
CHESAPEAKE TRANSPORTATION SYSTEM

CITY COUNCIL UPDATE

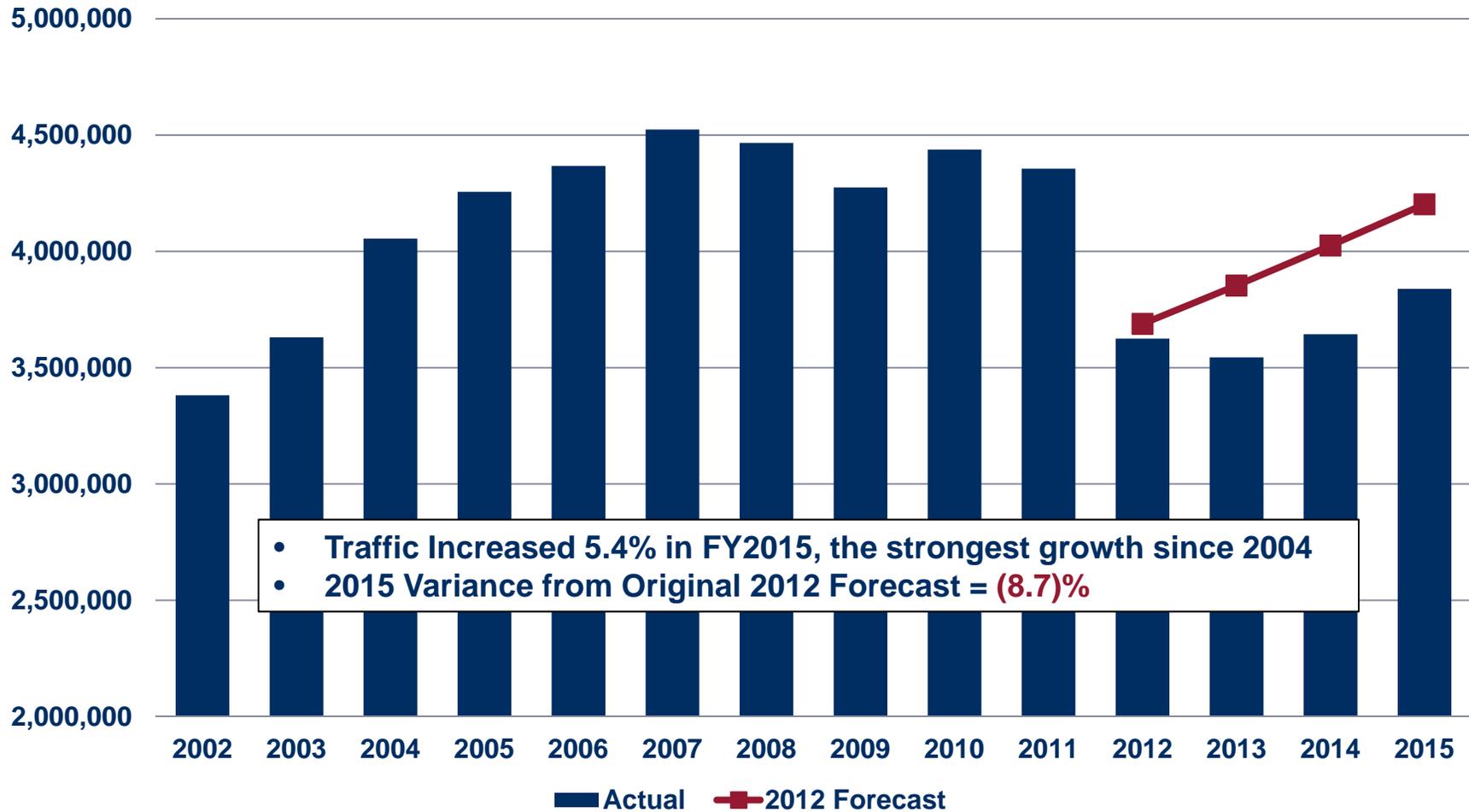
October 27, 2015

PRESENTATION OUTLINE

1. Introduction of the Transportation Toll Facility Advisory Committee
2. Chesapeake Transportation System FY2015 Financial Performance and Future Financial Projections
3. Chesapeake Expressway/Battlefield Boulevard Corridor Traffic Analysis
4. Review of Toll Schedules – Chesapeake Expressway and Dominion Boulevard
5. Recommendation from Transportation Toll Facility Advisory Committee
6. Considerations for Conversion of Chesapeake Expressway to All Electronic Tolling (“AET”)
7. E-ZPass Penetration Rates
8. Battlefield Boulevard Speed Limits

CHESAPEAKE EXPRESSWAY TRAFFIC

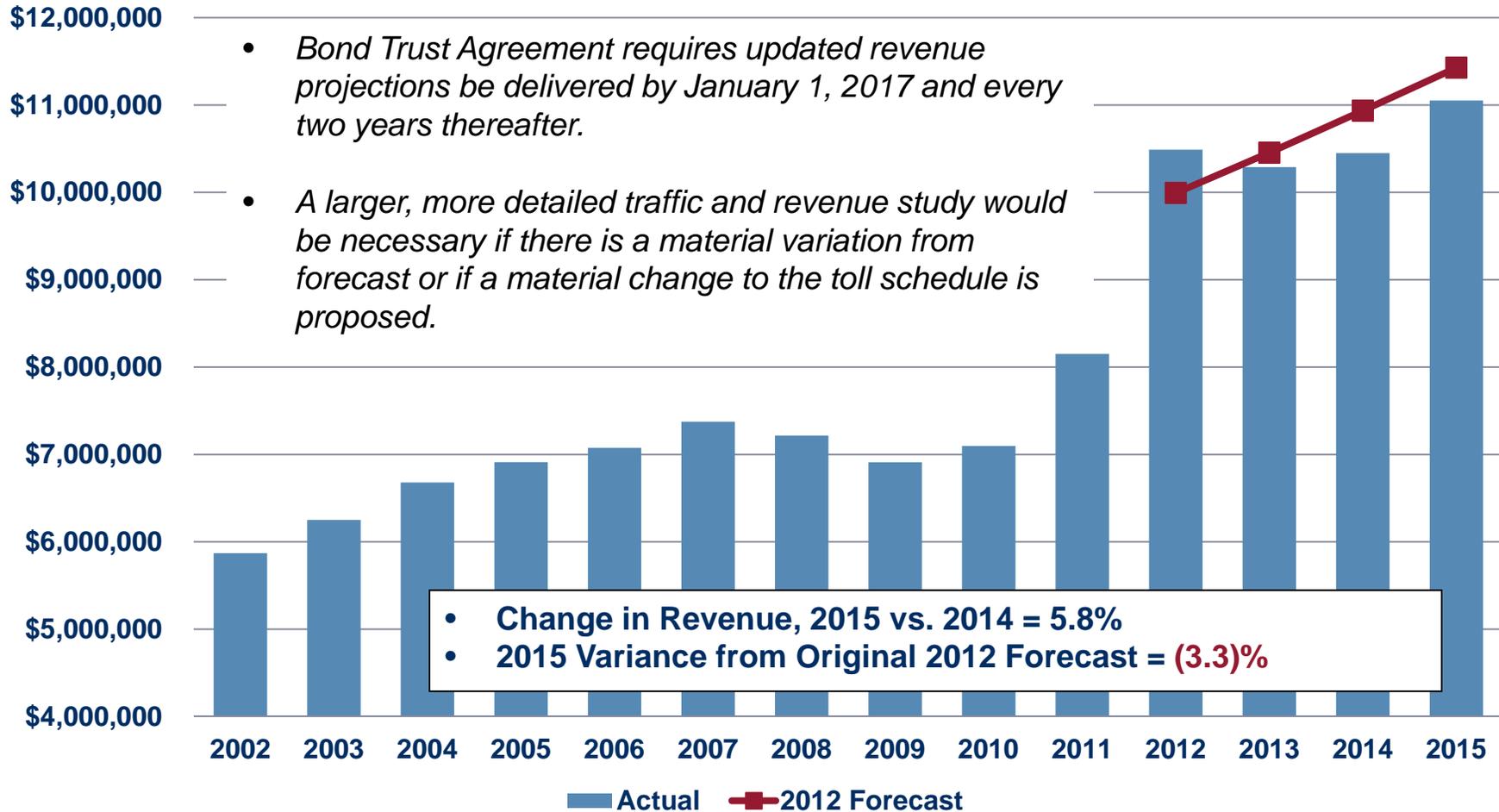
Annual Toll Transactions – Fiscal Year Ending June 30



Preliminary, Unaudited

CHESAPEAKE EXPRESSWAY REVENUE

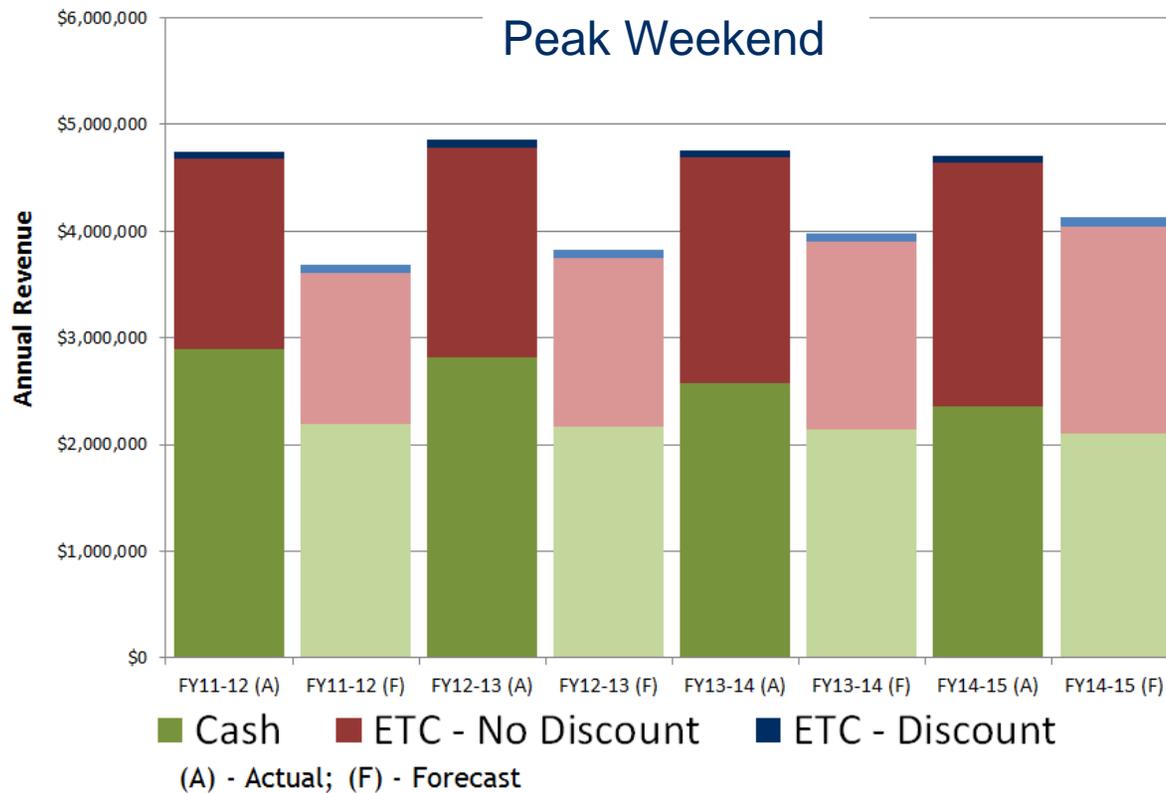
Annual Toll Revenue - Fiscal Year Ending June 30



Preliminary, Unaudited

REVENUE BY DAY AND PAYMENT TYPE – ACTUAL VERSUS FORECAST

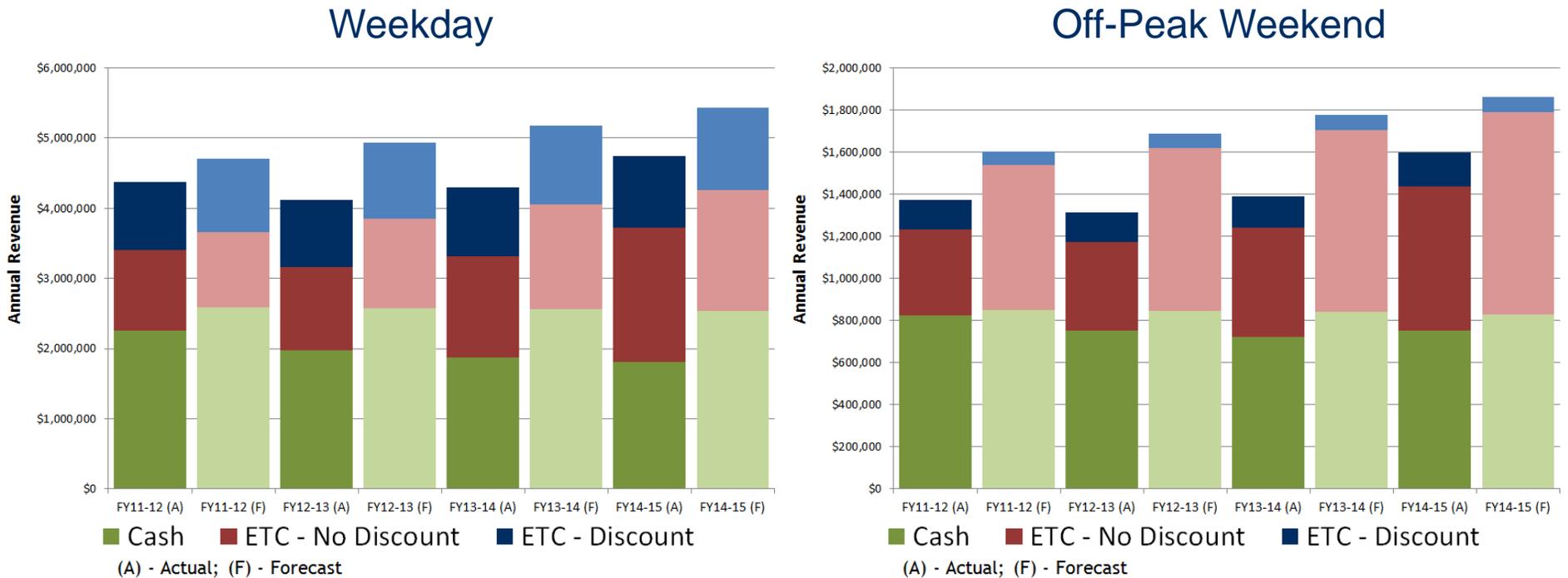
- Peak Weekend revenue exceeded forecast by \$571,518 in FY2015
 - Primarily caused by higher Expressway share of corridor traffic
- 43% of revenue produced on Peak Weekends in FY2015



Note: enrollment fees distributed proportionally to toll revenue

REVENUE BY DAY AND PAYMENT TYPE – ACTUAL VERSUS FORECAST

- Weekday and Off-Peak Weekend revenues have been below forecast
 - Caused by lower corridor growth and lower Expressway share of traffic
- 43% of revenue produced on Weekdays in FY2015
- 14% of revenue produced on Off-peak Weekends in FY2015



Note: enrollment fees distributed proportionally to toll revenue

CTS OPERATING EXPENSES & MAJOR MAINTENANCE NEEDS

- Chesapeake Transportation System operating expenses increased 20% in FY2015 due to (1) increased staffing/ filling of vacant positions, and (2) increased E-ZPass operating and processing fees charged by VDOT
- Increased operating expenses due to the pending opening of Dominion Boulevard will begin in FY2016, with a substantial jump in FY2017 when Dominion toll collections begin
- Renewal and Replacement Fund deposits required for major maintenance declined in 2015 but are projected to increase in the coming years

Operating Expenses							
FY Ending June 30	Actual		2012 Forecast		Variance from Forecast		
	Operating Expenses	Annual Growth Rate	Operating Expenses	Annual Growth Rate	Operating Expenses	% Variance from Forecast	
2012	\$ 2,760,383	(4.2)%	N/A	N/A	N/A	N/A	
2013	2,817,156	2.1%	\$ 3,426,000	N/A	\$ (608,844)	(17.8)%	
2014	2,683,507	(4.7)%	3,554,000	3.74%	(870,493)	(24.5)%	
2015	3,220,566	20.0%	3,684,000	3.66%	(463,434)	(12.6)%	

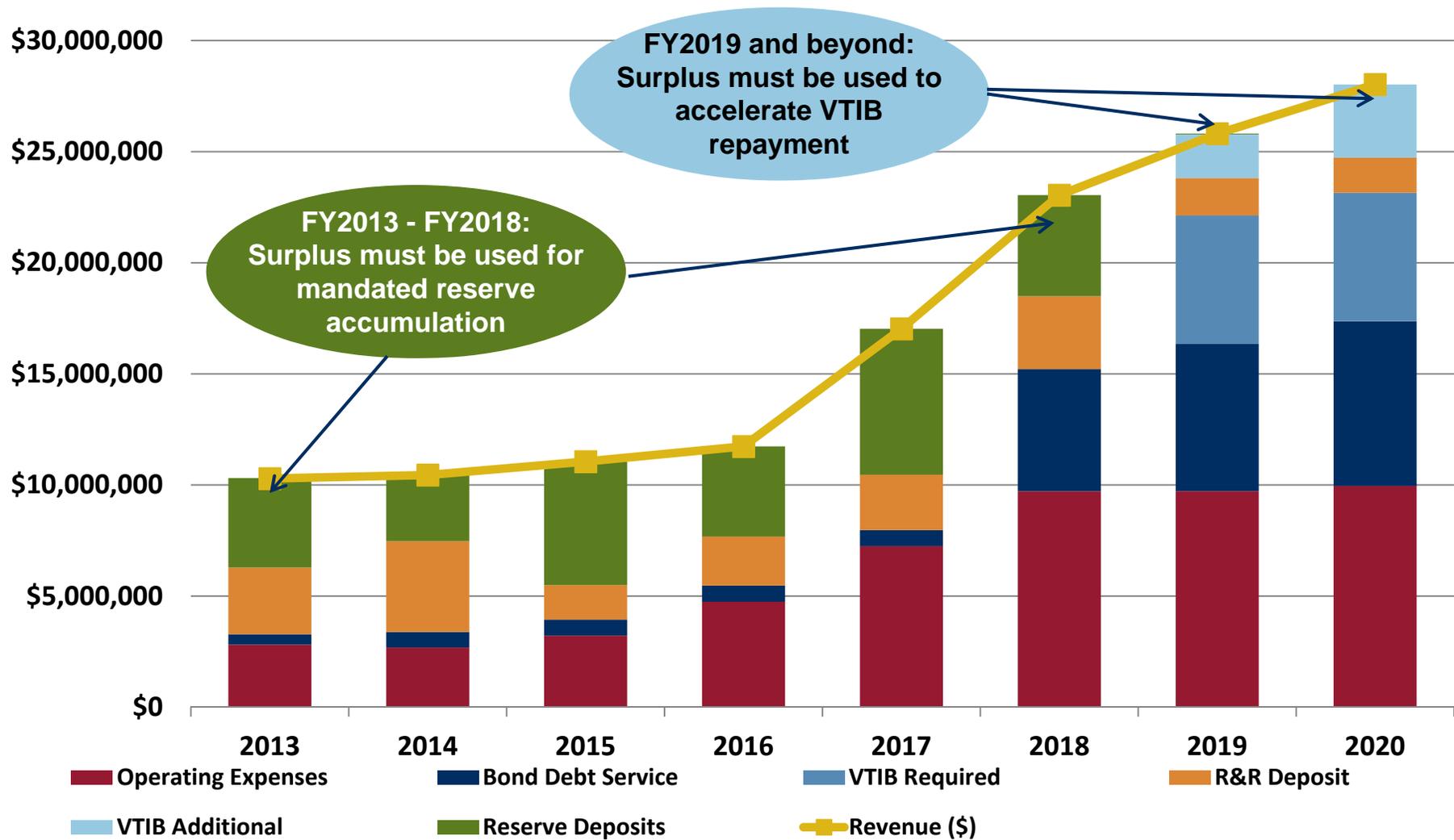
Deposits to Renewal and Replacement Fund							
FY Ending June 30	Actual		2012 Forecast		Variance from Forecast		
	R&R Fund Deposit	Annual Growth Rate	R&R Fund Deposit	Annual Growth Rate	R&R Fund Deposit	% Variance from Forecast	
2012	\$ 1,458,026	(24.6)%	N/A	N/A	N/A	N/A	
2013	3,000,000	105.8%	\$ 3,000,000	N/A	\$ 0	0.0%	
2014	4,077,000	35.9%	3,500,000	16.67%	577,000	16.5%	
2015	1,551,378	(61.9)%	3,500,000	0.00%	(1,948,622)	(55.7)%	

Preliminary, Unaudited

CTS OPERATING EXPENSES BY CATEGORY

- **Breakdown of current operating expenses by category (FY 15)**
 - Payroll & Benefits – \$1,632,129 (51.1% of Operating Expenses)
 - Toll Operations Payroll, Benefits and OPEB - \$970,434
 - Toll Operations Accounts for 59.5% of Total Payroll and Benefits
 - Controlled Expenses – \$235,600 (7.4% of Operating Expenses)
 - General Expenses – \$1,301,729 (40.7% of Operating Expenses)
 - Capital Outlay - \$24,425 (0.8% of Operating Expenses)

DETAILED CTS FINANCIAL PLAN (2013-2020)



Preliminary, Unaudited

ACTUAL AND PROJECTED FINANCIAL PERFORMANCE

- 2015 Surplus Revenues exceeded the 2012 Plan, but 2016 Surplus is projected to be below Plan due to increasing operating expenses & higher R&R deposits
- Through 2018, all Surplus Revenues must be used for mandated reserve accumulation
- Beginning in 2019, all Surplus Revenues must be used to accelerate VTIB debt repayment

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Fiscal Year	Total Gross Revenues ⁽¹⁾	Operating Expenses	Net Revenues	Required Debt Service (Senior & VTIB)	Operating Reserve Deposit	Renewal and Replacement Deposit	Surplus Revenues – Actual and Current Plan	Surplus Revenues – 2012 Plan	Surplus Revenue – Variance from 2012 Plan
2013	\$ 10,310,889	\$ 2,817,156	\$ 7,493,733	\$ 533,508 ⁽²⁾	\$ --	\$ 3,000,000	\$ 3,960,225	\$ 3,550,579	\$ 409,646
2014	10,475,725	2,683,507	7,792,218	707,318	63,879	4,077,000	2,944,021	3,163,691	(219,670)
2015	11,053,773	3,220,566	7,833,207	724,250	85,014	1,551,378	5,472,565	3,526,694	1,945,871
2016	11,733,999	4,824,089	6,909,910	724,250	448,246	2,202,316	3,535,098	4,070,440	(535,342)
2017	16,970,829	7,246,081	9,724,748	724,250	411,984	2,485,758	6,102,756	5,358,917	743,839
2018	22,943,082	9,717,986	13,225,096	5,501,572	1,471	3,276,183	4,445,870	4,327,031	118,839
2019	25,711,394	9,726,811	15,984,583	12,399,632	37,952	1,685,103	1,861,896	618,848	1,243,048
2020	27,925,273	9,954,521	17,970,752	13,196,632	--	1,580,803	3,193,317	1,791,330	1,401,987
2021	29,520,237	9,649,045	19,871,192	13,964,232	40,876	3,500,000	2,366,084	2,988,501	(622,417)
2022	31,678,928	10,199,774	21,479,154	14,629,232	5,543	3,500,000	3,344,379	3,933,396	(589,017)
2023	33,289,073	10,233,029	23,056,044	15,267,732	114,561	3,570,605	4,103,146	4,859,736	(756,590)
2024	34,975,281	10,920,397	24,054,884	15,679,244	17,686	3,570,605	4,787,349	5,360,671	(573,322)
2025	36,794,630	11,026,510	25,768,120	15,806,844	130,453	3,570,605	6,260,218	7,067,039	(806,821)
2026	38,859,547	11,809,230	27,050,317	15,862,534	18,818	3,570,605	7,598,361	8,208,274	(609,913)
2027	41,121,239	11,922,135	29,199,104	15,794,108	139,076	3,570,605	9,695,315	10,568,723	(873,408)
2028	43,196,481	12,756,591	30,439,890	16,669,859	--	3,570,605	10,199,426	10,837,994	(638,568)
2029	45,297,584	12,713,396	32,584,188	17,008,723	135,592	3,570,605	11,869,268	12,806,933	(937,665)
2030	47,468,115	13,570,144	33,897,971	17,137,146	--	3,570,605	13,190,220	13,882,566	(692,346)

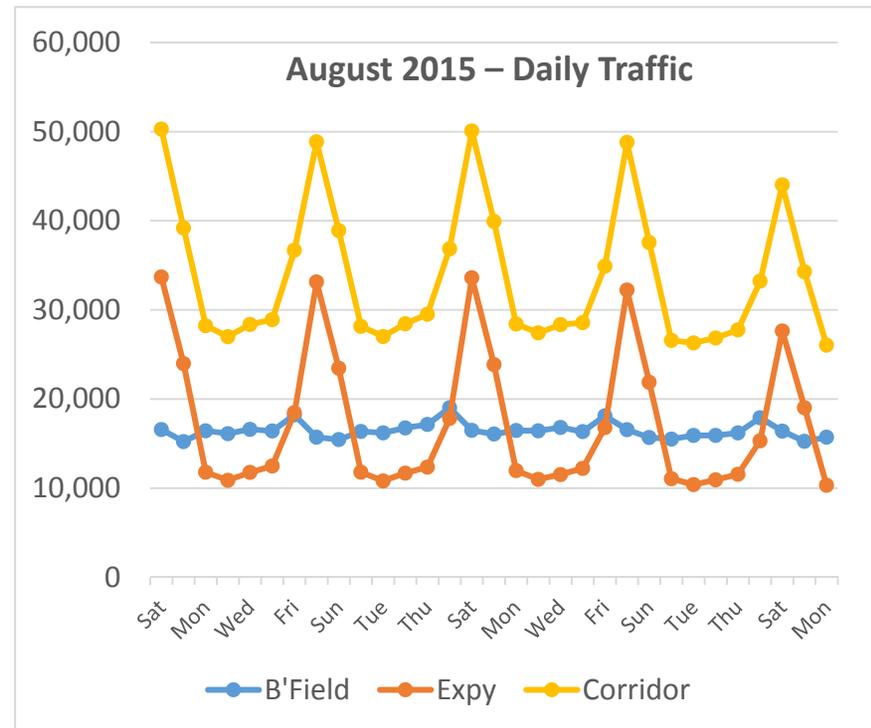
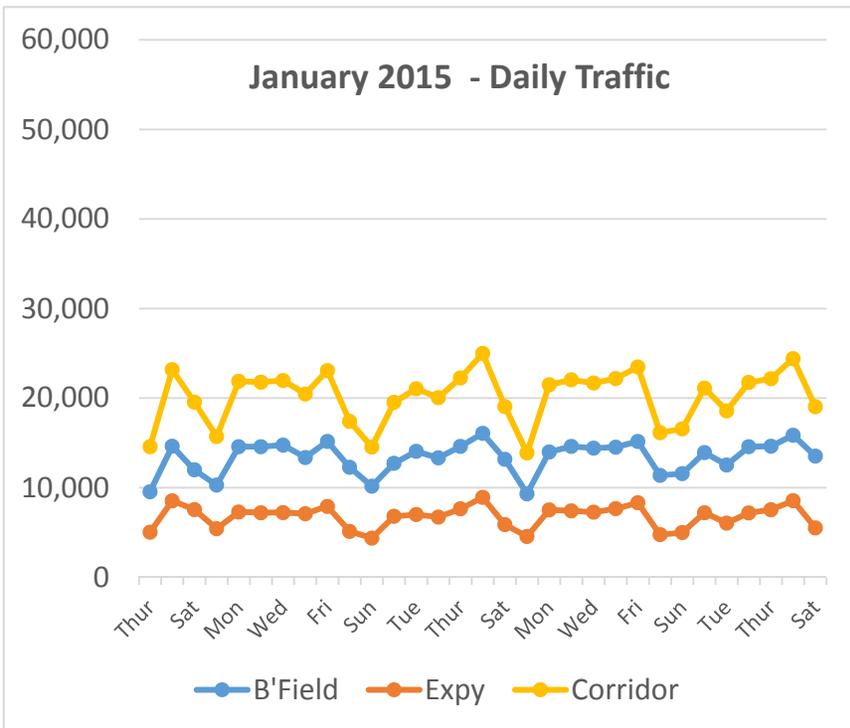
⁽¹⁾ Total Gross Revenues includes Toll Revenues plus Other Operating Revenues

⁽²⁾ Includes Deposits under the 1999 Indenture

Preliminary, Unaudited

DAILY CORRIDOR TRAFFIC – WINTER VS. SUMMER

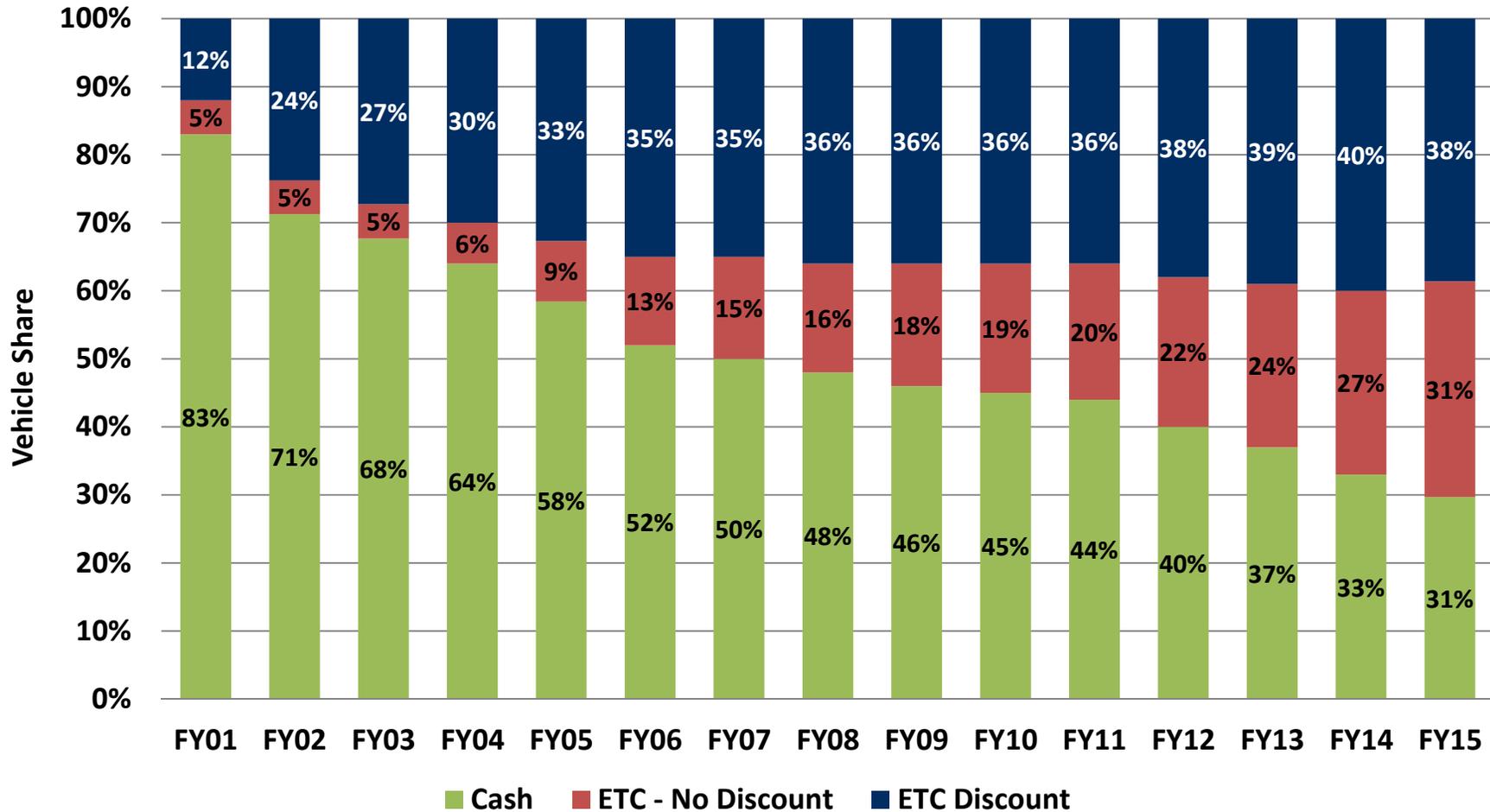
- The charts below illustrate the consistency of daily traffic on Battlefield Boulevard and the variance by season and day of the week for the Expressway and total corridor



Average Daily Traffic			
	<u>Battlefield</u>	<u>Expressway</u>	<u>Total Corridor</u>
Weekday	14,167	7,369	21,536
Saturday	12,472	5,769	18,241

Average Daily Traffic			
	<u>Battlefield</u>	<u>Expressway</u>	<u>Total Corridor</u>
Weekday	16,697	12,524	29,221
Saturday	16,351	32,060	48,412

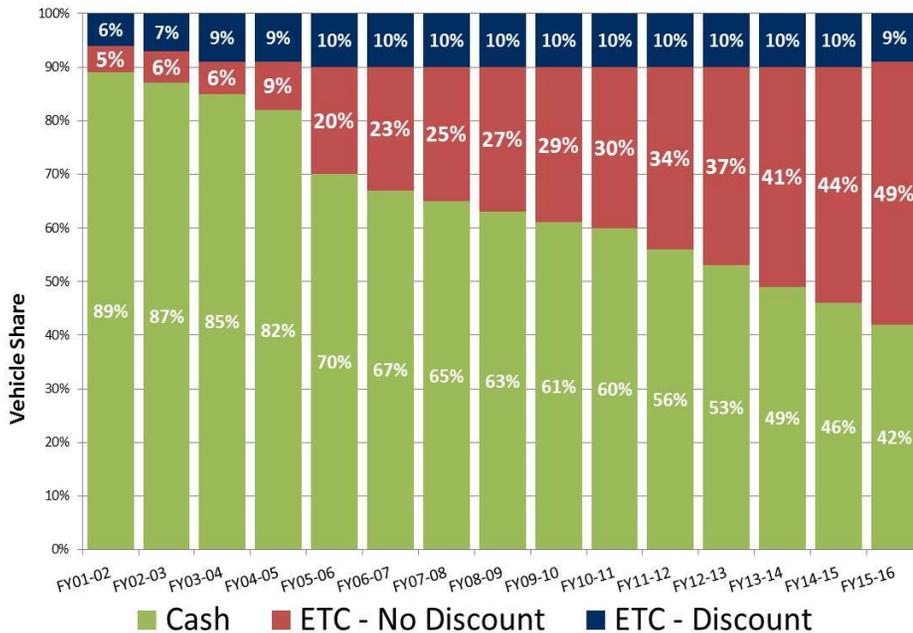
ANNUAL E-ZPASS AND DISCOUNT TRANSACTION TRENDS



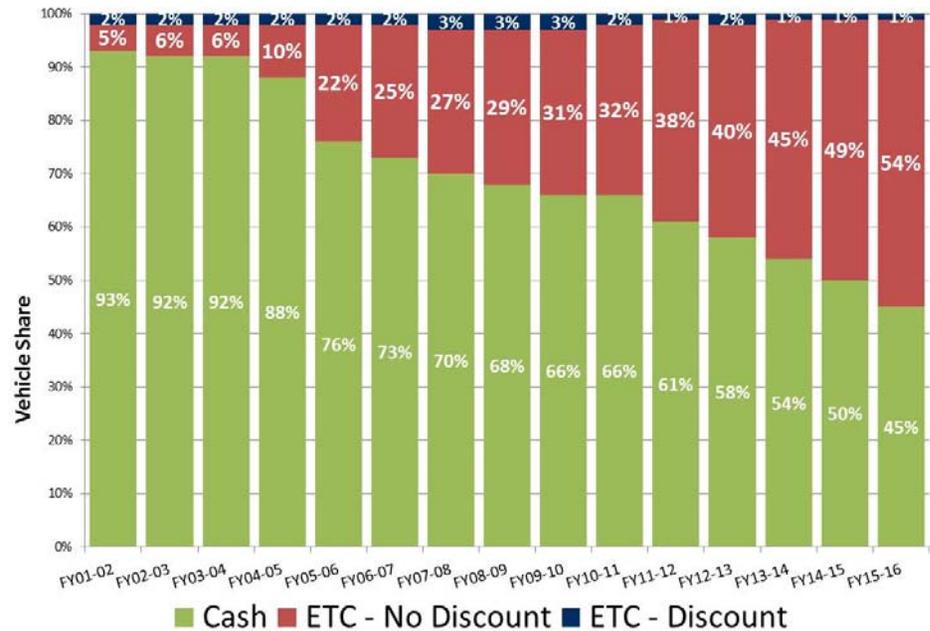
PEAK WEEKEND TRAFFIC AND REVENUE TRENDS

- ETC penetration continues to grow, with Cash now representing only 42% of peak weekend traffic
- The share of revenue from Discount ETC is very low due to significant toll rate discount

Traffic



Revenue



EXPRESSWAY TOLL SCHEDULE

	Two Axles			Three or More Axles		
	<u>Discount</u>	<u>Peak</u>	<u>Off-Peak</u>	<u>Discount</u>	<u>Peak</u>	<u>Off-Peak</u>
Present - 4/30/16	\$0.75	\$6.00	\$3.00	\$2.00	\$7.00	\$4.00
5/1/16 - 4/30/21	\$0.75	\$8.00	\$3.00	\$2.00	\$9.00	\$4.00
5/1/21 - 4/30/26	\$1.00	\$9.00	\$4.00	\$2.25	\$10.00	\$5.00
5/1/26 - 4/30/31	\$1.00	\$10.00	\$4.00	\$2.25	\$11.00	\$5.00
5/1/31 - 4/30/36	\$1.25	\$11.00	\$5.00	\$2.50	\$12.00	\$6.00

Notes: (1) Peak Tolls shall apply on Saturdays and Sundays beginning the two Saturdays before Memorial Day and continuing through the Sunday after Labor Day.

(2) Tolls collected via E-ZPass and cash. Only E-ZPass users enrolled in the City's Discount Program are entitled to the Discount toll rate – all other E-ZPass users are subject to Peak and Off-Peak rates

(3) Motorcycles shall be charged one-third of the 2-Axle toll rates (currently \$2.00 Peak, \$1.00 Off-Peak) and are not eligible for the discount program

2016 PEAK WEEKEND TOLL ADJUSTMENT

- The traffic model forecasts a 20% increase in Battlefield traffic on peak weekends with the 2016 peak weekend toll increase to \$8
 - This is a result of the diversion of 13% of Expressway peak weekend traffic
- The forecasted Battlefield peak weekend traffic volume is similar to the currently observed highest traffic volume days for Battlefield
 - Battlefield experiences its highest traffic levels on Summer Fridays with traffic greater than 19,000
- Approximately \$500,000 of additional annual revenue to be used to meet the operating, maintenance and financial needs of the system.

DOMINION BOULEVARD TOLL SCHEDULE

Fiscal Year Ending June 30	E-ZPass Rate		Non E-ZPass Rate	
	Two Axles	Each Additional Axle	Two Axles	Each Additional Axle
2017	\$1.00	\$0.50	\$3.00	\$0.50
2018	1.05	0.53	3.05	0.53
2019	1.10	0.55	3.10	0.55
2020	1.16	0.58	3.16	0.58
2021	1.22	0.61	3.22	0.61
2022	1.28	0.64	3.28	0.64
2023	1.34	0.67	3.34	0.67
2024	1.41	0.70	3.41	0.70
2025	1.48	0.74	3.48	0.74
2026	1.55	0.78	3.55	0.78
2027	1.63	0.81	3.63	0.81
2028	1.71	0.86	3.71	0.86
2029	1.80	0.90	3.80	0.90
2030	1.89	0.94	3.89	0.94
2031	1.98	0.99	3.98	0.99
2032	2.08	1.04	4.08	1.04
2033	2.18	1.09	4.18	1.09
2034	2.29	1.15	4.29	1.15
2035	2.41	1.20	4.41	1.20

CTS TRAFFIC AND FINANCES – OBSERVATIONS / CONCLUSIONS

- Expressway traffic increased 5.4% in FY2015, the strongest rate of traffic growth since 2004, and toll revenue increased 5.8%.
- Despite the year-over-year growth, traffic was 8.7% below the level projected by the Traffic and Revenue Consultant prior to the 2012 financing and toll revenue was 3.3% below the level projected in the 2012 Plan of Finance.
- Traffic growth on Battlefield Boulevard during the 2015 peak season was generally consistent with overall traffic growth in the corridor.
- FY2015 operating expenses and required deposit to the Renewal and Replacement Fund were well below the levels included in the 2012 Plan of Finance, allowing for greater deposits to reserves than originally planned.
- Current projections of financial performance based on the adopted toll schedules are generally consistent with original expectations for FY2016-2018, incorporating increased operating expenses related to toll operations on Dominion Boulevard and the Renewal and Replacement projections in the draft FY2016-2020 Consulting Engineer's report.
- Pursuant to the Bond Indenture, surplus revenues are deposited in reserves through 2018, and will be used for debt repayment thereafter.
- The next scheduled adjustment to the Expressway toll rates is a \$2.00 increase to the Peak Weekend rate in May 2016.

REQUESTED FOLLOW UP – TOLL COLLECTION AND CONGESTION MITIGATION

- **Conversion of Chesapeake Expressway to All Electronic Tolling (AET)**

Conditions	Typical Conversion to AET	Current Expressway Conditions
Traffic Conditions	Delays from cash collections impede traffic	45 MPH E-ZPass lane free-flowing during peak periods
Share of Tolls Paid in Cash	20%-30% or less	31% of all traffic; 45% of Peak Weekend Revenue
Out-of-state traffic	Low share of total, due to difficulty of enforcement	18.5% of all E-ZPass trips are from out-of-state; increases to 49.5% on Peak Weekends (Cash likely >50% at Peak)
Total Leakage Rate	Estimated at 10% for Dominion Blvd (2012 SDG Report); estimates as high as 50% for out-of-state at some facilities	0.9% of Total Transactions
Capital Cost	Lowers cost for new projects (e.g. Dominion Boulevard), but may be significant to convert existing facility	Estimate: \$7 Million with a 27 month duration from design to Activation

REQUESTED FOLLOW UP (CONTINUED)

- **Growth in Hampton Roads Issued E-ZPass Transponders**
 - Transponders issued to Hampton Roads Drivers Not Tracked Prior to Nov. 2013
 - Number Issued from Nov 2013 to August 2014: 184,775 Transponders
 - Number Issued from August 2014 to October 2015: 102,824 Transponders
 - There are currently 293,599 transponders issued in the Hampton Roads Region
 - There are currently 1.6 Million active transponders issued in Virginia

BATTLEFIELD BOULEVARD SPEED LIMIT

- Speed study conducted in accordance with VA Code 46.2-870 and the federal *Manual on Uniform Traffic Control Devices*:

“Speed zones shall only be established on the basis of an engineering study that has been performed in accordance with traffic engineering practices. The engineering study shall include an analysis of the current speed distribution of free-flowing vehicles.”
- The speed study supports speed limit revisions as shown on the following map

SPEED LIMIT ADJUSTMENTS

- Battlefield Blvd near Hillcrest Pkwy will be reduced from 55 mph to 45 mph
- Battlefield Blvd near Hawks Blvd will be reduced from 50 mph to 45 mph
- Battlefield Blvd from Hickory Ridge Rd to south of St. Brides Rd will be reduced from 55 mph to 50 mph
- No other speed limit revisions warranted based on speed study
- A separate Truck speed limit was considered but is not recommended. Differential speed limits for trucks are most often implemented on multi-lane roadways. Such restrictions on 2-lane rural roadways could increase improper passing, thus creating a safety hazard.



S. BATTLEFIELD BLVD. – SIGNAL WARRANT ANALYSIS AND DELAY STUDY AT BATTLEFIELD BLVD AND INDIAN CREEK ROAD

- Traffic volumes on Indian Creek Rd insufficient to warrant a traffic signal. Motorists wishing to turn left to head south can do so at Gallbush Road.
- Staff conducted a gap analysis at the Indian Creek Road intersection. The study measured the vehicle delay to exit Indian Creek Road onto S. Battlefield Blvd during peak season traffic conditions.
- The Average Stopped Time for:
 - Friday Afternoon (4:30 – 5:30 pm) – 32 seconds/ LOS “D”
 - Saturday Afternoon (12:30 – 1:30 pm) - 27 seconds/LOS “D”
- Average side street wait time at a traffic signal would be far longer (180 second cycle length)

Control Delay (sec/veh)	LOS
0 - 10	A
>10 - 15	B
>15 - 25	C
>25 - 35	D
>35 - 50	E
> 50	F