	20.2%	732,041	19.4%	775,028	17.9%
20-24	185,459	6.1%	264,847	7.0%	276,867	6.4%
25-34	405,961	13.3%	473,023	12.5%	599,165	13.9%
35-44	486,110	15.9%	490,323	13.0%	537,947	12.4%
45-54	395,565	13.0%	552,868	14.6%	564,529	13.1%
55-64	289,212	9.5%	453,437	12.0%	559,172	12.9%
65-74	262,234	8.6%	318,580	8.4%	441,238	10.2%
75+	223,120	7.3%	267,794	7.1%	328,876	7.6%
Total	3,048,058	100.0%	3,774,475	100.0%	4,324,168	100.0%

Source: U.S. Census Bureau

**Figure 2-2
Median Age by County
2000, 2010, 2017**



Source: U.S. Census Bureau

2.1.2 PROJECTIONS

The University of Florida’s Bureau of Economic and Business Research (BEBR) annually prepares population forecasts within three scenarios: low, medium, and high. Medium-level BEBR population projections are typically used to develop transportation plans. **Table 2-5** is a summary of the recently-released 2018 BEBR medium forecasts. Future long-term population growth for the study area through 2040 is projected to average 1.5 percent per year, which is higher than the 1.1 percent per year projected for the State of Florida. Over the forecast period from 2017 through 2040, Osceola County is projected to experience the fastest population growth rate of 2.6 percent per year. Volusia and Brevard Counties are expected to have the lowest growth rate of only 0.8 percent per year through 2040. The growth rates decelerate over time.

**Table 2-5
Population – Projected Growth Rates (CAAGR)
2017 – 2040**

County	2017-'20	2020-'30	2030-'40	2017-'40
Brevard	1.2%	0.9%	0.6%	0.8%
Lake	2.4%	1.8%	1.3%	1.7%
Orange	2.8%	1.8%	1.2%	1.7%
Osceola	4.4%	2.9%	1.8%	2.6%
Polk	2.1%	1.5%	1.0%	1.4%
Seminole	2.2%	1.7%	1.1%	1.5%
Volusia	1.3%	0.9%	0.6%	0.8%
Area Total	2.3%	1.6%	1.1%	1.5%
Florida	1.7%	1.2%	0.8%	1.1%

Source: University of Florida Bureau of Economic and Business Research 2018

2.2 Housing Units

2.2.1 HISTORICAL TRENDS

The number of housing units is another key measure in transportation planning. As indicated in **Table 2-6**, the number of housing units in the study area expanded over 2.6 times from 700 thousand in 1980 to almost 1.9 million in 2017. Orange County has the largest concentration of housing units in the seven-county study area with nearly 536 thousand in 2017. The corresponding CAAGRs are shown in **Table 2-7** for the same years. Long-term, the number of housing units in the study area grew from 1980 to 2017 by an average of 2.7 percent per year. Historical housing unit growth slowed down from 4.4 percent per year in the 1980s to 0.9 percent per year from 2000 to 2017. This is a similar deceleration trend as population. Osceola County experienced the most housing unit growth with an average of 5.1 percent per year while Volusia County was the slowest with only 2.0 percent annual growth between 1980 and 2017. Overall, the historical housing unit growth in the study area has outpaced the growth in the State of Florida.

Table 2-6
Housing Units – Historical Trend
1980 – 2017

County	1980	1990	2000	2010	2017
Brevard	113,900	185,150	222,072	269,864	278,104
Lake	50,511	75,707	102,829	144,996	157,233
Orange	184,701	282,686	361,349	487,839	536,788
Osceola	23,825	47,959	72,293	128,170	148,901
Polk	134,873	186,225	226,376	281,214	295,126
Seminole	68,154	117,841	147,080	181,307	190,321
Volusia	124,427	180,983	211,938	254,226	260,524
Area Total	700,391	1,076,551	1,343,937	1,747,616	1,866,997
Florida	4,378,867	6,100,250	7,303,108	8,989,580	9,441,153

Source: U.S. Census Bureau

Table 2-7
Housing Units – Historical Growth Rates (CAAGR)
1980 – 2017

County	1980-'90	1990-'00	2000-'10	2010-'17	1980-'17
Brevard	5.0%	1.8%	2.0%	0.4%	2.4%
Lake	4.1%	3.1%	3.5%	1.2%	3.1%
Orange	4.3%	2.5%	3.0%	1.4%	2.9%
Osceola	7.2%	4.2%	5.9%	2.2%	5.1%
Polk	3.3%	2.0%	2.2%	0.7%	2.1%
Seminole	5.6%	2.2%	2.1%	0.7%	2.8%
Volusia	3.8%	1.6%	1.8%	0.4%	2.0%
Area Total	4.4%	2.2%	2.7%	0.9%	2.7%
Florida	3.4%	1.8%	2.1%	0.7%	2.1%

Source: U.S. Census Bureau

2.2.2 PROJECTIONS

Table 2-8 is a summary of the long-term housing growth forecasts as published by Woods & Poole.¹ The table also contains information from Fishkind Associates' recent publications for 2017 through 2040. Future long-term housing growth for the study area is projected to average 1.3 percent per year through 2040. Osceola and Lake Counties are forecasted to experience the fastest housing growth with average rates of 2.4 and 1.8 percent per year, respectively, while Polk and Volusia Counties are expected to have the slowest growth of about 0.7 percent per year. The housing unit forecasts presented here are not consistent with the BEBR population forecasts for some counties. The BEBR forecasts were used in the development of the future year single-family and multi-family housing unit control totals in the travel demand model.

Table 2-8
Housing Units – Projected Growth Rates (CAAGR)
2017 – 2040

County	2017-'20	2020-'30	2030-'40	2017-'40
Brevard	1.3%	0.8%	0.6%	0.8%
Lake	2.5%	2.0%	1.3%	1.8%
Orange	2.2%	1.8%	1.2%	1.6%
Osceola	3.1%	2.6%	1.9%	2.4%
Polk	1.2%	0.7%	0.5%	0.7%
Seminole	2.1%	1.7%	1.4%	1.6%
Volusia	1.2%	0.8%	0.5%	0.7%
Area Total	1.9%	1.4%	1.0%	1.3%
Florida	1.7%	1.2%	1.0%	1.2%

Source: Woods & Poole Economics, Inc 2018 and Fishkind Associates
*Lake, Orange, and Osceola are from Fishkind (as "dwelling units"); the Remainder are from Woods & Poole (as "households"); the area total is a weighted average.

¹ Woods & Poole does not guarantee the accuracy of this data. The use of this data and the conclusions drawn from it are solely the responsibility of the Consulting Team.

2.3 Employment

2.3.1 HISTORICAL TRENDS

The employment numbers presented below in **Table 2-9** and **Table 2-10** come from the Bureau of Economic Analysis (BEA). Orange County dominates the regional employment base with 43.8 percent of the seven-county total. Long-term employment growth in the study area averaged 3.0 percent per year since 1980. Growth was strong between 1980 and 1990 at 4.7 percent per year but decelerated between 2000 and 2010 to only 1.4 percent per year, with strongest growth rates in Osceola and Lake Counties for those years. Since 2010, employment growth increased to 3.1 percent per year, with Osceola County averaging the strongest growth of 4.7 percent per year. Historically, the study area employment base growth outpaced the State of Florida by an average of approximately 0.4 percent per year.

Table 2-9
Total Employment – Historical Trend
1980 – 2017

County	1980	1990	2000	2010	2017
Brevard	129,188	202,232	242,242	256,563	287,251
Lake	46,281	58,326	86,262	113,201	139,534
Orange	291,166	516,943	735,778	822,557	1,069,752
Osceola	19,483	43,173	63,733	101,338	139,892
Polk	156,846	194,693	234,563	255,704	294,603
Seminole	61,621	121,188	186,045	217,211	267,788
Volusia	105,796	146,833	177,888	211,634	243,522
Area Total	810,381	1,283,388	1,726,511	1,978,208	2,442,342
Florida	4,687,521	6,740,289	8,880,711	9,805,154	11,912,889

Source: Bureau of Economic Analysis

Table 2-10
Total Employment – Historical Growth Rates (CAAGR)
1980 – 2017

County	1980-'90	1990-'00	2000-'10	2010-'17	1980-'17
Brevard	4.6%	1.8%	0.6%	1.6%	2.2%
Lake	2.3%	4.0%	2.8%	3.0%	3.0%
Orange	5.9%	3.6%	1.1%	3.8%	3.6%
Osceola	8.3%	4.0%	4.7%	4.7%	5.5%
Polk	2.2%	1.9%	0.9%	2.0%	1.7%
Seminole	7.0%	4.4%	1.6%	3.0%	4.1%
Volusia	3.3%	1.9%	1.8%	2.0%	2.3%
Area Total	4.7%	3.0%	1.4%	3.1%	3.0%
Florida	3.7%	2.8%	1.0%	2.8%	2.6%

Source: Bureau of Economic Analysis

2.3.2 PROJECTIONS

Employment in the study area is projected to grow by an average of 1.5 percent per year through 2050 as shown in **Table 2-11**, which is the same as forecast statewide growth. Osceola County's total employment is forecasted to increase the fastest at 2.4 percent per year while Brevard County is forecasted with the slowest annual growth of 1.1 percent through 2050.

Table 2-11
Total Employment – Projected Growth Rates (CAAGR)
2017 – 2050

County	2017-'20	2020-'30	2030-'40	2040-'50	2017-'50
Brevard	1.8%	1.4%	1.0%	0.7%	1.1%
Lake	3.0%	2.6%	1.9%	1.3%	2.0%
Orange	2.2%	1.8%	1.4%	1.2%	1.5%
Osceola	3.0%	2.6%	2.3%	2.1%	2.4%
Polk	2.1%	1.5%	1.0%	0.7%	1.2%
Seminole	2.6%	2.2%	1.8%	1.6%	1.9%
Volusia	1.8%	1.5%	1.1%	0.8%	1.2%
Area Total	2.2%	1.8%	1.4%	1.2%	1.5%
Florida	2.1%	1.7%	1.4%	1.2%	1.5%

Source: Woods & Poole Economics, Inc., 2018

Table 2-12 shows the employment projections by major sector (industrial, commercial, and service industries). Future long-term employment growth for the study area is projected to average 1.1 percent per year for the industrial sector, 1.4 percent per year for the commercial sector and 1.7 percent per year for the service sector through 2050. Growth in jobs in the commercial and service sectors reflects the strength of the Central Florida tourism industry. The industrial sector is expected to experience slower long-term growth.

Table 2-12
Employment by Sector – Projected Growth Rates (CAAGR)
2017 – 2050

Area	2017-'20	2020-'30	2030-'40	2040-'50	2017-'50
Industrial	2.6%	1.0%	0.7%	1.0%	1.1%
Commercial	2.4%	1.5%	1.3%	1.0%	1.4%
Service	2.1%	2.0%	1.6%	1.3%	1.7%

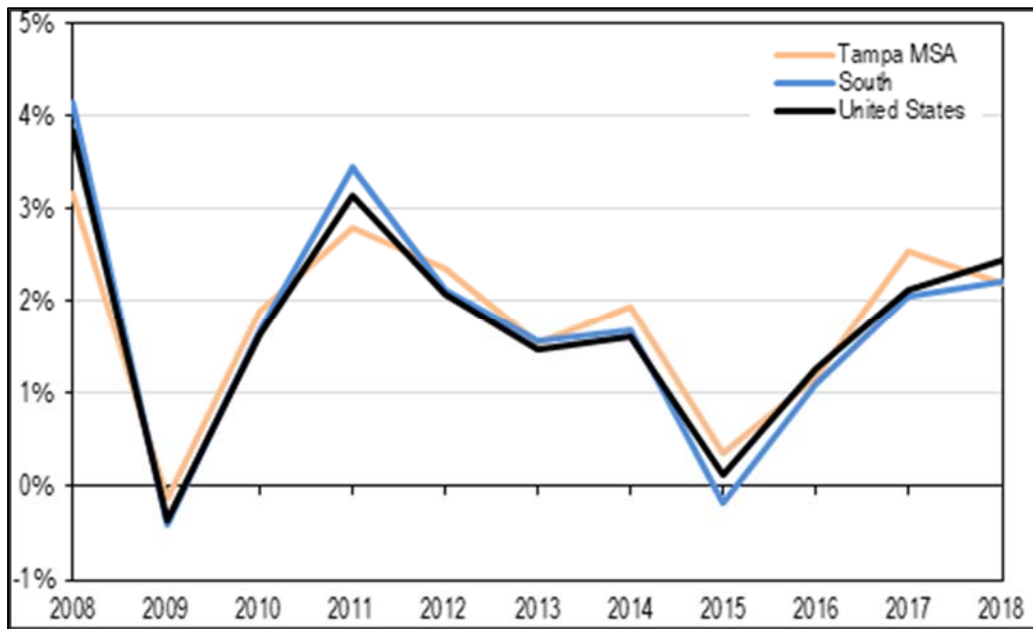
Source: Woods & Poole Economics, Inc., 2018

2.4 Consumer Price Index and Income

2.4.1 CONSUMER PRICE INDEX

The Consumer Price Index (CPI) measures the national average price of an average basket of goods and services compared to a fixed base period (indexing) – changes in the CPI are a measure of price inflation. The historical year-over-year change in the CPI, or annual inflation, for 2008 through 2018 is shown in **Figure 2-3**. In 2009, annual deflation occurred for the first time since 1955 due to the start of the severe global recession, the Great Recession. Since 2009, inflation resumed, albeit at a slower pace than historically, hovering around 2.0 per year, including almost no price increases in 2015 over the prior year. Inflation decelerated from 2011 to 2015; however, inflation accelerated slightly since. Other indices reported are for the Tampa MSA (note that Orlando MSA is not separately tracked by the BLS) and the South Region (Southeastern U.S. States), which generally trend closely with national price changes.

Figure 2-3
Change in Consumer Price Index (CPI)



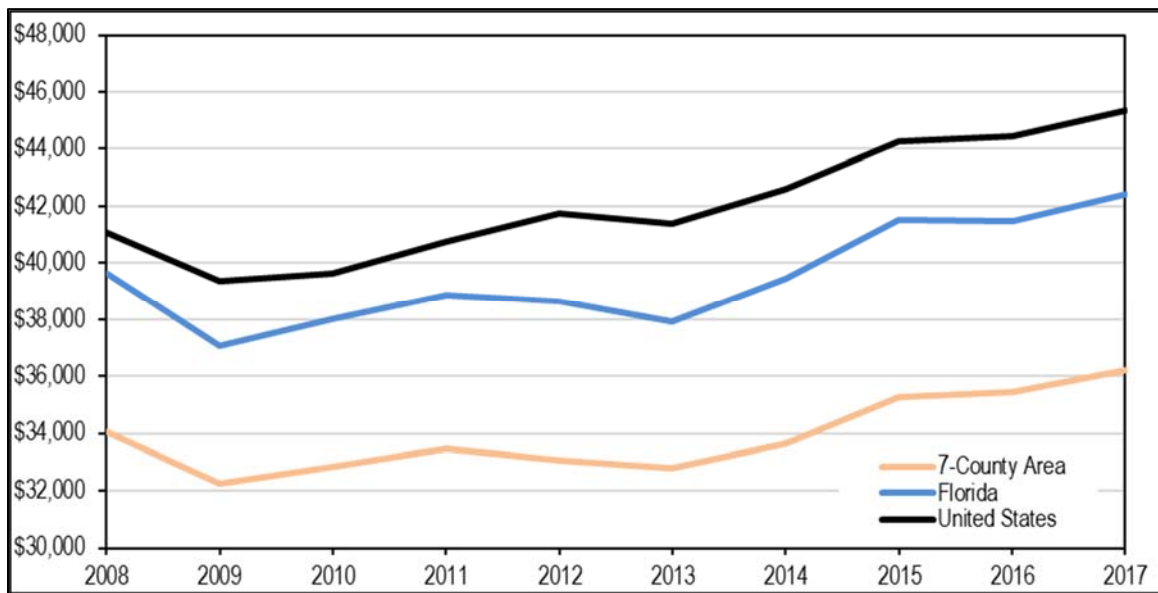
Source: Bureau of Labor Statistics

2.4.2 INCOME

Travel demand is sensitive to, among other things, the amount of disposable income available to households. A reliable indicator of an individual's propensity to pay tolls in exchange for travel time savings on other toll-free alternatives is their personal income. This is a key input into the assessment of the value of time, as there are typically relationships between income, value of time and the motorists' willingness to pay tolls.

The historical ten-year real per capita income trend since 2008 for the U.S., Florida, and the seven-county study area are shown in **Figure 2-4**. The levels of real personal income per capita for Florida and the seven-county study area are steadily rebounding from their recession decline in 2009 with CAAGRs from 2009 through 2017 of 1.5 and 1.7 percent per year, respectively. Real personal income per capita for the U.S. grew 1.8 percent per year since the recession, between 2009 and 2017.

Figure 2-4
Total Real Personal Income Per Capita: 2008 - 2017
(2009 Dollars)

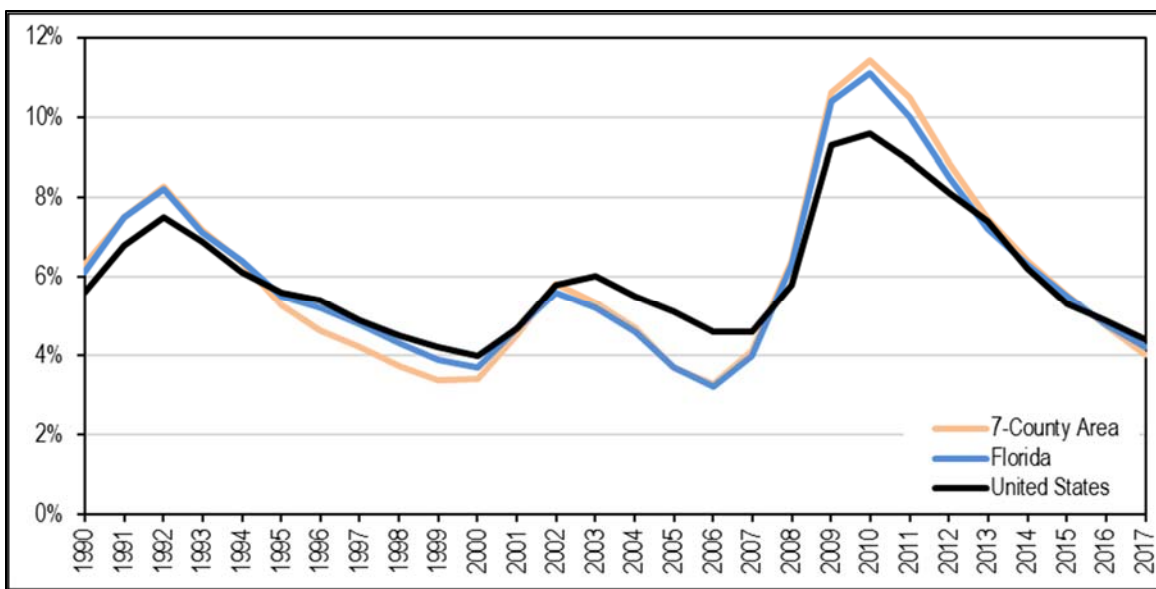


Source: Woods and Poole Economics, Inc., 2018

2.5 Unemployment

The unemployment rate in the study area had been traditionally lower than in other parts of the State and lower than the national rates since 1994. However, in 2008 the study area had an unemployment rate of 6.4 percent, which was higher than the United States rate for the first time in fifteen years. Between 2009 and 2012, the unemployment rate in the study area exceeded the unemployment rates in both Florida and the United States. **Figure 2-5** shows the historical unemployment rates for the study area, Florida, and the United States from 1990 through 2017. The study area's unemployment rate has ranged from a low of 3.3 percent in 2006 to a high of 11.4 percent in 2010. In 2017 the study area unemployment rate decreased again to an average of 4.0 percent, and once again lower than the national average of 4.4 percent. The study area's unemployment rate has historically been quite close to the Florida average, which also had an unemployment rate of 4.2 percent in 2017.

Figure 2-5
Historical Unemployment Rate Comparison
1990 – 2017



Source: Bureau of Labor Statistics

2.6 Regional Tourism

As shown in **Table 2-13**, Orlando hosted a record 72 million visitors in 2017, which was an increase of 5.9 percent over the 68.0 million visitors in 2016. Year 2017 was the first year that the total number of visitors to Orlando topped 70 million. Tourism stagnated after the September 11th terrorist attacks, and tepid during the recession, but increased every year since 2009. International tourists historically grew faster than domestic tourists to the region, with a 7.0 and 4.2 percent CAAGR, respectively, since 2008.

Table 2-13
Tourism – Orlando Visitors (Millions)
2008 – 2017

Visitors	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2008-'17 CAAGR
Domestic	45.5	43.3	47.8	51.4	52.9	54.4	57.4	60.6	62.3	65.9	4.2%
International	3.3	3.3	3.7	3.8	4.3	4.9	5.4	5.9	5.7	6.2	7.0%
Total	48.9	46.6	51.5	55.2	57.2	59.3	62.8	66.5	68.0	72.0	4.4%

Source: Visit Orlando

In 2017, the Metro Orlando area hotel occupancy rate was 79.3 percent, an increase of 3.8 percent from 2016. Data is shown in **Table 2-14**. The 2017 average daily room rate was \$121.53, which was a 4.8 percent increase over 2016. The majority of these lodging units are concentrated around Walt Disney World, International Drive (near Universal Studios, SeaWorld, and the Orange County Convention Center), and in the Kissimmee area.

Table 2-14
Metro Orlando Area Lodging
2008 – 2017

Metro Orlando	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Occupancy Rate	65.8%	59.5%	63.9%	67.6%	68.8%	71.0%	71.9%	77.0%	75.5%	79.3%
Average Daily Rate	\$105.83	\$93.34	\$90.76	\$94.11	\$96.88	\$101.53	\$107.26	\$112.00	\$116.00	\$121.53
Room-Night Demand (millions)	26.9	24.3	26.7	28.5	29.3	30.1	N/A*	33.0	33.0	34.7

*2014 room night demand not available at the time of report preparation.

Source: Visit Orlando

The historical and projected enplanements, or boardings, for the Orlando International Airport (OIA) are shown in **Table 2-15** and **Table 2-16**. OIA had an increase of over 6 million enplanements from 1990 to 2000, a decade increase of over 69 percent. Enplanements totaled 21.3 million for 2017, 45.0 percent above the 2000 total. Since 1990, total enplanements at OIA have almost tripled, with a 3.4 percent per year growth rate. The United States Department of Transportation Federal Aviation Administration (FAA) forecasts that OIA enplanements will grow by an average of 2.4 percent per year through 2040. Enplanements are an indicator of tourism and economic growth.

Table 2-15
Historical OIA Enplanements
1990 – 2017

	1990	2000	2010	2017
Enplanements	8,683,491	14,683,594	16,651,359	21,298,034

Source: Federal Aviation Administration Terminal Area Forecasts

Table 2-16
Projected Growth in OIA Enplanements
2017 - 2040

	2017-'20	2020-'30	2030-'40	2017-'40
Enplanements	4.4%	2.2%	2.0%	2.4%

Source: Federal Aviation Administration Terminal Area Forecasts

Metropolitan Orlando is home to several of the largest theme parks in the nation, which will continue to contribute to the growth in Central Florida. This growth is due to new and future attractions that these theme parks have planned to attract tourists to the area. Downtown Disney has been transformed into Disney Springs with new shopping, dining and entertainment choices which were opened in phases beginning in 2015. The grand opening of Disney Springs took place in July 2016; however, many new restaurants were added in 2018. Disney also opened Pandora - the World of Avatar at Animal Kingdom in 2017 and Toy Story Land at Magic Kingdom in summer 2018. Universal opened Volcano Bay water theme park in 2017. Several new projects opened in 2018 at Universal Studios including a ride based on the Fast & Furious and the new Aventura Hotel. Universal Studios is also planning to open its first two value-priced hotels at the new Endless Summer Resort. The two new hotels include the Surfside Inn and Suites, scheduled to open in Summer 2019, and the Dockside Inn and Suites, scheduled to open in 2020.

As shown in **Table 2-17**, the Magic Kingdom attracted an estimated 20.5 million visitors in 2017, which had the highest attendance of all Orlando-area theme parks. Universal Studios at Universal Orlando had the highest recent growth with a 10.5 percent average annual increase in attendance compared to 2012. SeaWorld exhibited a serial year-over-year decline, averaging -5.9% per year. Wet 'n Wild closed at the end of 2016 and was redeveloped into Volcano Bay, opening in mid-2017.

Table 2-17
Central Florida Attraction Attendance
2012- 2017 (Millions)

Theme Parks	2012	2013	2014	2015	2016	2017	2012-'17
Disney's Magic Kingdom	17.5	18.6	19.3	20.5	20.4	20.5	3.1%
Disney's Epcot Center	11.1	11.2	11.5	11.8	11.7	12.2	2.0%
Disney's Animal Kingdom	10.0	10.2	10.4	10.9	10.8	12.5	4.6%
Disney's Hollywood Studios	9.9	10.1	10.3	10.8	10.8	10.7	1.6%
Islands of Adventure at Universal Orlando	8.0	8.1	8.1	8.8	9.4	9.5	3.7%
Universal Studios at Universal Orlando	6.2	7.1	8.3	9.6	10.0	10.2	10.5%
Seaworld Orlando	5.4	5.1	4.7	4.8	4.4	4.0	-5.9%
Water Parks							
Typhoon Lagoon	2.1	2.1	2.2	2.3	2.3	2.3	1.5%
Blizzard Beach	1.9	2.0	2.0	2.1	2.1	1.9	0.2%
Aquatica	1.5	1.6	1.6	1.6	1.5	1.4	-2.0%
Wet 'n Wild	1.2	1.3	1.3	1.3	1.3	Closed	#N/A

Source: Visit Orlando – Themed Entertainment Association (TEA) and AECOM.

2.7 Fuel Prices

Figure 2-6 contains regular grade weekly retail gasoline prices for Florida from July 2013 through December 2018 (FY 2014 – FY 2018, plus remainder of CY 2018). From July 2013 through June 2014, gasoline prices fluctuated within a relatively narrow range around \$3.50 per gallon. Beginning October 2014, however, motor fuel prices began a noticeable decline. Since March 2016, prices started to increase slightly to \$2.79 at the beginning of October 2018. However, since then, average prices declined to \$2.26 in mid-December. Based on current forecasts from the U.S. Energy Information Administration, underlying near term price forecasts are expected to remain low. This should prove positive to current trends in strong passenger car and commercial vehicle traffic growth on CFX facilities.

Figure 2-6
Average Retail Fuel Prices – Florida (Regular Grade/Gallon)
FY 2014– December 2018



Source: U.S. Energy Information Administration

Chapter 3

S.R. 528

(Martin B. Andersen Beachline Expressway)



S.R. 528 (MARTIN B. ANDERSEN BEACHLINE EXPRESSWAY)

3.1 Facility Description

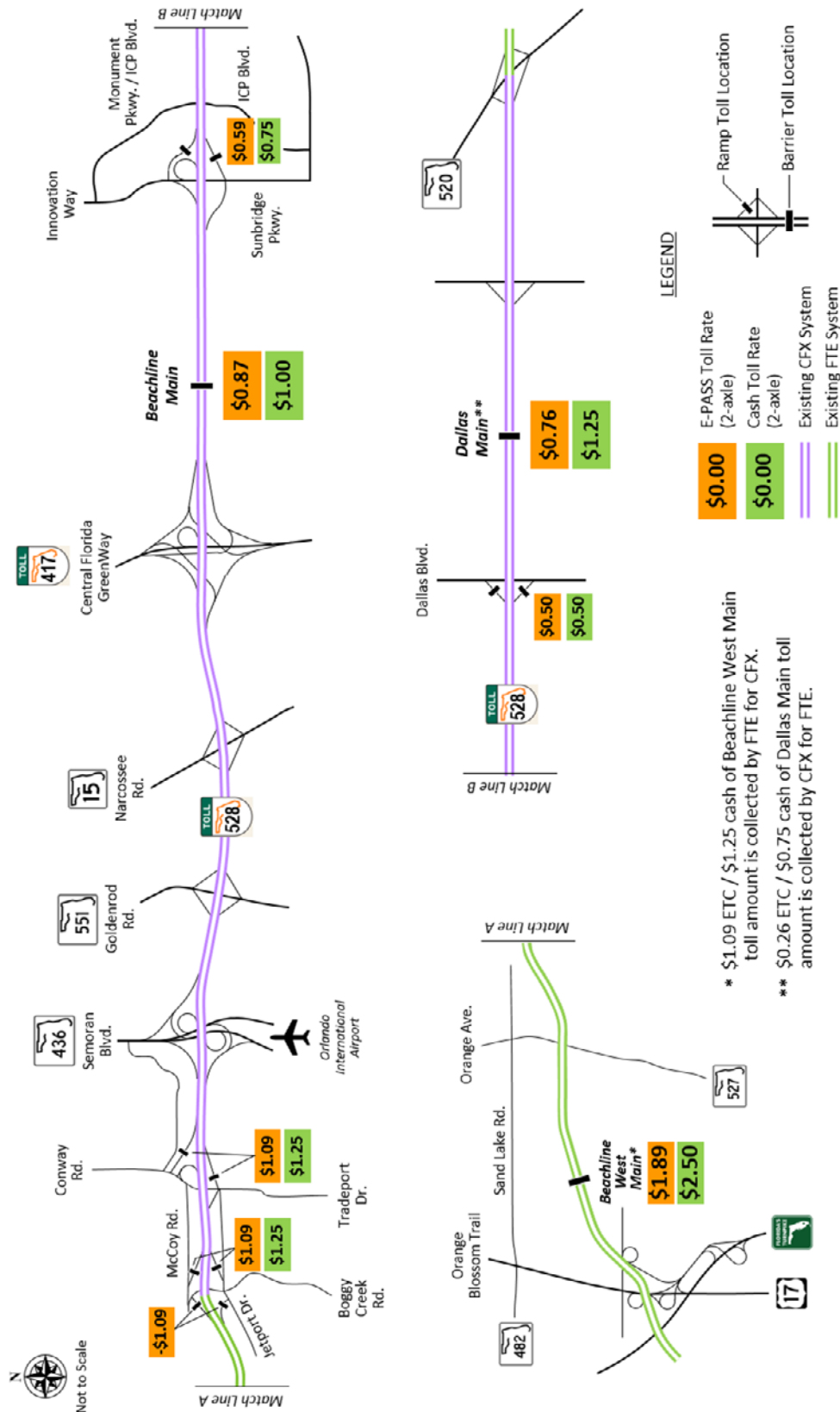
S. R. 528, also known as the Martin B. Andersen Beachline Expressway, is a 41-mile expressway that extends east from Interstate 4 (I-4) in the International Drive resort area to U.S. Highway 1 in the Brevard County coastal area near the Atlantic Ocean. The Beachline Expressway is owned, maintained and operated by two agencies, CFX and FTE. CFX is responsible for the 23-mile portion of S.R. 528 from Boggy Creek Road/Sand Lake Road east to S.R. 520 with three mainline plaza groups including the Airport Main, Beachline Main and Dallas Main. Ramp tolls are located at the Boggy Creek Road/McCoy Road ramps to/from the east, the Conway Road/Tradeport Drive ramps to/from the east, the Dallas Boulevard ramps to/from the west, and the Innovation Way interchange to/from the east. FTE is responsible for the 8-mile segment of S.R. 528 from I-4 east to Boggy Creek Road known as the Beachline West Expressway with one mainline toll plaza. FTE is also responsible for the 15-mile portion of S.R. 528 from S.R. 520 east to Interstate 95 known as the Beachline East Expressway. A map of the CFX portion of S.R. 528 including the FY 2018 toll rates for the mainline and ramp toll plazas is shown in **Figure 3-1**.



The original segment of S.R. 528 opened in 1967 as the Bee Line Expressway, providing a direct route from Orlando to the Space Coast. In July 1983, the segment of S.R. 528 from McCoy Road to S.R. 436/Semoran Boulevard was upgraded to a limited-access expressway, the Airport Main plaza was added, and the Airport Interchange was opened to traffic. The Airport Interchange connects the Orlando International Airport (OIA) with S.R. 528 and with S.R. 436. This 2.6-mile segment is a six-lane, limited-access expressway with frontage roads extending from an interchange with Boggy Creek Road to the Airport interchange. S.R. 528 remained the only limited-access route into OIA until the south access road at Boggy Creek Road and John Young Parkway sections of S.R. 417 opened in July 1993.

In July 2009, the S.R. 528 Beachline Main plaza was converted to the express lane configuration. The express lanes allow electronic customers to continue through the mainline toll collection point at highway speeds without having to stop or slow down. Automatic coin and manual cash customers are diverted off the roadway to an adjacent traditional toll plaza and are required to merge back into traffic after paying the toll. This provides a more efficient means of toll collection, greatly reducing delays to customers and increasing throughput at the toll plaza.

**Figure 3-1
S.R. 528 Facilities and Toll Rates**



In May 2010, a roadway connection called Monument Parkway was completed between the S.R. 528/International Corporate Park (ICP) Interchange and the southern extension of Alafaya Trail/Innovation Way in east Orange County. This connection allowed traffic coming from Innovation Way to access S.R. 528 via the ICP interchange, which reduced travel times to S.R. 528.

Previously, traffic on Innovation Way wanting to go south or west had no choice but to access S.R. 417 at the Curry Ford Road interchange and head south. The opening of this connection resulted in traffic diversion from the S.R. 417 Curry Ford plaza group to the S.R. 528 Beachline Main plaza. In March 2012, the Dallas Main plaza and Dallas Boulevard ramp plazas were opened to create toll equity for the traffic movements between S.R. 417 and the ICP interchange resulting from the Monument Parkway connection with Innovation Way. CFX collects \$0.26 per ETC transaction and \$0.75 per cash transaction for FTE tolls at the Dallas Main plaza.

Starting in FY 2013 and continuing, S.R. 528 was the center of discussions for creation of a super corridor with intercity passenger rail service from All Aboard Florida (now known as Virgin Trains USA, formerly Brightline) future utility needs, future expansion of S.R. 528, and possibly commuter rail. The acquisition phase of the super corridor was successfully and expeditiously completed by the end of FY 2015 through negotiated purchases with the property owners and easements in favor of Brightline Trains, whose contributions significantly offset the cost of the corridor. As for the status of intercity passenger rail, in December 2018, Brightline reported to the CFX Board that it anticipated issuing a notice to proceed in 2019 to commence construction activities. According to the easement agreements, Brightline Trains agreed to commence construction no later than January 1, 2021 and anticipated being operational by the end of 2025.

In March of 2018, an unsolicited proposal from Brightline Trains was received by the Florida Department of Transportation (FDOT) for the potential leasing of rights of way owned by FDOT and CFX for the purpose of constructing and operating intercity passenger rail service between Orlando and Tampa. The rights of way owned by CFX that were identified in the proposal include portions of State Roads 417 and 528. Pursuant to the unsolicited proposal, FDOT and CFX issued a Request for Proposals (RFP) for the leasing of rights of way for intercity passenger rail service between Orlando and Tampa. The deadline to submit proposals in response to the RFP was November 7, 2018, and no additional bids were received. FDOT granted Brightline Trains approval to negotiate with transportation agencies for rights of way leases.

Starting in November 2014, CFX began removal of the Airport Main Plaza. The removal was due to several factors including on-going concerns that S.R. 528 customers heading west from the Orlando International Airport encountered two mainline toll plazas, one being CFX's Airport Main Plaza and the other being FTE's Beachline West Main Plaza. In addition, the Airport Main Plaza was close to the S.R. 436 exit which caused operational issues for E-PASS customers having to weave across cash lanes to reach the exit. It was determined that an open road tolling plaza would not be a feasible option with the existing right-of-way at the same location. After all options were considered, CFX and FTE agreed that the best solution was to consolidate toll collection at the Beachline West Main Plaza. Beginning in March 2016, an "Interagency Toll Collection Agreement" with FTE facilitated the transfer of toll collections from the Airport Plaza to FTE's Beachline West Main Plaza. New ramp plazas were also installed at the Conway Road and Boggy Creek Road Interchanges with tolls collected to and from the east. ETC customers with

2-axle vehicles now pay a combined toll of \$1.89 at the Beachline West Toll Plaza; \$0.80 represents the FTE toll amount and \$1.11 represents the CFX toll amount. With the combined toll structure, ETC customers using the Boggy Creek Road interchange are eligible for a \$1.11 rebate when entering S.R. 528 westbound at Boggy Creek Road and passing through the Beachline West Plaza, and also when traveling eastbound on S.R. 528 passing through the Beachline West Plaza then exiting at Boggy Creek Road, because customers pay the full price at the Beachline West Plaza, but do not use CFX facilities.

In July 2016, CFX began construction of a new interchange between S.R. 528 and Innovation Way to improve connectivity to S.R. 528 in east Orange County and to accommodate the development of the Innovation Way corridor and to accommodate the Brightline train. The project included four ramps with two ramp plazas and the extension of Innovation Way to Aerospace Parkway with a connection to International Corporate Park Boulevard and the future Sunbridge Parkway. The ramp plazas feature both exact coin and E-PASS only lanes. This project also involved removal of the existing S.R. 528/ICP Boulevard interchange. The project was completed and the final ramps on the interchange opened to traffic in March 2018.

3.2 Historical Transactions and Toll Revenues

3.2.1 ANNUAL PAID IN-LANE TRANSACTION AND REVENUE TRENDS

A history of annual paid in-lane transactions at the Beachline Main, Airport Main and Dallas Main plaza groups from FY 1999 to FY 2018 are presented in the top half of **Table 3-1**. Annual paid in-lane toll revenues are also summarized and totaled in the bottom half of the table. The S.R. 528 annual paid in-lane transaction and revenue trends including annual growth are also presented visually in **Figure 3-2** and **Figure 3-3**. These historical tables do not include PBP transactions and revenues, only those that are paid in-lane. For these reasons, the information presented in this section may differ slightly from the data presented in the FY 2018 Comprehensive Annual Financial Report (CAFR) and other information in this report. As shown, total paid in-lane transactions on S.R. 528 in FY 2018 decreased slightly by 100 thousand, or 0.1 percent, compared to FY 2017. Paid in-lane revenues experienced no growth during the same period. Total facility paid in-lane transactions and revenues have increased annually over the past twenty years with only three exceptions in 2002, 2009 and 2018.

The FY 2002 decrease in paid in-lane transactions of 4.0 percent at the Airport Main plaza group was caused by the reduction of tourism travel in Florida because of the September 11th terrorist attack. Paid in-lane revenues also declined at this plaza group by 3.2 percent. The impact at the Beachline Main plaza group was less with no growth during the year.

In FY 2008, the Beachline Main plaza group experienced a decrease of 0.6 percent in paid in-lane transactions and a decrease of 1.1 percent in paid in-lane revenues. This was the first year of decline since the plaza opened and can be attributed to the start of the Great Recession.

In FY 2009, paid in-lane transactions at the Airport Main and Beachline Main plaza groups decreased by 9.2 percent and 9.0 percent, respectively. Paid in-lane revenues also declined by 2.3 percent at the Airport Main plaza group and by 6.1 percent at the Beachline Main plaza group. FY 2009 paid in-lane transactions and revenues were affected by the Great Recession and then

by the Systemwide toll rate increase. The toll rate increase in April 2009 impacted the last three months of FY 2009. Also, in FY 2009, tolls were suspended on the facility for nearly two days in August 2008 due to Tropical Storm Fay.

Paid in-lane transactions continued to decline on the Airport Main plaza group in FY 2010 by 0.8 percent due to the continued impacts of the economic recession and the toll rate increase. In FY 2010, paid in-lane revenues on the Airport Main and Beachline Main plaza groups increased significantly due to the additional revenue collected from the Systemwide toll rate increase. The toll rate increase impacted growth during the first nine months of the fiscal year. Paid in-lane transactions and revenue at the Beachline Main plaza group had a slightly higher growth rate than the Airport Main plaza group, caused by the opening of the Monument Parkway connection between Innovation Way and S.R. 528/ International Corporate Park interchange, which provided alternative access in this area of east Orange County.

In FY 2011 and FY 2012, paid in-lane transactions at both the Airport Main and Beachline Main plaza group increased compared to the prior year. In FY 2012, the Dallas Main plaza opened to traffic to create toll equity for customers on S.R. 528 by collecting the toll at two locations. At this time, tolls for 2-axle vehicles at the Beachline Main plaza were reduced from \$1.50 to \$0.75. The decrease in tolls resulted in a paid in-lane revenue decline of 11.2 percent on the Beachline Main plaza group compared to the prior year. Paid in-lane revenues also declined in FY 2013 due to the decrease in tolls. The toll previously collected on behalf of FDOT at the Beachline Main plaza also shifted to the Dallas Main plaza. The Dallas Main plaza, which opened in March 2012, collected \$2.2 million in paid in-lane revenues and reported 4.3 million paid in-lane transactions during its first three months of operation in FY 2012. Overall, S.R. 528 paid in-lane transactions would have been relatively flat in FY 2012 compared to FY 2011 without the additional transactions from this new plaza.

In FY 2013, paid in-lane transactions at the Airport Main plaza group declined by 1.4 percent, while paid in-lane revenues increased by 12.4 percent over FY 2012. This was expected due to the recent systemwide toll rate increase that went into effect on July 1, 2012 (FY 2013). The Beachline Main plaza group experienced an increase of 1.8 percent in paid in-lane transactions and decrease of 15.8 percent in paid in-lane revenues in FY 2013. As previously mentioned, tolls at the Beachline Main plaza were reduced in March 2012 along with the opening of the Dallas Main plaza. The Beachline Main plaza was also included in the FY 2013 systemwide toll rate increase. In FY 2013, paid in-lane transactions at the Dallas Main plaza increased by 237.2 percent and paid in-lane revenues increased by 243.9 percent compared to FY 2012. This can be attributed to the first full year of toll collection at this new plaza.

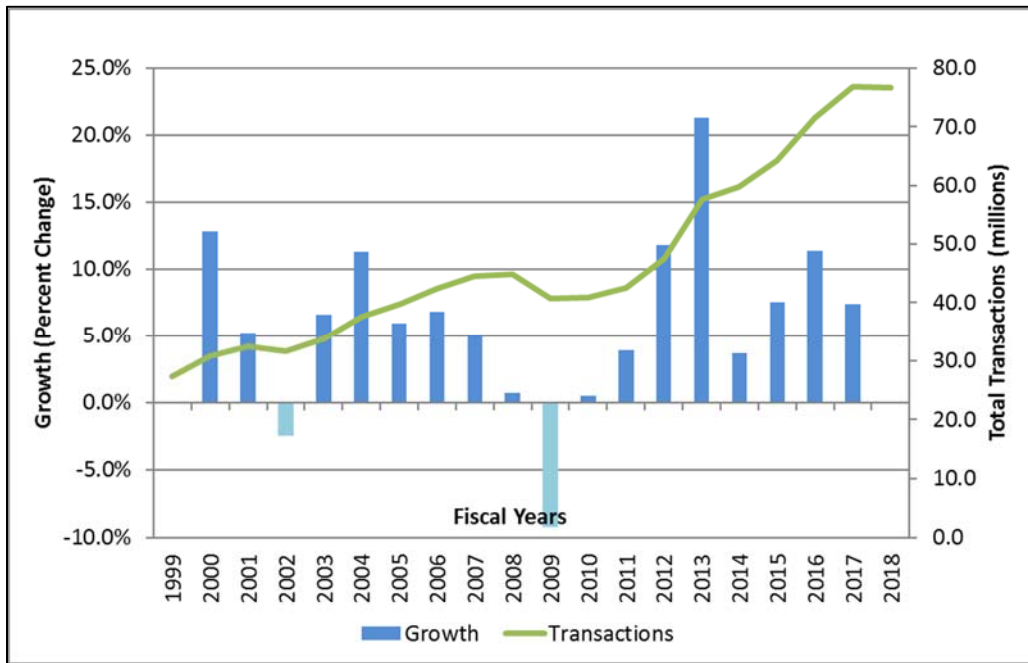
Table 3-1
S.R. 528 Plaza Groups – Historical Paid In-Lane Transactions and Revenue
FY 1999 – FY 2018

Fiscal Year	Airport Main	Beachline Main	Dallas Main	TOTAL	Airport Main	Beachline Main	Dallas Main	TOTAL
	TRANSACTIONS (millions)				PERCENT CHANGE			
1999	16.7	10.6		27.3				
2000	18.9	11.9		30.8	13.2%	12.3%		12.8%
2001	19.8	12.6		32.4	4.8%	5.9%		5.2%
2002 ^A	19.0	12.6		31.6	-4.0%	0.0%		-2.5%
2003	20.0	13.7		33.7	5.3%	8.7%		6.6%
2004	22.6	14.9		37.5	13.0%	8.8%		11.3%
2005 ^B	24.6	15.1		39.7	8.8%	1.3%		5.9%
2006	26.5	15.9		42.4	7.7%	5.3%		6.8%
2007	27.8	16.7		44.5	4.9%	5.0%		5.0%
2008 ^C	28.2	16.6		44.8	1.4%	-0.6%		0.7%
2009 ^D	25.6	15.1		40.7	-9.2%	-9.0%		-9.2%
2010 ^E	25.4	15.5		40.9	-0.8%	2.6%		0.5%
2011	26.2	16.3		42.5	3.1%	5.2%		3.9%
2012 ^F	26.8	16.4	4.3	47.5	2.3%	0.6%		11.8%
2013 ^{F,G}	26.4	16.7	14.5	57.6	-1.4%	1.8%	237.2%	21.3%
2014	27.0	17.6	15.1	59.7	2.3%	5.4%	4.1%	3.6%
2015	28.8	19.0	16.4	64.2	6.7%	8.0%	8.6%	7.5%
2016 ^H	32.6	20.9	18.0	71.5	13.2%	10.0%	9.8%	11.4%
2017 ^I	36.6	21.7	18.5	76.8	12.3%	3.8%	2.8%	7.4%
2018 ^J	36.8	21.6	18.3	76.7	0.5%	-0.5%	-1.1%	-0.1%
	TOLL REVENUES (millions)				PERCENT CHANGE			
1999	\$13.1	\$11.5		\$24.6				
2000	\$14.8	\$12.9		\$27.7	13.0%	12.2%		12.6%
2001	\$15.5	\$13.7		\$29.2	4.7%	6.2%		5.4%
2002 ^A	\$15.0	\$13.7		\$28.7	-3.2%	0.0%		-1.7%
2003	\$15.7	\$14.9		\$30.6	4.7%	8.8%		6.6%
2004	\$17.9	\$16.4		\$34.3	14.0%	10.1%		12.1%
2005 ^B	\$19.4	\$16.7		\$36.1	8.4%	1.8%		5.2%
2006	\$20.9	\$17.5		\$38.4	7.7%	4.8%		6.4%
2007	\$21.8	\$18.2		\$40.0	4.3%	4.0%		4.2%
2008 ^C	\$22.1	\$18.0		\$40.1	1.4%	-1.1%		0.3%
2009 ^D	\$21.6	\$16.9		\$38.5	-2.3%	-6.1%		-4.0%
2010 ^E	\$26.2	\$20.4		\$46.6	21.3%	20.7%		21.0%
2011	\$27.0	\$21.4		\$48.4	3.1%	4.9%		3.9%
2012 ^F	\$27.5	\$19.0	\$2.2	\$48.7	1.9%	-11.2%		0.6%
2013 ^{F,G}	\$30.9	\$16.0	\$7.6	\$54.5	12.4%	-15.8%	243.9%	11.8%
2014	\$31.6	\$16.8	\$7.9	\$56.3	2.3%	5.1%	4.4%	3.4%
2015	\$33.6	\$18.2	\$8.6	\$60.4	6.3%	8.3%	8.9%	7.3%
2016 ^H	\$37.3	\$20.0	\$9.4	\$66.7	11.0%	9.9%	9.3%	10.4%
2017 ^I	\$41.4	\$20.7	\$9.7	\$71.8	11.0%	3.5%	3.2%	7.6%
2018 ^J	\$41.6	\$20.6	\$9.6	\$71.8	0.5%	-0.5%	-1.0%	0.0%

Notes:

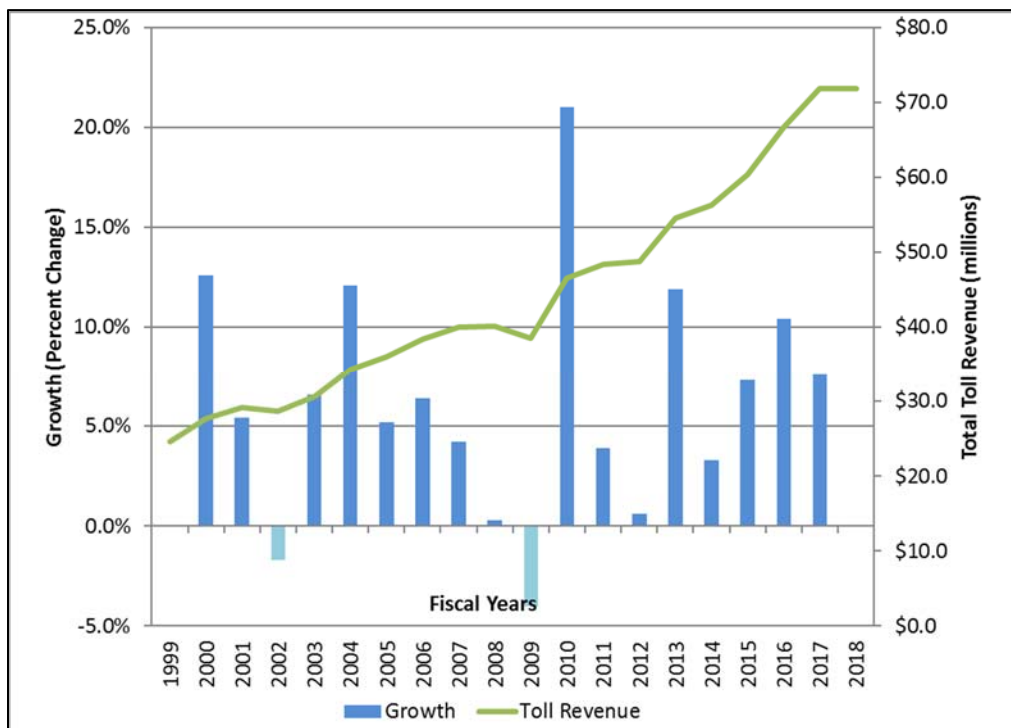
- A - Effects of the events on September 11, 2001.
- B - Effects from 2004 hurricane season (4 storms with toll suspensions).
- C - First effects of national economic recession.
- D - Systemwide toll rate increase in April 2009. Beachline Main plaza converted to open road tolling in July of 2009.
- E - Monument Parkway connection to ICP ramps opened to traffic.
- F - Dallas Main Plaza opened to traffic on March 19, 2012. Beachline Main plaza toll reduced from \$1.50 to \$0.75.
- G - Systemwide toll rate increase in July 2013. Implementation of cash and electronic toll rate differential.
- H - Airport Main Plaza stopped collecting tolls on 1/31/16. All transactions and toll revenues are from ramps or the FTE plaza.
- I - Effects from Hurricane Matthew in October 2016.
- J - Effects from Hurricane Irma in September 2017.

Figure 3-2
S.R. 528 Historical Paid In-Lane Transactions and Annual Growth
FY 1999 – FY 2018



Source: CFX Statistical Report June 2018

Figure 3-3
S.R. 528 Historical Paid In-Lane Revenue and Annual Growth
FY 1999 – FY 2018



Source: CFX Statistical Report June 2018

In FY 2014, paid in-lane transactions at the Airport Main plaza group increased by 2.3 percent and paid in-lane revenues increased by 2.3 percent compared to FY 2013. The Beachline Main plaza group paid in-lane transactions increased by 5.4 percent and paid in-lane revenues increased by 5.1 percent over FY 2013. In FY 2014, Dallas Main plaza group paid in-lane transactions increased by 4.1 percent and paid in-lane revenues increased by 4.4 percent compared to FY 2013. This growth rate is significantly reduced compared to the growth observed in FY 2013, primarily due to the fact that FY 2013 was the first full year of transactions and toll revenues at the Dallas Main plaza group. All plaza groups experienced significant growth again in FY 2015.

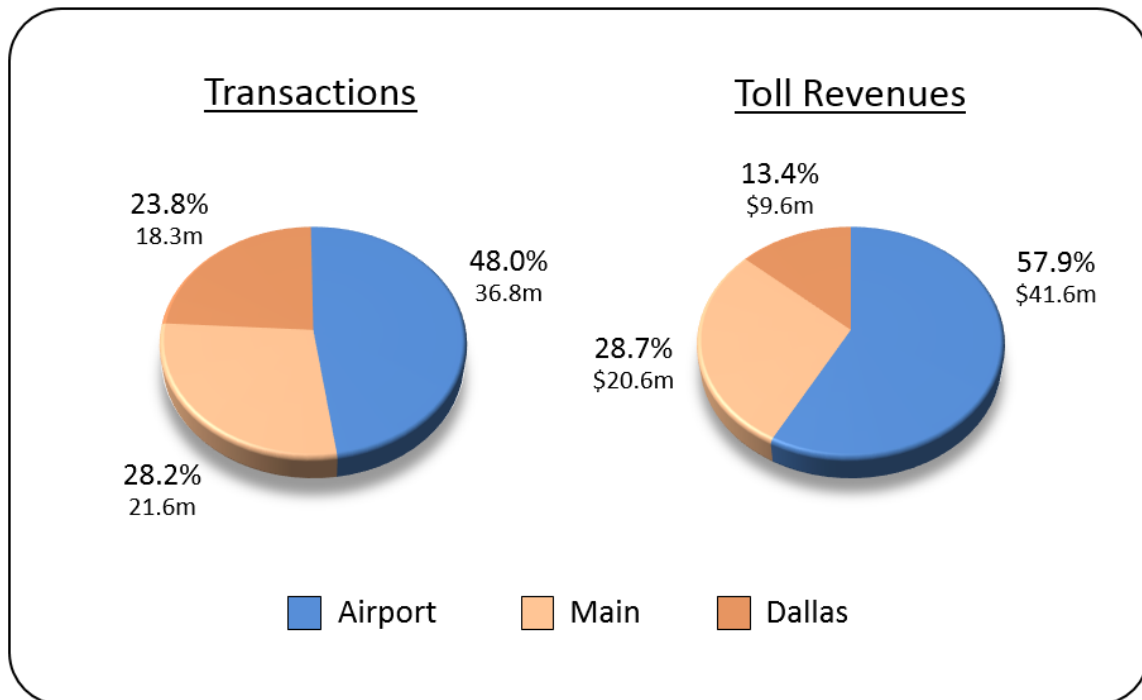
In FY 2016, the Airport Main plaza group paid in-lane transactions increased by 13.2 percent; Beachline Main plaza group paid in-lane transactions increased by 10.0 percent; and Dallas Main plaza group paid in-lane transactions increased by 9.8 percent over FY 2015. Over the same period, the Airport Main plaza paid in-lane revenues increased by 11.0 percent, Beachline Main plaza group paid in-lane revenues increased by 9.9 percent; and Dallas Main plaza group paid in-lane revenues increased by 9.3 percent over FY 2015. 2016 was a leap year so February 2016 included an extra day of transactions and toll revenue collection compared to February 2015. Part of the increase at the Airport Main Plaza group is due to the change in the toll plan, or addition of the Bogy Creek Road and Conway Road ramp plazas, as a result of the mainline plaza removal. Transactions at the FTE Beachline West Main Plaza are included as part of the Airport Main Plaza group.

In October 2016 (FY 2017), Hurricane Matthew tracked parallel to the Florida coast as a Category 3 storm with winds up to 130 miles per hour. Tolls were suspended on the CFX System beginning at 8:00pm on October 5, 2016 through early on October 10, 2016. The toll suspension resulted in a loss of approximately 0.8 million transactions and \$0.7 million in toll revenues on S.R. 528. In September 2017 (FY 2018), Hurricane Irma tracked parallel to the Florida coast as a Category 4 storm with winds up to 155 miles per hour. Tolls were suspended on CFX toll facilities beginning on September 5, 2017 through September 20, 2017 resulting in a transaction loss of approximately 3.4 million and a toll revenue loss of \$3.2 million on S.R. 528.

In FY 2018, the Airport Main plaza group paid in-lane transactions increased by 0.8 percent, Beachline Main plaza group paid in-lane transactions decreased by 0.5 percent and Dallas Main plaza group paid in-lane transactions decreased by 1.1 percent over FY 2017. Paid in-lane revenues for each plaza group followed the same trends compared to FY 2017. As previously mentioned, September 2017 transactions and revenues were negatively impacted by toll suspensions during Hurricane Irma.

The paid in-lane transactions and revenues by plaza group and as a percentage of total S.R. 528 paid in-lane transactions and revenues for FY 2018 are shown in **Figure 3-4**. The Airport Main plaza group represented 36.9 million paid in-lane transactions or 48.0 percent of total S.R. 528 paid in-lane transactions. The Beachline Main plaza group carried 21.6 million or 28.2 percent of total paid in-lane transactions on the facility. Finally, the Dallas Main plaza group represented 18.3 million or 23.8 percent of total S.R. 528 paid in-lane transactions in FY 2018.

Figure 3-4
S.R. 528 Paid In-Lane Transactions and Revenue by Plaza Group
FY 2018



Source: CFX Statistical Report June 2018

The annual totals and percentages for paid in-lane revenues differ from those reported for annual paid in-lane transactions because of differences in toll rates. As shown, the Airport Main plaza group represented \$41.6 million in paid in-lane revenues or 57.9 percent of total S.R. 528 paid in-lane revenues. The Beachline Main plaza group carried \$20.6 million or 28.7 percent of paid in-lane revenues on the facility. Finally, because of the lower toll, the Dallas Main plaza group represented \$9.6 million or 13.4 percent of total S.R. 528 paid in-lane transactions in FY 2018.

3.2.2 MONTHLY PAID IN-LANE TRANSACTION SEASONAL VARIATION

In **Table 3-2**, monthly paid in-lane transactions are normalized to average number of paid in-lane transactions per day in each month. Using average number of paid in-lane transactions per day allows for an easy comparison of the variations in relative travel demand over the year. The pattern of seasonal usage changes slightly from year to year, based on the number of weekdays in each month. September average daily transactions were adjusted to only include 15 days of toll collection during the month. Tolls were suspended the remaining 15 days due to Hurricane Irma.

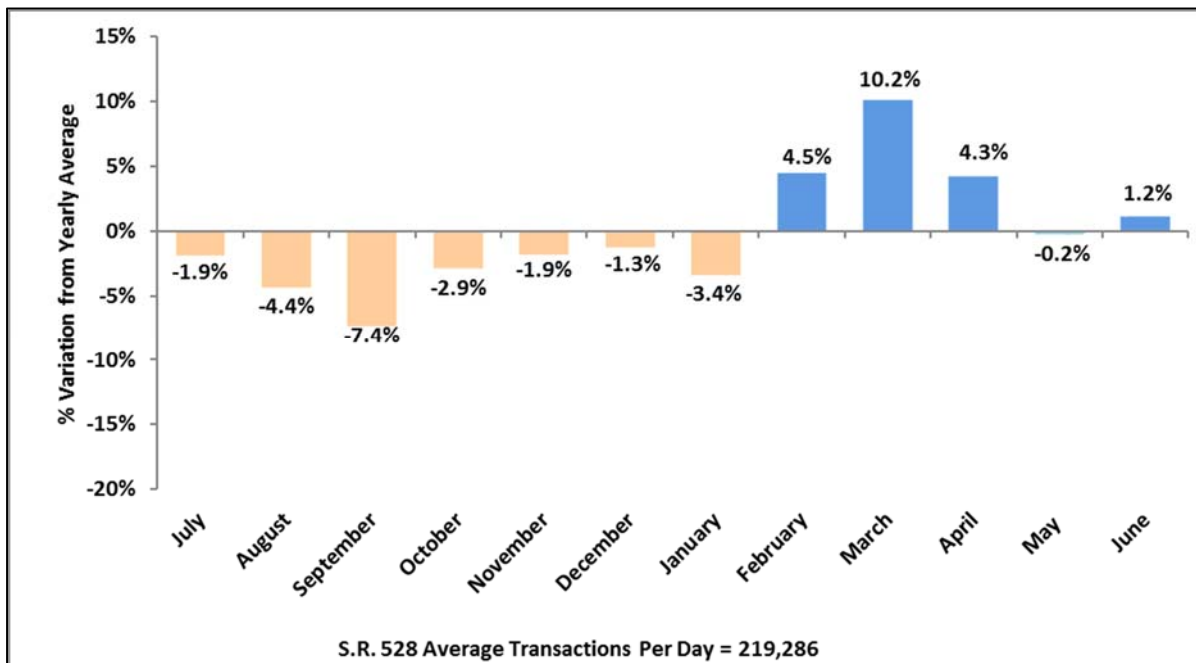
Table 3-2
S.R. 528 – Monthly Seasonal Variation in Paid In-Lane Transactions
FY 2018

Month	Number of Days in Month	Total Toll Paying Transactions	Average Transactions/day	Seasonal Factor
July	31	6,669,690	215,151	0.981
August	31	6,498,453	209,628	0.956
September	15	3,045,991	203,066	0.926
October	31	6,599,204	212,878	0.971
November	30	6,456,169	215,206	0.981
December	31	6,710,379	216,464	0.987
January	31	6,563,797	211,735	0.966
February	28	6,418,788	229,242	1.045
March	31	7,490,346	241,624	1.102
April	30	6,859,053	228,635	1.043
May	31	6,781,968	218,773	0.998
June	30	6,656,123	221,871	1.012
Average		6,395,830	219,286	1.000
Total Year	350	76,749,961		

Source: CFX Statistical Report June 2018

Average paid in-lane transactions per day in FY 2018 on S.R. 528 ranged from a high of 241,624 in March 2018 to a low of 203,066 in September 2017. March is typically the month with the highest average number of transactions per day due to a large number of tourists and seasonal residents in the area during the Spring. Historically, September has been the month with the lowest average number of transactions per day. This data is presented in a graphical format in **Figure 3-5**. The paid in-lane transactions for each month appear as a percentage of the average for the fiscal year. March paid in-lane transactions were 10.2 percent above average and September paid in-lane transactions were 7.4 percent below average for the facility.

Figure 3-5
S.R. 528 Variation in Paid In-Lane Transactions Per Day, By Month
FY 2018



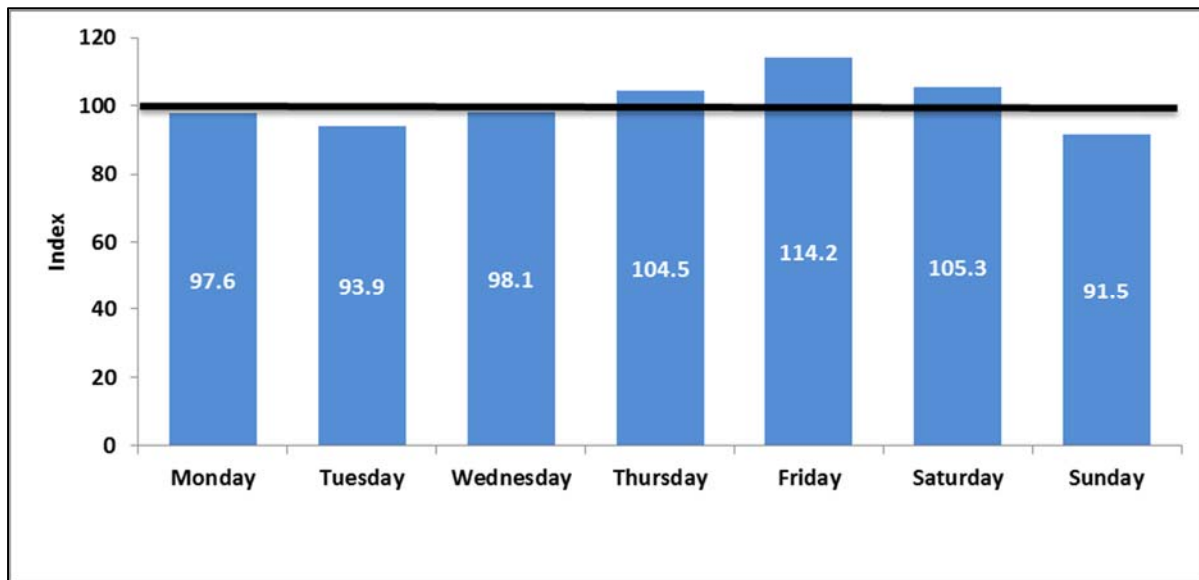
Source: CFX Statistical Report June 2018

3.2.3 DAY-OF-WEEK TOLL TRANSACTION VARIATION

Figure 3-6 contains a comparison of transactions by day of week. This data is presented as an index, where the average day equals 100. An index value of 100 for a given day of the week would indicate that day's transactions were precisely the same volume as the facility's average. A value of 120 would indicate a day that has 20 percent greater volume than the average. The data used for this analysis was for a typical week and includes transactions at mainline plazas only (no ramps).

FY 2018 weekday toll transactions on S.R. 528 fluctuated over the course of the five-day work week. Transactions were highest on Fridays, with an index value of 114.2 (14.2 percent higher than the average day), volumes on Thursdays had an index value of 104.5, and volumes on Monday through Wednesday ranged from index values of 93.9 to 98.1. Saturday volumes were similar to Thursday volumes with an index value of 105.3. Transactions decline on Sundays, which have an index value of 91.5, or 8.5 percent lower than the average day. The higher volumes on Friday and Saturday can be attributed to tourism, airport, and beach traffic using S.R. 528. It is unusual for a facility to have an index below average on a weekday.

Figure 3-6
S.R. 528 Variation in Transactions, By Day of Week
FY 2018



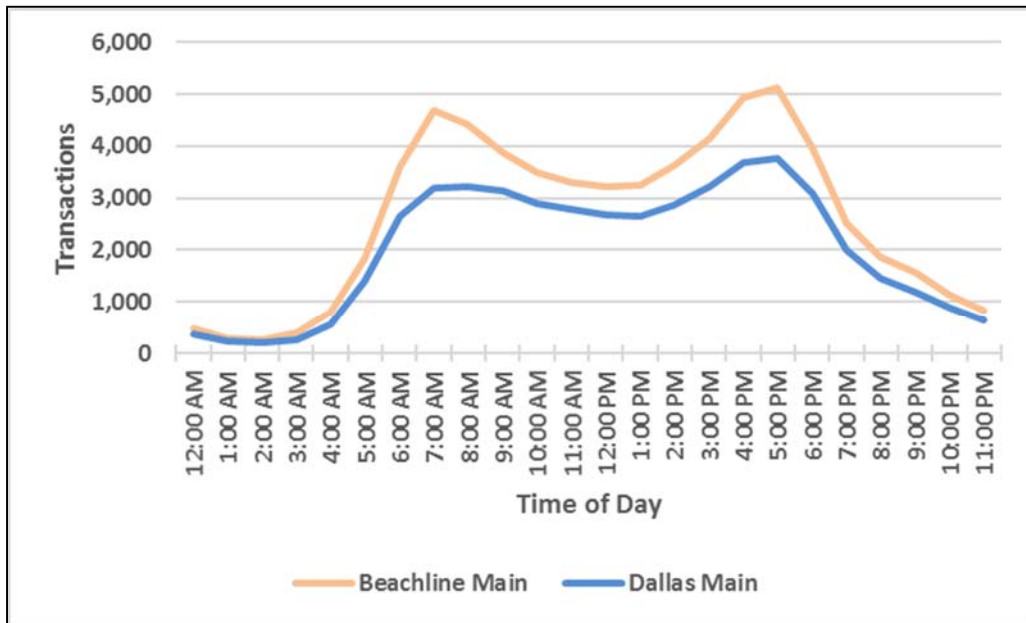
Source: Unaudited lane transaction data – January 2018

3.2.4 HOURLY TRAFFIC DISTRIBUTION

The hourly distribution of traffic includes information on the usage characteristics of the facility. The hourly distributions represent counts taken during a typical week at the mainline toll plazas in the month of January. The typical weekday distribution is shown in **Figure 3-7** and the weekend distribution is shown in **Figure 3-8**. The figures contain the sum of traffic volumes in both directions.

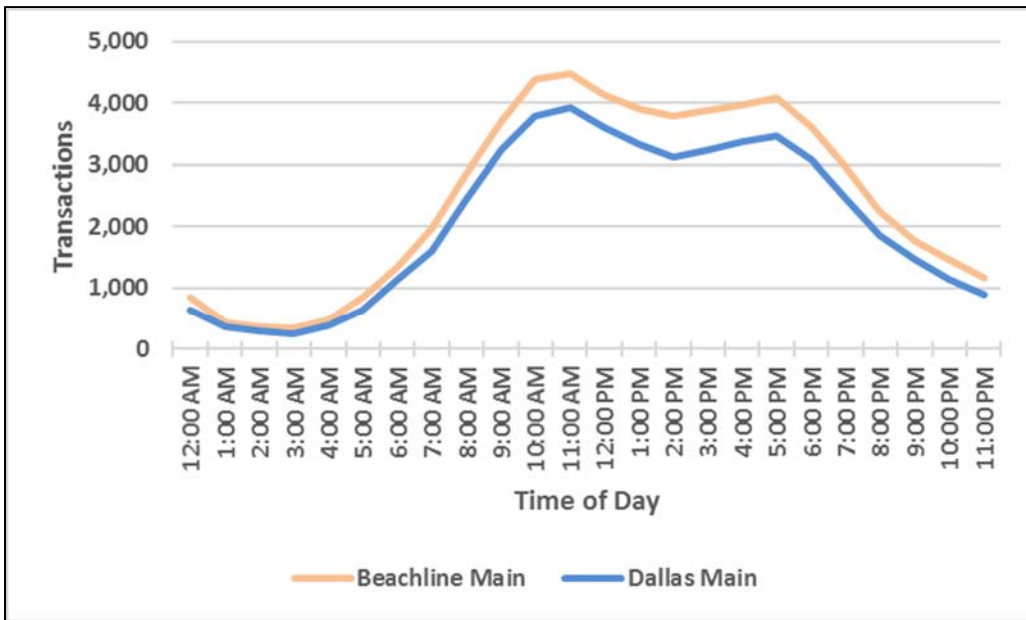
The two mainline toll plaza locations on S.R. 528 exhibit similar hourly traffic patterns. On weekdays, travel demand at both locations is bimodal, with both a morning and an evening peak hour. The Beachline and Dallas mainline plazas both experience higher peak volumes in the evening hours than in the morning hours. The highest peak hour volumes during the week were 5,100 per hour beginning at 5:00 P.M. at the Beachline mainline plaza and 3,800 per hour beginning at 5:00 P.M. at the Dallas mainline plaza. On weekends, there is a clear morning peak between 10:00 A.M. and 11:00 A.M. and afternoon at 5:00 P.M. indicating traffic heading to the beach for the day.

Figure 3-7
S.R. 528 Hourly Traffic Variation (Weekday)
FY 2018 (January)



Source: Unaudited lane transaction data – January 2018

Figure 3-8
S.R. 528 Hourly Traffic Variation (Weekend)
FY 2018 (January)



Source: Unaudited lane transaction data – January 2018

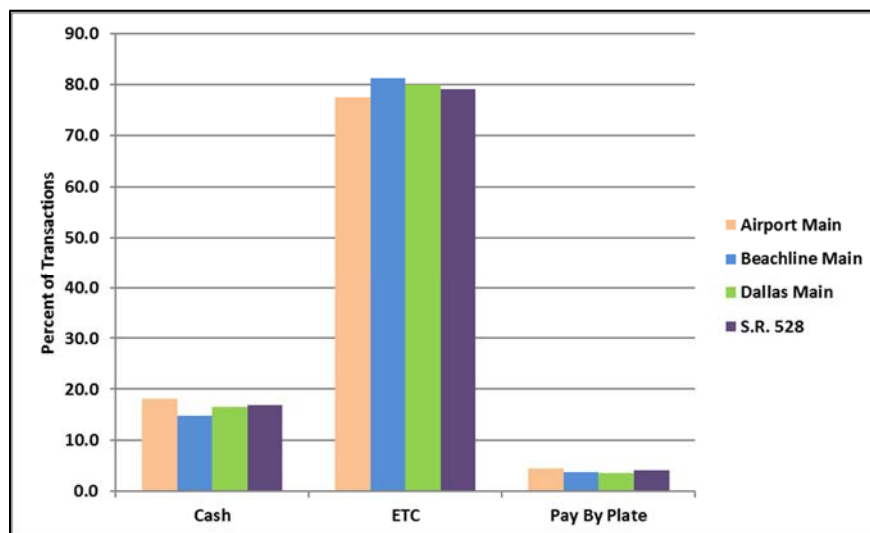
3.2.5 TRANSACTIONS AND REVENUE BY PAYMENT TYPE

The distributions of transactions and revenue by payment type and plaza group during FY 2018 are presented in **Figure 3-9** and **Figure 3-10**. Payment types can be classified in one of three ways: cash, ETC, and Pay By Plate (PBP). As defined in Chapter 1 of this report, paid in-lane transactions and revenue include cash and ETC payments made when a customer drives through a CFX toll location. The remaining transactions and revenue are classified as unpaid in-lane, which includes PBP and a small portion of non-revenue transactions. It is important to note that the data presented in the following two figures is based on unaudited transaction and toll revenue data and may not match the audited data shown in other tables and figures in this chapter.

As shown in Figure 3-9, the percent of ETC transactions ranged from a low of 77.4 percent at the Airport Main plaza group to a high of 81.3 percent at the Beachline Main plaza group. Overall, ETC transactions on S.R. 528 accounted for 79.1 percent of total transactions on the facility. The percent of cash transactions ranged from a low of 14.9 percent at the Beachline Main plaza group to a high of 18.1 percent at the Airport Main plaza group. Overall, cash transactions on S.R. 528 accounted for 16.8 percent of total transactions on the facility. The PBP transactions accounted for the smallest share, fewer than 5.0 percent of transactions at all plaza groups. Overall, PBP transactions on S.R. 528 accounted for 4.1 percent of total transactions on the facility.

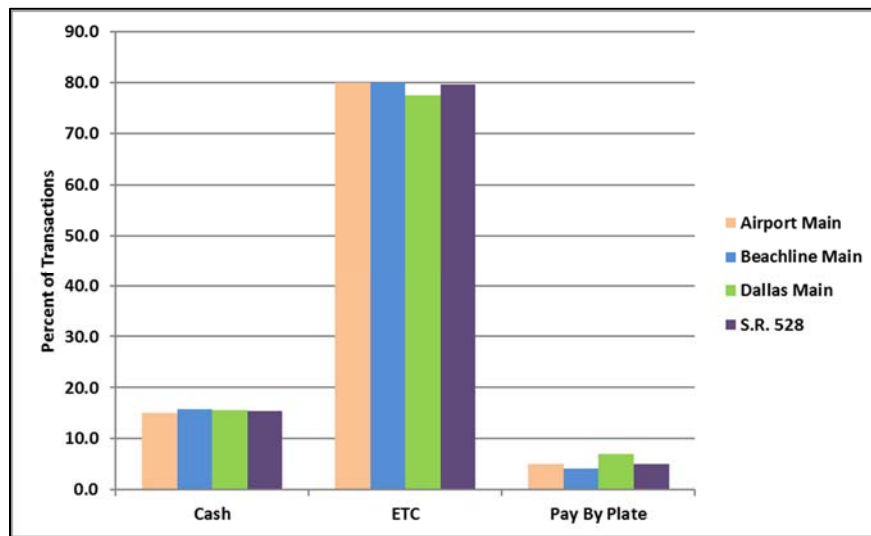
As shown in Figure 3-10, the percent of toll revenues by payment type is comparable to the trend in transactions. The percent of ETC toll revenues ranged from a low of 77.5 percent at the Dallas Main plaza group to a high of 80.1 percent at the Beachline Main plaza group. The percent of cash toll revenues ranged from a low of 15.1 percent at the Airport Main plaza group to a high of 15.8 percent at the Beachline Main plaza group. The percent of PBP toll revenues ranged from a low of 4.1 percent at the Beachline Main plaza group to a high of 6.9 percent at the Dallas Main plaza group.

Figure 3-9
S.R. 528 Percent of Transactions by Payment Type
FY 2018



Source: Unaudited transaction data provided by CFX

Figure 3-10
S.R. 528 Percent of Revenue by Payment Type
FY 2018



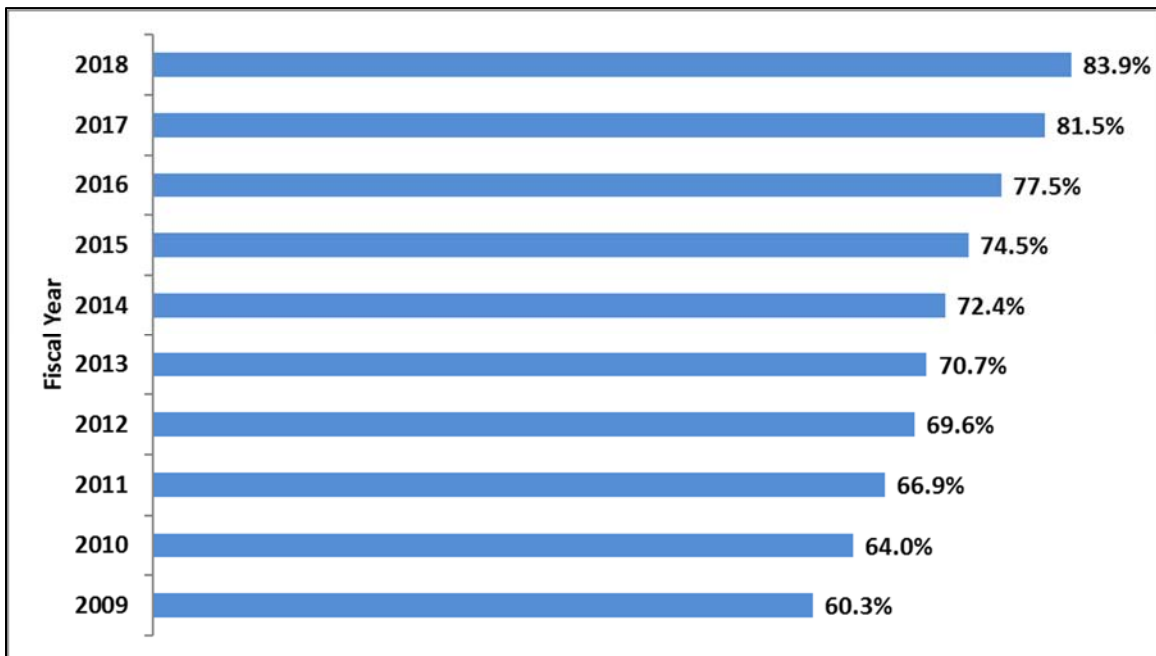
Source: Unaudited toll revenue data provided by CFX



3.3 ETC Usage

The percent of revenues generated from ETC over the past ten fiscal years on S.R. 528 are shown in **Figure 3-11**. The proportion of ETC toll revenues collected by CFX has steadily increased on the facility. In FY 2009, ETC revenues represented 60.3 percent of total revenues on the facility. In FY 2018, ETC revenues reached 83.9 percent. ETC usage is still expected to increase as customers shift from cash to ETC to take advantage of the lower ETC toll rate and the convenience of paying tolls electronically.

Figure 3-11
S.R. 528 Percent of Revenue from Electronic Toll Collection
FY 2009 – FY 2018



Source: CFX Statistical Report June 2018

3.4 Forecasted Transactions and Toll Revenues

Based on the recently adopted “Customer First Toll Policy,” toll rate adjustments (indexed tolls) were applied to the T&R forecasts every year based on the net change in CPI of 2.05 percent in FY 2019 and 1.5 percent per year thereafter.

Future transportation improvements that could influence the T&R forecasts for S.R. 528 include the projects listed in **Table 3-3**, assumed completed in each model horizon year. System improvements, such as the S.R.528 widening projects from S.R. 417 to Innovation Parkway and from S.R. 436 to S.R. 417 will help growth rates in the near term as these are areas of congestion. The improvement to FTE’s portion of S.R. 528 from I-4 to McCoy Road will also help growth rates in the near term. System improvements, such as S.R. 528 from Innovation Parkway to S.R. 520, will help growth rates in the long term. The improvements to feeder roads, including Narcoossee Road and Conway Road positively impact the traffic and revenue growth on S.R. 528 throughout the forecast horizon.

**Table 3-3
S.R. 528 - Key Transportation Improvements**

Facility	From	To	Year	Jurisdiction	Improvement
Interstate 4	SR 434	Kirkman Road	2025	FDOT	Widen to 10 lanes
Central Florida Parkway	International Drive	SR 423 (John Young Parkway)	2025	Orange County	Widen to 6 Lanes
Conway Road	Hoffner Road	Michigan Street	2025	Orange County/FDOT	Widen to 6 Lanes
Destination Parkway	Universal Boulevard	John Young Parkway	2025	Orange County	Widen to 6 Lanes
International Drive	Hawaiian Court	SR 482	2025	Orange County	Widen to 6 Lanes
SR 15 (Narcoossee Road)	SR 528 (BeachLine Expressway)	Lee Vista Boulevard	2025	Orange County/FDOT	Widen to 6 Lanes
SR 482/Sand Lake Road	Turkey Lake Road	W. of John Young Parkway	2025	FDOT	Widen to 6-lanes
SR 528	SR 417	Innovation Parkway	2025	CFX	Widen to 6-lanes
SR 528	SR 436	SR 417	2025	CFX	Widen to 8-lanes
Nova Rd (CR 532)	US 192	Pine Grove Rd	2035	Osceola County	Widen to 4 Lanes
Nova Rd (CR 532)	Pine Grove Rd	Eden Dr	2035	Osceola County	Widen to 4 Lanes
Nova Rd (CR 532)	Eden Dr	Deer Park Rd	2035	Osceola County	Widen to 4 Lanes
Central Florida Parkway	SR 423 (John Young Parkway)	Orange Blossom Trail	2035	Orange County	Widen to 6 Lanes
Conway Road	Judge Road	Hoffner Road	2035	Orange County/FDOT	Widen to 6 Lanes
International Drive	SR 482	Kirkman Road	2035	Orange County	Widen to 6 Lanes
Universal Boulevard	SR 482	Pointe Plaza Avenue	2035	Orange County	Widen to 6 Lanes
Nova Rd (CR 532)	Deer Park Rd	Orange County Line	2045	Osceola County	Widen to 4 Lanes
Nova Road	Alligator Lake Rd	US 192	2045	Osceola County	Widen to 4 Lanes
Conway Road	McCoy Road	Judge Road	2045	Orange County	Widen to 6 Lanes
International Drive South	Westwood Boulevard	Hawaiian Court	2045	Orange County	Widen to 6 Lanes
Turkey Lake Road	Sand Lake Commons Boulevard	SR 482	2045	Orange County	Widen to 6 Lanes
Universal Boulevard	SR 482	Carrier Drive	2045	Orange County	Widen to 6 Lanes
US 192	Nova Road	Pine Grove Rd	2045	FDOT	Widen to 6-lanes
SR 528	Innovation Parkway	SR 520	2045	CFX	Widen to 6-lanes



Historical and projected transactions and toll revenues for each of the S.R. 528 plaza groups and for all of S.R. 528 are summarized in **Table 3-4** and **Table 3-5**. The tables are divided into Paid in-lane transactions and revenue and PBP transactions and revenue. Paid in-lane transactions and revenue by plaza group include ETC and cash collection. PBP is only reported as a total on the facility level. The increase in transactions and revenue in FY 2016 over FY 2015 can partially be attributed to the opening of the two ramp plazas at Conway Road/Tradeport Drive and Boggy Creek Road/Sand Lake Road because of the relocation/removal of the Airport Main Plaza toll collection point to Beachline West.

The paid in-lane transactions on S.R. 528 are expected to grow 1.4 percent per year through FY 2028 and then lower rates through the end of the forecast period because of the impact of toll rate adjustments. PBP transactions are forecasted to increase an average of 5.6 percent per year through FY 2028 and then decline through the forecast period. Total transactions on S.R. 528 are projected to increase during the forecast period from the actual of 79.9 million in FY 2018 to 108.5 million in FY 2048. The paid in-lane revenues on S.R. 528 are projected to increase over the forecast period, from the FY 2018 actual of \$71.8 million to \$139.0 million in FY 2048. PBP revenues are projected to increase from \$3.8 million in FY 2018 to \$8.4 million in FY 2048. Total revenues on S.R. 528 are projected to increase during the forecast period from the actual \$75.6 million in FY 2018 to \$147.4 million in FY 2048. Total transactions are forecasted to increase an average of 1.6 percent per year from FY 2018 to FY 2028. Total revenues during the same period are forecasted to increase an average of 2.8 percent per year. Total transactions and revenues are forecasted to increase at an average of 0.9 and 2.1 percent per year from FY 2028 to FY 2038, and 0.6 and 1.9 percent per year from FY 2038 to FY 2048, respectively.

Table 3-4
S.R. 528 Plaza Groups – Transaction Projections (Millions)
FY 2019 – FY 2048

Fiscal Year		Airport Main	Beachline Main	Dallas Main	Paid In-Lane	PBP	Total	Percent Annual Change	
2010		25.4	15.5		40.9	0.3	41.2		
2011		26.2	16.3		42.5	0.5	43.0	4.4%	
2012 ^{A,C}		26.8	16.4	4.3	47.5	0.7	48.2	12.1%	
2013 ^B	Actual	26.4	16.7	14.5	57.6	1.0	58.6	21.6%	
2014		27.0	17.6	15.1	59.7	1.2	60.9	3.9%	
2015		28.8	19.0	16.4	64.2	1.6	65.8	8.0%	
2016		32.6	20.9	18.0	71.5	2.2	73.7	12.0%	
2017 ^D		36.6	21.7	18.5	76.8	2.7	79.5	7.9%	
2018 ^E		36.8	21.6	18.3	76.7	3.2	79.9	0.5%	
2019 ^F		Forecast	36.8	21.9	18.1	76.8	5.3	82.1	2.8%
2020			38.0	22.3	18.3	78.6	4.8	83.4	1.6%
2021	39.0		22.6	18.6	80.2	4.9	85.1	2.0%	
2022 ^G	40.2		22.8	18.8	81.8	5.1	86.9	2.1%	
2023	40.8		23.1	19.0	82.9	5.1	88.0	1.3%	
2024	41.4		23.4	19.3	84.1	5.1	89.2	1.4%	
2025	42.0		23.6	19.4	85.0	5.2	90.2	1.1%	
2026	42.6		23.9	19.6	86.1	5.2	91.3	1.2%	
2027	43.2		24.1	19.8	87.1	5.2	92.3	1.1%	
2028	43.7		24.3	20.0	88.0	5.5	93.5	1.3%	
2029	44.3		24.5	20.2	89.0	5.5	94.5	1.1%	
2030	44.8		24.7	20.4	89.9	5.5	95.4	1.0%	
2031	45.3		24.9	20.5	90.7	5.5	96.2	0.8%	
2032	45.7		25.1	20.7	91.5	5.6	97.1	0.9%	
2033	46.2		25.3	20.9	92.4	5.6	98.0	0.9%	
2034	46.6		25.5	21.1	93.2	5.6	98.8	0.8%	
2035	47.0		25.7	21.2	93.9	5.6	99.5	0.7%	
2036	47.4		25.9	21.4	94.7	5.9	100.6	1.1%	
2037	47.8		26.0	21.5	95.3	5.9	101.2	0.6%	
2038	48.2		26.2	21.7	96.1	5.9	102.0	0.8%	
2039	48.5		26.4	21.8	96.7	5.9	102.6	0.6%	
2040	48.9		26.5	22.0	97.4	5.9	103.3	0.7%	
2041	49.2		26.7	22.1	98.0	6.0	104.0	0.7%	
2042	49.6		26.9	22.3	98.8	6.0	104.8	0.8%	
2043	49.9		27.0	22.4	99.3	6.0	105.3	0.5%	
2044	50.2		27.2	22.5	99.9	6.0	105.9	0.6%	
2045	50.5		27.3	22.6	100.4	6.0	106.4	0.5%	
2046	50.8		27.5	22.8	101.1	6.2	107.3	0.8%	
2047	51.1	27.6	22.9	101.6	6.3	107.9	0.6%		
2048	51.4	27.8	23.0	102.2	6.3	108.5	0.6%		

Fiscal Year	Compound Annual Average Growth Rate (CAAGR)					
2010 - 2018	4.7%	4.2%		8.2%	34.4%	8.6%
2018 - 2028	1.7%	1.2%	0.9%	1.4%	5.6%	1.6%
2028 - 2038	1.0%	0.8%	0.8%	0.9%	0.7%	0.9%
2038 - 2048	0.6%	0.6%	0.6%	0.6%	0.7%	0.6%

Notes:

Actual revenue data provided by CFX from Monthly Statistical Reports.

A - Dallas Main plaza opened to traffic on March 19, 2012.

B - Systemwide toll rate increase.

C - Airport Main Plaza closed and new ramp plazas opened in March 2016.

D - Effects from Hurricane Matthew in October 2016.

E - Effects from Hurricane Irma in September 2017.

F - First year of implementation of "Customer First" toll rate policy and assumed toll rate increase of 2.05% in FY 2019. Annual toll rate increase of 1.5% assumed throughout forecast period.

G - Completion of I-4 Ultimate project.

**Table 3-5
S.R. 528 Plaza Groups – Toll Revenue Projections (Millions)
FY 2019 – FY 2048**

Fiscal Year		Airport Main	Beachline Main	Dallas Main	Paid In-Lane	PBP	Total	Percent Annual Change
2010	Actual	\$26.2	\$20.4		\$46.6	\$0.3	\$46.9	
2011		\$27.0	\$21.4		\$48.4	\$0.5	\$48.9	4.3%
2012 ^{A,C}		\$27.5	\$19.0	\$2.2	\$48.7	\$0.6	\$49.3	0.8%
2013 ^B		\$30.9	\$16.0	\$7.6	\$54.5	\$1.0	\$55.5	12.6%
2014		\$31.6	\$16.8	\$7.9	\$56.3	\$1.2	\$57.5	3.6%
2015		\$33.6	\$18.2	\$8.6	\$60.4	\$1.6	\$62.0	7.8%
2016		\$37.3	\$20.0	\$9.4	\$66.7	\$2.3	\$69.0	11.3%
2017 ^D		\$41.4	\$20.7	\$9.7	\$71.8	\$3.8	\$75.6	9.6%
2018 ^E		\$41.6	\$20.6	\$9.6	\$71.8	\$3.8	\$75.6	0.0%
2019 ^F	Forecast	\$41.4	\$21.2	\$10.4	\$73.0	\$4.5	\$77.5	2.5%
2020		\$43.3	\$21.8	\$10.7	\$75.8	\$4.2	\$80.0	3.2%
2021		\$45.1	\$22.4	\$11.0	\$78.5	\$4.3	\$82.8	3.5%
2022 ^G		\$47.1	\$23.0	\$11.3	\$81.4	\$4.6	\$86.0	3.9%
2023		\$48.4	\$23.6	\$11.5	\$83.5	\$4.6	\$88.1	2.4%
2024		\$49.7	\$24.2	\$11.8	\$85.7	\$4.8	\$90.5	2.7%
2025		\$51.0	\$24.7	\$12.1	\$87.8	\$4.9	\$92.7	2.4%
2026		\$52.2	\$25.3	\$12.3	\$89.8	\$4.9	\$94.7	2.2%
2027		\$53.5	\$25.8	\$12.6	\$91.9	\$5.0	\$96.9	2.3%
2028		\$54.8	\$26.4	\$12.9	\$94.1	\$5.4	\$99.5	2.7%
2029		\$56.1	\$26.9	\$13.2	\$96.2	\$5.5	\$101.7	2.2%
2030		\$57.4	\$27.5	\$13.4	\$98.3	\$5.6	\$103.9	2.2%
2031		\$58.7	\$28.0	\$13.7	\$100.4	\$5.6	\$106.0	2.0%
2032		\$60.0	\$28.6	\$14.0	\$102.6	\$5.8	\$108.4	2.3%
2033		\$61.3	\$29.1	\$14.3	\$104.7	\$5.9	\$110.6	2.0%
2034		\$62.6	\$29.7	\$14.6	\$106.9	\$6.1	\$113.0	2.2%
2035		\$63.9	\$30.2	\$14.8	\$108.9	\$6.1	\$115.0	1.8%
2036		\$65.2	\$30.8	\$15.1	\$111.1	\$6.6	\$117.7	2.3%
2037		\$66.5	\$31.4	\$15.4	\$113.3	\$6.6	\$119.9	1.9%
2038		\$67.9	\$31.9	\$15.7	\$115.5	\$6.7	\$122.2	1.9%
2039	\$69.3	\$32.5	\$16.0	\$117.8	\$6.8	\$124.6	2.0%	
2040	\$70.7	\$33.1	\$16.3	\$120.1	\$6.9	\$127.0	1.9%	
2041	\$72.0	\$33.7	\$16.6	\$122.3	\$7.1	\$129.4	1.9%	
2042	\$73.4	\$34.3	\$16.9	\$124.6	\$7.3	\$131.9	1.9%	
2043	\$74.9	\$34.9	\$17.2	\$127.0	\$7.4	\$134.4	1.9%	
2044	\$76.3	\$35.6	\$17.5	\$129.4	\$7.5	\$136.9	1.9%	
2045	\$77.7	\$36.2	\$17.8	\$131.7	\$7.6	\$139.3	1.8%	
2046	\$79.2	\$36.9	\$18.1	\$134.2	\$8.0	\$142.2	2.1%	
2047	\$80.6	\$37.5	\$18.4	\$136.5	\$8.2	\$144.7	1.8%	
2048	\$82.1	\$38.2	\$18.7	\$139.0	\$8.4	\$147.4	1.9%	

Fiscal Year	Compound Annual Average Growth Rate (CAAGR)					
2010 - 2018	5.9%	0.1%		5.6%	37.4%	6.1%
2018 - 2028	2.8%	2.5%	3.0%	2.7%	3.6%	2.8%
2028 - 2038	2.2%	1.9%	2.0%	2.1%	2.2%	2.1%
2038 - 2048	1.9%	1.8%	1.8%	1.9%	2.3%	1.9%

Notes:

Actual revenue data provided by CFX from Monthly Statistical Reports.

A - Dallas Main plaza opened to traffic on March 19, 2012.

B - Systemwide toll rate increase.

C - Airport Main Plaza closed and new ramp plazas opened in March 2016.

D - Effects from Hurricane Matthew in October 2016.

E - Effects from Hurricane Irma in September 2017.

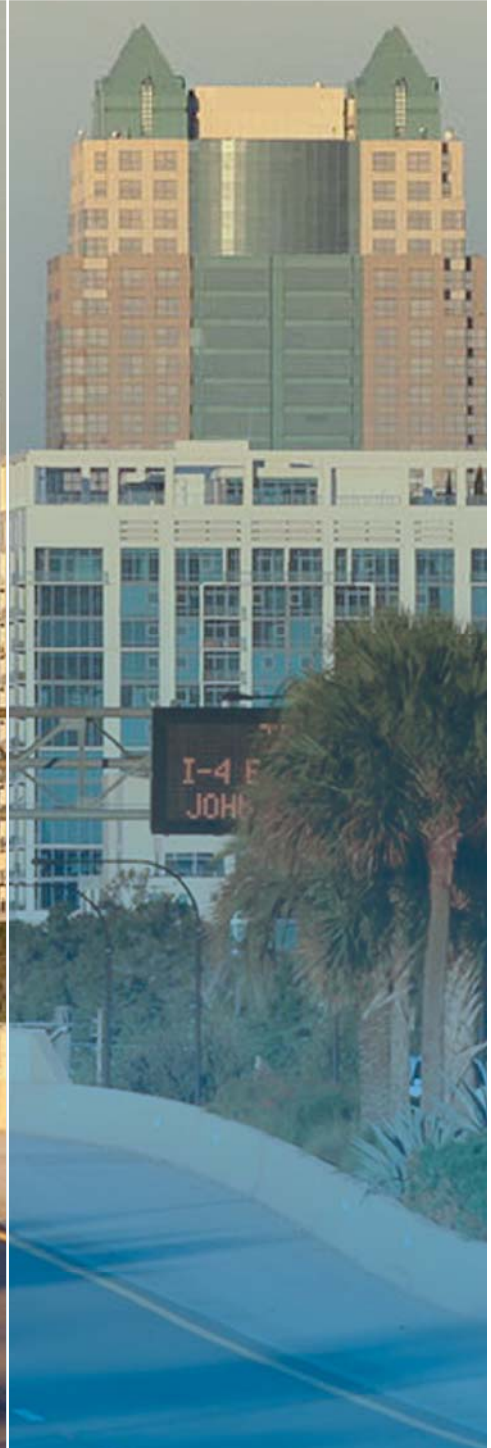
F - First year of implementation of "Customer First" toll rate policy and assumed toll rate increase of 2.05% in FY 2019. Annual toll rate increase of 1.5% assumed throughout forecast period.

G - Completion of I-4 Ultimate project.

Chapter 4

S.R. 408

(Spessard Lindsay Holland East-West Expressway)



S.R. 408 (SPESSARD LINDSAY HOLLAND EAST-WEST EXPRESSWAY)

4.1 Facility Description

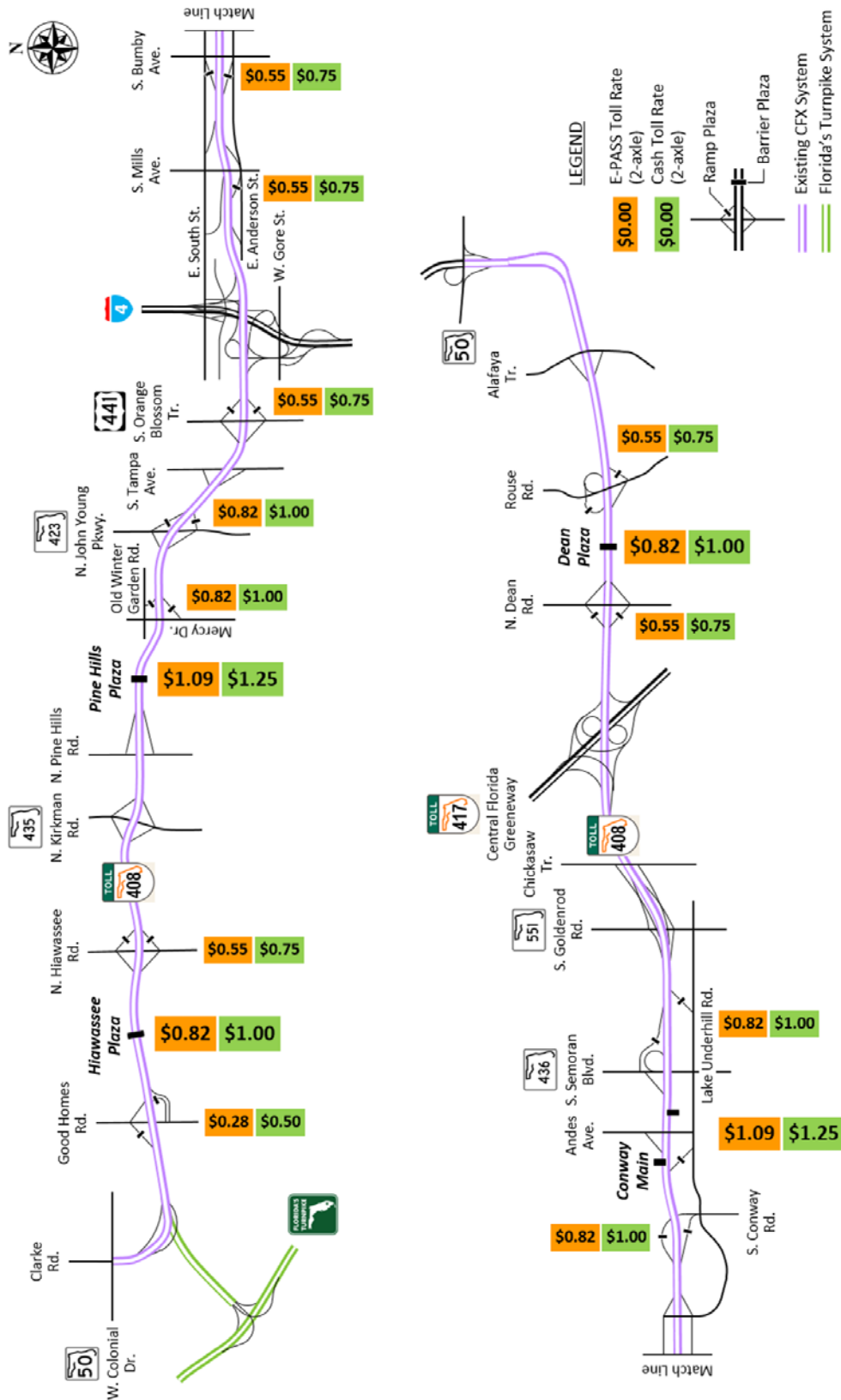
S.R. 408, also known as the Spessard Lindsay Holland East-West Expressway, is a 22-mile expressway that serves the east-west commuter traffic across the Orlando urban area and provides fast and efficient access to and from the Orlando central business district. The East-West Expressway provides direct access to Interstate 4 (I-4) with an interchange that provides customers with a direct route to other major employment centers in the Metro Orlando area. A map of S.R. 408 including the FY 2018 CFX toll rates for the mainline and ramp toll plazas is shown in **Figure 4-1**. S.R. 408 has four plaza groups: the Hiawassee Main plaza group (including tolled interchanges at Good Homes Road and Hiawassee Road); the Pine Hills Main plaza group (including tolled interchanges at Old Winter Garden Road, John Young Parkway, U.S. 92/441 and Mills Avenue); the Conway Main plaza group (including tolled interchanges at Bumby Avenue, Conway Road and Andes Avenue/Semorán Boulevard); and the Dean Main plaza group (including tolled interchanges at Dean Road and Rouse Road).



The original 13.8-mile section of S.R. 408 opened to traffic in 1973, beginning on the west side of Orlando at an intersection with S.R. 50, west of Kirkman Road, and ending at S.R. 50 west of Dean Road. This included the Holland West Main plaza (relocated and renamed Pine Hills in 2006) and Holland East Main plaza (reconstructed and renamed Conway in 2008).

CFX completed a major expansion project in 1989 that extended S.R. 408 six miles eastward from its existing terminus near Goldenrod Road (S.R. 551) to a new interchange with S.R. 50, east of Alafaya Trail (S.R. 434). The expansion also included interchanges at Dean Road, Rouse Road and Alafaya Trail. The Dean Mainline plaza was also added, which is located between Dean Road and Rouse Road. In 1990, CFX, in cooperation with Florida's Turnpike Enterprise, completed another expansion that extended the S.R. 408 westward five miles from its original western terminus to an interchange with Florida's Turnpike. A new connection with S.R. 50 was provided west of Good Homes Road at Clarke Road. This expansion included interchanges at Hiawassee Road, Good Homes Road and S.R. 50/Clarke Road. The Hiawassee Mainline plaza was added and located between Hiawassee Road and Good Homes Road. S.R. 408 currently extends from Florida's Turnpike on the west to S.R. 50 (east of S.R. 434) on the east.

Figure 4-1
S.R. 408 Facilities and Toll Rates



The S.R. 408 mainline plazas have all been converted to the express toll lane configuration. In 2005 and 2006, the Hiawassee, Pine Hills and Dean Mainline plazas were converted. The Conway Mainline plaza was converted, and two express toll lanes were opened in each direction in 2008, with an additional lane added in each direction in 2009.

In August 2006, a full interchange with Florida's Turnpike was completed with two access ramps to connect Good Homes Road with S.R. 408 in each direction. CFX also widened the Good Homes Road bridge to accommodate Orange County's widening of Good Homes Road between S.R. 50 and Old Winter Garden Road.

In FY 2011, the widening of S.R. 408 began between Oxalis Avenue and S.R. 417 as well as the reconfiguration of the S.R. 408/S.R. 417 systems interchange. This widening was completed in March 2013. In January 2013, CFX completed the widening of S.R. 408 between Goldenrod Road and Chickasaw Trail from four to five lanes in each direction. This project also included new ramps at Chickasaw Trail for travel to and from downtown Orlando. In January 2013, a new frontage road was completed to improve access to and from downtown Orlando for the communities in the area of Valencia College Lane and Econlockhatchee Trail.

In early 2016, CFX began widening S.R. 408 from Good Homes Road to east of Hiawassee Road. This two-mile project added a travel lane in each direction (from two to three lanes) and widened the ramp from westbound S.R. 408 to Good Homes Road from one to two lanes. This project was completed in July 2018.

As part of a partnership project, the FDOT is reconstructing the I-4/S.R. 408 interchange as part of their 21-mile I-4 Ultimate project. The reconstruction will improve transitions between S.R. 408 and I-4, including new flyover ramps, direct connection ramps from the eastbound and westbound I-4 Express Lanes to S.R. 408 and the reconstruction of the S.R. 408 travel lanes over I-4.

In June 2017, milling and resurfacing work began on SR. 408 in both directions from the Lake Underhill bridge to Yucatan Drive. This 1.7-mile project will also include an additional Express Lane at the Conway Road Main Plaza.

Beginning in the fall of 2017, CFX began widening S.R. 408 from east of S.R. 417 to east of Alafaya Trail. This 3.24-mile project will add a travel lane to S.R. 408 in each direction (two lanes to three lanes), widen the ramp from westbound S.R. 408 to northbound S.R. 417 (two lanes to three lanes), and add an additional Express Lane at the Dean Road Main Plaza. The project is scheduled for completion in 2019.

4.2 Historical Transactions and Toll Revenues

4.2.1 ANNUAL PAID IN-LANE TRANSACTION AND REVENUE TRENDS

A comprehensive historical record of paid in-lane facility transactions and toll revenues on S.R. 408 at the Hiawassee Main, Pine Hills Main, Conway Main and Dean Main plaza groups from FY 1999 to FY 2018 is presented in **Table 4-1**. The facility data and annual growth are also presented visually in **Figure 4-2** and **Figure 4-3**.

Table 4-1
S.R. 408 Plaza Groups – Historical Paid In-Lane Transactions and Revenue
FY 1999 – FY 2018

Fiscal Year	Hiawasse Main	Pine Hills Main	Conway Main	Dean Main	TOTAL	Hiawasse Main	Pine Hills Main	Conway Main	Dean Main	TOTAL
	TRANSACTIONS (millions)					PERCENT CHANGE				
1999	13.7	22.5	38.2	13.8	88.2					
2000	15.5	24.4	41.0	16.7	97.6	13.1%	8.4%	7.3%	21.0%	10.7%
2001	17.1	25.7	42.5	19.1	104.4	10.3%	5.3%	3.7%	14.4%	7.0%
2002 ^A	18.7	26.7	43.8	20.9	110.1	9.4%	3.9%	3.1%	9.4%	5.5%
2003	20.2	28.0	45.5	22.4	116.1	8.0%	4.9%	3.9%	7.2%	5.4%
2004	22.0	29.9	48.5	24.3	124.7	8.9%	6.8%	6.6%	8.5%	7.4%
2005 ^B	22.7	30.8	49.1	25.2	127.8	3.2%	3.0%	1.2%	3.7%	2.5%
2006 ^C	24.1	32.2	51.8	27.3	135.4	6.2%	4.5%	5.5%	8.3%	5.9%
2007 ^D	25.7	32.5	51.9	28.2	138.3	6.6%	0.9%	0.2%	3.3%	2.1%
2008 ^E	27.2	33.7	50.7	27.4	139.0	5.8%	3.7%	-2.3%	-2.8%	0.5%
2009 ^F	25.2	30.9	49.3	25.9	131.3	-7.4%	-8.3%	-2.8%	-5.5%	-5.5%
2010 ^F	23.3	28.4	49.0	25.3	126.0	-7.5%	-8.1%	-0.6%	-2.3%	-4.0%
2011	23.2	28.4	50.0	25.1	126.7	-0.4%	0.0%	2.0%	-0.8%	0.6%
2012	23.1	28.4	50.1	24.6	126.2	-0.4%	0.0%	0.2%	-2.0%	-0.4%
2013 ^F	22.5	27.6	48.9	24.5	123.5	-2.5%	-3.0%	-2.3%	-0.5%	-2.1%
2014	24.1	29.2	51.1	25.3	129.7	7.1%	5.8%	4.5%	3.3%	5.0%
2015	26.4	31.6	53.9	26.3	138.2	9.5%	8.2%	5.5%	4.0%	6.6%
2016	28.6	33.7	56.4	27.5	146.2	8.3%	6.6%	4.6%	4.6%	5.8%
2017 ^G	29.6	34.2	56.4	27.5	147.7	3.5%	1.5%	0.0%	0.0%	1.0%
2018 ^H	29.8	34.2	54.6	26.6	145.2	0.7%	0.0%	-3.2%	-3.3%	-1.7%
	TOLL REVENUES (millions)					PERCENT CHANGE				
1999	\$6.5	\$16.4	\$27.3	\$6.4	\$56.6					
2000	\$7.4	\$17.8	\$29.3	\$7.8	\$62.3	13.8%	8.5%	7.3%	21.9%	10.1%
2001	\$8.2	\$18.7	\$30.4	\$8.9	\$66.2	10.8%	5.1%	3.8%	14.1%	6.3%
2002 ^A	\$9.1	\$19.5	\$31.3	\$9.8	\$69.7	11.0%	4.3%	3.0%	10.1%	5.3%
2003	\$9.9	\$20.3	\$32.5	\$10.5	\$73.2	8.8%	4.1%	3.8%	7.1%	5.0%
2004	\$10.8	\$21.8	\$34.7	\$11.4	\$78.7	9.1%	7.4%	6.8%	8.6%	7.5%
2005 ^B	\$11.2	\$22.5	\$35.0	\$11.7	\$80.4	3.7%	3.2%	0.9%	2.6%	2.2%
2006 ^C	\$11.8	\$23.6	\$36.9	\$12.8	\$85.1	5.4%	4.9%	5.4%	9.4%	5.8%
2007 ^D	\$12.7	\$23.5	\$37.0	\$13.3	\$86.5	7.6%	-0.4%	0.3%	3.9%	1.6%
2008 ^E	\$13.0	\$24.0	\$36.1	\$13.0	\$86.1	2.4%	2.1%	-2.4%	-2.3%	-0.5%
2009 ^F	\$13.3	\$23.7	\$37.6	\$13.7	\$88.3	2.3%	-1.3%	4.2%	5.4%	2.6%
2010 ^F	\$16.4	\$26.8	\$46.1	\$18.4	\$107.7	23.3%	13.1%	22.6%	34.3%	22.0%
2011	\$16.2	\$26.8	\$47.1	\$18.2	\$108.3	-1.2%	0.0%	2.2%	-1.1%	0.6%
2012	\$16.0	\$26.7	\$47.2	\$17.8	\$107.7	-1.2%	-0.4%	0.2%	-2.2%	-0.6%
2013 ^F	\$18.0	\$29.3	\$51.9	\$20.1	\$119.3	12.4%	9.6%	10.0%	13.2%	10.8%
2014	\$19.2	\$31.0	\$54.2	\$20.8	\$125.2	6.7%	5.9%	4.4%	3.3%	4.9%
2015	\$21.0	\$33.4	\$56.9	\$21.7	\$133.0	9.4%	7.7%	5.0%	4.3%	6.2%
2016	\$22.6	\$35.5	\$59.4	\$22.6	\$140.1	7.6%	6.3%	4.4%	4.1%	5.3%
2017 ^G	\$23.3	\$36.1	\$59.1	\$22.5	\$141.0	3.1%	1.7%	-0.5%	-0.4%	0.6%
2018 ^H	\$23.5	\$36.0	\$57.1	\$21.7	\$138.3	0.9%	-0.3%	-3.4%	-3.6%	-1.9%

Notes:

A - Effects of the events on September 11, 2001.

B - Effects from 2004 hurricane season (4 storms w ith toll suspensions).

C - Mills Avenue on-ramp to w estbound S.R. 408 permanently closed. Dean Main plaza converted to open road tolling in August 2005.

D - Holland West plaza relocated to Pine Hills plaza on November 10, 2006. Hiaw assee and Pine Hills Main plazas converted to open road tolling in FY 2006.

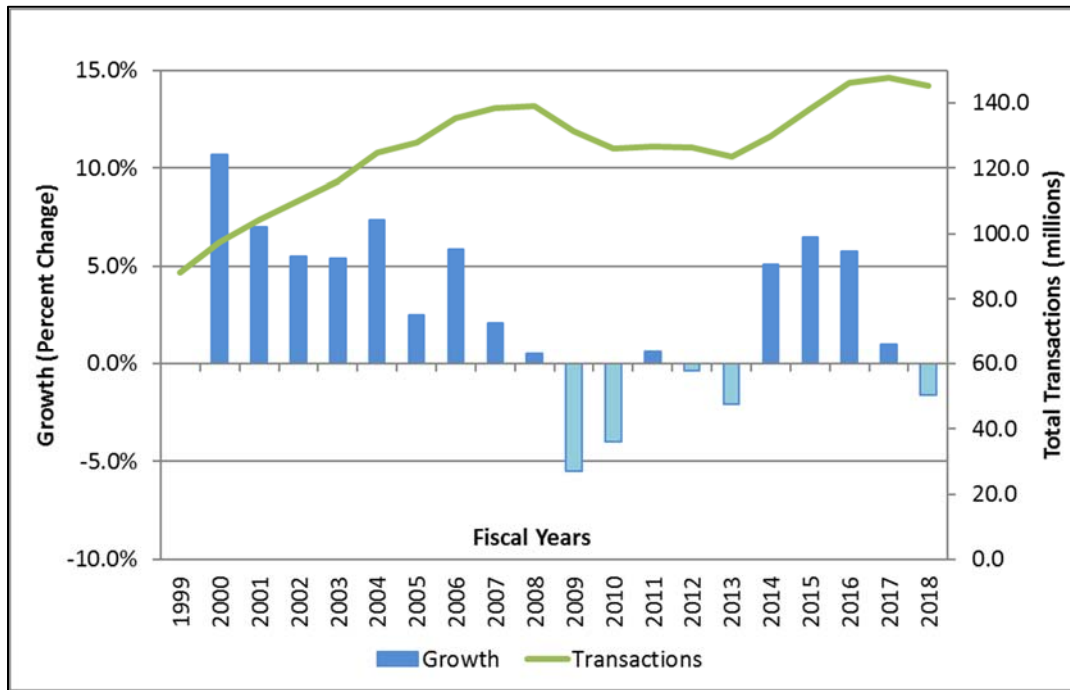
E - First effects of national economic recession.

F - Systemw ide toll rate increase. Conw ay Main plaza converted to open road tolling in Nov 2008.

G - Effects from Hurricane Matthew in October 2016.

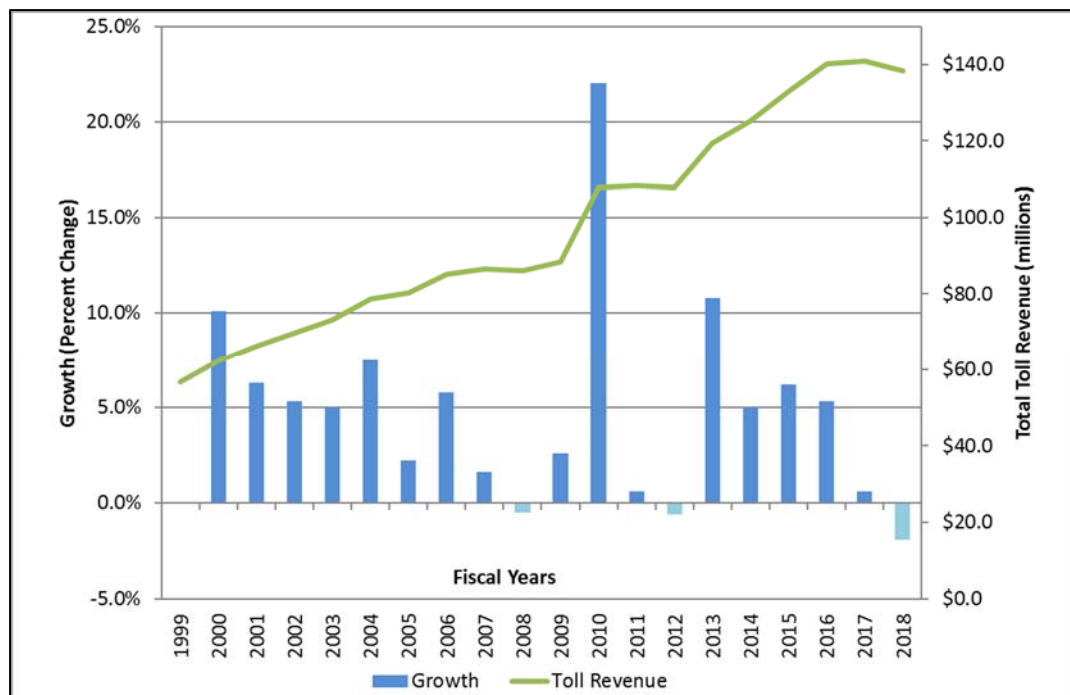
H - Effects from Hurricane Irma in September 2017.

Figure 4-2
S.R. 408 Historical Paid In-Lane Transactions and Annual Growth
FY 1999 – FY 2018



Source: CFX Statistical Report June 2018

Figure 4-3
S.R. 408 Historical Paid In-Lane Revenue and Annual Growth
FY 1999 – FY 2018



Source: CFX Statistical Report June 2018

These historical tables do not include PBP transactions and revenues, only those that are paid in-lane. For these reasons, the information presented in this section may differ slightly from the data presented in the FY 2018 Comprehensive Annual Financial Report (CAFR) and other information in this report.

Paid in-lane transaction and revenue growth from FY 1999 through FY 2006 were stable with annual growth in all plaza groups. FY 2007 was the first year with a revenue decline at any plaza group on S.R. 408. The decline of 0.4 percent at the Pine Hills Main plaza group can be attributed to construction at the mainline plaza when it was being relocated to its current location. The new plaza opened in November 2006 and included express lanes for E-PASS customers. Due to the relocation of the Pine Hills mainline plaza, the John Young Parkway ramp plazas to/from the west were demolished and new ramp plazas were constructed to/from the east. New ramp plazas were also constructed at the westbound Old Winter Garden Road exit ramp and at the eastbound Mercy Drive entrance ramp.

In FY 2008, paid in-lane transactions decreased at the Conway Main plaza group by 2.3 percent and revenues decreased by 2.4 percent. Paid in-lane transactions also decreased at the Dean Main plaza group by 2.8 percent while revenues decreased by 2.3 percent. These declines can be attributed to the beginning of the Great Recession, and to construction and widening of the facility which included the addition of express lanes at the Conway mainline plaza. Paid in-lane transactions declined at all four S.R. 408 plaza groups in FY 2009 as a result of the continuing impacts of the economic recession and the implementation of a Systemwide toll rate increase. The toll rate increase impacted growth during the last three months of FY 2009. The largest paid in-lane transaction decline was seen at the Pine Hills Main plaza group which was 8.3 percent lower than the prior year with a corresponding revenue decline of 1.3 percent.

In FY 2010, annual paid in-lane transactions declined at all four plaza groups. Despite the decrease in paid in-lane transactions, revenues significantly increased at all plazas as a result of the first full year of revenue collection after the Systemwide toll rate increase, which impacted growth during the first nine months.

FY 2011 paid in-lane transactions decreased at the Hiawasse Main plaza group by 0.4 percent and at the Dean Main plaza group by 0.8 percent due to construction on S.R. 408. Paid in-lane revenues also declined at both facilities by approximately 1.0 percent. Paid in-lane transactions and revenues at the Pine Hills Main plaza group remained unchanged while the Conway Main plaza group showed very little growth compared to FY 2010. This slow growth continued in FY 2012 with all plaza groups experiencing paid in-lane transaction and revenue declines or no growth compared to the prior year.

Paid in-lane transactions declined while revenues increased at all four plaza groups in FY 2013, due to the toll rate adjustment that went into effect at the beginning of the fiscal year, on July 1, 2012. In FY 2014, paid in-lane transactions and revenues increased at all four plaza groups. The increase in paid in-lane transactions in FY 2014 was expected after the decline occurred in FY 2013 due to the toll rate increase, which impacted traffic for a short period.

In FY 2015, paid in-lane transactions and revenues increased over FY 2014 at all four plaza groups. The Hiawassee Main plaza group experienced the largest increase in both paid in-lane transactions and revenues. The same trend continued in FY 2016 during which paid in-lane transactions increased by 5.8 percent and revenues increased by 5.3 percent. The Hiawassee Main plaza group experienced the largest increase in paid in-lane transactions and revenues for the second consecutive year. This increase in paid in-lane transactions and toll revenues can be partially attributed to customers using S.R. 429 as an alternative to I-4 during construction activities and traveling between Florida's Turnpike and S.R. 408.

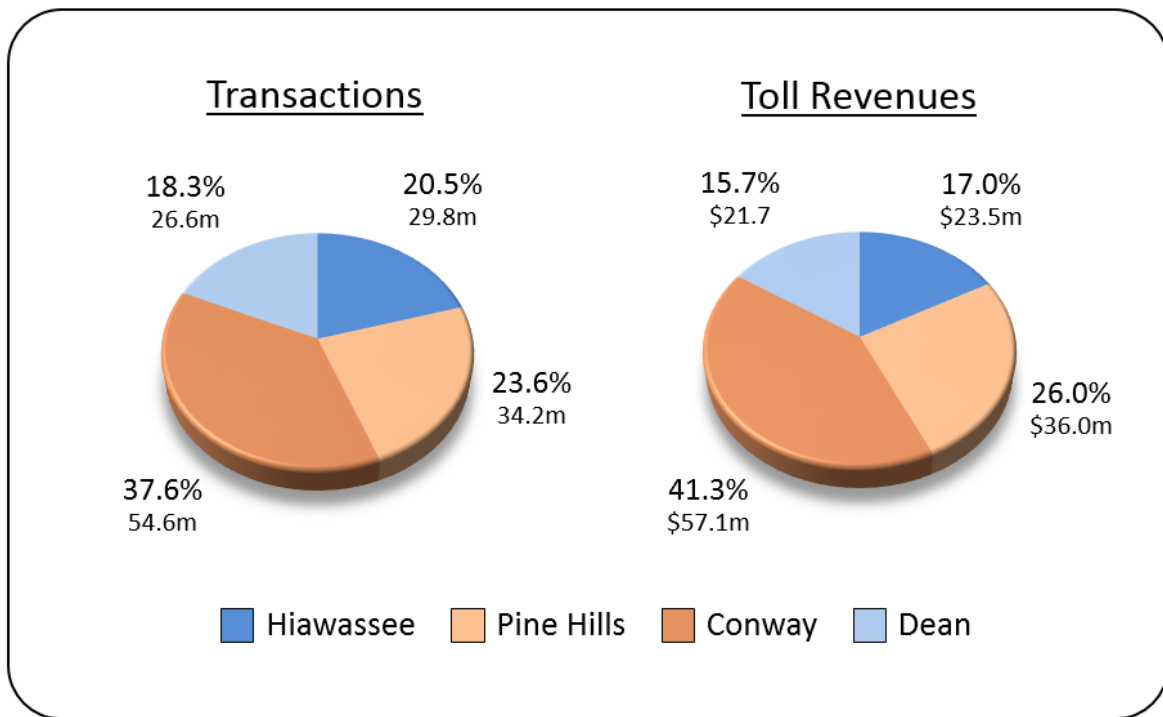
In October 2016, Hurricane Matthew tracked parallel to the Florida coast as a Category 3 storm with winds up to 130 miles per hour. Tolls were suspended on the CFX System beginning at 8:00pm on October 5, 2016 through early on October 10, 2016. The toll suspension resulted in a loss of approximately 1.7 million transactions and \$1.6 million in revenues on S.R. 408. In September 2017 (FY 2018), Hurricane Irma tracked parallel to the Florida coast as a Category 4 storm with winds up to 155 miles per hour. Tolls were suspended on CFX toll facilities beginning on September 5, 2017 through September 20, 2017 resulting in a transaction loss of approximately 6.7 million and a toll revenue loss of \$6.4 million on S.R. 408.

As shown, paid in-lane transactions on S.R. 408 in FY 2018 decreased by approximately 2.5 million, or 1.7 percent, compared to FY 2017. FY 2018 paid in-lane revenues decreased by \$2.7 million, or 1.9 percent compared to FY 2017. In FY 2018, paid in-lane transactions and revenues increased 0.7 percent at the Hiawassee Main plaza group over FY 2017. The Pine Hills Main plaza group experienced no growth in paid in-lane transactions and a decline in paid in-lane revenues over the same period. Paid in-lane transactions at the Conway Main plaza group declined by 3.2 percent and revenues declined by 3.4 percent. At the Dean Main plaza group, paid in-lane transactions declined by 3.3 percent and revenues declined by 3.6 percent. As previously mentioned, September 2017 transactions and revenues were negatively impacted by toll suspensions during Hurricane Irma.



The paid in-lane transactions and toll revenues by plaza groups and as a percentage of total S.R. 408 paid in-lane transactions and toll revenues for FY 2018 are presented in **Figure 4-4**. The largest portion of the paid in-lane transactions on S.R. 408 during FY 2018 were reported at the Conway Main plaza group, with 54.6 million or 37.6 percent. The Pine Hills Main, Hiawassee Main, and Dean Main plaza groups reported 34.2, 29.8 and 26.6 million paid in-lane transactions and each contributed between 18 and 24 percent of total S.R. 408 paid in-lane transactions for FY 2018.

Figure 4-4
S.R. 408 Paid In-Lane Transactions and Revenue by Plaza Group
FY 2018



Source: CFX Statistical Report June 2018

The annual totals and percentages for paid in-lane toll revenues are similar to the trends reported for annual paid in-lane transactions. As shown, the Conway Main plaza group represented \$57.1 million in paid in-lane toll revenues or 41.3 percent of total S.R. 408 paid in-lane toll revenues. The Pine Hills Main plaza group represented \$36.0 million or 26.0 percent of total paid in-lane revenues on the facility. The Hiawassee Main plaza group represented \$23.5 million or 17.0 percent and the Dean Main plaza group represented \$21.7 million or 15.7 percent of total paid in-lane revenues on the facility.

4.2.2 MONTHLY PAID IN-LANE TRANSACTION SEASONAL VARIATION

In **Table 4-2**, monthly paid in-lane transactions are normalized to the average number of paid in-lane transactions per day in each month. Using average number of paid in-lane transactions per day allows for an easy comparison of the variations in relative travel demand over the year. The seasonal pattern of usage changes slightly from year to year based on the number of weekdays in a given month. September average daily paid in-lane transactions were adjusted to only include 15 days of toll collection during the month. Tolls were suspended the remaining 15 days due to Hurricane Irma.

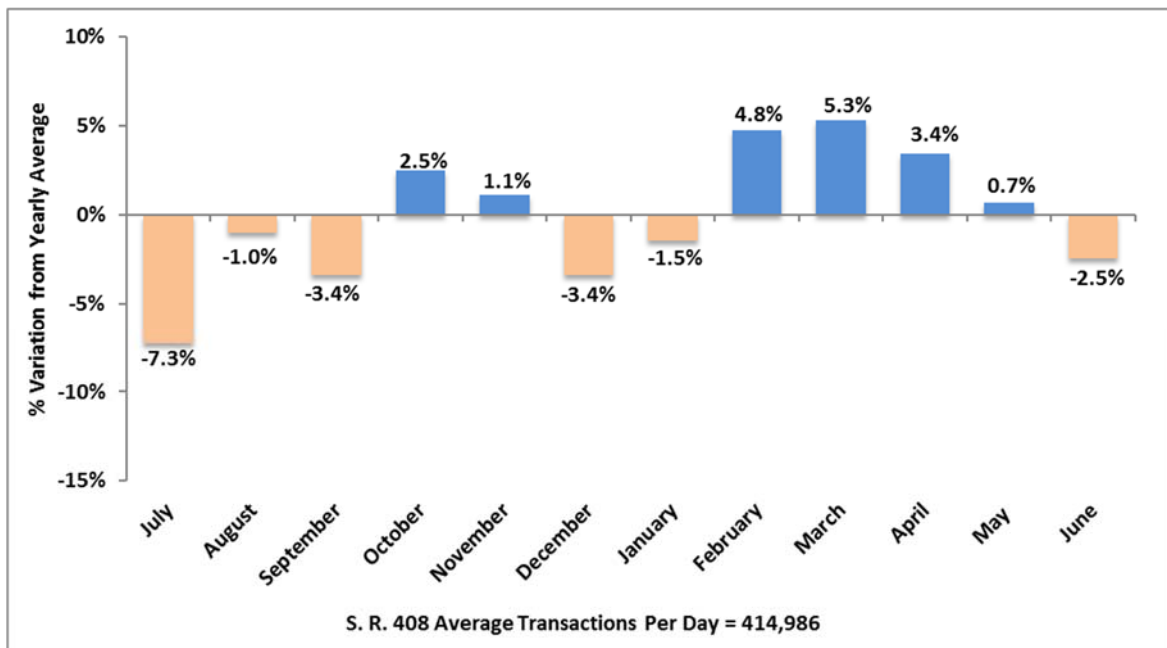
The average number of paid in-lane transactions per day in FY 2018 on S.R. 408 ranged from a high of 437,032 in March 2018 to a low of 384,843 in July 2017. This data is presented in a graphical format in **Figure 4-5**. The paid in-lane transactions for each month appear as a percentage of the average for the fiscal year. As shown in the figure, March paid in-lane transactions were 5.3 percent above average and July paid in-lane transactions were 7.3 percent below average for the facility. S.R. 408 volumes do not fluctuate as much as other facilities due to the usage of the highway as a commuter facility with a lower level of use by tourists and seasonal residents.

Table 4-2
S.R. 408 – Monthly Seasonal Variation in Paid In-Lane Transactions
FY 2018

Month	Number of Days in Month	Total Toll Paying Transactions	Average Transactions/day	Seasonal Factor
July	31	11,930,129	384,843	0.927
August	31	12,736,934	410,869	0.990
September	15	6,013,107	400,874	0.966
October	31	13,181,546	425,211	1.025
November	30	12,587,099	419,570	1.011
December	31	12,427,608	400,891	0.966
January	31	12,674,428	408,853	0.985
February	28	12,174,031	434,787	1.048
March	31	13,547,986	437,032	1.053
April	30	12,877,234	429,241	1.034
May	31	12,953,807	417,865	1.007
June	30	12,141,122	404,704	0.975
Average		12,103,753	414,986	1.000
Total Year	350	145,245,031		

Source: CFX Statistical Report June 2018

Figure 4-5
S.R. 408 Variation in Paid In-Lane Transactions per Day, by Month
FY 2018



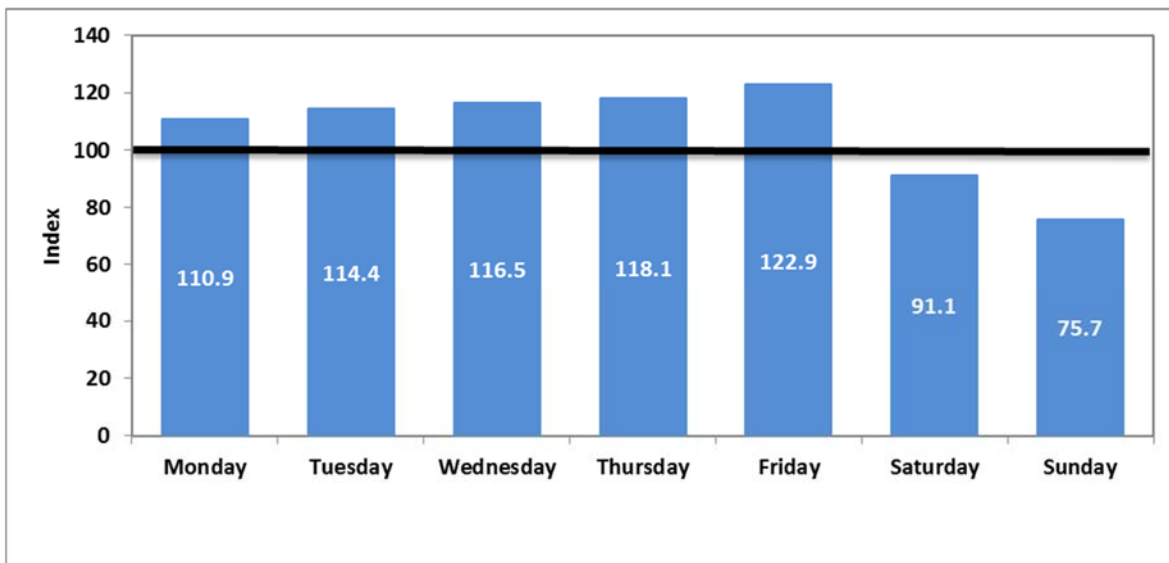
Source: CFX Statistical Report June 2018

4.2.3 DAY-OF-WEEK TOLL TRANSACTION VARIATION

Figure 4-6 contains a comparison of transactions by day of week. This data is presented as an index, where the average day equals 100. An index value of 100 for a given day of the week would indicate that day’s transactions were precisely the same volume as the facility’s average. A value of 120 would indicate a day that has 20 percent greater volume than the average. The data used for this analysis was for a typical week and includes transactions at mainline plazas only (no ramps).

During FY 2018, toll transactions on S.R. 408 fluctuated over the course of the five-day work week. Transactions were highest on Fridays, with an index value of 122.9 (22.9 percent higher than the average day), volumes on Monday through Thursday ranged from index values of 110.9 to 118.1. Transactions decline significantly on Saturdays and Sundays, which have index values of 91.1 and 75.7, or 8.9 and 24.3 percent lower than the average day.

Figure 4-6
S.R. 408 Variation in Transactions, By Day of Week
FY 2018



Source: Unaudited lane transaction data – January 2018

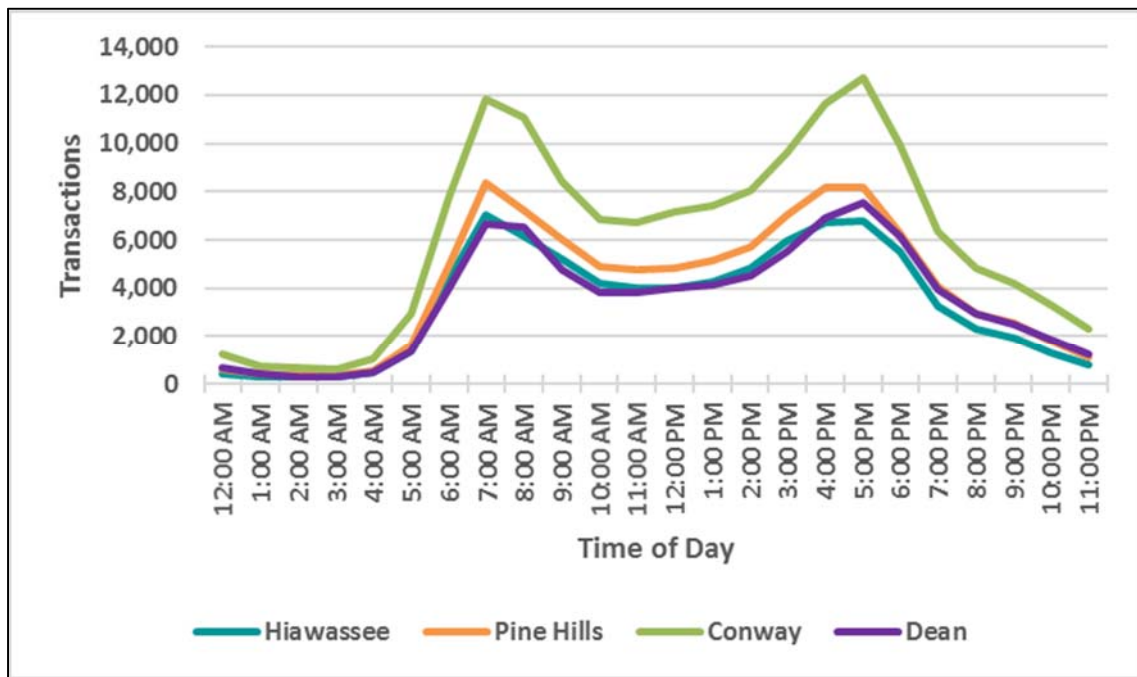
4.2.4 HOURLY TRAFFIC DISTRIBUTION

The hourly distribution of traffic includes information on the usage characteristics of travel on the facility. The hourly distributions represent counts taken during a typical week at the mainline plazas in the month of January. The typical weekday distribution is shown in **Figure 4-7** and the weekend distribution is shown in **Figure 4-8**. The figures contain the sum of traffic volumes in both directions.

The four mainline locations on S.R. 408 exhibit similar hourly traffic patterns. On weekdays, travel demand at all four locations is bimodal, with both morning and evening peak hours. Traffic volumes in the evening peak hours at all four mainline plazas are higher than in the morning peak hours. The highest peak hour volumes during the week were 12,700 per hour beginning at 5:00 P.M. at the Conway mainline plaza, 8,200 per hour beginning at 4:00 P.M. at the Pine Hills mainline plaza, 7,600 per hour beginning at 5:00 P.M. at the Dean mainline plaza and 6,800 per hour beginning at 5:00 P.M. at the Hiawassee mainline plaza. On weekends, there is no clear morning or evening peak periods, indicating that many customers use the facility for non-work trip purposes.

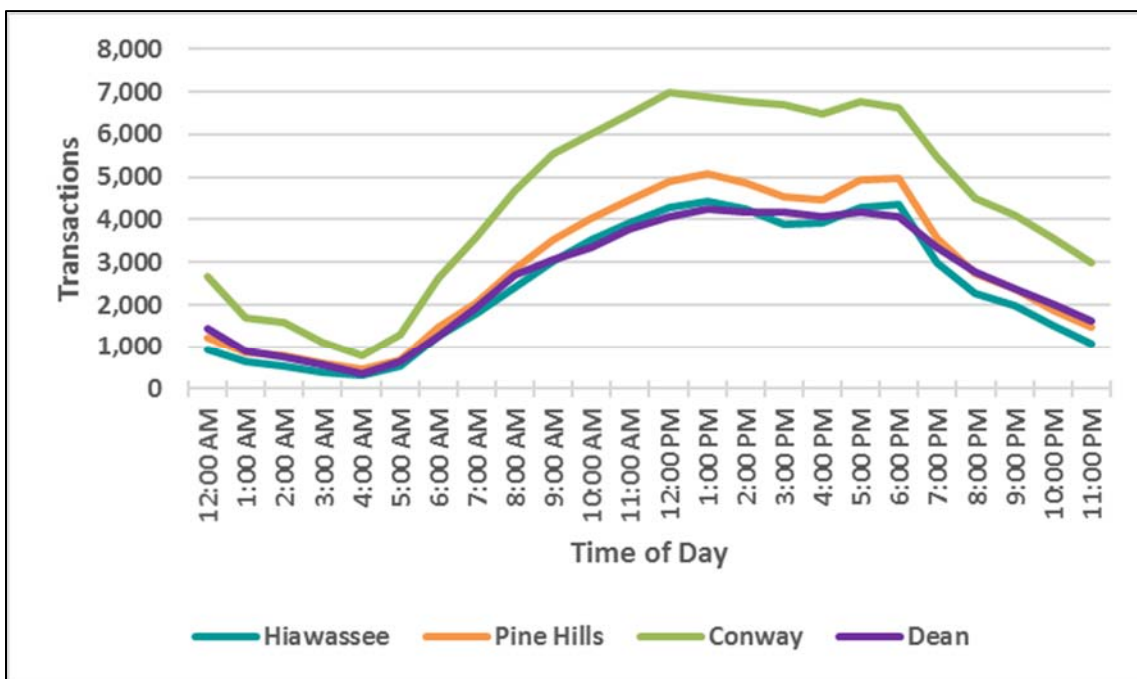


Figure 4-7
S.R. 408 Hourly Traffic Variation (Weekday)
FY 2018 (January)



Source: Unaudited lane transaction data – January 2018

Figure 4-8
S.R. 408 Hourly Traffic Variation (Weekend)
FY 2018 (January)



Source: Unaudited lane transaction data – January 2018

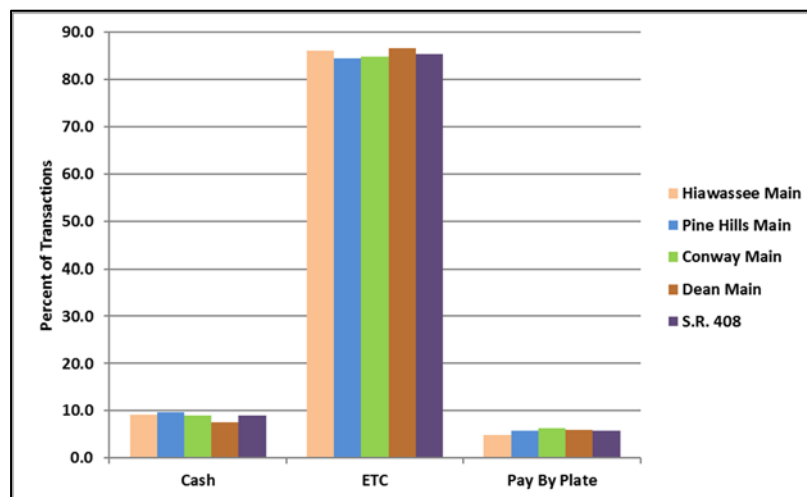
4.2.5 TRANSACTIONS AND REVENUE BY PAYMENT TYPE

The distribution of transactions and revenue by payment type by plaza group during FY 2018 is presented in **Figure 4-9** and **Figure 4-10**. Payment types can be classified in one of three ways: cash, ETC, and Pay By Plate (PBP). As defined in Chapter 1 of this report, paid in-lane transactions and revenue include cash and ETC payments made when a customer drives through a CFX toll location. The remaining transactions and revenue are classified as unpaid in-lane, which includes PBP and a small portion of non-revenue transactions. It is important to note that the data presented in the following two figures is based on unaudited transaction and toll revenue data and may not match the audited data shown in other tables and figures in this chapter.

As shown in Figure 4-9, the percent of ETC transactions ranged from a low of 84.4 percent at the Pine Hills Main plaza group to a high of 86.6 percent at the Dean Main plaza group. Overall, ETC transactions on S.R. 408 accounted for 85.3 percent of total transactions on the facility. The percent of cash transactions ranged from a low of 7.6 percent at the Dean Main plaza group to a high of 9.8 percent at the Pine Hills Main plaza group. Overall, cash transactions on S.R. 408 accounted for 8.9 percent of total transactions on the facility. The PBP transactions accounted for the smallest share, between 4.9 to 6.2 percent of transactions at all plaza groups. Overall, PBP transactions on S.R. 408 accounted for 5.8 percent of total transactions on the facility.

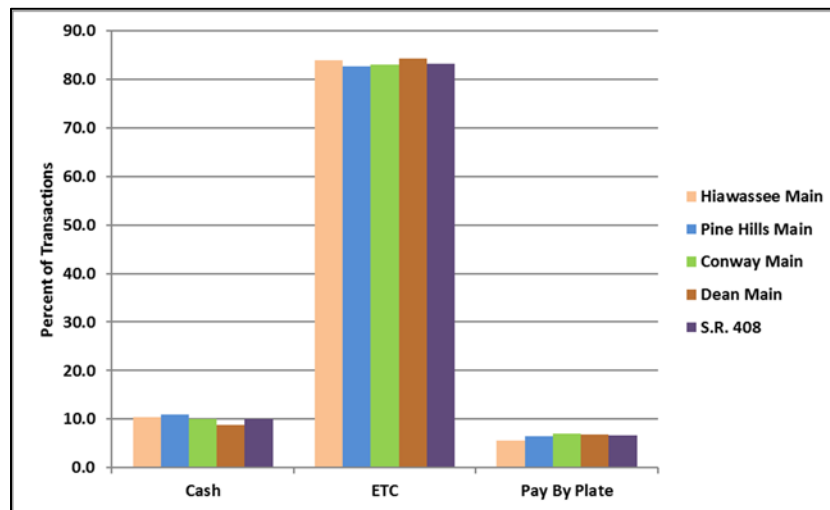
As shown in Figure 4-10, the percent of toll revenues by payment type is comparable to the trend in transactions. The percent of ETC toll revenues ranged from a low of 82.7 percent at the Pine Hills Main plaza group to a high of 84.3 percent at the Dean Main plaza group. The percent of cash toll revenues ranged from a low of 8.9 percent at the Dean Main plaza group to a high of 10.9 percent at the Pine Hills Main plaza group. The percent of PBP toll revenues ranged from a low of 5.6 percent at the Hiawassee Main plaza group to a high of 7.0 percent at the Conway Main plaza group.

Figure 4-9
S.R. 408 Percent of Transactions by Payment Type
FY 2018



Source: Unaudited transaction data provided by CFX

Figure 4-10
S.R. 408 Percent of Revenue by Payment Type
FY 2018



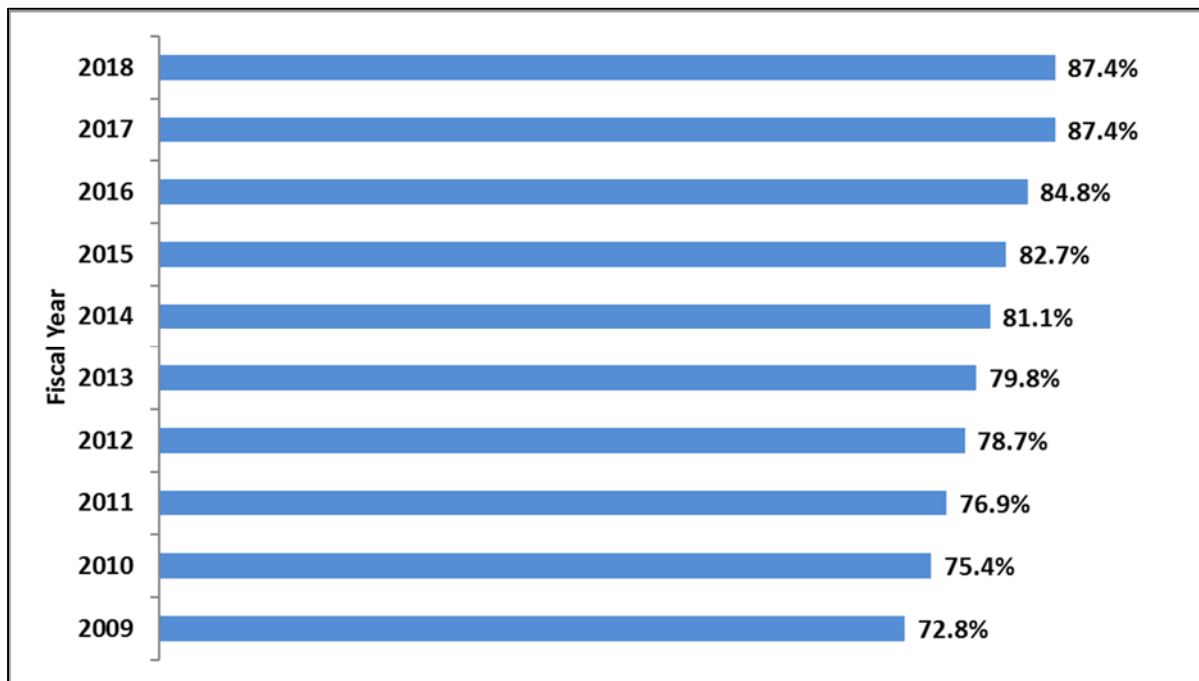
Source: Unaudited transaction data provided by CFX

4.3 ETC Usage

The percent of revenues generated from ETC over the past ten fiscal years on S.R. 408 is shown in **Figure 4-11**. The share of toll revenue collected through ETC has steadily increased on the facility. In FY 2009, ETC revenues totaled 72.8 percent of total revenues on the facility. By the end of FY 2018, ETC revenues reached 87.4 percent. ETC usage is still expected to increase as customers shift from cash to ETC to take advantage of the lower toll rate and convenience of paying tolls electronically.

Beginning May 11, 2016, CFX implemented a pilot program called The Reload Lane to encourage and increase E-PASS usage. CFX now offers this drive-through lane on S.R. 408 at the Conway Main Plaza for customers to sign up for an E-PASS electronic transponder or replenish an existing E-PASS account from 6:00 a.m. to 8:00 p.m. daily. This program is the first of its kind in the continental United States and provides customer convenience and multiple payment options (cash, check, and debit/credit card). A second Reload Lane was opened at the John Young Main Plaza on S.R. 417 in March 2017. The program was expanded with the opening of a third location at the Forest Lake Main Plaza on S.R. 429 in May 2017.

Figure 4-11
S.R. 408 Percent of Revenue from Electronic Toll Collection
FY 2009 – FY 2018



Source: CFX Statistical Report June 2018

4.4 Forecasted Transactions and Toll Revenues

Based on the recently adopted “Customer First Toll Policy,” toll rate adjustments (indexed tolls) were applied to the T&R forecasts every year based on the net change in CPI of 2.05 percent in FY 2019 and 1.5 percent per year thereafter.

Future transportation improvements that influence the T&R forecasts for S.R. 408 include the projects listed in **Table 4-3**, assumed completed in each model horizon year. System improvements, such as the S.R. 408 widening projects from S.R. 417 to Alafaya Trail on the east and from Hiwassee Road to Clarke Road on the west will help growth rates in the near term as these are areas of congestion. The major improvements to S.R. 50 may be contributing to the recent slowdown in growth on S.R. 408, but feeder road improvements, including Alafaya Trail, John Young Parkway, Hiwassee Road, Clarke Road and U.S. 441, positively impact the traffic and revenue growth on S.R. 408 throughout the forecast horizon.

Table 4-3
S.R. 408 - Key Transportation Improvements

Facility	From	To	Year	Jurisdiction	Improvement
Interstate 4	SR 434	Kirkman Road	2025	FDOT	Widen to 10 lanes
SR 408	SR 417	Alafaya Trail	2025	CFX	Widen to 6-lanes
SR 408	Hiwassee Road	Clark Road	2025	CFX	Widen to 6-lanes
SR 423 (John Young Parkway)	SR 50 (Colonial Drive)	Shader Road	2025	Orange County/FDOT	Widen to 6 Lanes
SR 50	East of SR 417	Old Cheney Highway	2025	FDOT	Widen to 6-lanes
SR 50	SR 429	East of West Oaks Mall	2025	FDOT	Widen to 6-lanes
Alafaya Trail	Huckleberry Finn Drive	Lake Underhill Road	2035	Orange County	Widen to 6 Lanes
Hiwassee Road	SR 50	Silver Star Road	2035	Orange County	Widen to 6 Lanes
SR 50	East of Old Cheney Hwy	SR 520	2035	FDOT	Widen to 6-lanes
Clarke Road	White Road	SR 50	2045	Orange County	Widen to 6 Lanes
SR 408 East Extension	Challenger Parkway	SR 50	2045	CFX	New 4-lane expressway
US 441 (Orange Blossom Trail)	SR 50 (Colonial Drive)	John Young Parkway	2045	FDOT	Widen to 6 Lanes

Historical and projected transactions and toll revenues for each of the S.R. 408 plaza groups and for all of S.R. 408 are shown in Tables 4-4 and 4-5. The tables are divided into paid in-lane transactions and revenue and PBP transactions and revenue. Paid in-Lane transactions and revenue by plaza group include ETC and cash collection. PBP is only reported as a total on the facility level.

The forecasts are based on the completion of the Interstate 4 Ultimate, especially the completion of the I-4/S.R. 408 interchange improvements. While these improvements provide congestion relief on I-4, there are only moderate impacts to S.R. 408 T&R forecasts. The growth rates for the remainder of the forecast period are also moderate but steady. The paid in-lane transactions on S.R. 408 are expected to grow 0.9 percent per year through FY 2028 and then lower rates through the end of the forecast period because of the impact of toll rate adjustments. PBP transactions are forecasted to increase an average of 3.5 percent per year through FY 2028 and then decline through the forecast period. Total transactions are expected to grow 1.0 percent per year through FY 2028, 0.6 percent per year from FY 2028 to FY 2038, and 0.4 percent per year from FY 2038 to FY 2048. The paid in-lane revenues on S.R. 408 are projected to increase significantly over the forecast period, from the FY 2018 actual of \$138.3 million to \$237.5 million in FY 2048. PBP revenues are projected to increase from \$9.8 million in FY 2018 to \$23.3 million in FY 2048. Total revenues are expected to grow from \$148.1 million in FY 2018 to \$260.8 million in FY 2048. S.R. 408 total revenues are forecasted to increase an average of 2.3 percent per year through FY 2028, 1.8 percent per year from FY 2028 to FY 2038, and 1.7 percent per year from FY 2038 to FY 2048.

Table 4-4
S.R. 408 Plaza Groups – Transaction Projections (Millions)
FY 2019 – FY 2048

Fiscal Year	Hiwassee Main	Pine Hills Main	Conway Main	Dean Main	Paid In-Lane	PBP	Total	Percent Annual Change
2010	23.3	28.4	49.0	25.3	126.0	0.8	126.8	
2011	23.2	28.4	50.0	25.1	126.7	1.4	128.1	1.0%
2012	23.1	28.4	50.1	24.6	126.2	1.8	128.0	-0.1%
2013 ^A	22.5	27.6	48.9	24.5	123.5	2.2	125.7	-1.8%
2014	24.1	29.2	51.1	25.3	129.7	2.7	132.4	5.3%
2015	26.4	31.6	53.9	26.3	138.2	3.4	141.6	6.9%
2016	28.6	33.7	56.4	27.5	146.2	4.5	150.7	6.4%
2017 ^B	29.6	34.2	56.4	27.5	147.7	5.1	152.8	1.4%
2018 ^C	29.8	34.2	54.6	26.6	145.2	8.9	154.1	0.9%
2019 ^D	30.2	34.1	53.1	25.8	143.2	13.4	156.6	1.6%
2020	31.1	34.8	53.4	26.2	145.5	11.4	156.9	0.2%
2021	31.9	35.4	53.6	26.5	147.4	11.6	159.0	1.3%
2022 ^E	32.4	36.2	54.4	26.8	149.8	11.9	161.7	1.7%
2023	33.0	36.6	54.7	27.1	151.4	11.9	163.3	1.0%
2024	33.5	37.1	55.0	27.4	153.0	12.1	165.1	1.1%
2025	34.1	37.5	55.2	27.7	154.5	12.2	166.7	1.0%
2026	34.6	37.9	55.4	28.0	155.9	12.2	168.1	0.8%
2027	35.0	38.3	55.6	28.3	157.2	12.4	169.6	0.9%
2028	35.5	38.6	55.8	28.6	158.5	12.5	171.0	0.8%
2029	35.9	39.0	56.0	28.8	159.7	12.5	172.2	0.7%
2030	36.3	39.3	56.2	29.0	160.8	12.7	173.5	0.8%
2031	36.7	39.6	56.4	29.2	161.9	12.8	174.7	0.7%
2032	37.1	39.9	56.6	29.4	163.0	12.8	175.8	0.6%
2033	37.4	40.2	56.8	29.6	164.0	12.8	176.8	0.6%
2034	37.8	40.5	57.0	29.8	165.1	13.0	178.1	0.7%
2035	38.1	40.7	57.1	29.9	165.8	13.1	178.9	0.4%
2036	38.4	41.0	57.3	30.1	166.8	13.1	179.9	0.6%
2037	38.7	41.2	57.5	30.2	167.6	13.1	180.7	0.4%
2038	39.0	41.4	57.6	30.4	168.4	13.3	181.7	0.6%
2039	39.3	41.7	57.8	30.5	169.3	13.4	182.7	0.6%
2040	39.6	41.9	58.0	30.6	170.1	13.4	183.5	0.4%
2041	39.9	42.1	58.1	30.7	170.8	13.4	184.2	0.4%
2042	40.1	42.3	58.2	30.8	171.4	13.4	184.8	0.3%
2043	40.4	42.5	58.4	30.9	172.2	13.6	185.8	0.5%
2044	40.7	42.7	58.5	31.0	172.9	13.7	186.6	0.4%
2045	40.9	42.9	58.6	31.1	173.5	13.7	187.2	0.3%
2046	41.2	43.1	58.8	31.2	174.3	13.7	188.0	0.4%
2047	41.4	43.2	58.9	31.3	174.8	13.7	188.5	0.3%
2048	41.6	43.4	59.0	31.4	175.4	13.8	189.2	0.4%

Fiscal Year	Compound Annual Average Growth Rate (CAAGR)						
2010 - 2018	3.1%	2.4%	1.4%	0.6%	1.8%	35.1%	2.5%
2018 - 2028	1.8%	1.2%	0.2%	0.7%	0.9%	3.5%	1.0%
2028 - 2038	0.9%	0.7%	0.3%	0.6%	0.6%	0.6%	0.6%
2038 - 2048	0.6%	0.5%	0.2%	0.3%	0.4%	0.4%	0.4%

Notes:

Actual transaction data provided by CFX from Monthly Statistical Reports.

A - Systemwide toll rate increase.

B - Effects from Hurricane Matthew in October 2016.

C - Effects from Hurricane Irma in September 2017.

D - First year of implementation of "Customer First" toll rate policy and assumed toll rate increase of 2.05% in FY 2019. Annual toll rate increase of 1.5% assumed throughout forecast period.

E - Completion of I-4 Ultimate project.

**Table 4-5
S.R. 408 Plaza Groups – Toll Revenue Projections (Millions)
FY 2019– FY 2048**

Fiscal Year	Hiwassee Main	Pine Hills Main	Conway Main	Dean Main	Paid In-Lane	PBP	Total	Percent Change
2010	\$16.4	\$26.8	\$46.1	\$18.4	\$107.7	\$1.0	\$108.7	
2011	\$16.2	\$26.8	\$47.1	\$18.2	\$108.3	\$1.8	\$110.1	1.3%
2012	\$16.0	\$26.7	\$47.2	\$17.8	\$107.7	\$2.4	\$110.1	0.0%
2013 ^A	\$18.0	\$29.3	\$51.9	\$20.1	\$119.3	\$3.5	\$122.8	11.5%
2014	\$19.2	\$31.0	\$54.2	\$20.8	\$125.2	\$4.2	\$129.4	5.4%
2015	\$21.0	\$33.4	\$56.9	\$21.7	\$133.0	\$5.3	\$138.3	6.9%
2016	\$22.6	\$35.5	\$59.4	\$22.6	\$140.1	\$6.9	\$147.0	6.3%
2017 ^B	\$23.3	\$36.1	\$59.1	\$22.5	\$141.0	\$9.2	\$150.2	2.2%
2018 ^C	\$23.5	\$36.0	\$57.1	\$21.7	\$138.3	\$9.8	\$148.1	-1.4%
2019 ^D	\$24.3	\$36.3	\$55.8	\$21.3	\$137.7	\$14.8	\$152.5	3.0%
2020	\$25.3	\$37.5	\$56.9	\$21.9	\$141.6	\$12.8	\$154.4	1.2%
2021	\$26.4	\$38.7	\$58.0	\$22.5	\$145.6	\$13.2	\$158.8	2.8%
2022 ^E	\$27.2	\$40.1	\$59.7	\$23.1	\$150.1	\$13.8	\$163.9	3.2%
2023	\$28.0	\$41.1	\$60.7	\$23.6	\$153.4	\$14.0	\$167.4	2.1%
2024	\$28.8	\$42.1	\$61.8	\$24.2	\$156.9	\$14.3	\$171.2	2.3%
2025	\$29.6	\$43.0	\$62.7	\$24.7	\$160.0	\$14.7	\$174.7	2.0%
2026	\$30.4	\$43.9	\$63.7	\$25.2	\$163.2	\$15.0	\$178.2	2.0%
2027	\$31.1	\$44.8	\$64.6	\$25.8	\$166.3	\$15.4	\$181.7	2.0%
2028	\$31.9	\$45.7	\$65.6	\$26.3	\$169.5	\$15.7	\$185.2	1.9%
2029	\$32.6	\$46.6	\$66.5	\$26.8	\$172.5	\$16.0	\$188.5	1.8%
2030	\$33.4	\$47.5	\$67.5	\$27.3	\$175.7	\$16.5	\$192.2	2.0%
2031	\$34.1	\$48.4	\$68.6	\$27.9	\$179.0	\$16.9	\$195.9	1.9%
2032	\$34.9	\$49.3	\$69.6	\$28.4	\$182.2	\$17.1	\$199.3	1.7%
2033	\$35.7	\$50.2	\$70.7	\$28.9	\$185.5	\$17.4	\$202.9	1.8%
2034	\$36.4	\$51.1	\$71.8	\$29.4	\$188.7	\$17.8	\$206.5	1.8%
2035	\$37.2	\$52.0	\$72.9	\$29.9	\$192.0	\$18.4	\$210.4	1.9%
2036	\$37.9	\$52.9	\$74.0	\$30.5	\$195.3	\$18.6	\$213.9	1.7%
2037	\$38.7	\$53.8	\$75.2	\$31.0	\$198.7	\$18.9	\$217.6	1.7%
2038	\$39.5	\$54.7	\$76.3	\$31.5	\$202.0	\$19.4	\$221.4	1.7%
2039	\$40.3	\$55.7	\$77.5	\$32.0	\$205.5	\$19.9	\$225.4	1.8%
2040	\$41.1	\$56.7	\$78.6	\$32.6	\$209.0	\$20.2	\$229.2	1.7%
2041	\$41.9	\$57.7	\$79.8	\$33.1	\$212.5	\$20.5	\$233.0	1.7%
2042	\$42.7	\$58.7	\$81.0	\$33.6	\$216.0	\$20.8	\$236.8	1.6%
2043	\$43.5	\$59.7	\$82.1	\$34.1	\$219.4	\$21.5	\$240.9	1.7%
2044	\$44.3	\$60.7	\$83.3	\$34.6	\$222.9	\$21.8	\$244.7	1.6%
2045	\$45.1	\$61.8	\$84.5	\$35.2	\$226.6	\$22.2	\$248.8	1.7%
2046	\$46.0	\$62.8	\$85.7	\$35.7	\$230.2	\$22.4	\$252.6	1.5%
2047	\$46.8	\$63.9	\$87.0	\$36.2	\$233.9	\$22.8	\$256.7	1.6%
2048	\$47.6	\$65.0	\$88.2	\$36.7	\$237.5	\$23.3	\$260.8	1.6%

Fiscal Year	Compound Annual Average Growth Rate (CAAGR)						
2010 - 2018	4.6%	3.8%	2.7%	2.1%	3.2%	33.0%	3.9%
2018 - 2028	3.1%	2.4%	1.4%	1.9%	2.1%	4.8%	2.3%
2028 - 2038	2.2%	1.8%	1.5%	1.8%	1.8%	2.1%	1.8%
2038 - 2048	1.9%	1.7%	1.5%	1.5%	1.6%	1.8%	1.7%

Notes:

Actual transaction data provided by CFX from Monthly Statistical Reports.

A - Systemwide toll rate increase.

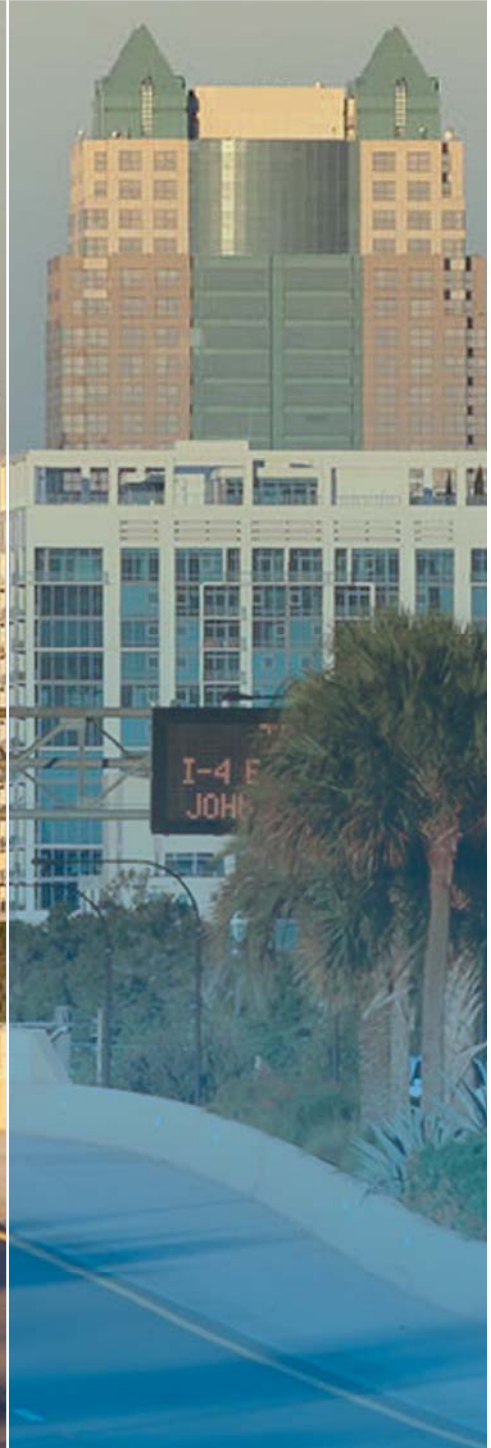
B - Effects from Hurricane Matthew in October 2016.

C - Effects from Hurricane Irma in September 2017.

D - First year of implementation of "Customer First" toll rate policy and assumed toll rate increase of 2.05% in FY 2019. Annual toll rate increase of 1.5% assumed throughout forecast period.

E - Completion of I-4 Ultimate project.

Chapter 5
S.R. 417
(Central Florida Greenway)



S.R. 417 (CENTRAL FLORIDA GREENEWAY)

5.1 Facility Description

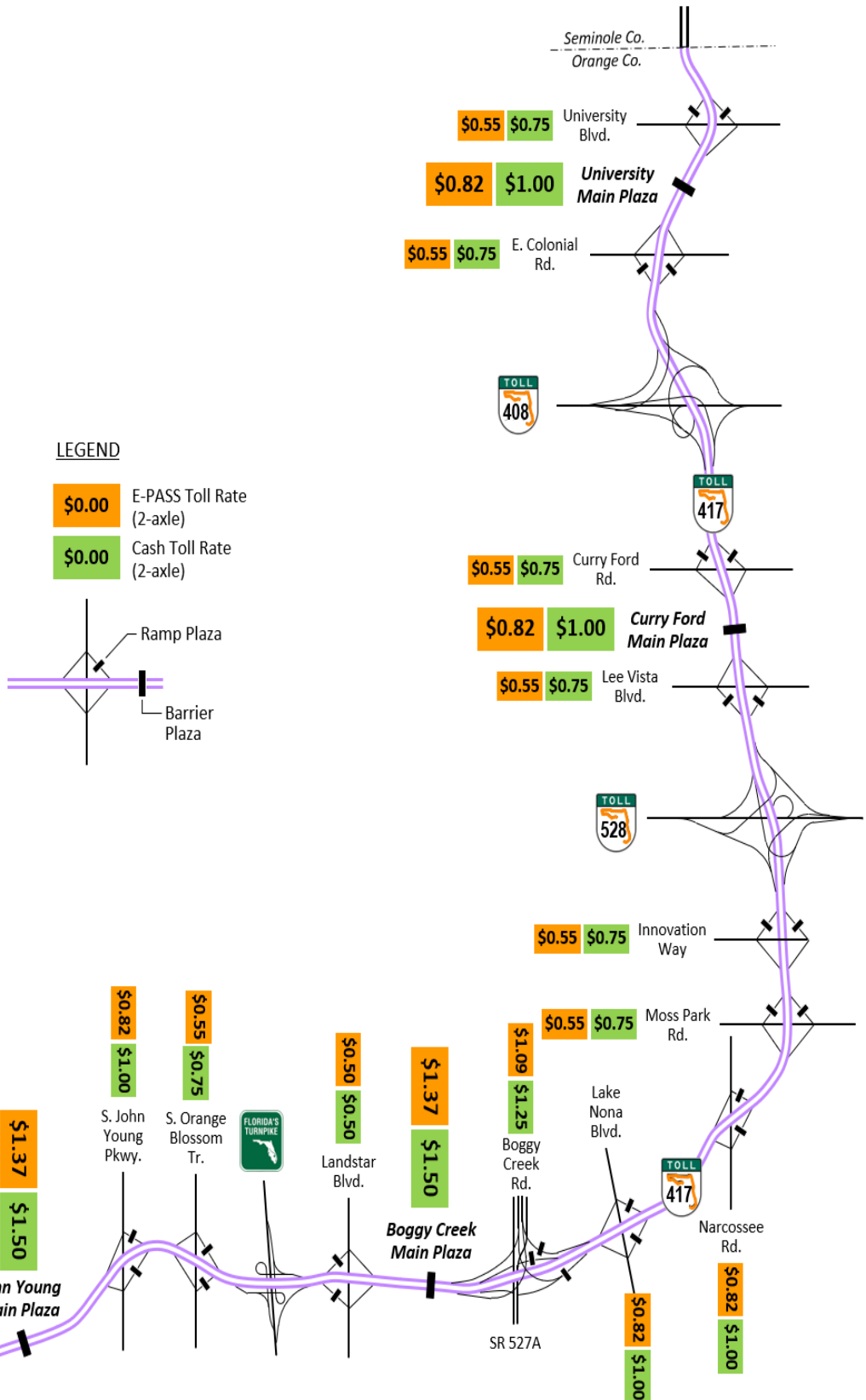
S. R. 417, also known as the Central Florida GreeneWay, is a 55-mile expressway that serves as an eastern beltway around Orlando and provides a connection from the residential areas northeast, east and southeast of Orlando in Orange, Seminole and Osceola Counties to S.R. 408 and downtown Orlando. It also significantly enhances access to the Orlando International Airport (OIA) as an alternative to S.R. 528 and S.R. 436. CFX owns and operates the largest portion of S.R. 417 (32 miles) extending east and north from International Drive to the Orange-Seminole County line. FTE extended S.R. 417 north and west from the Orange-Seminole County line to I-4. FTE also extended S.R. 417 in a westerly direction from International Drive to provide a connection to I-4 in the vicinity of the attractions. A map of CFX's portion of S.R. 417 including the FY 2018 CFX toll rates for the mainline and ramp toll plazas is shown in **Figure 5-1**.



The first section of S.R. 417 to be constructed by CFX was from S.R. 408 to the Orange-Seminole County line including the University Mainline plaza. This section opened to traffic in December 1988 and toll collection began at the plaza in January 1989. The University Main plaza group included interchanges at S.R. 408, Valencia College Lane, S.R. 50 and University Boulevard. The next section extended from S.R. 528 to S.R. 408, was completed in June 1990 and toll collection began in July 1990. The interchanges associated with the Curry Ford Main plaza group are S.R. 528, Lee Vista Boulevard and Curry Ford Road. The Boggy Creek and John Young Mainline plaza sections of S.R. 417, extending from International Drive to S.R. 528 and opened to traffic with toll collection in July 1993. The Boggy Creek Main plaza group includes interchanges at Boggy Creek Road, Lake Nona Boulevard, Narcoossee Road, Moss Park Road and Innovation Way. The John Young Main plaza group includes interchanges at John Young Parkway, U.S. 441/Orange Blossom Trail and Landstar Boulevard. FTE opened the section of the limited-access expressway between International Drive and I-4 in June 1996 and the S.R. 417 connection to U.S. 17-92 in Seminole County in 1994 and from U.S. 17-92 to I-4 in Seminole County in September 2002.

In July 2003, the University Mainline toll plaza was the first plaza in Florida to be converted from conventional toll lanes to Open Road Tolling (ORT) lanes. CFX chose this plaza for the first conversion due to its heavy traffic and extensive E-PASS usage. Conversions followed at the Curry Ford Mainline plaza in July 2005 and the Boggy Creek and John Young Mainline plazas in March 2007.

Figure 5-1
S.R. 417 Facilities and Toll Rates



In January 2012, CFX completed the widening of S.R. 417 from four to six lanes between S.R. 528 and Curry Ford Road to help reduce traffic congestion during peak periods. Also, in January 2013, CFX completed work on the modified S.R. 408/S.R. 417 Interchange project. As part of the interchange improvement project, Valencia College Lane ramps to and from the north were closed and ramps to and from the south were rerouted to a new access point at Chickasaw Trail on S.R. 408. This new interchange improved access and mobility to those living and working in east Orange County.

In January 2015, CFX opened a partial interchange between S.R. 417 and Florida's Turnpike, providing ramps from southbound S.R. 417 to southbound Florida's Turnpike and from northbound Florida's Turnpike to northbound S.R. 417. In May 2016, FTE opened an additional ramp for motorists traveling southbound on S.R. 417 to access Florida's Turnpike northbound toward Interstate 4. Also, two new ramps were opened for motorists traveling north on S.R. 417 from Hunter's Creek to access Florida's Turnpike in both the north and south directions. This completes five of eight ramps planned for the interchange. FTE is currently constructing the remainder of the ramps to complete the system to system interchange.

In May 2015, CFX completed the widening of S.R. 417 between Curry Ford Road and Lake Underhill Road from four to six lanes. The project also included improvements to the southbound off ramp to Curry Ford Road and the Curry Ford Road northbound on ramp.

In February 2016, CFX completed the interchange improvement at S.R. 417/Boggy Creek Road and opened the new airport ramps. This improvement provided better access to and from OIA for customers in South Orange and Osceola Counties.

CFX is currently reconstructing several ramps of the S.R. 417/S.R. 408 interchange. Phase One of the project was the widening of S.R. 417 between Berry Dease Road and S.R. 408. This 1.6-mile project added travel lanes in both directions (from four to six lanes) and realigned the northbound S.R. 417 ramp to eastbound S.R. 408. This phase was completed in the fall of 2017. Phase Two includes building new and realigned ramps from westbound S.R. 408 to southbound S.R. 417, northbound S.R. 417 to westbound S.R. 408, and eastbound S.R. 408 to southbound S.R. 417. This phase will be completed by fall of 2019.

In September 2018, CFX began widening State Road 417 from south of Econlockhatchee Trail to the Orange/Seminole County line. The 3.2-mile project will add a travel lane in both directions, expanding the expressway from four to six lanes. The project also includes eliminating one cash lane in each direction at the University Main Plaza and replacing it with an Open Road Tolling (ORT) lane, for a total of three ORT lanes (dedicated E-PASS lanes) in each direction. The project is expected to take approximately 24 months to complete.

5.2 Historical Transactions and Toll Revenues

5.2.1 ANNUAL PAID IN-LANE TRANSACTION AND REVENUE TRENDS

S.R. 417 annual paid in-lane transactions at the John Young Main, Boggy Creek Main, Curry Ford Main and University Main plaza groups from FY 1999 to FY 2018 are presented in the top half of **Table 5-1**. The history of annual paid in-lane toll revenues is also summarized and totaled in the bottom half of the table. The facility data and annual growth are also presented visually in **Figure**

5-2 and Figure 5-3. These historical tables do not include PBP transactions and revenues, only those that are paid in-lane. For these reasons, the information presented in this section may differ slightly from the data presented in the FY 2018 Comprehensive Annual Financial Report (CAFR) and other information in this report.

With the decreasing paid in-lane transactions and revenues across the System and the threat of an economic recession, CFX instituted a Systemwide toll rate increase in FY 2008 and 2009. Paid in-lane transactions decreased at all four plaza groups in FY 2009 due to both the economic downturn and the Systemwide toll rate increase. The April 2009 toll rate increase impacted the last three months of FY 2009. During the same year, paid in-lane revenues at the John Young Main plaza group and Boggy Creek Main plaza group decreased by 3.6 and 5.7 percent, respectively. Paid in-lane revenues at the Curry Ford Main and University Main plaza groups remained relatively unchanged from FY 2008. FY 2009 paid in-lane transactions and revenues were also impacted by Tropical Storm Fay in August 2008.

FY 2010 paid in-lane transactions continued to decline at all four plaza groups as a result of the economic downturn and the toll rate increase, which impacted the first nine months of the fiscal year. However, paid in-lane toll revenues increased significantly at all plaza groups due to the higher toll rates. The University Main plaza group reported the largest increase on S.R. 417 in paid in-lane revenues of 29.1 percent, or \$4.6 million and Curry Ford Main plaza group's paid in-lane revenue increased by 27.3 percent, or \$3.8 million.

As shown, Curry Ford Main was the only plaza group with a decline in paid in-lane transactions and revenues in FY 2011. The losses in paid in-lane transactions and revenues can be attributed to the S.R. 417 widening activities between Curry Ford and S.R. 528. This trend continued at the Curry Ford Main plaza group in FY 2012 with a decrease of 0.4 percent in paid in-lane transactions and no growth in revenues. Construction of the widening project was completed in FY 2013. Also, in FY 2012, the University Main plaza group experienced a decline of 2.8 percent in paid in-lane transactions and a decline of 1.5 percent in revenues. This plaza group was impacted by the construction of the S.R. 408/S.R. 417 systems interchange. FY 2012 was also the first full year that the Valencia College Lane ramps had been permanently closed.

In FY 2013, University Main plaza group was the only one that experienced a decline in paid in-lane transactions, a decrease of 7.0 percent as compared to FY 2012. All other plaza groups experienced an increase in paid in-lane transactions despite the July 2012 toll rate adjustment. Paid in-lane revenues at all plaza groups increased in FY 2013, overall 13.3 percent.

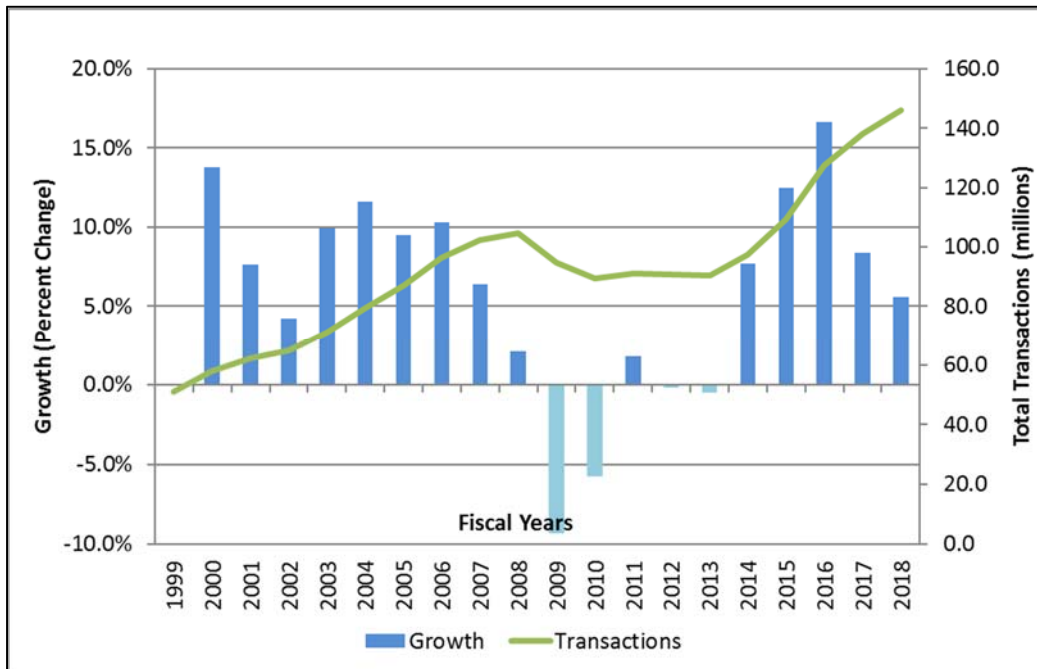
**Table 5-1
S.R. 417 Plaza Groups – Historical Paid In-Lane Transactions and Revenue
FY 1999 – FY 2018**

Fiscal Year	John Young Main	Boggy Creek Main	Curry Ford Main	University Main	TOTAL	John Young Main	Boggy Creek Main	Curry Ford Main	University Main	TOTAL
TRANSACTIONS (millions)					PERCENT CHANGE					
1999	11.6	8.9	11.7	18.7	50.9					
2000	13.4	10.1	13.6	20.8	57.9	15.5%	13.5%	16.2%	11.2%	13.8%
2001	14.5	10.8	14.8	22.2	62.3	8.2%	6.9%	8.8%	6.7%	7.6%
2002 ^A	14.5	11.0	15.7	23.7	64.9	0.0%	1.9%	6.1%	6.8%	4.2%
2003	15.7	12.3	17.9	25.4	71.3	8.3%	11.8%	14.0%	7.2%	9.9%
2004 ^B	17.1	13.5	20.4	28.6	79.6	8.9%	9.8%	14.0%	12.6%	11.6%
2005 ^C	18.9	15.2	22.9	30.2	87.2	10.5%	12.6%	12.3%	5.6%	9.5%
2006 ^D	20.8	17.3	25.7	32.4	96.2	10.1%	13.8%	12.2%	7.3%	10.3%
2007 ^E	22.3	19.1	27.5	33.5	102.4	7.2%	10.4%	7.0%	3.4%	6.4%
2008	23.6	20.3	27.6	33.0	104.5	5.8%	6.3%	0.4%	-1.5%	2.1%
2009 ^F	21.5	18.4	24.9	30.0	94.8	-8.9%	-9.4%	-9.8%	-9.1%	-9.3%
2010 ^F	19.6	17.5	23.6	28.6	89.3	-8.8%	-4.9%	-5.2%	-4.7%	-5.8%
2011	20.1	18.6	23.2	29.0	90.9	2.6%	6.3%	-1.7%	1.4%	1.8%
2012 ^G	20.6	18.8	23.1	28.2	90.7	2.5%	1.1%	-0.4%	-2.8%	-0.2%
2013 ^H	21.0	19.7	23.4	26.2	90.3	1.8%	4.6%	1.3%	-7.0%	-0.5%
2014	22.6	21.9	25.2	27.5	97.2	7.6%	11.2%	7.7%	5.0%	7.6%
2015	25.7	25.3	28.3	30.0	109.3	13.7%	15.5%	12.3%	9.1%	12.4%
2016	30.6	31.0	32.5	33.3	127.4	19.1%	22.5%	14.8%	11.0%	16.6%
2017 ^I	34.8	34.6	34.2	34.5	138.1	13.7%	11.6%	5.2%	3.6%	8.4%
2018 ^J	37.2	38.1	35.8	34.8	145.9	6.9%	10.1%	4.7%	0.9%	5.6%
TOLL REVENUE (millions)					PERCENT CHANGE					
1999	\$10.0	\$8.7	\$6.1	\$8.6	\$33.4					
2000	\$11.6	\$9.9	\$7.1	\$9.7	\$38.3	16.0%	13.8%	16.4%	12.8%	14.7%
2001	\$12.7	\$10.6	\$7.7	\$10.3	\$41.3	9.5%	7.1%	8.5%	6.2%	7.8%
2002 ^A	\$12.7	\$10.8	\$8.1	\$11.0	\$42.6	0.0%	1.9%	5.2%	6.8%	3.1%
2003	\$13.6	\$12.0	\$9.2	\$11.7	\$46.5	7.1%	11.1%	13.6%	6.4%	9.2%
2004 ^B	\$14.6	\$13.1	\$10.5	\$13.4	\$51.6	7.4%	9.2%	14.1%	14.5%	11.0%
2005 ^C	\$16.0	\$14.7	\$11.7	\$14.3	\$56.7	9.6%	12.2%	11.4%	6.7%	9.9%
2006 ^D	\$17.4	\$16.6	\$13.2	\$15.4	\$62.6	8.7%	12.9%	12.8%	7.7%	10.4%
2007 ^E	\$18.7	\$18.2	\$14.0	\$16.0	\$66.9	7.5%	9.6%	6.1%	3.9%	6.9%
2008	\$19.7	\$19.2	\$13.9	\$15.7	\$68.5	5.3%	5.5%	-0.7%	-1.9%	2.4%
2009 ^F	\$19.0	\$18.1	\$13.9	\$15.8	\$66.8	-3.6%	-5.7%	0.0%	0.6%	-2.5%
2010 ^F	\$21.0	\$19.9	\$17.7	\$20.4	\$79.0	10.5%	9.9%	27.3%	29.1%	18.3%
2011	\$21.6	\$20.6	\$17.3	\$20.6	\$80.1	2.9%	3.5%	-2.3%	1.0%	1.4%
2012 ^G	\$22.1	\$20.8	\$17.3	\$20.3	\$80.5	2.3%	1.0%	0.0%	-1.5%	0.5%
2013 ^H	\$25.3	\$24.3	\$19.8	\$21.8	\$91.2	14.3%	16.9%	14.5%	7.5%	13.3%
2014	\$27.2	\$26.9	\$21.3	\$22.9	\$98.3	7.7%	10.7%	7.5%	5.0%	7.8%
2015	\$30.6	\$30.8	\$24.0	\$25.0	\$110.4	12.5%	14.5%	12.7%	9.2%	12.3%
2016	\$35.9	\$37.7	\$27.6	\$27.8	\$129.0	17.3%	22.4%	15.0%	11.2%	16.8%
2017 ^I	\$40.4	\$42.0	\$29.1	\$28.9	\$140.4	12.5%	11.4%	5.4%	4.0%	8.8%
2018 ^J	\$43.0	\$45.7	\$30.5	\$29.2	\$148.4	6.4%	8.8%	4.8%	1.0%	5.7%

Notes:

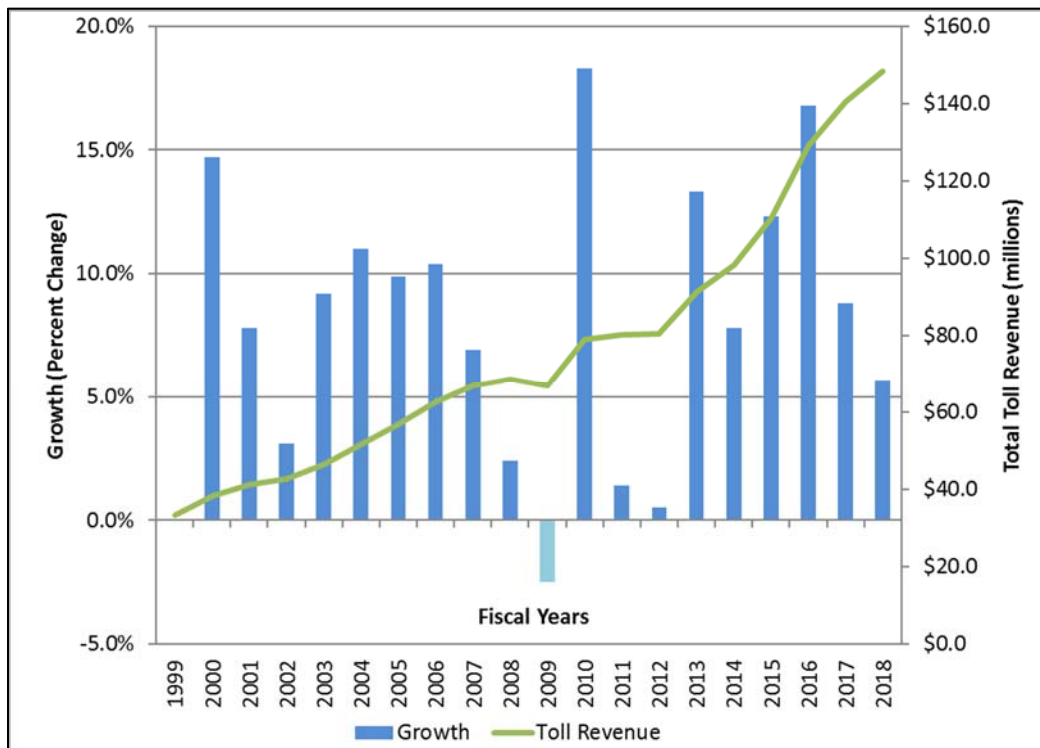
- A - Effects of the events on September 11, 2001.
- B - University Main plaza converted to open road tolling plaza in July 2003.
- C - Effects from 2004 hurricane season (4 storms with toll suspensions).
- D - Curry Ford Main plaza converted to open road tolling plaza in July 2005.
- E - Boggy Creek Main and John Young Main plazas converted to open road tolling plazas in March 2007.
- F - Systemwide toll rate increase in April 2009.
- G - Widening of S.R. 417 between S.R. 408 and S.R. 528. Valencia College Lane ramps closed.
- H - Systemwide toll rate increase in July 2013. Implementation of cash and electronic toll rate differential.
- I - Effects from Hurricane Matthew in October 2016.
- J - Effects from Hurricane Irma in September 2017.

Figure 5-2
S.R. 417 Historical Paid In-Lane Transactions and Annual Growth
FY 1999 – FY 2018



Source: CFX Statistical Report June 2018

Figure 5-3
S.R. 417 Historical Paid In-Lane Revenue and Annual Growth
FY 1999 – FY 2018



Source: CFX Statistical Report June 2018

In FY 2014, all plaza groups experienced growth in paid in-lane transactions and toll revenues. Overall, S.R. 417 paid in-lane transactions increased 7.6 percent and toll revenues increased 7.8 percent over FY 2013. FY 2015 and FY 2016 experienced double-digit growth in both paid in-lane transactions and revenues, which is referred to as the period of extraordinary growth. In FY 2017, paid in-lane transactions increased 8.4 percent and toll revenues increased 8.8 percent compared to FY 2016. Boggy Creek Main, John Young Main and Curry Ford Main plaza groups' continued paid in-lane transaction and revenue growth can be attributed to Medical City and Lake Nona developments along these sections of S.R. 417, as well as the opening of the partial interchange at Florida's Turnpike. Over the four-year period, paid in-lane transactions and revenue increased by more than 50.0 percent.

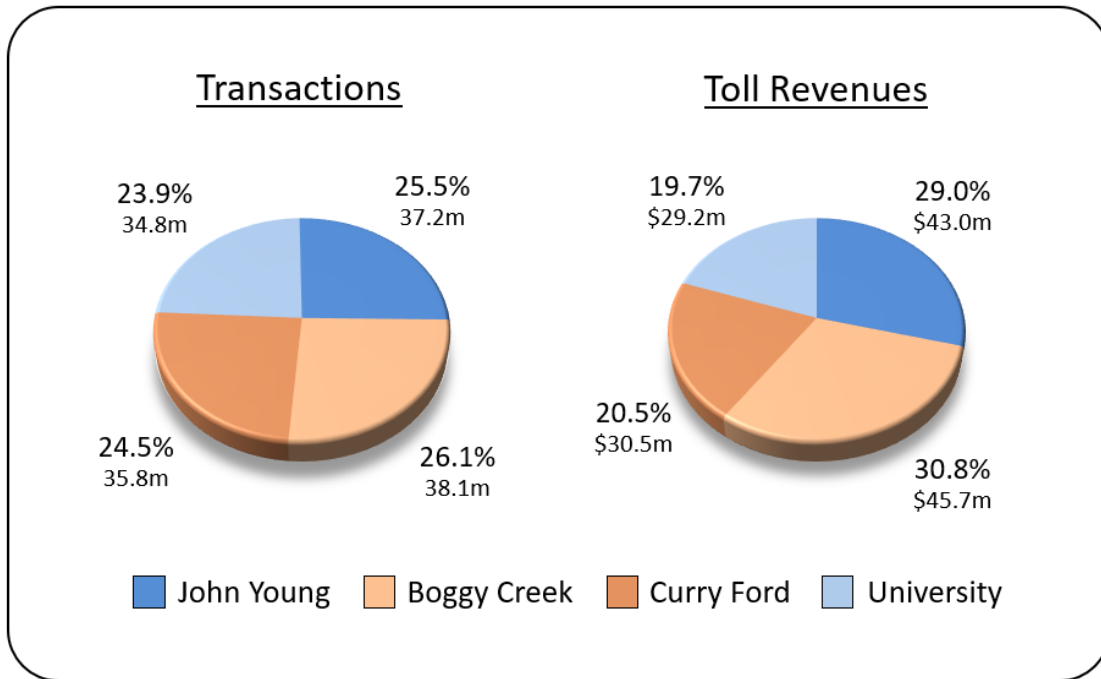
In October 2016 (FY 2017), Hurricane Matthew tracked parallel to the Florida coast as a Category 3 storm with winds up to 130 miles per hour. Tolls were suspended on the CFX System beginning at 8:00pm on October 5, 2016 through early on October 10, 2016. The toll suspension resulted in a loss of approximately 1.5 million in both transactions and toll revenues on S.R. 417. In September 2017 (FY 2018), Hurricane Irma tracked parallel to the Florida coast as a Category 4 storm with winds up to 155 miles per hour. Tolls were suspended on CFX toll facilities beginning on September 5, 2017 through September 20, 2017 resulting in a transaction loss of approximately 6.4 million and a toll revenue loss of \$6.5 million on S.R. 417.

In FY 2018, all plaza groups experienced growth in paid in-lane transactions and toll revenues. Overall, S.R. 417 paid in-lane transactions increased 5.6 percent and toll revenues increased 5.7 percent over FY 2017. As previously mentioned, September 2017 paid in-lane transactions and toll revenues were negatively impacted by toll suspensions during Hurricane Irma.

The paid in-lane transactions and toll revenues by plaza group and as a percentage of total S.R. 417 paid in-lane transactions and toll revenues for FY 2018 are presented in **Figure 5-4**. As shown, the Boggy Creek Main plaza group represented 38.1 million paid in-lane transactions or 26.1 percent of total S.R. 417 paid in-lane transactions. The John Young Main plaza group had the second highest amount of paid in-lane transactions at 37.2 million or 25.5 percent. The Curry Ford Main and University Main plaza groups followed close behind with 35.8 and 34.8 million paid in-lane transactions, respectively. In prior years, the John Young plaza group always had the highest number of paid in-lane transactions, however it was surpassed for the first time by the Boggy Creek Main plaza group. University Main plaza group paid in-lane transactions were also surpassed by Curry Ford Main plaza group paid in-lane transactions in FY 2018.

The annual totals and percentages for paid in-lane revenues are also presented below. The Boggy Creek Main and John Young Main plaza groups had the highest amounts of paid in-lane revenue. This is due to the fact that these two plaza groups have longer distances between mainline plazas resulting in higher toll amounts. The Boggy Creek Main plaza group reported the highest paid in-lane revenues of \$45.7 million or 30.8 percent of total S.R. 417 paid in-lane revenues. The University Main plaza group represented the lowest amount of paid in-lane revenues on S.R. 417 with \$29.2 million or 19.7 percent of total paid in-lane revenues.

Figure 5-4
S.R. 417 Paid In-Lane Transactions and Revenue by Plaza Group
FY 2018



Source: CFX Statistical Report June 2018

5.2.2 MONTHLY PAID IN-LANE TRANSACTION SEASONAL VARIATION

In **Table 5-2**, monthly paid in-lane transactions are normalized to average number of paid in-lane transactions per day in each month. Using average number of paid in-lane transactions per day allows for an easy comparison of the variations in relative travel demand over the year. The seasonal pattern of usage will change from year to year based on the number of weekdays in a given month. September average daily paid in-lane transactions were adjusted to only include 15 days of toll collection during the month. Tolls were suspended the remaining 15 days due to Hurricane Irma.

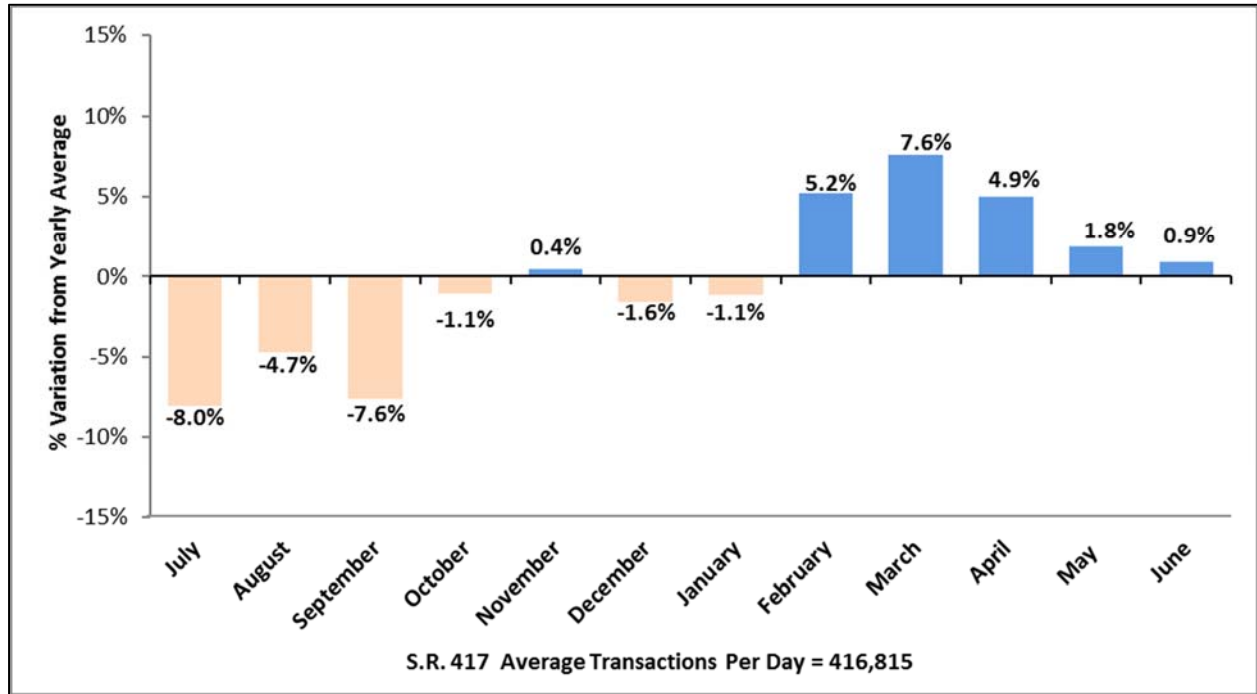
Average number of paid in-lane transactions per day in FY 2018 on S.R. 417 ranged from a high of 448,328 in March 2018 to a low of 383,572 in July 2017. This data is presented in a graphical format in **Figure 5-5**. The paid in-lane transactions for each month appear as a percentage of the average for the fiscal year. March paid in-lane transactions were 7.6 percent above average and July paid in-lane transactions were 8.0 percent below average for the facility. The S.R. 417 paid in-lane transactions remained below the average for the first two quarters of FY 2018 through January. February through June the paid in-lane transactions were above average for the facility.

Table 5-2
S.R. 417 – Monthly Seasonal Variation in Paid In-Lane Transactions
FY 2018

Month	Number of Days in Month	Total Toll Paying Transactions	Average Transactions/day	Seasonal Factor
July	31	11,890,731	383,572	0.920
August	31	12,312,740	397,185	0.953
September	15	5,778,545	385,236	0.924
October	31	12,783,786	412,380	0.989
November	30	12,557,571	418,586	1.004
December	31	12,719,747	410,314	0.984
January	31	12,779,822	412,252	0.989
February	28	12,273,131	438,326	1.052
March	31	13,898,157	448,328	1.076
April	30	13,121,780	437,393	1.049
May	31	13,156,475	424,402	1.018
June	30	12,612,905	420,430	1.009
Average		12,157,116	416,815	1.000
Total Year	350	145,885,390		

Source: CFX Statistical Report June 2018

Figure 5-5
S.R. 417 Variation in Paid In-Lane Transactions Per Day, By Month
FY 2018



Source: CFX Statistical Report June 2018

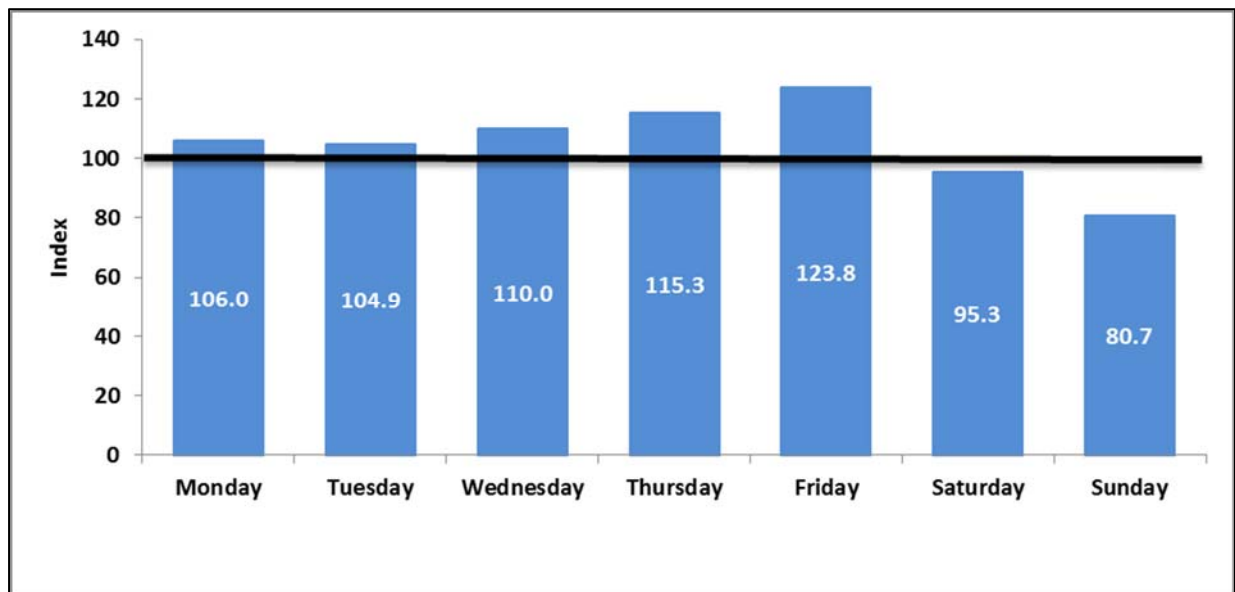


5.2.3 DAY-OF-WEEK TOLL TRANSACTION VARIATION

Figure 5-6 contains a comparison of transactions by day of week in FY 2018. This data is presented as an index, where the average day equals 100. An index value of 100 for a given day of the week would indicate that day's transactions were precisely the same volume as the facility's average. A value of 120 would indicate a day that has 20 percent greater volume than the average. The data used for this analysis was for a typical week and includes transactions at mainline plazas only (no ramps).

As shown, daily toll transactions on S.R. 417 fluctuated over the course of the week. Transactions were highest on Fridays, with an index value of 123.8 (23.8 percent higher than the average day). Volumes on Monday through Thursday ranged from index values of 104.9 to 115.3. Saturday volumes were closer to early weekday volumes with an index value of 95.3. Transactions decline significantly on Sundays, which have an index value of 80.7, or 19.3 percent lower than the average day.

Figure 5-6
S.R. 417 Variation in Transactions, By Day of Week
FY 2018



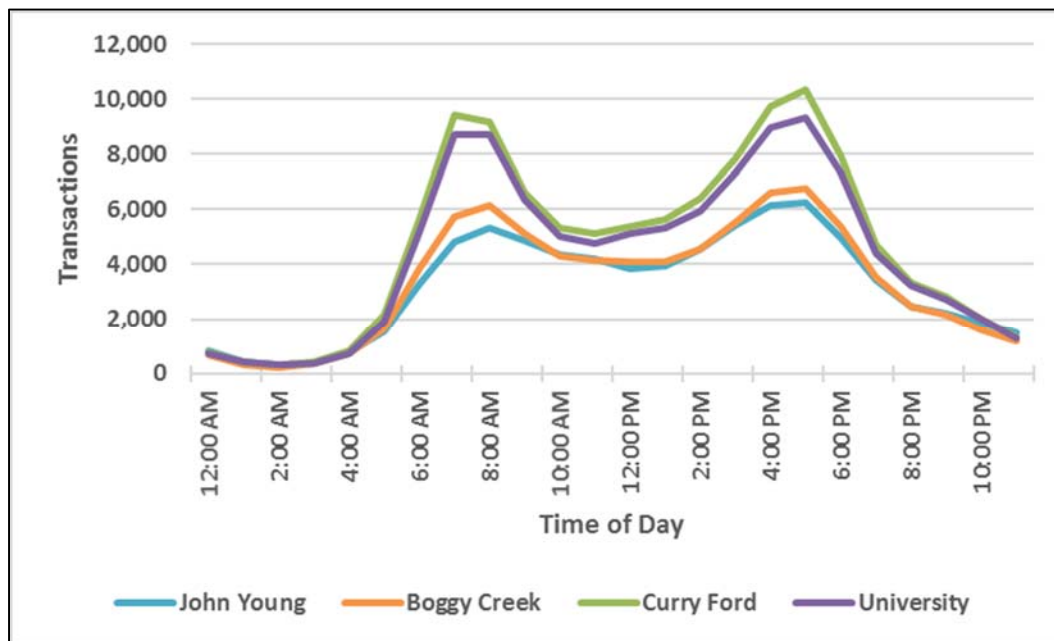
Source: Unaudited lane transaction data – January 2018

5.2.4 HOURLY TRAFFIC DISTRIBUTION

The hourly distribution of traffic includes information on the usage characteristics of travel on the facility. The hourly distributions represent counts taken during a typical week at the mainline plazas in the month of January. The typical weekday distribution is shown in **Figure 5-7** and the weekend distribution is shown in **Figure 5-8**. The figures contain the sum of traffic volumes in both directions.

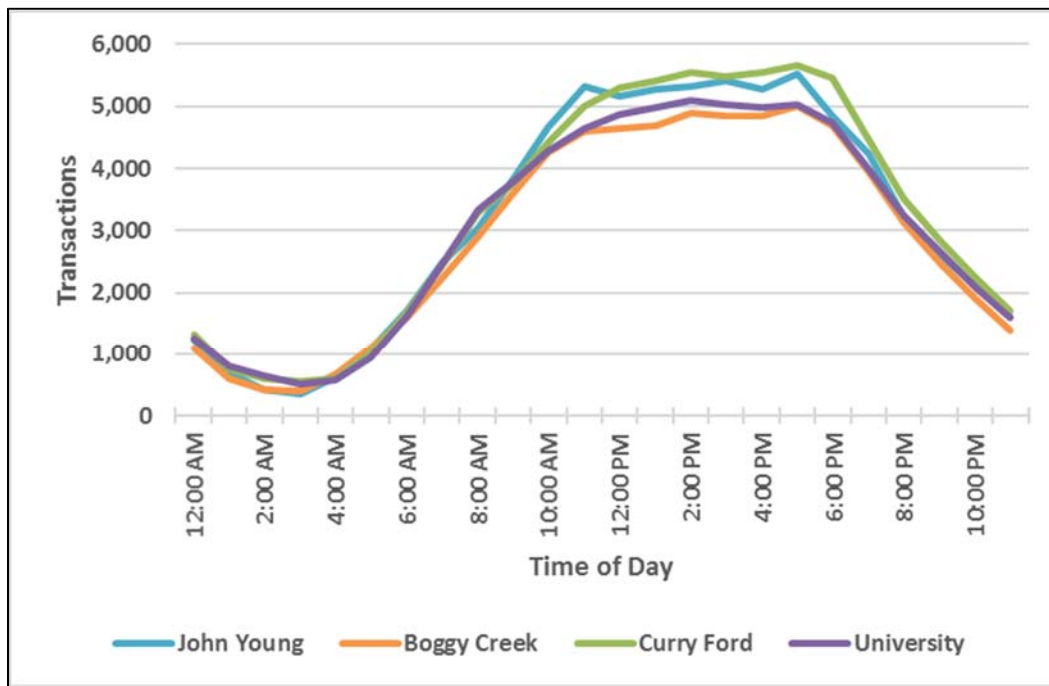
The four mainline locations on S.R. 417 exhibit similar hourly traffic patterns. On weekdays, travel demand at all four locations is bimodal, with both morning and evening peak hours. Traffic volumes in the evening peak hours at all four mainline plazas are higher than in the morning peak hours. The highest peak hour volumes during the week were 10,300 per hour beginning at 5:00 P.M. at the Curry Ford mainline plaza, 9,300 per hour beginning at 5:00 P.M. at the University mainline plaza, and 6,800 per hour beginning at 5:00 P.M. at the Boggy Creek mainline plaza and 6,200 per hour beginning at 5:00 P.M. at the John Young mainline plaza. The University and Curry Ford mainline plazas serve a relatively higher portion of trips in peak hours. On weekends, the volumes are lower and there is no clear morning or evening peak periods, indicating that many customers use the facility for non-work trip purposes. The Boggy Creek Main and John Young Main plaza groups both have lower transaction volumes at the mainline plazas than at ramp plazas, which are not included in the daily traffic distribution analysis. The daily traffic distribution at all plaza groups would be at similar levels if ramp transactions were included.

Figure 5-7
S.R. 417 Hourly Traffic Variation (Weekday)
FY 2018 (January)



Source: Unaudited lane transaction data – January 2018

Figure 5-8
S.R. 417 Hourly Traffic Variation (Weekend)
FY 2018 (January)



Source: Unaudited lane transaction data – January 2018

5.2.5 TRANSACTIONS AND REVENUE BY PAYMENT TYPE

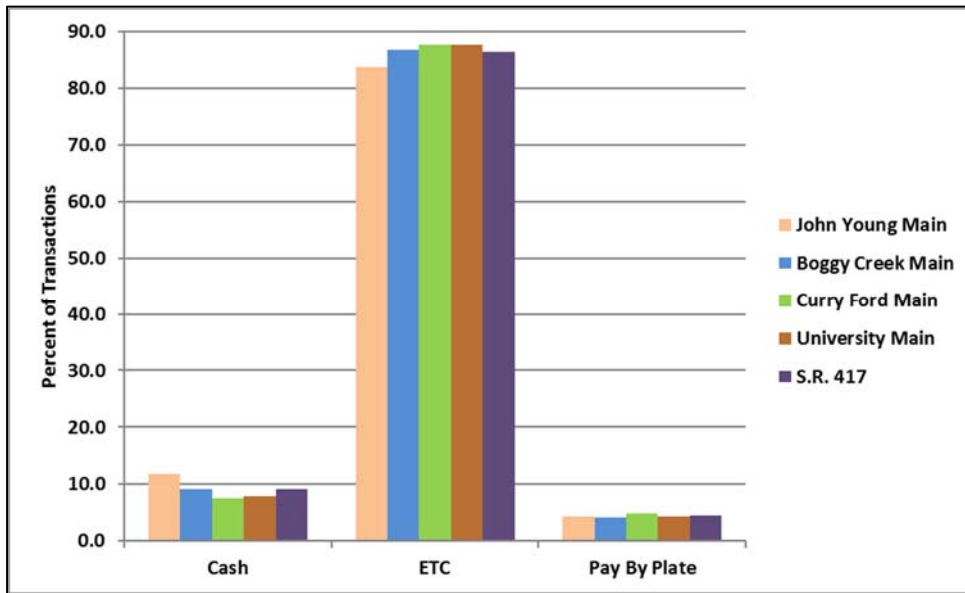
The distribution of transactions and revenue by payment type by plaza group during FY 2018 is presented in **Figure 5-9** and **Figure 5-10**. Payment types can be classified in one of three ways: cash, ETC, and Pay By Plate (PBP). As defined in Chapter 1 of this report, paid in-lane transactions and revenue include cash and ETC payments made when a customer drives through a CFX toll location. The remaining transactions and revenue are classified as unpaid in-lane, which includes PBP and a small portion of non-revenue transactions. It is important to note that the data presented in the following two figures is based on unaudited transaction and toll revenue data and may not match the audited data shown in other tables and figures in this chapter.

As shown in Figure 5-9, the percent of ETC transactions ranged from a low of 83.7 percent at the John Young Main plaza group to a high of 87.7 percent at the Curry Ford Main and University Main plaza groups. Overall, ETC transactions on S.R. 417 accounted for 86.4 percent of total transactions on the facility. The percent of cash transactions ranged from a low of 7.5 percent at the Curry Ford Main plaza group to a high of 11.9 percent at the John Young Main plaza group. Overall, cash transactions on S.R. 417 accounted for 9.1 percent of total transactions on the facility. The PBP transactions accounted for the smallest share, less than 5.0 percent of transactions at all plaza groups. Overall, PBP transactions on S.R. 417 accounted for 4.4 percent of total transactions on the facility.

As shown in Figure 5-10, the percent of toll revenues by payment type is comparable to the trend in transactions. The percent of ETC toll revenues ranged from a low of 82.3 percent at the John

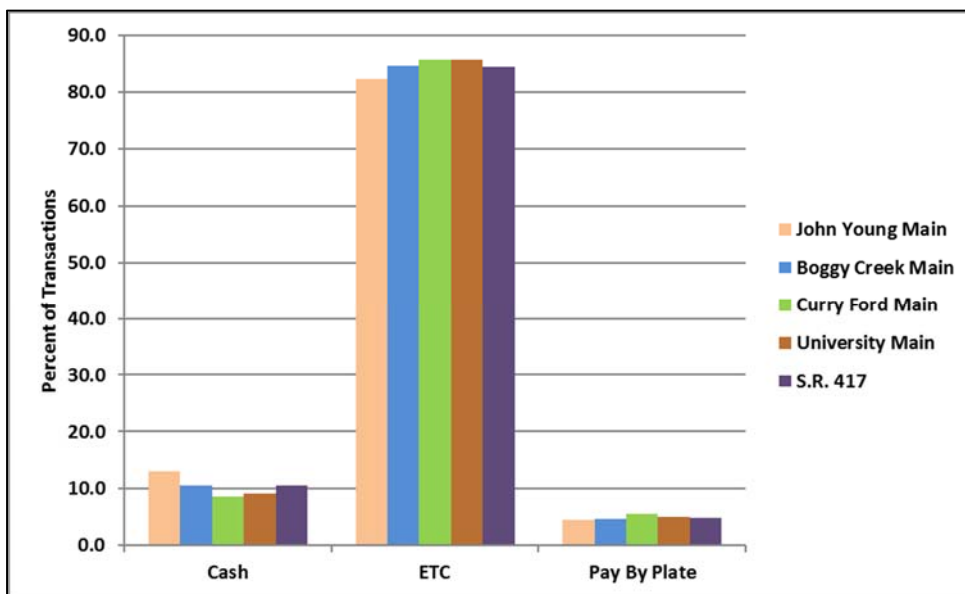
Young Main plaza group to a high of 85.8 percent at the Curry Ford Main and University Main plaza groups. The percent of cash toll revenues ranged from a low of 8.6 percent at the Curry Ford Main plaza group to a high of 13.1 percent at the John Young Main plaza group. The percent of PBP toll revenues ranged from a low of 4.5 percent to a high of 5.6 percent.

Figure 5-9
S.R. 417 Percent of Transactions by Payment Type
FY 2018



Source: Unaudited transaction data provided by CFX

Figure 5-10
S.R. 417 Percent of Revenue by Payment Type
FY 2018

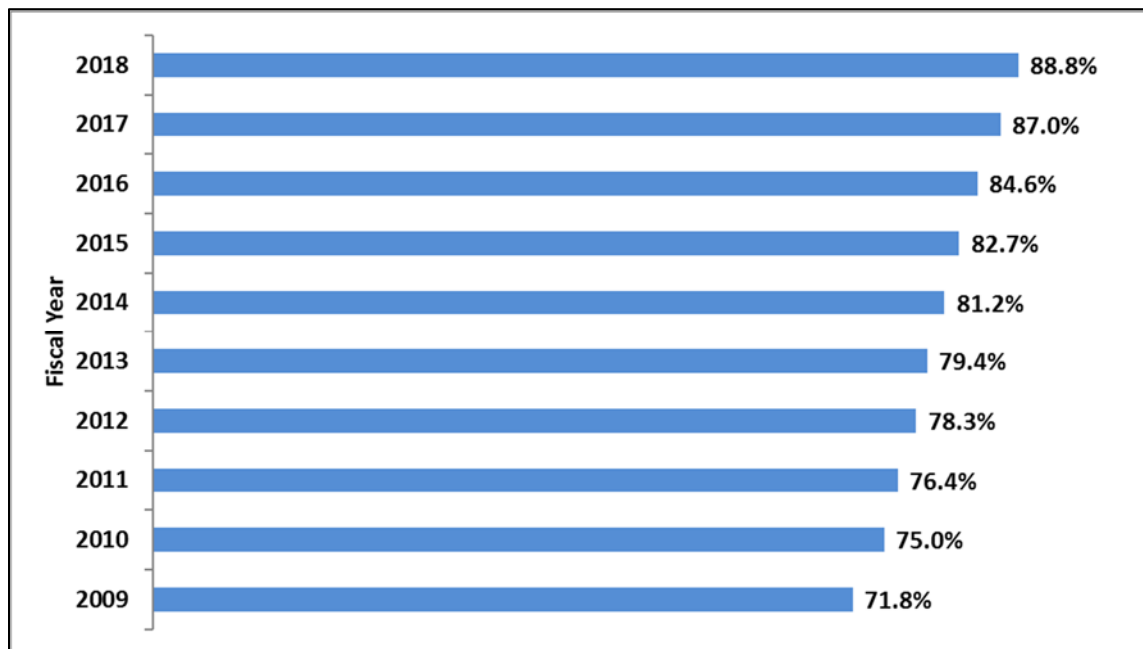


Source: Unaudited transaction data provided by CFX

5.3 ETC Usage

The percent of revenues generated from ETC over the past ten fiscal years on S.R. 417 is shown in **Figure 5-11**. Over this time, ETC revenues have steadily increased on the facility. In FY 2009, ETC revenues totaled 71.8 percent of total revenues on the facility. In FY 2018, ETC revenues reached 88.8 percent. ETC usage is expected to increase as customers shift from cash to ETC to take advantage of the lower ETC toll rate and the convenience of paying tolls electronically, as well as the opening of the “Reload” Lane at the John Young Parkway Main Plaza. CFX also continues to offer toll discount incentives to customers through various discount programs. The I-4 Commuter Discount Program, implemented in July 2015, offers discounts for transactions on S.R. 417, S.R. 429 and S.R. 414 during construction activities on I-4.

Figure 5-11
S.R. 417 Percent of Revenue from Electronic Toll Collection
FY 2009 – FY 2018



Source: CFX Statistical Report June 2018

5.4 Forecasted Transactions and Toll Revenues

Based on the recently adopted “Customer First Toll Policy,” toll rate adjustments (indexed tolls) were applied to the T&R forecasts every year based on the net change in CPI of 2.05 percent in FY 2019 and 1.5 percent per year thereafter.

Future transportation improvements that influence the T&R forecasts for S.R. 417 include the projects listed in **Table 5-3**, assumed completed in each model horizon year. Growth rates remain above 2.1% per year through 2022 due to additional system improvements on S.R. 417 between International Drive and S.R. 528.

Feeder road improvements, such as Landstar Boulevard, Innovation Way, Lake Nona Blvd., and Narcoossee Road also positively impact the forecasted T&R growth on S.R. 417 through 2025. The growth rates for the remainder of the forecast period are moderate and steady. Continued investment and growth in the Medical City area and Lee Vista DRI area lead to positive transaction and revenue growth on S.R. 417. Improvements to competitors, including Osceola Parkway, will have impacts on the long-term forecast.

Table 5-3
S.R. 417 - Key Transportation Improvements

Facility	From	To	Year	Jurisdiction	Improvement
Interstate 4	SR 434	Kirkman Road	2025	FDOT	Widen to 10 lanes
Jeff Fuqua Boulevard	.13 miles South of Boggy Creek Road	Heintzelman Boulevard	2025	Orange County	Widen to 4 Lanes
Landstar Boulevard	Osceola County Line	SR 417	2025	Orange County	Widen to 6 Lanes
SR 15 (Narcoossee Road)	SR 528 (BeachLine Expressway)	Lee Vista Boulevard	2025	Orange County/FDOT	Widen to 6 Lanes
SR 417	International Drive	Boggy Creek Road	2025	CFX	Widen to 6-lanes
SR 417	Boggy Creek Road	SR 528	2025	CFX	Widen to 6-lanes
SR 46	Mellonville Rd	SR 415	2025	FDOT	Widen to 4-lanes
Apopka-Vineland Road (SR 535)	SR 536	I-4 WB Ramp	2035	Orange County/FDOT	Widen to 8 Lanes
Apopka-Vineland Road (SR 535)	Osceola County Line	SR 536	2035	Orange County/FDOT	Widen to 6 Lanes
CR 419	Avenue B	West of Lockwood Blvd	2035	FDOT	Widen to 4-lanes
Innovation Way/Dowden Rd	SR 417	SR 528	2035	FDOT	New 4-lane Road
John Young Parkway	Pleasant Hill Road	Portage Road	2035	FDOT	Widen to 6-lanes
Lake Nona Boulevard	Tavistock Lakes Boulevard	SR 417 (Greenway)	2035	Orange County	Widen to 6 Lanes
Narcoossee Rd	US 192	Orange County Line	2035	Osceola County	Widen to 6 Lanes
Osceola Parkway Extension	Boggy Creek Road	Narcoossee Road	2035	CFX	New 4-lane Expressway
SR 426/CR 419	Pine Avenue	Avenue B	2035	FDOT	Widen to 4-lanes
SR 46	SR 415	SR 426	2035	FDOT	Widen to 4-lanes
US 17-92	Lake Mary Blvd	Airport Road	2035	FDOT	Widen to 6-lanes
Wekiva Parkway	Mount Plymouth Road	Interstate 4	2035	FDOT	New 4 lane expressway
Boggy Creek Road	Beacon Park Boulevard	SR 417	2045	Orange County	Widen to 6 Lanes
Orange Avenue	Town Center Blvd	Osceola County Line	2045	FDOT	Widen to 4-lanes
Osceola Parkway	Interstate 4	SR 417	2045	Osceola County	Widen to 8 Lanes
Osceola Parkway	John Young Pkwy	US 441 (Orange Blossom Tr)	2045	Osceola County	Widen to 6 Lanes
Osceola Parkway	Buenaventura Blvd	Boggy Creek Rd	2045	Osceola County	Widen to 6 Lanes
Osceola Parkway Extension	Narcoossee Road	NE District	2045	CFX	New 4-lane Expressway
SR 426	Old Howell Branch Road	Tuskawilla Road	2045	FDOT	Widen to 6-lanes
SR 434	SR 417	Mitchell Hammock Road	2045	FDOT	Widen to 4-lanes
Town Center Boulevard	US 441	Landstar Boulevard	2045	Orange County	Widen to 6 Lanes
US 17-92	Lake Mary Blvd	SR 417	2045	FDOT	Widen to 6-lanes
US 441	W Columbia Ave	Carroll St	2045	Osceola County	CSS Improvements
US 441	US 192	W Columbia Ave	2045	Osceola County	CSS Improvements
US 441	Carroll St	Osceola Pkwy	2045	Osceola County	CSS Improvements
US 441	Osceola Pkwy	Orange Co. Line	2045	Osceola County	CSS Improvements
Vineland Rd (SR 535)	US 192	Orange County Line	2045	Osceola County/FDOT	Widen to 6 Lanes

Transaction and toll revenue projections for each toll plaza group and for all of S.R. 417 are summarized in **Table 5-4** and **Table 5-5**. The tables are divided into paid in-lane transactions and revenue and PBP transactions and revenue. Paid in-lane transactions and revenue by plaza group include ETC and cash collection. PBP is only reported as a total on the facility level.

The paid in-lane transactions on S.R. 417 are expected to grow 2.0 percent per year through FY 2028 and then lower rates through the end of the forecast period because of the impact of toll rate adjustments. PBP transactions are forecasted to increase an average of 7.5 percent per year through FY 2028 and then decline through the forecast period. Total transactions on S.R. 417 are

projected to increase during the forecast period from the actual of 152.7 million in FY 2018 to 233.3 million in FY 2048. The paid in-lane revenues on S.R. 417 are projected to increase significantly over the forecast period, from the FY 2018 actual of \$148.4 million to \$325.2 million in FY 2048. PBP revenues are projected to increase from \$7.6 million in FY 2018 to \$31.8 million in FY 2048. Total revenues on S.R. 417 are projected to increase during the forecast period from the actual \$156.0 million in FY 2018 to \$356.8 million in FY 2048. Total transactions and revenues are forecasted to increase an average of 2.3 and 3.8 percent per year through FY 2028, 1.2 and 2.5 percent per year from FY 2028 to FY 2038, and 0.8 and 2.1 percent per year from FY 2038 to FY 2048, respectively.

**Table 5-4
S.R. 417 Plaza Groups – Transaction Projections (Millions)
FY 2019 – FY 2048**

Fiscal Year	John Young Main	Boggy Creek Main	Curry Ford Main	University Main	Paid In-Lane	PBP	Total	Percent Annual Change
2010	19.6	17.5	23.6	28.6	89.3	0.6	89.9	
2011	20.1	18.6	23.2	29.0	90.9	1.0	91.9	2.2%
2012 ^A	20.6	18.8	23.1	28.2	90.7	1.3	92.0	0.1%
2013 ^B	21.0	19.7	23.4	26.2	90.3	1.6	91.9	-0.1%
2014	22.6	21.9	25.2	27.5	97.2	2.0	99.2	7.9%
2015	25.7	25.3	28.3	30.0	109.3	2.7	112.0	12.9%
2016	30.6	31.0	32.5	33.3	127.4	3.9	131.3	17.2%
2017 ^C	34.8	34.6	34.2	34.5	138.1	4.8	142.9	8.9%
2018 ^D	37.2	38.1	35.8	34.8	145.9	6.8	152.7	6.9%
2019 ^E	37.0	39.7	36.1	34.5	147.3	13.8	161.1	5.5%
2020	38.1	41.1	37.2	34.7	151.1	11.9	163.0	1.2%
2021	39.2	42.3	38.2	35.1	154.8	12.1	166.9	2.4%
2022 ^F	40.2	43.5	39.1	35.5	158.3	12.4	170.7	2.3%
2023	41.1	44.5	40.1	35.8	161.5	12.7	174.2	2.1%
2024	42.0	45.6	41.0	36.2	164.8	12.9	177.7	2.0%
2025	43.0	46.7	41.9	36.5	168.1	13.1	181.2	2.0%
2026	43.9	47.8	42.8	36.9	171.4	13.5	184.9	2.0%
2027	44.8	48.8	43.7	37.2	174.5	13.7	188.2	1.8%
2028	45.6	49.8	44.5	37.5	177.4	14.0	191.4	1.7%
2029	46.4	50.7	45.3	37.8	180.2	14.1	194.3	1.5%
2030	47.2	51.7	46.1	38.0	183.0	14.3	197.3	1.5%
2031	47.8	52.5	46.8	38.2	185.3	14.5	199.8	1.3%
2032	48.5	53.3	47.5	38.4	187.7	14.7	202.4	1.3%
2033	49.0	54.1	48.1	38.6	189.8	14.9	204.7	1.1%
2034	49.5	54.8	48.7	38.7	191.7	15.0	206.7	1.0%
2035	50.0	55.4	49.3	38.9	193.6	15.2	208.8	1.0%
2036	50.5	56.1	49.9	39.0	195.5	15.3	210.8	1.0%
2037	51.0	56.8	50.5	39.1	197.4	15.5	212.9	1.0%
2038	51.5	57.4	51.1	39.3	199.3	15.6	214.9	0.9%
2039	51.9	58.1	51.7	39.4	201.1	15.7	216.8	0.9%
2040	52.4	58.7	52.3	39.5	202.9	15.9	218.8	0.9%
2041	52.9	59.3	52.8	39.6	204.6	16.1	220.7	0.9%
2042	53.3	59.9	53.4	39.7	206.3	16.2	222.5	0.8%
2043	53.8	60.5	54.0	39.8	208.1	16.4	224.5	0.9%
2044	54.3	61.0	54.6	39.9	209.8	16.5	226.3	0.8%
2045	54.7	61.6	55.2	40.0	211.5	16.7	228.2	0.8%
2046	55.2	62.1	55.8	40.1	213.2	16.8	230.0	0.8%
2047	55.6	62.6	56.4	40.2	214.8	16.8	231.6	0.7%
2048	56.0	63.1	56.9	40.3	216.3	17.0	233.3	0.7%

Fiscal Year	Compound Annual Average Growth Rate (CAAGR)						
2010 - 2018	8.3%	10.2%	5.3%	2.5%	6.3%	35.5%	6.8%
2018 - 2028	2.1%	2.7%	2.2%	0.8%	2.0%	7.5%	2.3%
2028 - 2038	1.2%	1.4%	1.4%	0.5%	1.2%	1.1%	1.2%
2038 - 2048	0.8%	1.0%	1.1%	0.3%	0.8%	0.9%	0.8%

Notes:

Actual transaction data provided by CFX from Monthly Statistical Report.

A - Widening of S.R. 417 between S.R. 408 and S.R. 528. Valencia College lane ramps closed.

B - Systemwide toll rate increase.

C - Effects from Hurricane Matthew in October 2016.

D - Effects from Hurricane Irma in September 2017.

E - First year of implementation of "Customer First" toll rate policy and assumed toll rate increase of 2.05% in FY 2019. Annual toll rate increase of 1.5% assumed throughout forecast period.

F - Completion of I-4 Ultimate project.

**Table 5-5
S.R. 417 Plaza Groups – Toll Revenue Projections (Millions)
FY 2019 – FY 2048**

Fiscal Year	John Young Main	Boggy Creek Main	Curry Ford Main	University Main	Paid In-Lane	PBP	Total	Percent Annual Change
2010	\$21.0	\$19.9	\$17.7	\$20.4	\$79.0	\$0.6	\$79.6	
2011	\$21.6	\$20.6	\$17.3	\$20.6	\$80.1	\$0.9	\$81.0	1.8%
2012 ^A	\$22.1	\$20.8	\$17.3	\$20.3	\$80.5	\$1.2	\$81.7	0.9%
2013 ^B	\$25.3	\$24.3	\$19.8	\$21.8	\$91.2	\$1.8	\$93.0	13.8%
2014	\$27.2	\$26.9	\$21.3	\$22.9	\$98.3	\$2.2	\$100.5	8.1%
2015	\$30.6	\$30.8	\$24.0	\$25.0	\$110.4	\$3.0	\$113.4	12.8%
2016	\$35.9	\$37.7	\$27.6	\$27.8	\$129.0	\$4.7	\$133.7	18.0%
2017 ^C	\$40.4	\$42.0	\$29.1	\$28.9	\$140.4	\$6.7	\$147.1	10.0%
2018 ^D	\$43.0	\$45.7	\$30.5	\$29.2	\$148.4	\$7.6	\$156.0	6.1%
2019 ^E	\$43.7	\$48.5	\$31.3	\$29.4	\$152.9	\$16.5	\$169.4	8.6%
2020	\$45.6	\$50.9	\$32.6	\$30.0	\$159.1	\$14.4	\$173.5	2.4%
2021	\$47.5	\$53.1	\$34.0	\$30.7	\$165.3	\$14.9	\$180.2	3.9%
2022 ^F	\$49.4	\$55.3	\$35.3	\$31.4	\$171.4	\$15.5	\$186.9	3.7%
2023	\$51.2	\$57.4	\$36.6	\$32.2	\$177.4	\$16.2	\$193.6	3.6%
2024	\$52.9	\$59.5	\$37.9	\$32.9	\$183.2	\$16.6	\$199.8	3.2%
2025	\$54.7	\$61.6	\$39.2	\$33.7	\$189.2	\$17.1	\$206.3	3.3%
2026	\$56.5	\$63.6	\$40.4	\$34.4	\$194.9	\$17.9	\$212.8	3.2%
2027	\$58.2	\$65.7	\$41.7	\$35.2	\$200.8	\$18.5	\$219.3	3.1%
2028	\$60.0	\$67.8	\$42.9	\$36.0	\$206.7	\$19.1	\$225.8	3.0%
2029	\$61.7	\$69.8	\$44.2	\$36.7	\$212.4	\$19.6	\$232.0	2.7%
2030	\$63.4	\$71.9	\$45.4	\$37.4	\$218.1	\$20.3	\$238.4	2.8%
2031	\$65.1	\$74.0	\$46.7	\$38.1	\$223.9	\$20.7	\$244.6	2.6%
2032	\$66.8	\$76.1	\$48.0	\$38.8	\$229.7	\$21.3	\$251.0	2.6%
2033	\$68.5	\$78.1	\$49.3	\$39.5	\$235.4	\$22.1	\$257.5	2.6%
2034	\$70.1	\$80.2	\$50.5	\$40.2	\$241.0	\$22.5	\$263.5	2.3%
2035	\$71.8	\$82.2	\$51.8	\$40.8	\$246.6	\$23.2	\$269.8	2.4%
2036	\$73.5	\$84.3	\$53.1	\$41.5	\$252.4	\$23.6	\$276.0	2.3%
2037	\$75.2	\$86.4	\$54.5	\$42.2	\$258.3	\$24.4	\$282.7	2.4%
2038	\$76.9	\$88.5	\$55.8	\$42.8	\$264.0	\$24.9	\$288.9	2.2%
2039	\$78.6	\$90.7	\$57.2	\$43.5	\$270.0	\$25.4	\$295.4	2.2%
2040	\$80.4	\$92.8	\$58.6	\$44.2	\$276.0	\$26.1	\$302.1	2.3%
2041	\$82.2	\$95.0	\$60.0	\$44.8	\$282.0	\$26.8	\$308.8	2.2%
2042	\$84.0	\$97.2	\$61.4	\$45.5	\$288.1	\$27.5	\$315.6	2.2%
2043	\$85.8	\$99.4	\$62.9	\$46.1	\$294.2	\$28.3	\$322.5	2.2%
2044	\$87.6	\$101.6	\$64.4	\$46.8	\$300.4	\$28.8	\$329.2	2.1%
2045	\$89.4	\$103.7	\$65.9	\$47.4	\$306.4	\$29.6	\$336.0	2.1%
2046	\$91.3	\$105.9	\$67.4	\$48.1	\$312.7	\$30.3	\$343.0	2.1%
2047	\$93.2	\$108.2	\$68.9	\$48.7	\$319.0	\$30.7	\$349.7	2.0%
2048	\$95.0	\$110.4	\$70.5	\$49.3	\$325.2	\$31.6	\$356.8	2.0%

Fiscal Year	Compound Annual Average Growth Rate (CAAGR)						
2010 - 2018	9.4%	11.0%	7.0%	4.6%	8.2%	37.4%	8.8%
2018 - 2028	3.4%	4.0%	3.5%	2.1%	3.4%	9.7%	3.8%
2028 - 2038	2.5%	2.7%	2.7%	1.7%	2.5%	2.7%	2.5%
2038 - 2048	2.1%	2.2%	2.4%	1.4%	2.1%	2.4%	2.1%

Notes:

Actual transaction data provided by CFX from Monthly Statistical Report.

A - Widening of S.R. 417 between S.R. 408 and S.R. 528. Valencia College lane ramps closed.

B - Systemwide toll rate increase.

C - Effects from Hurricane Matthew in October 2016.

D - Effects from Hurricane Irma in September 2017.

E - First year of implementation of "Customer First" toll rate policy and assumed toll rate increase of 2.05% in FY 2019. Annual toll rate increase of 1.5% assumed throughout forecast period.

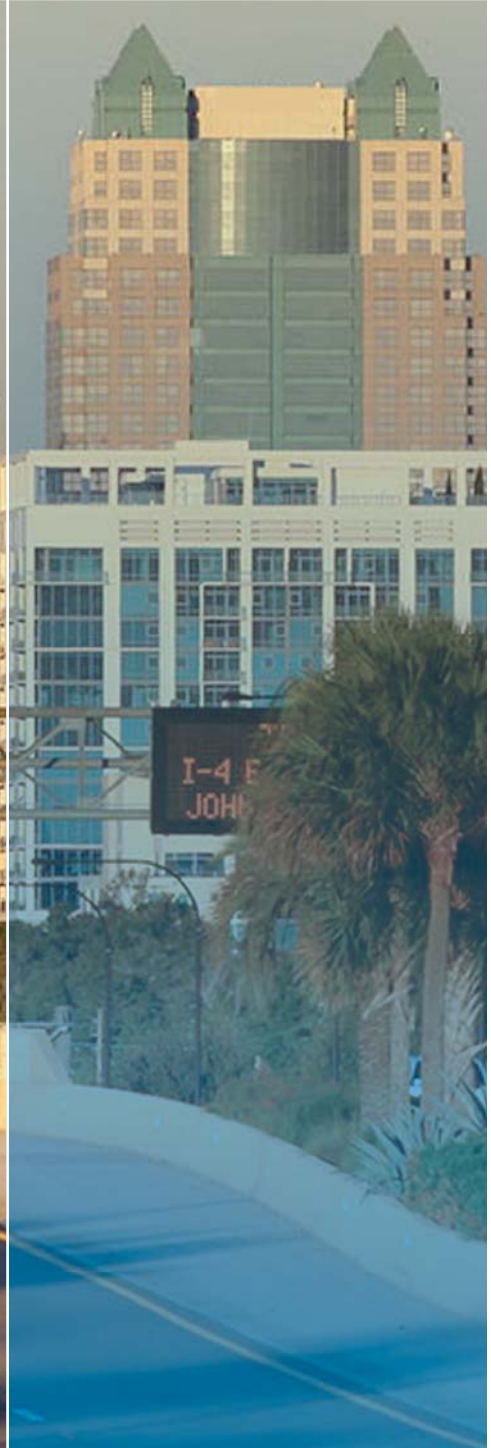
F - Completion of I-4 Ultimate project.

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Chapter 6

S.R. 429

(Daniel Webster Western Beltway)



S.R. 429 (DANIEL WEBSTER WESTERN BELTWAY)

6.1 Facility Description

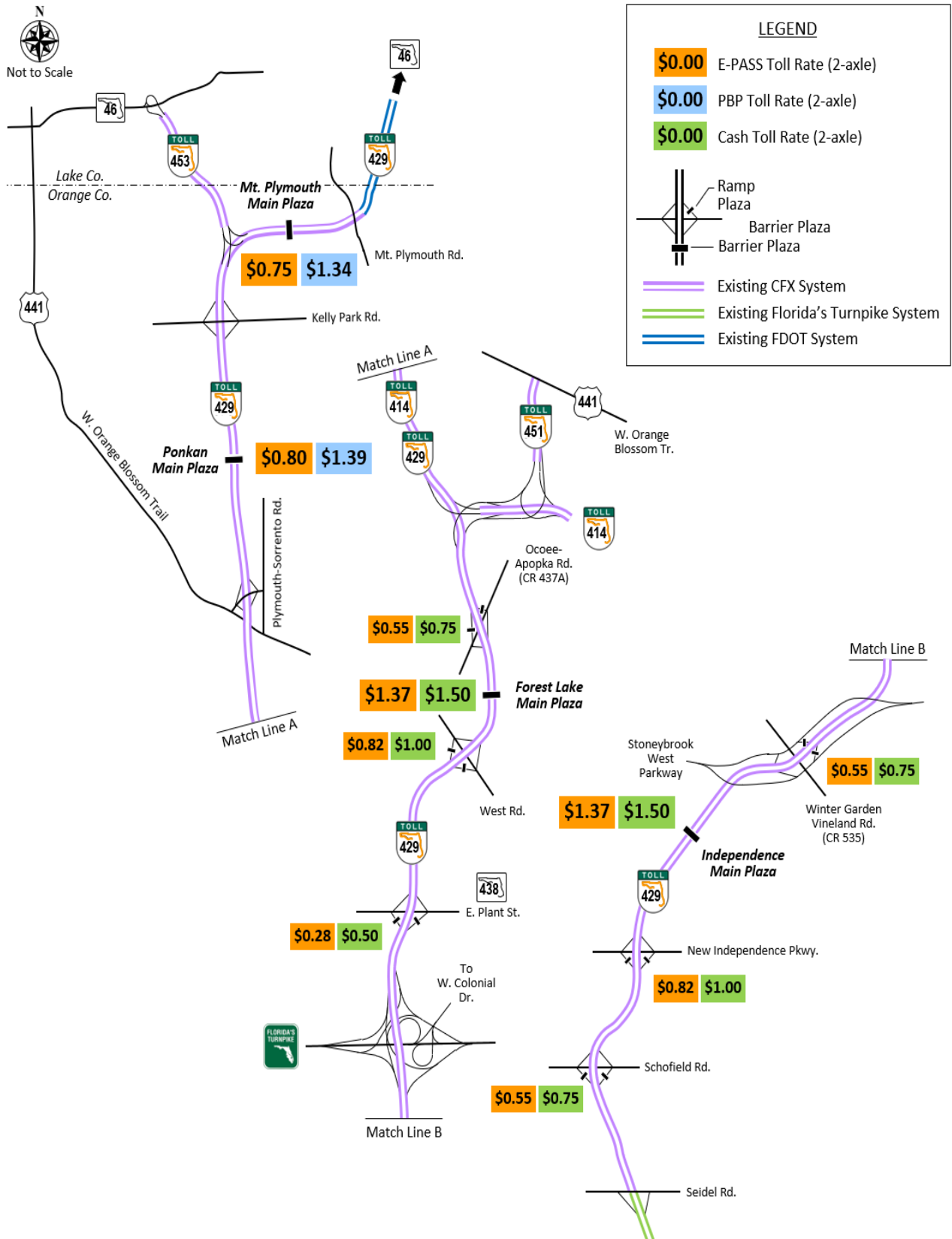
S.R. 429, also known as the Daniel Webster Western Beltway, is a 34-mile expressway that extends north from I-4 in Osceola County to U.S. Highway 441 in Apopka. As its name suggests, it comprises a majority of the western beltway around Orlando. The Western Beltway is owned and operated by two agencies, CFX and FTE. CFX is responsible for the 31-mile portion of S.R. 429 from Seidel Road north to Mt. Plymouth Road and FTE is responsible for the 11-mile segment of S.R. 429 from I-4 north to Seidel Road. On the CFX portion there are four mainline toll plazas: the Independence Main Plaza, Forest Lake Main Plaza, Ponkan Main, and Mt. Plymouth Main. Ramp toll plazas associated with the Independence Main plaza group are located at the New Independence Parkway, Winter Garden Vineland Road and Schofield Road interchanges. Ramp toll plazas associated with the Forest Lake Main plaza group are located at the East Plant Street (S.R. 438), West Road and Ocoee-Apopka Road interchanges. There are no ramp toll plazas associated with the Ponkan Main and Mt. Plymouth plaza groups. Of the 23 miles on S.R. 429, three miles are part of a dual route with S.R. 414. A map of CFX's portion of S.R. 429 including the FY 2018 CFX toll rates for the mainline and ramp toll plazas is shown in **Figure 6-1**.



The original 10-mile segment of S.R. 429, known as Part A, opened to traffic in July of 2000 from S.R. 50 to U.S. 441, with the connection to Florida's Turnpike opening in November 2001. It was the first expressway on the CFX System to have an open road tolling style toll plaza for E-PASS customers, providing a direct route from the Turnpike to Apopka and much needed access to West Orange County. The next segment, a 4.5-mile segment of S.R. 429, Part C, opened to traffic in December 2002 and connected to Winter Garden Vineland Road. CFX's segment from Winter Garden Vineland to Seidel Road was opened to traffic in December of 2005, in conjunction with FTE's first segment from Seidel Road to U.S. 192. FTE opened its segment of S.R. 429 Part C, connecting to I-4, in December of 2006.

In June of 2010, construction began on the westward extension of S.R. 414, the Apopka Expressway. The new connection of S.R. 414 and S.R. 429 required that approximately 1 mile of current S.R. 429 roadway be removed and in May of 2012 a new interchange opened from S.R. 429 northbound to S.R. 414 eastbound and from S.R. 414 westbound to S.R. 429 southbound. The old segment of S.R. 429 north of the current S.R. 414 interchange was designated as S.R. 451. The Ocoee-Apopka Road Interchange was also relocated south of the S.R. 414/S.R. 429 Interchange with new tolled ramps added to and from the north. S.R. 429 serves as an alternative route to I-4 and provides a direct connection from Florida's Turnpike to Walt Disney World and

**Figure 6-1
S.R. 429 Facilities and Toll Rates**



Tampa for travelers from the northern and western portions of the Orlando urban area. In May 2015, CFX opened the new full interchange between S.R. 429 and Schofield Road to provide additional access to this rapidly growing area of West Orange County.

The extension of S.R. 429, locally known as the Wekiva Parkway, is a 27-mile expressway that extends S.R. 429 into northwest Orange, southeast Lake, and east Seminole counties. From a CFX vision in the *Year 2000 Long Range Expressway Plan*, completed in 1983, the Wekiva Parkway – then known as the Western Bypass and later as the Western Beltway, Part B, is now open to traffic. CFX started construction of its 9 miles in January of 2015 and completed its portion of the Wekiva Parkway with the opening on April 1, 2018. The project also added two additional plaza groups to S.R. 429 along CFX's section of the Wekiva Parkway: the Ponkan Main Plaza, about 3.2 miles north of the current S.R. 429 terminus which opened July 28, 2017 (FY 2018); and the Mt. Plymouth Main Plaza, about 3.6 miles from the Ponkan Main Plaza which opened April 1, 2018 (FY 2018). The Wekiva Parkway also included construction of S.R. 453, discussed in Chapter 8.

In March 2016, CFX completed the improvements at the S.R. 429/Winter Garden Vineland Road (C.R. 535) interchange in west Orange County, which began in August 2015. This project extended the southbound S.R. 429 off ramp to C.R. 535/Stoneybrook West Parkway and included the resurfacing of approximately one-half mile of southbound S.R. 429 near the interchange. The improvement helped with afternoon traffic backups on the S.R. 429 mainline from the off ramp.

In January 2017, CFX began milling and resurfacing S.R. 429 from Seidel Road to C.R. 535. The project also includes repairing and upgrading the roadway and ramps, as well as upgrading signs in the area. The project is scheduled for completion in early 2018.

Presently, CFX is widening the entrance ramp to northbound S.R. 429 from C.R. 535/Winter Garden Vineland Road. This project, which runs from C.R. 535 to the Stoneybrook West Parkway overpass, is expected to improve traffic flow with the additional entrance ramp lane. Work began in late March 2018 and is expected to be complete in early 2019.

6.2 Historical Transactions and Toll Revenues

6.2.1 ANNUAL PAID IN-LANE TRANSACTION AND REVENUE TRENDS

The history of S.R. 429 annual paid in-lane transactions for the Forest Lake Main, Independence Main, Ponkan Main and Mt. Plymouth Main plaza groups from opening to FY 2018 are presented in the top half of **Table 6-1**. Annual paid in-lane toll revenues are also summarized and totaled in the bottom half of the table. These historical tables do not include PBP transactions and revenues, only those that are paid in-lane. For these reasons, the information presented in this section may differ slightly from the data presented in the FY 2018 Comprehensive Annual Financial Report (CAFR) and other information in this report.

Since its opening, S.R. 429 had only two years of negative growth in paid in-lane transactions, which occurred in FY 2009 and FY 2010 as a result of the Great Recession and the toll rate increase in April 2009. Paid in-lane revenues, on the other hand, have never had a year of negative growth, except for FY 2009 where revenues had a year of no growth. That year, Forest Lake Main plaza group had negative growth of 4.2 percent, but Independence Main plaza group had positive

growth of 7.0 percent. Much of the fluctuations in FY 2009 and FY 2010 can be attributed to the slowdown in the economy and the FY 2009 toll rate increase. The toll rate increase impacted transactions during the last three months of FY 2009 and the first nine months of FY 2010. With the toll rate increase, paid in-lane revenues in FY 2010 recovered with a growth of 23.7 percent, or \$4.5 million for the facility, while paid in-lane transactions only decreased by 0.4 percent. Another toll rate increase occurred in FY 2013, which negatively impacted transactions.

In FY 2014, all plaza groups experienced growth in paid in-lane transactions and toll revenues. Overall, S.R. 429 paid in-lane transactions increased 12.9 percent and toll revenues increased 14.0 percent over FY 2013. FY 2014 began a four-year period of extraordinary growth. FY 2015, FY 2016 and FY 2017 experienced double-digit growth in both paid in-lane transactions and revenues. Over the four-year period, paid in-lane transactions and revenue increased by more than 50.0 percent.

In FY 2018, S. R. 429 paid in-lane transactions increased by 13.6 percent over FY 2017 and revenues increased by 12.6 percent. In FY 2018, paid in-lane transactions at the Forest Lake Main plaza group and Independence Main plaza group increased by 4.3 percent and 8.1 percent, respectively, over FY 2017. During the same period, paid in-lane toll revenues at the Forest Lake Main and Independence Main plaza groups increased by 4.2 percent and 10.7 percent. FY 2018 was the opening year for the Ponkan Main and Mt. Plymouth Main plaza groups.

In October 2016 (FY 2017), Hurricane Matthew tracked parallel to the Florida coast as a Category 3 storm with winds up to 130 miles per hour. Tolls were suspended on the CFX System beginning at 8:00pm on October 5, 2016 through early on October 10, 2016. The toll suspension resulted in a loss of approximately 0.5 million transactions and \$0.6 million in toll revenues on S.R. 429. In September 2017 (FY 2018), Hurricane Irma tracked parallel to the Florida coast as a Category 4 storm with winds up to 155 miles per hour. Tolls were suspended on CFX toll facilities beginning on September 5, 2017 through September 20, 2017 resulting in a transaction loss of approximately 2.2 million and a toll revenue loss of \$2.5 million on S.R. 429.

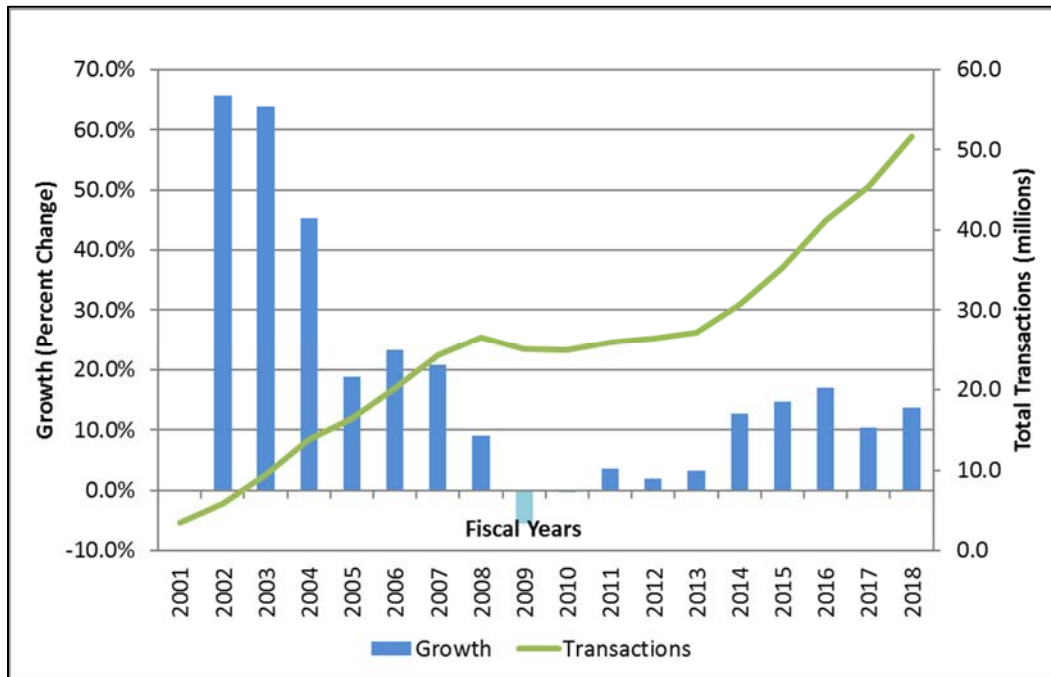
The facility data and annual growth are also presented visually in **Figure 6-2** and **Figure 6-3**. As shown, paid in-lane transactions and revenue have increased rapidly between FY 2001 and FY 2009, with ramp-up growth rates in the first three years. The economic downturn is also represented with a dip in the annual paid in-lane transactions and revenue, but it also shows that over the last five years the facility has recovered and continues to grow at extraordinary rates. In Figure 6-3, the total paid in-lane toll revenue chart has the distinct step-up pattern as expected of toll rate increases.

Table 6-1
S.R. 429 Plaza Groups – Historical Paid In-Lane Transactions and Revenue
FY 2001 – FY 2018

Fiscal Year	Forest Lake Main ^A	Independence Main	Ponkan Main	Mt. Plymouth Main	TOTAL	Forest Lake Main ^A	Independence Main	Ponkan Main	Mt. Plymouth Main	TOTAL
	TRANSACTIONS (millions)					PERCENT CHANGE				
2001	3.5				3.5					
2002 ^B	5.8				5.8	65.7%				65.7%
2003 ^C	8.0	1.5			9.5	37.9%				63.8%
2004	9.5	4.3			13.8	18.8%	186.7%			45.3%
2005 ^D	10.8	5.6			16.4	13.7%	30.2%			18.8%
2006 ^E	12.8	7.4			20.2	18.5%	32.1%			23.2%
2007 ^F	14.1	10.3			24.4	10.2%	39.2%			20.8%
2008 ^G	14.2	12.4			26.6	0.7%	20.4%			9.0%
2009 ^H	12.9	12.2			25.1	-9.2%	-1.6%			-5.6%
2010	13.0	12.0			25.0	0.8%	-1.6%			-0.4%
2011	13.4	12.5			25.9	3.1%	4.2%			3.6%
2012	13.6	12.8			26.4	1.5%	2.4%			1.9%
2013 ^I	14.2	13.0			27.2	4.7%	1.6%			3.2%
2014	16.1	14.6			30.7	13.4%	12.3%			12.9%
2015	18.3	16.9			35.2	13.7%	15.8%			14.7%
2016	21.4	19.8			41.2	16.9%	17.2%			17.0%
2017 ^J	23.4	22.1			45.5	9.3%	11.6%			10.4%
2018 ^{K,L}	24.4	23.9	3.0	0.4	51.7	4.3%	8.1%			13.6%
	TOLL REVENUE (millions)					PERCENT CHANGE				
2001	\$3.3				\$3.3					
2002 ^B	\$5.1				\$5.1	54.5%				54.5%
2003 ^C	\$6.8	\$0.4			\$7.2	33.3%				41.2%
2004	\$8.1	\$1.1			\$9.2	19.1%	175.0%			27.8%
2005 ^D	\$9.1	\$1.4			\$10.5	12.3%	27.3%			14.1%
2006 ^E	\$10.7	\$2.8			\$13.5	17.6%	100.0%			28.6%
2007 ^F	\$11.8	\$5.6			\$17.4	10.3%	100.0%			28.9%
2008 ^G	\$11.9	\$7.1			\$19.0	0.8%	26.8%			9.2%
2009 ^H	\$11.4	\$7.6			\$19.0	-4.2%	7.0%			0.0%
2010	\$13.7	\$9.8			\$23.5	20.2%	28.9%			23.7%
2011	\$14.1	\$10.3			\$24.4	2.9%	5.1%			3.8%
2012	\$14.2	\$10.7			\$24.9	0.7%	3.9%			2.0%
2013 ^I	\$17.1	\$12.3			\$29.4	20.6%	14.6%			18.1%
2014	\$19.5	\$14.0			\$33.5	13.8%	14.1%			14.0%
2015	\$22.1	\$16.8			\$38.9	13.3%	20.0%			16.1%
2016	\$25.9	\$20.1			\$46.0	17.2%	19.6%			18.3%
2017 ^J	\$28.4	\$23.3			\$51.7	9.7%	15.9%			12.4%
2018 ^{K,L}	\$29.6	\$25.8	\$2.6	\$0.3	\$58.3	4.2%	10.7%			12.8%

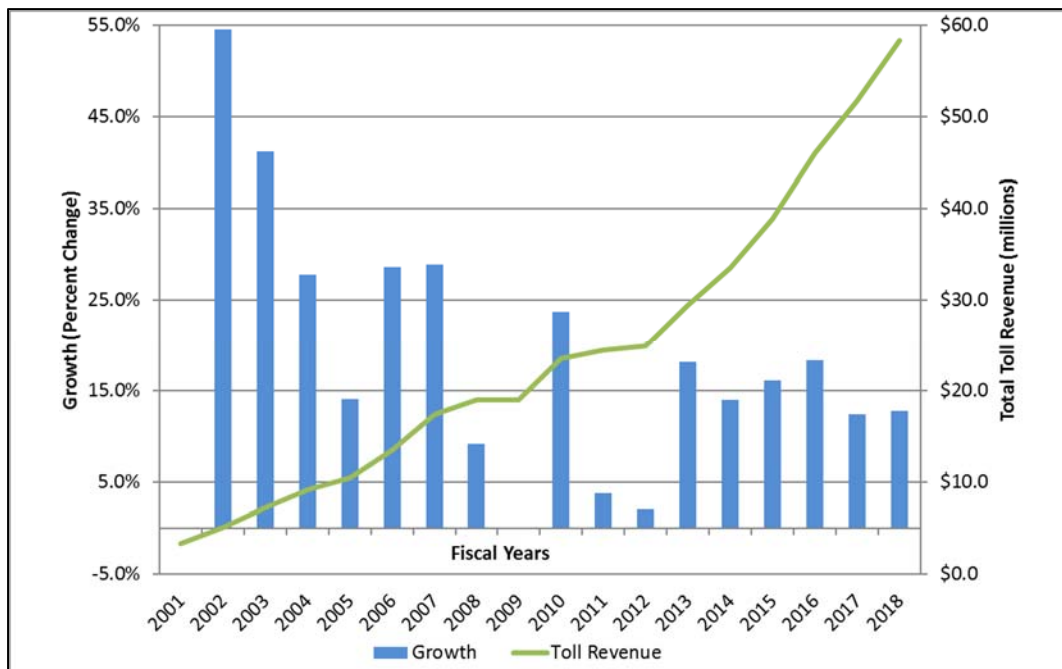
Notes:
A - Opened to traffic on July 8, 2000. Toll collection began one week after facility opened to traffic.
B - Interchange ramps to/from existing S.R. 429 at Florida's Turnpike opened in November 2001.
C - Interchange ramps to/from C.R. 535 opened in December 2002.
D - Effects from 2004 hurricane season (4 storms with toll suspensions).
E - Independence Main plaza opened in December 2005. FTE opened section to U.S. 192.
F - FTE opened section from U.S. 192 to I-4 in December 2006.
G - First effects of national economic recession.
H - Systemwide toll rate increase in April 2009.
I - Systemwide toll rate increase in July 2012. Implementation of cash and electronic toll rate differential.
J - Effects from Hurricane Matthew in October 2016.
K - Ponkan Main plaza opened on July 28, 2017. Mt. Plymouth Main plaza opened on April 1, 2018.
L - Effects from Hurricane Irma in September 2017.

Figure 6-2
S.R. 429 Historical Paid In-Lane Transactions and Annual Growth
FY 2001 – FY 2018



Source: CFX Statistical Report June 2018

Figure 6-3
S.R. 429 Historical Paid In-Lane Revenue and Annual Growth
FY 2001 – FY 2018

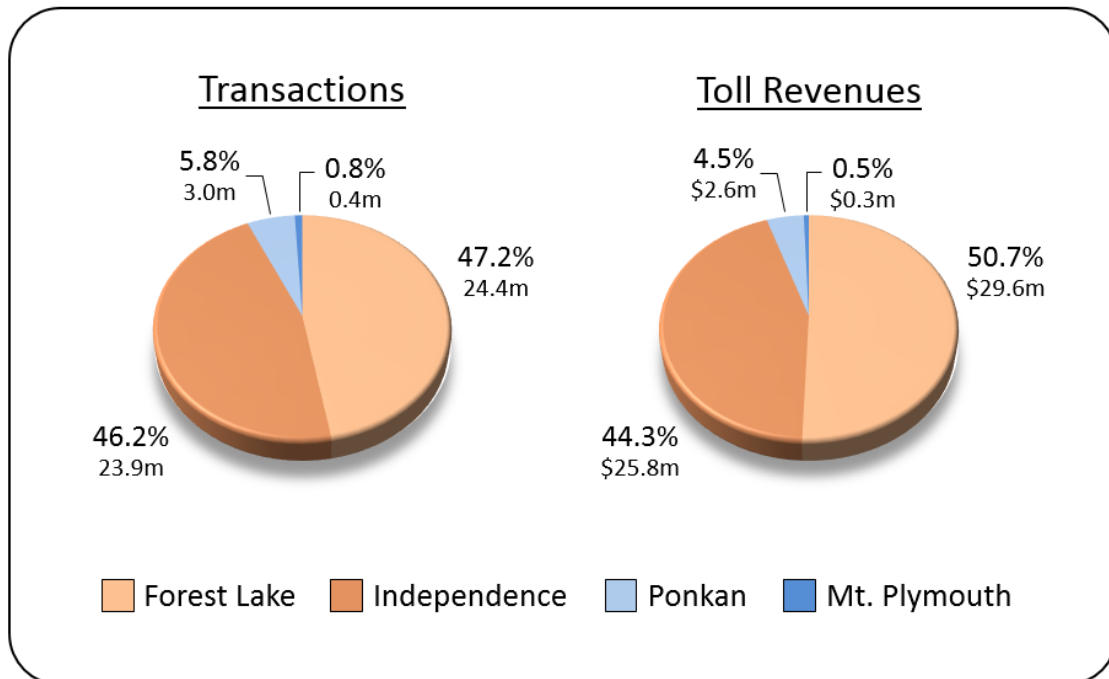


Source: CFX Statistical Report June 2018

The paid in-lane transactions and toll revenues by plaza group and as a percentage of total S.R. 429 paid in-lane transactions and toll revenues for FY 2018 are presented in **Figure 6-4**. As shown, the Forest Lake Main plaza group represented 24.4 million paid in-lane transactions or 47.2 percent of total S.R. 429 paid in-lane transactions. Independence Main plaza group represented 23.9 million or 46.2 percent of total paid in-lane transactions on the facility. The Ponkan Main plaza group represented 3.0 million paid in-lane transactions or 5.8 percent of the total, and the Mt. Plymouth Main plaza group carried the remaining 0.4 million or 0.8 percent of total paid in-lane transactions on the facility.

The annual totals and percentages for paid in-lane toll revenues are similar to the trends reported for annual paid in-lane transactions. Having more ramp toll plazas and a higher mainline toll rate, the Forest Lake Main plaza group represented \$29.6 million in paid in-lane toll revenues or 50.7 percent of total S.R. 429 paid in-lane toll revenues. Independence Main plaza group represented \$25.8 million or 44.3 percent of total paid in-lane revenue on the facility. The Ponkan Main plaza group represented \$2.6 million or 4.5 percent of the total, and the Mt. Plymouth Main plaza group carried the remaining \$0.3 million or 0.5 percent of total paid in-lane toll revenues on the facility.

Figure 6-4
S.R. 429 Paid In-Lane Transactions and Revenue by Plaza Group
FY 2018



Source: CFX Statistical Report June 2018

6.2.2 MONTHLY PAID IN-LANE TRANSACTION SEASONAL VARIATION

In **Table 6-2**, monthly paid in-lane transactions are normalized to average number of paid in-lane transactions per day in each month. Using average number of paid in-lane transactions per day allows for an easy comparison of the variations in relative travel demand over the year. The

pattern of seasonal usage changes slightly from year to year, based on the number of weekdays in each month. September average daily paid in-lane transactions were adjusted to only include 15 days of toll collection during the month. Tolls were suspended the remaining 15 days due to Hurricane Irma.

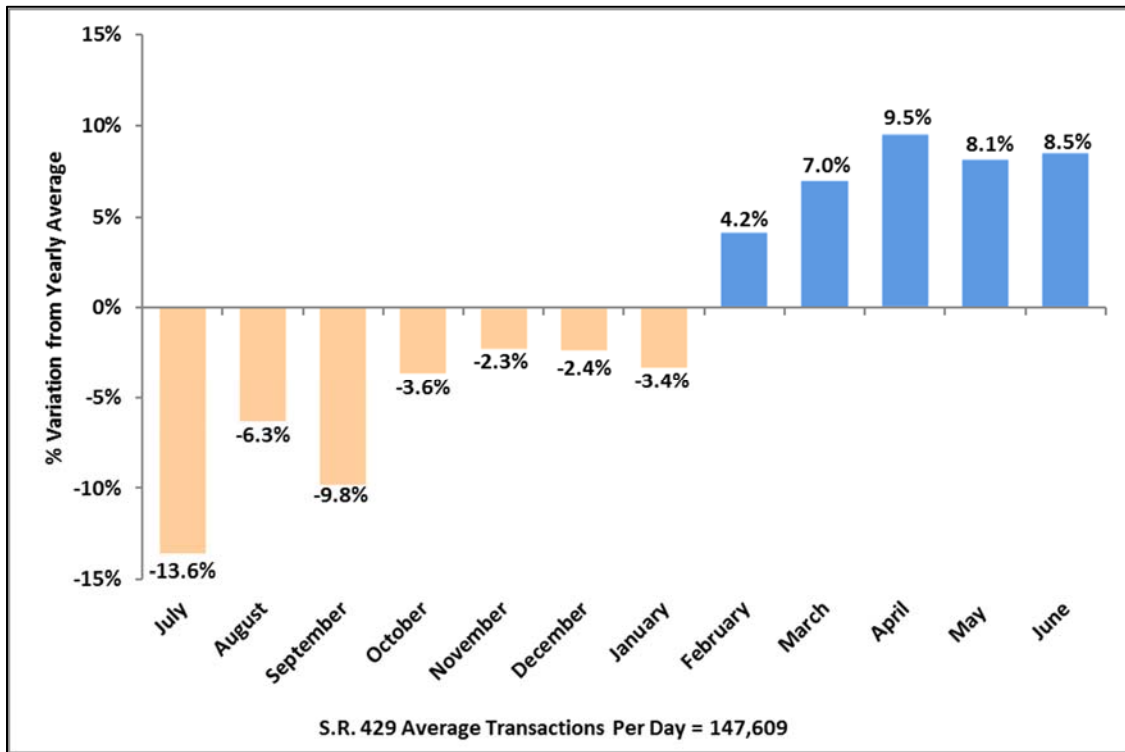
As presented in Table 6-2, average paid in-lane transactions per day in FY 2018 on S.R. 429 ranged from a high of 161,682 in April 2018 to a low of 127,488 in July 2017. This data is presented in a graphical format in **Figure 6-5**. Each month's average daily paid in-lane transactions appear as a percentage of the average for the fiscal year. Paid in-lane transactions in April were 9.5 percent above average and paid in-lane transactions in July were 13.6 percent below average for the facility. For FY 2018, the paid in-lane transactions were lower than average for the first half of the FY and higher than average for the second half of the FY. This is a normal pattern for seasonal variation, with the spring months being the peak season, due to an extra number of tourists and seasonal residents in the area. The seasonal pattern of usage will change slightly from year to year based on the number of weekdays in a given month.

Table 6-2
S.R. 429 – Monthly Seasonal Variation in Paid In-Lane Transactions
FY 2018

Month	Number of Days in Month	Total Toll Paying Transactions	Average Transactions/day	Seasonal Factor
July	31	3,952,122	127,488	0.864
August	31	4,285,335	138,237	0.937
September	15	1,996,466	133,098	0.902
October	31	4,409,403	142,239	0.964
November	30	4,325,521	144,184	0.977
December	31	4,467,949	144,127	0.976
January	31	4,421,772	142,638	0.966
February	28	4,306,105	153,789	1.042
March	31	4,894,121	157,875	1.070
April	30	4,850,445	161,682	1.095
May	31	4,948,373	159,625	1.081
June	30	4,805,646	160,188	1.085
Average		4,305,272	147,609	1.000
Total Year	350	51,663,258		

Source: CFX Statistical Report June 2018

Figure 6-5
S.R. 429 Variation in Paid In-Lane Transactions Per Day, By Month
FY 2018



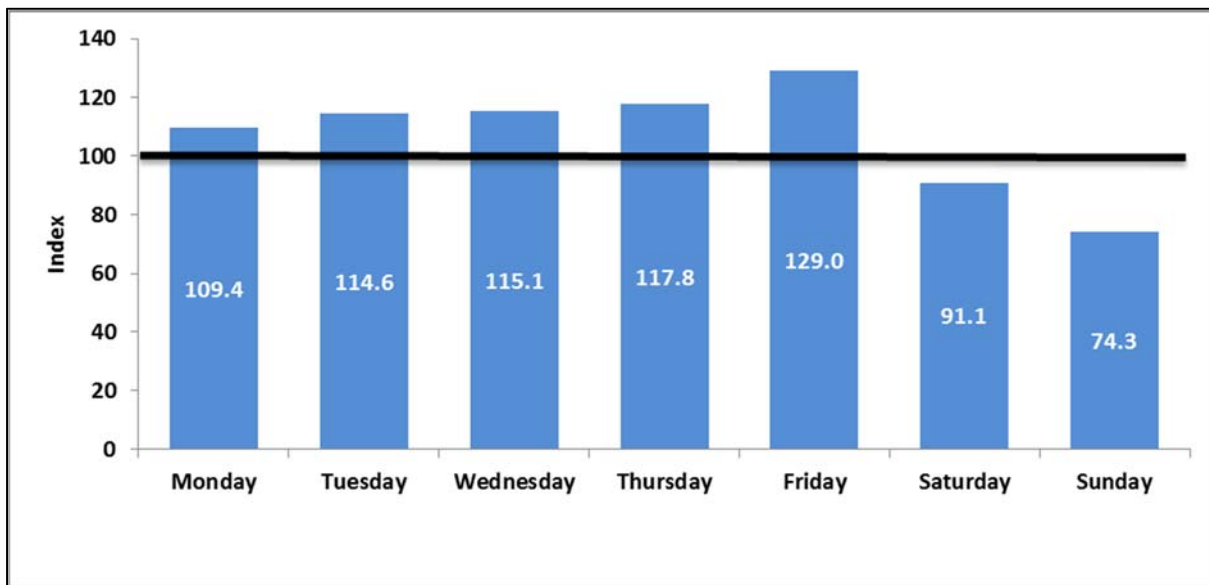
Source: CFX Statistical Report June 2018

6.2.3 DAY-OF-WEEK TOLL TRANSACTION VARIATION

Figure 6-6 contains a comparison of transactions by day of week in FY 2018. This data is presented as an index, where the average day equals 100. An index value of 100 for a given day of the week would indicate that day’s transactions were precisely the same volume as the facility average. A value of 120 would indicate a day that has 20 percent greater volume than the average. The data used for this analysis was for a typical week and includes transactions at mainline plazas only (no ramps).

As shown, weekday toll transaction volumes on S.R. 429 fluctuated over the course of the week. Transactions were highest on Fridays, with an index value of 129.0 (29.0 percent higher than the average day), volumes on Thursdays had an index value of 117.8, and volumes on Monday through Wednesday ranged from index values of 109.4 to 115.1. Saturday volumes were lower than early weekday volumes with an index value of 91.1. Transactions decline significantly on Sundays, which have an index value of 74.3, or 25.7 percent lower than the average day.

Figure 6-6
S.R. 429 Variation in Transactions, By Day of Week
FY 2018



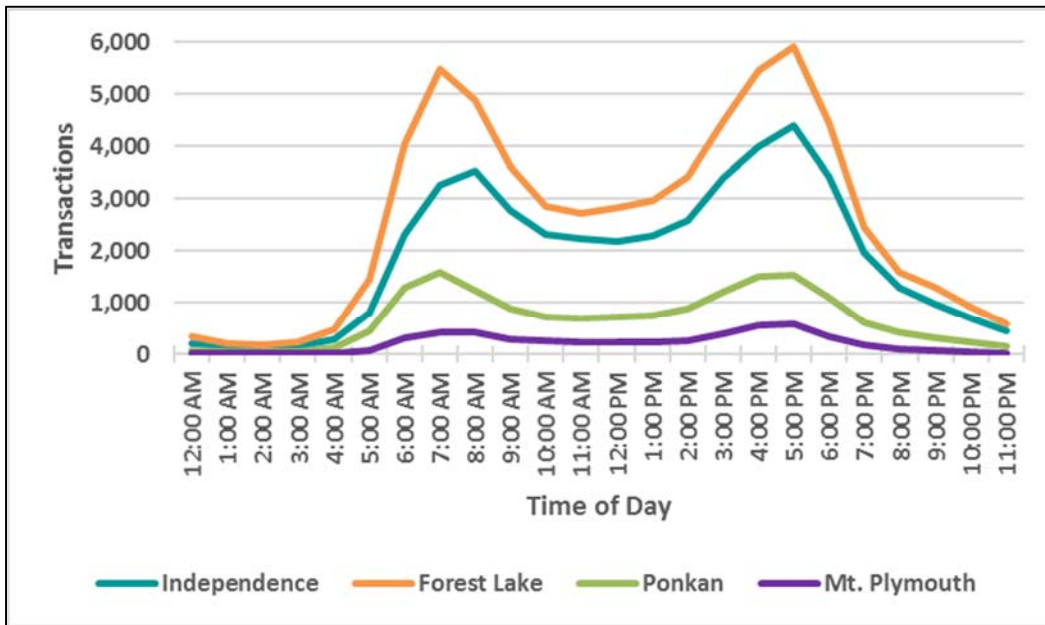
Source: Unaudited lane transaction data – January 2018

6.2.4 HOURLY TRAFFIC DISTRIBUTION

The hourly distribution of traffic volumes includes information on the usage characteristics of travel on the facility. The hourly distributions represent counts taken during a typical week at the mainline plazas in the month of January. The typical weekday distribution is shown in **Figure 6-7** and the weekend distribution is shown in **Figure 6-8**. The figures contain the sum of traffic volumes in both directions.

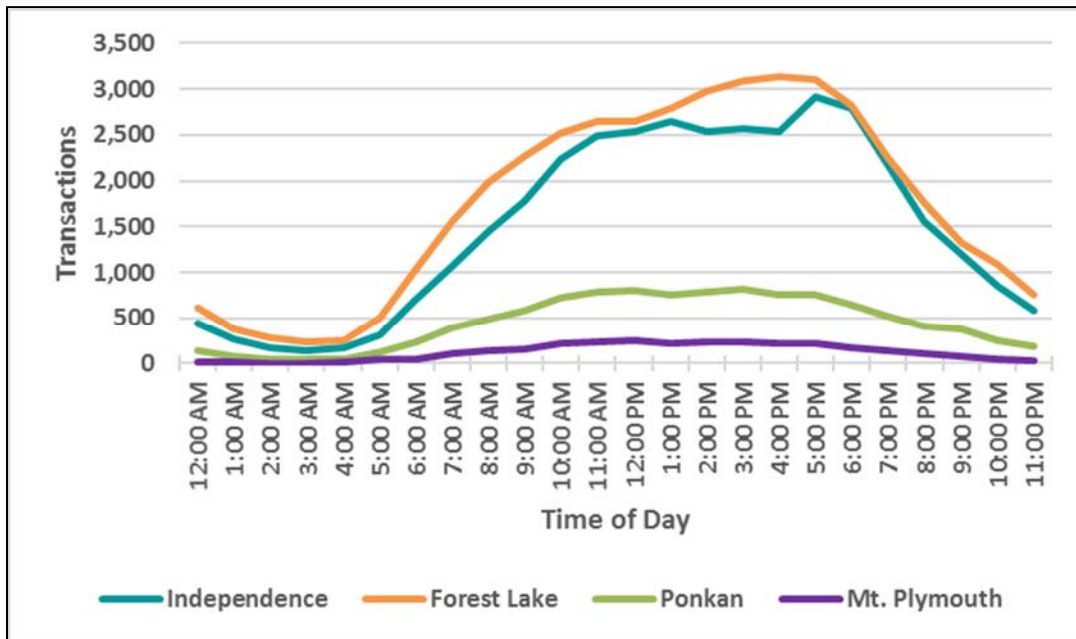
The four mainline locations on S.R. 429 exhibit similar hourly traffic patterns. On weekdays, travel demand at all four locations is bimodal, with both morning and evening peak hours. Traffic volumes in the evening peak hours at all mainline plazas are higher than in the morning peak hours. The highest peak hour volumes during the week were 5,900 per hour beginning at 5:00 P.M. at the Forest Lake mainline plaza, 4,400 per hour beginning at 5:00 P.M. at the Independence mainline plaza, 1,500 per hour beginning at 5:00 P.M. at the Ponkan mainline plaza, and 600 per hour beginning at 5:00 P.M. at the Mt. Plymouth mainline plaza. On weekends, the volumes are lower and there is no clear morning or evening peak periods, indicating that many customers use the facility for non-work trip purposes.

Figure 6-7
S.R. 429 Hourly Traffic Variation (Weekday)
FY 2018 (January and May)



Source: Unaudited lane transaction data – January 2018 and May 2018

Figure 6-8
S.R. 429 Hourly Traffic Variation (Weekend)
FY 2018 (January and May)



Source: Unaudited lane transaction data – January 2018 and May 2018

6.2.5 TRANSACTIONS AND REVENUE BY PAYMENT TYPE

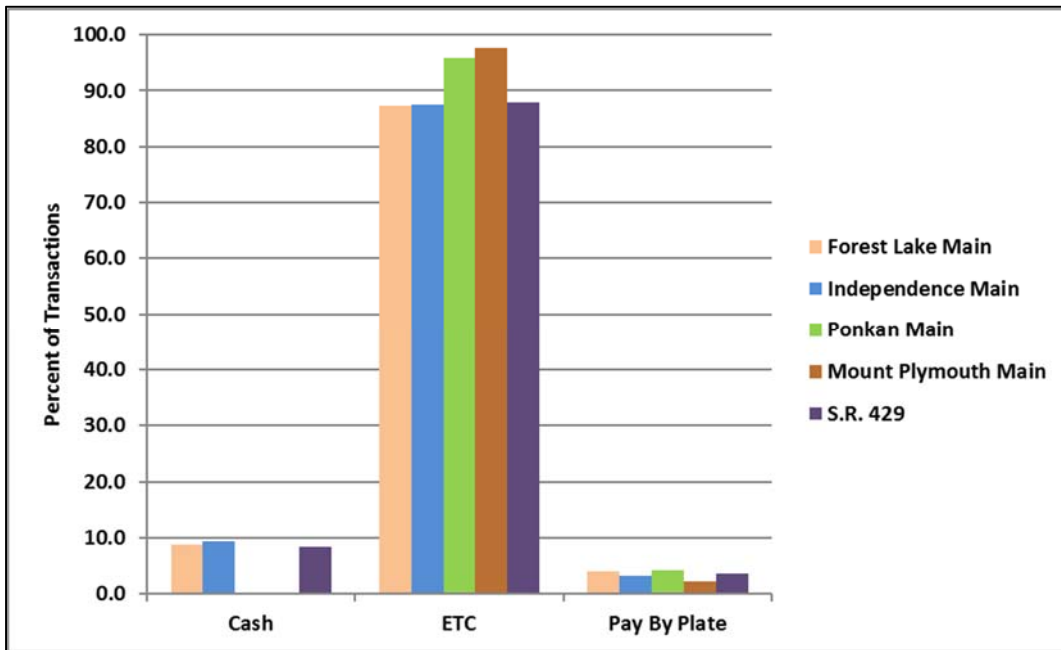
The distribution of transactions and revenue by payment type by plaza group during FY 2018 is presented in **Figure 6-9** and **Figure 6-10**. Payment types can be classified in one of three ways: cash, ETC, and Pay By Plate (PBP). As defined in Chapter 1 of this report, paid in-lane transactions and revenue include cash and ETC payments made when a customer drives through a CFX toll location. The remaining transactions and revenue are classified as unpaid in-lane, which includes PBP and a small portion of non-revenue transactions. It is important to note that the data presented in the following two figures is based on unaudited transaction and toll revenue data and may not match the audited data shown in other tables and figures in this chapter.

As shown in Figure 6-9, the percent of ETC transactions ranged from a low of 87.3 percent at the Forest Lake Main plaza group to a high of 97.7 percent at the Mount Plymouth Main plaza group. The Mount Plymouth and Ponkan mainline plazas, as part of the Wekiva Parkway, are both ETC only toll collection. Overall, ETC transactions on S.R. 429 accounted for 87.9 percent of total transactions on the facility. The percent of cash transactions ranged from a low of 0.0 percent at the Ponkan Main and Mount Plymouth Main plaza groups to a high of 9.3 percent at the Independence Main plaza group. Overall, cash transactions on S.R. 429 accounted for 8.4 percent of total transactions on the facility. The PBP transactions accounted for the smallest share, between 2.3 and 4.2 percent of transactions at all plaza groups. Overall, PBP transactions on S.R. 429 accounted for 3.7 percent of total transactions on the facility.

As shown in Figure 6-10, the percent of toll revenues by payment type is comparable to the trend in transactions. The percent of ETC toll revenues ranged from a low of 84.8 percent at the Independence Main plaza group to a high of 96.7 percent at the Mount Plymouth Main plaza group. The percent of cash toll revenues ranged from a low of 0.0 percent at the Ponkan Main and Mount Plymouth Main plaza groups to a high of 11.5 percent at the Independence Main plaza group. The percent of PBP toll revenues ranged from a low of 3.3 percent to a high of 5.7 percent at all plaza groups.

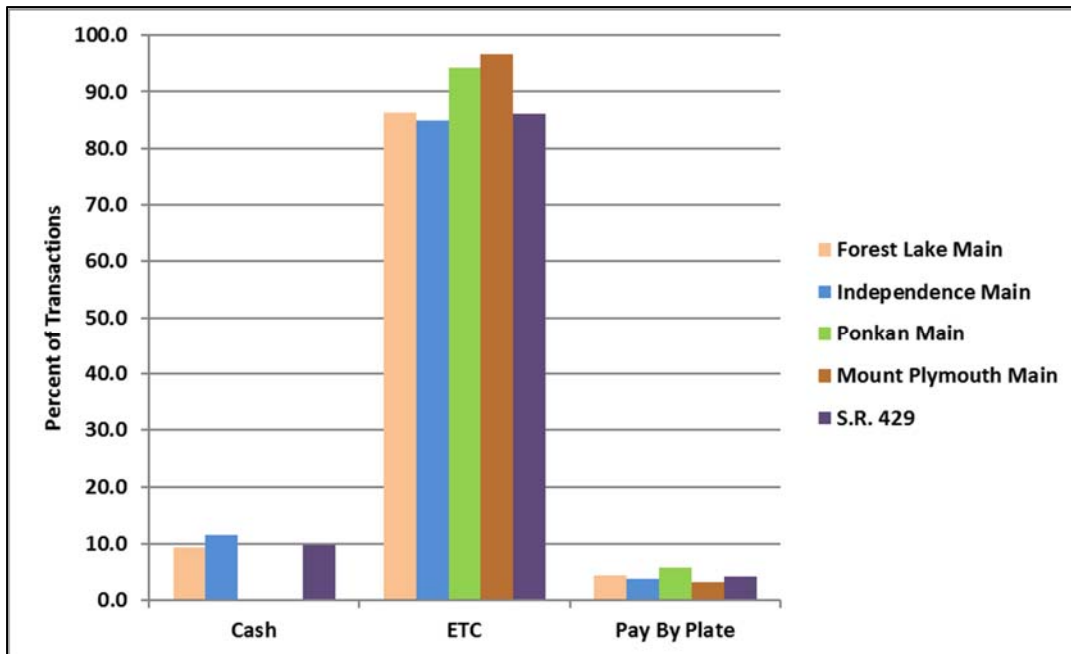


Figure 6-9
S.R. 429 Percent of Transactions by Payment Type
FY 2018



Source: Unaudited transaction data provided by CFX

Figure 6-10
S.R. 429 Percent of Revenue by Payment Type
FY 2018

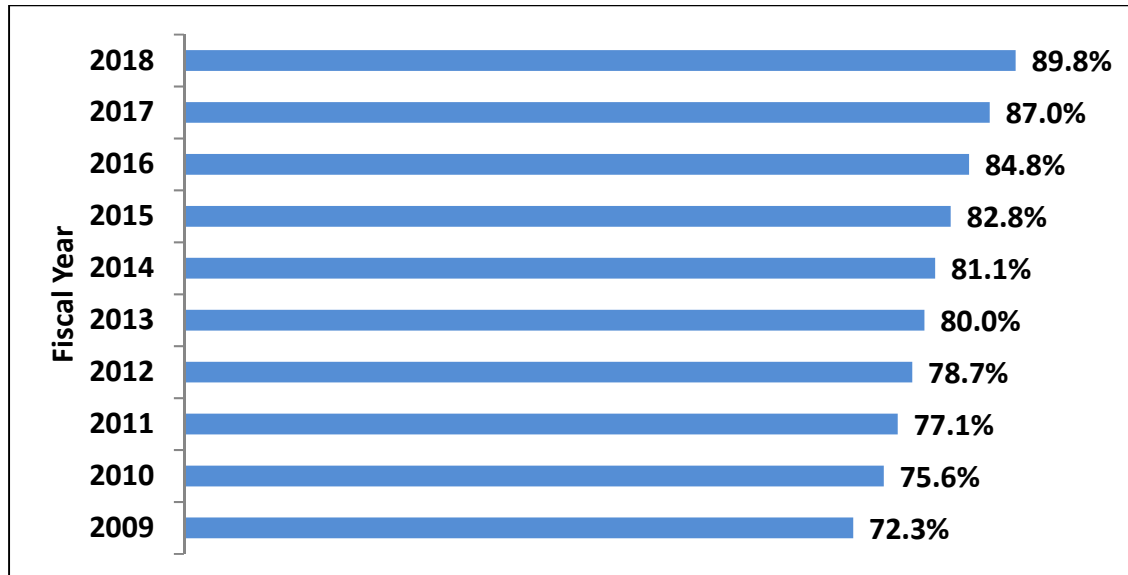


Source: Unaudited transaction data provided by CFX

6.3 ETC Usage

The percent of revenues collected from ETC over the past ten fiscal years on S.R. 429 are shown in **Figure 6-11**. Over this time, ETC revenues have steadily increased on the facility. In FY 2009, ETC revenues totaled 72.3 percent of total revenues. By the end of FY 2018, ETC revenues reached 89.8 percent. ETC usage is expected to increase as customers shift from cash to ETC to take advantage of the lower ETC rate and the convenience of paying tolls electronically, as well as the newly opened “Reload” Lane at the Forest Lake Main Plaza so customers can conveniently obtain and replenish E-PASS transponders. CFX also continues to offer toll discount incentives to customers through various discount programs. The I-4 Commuter Discount Program, implemented in July 2015, offers discounts for transactions on S.R. 417, S.R. 429 and S.R. 414 during construction activities on I-4.

Figure 6-11
S.R. 429 Percent of Revenue from Electronic Toll Collection
FY 2009 – FY 2018



Source: CFX Statistical Report June 2018

6.4 Forecasted Transactions and Toll Revenues

Based on the recently adopted “Customer First Toll Policy,” toll rate adjustments (indexed tolls) were applied to the T&R forecasts every year based on the net change in CPI of 2.05 percent in FY 2019 and 1.5 percent per year thereafter.

In addition to the Wekiva Parkway, future transportation improvements that could influence the T&R forecasts for S.R. 429 include the projects listed in **Table 6-3**. Completion of these projects was assumed in each model horizon year.

Several important growth areas in the Orlando metropolitan areas are along S.R. 429. Developments in Horizon West area of SW Orange County are actively constructing, specifically

near the Schofield Road and New Independence Parkway Interchanges. Growth in SW Orange County is reflected in the T&R forecast for the Independence Main Plaza Group.

Table 6-3
S.R. 429 - Key Transportation Improvements

Facility	From	To	Year	Jurisdiction	Improvement
Interstate 4	SR 434	Kirkman Road	2025	FDOT	Widen to 10 Lanes
SR 429	SR 50	SR 414	2025	CFX	Widen to 6-Lanes
Entry Point Blvd	Funie Steed Rd	US 192	2035	Osceola County	Widen to 4 Lanes
Funie Steed Rd	Westside Blvd	Entry Point Blvd	2035	Osceola County	Widen to 4 Lanes
Funie Steed Rd	Entry Point Blvd	Old Lake Wilson Rd (CR 545)	2035	Osceola County	Widen to 4 Lanes
Lake Orange Connector Expressway	US 27	SR 429	2035	CFX	New 4 lane expressway
New Independence Pkwy/Wellness Way	Lake County Line	SR 429	2035	Orange County	New/Widen 4 Lanes
SR 429	CR 535	SR 50	2035	CFX	Widen to 6-Lanes
SR 438/Silver Star Rod	SR 429	Bluford Avenue	2035	FDOT	Widen to 4-lanes
Wekiva Parkway	Mount Plymouth Road	Interstate 4	2035	FDOT	New 4 lane expressway
Avalon Road (CR 545)	Seidel Road	McKinney Road	2045	Orange County	Widen to 4 Lanes
Avalon Road (CR 545)	Tilden Road	Marsh Road	2045	Orange County	Widen to 4 Lanes
Plant Street (SR 438)	9th Street	West Crown Point Rd	2045	FDOT	Widen to 4-lanes
SR 414	Orange County Line	SR 434/Forest City Road	2045	FDOT	Widen to 6-lanes
SR 429	Seidel Road	CR 535	2045	CFX	Widen to 6-Lanes
US 17/92	Pleasant Hill Rd	Portage St	2045	Osceola County/FDOT	Widen to 6-Lanes
US 17-92	Ham Brown Rd	Pleasant Hill Rd	2045	Osceola County/FDOT	Widen to 6-Lanes
US 17-92	Old Tampa Hwy	Poinciana Blvd	2045	Osceola County/FDOT	Widen to 4 Lanes

CFX System improvements including the Wekiva Expressway have improved access and the potential for growth in NW Orange County. The growth potential is also demonstrated by the planned improvements to the CFX System including S.R. 429 from S.R. 50 to S.R. 414 and C.R. 535 to S.R. 50, as well as a planned expansion project, the Lake Orange Connector, between S.R. 429 and U.S. 27 and a new local road, Wellness Way. Planned improvements to the local street system including Silver Star Road, Plant Street and Avalon Road, serve as feeder roads to S.R. 429 and positively impact T&R in the near term and long-term forecasts.

Transaction and toll revenue forecasts for S.R. 429 are summarized in **Table 6-4** and **Table 6-5**. The tables are divided into paid in-lane transactions and revenue and PBP transactions and revenue. Paid in-lane transactions and revenue by plaza group include ETC and cash collection. PBP is only reported as a total on the facility level.

The paid in-lane transactions on S.R. 429 are expected to grow 4.1 percent per year through FY 2028 and then lower rates through the end of the forecast period because of the impact of toll rate adjustments. PBP transactions are forecasted to increase an average of 9.8 percent per year through FY 2028 and then decline through the forecast period. Total transactions on S.R. 429 are projected to increase during the forecast period from the actual of 53.7 million in FY 2018 to 117.4 million in FY 2048. The paid in-lane revenues on S.R. 429 are projected to increase over the forecast period, from the FY 2018 actual of \$58.3 million to \$166.5 million in FY 2048. PBP revenues are projected to increase from \$2.5 million in FY 2018 to \$15.3 million in FY 2048. Total revenues are projected to increase over the forecast period from the actual of \$60.8 million in FY 2018 to \$181.8 million in FY 2048. Of this increase, a total of \$5.3 million in FY 2019 increasing to \$32.7 million in FY 2048 is expected to be collected at the two Wekiva Parkway toll plazas.

Table 6-4
S.R. 429 Plaza Groups – Transaction Projections (Millions)
FY 2019 – FY 2048

Fiscal Year	Forest Lake Main	Independence Main	Ponkan Main	Mount Plymouth Main	Paid In-Lane	PBP	Total	Percent Annual Change
2010	13.0	12.0			25.0	0.2	25.2	
2011	13.4	12.5			25.9	0.3	26.2	4.0%
2012	13.6	12.8			26.4	0.4	26.8	2.3%
2013 ^A	14.2	13.0			27.2	0.5	27.7	3.4%
2014	16.1	14.6			30.7	0.6	31.3	13.0%
2015	18.3	16.9			35.2	0.9	36.1	15.4%
2016	21.4	19.8			41.2	1.3	42.5	17.6%
2017 ^B	23.4	22.1			45.5	1.6	47.1	10.9%
2018 ^{C,D}	24.4	23.9	3.0	0.4	51.7	2.0	53.7	14.0%
2019 ^E	25.7	25.5	4.7	1.4	57.3	4.7	62.0	15.5%
2020	26.5	26.8	5.0	1.8	60.1	4.0	64.1	3.4%
2021	27.2	27.9	5.4	2.2	62.7	4.1	66.8	4.2%
2022 ^F	27.6	28.5	5.8	2.6	64.5	4.2	68.7	2.8%
2023	28.4	29.4	6.2	3.1	67.1	4.5	71.6	4.2%
2024	29.1	30.2	6.6	3.5	69.4	4.6	74.0	3.4%
2025	29.6	31.0	7.0	3.9	71.5	4.7	76.2	3.0%
2026	30.1	31.8	7.4	4.3	73.6	5.0	78.6	3.1%
2027	30.5	32.5	7.7	4.7	75.4	5.0	80.4	2.3%
2028	30.9	33.3	8.1	5.1	77.4	5.1	82.5	2.6%
2029	31.3	34.0	8.5	5.5	79.3	5.3	84.6	2.5%
2030	31.7	34.7	8.9	5.9	81.2	5.4	86.6	2.4%
2031	32.1	35.4	9.3	6.3	83.1	5.6	88.7	2.4%
2032	32.5	36.0	9.7	6.8	85.0	5.6	90.6	2.1%
2033	32.8	36.7	10.1	7.2	86.8	5.9	92.7	2.3%
2034	33.2	37.3	10.5	7.6	88.6	6.0	94.6	2.0%
2035	33.5	37.9	10.8	8.0	90.2	6.0	96.2	1.7%
2036	33.8	38.4	11.2	8.4	91.8	6.1	97.9	1.8%
2037	34.2	39.0	11.6	8.8	93.6	6.4	100.0	2.1%
2038	34.5	39.5	12.0	9.2	95.2	6.4	101.6	1.6%
2039	34.8	40.1	12.4	9.6	96.9	6.6	103.5	1.9%
2040	35.1	40.5	12.8	10.1	98.5	6.7	105.2	1.6%
2041	35.4	41.0	13.2	10.5	100.1	6.7	106.8	1.5%
2042	35.6	41.5	13.5	10.9	101.5	6.9	108.4	1.5%
2043	35.9	41.9	13.9	11.3	103.0	7.1	110.1	1.6%
2044	36.2	42.3	14.3	11.7	104.5	7.1	111.6	1.4%
2045	36.4	42.6	14.7	12.1	105.8	7.2	113.0	1.3%
2046	36.7	42.9	15.1	12.5	107.2	7.2	114.4	1.2%
2047	36.9	43.2	15.5	12.9	108.5	7.5	116.0	1.4%
2048	37.1	43.5	15.9	13.3	109.8	7.6	117.4	1.2%

Fiscal Year	Compound Annual Average Growth Rate (CAAGR)						
2010 - 2018	8.2%	9.0%			9.5%	33.4%	9.9%
2018 - 2028	2.4%	3.4%	10.4%	29.0%	4.1%	9.8%	4.4%
2028 - 2038	1.1%	1.7%	4.0%	6.1%	2.1%	2.3%	2.1%
2038 - 2048	0.7%	1.0%	2.9%	3.8%	1.4%	1.7%	1.5%

Notes:

Actual transaction data provided by CFX from Monthly Statistical Reports.

A - Systemwide toll rate increase.

B - Effects from Hurricane Matthew in October 2016.

C - Ponkan Main plaza opened on July 27, 2017 and Mount Plymouth Main opened on April 1, 2018.

D - Effects from Hurricane Irma in September 2017.

E - First year of implementation of "Customer First" toll rate policy and assumed toll rate increase of 2.05% in FY 2019. Annual toll rate increase of 1.5% assumed throughout forecast period.

F - Completion of I-4 Ultimate project.

Table 6-5
S.R. 429 Plaza Groups – Toll Revenue Projections (Millions)
FY 2019 – FY 2048

Fiscal Year	Forest Lake Main	Independence Main	Ponkan Main	Mount Plymouth Main	Paid In-Lane	PBP	Total	Percent Annual Change
2010	\$13.7	\$9.8			\$23.5	\$0.1	\$23.6	
2011	\$14.1	\$10.3			\$24.4	\$0.2	\$24.6	4.2%
2012	\$14.2	\$10.7			\$24.9	\$0.3	\$25.2	2.4%
2013 ^A	\$17.1	\$12.3			\$29.4	\$0.4	\$29.8	18.3%
2014	\$19.5	\$14.0			\$33.5	\$0.6	\$34.1	14.4%
2015	\$22.1	\$16.8			\$38.9	\$0.8	\$39.7	16.5%
2016	\$26.0	\$20.1			\$46.0	\$1.4	\$47.4	19.4%
2017 ^B	\$28.4	\$23.3			\$51.7	\$2.0	\$53.7	13.2%
2018 ^{C,D}	\$29.6	\$25.8	\$2.6	\$0.3	\$58.3	\$2.5	\$60.8	13.2%
2019 ^E	\$31.7	\$28.1	\$4.1	\$1.2	\$65.1	\$6.3	\$71.4	17.4%
2020	\$33.1	\$29.9	\$4.6	\$1.6	\$69.2	\$5.3	\$74.5	4.3%
2021	\$34.4	\$31.5	\$5.0	\$2.1	\$73.0	\$5.6	\$78.6	5.5%
2022 ^F	\$35.5	\$32.8	\$5.5	\$2.5	\$76.3	\$5.9	\$82.2	4.6%
2023	\$36.9	\$34.2	\$6.0	\$3.0	\$80.1	\$6.3	\$86.4	5.1%
2024	\$38.3	\$35.6	\$6.5	\$3.5	\$83.9	\$6.6	\$90.5	4.7%
2025	\$39.5	\$36.9	\$7.0	\$3.9	\$87.3	\$6.8	\$94.1	4.0%
2026	\$40.7	\$38.3	\$7.5	\$4.4	\$90.9	\$7.2	\$98.1	4.3%
2027	\$41.8	\$39.6	\$8.0	\$4.8	\$94.2	\$7.4	\$101.6	3.6%
2028	\$42.9	\$41.0	\$8.5	\$5.3	\$97.7	\$7.6	\$105.3	3.6%
2029	\$44.1	\$42.4	\$9.0	\$5.8	\$101.3	\$8.0	\$109.3	3.8%
2030	\$45.2	\$43.8	\$9.4	\$6.2	\$104.6	\$8.4	\$113.0	3.4%
2031	\$46.3	\$45.2	\$9.9	\$6.7	\$108.1	\$8.8	\$116.9	3.5%
2032	\$47.4	\$46.5	\$10.4	\$7.1	\$111.4	\$8.9	\$120.3	2.9%
2033	\$48.5	\$47.9	\$10.9	\$7.6	\$114.9	\$9.6	\$124.5	3.5%
2034	\$49.6	\$49.3	\$11.4	\$8.1	\$118.4	\$9.8	\$128.2	3.0%
2035	\$50.7	\$50.7	\$11.9	\$8.5	\$121.8	\$10.0	\$131.8	2.8%
2036	\$51.8	\$52.1	\$12.4	\$9.0	\$125.3	\$10.2	\$135.5	2.8%
2037	\$53.0	\$53.5	\$12.9	\$9.5	\$128.9	\$11.0	\$139.9	3.2%
2038	\$54.1	\$54.8	\$13.4	\$9.9	\$132.2	\$11.0	\$143.2	2.4%
2039	\$55.2	\$56.2	\$13.8	\$10.4	\$135.6	\$11.7	\$147.3	2.9%
2040	\$56.4	\$57.6	\$14.3	\$10.8	\$139.1	\$11.9	\$151.0	2.5%
2041	\$57.5	\$59.0	\$14.8	\$11.3	\$142.6	\$12.1	\$154.7	2.5%
2042	\$58.7	\$60.3	\$15.3	\$11.8	\$146.1	\$12.7	\$158.8	2.7%
2043	\$59.8	\$61.7	\$15.8	\$12.2	\$149.5	\$13.2	\$162.7	2.5%
2044	\$61.0	\$63.0	\$16.3	\$12.7	\$153.0	\$13.4	\$166.4	2.3%
2045	\$62.2	\$64.3	\$16.8	\$13.1	\$156.4	\$13.9	\$170.3	2.3%
2046	\$63.3	\$65.6	\$17.3	\$13.6	\$159.8	\$14.0	\$173.8	2.1%
2047	\$64.5	\$66.8	\$17.8	\$14.1	\$163.2	\$14.8	\$178.0	2.4%
2048	\$65.7	\$68.1	\$18.2	\$14.5	\$166.5	\$15.3	\$181.8	2.1%

Fiscal Year	Compound Annual Average Growth Rate (CAAGR)						
2010 - 2018	10.1%	12.9%			12.0%	49.5%	12.6%
2018 - 2028	3.8%	4.7%	12.6%	33.3%	5.3%	11.8%	5.6%
2028 - 2038	2.3%	2.9%	4.7%	6.4%	3.1%	3.8%	3.1%
2038 - 2048	2.0%	2.2%	3.1%	3.9%	2.3%	3.4%	2.4%

Notes:

Actual transaction data provided by CFX from Monthly Statistical Reports.

A - Systemwide toll rate increase.

B - Effects from Hurricane Matthew in October 2016.

C - Ponkan Main plaza opened on July 27, 2017 and Mount Plymouth Main opened on April 1, 2018.

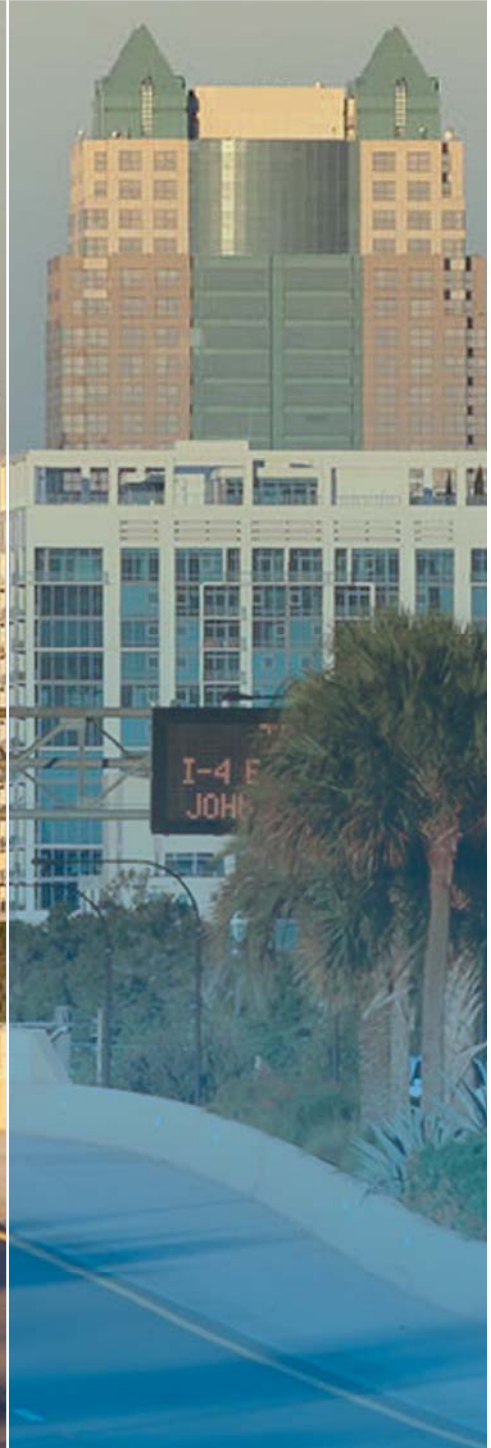
D - Effects from Hurricane Irma in September 2017.

E - First year of implementation of "Customer First" toll rate policy and assumed toll rate increase of 2.05% in FY 2019. Annual toll rate increase of 1.5% assumed throughout forecast period.

F - Completion of I-4 Ultimate project.

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Chapter 7
S.R. 414
(John Land Apopka Expressway)



S.R. 414 (JOHN LAND APOPKA EXPRESSWAY)

7.1 Facility Description

S.R. 414, also known as the John Land Apopka Expressway, is a 9-mile expressway that extends east from S.R. 429 to Maitland Boulevard at U.S. 441 (N. Orange Blossom Trail). Three of these miles are part of a dual route with S.R. 429. This long-awaited expressway improved access between S.R. 429, I-4 and employment centers such as Maitland Center. While relieving congestion on U.S. 441 and many local roads in the greater Apopka area, it was the first new, major east-west corridor built in Central Florida in many years. S.R. 414 includes one mainline toll plaza, Coral Hills Main plaza. The plaza group has two pairs of ramp toll plazas at the Keene Road and the Hiwassee Road interchanges. All three toll locations are included in the Coral Hills Main plaza group. Other existing interchanges include S.R. 429, Marden Road, S.R. 451 and U.S. 441/Orange Blossom Trail. A map of S.R. 414 including the FY 2018 CFX toll rates for the mainline and ramp toll plazas is shown in **Figure 7-1**.

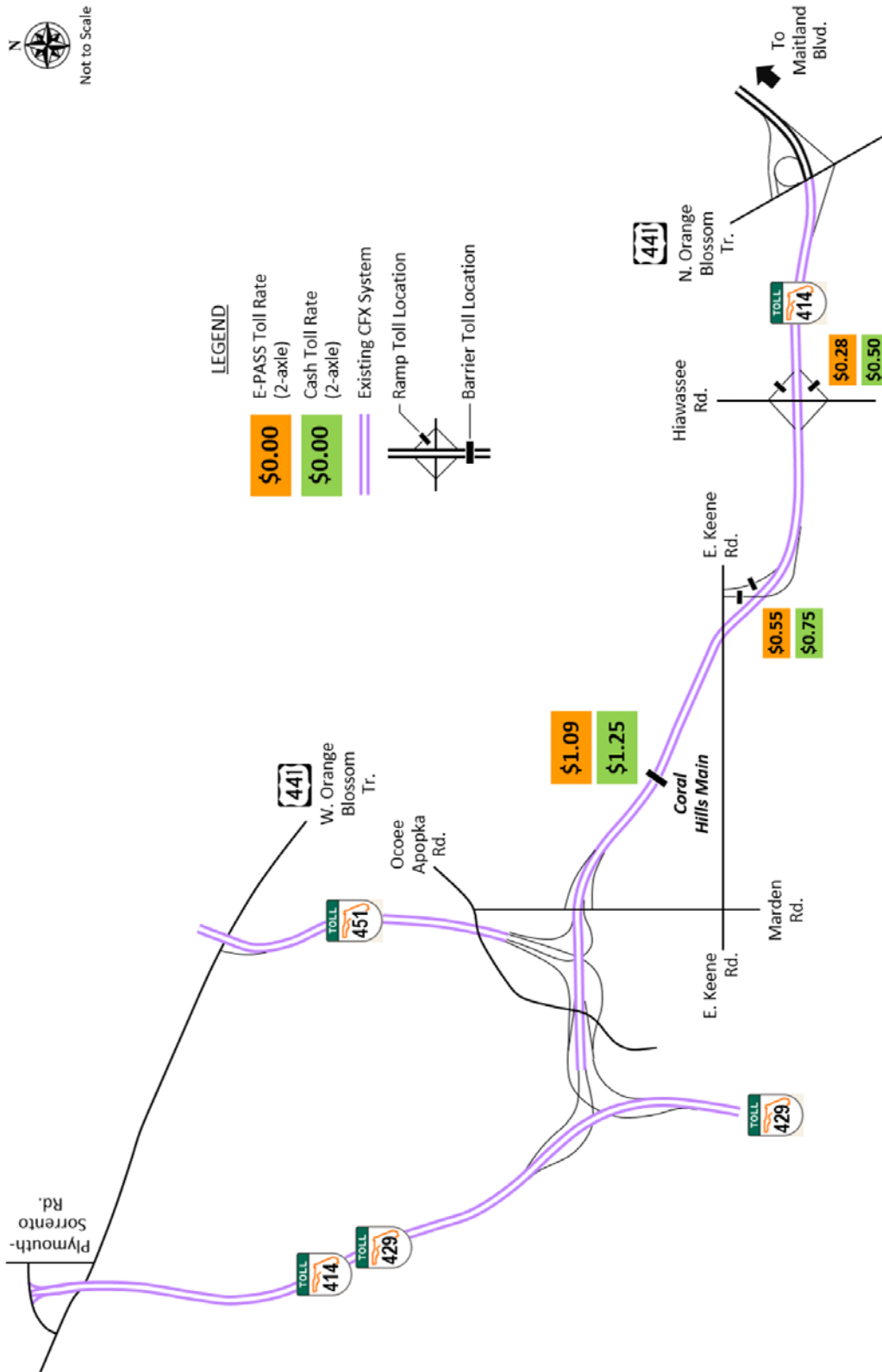


CFX began construction on Phase I of the S.R. 414 in January 2007. CFX was able to partially open the new expressway to electronic toll collection customers from S.R. 429 to Hiwassee Road on February 14, 2009, because construction was ahead of schedule. The entire length of Phase I was opened to traffic on May 15, 2009, earlier than originally scheduled.

In June 2010, construction began on Phase II of S.R. 414, which included a new interchange between S.R. 414 and S.R. 429 and an extension of S.R. 429/S.R. 414 northwest to U.S. 441 near Plymouth Sorrento Road. This interchange, which was completed in October 2012, helped improve traffic flow between S.R. 429 and S.R. 414, accommodated future growth in west Orange County and provided improved access to I-4 and the attractions. The extension of S.R. 429/S.R. 414 to U.S. 441 near Plymouth Sorrento Road opened in January 2013. This expressway featured sections with up to six travel lanes (three in each direction) and a new connector road that allows access between S.R. 429 and U.S. 441 near Plymouth Sorrento Road. In addition, the section of S.R. 429 from north of S.R. 414 to U.S. 441 was designated S.R. 451.

In June 2017, a partial interchange opened on S.R. 414 at Marden Road, which allows traffic traveling west on S.R. 414 to exit at Marden Road while traffic on Marden Road can enter on to eastbound S.R. 414. This interchange provides additional local access from S.R. 414, specifically to the new Florida Hospital Apopka and nearby land developments.

Figure 7-1
S.R. 414 Facilities and Toll Rates



7.2 Historical Transactions and Toll Revenues

7.2.1 ANNUAL PAID IN-LANE TRANSACTION AND REVENUE TRENDS

A history of S.R. 414 annual paid in-lane transactions for the Coral Hills Main plaza group through FY 2018 is presented in the top half of **Table 7-1**. Annual historical paid in-lane toll revenues are also summarized and totaled in the bottom half of the table. The facility data and annual growth are also presented visually in **Figure 7-2** and **Figure 7-3**. These historical tables do not include PBP transactions and revenues, only those that are paid in-lane. For these reasons, the information presented in this section may differ slightly from the data presented in the FY 2018 Comprehensive Annual Financial Report (CAFR) and other information in this report.

Total paid in-lane transactions on S.R. 414 in FY 2018 increased by 0.6 million transactions, or 4.7 percent, over FY 2017. Paid in-lane toll revenues increased by \$0.8 million, or 6.2 percent, in FY 2018. The facility has only been open for nine years with the first full year of operation in FY 2010. There was no toll rate increase at the Coral Hills Main plaza in FY 2009 since the road was not fully opened until after the toll increase went into effect, however tolls did increase during the FY 2013 Systemwide toll rate increase. This facility is expected to continue experiencing growth due to the recent opening of the Wekiva Parkway (S.R. 429).

In October 2016 (FY 2017), Hurricane Matthew tracked parallel to the Florida coast as a Category 3 storm with winds up to 130 miles per hour. Tolls were suspended on the CFX System beginning at 8:00pm on October 5, 2016 through early on October 10, 2016. The toll suspension resulted in a loss of approximately 0.1 million in both transactions toll revenues on S.R. 414. In September 2017 (FY 2018), Hurricane Irma tracked parallel to the Florida coast as a Category 4 storm with winds up to 155 miles per hour. Tolls were suspended on CFX toll facilities beginning on September 5, 2017 through September 20, 2017 resulting in a transaction and revenue loss of approximately 0.6 million S.R. 414.



Table 7-1
S.R. 414 Plaza Groups – Historical Paid In-Lane Transactions and Revenue
FY 2009 – FY 2018

Fiscal Year	Coral Hills Main	
	TRANSACTIONS (millions)	PERCENT CHANGE
2009 ^A	0.6	
2010	5.3	783.3%
2011	6.5	22.6%
2012	7.3	12.3%
2013 ^B	8.3	13.1%
2014	9.5	14.5%
2015	10.6	11.6%
2016	12.0	13.2%
2017 ^C	12.8	6.7%
2018 ^D	13.4	4.7%
	TOLL REVENUE (millions)	PERCENT CHANGE
2009 ^A	\$0.6	
2010	\$4.2	600.0%
2011	\$5.1	21.4%
2012	\$5.7	11.8%
2013 ^B	\$7.7	35.4%
2014	\$9.1	18.2%
2015	\$10.4	14.3%
2016	\$12.0	15.4%
2017 ^C	\$13.0	8.3%
2018 ^D	\$13.8	6.2%

Notes:

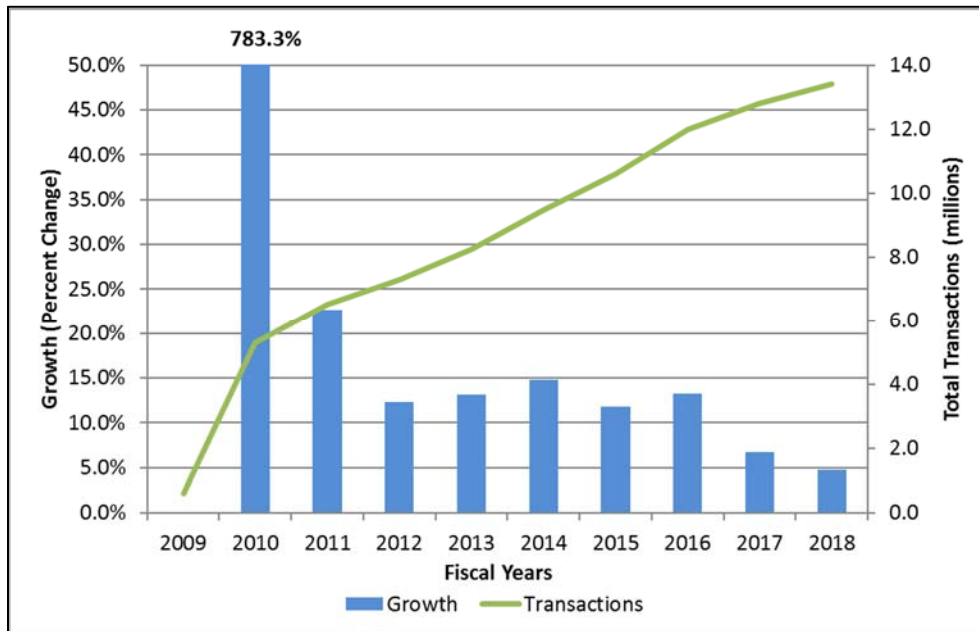
A - Opened to electronic traffic on February 14, 2009 and all traffic on May 15, 2009.

B - Systemwide toll rate increase in July 2013. Implementation of cash and electronic toll rate differential. Extension of S.R. 414 to U.S. 441 opened in January 2013.

C - Effects from Hurricane Matthew in October 2016. Marden Rd. interchange opened in June 2017.

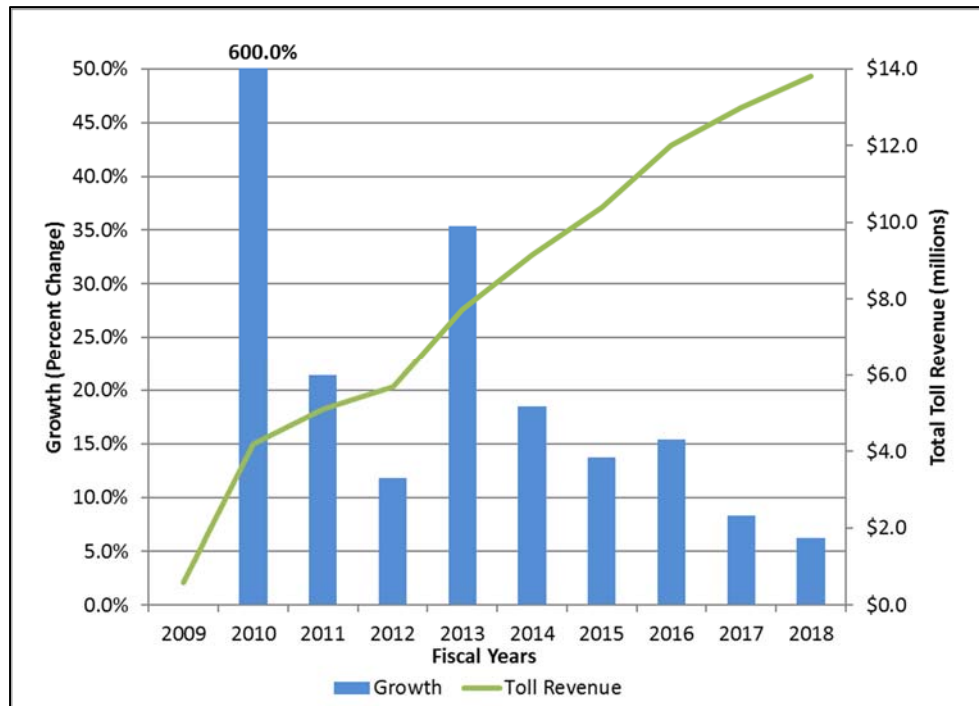
D - Effects from Hurricane Irma in September 2017.

Figure 7-2
S.R. 414 Historical Paid In-Lane Transactions and Annual Growth
FY 2009 – FY 2018



Source: CFX Statistical Report June 2018

Figure 7-3
S.R. 414 Historical Paid In-Lane Revenue and Annual Growth
FY 2009 – FY 2018



Source: CFX Statistical Report June 2018

7.2.2 MONTHLY PAID IN-LANE TRANSACTION SEASONAL VARIATION

In **Table 7-2**, monthly paid in-lane transactions are normalized to average number of paid in-lane transactions per day in each month. Using average number of paid in-lane transactions per day allows for an easy comparison of the variations in relative travel demand over the year. The pattern of seasonal usage changes slightly from year to year, based on the number of weekdays in each month. September average daily paid in-lane transactions were adjusted to only include 15 days of toll collection during the month. Tolls were suspended the remaining 15 days due to Hurricane Irma.

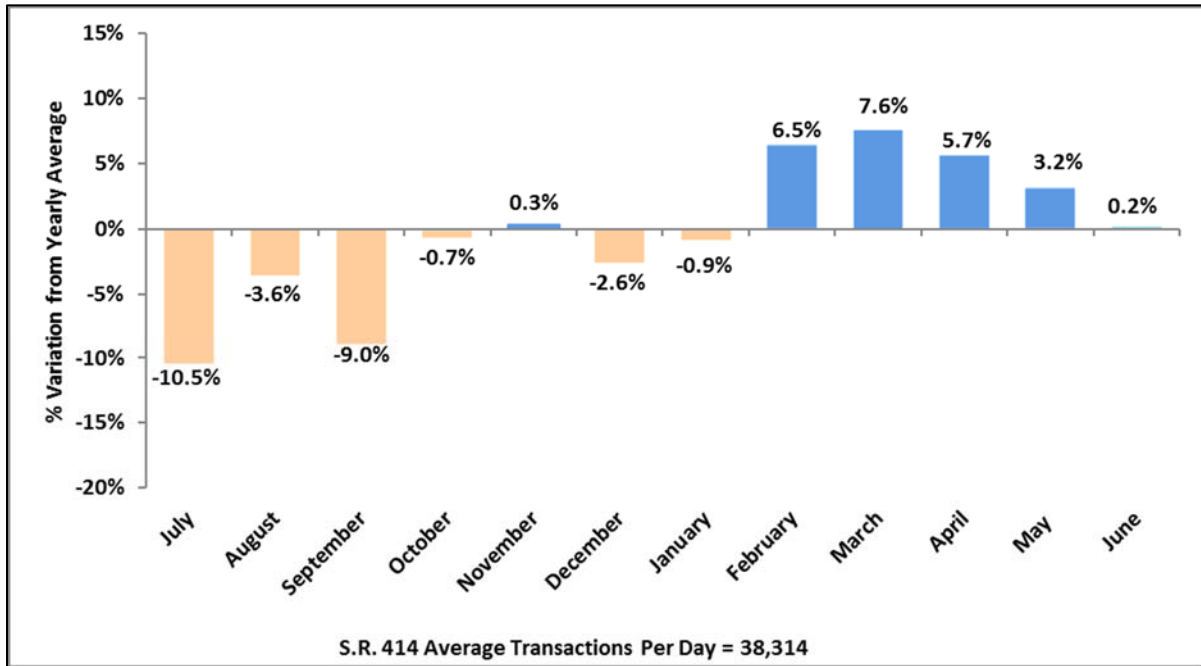
As presented, average paid in-lane transactions per day in FY 2018 on S.R. 414 ranged from a high of 41,227 in March 2018 to a low of 34,303 in July 2017. Like other CFX facilities, peak season is during spring months as there are more tourists in the area (possibly snowbirds) during the second half of the fiscal year. This data is presented in a graphical format in **Figure 7-4**. Each month's average paid in-lane transactions per day appear as a percentage of the average for the fiscal year. March paid in-lane transactions were 7.6 percent above average and July paid in-lane transactions were 10.5 percent below average for the facility. These numbers reflect a combination of continued growth and seasonal variation.

Table 7-2
S.R. 414 – Monthly Seasonal Variation in Paid In-Lane Transactions
FY 2018

Month	Number of Days in Month	Total Toll Paying Transactions	Average Transactions/day	Seasonal Factor
July	31	1,063,404	34,303	0.895
August	31	1,144,499	36,919	0.964
September	15	523,267	34,884	0.910
October	31	1,179,349	38,044	0.993
November	30	1,153,057	38,435	1.003
December	31	1,156,289	37,300	0.974
January	31	1,176,902	37,965	0.991
February	28	1,142,010	40,786	1.065
March	31	1,278,045	41,227	1.076
April	30	1,214,714	40,490	1.057
May	31	1,226,261	39,557	1.032
June	30	1,152,173	38,406	1.002
Average		1,117,498	38,314	1.000
Total Year	350	13,409,970		

Source: CFX Statistical Report June 2018

Figure 7-4
S.R. 414 Variation in Paid In-Lane Transactions Per Day, by Month
FY 2018



Source: CFX Statistical Report June 2018

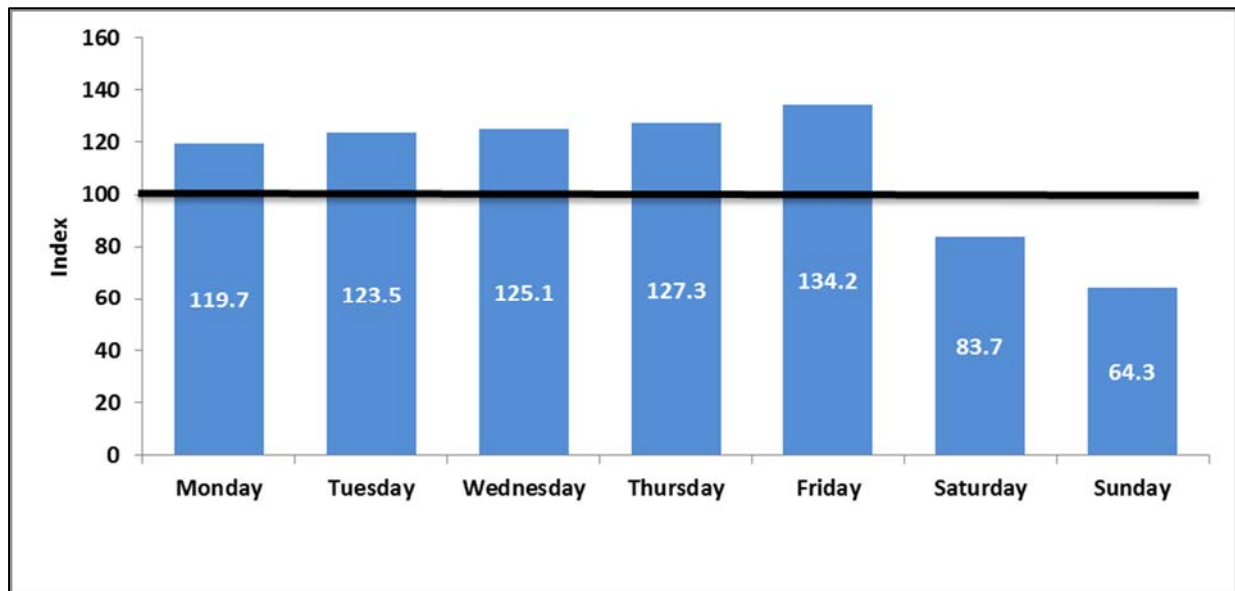


7.2.3 DAY-OF-WEEK TRANSACTION VARIATION

Figure 7-5 contains a comparison of transactions by day of week. This data is presented as an index, where the average day equals 100. An index value of 100 for a given day of the week would indicate that day's transactions were precisely the same volume as the facility average. A value of 120 would indicate a day that has 20 percent greater volume than the average. The data used for this analysis was for a typical week and includes transactions at mainline plazas only (no ramps).

As shown, weekday transactions on S.R. 414 grew over the course of the week. Transactions were highest on Fridays, with an index value of 134.2 (34.2 percent higher than the average day), volumes on Thursdays had an index value of 127.3, and volumes on Monday through Wednesday ranged from index values of 119.7 to 125.1. Transactions decline significantly on Saturdays and Sundays, which have index values of 83.7 and 64.3, or 16.3 and 35.7 percent lower than the average day. This is lower than other CFX facilities probably due to employers in Maitland Center at east end of S.R. 414 being closed on weekends.

Figure 7-5
S.R. 414 Variation in Transactions, By Day of Week
FY 2018



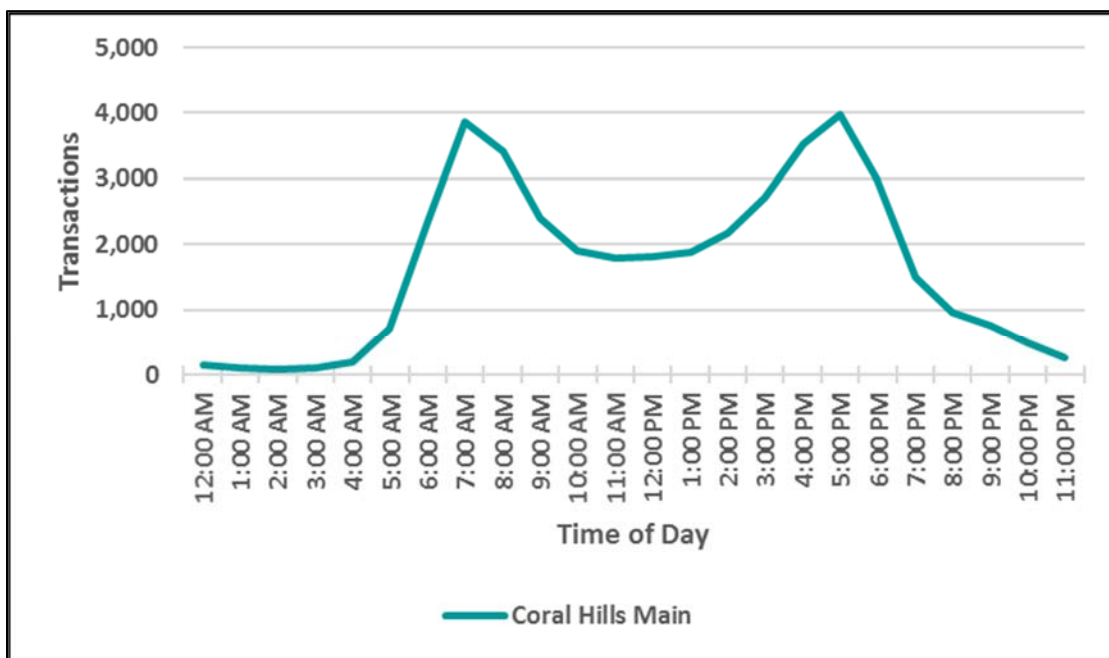
Source: Unaudited lane transaction data – January 2018

7.2.4 HOURLY TRAFFIC DISTRIBUTION

The hourly distribution of traffic includes information on the usage characteristics of travel on the facility. The hourly distributions represent counts taken during a typical week at the mainline plaza in the month of January. The typical weekday distribution is shown in **Figure 7-6** and the weekend distribution is shown in **Figure 7-7**. The figures contain the sum of traffic volumes in both directions.

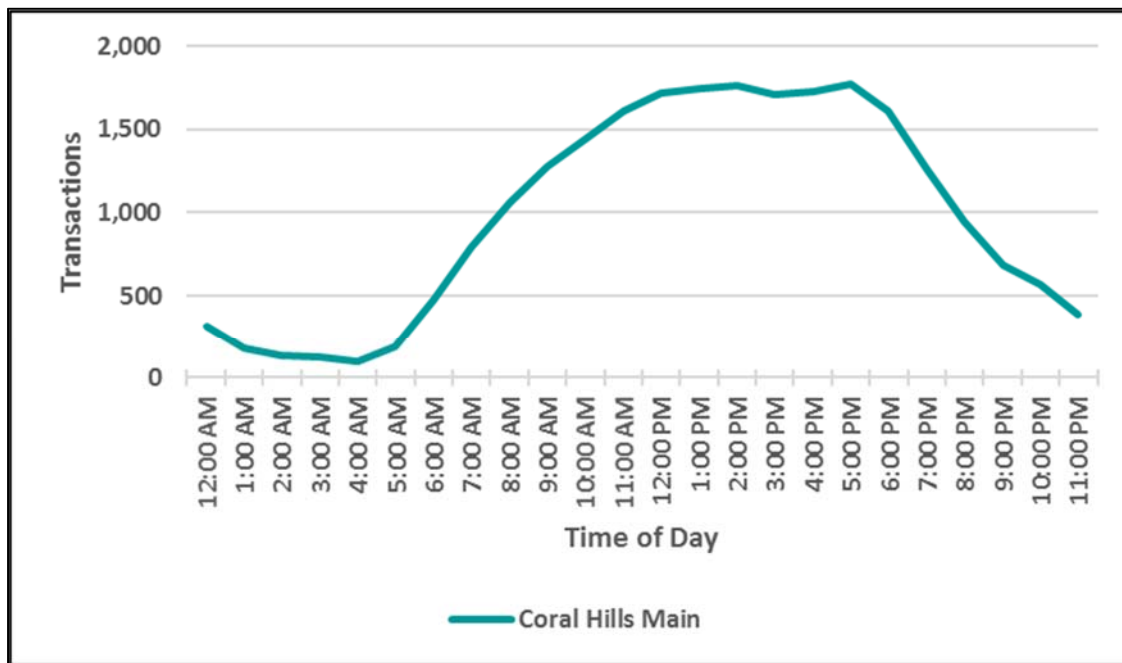
On weekdays, travel demand at the Coral Hills plaza is bimodal, with both morning and evening peak hours. Traffic volumes in the evening peak hours are only slightly higher than in the morning peak hours. The highest peak hour volumes during the week were 4,000 per hour beginning at 5:00 P.M. On weekends, traffic volumes are lower and there is no clear morning or evening peak periods, indicating that many customers use the facility for non-work trip purposes. This weekend pattern is typical of the weekend usage of CFX facilities.

Figure 7-6
S.R. 414 Hourly Traffic Variation (Weekday)
FY 2018 (January)



Source: Unaudited lane transaction data – January 2018

Figure 7-7
S.R. 414 Hourly Traffic Variation (Weekend)
FY 2018 (January)



Source: Unaudited lane transaction data – January 2018

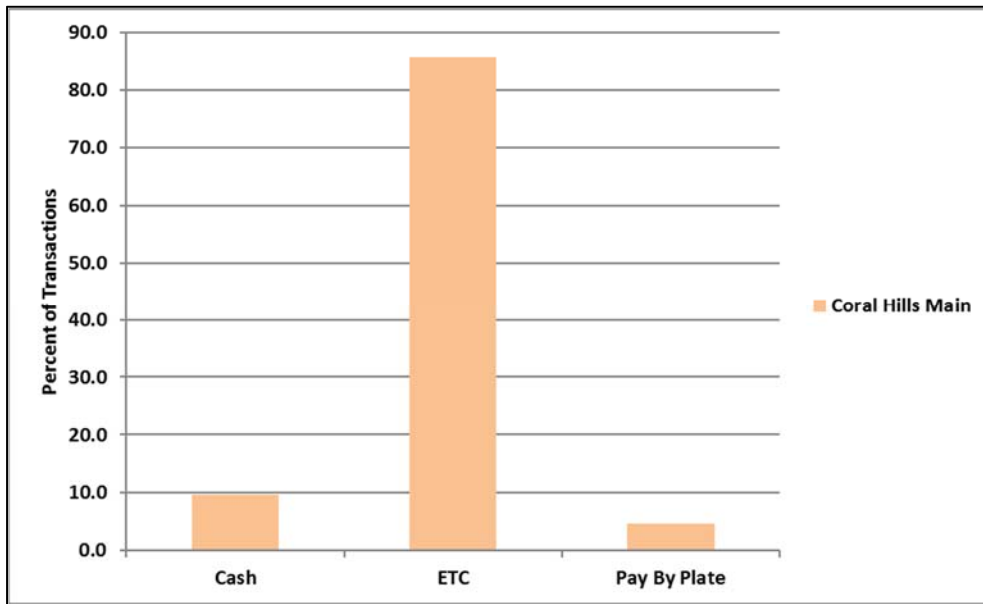
7.2.5 TRANSACTIONS AND REVENUE BY PAYMENT TYPE

The distribution of transactions and revenue by payment type for the Coral Hills Main plaza group during FY 2018 is presented in **Figure 7-8** and **Figure 7-9**. Payment types can be classified in one of three ways: cash, ETC, and Pay By Plate (PBP). As defined in Chapter 1 of this report, paid in-lane transactions and revenue include cash and ETC payments made when a customer drives through a CFX toll location. The remaining transactions and revenue are classified as unpaid in-lane, which includes PBP and a small portion of non-revenue transactions. It is important to note that the data presented in the following two figures is based on unaudited transaction and toll revenue data and may not match the audited data shown in other tables and figures in this chapter.

As shown in Figure 7-8, the percent of ETC transactions at the Coral Hills Main plaza group accounted for 85.7 percent, cash transactions accounted for 9.7 percent, and the remaining 4.6 percent were PBP transactions.

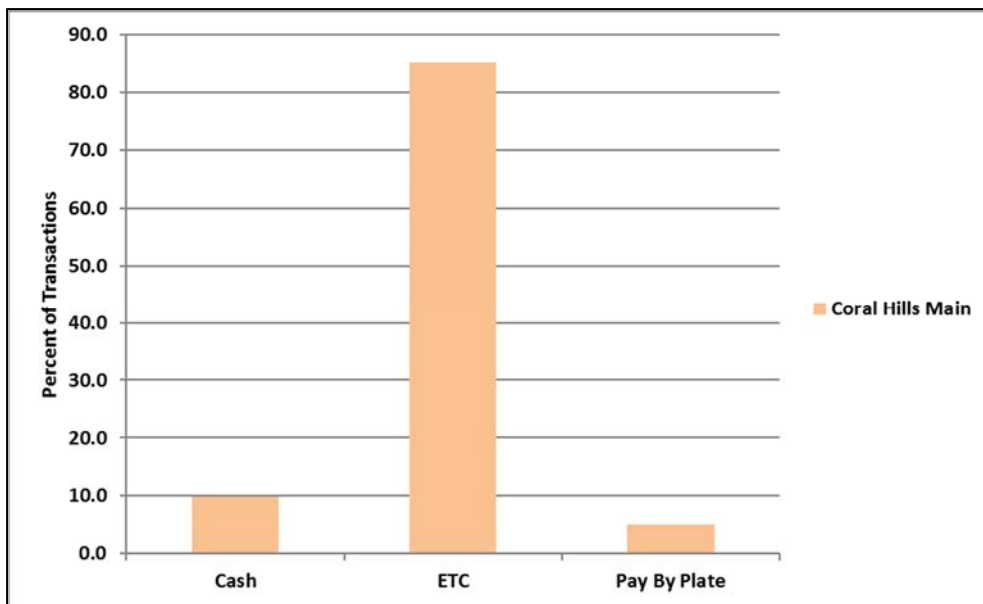
As shown in Figure 7-9, the percent of toll revenues by payment type is comparable to the trend in transactions. The percent of ETC toll revenues accounted for 85.2 percent of toll revenues at the Coral Hills Main plaza group, cash toll revenues accounted for 9.8 percent, and the remaining 5.0 percent were PBP toll revenues.

Figure 7-8
S.R. 414 Percent of Transactions by Payment Type
FY 2018



Source: Unaudited transaction data provided by CFX

Figure 7-9
S.R. 414 Percent of Revenue by Payment Type
FY 2018

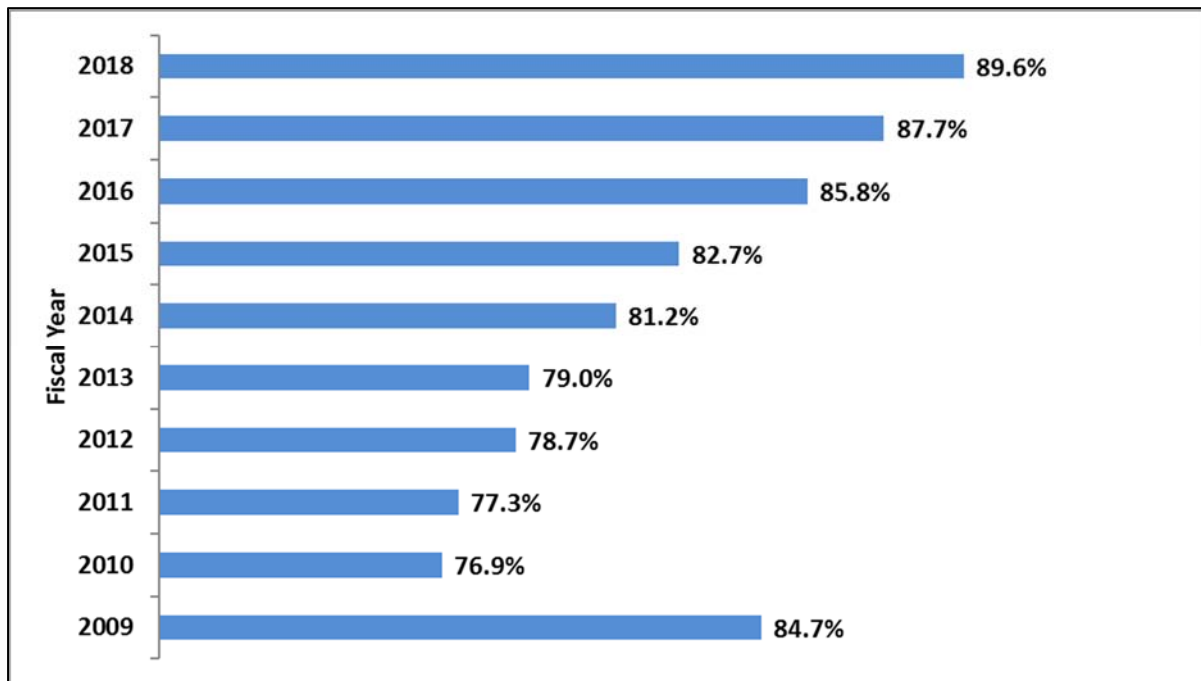


Source: Unaudited transaction data provided by CFX

7.3 ETC Usage

The percent of revenues generated from ETC over the past nine fiscal years on S.R. 414 is shown in **Figure 7-10**. ETC revenues were 84.7 percent during FY 2009. This was an anomaly since the facility opened to electronic customers only until May 2009. By the end of FY 2018, ETC revenues have reached 89.6 percent of facility revenues. ETC usage is expected to increase with the recent opening of the Wekiva Parkway (S.R. 429), an all-electronic facility. CFX also continues to offer toll discount incentives to customers through various discount programs. The I-4 Commuter Discount Program, implemented in July 2015, offers discounts for transactions on S.R. 417, S.R. 429 and S.R. 414 during construction activities on I-4.

Figure 7-10
S.R. 414 Percent of Revenue from Electronic Toll Collection
FY 2009 – FY 2018



Source: CFX Statistical Report June 2018

7.4 Forecasted Transactions and Toll Revenues

Based on the recently adopted “Customer First Toll Policy,” toll rate adjustments (indexed tolls) were applied to the T&R forecasts every year based on the net change in CPI of 2.05 percent in FY 2019 and 1.5 percent per year thereafter.

Future transportation improvements that could influence the T&R forecasts for S.R. 414, are similar to those that could influence S.R. 429 and include the projects listed in **Table 7-3**, assumed to be completed in each horizon year.

In addition to the Wekiva Parkway, the major improvements that do not directly connect to S.R. 414 but influence traffic growth on the facility include the I-4 Ultimate project, S.R. 434/Forest

City Road from Edgewater Drive to S.R. 414/Maitland Boulevard, and S.R. 414/Maitland Boulevard from Maitland Avenue to I-4. Improvements at S.R. 451 and U.S. 441 are important to T&R estimates in the early years. This feeder road improvement, completed in 2013, extends Vick Road to U.S. 441 and the interchange with S.R. 451, to provide a direct connection onto the expressway system.

Table 7-3
S.R. 414 - Key Transportation Improvements

Facility	From	To	Year	Jurisdiction	Improvement
Interstate 4	SR 434	Kirkman Road	2025	FDOT	Widen to 10 lanes
SR 434/Forest City Road	Edgewater Drive	Orange County Line	2025	FDOT	Widen to 6-lanes
SR 414/Maitland Blvd	Interstate 4	Maitland Avenue	2025	FDOT	Widen to 6-lanes
SR 434	SR 436	Montgomery Road	2035	FDOT	Widen to 6-lanes
SR 414 Direct Connect	US 441	SR 434/Forest City Road	2045	FDOT/CFX	New 4-lane expressway

Historical and projected transactions and toll revenues for S.R. 414 are summarized in **Table 7-4** and **Table 7-5**. The tables are divided into paid in-lane transactions and revenue and PBP transactions and revenue. Paid in-lane transactions and revenue by plaza group include ETC and cash collection. PBP is only reported as a total on the facility level.

The paid in-lane transactions on S.R. 414 are expected to grow 2.4 percent per year through FY 2028 and then lower rates through the end of the forecast period because of the impact of toll rate adjustments. PBP transactions are forecasted to increase an average of 4.6 percent per year through FY 2028 and then decline through the forecast period. Total transactions on S.R. 414 are projected to increase during the forecast period from the actual of 14.1 million in FY 2018 to 22.7 million in FY 2048. The paid in-lane revenues on S.R. 414 are projected to increase over the forecast period, from the FY 2018 actual of \$13.8 million to \$31.9 million in FY 2048. PBP revenues are projected to increase from \$0.7 million in FY 2018 to \$2.3 million in FY 2048. Total revenues on S.R. 414 are projected to increase during the forecast period from the actual \$14.5 million in FY 2018 to \$34.2 million in FY 2048. S.R. 414 is expected to be the smallest contributor to total revenues of the five existing expressways. Transactions and revenues are forecasted to increase an average of 2.5 and 3.9 percent per year through FY 2028, 1.4 and 2.7 percent per year from FY 2028 to FY 2038, and 0.9 and 2.1 percent per year from FY 2038 to FY 2048, respectively.

**Table 7-4
S.R. 414 Plaza Groups – Transaction Projections (Millions)
FY 2019 – FY 2048**

Fiscal Year		Coral Hills Main	Paid In-Lane	PBP	Total	Percent Annual Change
2010	Actual	5.3	5.3	0.0	5.3	
2011		6.5	6.5	0.1	6.6	24.5%
2012		7.3	7.3	0.1	7.4	12.1%
2013 ^A		8.3	8.3	0.1	8.4	13.5%
2014		9.5	9.5	0.2	9.7	15.5%
2015		10.6	10.6	0.3	10.9	12.4%
2016		12.0	12.0	0.4	12.4	13.8%
2017 ^B		12.8	12.8	0.4	13.2	6.5%
2018 ^{C,D}		13.4	13.4	0.7	14.1	6.8%
2019 ^E	Forecast	14.0	14.0	1.1	15.1	7.1%
2020		14.4	14.4	1.0	15.4	2.0%
2021		14.8	14.8	1.0	15.8	2.6%
2022 ^F		15.1	15.1	1.0	16.1	1.9%
2023		15.5	15.5	1.0	16.5	2.5%
2024		15.8	15.8	1.1	16.9	2.4%
2025		16.1	16.1	1.1	17.2	1.8%
2026		16.4	16.4	1.1	17.5	1.7%
2027		16.7	16.7	1.1	17.8	1.7%
2028		17.0	17.0	1.1	18.1	1.7%
2029		17.2	17.2	1.1	18.3	1.1%
2030		17.5	17.5	1.2	18.7	2.2%
2031		17.8	17.8	1.2	19.0	1.6%
2032		18.0	18.0	1.2	19.2	1.1%
2033		18.3	18.3	1.2	19.5	1.6%
2034		18.6	18.6	1.2	19.8	1.5%
2035		18.8	18.8	1.3	20.1	1.5%
2036		19.0	19.0	1.3	20.3	1.0%
2037		19.3	19.3	1.3	20.6	1.5%
2038		19.5	19.5	1.3	20.8	1.0%
2039		19.7	19.7	1.3	21.0	1.0%
2040		19.9	19.9	1.3	21.2	1.0%
2041		20.1	20.1	1.3	21.4	0.9%
2042		20.3	20.3	1.4	21.7	1.4%
2043		20.5	20.5	1.4	21.9	0.9%
2044		20.7	20.7	1.4	22.1	0.9%
2045		20.8	20.8	1.4	22.2	0.5%
2046		21.0	21.0	1.4	22.4	0.9%
2047	21.1	21.1	1.4	22.5	0.4%	
2048	21.3	21.3	1.4	22.7	0.9%	

Fiscal Year	Compound Annual Average Growth Rate (CAAGR)			
2010 - 2018	12.3%	12.3%		13.0%
2018 - 2028	2.4%	2.4%	4.6%	2.5%
2028 - 2038	1.4%	1.4%	1.7%	1.4%
2038 - 2048	0.9%	0.9%	0.7%	0.9%

Notes:

Actual transaction data provided by CFX from Monthly Statistical Reports.

A - Systemwide toll rate increase.

B - Effects from Hurricane Matthew in October 2016.

C - Effects from Hurricane Irma in September 2017.

D - Wekiva Parkway opening in FY 2018.

E - First year of implementation of "Customer First" toll rate policy and assumed toll rate increase of 2.05% in FY 2019. Annual toll rate increase of 1.5% assumed throughout forecast period.

F - Completion of I-4 Ultimate project.

**Table 7-5
S.R. 414 Plaza Groups – Toll Revenue Projections (Millions)
FY 2019 – FY 2048**

Fiscal Year		Coral Hills Main	Paid In-Lane	PBP	Total	Percent Annual Change
2010	Actual	\$4.2	\$4.2	\$0.0	\$4.2	
2011		\$5.1	\$5.1	\$0.1	\$5.2	23.8%
2012		\$5.7	\$5.7	\$0.1	\$5.8	11.5%
2013 ^A		\$7.7	\$7.7	\$0.1	\$7.8	34.5%
2014		\$9.1	\$9.1	\$0.2	\$9.3	19.2%
2015		\$10.4	\$10.4	\$0.3	\$10.7	15.1%
2016		\$12.0	\$12.0	\$0.4	\$12.4	15.9%
2017 ^B		\$13.0	\$13.0	\$0.6	\$13.6	9.7%
2018 ^{C,D}		\$13.8	\$13.8	\$0.7	\$14.5	6.6%
2019 ^E	Forecast	\$14.7	\$14.7	\$1.2	\$15.9	9.7%
2020		\$15.4	\$15.4	\$1.1	\$16.5	3.8%
2021		\$16.0	\$16.0	\$1.1	\$17.1	3.6%
2022 ^F		\$16.5	\$16.5	\$1.1	\$17.6	2.9%
2023		\$17.1	\$17.1	\$1.1	\$18.2	3.4%
2024		\$17.7	\$17.7	\$1.3	\$19.0	4.4%
2025		\$18.3	\$18.3	\$1.3	\$19.6	3.2%
2026		\$18.8	\$18.8	\$1.3	\$20.1	2.6%
2027		\$19.4	\$19.4	\$1.3	\$20.7	3.0%
2028		\$20.0	\$20.0	\$1.3	\$21.3	2.9%
2029		\$20.6	\$20.6	\$1.4	\$22.0	3.3%
2030		\$21.1	\$21.1	\$1.5	\$22.6	2.7%
2031		\$21.7	\$21.7	\$1.5	\$23.2	2.7%
2032		\$22.3	\$22.3	\$1.6	\$23.9	3.0%
2033		\$22.9	\$22.9	\$1.6	\$24.5	2.5%
2034		\$23.6	\$23.6	\$1.6	\$25.2	2.9%
2035		\$24.2	\$24.2	\$1.8	\$26.0	3.2%
2036		\$24.8	\$24.8	\$1.8	\$26.6	2.3%
2037		\$25.4	\$25.4	\$1.8	\$27.2	2.3%
2038		\$26.0	\$26.0	\$1.8	\$27.8	2.2%
2039		\$26.6	\$26.6	\$1.9	\$28.5	2.5%
2040		\$27.2	\$27.2	\$1.9	\$29.1	2.1%
2041		\$27.8	\$27.8	\$1.9	\$29.7	2.1%
2042		\$28.4	\$28.4	\$2.1	\$30.5	2.7%
2043		\$29.0	\$29.0	\$2.1	\$31.1	2.0%
2044		\$29.6	\$29.6	\$2.2	\$31.8	2.3%
2045		\$30.2	\$30.2	\$2.2	\$32.4	1.9%
2046		\$30.8	\$30.8	\$2.2	\$33.0	1.9%
2047	\$31.3	\$31.3	\$2.3	\$33.6	1.8%	
2048	\$31.9	\$31.9	\$2.3	\$34.2	1.8%	

Fiscal Year	Compound Annual Average Growth Rate (CAAGR)			
2010 - 2018	16.0%	16.0%		16.8%
2018 - 2028	3.8%	3.8%	6.4%	3.9%
2028 - 2038	2.7%	2.7%	3.3%	2.7%
2038 - 2048	2.1%	2.1%	2.5%	2.1%

Notes:

Actual transaction data provided by CFX from Monthly Statistical Reports.

A - Systemwide toll rate increase.

B - Effects from Hurricane Matthew in October 2016.

C - Effects from Hurricane Irma in September 2017.

D - Wekiva Parkway opening in FY 2018.

E - First year of implementation of "Customer First" toll rate policy and assumed toll rate increase of 2.05% in FY 2019. Annual toll rate increase of 1.5% assumed throughout forecast period.

F - Completion of I-4 Ultimate project.

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Chapter 8

S.R. 453



S.R. 453

8.1 Facility Description

S.R. 453 is a 2.0-mile portion of the project locally known as the Wekiva Parkway, which is a new 27-mile expressway that extends S.R. 429 into northwest Orange, southeast Lake, and east Seminole counties. From a CFX vision in the *Year 2000 Long Range Expressway Plan*, completed in 1983, the CFX portion of the Wekiva Parkway is now finished, with the final section opened on April 1, 2018. The FDOT portions of the project are still under construction and are expected to be fully open in 2022. This long-awaited expressway completes a portion of the Western Beltway around the Orlando metropolitan region.



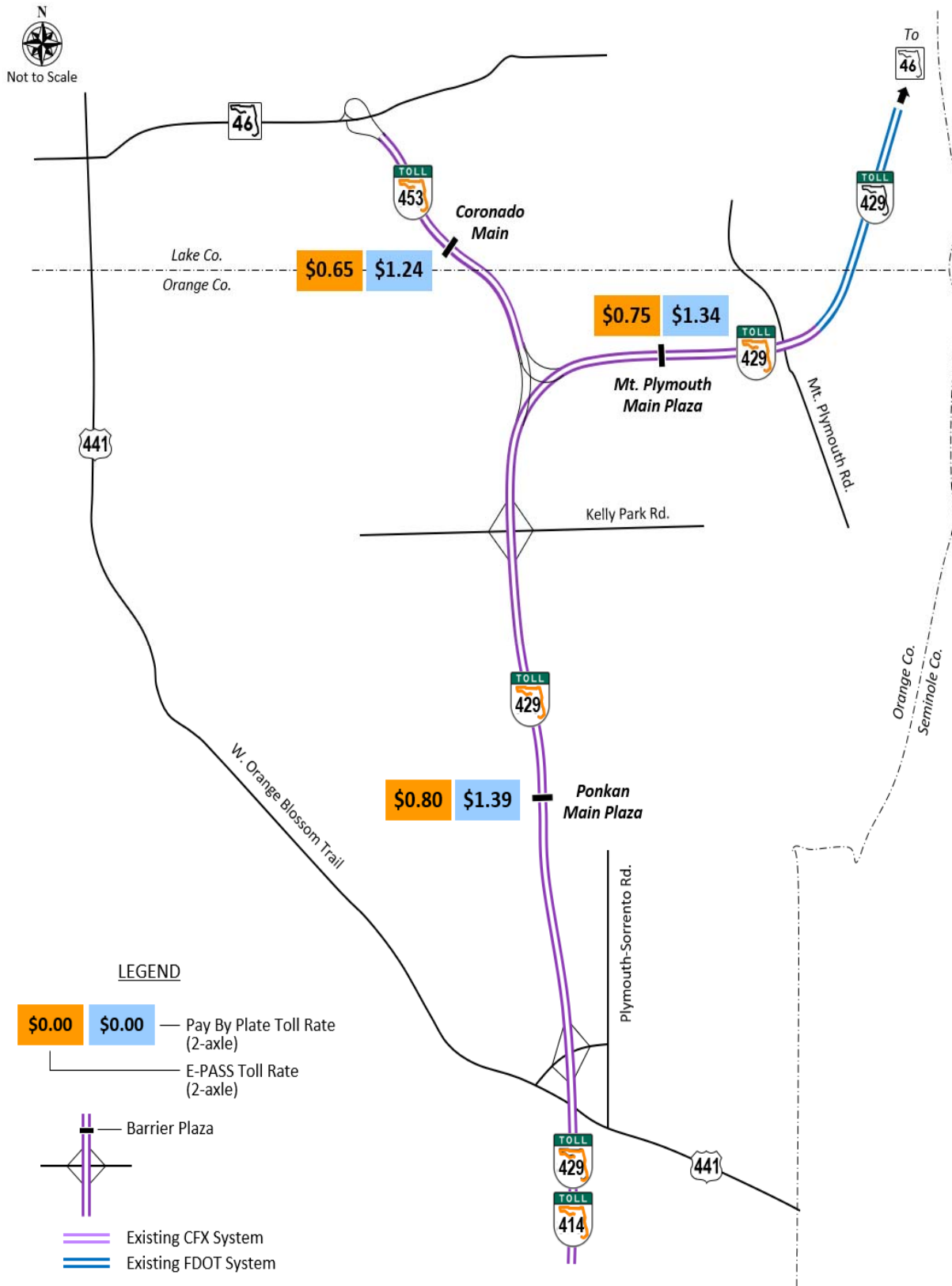
S.R. 453 provided a connection from the Wekiva Parkway northwest to Mount Dora via S.R. 46 in Lake County. S.R. 453 has one mainline toll plaza, the Coronado Main plaza, which opened on April 1, 2018 (FY 2018). A map that includes the CFX portion of the Wekiva Parkway (S.R. 453) with the FY 2018 toll rates for the plaza is shown in **Figure 8-1**.

S.R. 453 is a spur or extension of S.R. 429, which originally terminated just north of U.S. 441 near Apopka. The new S.R. 429 extension connects to S.R. 46. S.R. 453 runs about 2.2 miles from the Wekiva Parkway, across the Lake County Line to connect to S.R. 46.

Toll collection on the Wekiva Parkway utilizes an all-electronic toll (AET) collection system, i.e., customers are unable to pay cash on the roadway as there are no toll booths, only toll gantries. On the CFX portion of the Wekiva Parkway, customers either pay with E-PASS/SunPass or Pay By Plate video billing. Video billing customers pay a Pay By Plate toll rate, which is \$0.59 higher than the ETC rate per transaction and is designed to cover the administrative cost of video billing.



Figure 8-1
S.R. 453 Facilities and Toll Rates



8.2 Historical Transactions and Toll Revenues

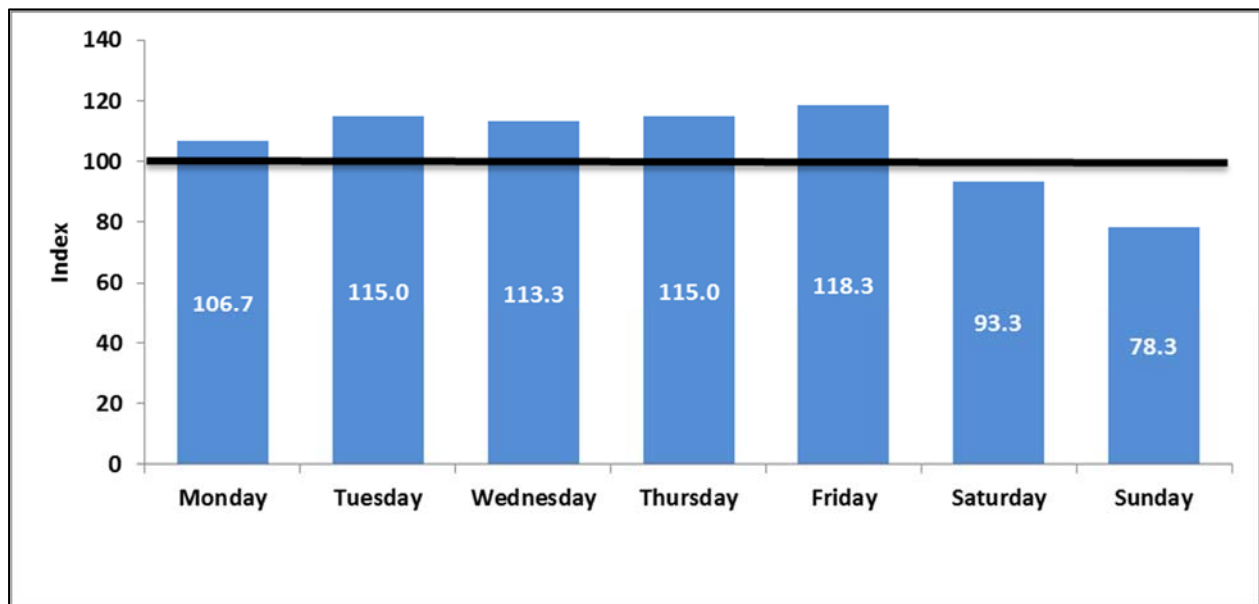
8.2.1 ANNUAL TRANSACTION AND REVENUE TRENDS

As previously mentioned, the facility opened on April 1, 2018 (FY 2018), for a total of three months in FY 2018. Total transactions on S.R. 453 at the Coronado Main plaza in FY 2018 were 0.5 million and toll revenues during the same period were \$0.3 million. The transactions and revenues include both paid in-lane ETC and unpaid in-lane PBP transactions and revenue. S.R. 453 is the only facility with a differential toll rate of an additional \$0.59 for PBP transactions.

Figure 8-2 contains a comparison of transactions by day of the week. This data is presented as an index, where the average day equals 100. An index value of 100 for a given day of the week would indicate that day's transactions were precisely the same volume as the facility average. A value of 120 would indicate a day that has 20 percent greater volume than the AADT. The data used for this analysis was for a typical week and includes transactions at mainline plazas only (no ramps).

FY 2018 weekday toll transactions on S.R. 453 fluctuated over the course of the five-day work week. Transactions were highest on Fridays, with an index value of 118.3 (18.3 percent higher than the average day), volumes on Monday through Thursday ranged from index values of 106.7 to 115.0. Saturday volumes were slightly lower than weekday volumes with an index value of 93.3, which is still high for a weekend day. Transactions decline on Sunday, which has an index value of 78.3, or 21.7 percent lower than the average day.

Figure 8-2
S.R. 453 Variation in Transactions, by Day of Week
FY 2018



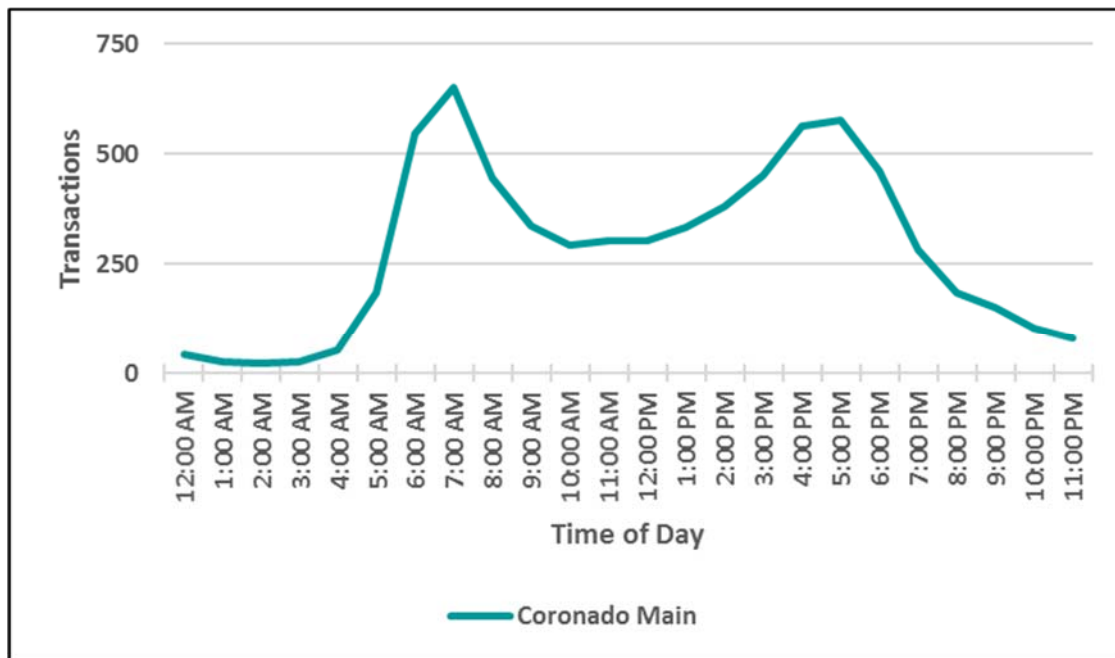
Source: Unaudited lane transaction data – May 2018

8.2.2 HOURLY TRAFFIC DISTRIBUTION

The hourly distribution of traffic includes information on the usage characteristics of the facility. The hourly distributions represent counts taken during a typical week at the mainline toll plaza in the month of May. The typical weekday distribution is shown in **Figure 8-3** and the weekend distribution is shown in **Figure 8-4**. The figures contain the sum of traffic volumes in both directions.

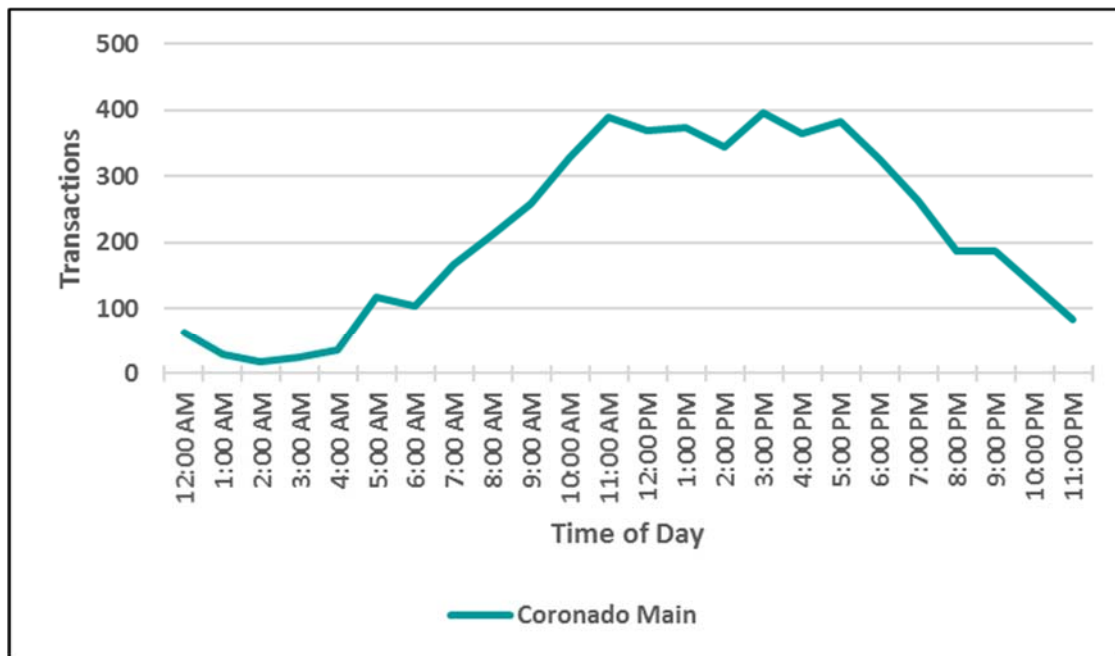
On weekdays on S.R. 453, demand for travel at both locations is bimodal, with both morning and evening peak hours. The Coronado mainline plaza experiences higher peak hour volumes in the morning than in the evening. The highest peak hour volumes during the week were 650 per hour beginning at 7:00 A.M. On weekends, traffic is steady from 11:00 A.M. through 5:00 P.M.

Figure 8-3
S.R. 453 Hourly Traffic Variation (Weekday)
FY 2018 (May)



Source: Unaudited lane transaction data – May 2018

Figure 8-4
S.R. 453 Hourly Traffic Variation (Weekend)
FY 2018 (May)



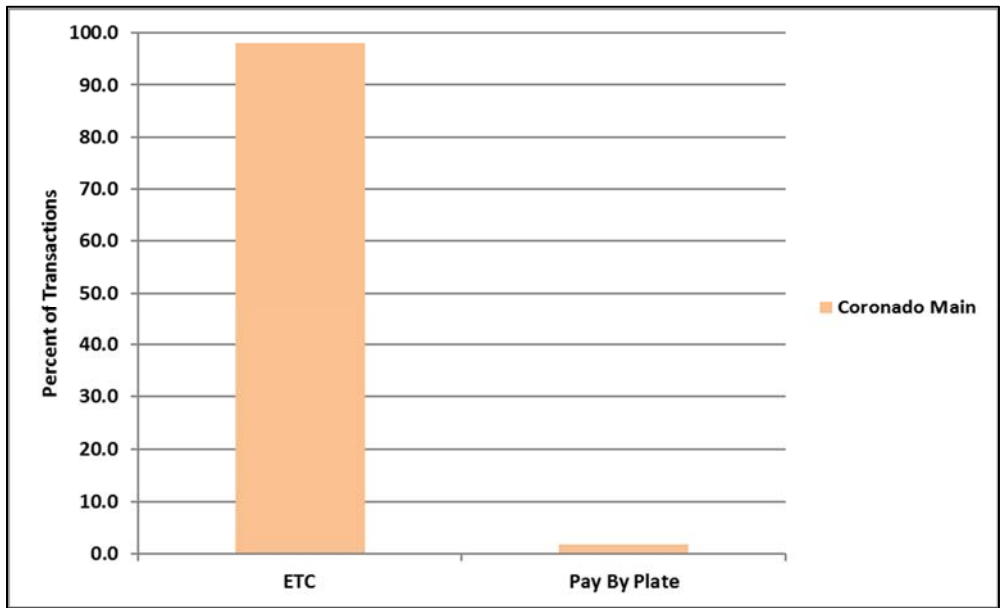
Source: Unaudited lane transaction data – May 2018

8.2.3 TRANSACTIONS AND REVENUE BY PAYMENT TYPE

The distributions of transactions and revenue by payment type during FY 2018 are presented in **Figure 8-5** and **Figure 8-6**. Payment types can be classified in one of two ways: ETC and Pay By Plate (PBP). The Coronado mainline plaza is an all-electronic only toll facility, so there is no cash collection. It is important to note that the data presented in the following two figures is based on unaudited transaction and toll revenue data and may not match the audited data shown in other tables and figures in this chapter.

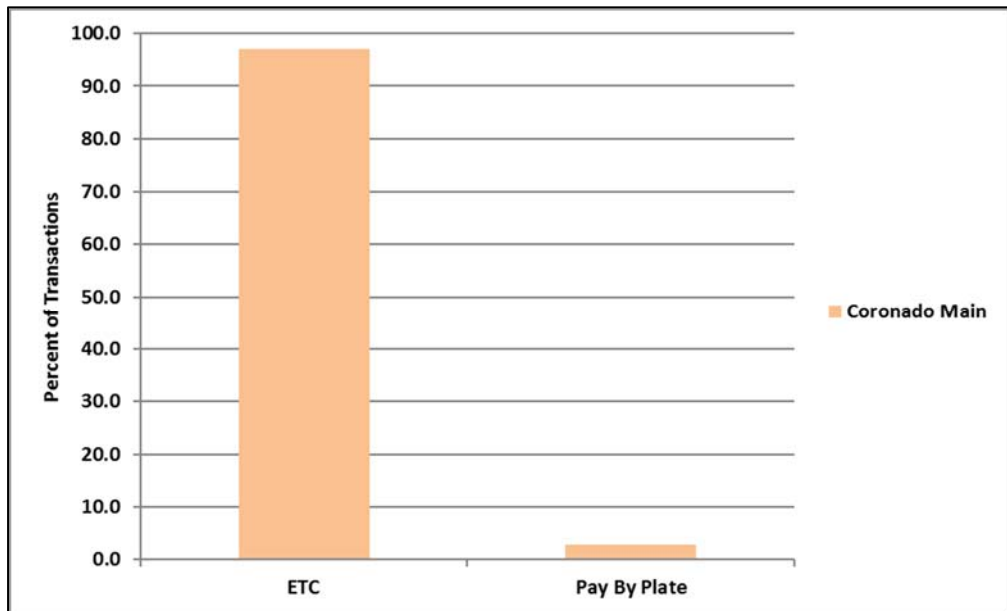
As shown in Figure 8-5, the percent of ETC transactions at the Coronado Main plaza accounted for 98.1 percent and the remaining 1.9 percent were PBP transactions. As shown in Figure 8-6, the percent of toll revenues by payment type is comparable to the trend in transactions. The percent of ETC toll revenues accounted for 97.1 percent of toll revenues at the Coronado Main plaza and the remaining 2.9 percent were PBP toll revenues.

Figure 8-5
S.R. 453 Percent of Transactions by Payment Type
FY 2018



Source: Unaudited transaction data provided by CFX

Figure 8-6
S.R. 453 Percent of Revenue by Payment Type
FY 2018



Source: Unaudited transaction data provided by CFX

8.3 Forecasted Transactions and Toll Revenues

Based on the recently adopted “Customer First Toll Policy,” toll rate adjustments (indexed tolls) were applied to the T&R forecasts every year based on the net change in CPI of 2.05 percent in FY 2019 and 1.5 percent per year thereafter.

Future transportation improvements that influence the T&R forecasts for S.R. 453, are similar to those that could influence S.R. 429, which include the projects listed in **Table 8-1**, assumed to be completed in each forecast year.

Table 8-1
S.R. 453 - Key Transportation Improvements

Facility	From	To	Year	Jurisdiction	Improvement
Interstate 4	SR 434	Kirkman Road	2025	FDOT	Widen to 10 lanes
SR 429	SR 50	SR 414	2025	CFX	Widen to 6-Lanes
Lake Orange Connector Expressway	US 27	SR 429	2035	CFX	New 4 lane expressway
New Independence Pkwy/Wellness Way	Lake County Line	SR 429	2035	Orange County	New/Widen 4 Lanes
SR 429	CR 535	SR 50	2035	CFX	Widen to 6-Lanes
SR 438/Silver Star Rod	SR 429	Bluford Avenue	2035	FDOT	Widen to 4-lanes
Wekiva Parkway	Mount Plymouth Road	Interstate 4	2035	FDOT	New 4 lane expressway
Avalon Road (CR 545)	Seidel Road	McKinney Road	2045	Orange County	Widen to 4 Lanes
Avalon Road (CR 545)	Tilden Road	Marsh Road	2045	Orange County	Widen to 4 Lanes
Plant Street (SR 438)	9th Street	West Crown Point Rd	2045	FDOT	Widen to 4-lanes
SR 414	Orange County Line	SR 434/Forest City Road	2045	FDOT	Widen to 6-lanes
SR 429	Seidel Road	CR 535	2045	CFX	Widen to 6-Lanes

Several of the planned improvements provide an upgrade to the transportation system to NW Orange County. Many facilities including Silver Star Road, Plant Street and Avalon Road, serve as feeder roads to S.R. 429 and positively impact T&R in the near term and long-term forecasts. System improvements impacting S.R. 453 include widenings from C.R. 535 to S.R. 414 in the near term and from C.R. 535 to Seidel Road in the long-term forecast. Also, the completion of the Wekiva Parkway. Virtually any improvement which provides additional connectivity to S.R. 429 from the south and east will inherently benefit S.R. 453 as well. The construction of the Wekiva Parkway has delayed the need to improve some of the parallel facilities such as Plymouth–Sorrento Road, Round Lake Road and Rock Springs Road.

Projected transactions and toll revenues for S.R. 453 are summarized in **Table 8-2** and **Table 8-3**. The tables are divided into paid in-lane transactions and revenue and PBP transactions and revenue. Paid in-lane transactions and revenue by plaza group include ETC. PBP is also reported separately in the tables.

The Coronado Main plaza opened on April 1, 2018 (FY 2018). The tables are divided into In-Lane transactions and revenue and PBP transactions and revenue. In-Lane transactions and revenue by plaza group include ETC and cash collection. PBP is only reported as a total on the facility level.

The paid in-lane transactions on S.R. 453 are expected to grow 20.8 percent per year through FY 2028 and then lower rates through the end of the forecast period because of the impact of toll rate adjustments. PBP transactions are forecasted to remain the same through FY 2028 and then

increase through the forecast period. Total transactions on S.R. 453 are projected to increase during the forecast period from the actual of 0.5 million in FY 2018 to 6.3 million in FY 2048. During the FY 2018 through FY 2048 forecast period, S.R. 453 traffic is expected to increase an average of 21.5 percent per year from FY 2018 to FY 2028 (due to ramp-up), 3.4 percent per year from FY 2028 to FY 2038 and 2.5 percent per year from FY 2038 to FY 2048. The paid in-lane revenues on S.R. 453 are projected to increase over the forecast period, from the FY 2018 actual of \$0.3 million to \$5.6 million in FY 2048. PBP revenues are projected to increase from \$0 in FY 2018 to \$0.7 million in FY 2048. Total revenue on S.R. 453 is projected to increase from the actual of \$0.3 million in FY 2018 to \$6.3 million in FY 2048. Revenue is expected to increase an average of 25.0 percent per year from FY 2018 to FY 2028 (again due to ramp-up), 4.9 percent per year from FY 2028 to FY 2038 and 3.4 percent per year from FY 2038 to FY 2048.

Table 8-2
S.R. 453 Plaza Group – Transaction Projections (Millions)
FY 2019 – FY 2048

Fiscal Year	Coronado Main	Paid In-Lane	PBP	Total	Percent Annual Change
2010					
2011					
2012					
2013					
2014					
2015					
2016					
2017					
2018 ^A	0.5	0.5	0.0	0.5	
2019 ^B	2.0	2.0	0.2	2.2	340.0%
2020	2.1	2.1	0.2	2.3	4.5%
2021	2.4	2.4	0.2	2.6	13.0%
2022 ^C	2.5	2.5	0.2	2.7	3.8%
2023	2.6	2.6	0.2	2.8	3.7%
2024	2.8	2.8	0.2	3.0	7.1%
2025	2.9	2.9	0.2	3.1	3.3%
2026	3.0	3.0	0.2	3.2	3.2%
2027	3.2	3.2	0.2	3.4	6.2%
2028	3.3	3.3	0.2	3.5	2.9%
2029	3.4	3.4	0.2	3.6	2.9%
2030	3.6	3.6	0.3	3.9	8.3%
2031	3.7	3.7	0.3	4.0	2.6%
2032	3.8	3.8	0.3	4.1	2.5%
2033	3.9	3.9	0.3	4.2	2.4%
2034	4.1	4.1	0.3	4.4	4.8%
2035	4.2	4.2	0.3	4.5	2.3%
2036	4.3	4.3	0.3	4.6	2.2%
2037	4.5	4.5	0.3	4.8	4.3%
2038	4.6	4.6	0.3	4.9	2.1%
2039	4.7	4.7	0.3	5.0	2.0%
2040	4.9	4.9	0.3	5.2	4.0%
2041	5.0	5.0	0.4	5.4	3.8%
2042	5.1	5.1	0.4	5.5	1.9%
2043	5.2	5.2	0.4	5.6	1.8%
2044	5.4	5.4	0.4	5.8	3.6%
2045	5.5	5.5	0.4	5.9	1.7%
2046	5.6	5.6	0.4	6.0	1.7%
2047	5.8	5.8	0.4	6.2	3.3%
2048	5.9	5.9	0.4	6.3	1.6%

Fiscal Year	Compound Annual Average Growth Rate (CAAGR)			
2018 - 2028	20.8%	20.8%		21.5%
2028 - 2038	3.4%	3.4%	4.1%	3.4%
2038 - 2048	2.5%	2.5%	2.9%	2.5%

Notes:

Actual transaction data provided by CFX from Monthly Statistical Reports.

A - Coronado Main opened on April 1, 2018 (FY 2018).

B - First year of implementation of "Customer First" toll rate policy and assumed toll rate increase of 2.05% in FY 2019. Annual toll rate increase of 1.5% assumed throughout forecast period.

C - Completion of I-4 Ultimate project.

**Table 8-3
S.R. 453 Plaza Group – Toll Revenue Projections (Millions)
FY 2019 – FY 2048**

Fiscal Year	Coronado Main	Paid In-Lane	PBP	Total	Percent Annual Change
2010					
2011					
2012					
2013					
2014					
2015					
2016					
2017					
2018 ^A	\$0.3	\$0.3	\$0.0	\$0.3	
2019 ^B	\$1.3	\$1.3	\$0.2	\$1.5	400.0%
2020	\$1.5	\$1.5	\$0.2	\$1.7	13.3%
2021	\$1.6	\$1.6	\$0.2	\$1.8	5.9%
2022 ^C	\$1.8	\$1.8	\$0.2	\$2.0	11.1%
2023	\$1.9	\$1.9	\$0.2	\$2.1	5.0%
2024	\$2.1	\$2.1	\$0.2	\$2.3	9.5%
2025	\$2.2	\$2.2	\$0.2	\$2.4	4.3%
2026	\$2.3	\$2.3	\$0.2	\$2.5	4.2%
2027	\$2.5	\$2.5	\$0.2	\$2.7	8.0%
2028	\$2.6	\$2.6	\$0.2	\$2.8	3.7%
2029	\$2.8	\$2.8	\$0.2	\$3.0	7.1%
2030	\$2.9	\$2.9	\$0.4	\$3.3	10.0%
2031	\$3.1	\$3.1	\$0.4	\$3.5	6.1%
2032	\$3.2	\$3.2	\$0.4	\$3.6	2.9%
2033	\$3.4	\$3.4	\$0.4	\$3.8	5.6%
2034	\$3.5	\$3.5	\$0.4	\$3.9	2.6%
2035	\$3.7	\$3.7	\$0.4	\$4.1	5.1%
2036	\$3.8	\$3.8	\$0.4	\$4.2	2.4%
2037	\$4.0	\$4.0	\$0.4	\$4.4	4.8%
2038	\$4.1	\$4.1	\$0.4	\$4.5	2.3%
2039	\$4.2	\$4.2	\$0.4	\$4.6	2.2%
2040	\$4.4	\$4.4	\$0.4	\$4.8	4.3%
2041	\$4.5	\$4.5	\$0.6	\$5.1	6.3%
2042	\$4.7	\$4.7	\$0.6	\$5.3	3.9%
2043	\$4.8	\$4.8	\$0.6	\$5.4	1.9%
2044	\$5.0	\$5.0	\$0.6	\$5.6	3.7%
2045	\$5.1	\$5.1	\$0.6	\$5.7	1.8%
2046	\$5.3	\$5.3	\$0.6	\$5.9	3.5%
2047	\$5.4	\$5.4	\$0.6	\$6.0	1.7%
2048	\$5.6	\$5.6	\$0.7	\$6.3	5.0%

Fiscal Year	Compound Annual Average Growth Rate (CAAGR)			
2018 - 2028	24.1%	24.1%		25.0%
2028 - 2038	4.7%	4.7%	7.2%	4.9%
2038 - 2048	3.2%	3.2%	5.8%	3.4%

Notes:

Actual transaction data provided by CFX from Monthly Statistical Reports.

A - Coronado Main opened on April 1, 2018 (FY 2018).

B - First year of implementation of "Customer First" toll rate policy and assumed toll rate increase of 2.05% in FY 2019. Annual toll rate increase of 1.5% assumed throughout forecast period.

C - Completion of I-4 Ultimate project.

Appendix A

Traffic Profiles

CY 2018 - CY 2048



S.R. 528 - Two-Way Daily Revenue Traffic

Cross Street	FY 2018	FY 2028	FY 2038	FY 2048
To S.R. 528 (FL Turnpike)				
Boggy Creek Road	86,800	99,200	107,700	114,500
	7,400	9,000	9,900	10,600
	17,300	20,900	23,000	24,600
	96,700	111,100	120,800	128,500
Tradeport Drive / Conway Road	7,700	9,300	10,200	10,900
	6,100	7,400	8,100	8,700
	95,100	109,200	118,700	126,300
Semorán Boulevard	43,500	52,600	57,900	62,000
	33,400	40,400	44,400	47,500
	85,000	97,000	105,200	111,800
Goldenrod Road	5,700	6,900	7,600	8,100
	10,000	12,100	13,300	14,200
	89,300	102,200	110,900	117,900
Narcoossee Road	25,500	30,900	34,000	36,400
	7,000	8,500	9,400	10,100
	70,800	79,800	86,300	91,600
S.R. 417	35,300	44,200	48,600	52,000
	26,100	33,000	36,300	38,800
<i>Beachline Main</i>	61,600	68,600	74,000	78,400
International Corporate Park	8,500	9,800	10,600	11,200
	1,700	2,000	2,200	2,300
	54,800	60,800	65,600	69,500
Dallas Boulevard	4,500	5,000	5,400	5,700
<i>Dallas Main</i>	50,300	55,800	60,200	63,800
S.R. 520	3,700	4,100	4,400	4,700
	3,000	3,300	3,600	3,800
	49,600	55,000	59,400	62,900
To S.R. 528 (FL Turnpike)				

Note: Two-Way Daily Revenue Traffic is a balanced traffic profile of existing and forecasted revenue generating traffic on System facilities, which excludes non-revenue traffic and violations. The profile should not be used for design traffic purposes

S.R. 408 - Two-Way Daily Revenue Traffic

Cross Street		FY 2018	FY 2028	FY 2038	FY 2048
Turnpike Spur		57,100	74,000	80,900	86,500
		61,500	74,000	80,900	86,500
S.R. 50 West		9,200	11,100	12,200	13,100
		70,700	85,100	93,100	99,600
Good Homes Road		10,200	12,300	13,500	14,400
<i>Hiwassee Main</i>		68,100	82,000	89,700	96,000
Hiwassee Road		6,500	9,000	10,700	12,000
		9,600	11,400	12,200	13,100
		71,200	84,400	91,200	97,100
Kirkman Road		8,500	11,700	13,800	15,500
		11,100	12,600	13,100	13,800
		73,800	85,300	90,500	95,400
Pine Hills Road		6,200	7,100	7,600	8,000
<i>Pine Hills Main</i>		80,000	92,400	98,100	103,400
Old Winter Garden Rd		4,500	5,100	5,500	5,800
		84,500	97,500	103,600	109,200
John Young Parkway		7,700	9,300	10,000	10,700
		8,600	9,800	10,500	11,000
		85,400	98,000	104,100	109,500
Tampa Avenue		3,600	4,300	4,600	4,900
		81,800	93,700	99,500	104,600
Orange Blossom Trail		7,300	8,800	9,500	10,200
		8,300	9,400	10,100	10,600
		82,800	94,300	100,100	105,000
Interstate-4		20,400	24,600	26,500	28,400
		60,600	62,300	64,200	65,500
		123,000	132,000	137,800	142,100
Orange Avenue/ Rosalind Avenue		12,000	13,100	13,600	14,200
		19,000	19,600	20,200	20,600
		130,000	138,500	144,400	148,500

Note: Two-Way Daily Revenue Traffic is a balanced traffic profile of existing and forecasted revenue generating traffic on System facilities, which excludes non-revenue traffic and violations. The profile should not be used for design traffic purposes

S.R. 408 - Two-Way Daily Revenue Traffic

Cross Street		FY 2018	FY 2028	FY 2038	FY 2048
Mills Avenue		1,300	1,500	1,500	1,500
		9,800	10,100	10,400	10,600
		138,500	147,100	153,300	157,600
Bumby Avenue/		12,300	13,400	13,900	14,500
		126,200	133,700	139,400	143,100
Crystal Lake Drive		13,700	14,000	14,400	14,700
		139,900	147,700	153,800	157,800
Conway Road		10,600	11,500	11,900	12,300
		129,300	136,200	141,900	145,500
Andes Ave/ Semoran Blvd.		9,500	10,400	10,800	11,200
		119,800	125,800	131,100	134,300
<i>Conway Main</i>					
Semoran Blvd./ Yucatan Drive		11,900	12,300	12,700	13,000
		9,000	9,500	9,800	10,000
		116,900	123,000	128,200	131,300
Goldenrod Road		12,900	13,300	13,700	14,000
		12,100	12,700	13,100	13,400
		116,100	122,400	127,600	130,700
Chickasaw Trail		11,100	11,400	11,700	11,900
		105,000	111,000	115,900	118,800
S.R. 417		54,800	56,700	58,400	59,600
		25,300	27,900	29,600	30,500
		75,500	82,200	87,100	89,700
Dean Road		10,900	11,800	12,500	12,900
		2,500	2,700	2,900	3,000
		67,100	73,100	77,500	79,800
<i>Dean Main</i>					
Rouse Road		9,400	10,200	10,800	11,100
		1,100	1,200	1,300	1,300
		58,800	64,100	68,000	70,000
Alafaya Trail		24,300	26,500	28,100	28,900
		34,500	37,600	39,900	41,100
S.R. 50		24,800	27,000	28,600	29,500
		9,700	10,600	11,300	11,600
	To Challenger Parkway	9,700	10,600	11,300	11,600

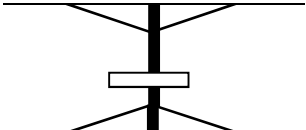




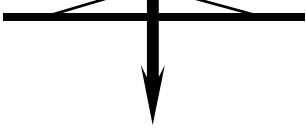

Note: Two-Way Daily Revenue Traffic is a balanced traffic profile of existing and forecasted revenue generating traffic on System facilities, which excludes non-revenue traffic and violations. The profile should not be used for design traffic purposes

S.R. 417 - Two-Way Daily Revenue Traffic

Cross Street		FY 2018	FY 2028	FY 2038	FY 2048
	To S.R. 417 (FL Turnpike)				
		69,200	76,400	100,800	120,500
University Boulevard		6,400	7,000	7,400	7,600
		22,300	24,500	25,700	26,500
<i>University Main</i>		85,100	93,900	119,100	139,400
S.R. 50		6,500	6,700	6,500	6,200
		8,000	9,300	10,300	11,100
		86,600	96,500	122,900	144,300
S.R. 408		41,600	44,800	46,000	46,400
		38,700	43,600	46,800	49,200
		83,700	95,300	123,700	147,100
Curry Ford Road		8,200	9,300	10,200	10,800
		12,400	16,600	20,100	23,300
<i>Curry Ford Main</i>		87,900	102,600	133,600	159,600
Lee Vista Boulevard		6,000	7,100	8,200	9,100
		3,800	4,800	5,500	6,100
		85,700	100,300	130,900	156,600
S.R. 528		44,400	55,900	65,400	73,700
		17,000	21,400	23,500	25,000
		58,300	65,800	89,000	107,900
Dowden Road		4,200	5,600	7,600	9,500
		2,800	4,700	5,400	5,900
		56,900	64,900	86,800	104,300
Moss Park Road		7,200	9,600	12,200	14,500
		2,800	4,700	5,400	5,900
		52,500	60,000	80,000	95,700
Narcoossee Road		13,300	17,700	21,500	24,800
		10,400	14,800	17,000	18,700
		49,600	57,100	75,500	89,600
Lake Nona Road		5,900	7,800	10,100	12,200
		7,900	11,500	13,200	14,500
		51,600	60,800	78,600	91,900
Bogy Creek Road		8,800	11,700	15,800	18,500

Note: Two-Way Daily Revenue Traffic is a balanced traffic profile of existing and forecasted revenue generating traffic on System facilities, which excludes non-revenue traffic and violations. The profile should not be used for design traffic purposes

S.R. 417 - Two-Way Daily Revenue Traffic

Cross Street		FY 2018	FY 2028	FY 2038	FY 2048
		22,500	31,900	36,700	40,400
<i>Boggy Creek Main</i>		65,300	81,000	99,500	113,800
Landstar Boulevard		7,300	9,100	11,400	13,000
		15,800	19,800	21,200	22,600
		73,800	91,700	109,300	123,400
Florida's Turnpike*		16,400	20,500	26,600	31,200
		11,500	14,400	16,300	17,800
		68,900	85,600	99,000	110,000
Orange Blossom Trail		8,900	11,100	13,700	16,000
		9,400	11,300	12,800	14,000
		69,400	85,800	98,100	108,000
John Young Parkway		12,600	15,800	19,000	21,800
		9,100	10,900	12,300	13,400
<i>John Young Main</i>		65,900	80,900	91,400	99,600
International Drive		34,200	42,800	48,400	52,800
		31,700	38,100	43,000	46,800
	To S.R. 417 (FL Turnpike)				

*S.R. 417 full interchange with Florida's Turnpike is scheduled to open in 2021.

Note: Two-Way Daily Revenue Traffic is a balanced traffic profile of existing and forecasted revenue generating traffic on System facilities, which excludes non-revenue traffic and violations. The profile should not be used for design traffic purposes





S.R. 429 - Two-Way Daily Revenue Traffic

Cross Street		FY 2018	FY 2028	FY 2038	FY 2048
To FDOT Section of S.R. 429 (Wekiva Parkway)					
<i>*Mount Plymouth Main</i>		4,300	10,500	15,400	16,400
<i>*S.R. 453 Coronado Main (To S.R. 46/Mt. Dora)</i>		500	2,400	4,600	7,100
		5,700	14,800	20,900	26,800
		9,500	22,900	31,700	36,100
Kelly Park Road		300	800	1,200	1,600
		7,000	10,100	11,300	12,200
<i>*Ponkan Main</i>		16,200	32,200	41,800	46,700
U.S. 441		600	800	900	1,000
		14,500	18,900	21,200	22,900
		30,100	50,300	62,100	68,600
S.R. 414		10,100	12,900	14,500	15,800
		26,300	30,100	33,700	36,800
		46,300	67,500	81,300	89,600
C.R. 437A		1,600	2,100	2,400	2,600
		3,500	4,600	5,200	5,600
<i>Forest Lake Main</i>		48,200	70,000	84,100	92,600
West Road		2,200	2,900	3,200	3,500
		9,200	12,000	13,400	14,500
		55,200	79,100	94,300	103,600
S.R. 438/ Plant Street		4,500	5,900	6,600	7,100
		8,600	11,200	12,500	13,500
		59,300	84,400	100,200	110,000
S.R. 50		7,400	9,600	10,800	11,700
		5,200	6,800	7,600	8,200
		57,100	81,600	97,000	106,500
Florida's Turnpike		34,700	45,100	50,500	54,500
		34,000	44,200	49,500	53,500
		56,400	80,700	96,000	105,500

Note: Two-Way Daily Revenue Traffic is a balanced traffic profile of existing and forecasted revenue generating traffic on System facilities, which excludes non-revenue traffic and violations. The profile should not be used for design traffic purposes

S.R. 429 - Two-Way Daily Revenue Traffic

Cross Street









		FY 2018	FY 2028	FY 2038	FY 2048
C.R. 535		25,500	36,500	43,400	47,700
		6,800	9,700	11,500	12,700
<i>Independence Main</i>		37,700	53,900	64,100	70,500
New Independence Parkway		9,800	14,000	16,700	18,400
		2,500	3,600	4,300	4,700
		30,400	43,500	51,700	56,800
Schofield Road		8,500	12,200	14,500	16,000
		600	900	1,100	1,200
		22,500	32,200	38,300	42,000

**To S.R. 429
(FL Turnpike)**

* Ponkan Main opening date of July 27, 2017 (FY 2018). Mount Plymouth Main and Coronado Main opening date of April 1, 2018 (FY 2018).

Note: Two-Way Daily Revenue Traffic is a balanced traffic profile of existing and forecasted revenue generating traffic on System facilities, which excludes non-revenue traffic and violations. The profile should not be used for design traffic purposes

S.R. 414 - Two-Way Daily Revenue Traffic

Cross Street		FY 2018	FY 2028	FY 2038	FY 2048
S.R. 429		36,900	43,000	48,200	52,600
		36,900	43,000	48,200	52,600
US 441 via SR 451		11,600	12,500	13,900	15,200
		3,900	5,500	6,700	7,300
		29,200	36,000	41,000	44,700
Marden Road		400	1,000	1,600	1,700
Coral Hills Main		29,600	37,000	42,600	46,400
Keene Road / C.R. 435		3,600	4,500	5,200	5,700
		33,200	41,500	47,800	52,100
Hiawasse Road		5,800	7,300	8,400	9,200
		3,900	4,900	5,600	6,100
		31,300	39,100	45,000	49,000
U.S. 441		5,100	6,400	7,400	8,100
		8,300	10,400	12,000	13,100
		34,500	43,100	49,600	54,000
					
	To Maitland Blvd.				

Note: Two-Way Daily Revenue Traffic is a balanced traffic profile of existing and forecasted revenue generating traffic on System facilities, which excludes non-revenue traffic and violations. The profile should not be used for design traffic purposes

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