

# RHODE ISLAND TURNPIKE AND BRIDGE AUTHORITY

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## Tolling Options



October 2011



# Introduction

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- Jacobs completed several traffic and revenue studies, available on [www.ritba.org](http://www.ritba.org):
  - A 2010 traffic and revenue study for the Pell Bridge to support the Bond Sale
  - A 2010 Mt. Hope toll feasibility study
  - Recent updates of T&R for each bridge
- Since 1998, upkeep of Mt. Hope has been paid by Pell Bridge tolls
- Funding gap requires:
  - Additional borrowing
  - Additional revenue



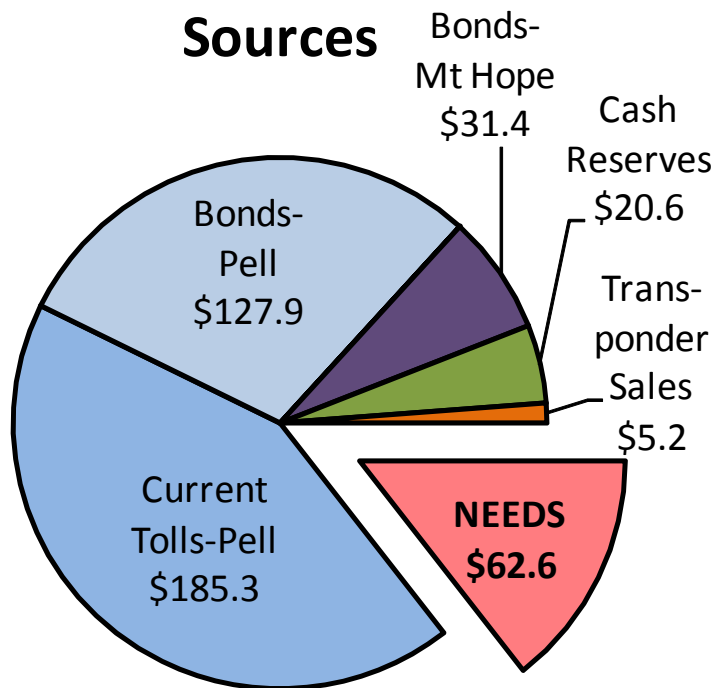
# Projected 10-Year Capital Plan

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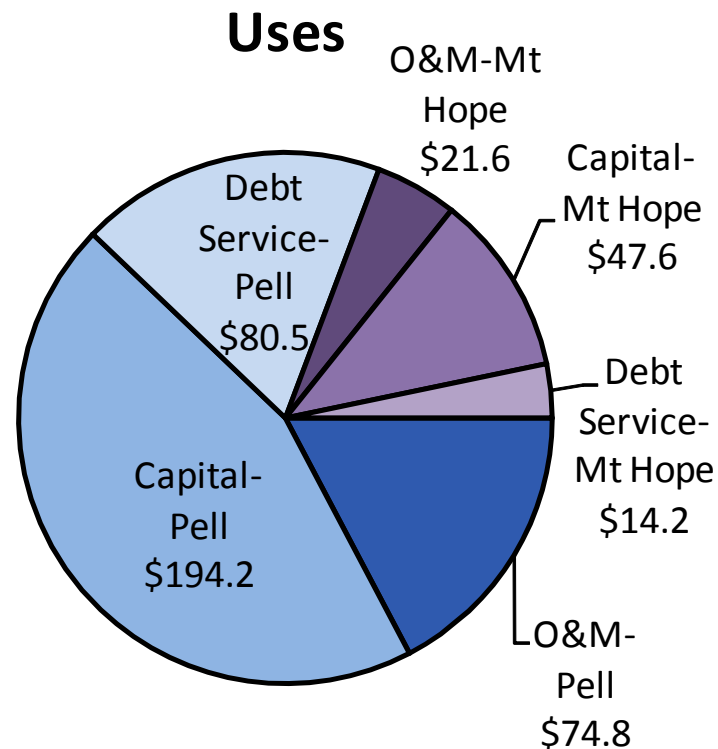
- \$200.2M for Pell Bridge
  - Painting of superstructure \$102.7M
  - Steel superstructure repairs/retrofits \$15.4M
- \$49.7M for Mt Hope Bridge
  - Painting & steel repairs \$20.4M
  - Roadway deck pavement replacement \$5.4M

# Sources and Uses of Funds, Current Tolls

10-Year Projection (\$M)



**Total: \$432.9M**



**Total: \$432.9M**

*Note: \$6.1M in capital expenditures for the Pell Bridge and \$2.0M for the Mt Hope Bridge are considered to be annualized costs and have been categorized as O&M above.*

# History of the Newport Pell Bridge

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- Completed in 1969
- \$2.00 car cash toll until Sept. 2009, when it was raised to \$4.00
- \$1.00 per token until early 1998; afterwards, only sold in bulk:
  - \$0.91 -11 trips cost \$10 when token roll purchased
  - \$0.83 -60 trips cost \$50 when purchased in bulk
- E-ZPass introduced in Dec. 2008; tokens discontinued soon after
- Residents with RI E-ZPass pay reduced rate of \$0.83. Frequent users with RI E-Zpass can also receive discounts
- Non-RI E-ZPass customers pay cash rate

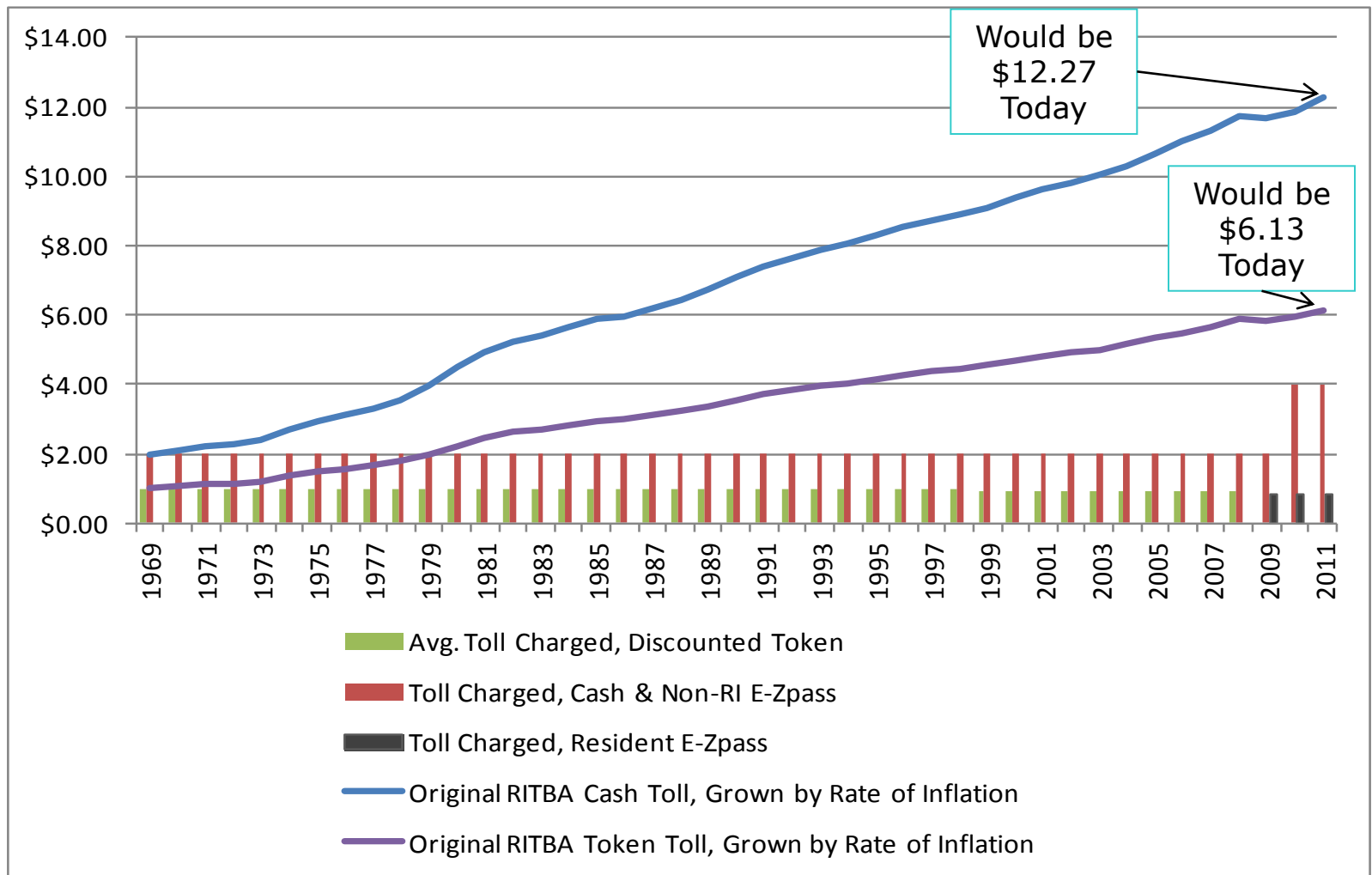


# History of the Mt. Hope Bridge

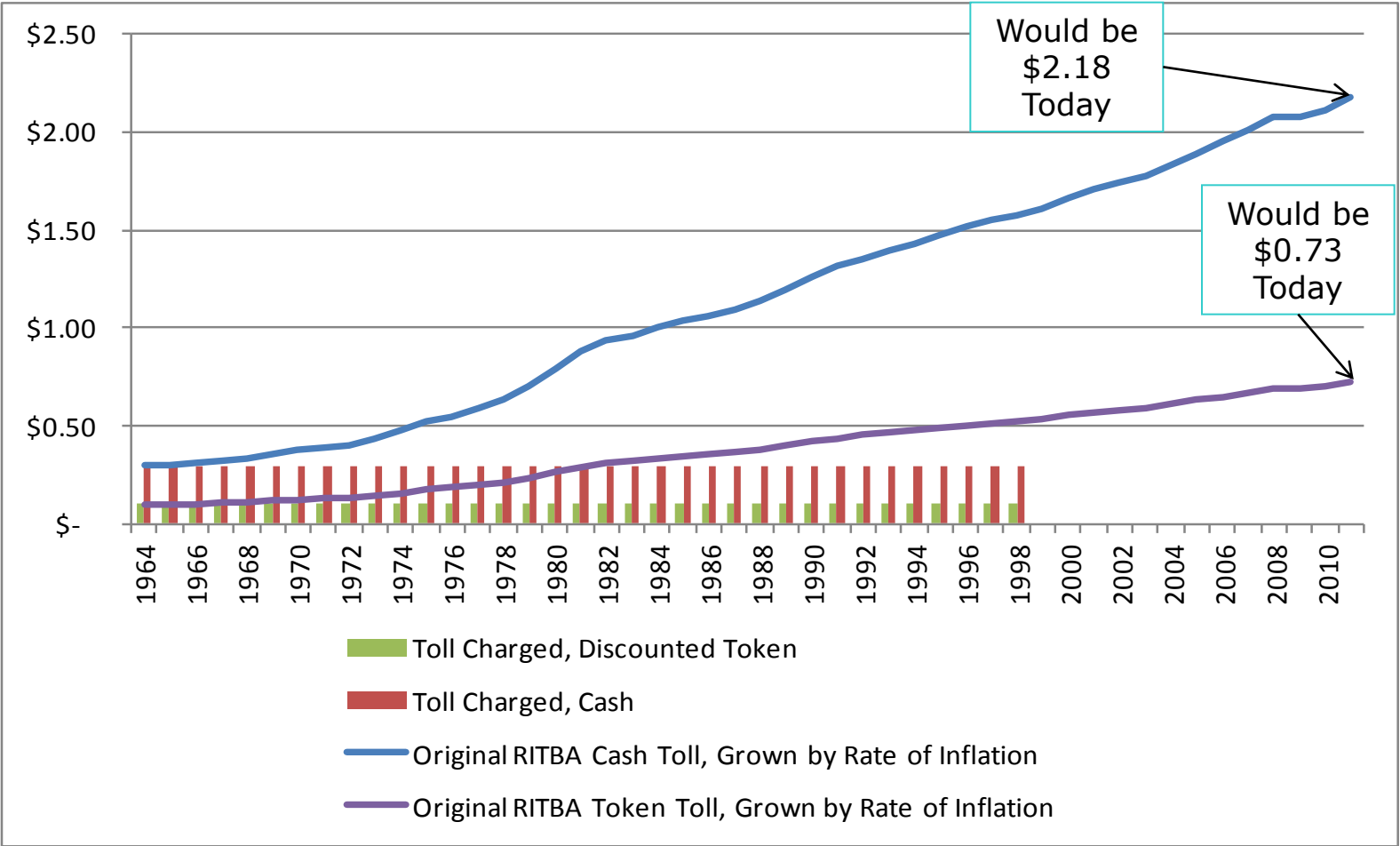
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- Built as a private toll bridge in 1929
- Bridge acquired by state in 1955
- RITBA took over ownership of the bridge in 1964
- Tolling ended in May 1998
- For the entire 38 years 1964-1998, tolls were \$0.30 for passenger cars and \$0.10 for token users

# Pell Bridge Toll History

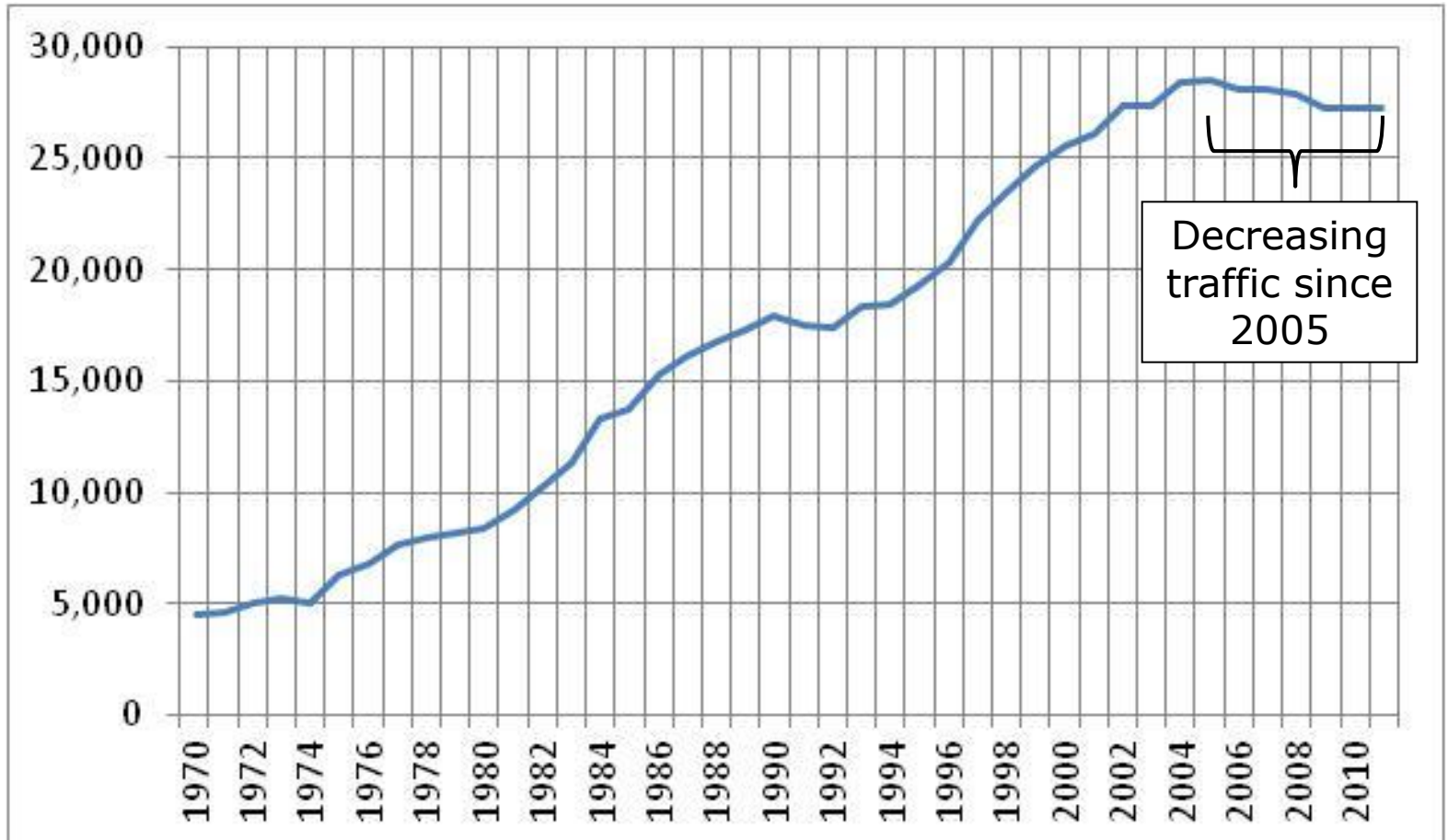


# Mt Hope Bridge Toll History

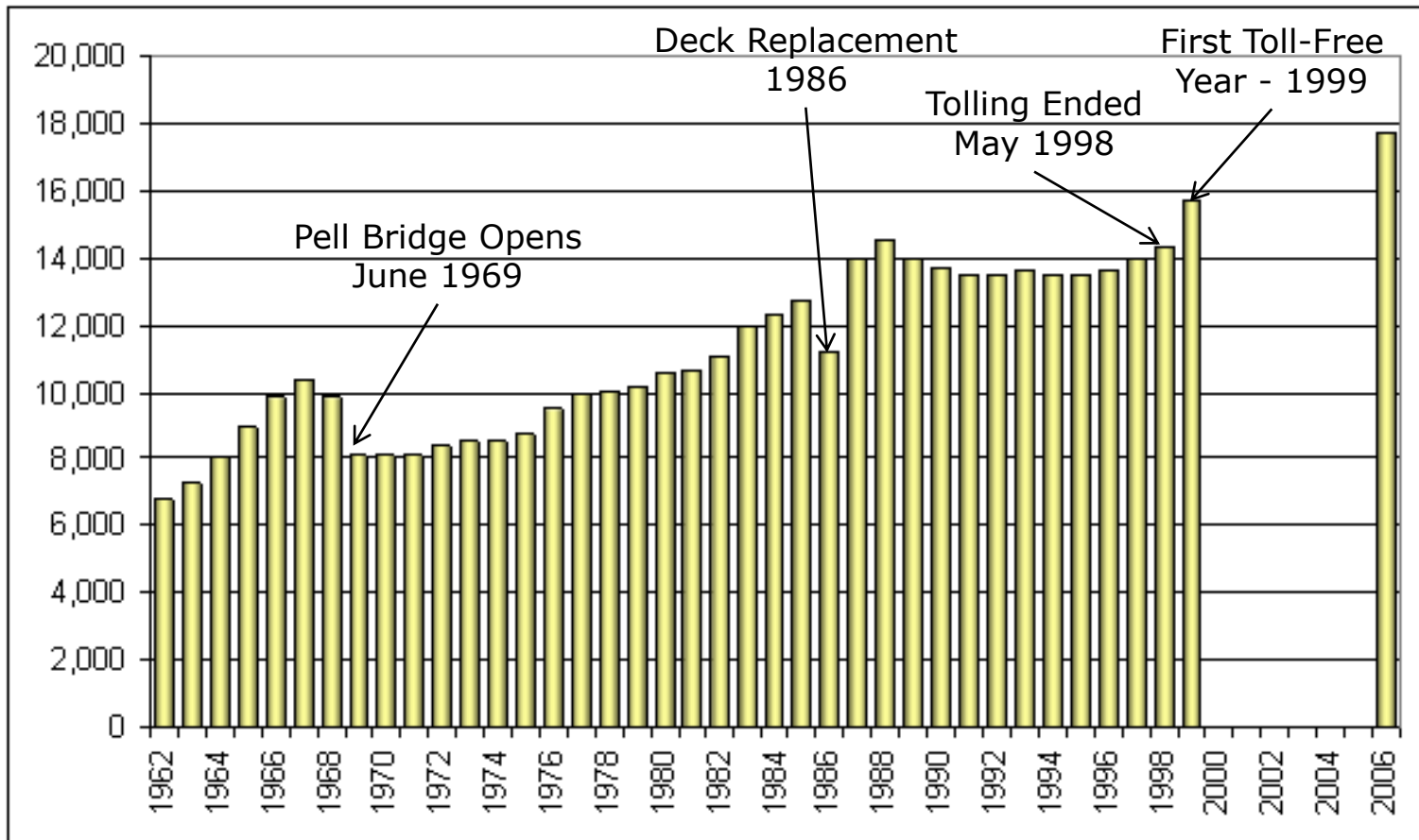




# Historical Newport Pell Bridge Avg. Daily Traffic



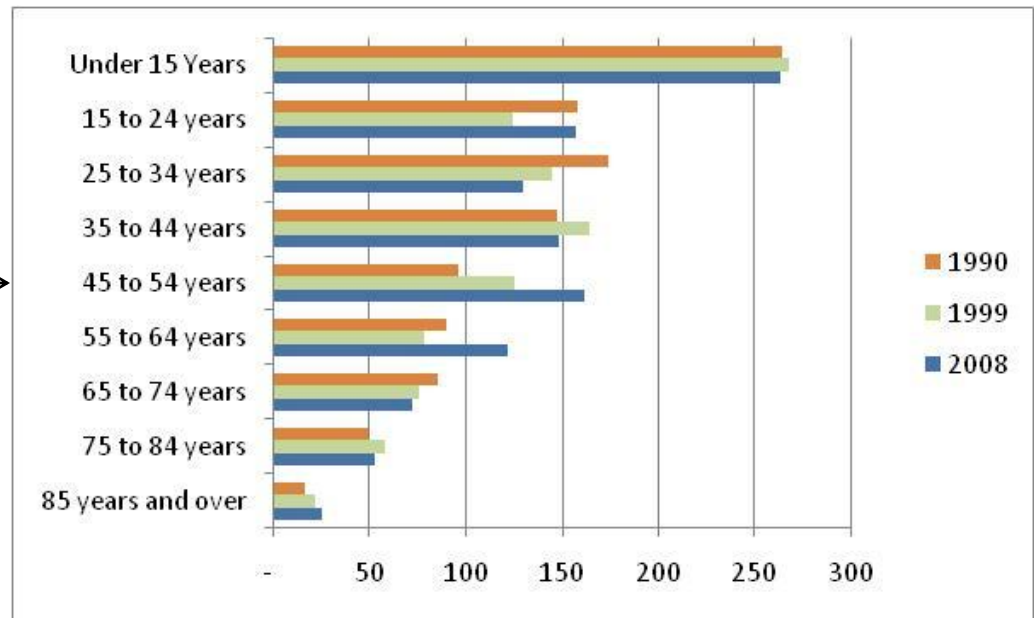
# Historical Mt. Hope Bridge Avg. Daily Traffic



# Why Has Traffic Decreased?

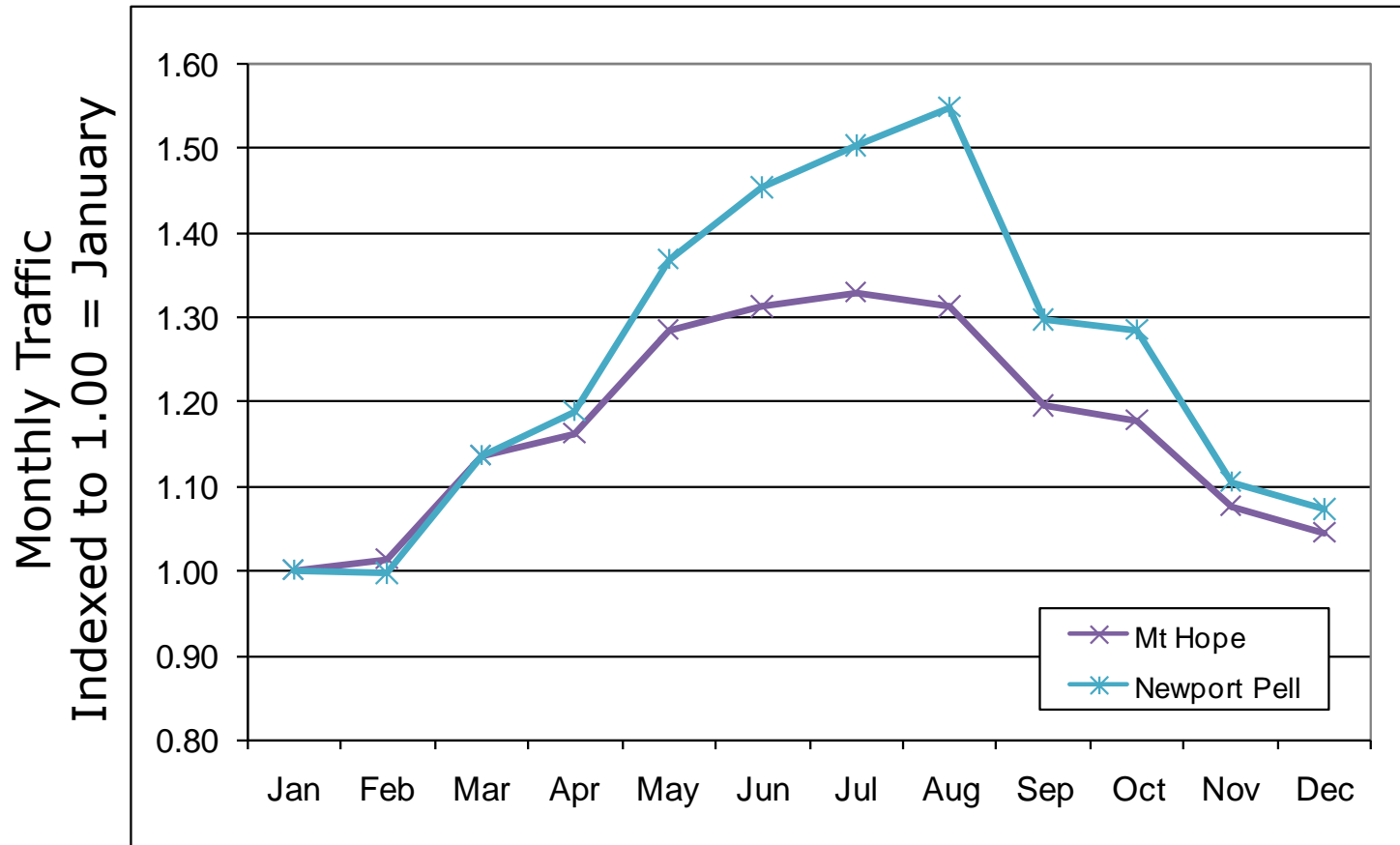
- Economy
- Gas prices
- Aging →
- Technology
- Other factors

RI Population Distribution by Age (000s)



- Not just Pell Bridge – this is a nationwide phenomenon

# Pell Bridge is More Seasonal than Mt. Hope Bridge

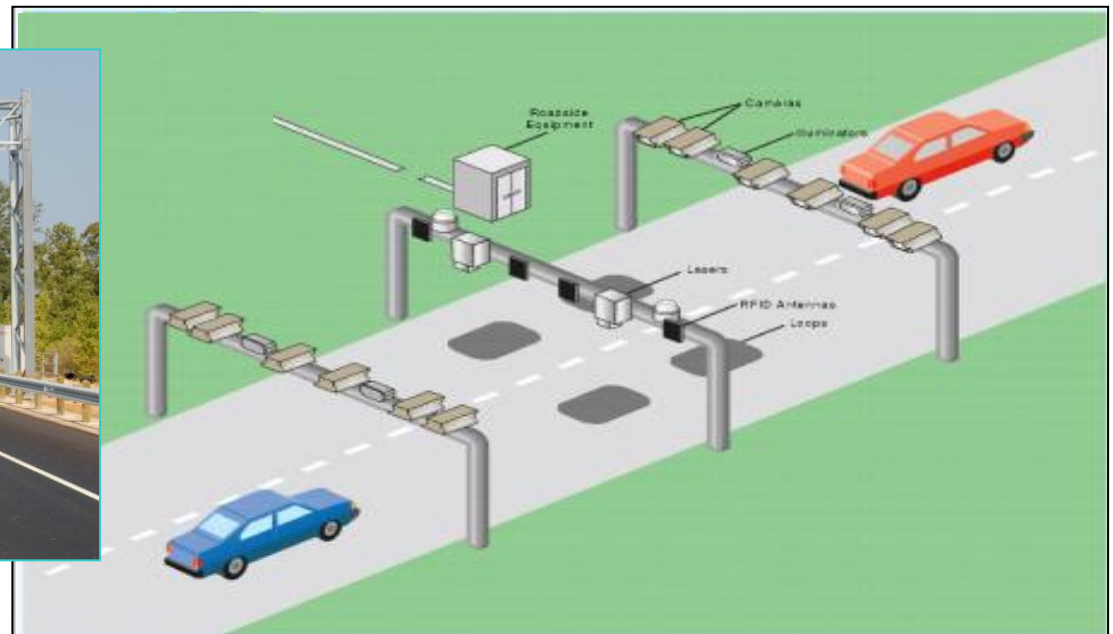


# Mt. Hope Bridge

## Potential All-Electronic Tolling (AET)

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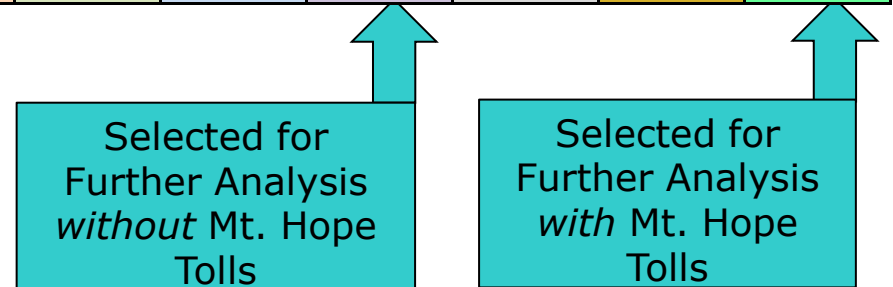
- No tollbooths, overhead gantry only
- Non-E-ZPass customers identified by license plate, sent an invoice



# Toll Alternatives Tested – Pell Bridge

Vehicle / Payment Type	Current Tolls	OS Tolls	Yellow Scenario	Orange Scenario	Green Scenario	Blue Scenario	Purple Scenario	Gray Scenario	Brown Scenario	MH1 Scenario
Cars - Full Price	\$ 4.00	\$ 4.50	\$ 4.50	\$ 4.50	\$ 4.50	\$ 4.50	\$ 5.00	\$ 4.50	\$ 4.00	\$ 4.00
Cars - Resident Rate	\$ 0.83	\$ 1.00	\$ 1.00	\$ 1.05	\$ 1.00	\$ 1.10	\$ 1.00	\$ 1.25	\$ 1.00	\$ 0.90
Trucks - Per Axle	\$ 2.00	\$ 2.25	\$ 2.50	\$ 2.75	\$ 2.75	\$ 2.75	\$ 2.75	\$ 2.25	\$ 2.75	\$ 2.75

FY 2013 Toll Revenue (M)	\$ 18.1	\$ 20.1	\$ 20.8	\$ 21.4	\$ 21.0	\$ 21.4	\$ 22.1	\$ 22.3	\$ 19.9	\$ 19.2
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## Notes:

Tolls assumed to increase every 3 years.

6-Trip and Monthly Unlimited plan assumed to have proportional increases.

# Toll Alternatives Tested – Mt Hope

## Opening Year Toll Rates

Vehicle / Payment Type	Similar to Former Rates	Rates Necessary to Cover Mt. Hope Bridge Costs	Similar to Pell Rates
Passenger Cars - Resident/Discounted E-ZPass	\$ 0.10	\$ 0.52	\$ 0.83
Passenger Cars - Non-Resident E-ZPass	<b>\$ 0.30</b>	<b>\$ 2.50</b>	<b>\$ 4.00</b>
Passenger Cars - Video License Plate Toll	\$ 0.39	\$ 3.25	\$ 5.20
Trucks - Per Axle E-Zpass	\$ 0.15	\$ 1.25	\$ 2.00
Trucks - Per Axle Video License Plate Toll	\$ 0.20	\$ 1.63	\$ 2.60

FY 2013 Toll Revenue (M)	\$ 0.9	\$ 4.0	\$ 5.4
FY 2013 Video Toll Late Payment Fee Revenue (M)	\$ 0.9	\$ 0.5	\$ 0.4
FY 2013 Total Toll + Fee Revenue (M)	\$ 1.8	\$ 4.5	\$ 5.8

Note: Tolls assumed to increase every 3 years.

Selected for Further Analysis





# Mt. Hope

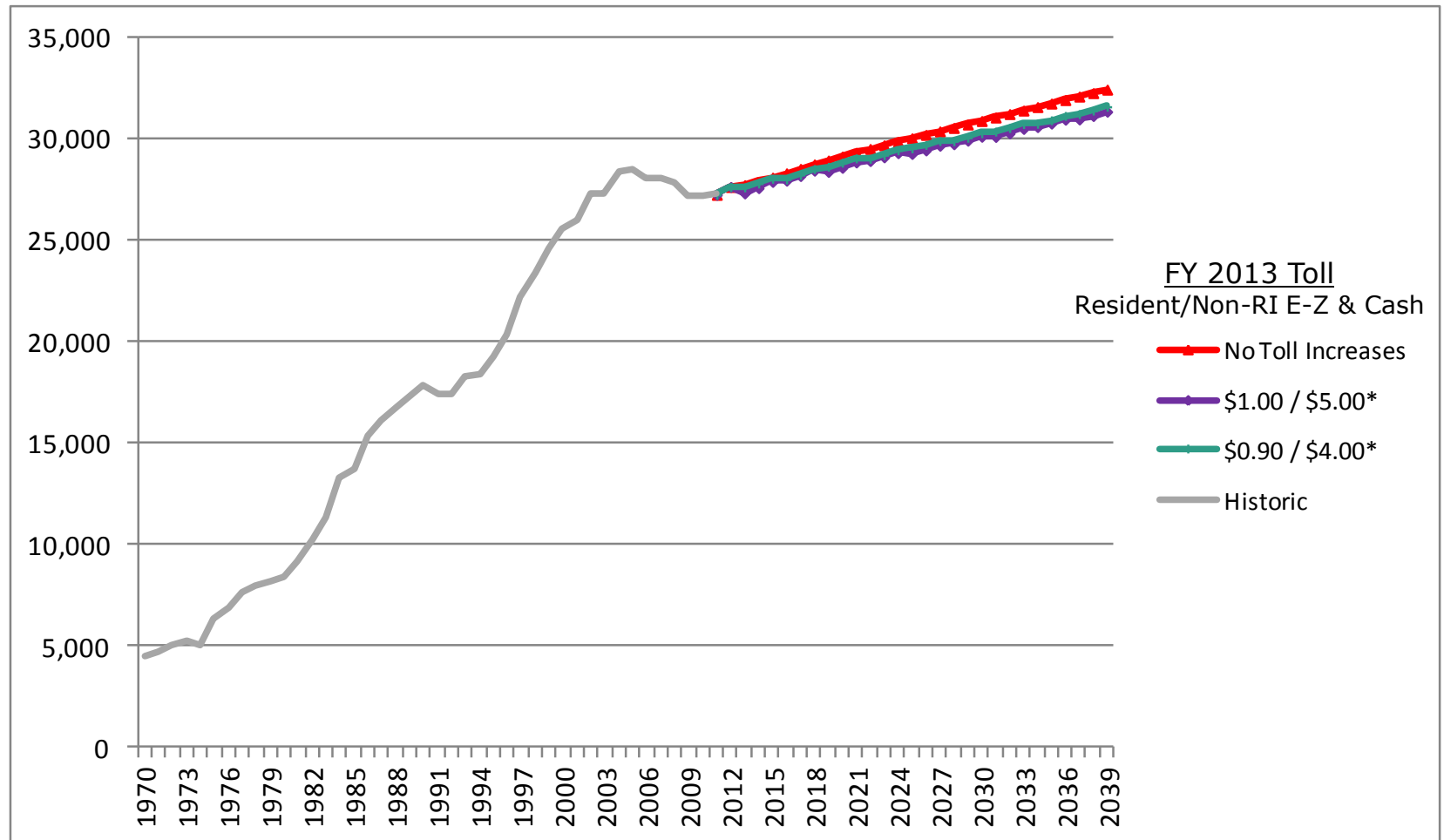
## Model Development/Assumptions

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- Used values of time to estimate how many drivers would reroute for each toll alternative
- The greater the toll, the more people would get a discounted E-ZPass
- Small amount of background growth

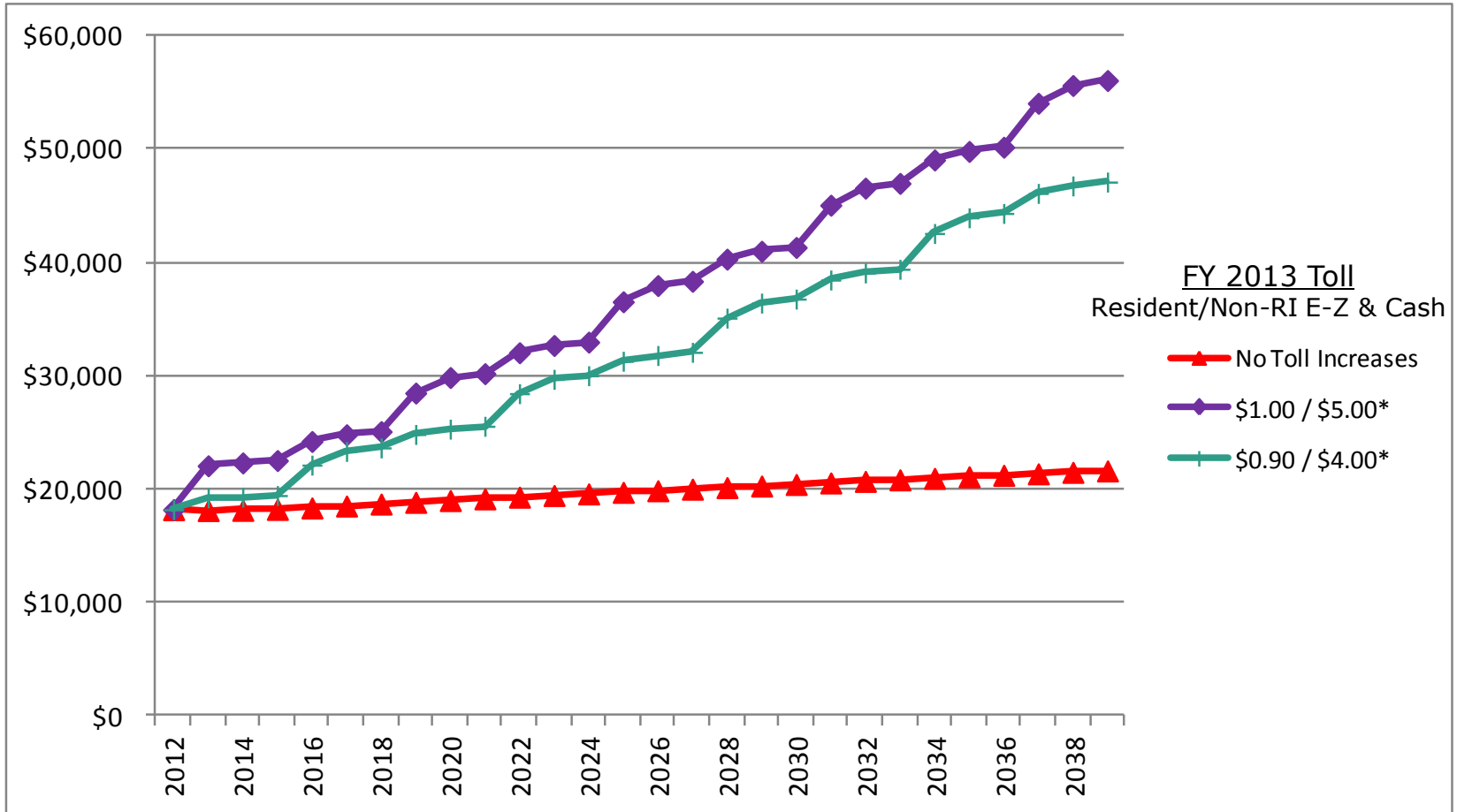


# Estimated Average Daily Traffic – Newport Pell Bridge



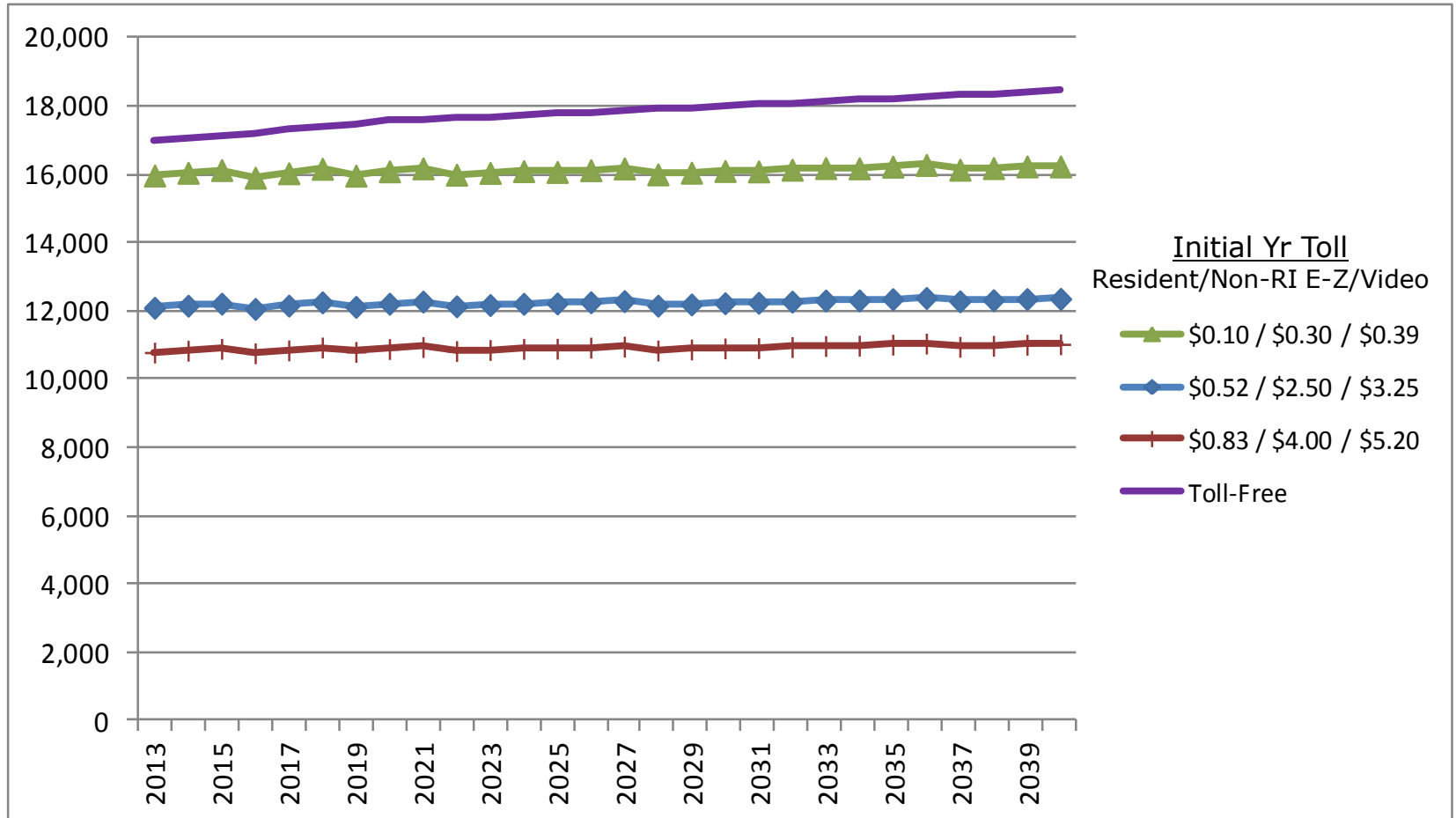
\*Toll increases assumed every 3 years

# Estimated Gross Toll Revenues – Newport Pell Bridge (\$000s)



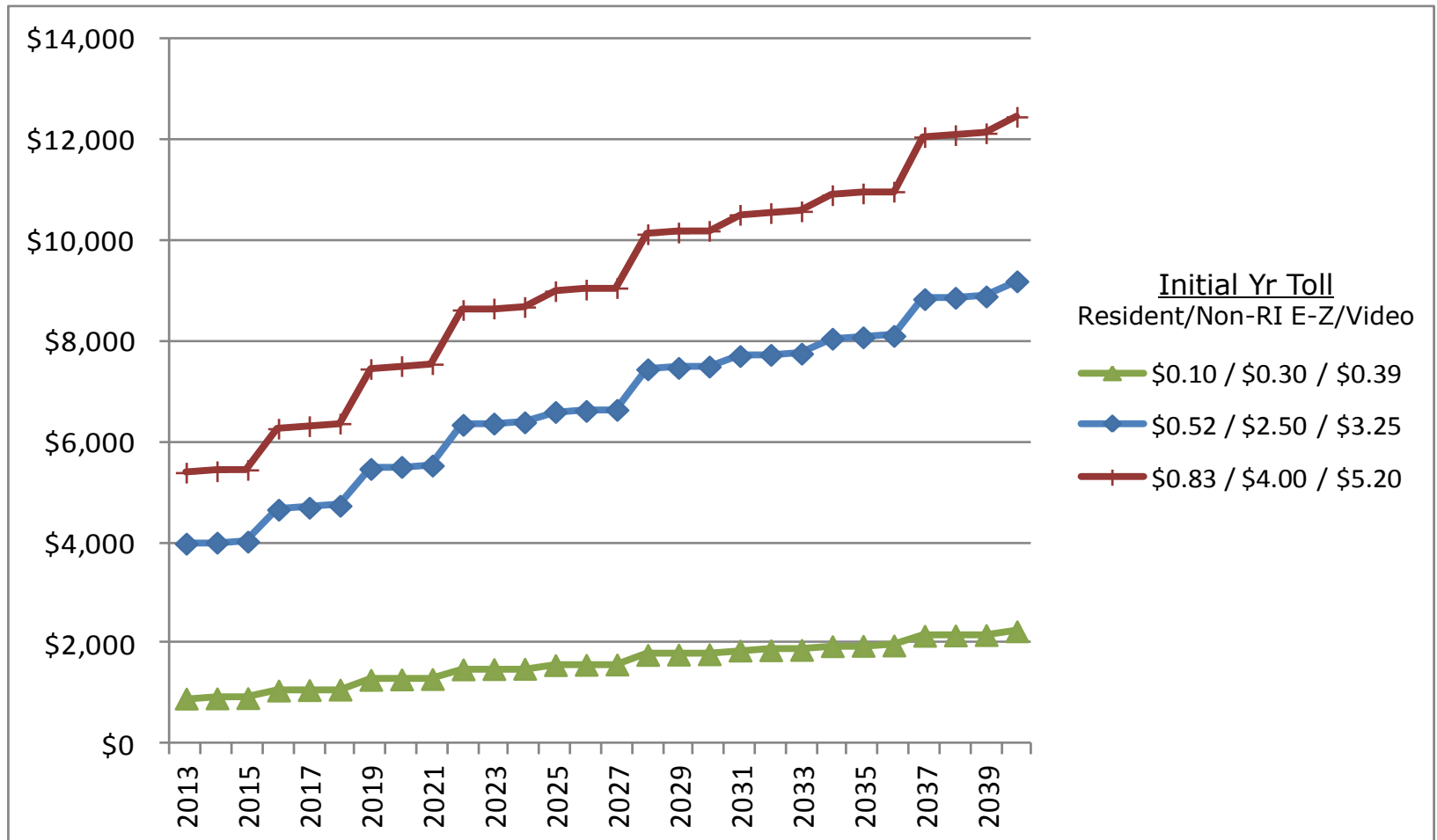
\*Toll increases assumed every 3 years

# Estimated Average Daily Traffic – Mount Hope Bridge



Note: Toll increases assumed every 3 years

# Estimated Gross Toll Revenues – Mount Hope Bridge (\$000s)



Note: Toll increases assumed every 3 years

# Estimated Costs for Tolling Mt. Hope

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<b>Assumed Mt. Hope Toll Rates</b>	
Resident E-Zpass	\$0.52
Non-Resident E-Zpass	\$2.50
Video License Plate Toll	\$3.25
<b>Costs for All-Electronic Tolling on Mt. Hope</b>	
Capital Cost to Build	\$2,300,000
Annual Cost of Toll Collection	\$1,300,000

Annual toll collection costs include:

- Video toll collection costs (finding & billing customers)
- E-ZPass service fees
- Utilities
- Maintenance of equipment/communications system



# Mt. Hope Bridge Toll Feasibility Study Results - FY 2013

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- 12,000 Average Crossings/Day
- \$0.90 Average Toll Collected
- \$4.6 M Annual Revenue  
(Tolls+Fees+Transponder Sales)

# Toll Options to Close Funding Gap

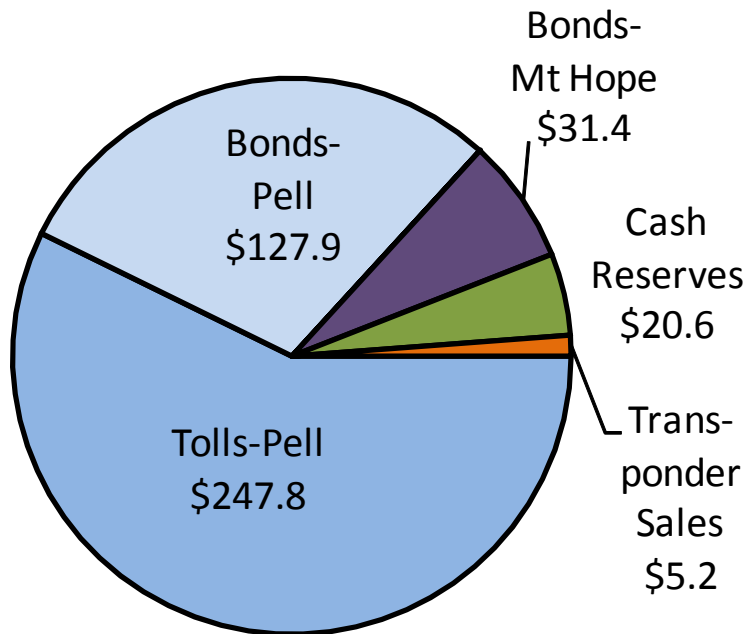
Vehicle / Payment Type		OPTION 1:	OPTION 2:	
		Pell Toll Increase, No Mt Hope Tolls	Smaller Pell Toll Increase, Mt Hope Tolling	
		Pell Tolls	Pell Tolls	Mt Hope Tolls
Cars	Resident/Discounted E-ZPass	\$1.00	\$0.90	\$0.52
	Non-Resident E-ZPass	\$5.00	\$4.00 *	\$2.50
	Cash	\$5.00	\$4.00 *	N/A
	Video License Plate Toll	N/A	N/A	\$3.25
Trucks	Per Axle E-Zpass	\$2.75	\$2.75	\$1.25
	Per Axle Cash	\$2.75	\$2.75	N/A
	Per Axle Video License Plate Toll	N/A	N/A	\$1.63

\*Current tolls

# Sources and Uses of Funds, Increased Pell Tolls, no Mt Hope Tolls

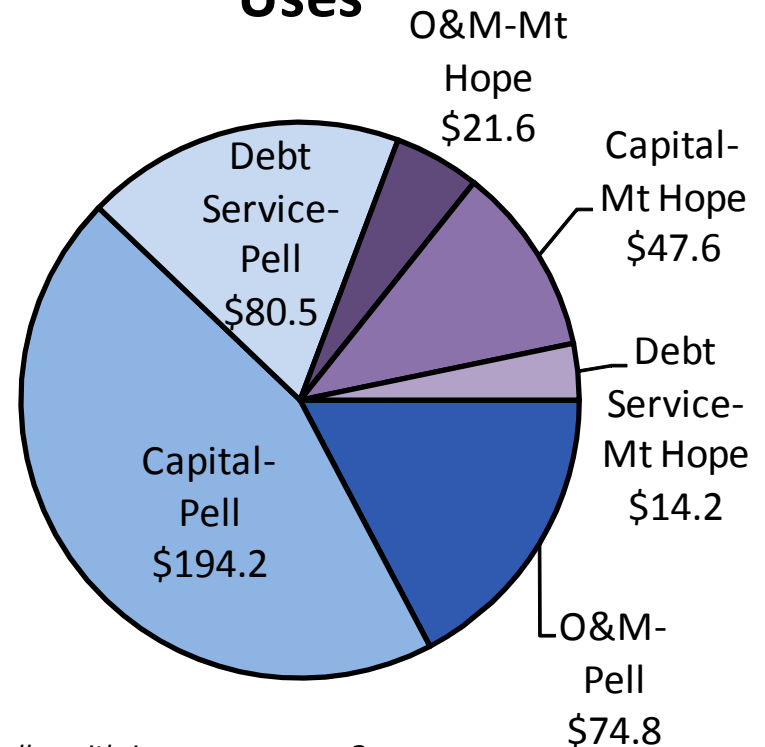
10-Year Projection (\$M)

## Sources



**Total: \$432.9M**

## Uses



**Total: \$432.9M**

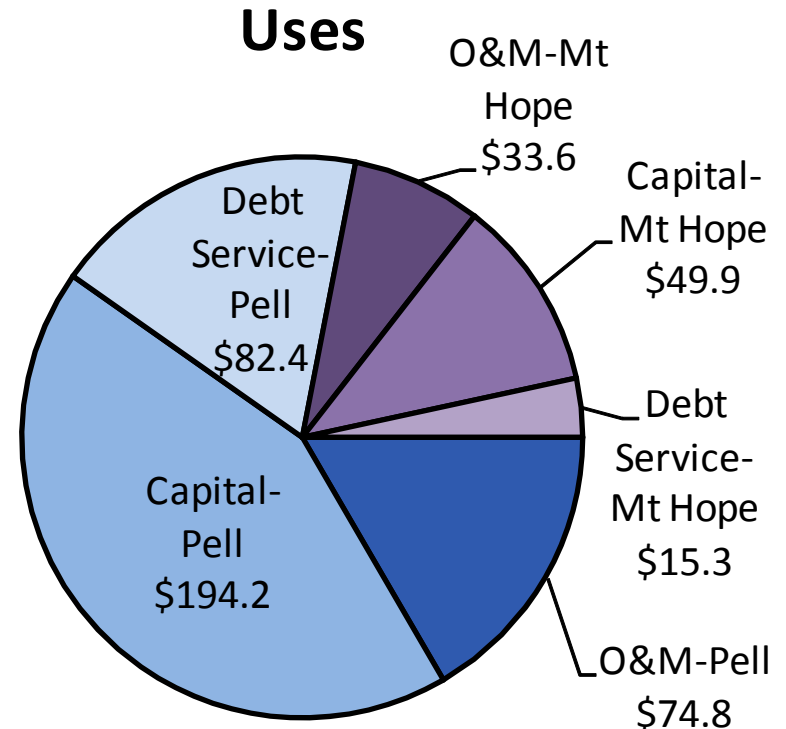
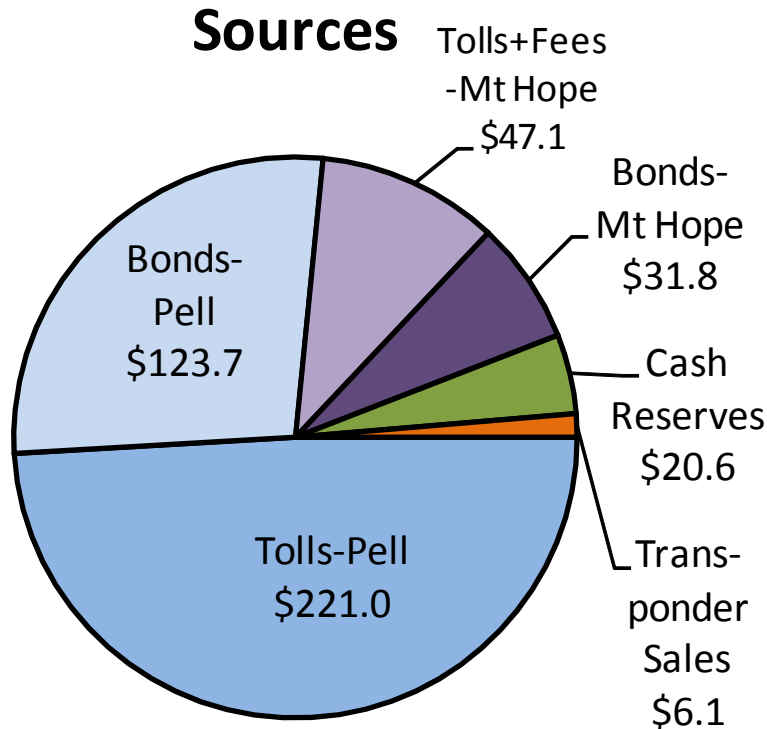
*Assumes no Mt Hope tolls, FY 2013 \$1.00 / \$5.00 Pell Bridge tolls, with increases every 3 years.*

*Note: \$6.1M in capital expenditures for the Pell Bridge and \$2.0M for the Mt Hope Bridge are considered to be annualized costs and have been categorized as O&M above.*



# Sources and Uses of Funds, Smaller Pell Increase & Tolling on Mt Hope

10-Year Projection (\$M)



Assumes FY 2013 \$0.52 / \$2.50 / \$3.25 Mt Hope tolls and \$0.90 / \$4.00 Pell Bridge tolls, both with increases every 3 yrs.

**Total: \$450.2M**

**Total: \$450.2M**

Note: \$6.1M in capital expenditures for the Pell Bridge and \$2.0M for the Mt Hope Bridge are considered to be annualized costs and have been categorized as O&M above.

# Conclusions

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- About \$250M Needed for RITBA Capital Projects over Next 10 Years
- Two Tolling Options that Will Close Funding Gap:
  - Pell Toll Increase / No Mt. Hope Tolls
    - Pell: \$1.00 Resident / \$5.00 Non-Resident
    - Generates \$22.1M FY 2013 Revenue
  - Smaller Pell Toll Increase / Reinstatement of Mt. Hope Tolls
    - Pell: \$0.90 Resident / \$4.00 (no increase) Non-Res.
    - Mt Hope: \$0.52 Res. / \$2.50 Non-Res. / \$3.25 Video
    - Generates \$23.7M FY 2013 Revenue
    - \$1.3M Additional Annual Cost to Collect Mt Hope Tolls
    - \$2.3M Additional Capital Cost to Build

Plan of Finance Overview

## Plan of Finance

In the 2010 session, the General Assembly authorized \$68,090,000 in bonds to continue the plan of finance. These bonds are expected to be issued in 2012.

The 2010 series of bonds and the projected 2012 series were authorized to finance the following projects:

- the renovation, renewal, repair, rehabilitation, retrofitting, upgrading and improvement of the Newport Bridge, the Mount Hope Bridge and such other Projects as are authorized under the Act,
- the replacement of the components thereof;
- working capital expenses, the financing of a Debt Service Reserve Fund; and, the costs of issuing the Bonds.

# Ten Year Renewal and Replacement Plan

**RITBA Approved Ten Year Plan + Projected Additional Expenses**  
**Estimated Project Expenditure for Fiscal Year (in \$000's)**

<b>Fiscal Year</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
<b>Newport/Pell Totals</b>	\$ 52,604	\$ 30,146	\$ 37,747	\$ 17,955	\$ 17,895	\$ 13,530	\$ 9,790	\$ 6,025	\$ 1,070	\$ 15,706
<b>Mount Hope Totals</b>	\$ 8,077	\$ 8,852	\$ 4,932	\$ 4,532	\$ 8,587	\$ 8,892	\$ 4,632	\$ 417	\$ 227	\$ 523
<b>Total</b>	<u>\$ 60,681</u>	<u>\$ 38,998</u>	<u>\$ 42,679</u>	<u>\$ 22,487</u>	<u>\$ 26,482</u>	<u>\$ 22,422</u>	<u>\$ 14,422</u>	<u>\$ 6,442</u>	<u>\$ 1,297</u>	<u>\$ 16,229</u>

# Financing Plan

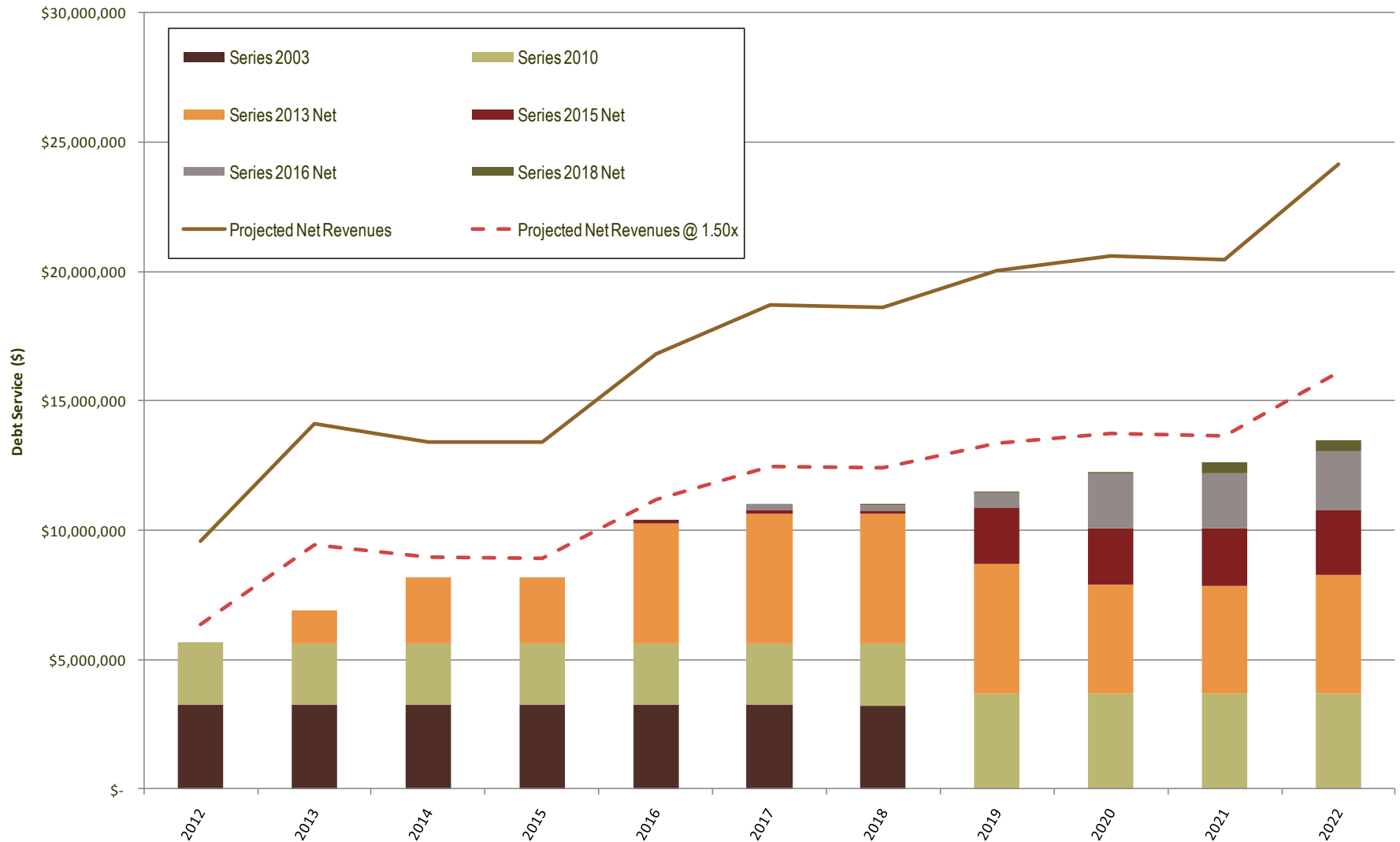
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	<u>Delivery</u>	<u>Par Amount</u>	<u>Project Amount</u>	<u>DSRF Requirement</u>	<u>Cap-I Deposit</u>
<b>Series 2003A</b>	7/31/2003	\$ 23,625,000	N/A	\$ 3,510,605	\$ -
<b>Series 2010</b>	4/8/2010	50,000,000	45,497,633	3,715,250 <sup>(1)</sup>	-
<b>Proposed Series 2012<sup>(2)</sup></b>	7/1/2012	79,160,000	65,000,000	78,551,966	4,248,350
<b>Proposed Series 2015</b>	1/1/2015	35,785,000	25,000,000	3,578,500	6,272,787
<b>Proposed Series 2016</b>	1/1/2016	34,670,000	25,000,000	3,467,000	5,299,498
<b>Proposed Series 2018</b>	7/1/2017	7,125,000	5,200,000	688,443	1,048,332

(1) Partially funded by RITBA cash.

(2) At current projected sizing, would need new legislative approval.

# Projected Finance Plan



# Debt Service Coverage

- Debt Service Coverage is equal to:

Revenues Less (Operating Expenses + Required Reserve Deposits)

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Divided by Total Net Debt Service

- Coverage Requirements:

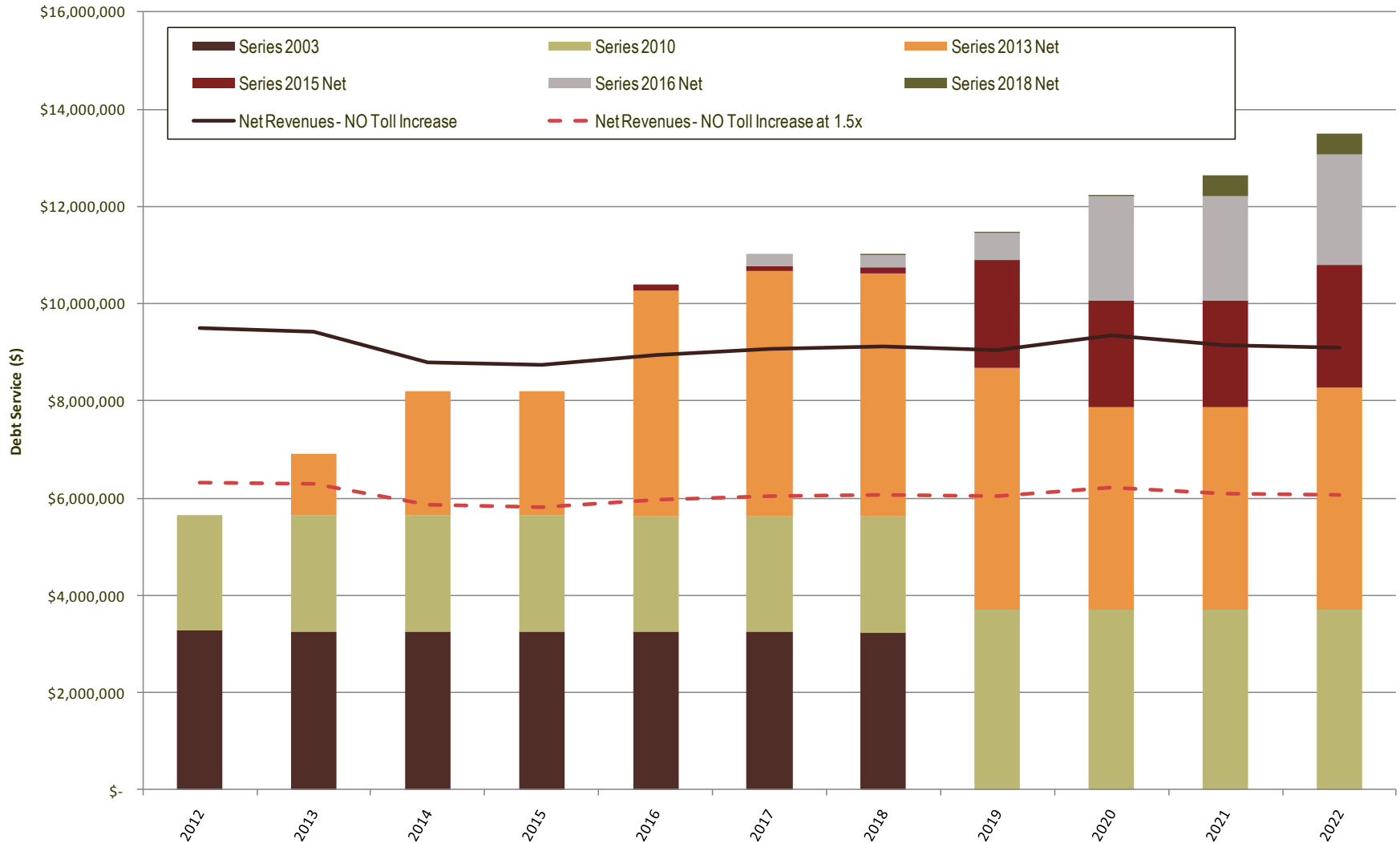
- Additional Bonds Test: 1.20 (coverage of projected MADS)
- Indenture Toll Covenant: 1.25 (coverage of current fiscal year debt service)
- Rating Level: 1.50 (coverage of current fiscal year debt service)



## Projected Coverage Without Toll Increases

Fiscal Year Ended June 30,	Projected Debt Service	NO Toll Increase	
		Net Revenues	Coverage
2012	\$ 5,654,092	\$ 9,492,604	<b>1.68x</b>
2013	6,921,367	9,426,564	<b>1.36x</b>
2014	8,193,908	8,784,482	<b>1.07x</b>
2015	8,188,394	8,737,017	<b>1.07x</b>
2016	10,388,135	8,938,484	<b>.86x</b>
2017	11,027,671	9,058,060	<b>.82x</b>
2018	10,998,878	9,112,565	<b>.83x</b>
2019	11,463,940	9,049,476	<b>.79x</b>
2020	12,210,354	9,342,571	<b>.77x</b>
2021	12,627,687	9,135,520	<b>.72x</b>
2022	13,501,652	9,090,749	<b>.67x</b>

# Projected Finance Plan Without Toll Increases



# Projected Debt Service

Fiscal Year Ended June 30,	Existing Debt Service			Proposed New Net Debt Service					Total Debt Service
	Series 2003	Series 2010	Total	Series 2013	Series 2015	Series 2016	Series 2018	Total	
2012	\$ 3,266,692	\$ 2,387,400	\$ 5,654,092	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,654,092
2013	3,259,462	2,387,400	5,646,862	1,274,505	-	-	-	1,274,505	6,921,367
2014	3,257,498	2,387,400	5,644,898	2,549,010	-	-	-	2,549,010	8,193,908
2015	3,251,984	2,387,400	5,639,384	2,549,010	-	-	-	2,549,010	8,188,394
2016	3,247,296	2,387,400	5,634,696	4,643,391	110,049	-	-	4,753,439	10,388,135
2017	3,247,536	2,387,400	5,634,936	5,027,631	110,049	255,056	-	5,392,736	11,027,671
2018	3,237,503	2,387,400	5,624,903	5,004,591	110,049	255,056	4,279	5,373,974	10,998,878
2019	-	3,708,863	3,708,863	4,978,751	2,200,978	566,791	8,558	7,755,078	11,463,940
2020	-	3,710,200	3,710,200	4,165,151	2,200,978	2,125,468	8,558	8,500,154	12,210,354
2021	-	3,708,200	3,708,200	4,165,151	2,200,978	2,125,468	427,891	8,919,487	12,627,687
2022	-	3,710,425	3,710,425	4,556,891	2,525,978	2,280,468	427,891	9,791,227	13,501,652
2023	-	3,707,425	3,707,425	4,540,011	2,535,346	2,308,012	427,891	9,811,259	13,518,684
2024	-	3,710,778	3,710,778	4,717,981	2,367,951	2,308,569	427,891	9,822,391	13,533,169
2025	-	3,709,150	3,709,150	5,423,386	2,307,711	2,298,329	666,619	10,696,044	14,405,194
2026	-	3,711,006	3,711,006	5,408,811	2,504,806	2,787,789	653,891	11,355,296	15,066,303
2027	-	3,707,081	3,707,081	5,341,191	2,485,671	2,880,059	640,833	11,347,753	15,054,835
2028	-	3,708,084	3,708,084	6,832,261	2,466,217	2,644,575	627,517	12,570,570	16,278,654
2029	-	3,712,566	3,712,566	7,237,061	2,446,444	2,588,927	613,981	12,886,412	16,598,978
2030	-	3,711,050	3,711,050	7,054,634	2,426,386	2,603,897	600,236	12,685,153	16,396,203
2031	-	3,709,294	3,709,294	6,976,291	2,561,009	2,635,439	586,284	12,759,022	16,468,316
2032	-	3,713,253	3,713,253	7,093,275	2,421,276	2,312,297	572,110	12,398,958	16,112,211
2033	-	3,712,250	3,712,250	6,878,275	2,757,596	1,995,065	557,717	12,188,652	15,900,902
2034	-	3,714,650	3,714,650	9,090,800	2,306,920	1,984,848	543,102	13,925,670	17,640,320
2035	-	3,710,194	3,710,194	9,094,568	2,685,301	1,974,495	528,280	14,282,644	17,992,837
2036	-	3,713,500	3,713,500	8,523,561	2,343,868	1,964,040	513,286	13,344,755	17,058,255
2037	-	3,715,250	3,715,250	8,800,686	1,855,440	1,953,534	498,182	13,107,841	16,823,091
2038	-	3,715,250	3,715,250	8,381,902	2,015,440	1,942,994	483,016	12,823,352	16,538,602
2039	-	3,712,125	3,712,125	7,325,714	2,200,504	1,932,437	467,814	11,926,469	15,638,594
2040	-	3,710,500	3,710,500	-	7,113,423	1,921,863	452,587	9,487,873	13,198,373
2041	-	-	-	-	6,663,856	1,911,272	437,336	9,012,464	9,012,464
2042	-	-	-	-	5,616,248	4,865,664	422,060	10,903,972	10,903,972
2043	-	-	-	-	8,198,880	4,335,040	406,772	12,940,692	12,940,692
2044	-	-	-	-	3,879,548	4,410,320	391,484	8,681,352	8,681,352
2045	-	-	-	-	-	10,615,000	371,352	10,986,352	10,986,352
2046	-	-	-	-	-	6,418,632	351,532	6,770,164	6,770,164
2047	-	-	-	-	-	-	1,116,157	1,116,157	1,116,157
<b>Total</b>	<b>\$ 22,767,969</b>	<b>\$ 98,352,894</b>	<b>\$ 121,120,863</b>	<b>\$ 157,634,481</b>	<b>\$ 81,618,897</b>	<b>\$ 81,201,403</b>	<b>\$ 14,235,104</b>	<b>\$ 334,689,885</b>	<b>\$ 455,810,748</b>