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To Rhode Island Turnpike and Bridge Authority

From Jacobs Engineering Group, Inc.

Subject RITBA Four-Bridge System Financing Options

Introduction

Jacobs Engineering Group, Inc. (Jacobs) has been working with the Rhode Island Turnpike and Bridge Authority (RITBA) to find tolling options that will produce sufficient revenues to cover its costs and debt service. While RITBA is currently responsible for two facilities – the Newport Pell and Mount Hope bridges – state law has authorized the transfer of two other bridges from the Rhode Island Department of Transportation (RIDOT) to RITBA: The Jamestown and Sakonnet River Bridges. In addition, tolling has been approved on the Sakonnet River Bridge, and is planned to be all-electronic tolling (AET), with no cash collection and no stopping to pay. The Newport Pell Bridge has been tolled since 1969, and tolls are expected to be implemented on the Sakonnet River Bridge beginning in the summer of 2013.

RITBA has estimated a cost of \$350M over the next ten years for maintenance and repairs of the four-bridge system. Of this \$350M, \$277M is considered capital costs, also known as renewal and replacement (R&R), and \$73M is considered routine maintenance costs, included under annual operations and maintenance (O&M)¹.

Of the \$277M needed to fund RITBA's capital projects for all four bridges over the next ten years, \$245.4M² is for the Newport Pell and Mt. Hope Bridges, and \$31.4M is for the Sakonnet River and Jamestown Bridges. Without the implementation of tolling on the Sakonnet River Bridge, RITBA will be unable to pay for these necessary repairs. This memorandum discusses tolling options that will be presented at RITBA's Public Workshop in April. The purpose of testing these various tolling options is to find one that will close the funding gap.

¹ This figure of \$73M is for routine maintenance only and does not include toll collection costs or administrative salaries.

² RITBA's current Ten-Year Capital Plan for Newport Pell/Mt. Hope is for \$190.5M, but that is in today's dollars, and does not include construction cost inflation. Jacobs also added \$2.8M to these estimates for a future toll system upgrade.

Jacobs worked with RITBA and First Southwest to identify funding needs, and tested various tolling scenarios to determine the O&M costs and revenues generated by each. Three of the tolling options tested are presented herein. All options include tolling on the Sakonnet River Bridge. Table 1 presents the FY 2014 tolls for each option, while the assumed toll rates for the next ten years are presented later in this memorandum.

Table 1: RITBA FY 2014 Tolling Options

	Option #1	Option #2	Option #3
Newport Pell Bridge			
Passenger Car 30-Day Unlimited E-Zpass	\$ 40.00	\$ 40.00	\$ 40.00
Passenger Cars-Cash	\$ 4.00	\$ 4.00	\$ 4.00
Passenger Cars-Out-of-State E-Zpass	\$ 4.00	\$ 4.00	\$ 4.00
Passenger Cars-RI E-Zpass	\$ 0.83	\$ 0.83	\$ 0.83
Trucks-Cash - PER AXLE	\$ 2.00	\$ 2.00	\$ 2.00
Trucks-E-ZPass - PER AXLE	\$ 2.00	\$ 2.00	\$ 2.00
Sakonnet River Bridge			
Passenger Car 30-Day Unlimited E-Zpass	\$ 40.00	\$ 36.14	N/A
Passenger Cars-Out-of-State E-Zpass	\$ 4.00	\$ 3.75	\$ 1.60
Passenger Cars-RI E-Zpass	\$ 0.83	\$ 0.75	\$ 1.60
Trucks-E-ZPass - PER AXLE	\$ 2.00	\$ 1.88	\$ 0.80
Video Surcharge - All Non-E-Zpass, <i>on top of Out-of-State toll</i>	\$ 1.50	\$ 1.50	\$ 1.50
Potential Discounts Assumed for All Options			
* All passenger cars with a RI E-Zpass pay the resident rate			
* Customers with RI E-Zpass do not pay for more than 1 trip per direction per transponder per day/24 hrs on each bridge			
* 2-Axle trucks are eligible for a \$100/month unlimited travel plan on each bridge			
* RI E-Zpass passenger cars with trailers pay the same rate per axle as passenger cars; 4-tire trucks (no dual tires) over 7,000 lbs such as landscaping trucks will also pay this lower rate			

Funding Needs

In order to determine RITBA's funding needs, Jacobs first identified the sources and uses of funds over the next ten years at current toll rates, with tolling on the Pell Bridge only. Sources of funds include:

- toll revenues,
- bonds,
- transponder sales, and
- current cash reserves,

while the funds are used to pay for:

- capital costs,
- operations and maintenance (O&M) costs, and
- debt service.

Ten-Year Capital Plan

The majority of the funding will go toward the projected 10-Year Capital Plan – as shown in Table 2- which includes \$194.4 for the Newport Pell Bridge and \$51.0M for the Mt. Hope Bridge (note that the Capital Plan put forth by RITBA in Table 2 does not include inflation and is expressed in 2012 dollars). Pell Bridge projects include the painting of the superstructure (\$57.2M in today’s dollars) and steel superstructure repairs and retrofits (\$30.4M in today’s dollars). On the Mt. Hope Bridge, capital projects include painting and steel repairs (\$13.9M in today’s dollars) and roadway deck pavement replacement (\$5.4M in today’s dollars).

Table 2: RITBA 10-Year Capital Plan (R&R) Costs, \$M

Bridge	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	10-Year Total
Newport Pell	\$ 16,991	\$ 28,896	\$ 26,900	\$ 27,747	\$ 29,697	\$ 8,097	\$ 7,423	\$ 22,884	\$ 24,231	\$ 1,491	\$ 194,355
Mt Hope	\$ 13,098	\$ 1,412	\$ 507	\$ 4,854	\$ 18,495	\$ 10,016	\$ 575	\$ 472	\$ 990	\$ 575	\$ 50,995
Jamestown	\$ 3,450	\$ 11,018	\$ 4,445	\$ 447	\$ 990	\$ 128	\$ -	\$ 506	\$ -	\$ 5,174	\$ 26,159
Sakonnet	\$ 162	\$ 366	\$ 246	\$ 422	\$ 374	\$ 495	\$ 199	\$ 479	\$ 296	\$ 2,220	\$ 5,257
TOTAL R&R	\$ 33,701	\$ 41,691	\$ 32,099	\$ 33,470	\$ 49,555	\$ 18,736	\$ 8,196	\$ 24,341	\$ 25,517	\$ 9,460	\$ 276,767

Note: Capital Plan costs include construction cost inflation

Table 3 presents a 10-year estimate of sources and uses of RITBA funds with Pell Bridge tolling at current rates, without toll increases on the Pell Bridge, and no tolls collected on the Sakonnet River Bridge. As shown in the table, \$98.4M in additional revenue is needed to cover the projected 10-year total of \$489.8 to meet the needs of the four facilities under RITBA’s authority.

Table 3: Funding Needs with Pell Bridge at Current Toll Rates, Without Sakonnet Tolling, 10-Yr Projection

Sources:	
Pell Tolls	\$ 191.8
Transponder Sales	\$ 5.6
Bonds	\$ 194.0
TOTAL Sources	\$ 391.3
Uses:	
Pell/Mt Hope O+M	\$ 71.4
Jamestown O+M	\$ 13.1
Sakonnet O+M	\$ 6.7
Debt Service	\$ 121.8
Newport R+R	\$ 194.4
Mt Hope R+R	\$ 51.0
Jamestown R+R	\$ 26.2
Sakonnet R+R	\$ 5.3
TOTAL Uses	\$ 489.8
Sources minus Uses (NEEDS):	\$ (98.4)

RITBA would have a future funding gap Independent of the transfer of the Sakonnet River Bridge and Jamestown-Verrazzano Bridge to them. There are several reasons for the funding gap. Besides the normal aging of the bridge structures, costs have increased over time due to inflation while the toll rates for the majority of the customers have not. The original 1969 Pell cash and token rates of \$1.00 and \$2.00 would translate to more than \$6.00 and \$12.00 today, respectively, if toll rates had kept pace with inflation. In the past, it was possible to avoid dealing with this issue because steady traffic growth produced year-to-year increases in revenue. However, beginning in 2004, traffic volumes on the Newport Pell Bridge have generally been flat to declining. This is not an issue that is specific to RITBA; nationwide traffic patterns have also followed this trend. While the recent economic recession certainly exacerbated the trend, traffic was on the decline *before* this occurred. Research studies indicate that the aging of the Baby Boomer population - which has begun to retire and drive less – is the main culprit. Another reason is the widespread growth in high-speed internet availability which occurred in the mid-00s, rendering many social, work, and shopping trips unnecessary.

Tolling the Sakonnet River Bridge

Each of the tolling options under consideration involves tolling the Sakonnet River Bridge. A conventional toll plaza is not being considered at the Sakonnet River Bridge; instead, tolling would be all-electronic (AET). AET, which does not involve stopping or slowing down to pay a toll, does not have any toll booths, toll collectors, or gates (see Figure 1). Instead, tolls are collected through E-ZPass from

customers who pass underneath a toll gantry with transponders in their vehicles. For vehicles without E-ZPass, cameras on the toll gantry will identify the license plate of such vehicles and an invoice for the toll will be sent to the vehicle's owner. AET is currently in use on about ten toll facilities throughout the country, and is being studied at numerous other locations.

Figure 1: Example of an AET Toll Collection Point



AET offers the advantage of non-stop toll payment, and does not cause traffic delays or congestion. However, toll collection can be more complex than with conventional tolling, since video toll customers must be identified by their license plate, located, and mailed invoices. Also, there is expected to be a certain percentage of video customers that cannot be billed due to limitations of the video images or the inability to obtain a valid address through a customer's state DMV. These limitations are typically offset by adding a surcharge to the video toll rate, and charging fees for late payments.

There will be an additional capital cost of tolling the Sakonnet River Bridge, since it will require construction of an overhead gantry and installation of toll system equipment in FY 2013. From Jacobs' experience on other AET facilities, we have determined that the capital cost of an AET collection point at the Sakonnet River Bridge is about \$2.3M, as broken down in Table 4.

Table 4: Capital Cost Estimate for Sakonnet River Bridge Toll Plaza – AET Collection

Cost Component	Cost (\$000s)
AET Software	\$600
AET Hardware	\$869.2
AET Support Structures and Signing	\$200
Sub-total (Design Costs)	\$1,669.2
Civil and Installation Work	\$253.8
Testing and Documentation	\$158.7
Project Management	\$104.1
Sub-Total (Implementation Costs)	\$516.6
Spare Parts	\$63.5
Training	\$25
Sub-Total (Other Costs)	\$88.5
Grand Total	\$2,274.2

Tolling Options to Close Funding Gap

Toll Rate Assumptions

Jacobs tested various tolling options to determine the tolls necessary to cover RITBA’s costs with the four-bridge system. It is assumed that Sakonnet River Bridge tolling will begin in July 2013 – the beginning of FY 2014. In order to keep up with future costs and low projected long-term traffic growth, periodic toll rate increases would typically be necessary. The three tolling options are presented in Table 5 for the next ten years. As shown in the table, Option 1 assumes similar tolls on both bridges with no toll increases. Options 2 and 3 have increases on the Pell Bridge annually beginning in FY 2020, and increases on the Sakonnet River Bridge annually beginning in FY 2016, all at 2.5%, the assumed rate of inflation.

Table 5: RITBA Tolling Options, Assumed Future Rates

Option #1: Both Bridges at \$4.00/\$0.83 with No Toll Increases

Newport Pell Bridge	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Passenger Car 30-Day Unlimited E-Zpass	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00
Passenger Cars-Cash	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00
Passenger Cars-Out-of-State E-Zpass	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00
Passenger Cars-RI E-Zpass	\$ 0.83	\$ 0.83	\$ 0.83	\$ 0.83	\$ 0.83	\$ 0.83	\$ 0.83	\$ 0.83	\$ 0.83	\$ 0.83
Trucks-Cash - PER AXLE	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.00
Trucks-E-ZPass - PER AXLE	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.00

Sakonnet River Bridge	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Passenger Car 30-Day Unlimited E-Zpass	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00
Passenger Cars-Out-of-State E-Zpass	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00
Passenger Cars-RI E-Zpass	\$ 0.83	\$ 0.83	\$ 0.83	\$ 0.83	\$ 0.83	\$ 0.83	\$ 0.83	\$ 0.83	\$ 0.83	\$ 0.83
Trucks-E-ZPass - PER AXLE	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.00
Video Surcharge - All Non-E-Zpass, on top of Out-of-State toll	\$ 1.50	\$ 1.50	\$ 1.50	\$ 1.50	\$ 1.50	\$ 1.50	\$ 1.50	\$ 1.50	\$ 1.50	\$ 1.50

Option #2: Pell at \$4.00/\$0.83 until 2020, Sakonnet at \$3.75 (Non-RI E-Zpass)/\$0.75 (RI E-Zpass)

Newport Pell Bridge	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Passenger Car 30-Day Unlimited E-Zpass	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 41.00	\$ 42.03	\$ 43.08	\$ 44.15
Passenger Cars-Cash	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.25	\$ 4.25	\$ 4.50	\$ 4.50
Passenger Cars-Out-of-State E-Zpass	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.10	\$ 4.20	\$ 4.31	\$ 4.42
Passenger Cars-RI E-Zpass	\$ 0.83	\$ 0.83	\$ 0.83	\$ 0.83	\$ 0.83	\$ 0.83	\$ 0.85	\$ 0.87	\$ 0.89	\$ 0.92
Trucks-Cash - PER AXLE	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.25	\$ 2.25	\$ 2.25	\$ 2.25
Trucks-E-ZPass - PER AXLE	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.05	\$ 2.10	\$ 2.15	\$ 2.21

Sakonnet River Bridge	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Passenger Car 30-Day Unlimited E-Zpass	\$ 36.14	\$ 36.14	\$ 37.05	\$ 37.97	\$ 38.92	\$ 39.90	\$ 40.89	\$ 41.92	\$ 42.96	\$ 44.04
Passenger Cars-Out-of-State E-Zpass	\$ 3.75	\$ 3.75	\$ 3.84	\$ 3.94	\$ 4.04	\$ 4.14	\$ 4.24	\$ 4.35	\$ 4.46	\$ 4.57
Passenger Cars-RI E-Zpass	\$ 0.75	\$ 0.75	\$ 0.77	\$ 0.79	\$ 0.81	\$ 0.83	\$ 0.85	\$ 0.87	\$ 0.89	\$ 0.91
Trucks-E-ZPass - PER AXLE	\$ 1.88	\$ 1.88	\$ 1.92	\$ 1.97	\$ 2.02	\$ 2.07	\$ 2.12	\$ 2.17	\$ 2.23	\$ 2.28
Video Surcharge - All Non-E-Zpass, on top of Out-of-State toll	\$ 1.50	\$ 1.50	\$ 1.50	\$ 1.50	\$ 1.50	\$ 1.50	\$ 1.50	\$ 1.50	\$ 1.50	\$ 1.50

Option #3: Pell at \$4.00/\$0.83 until 2020, Sakonnet has \$1.60 toll for all E-Zpass customers

Newport Pell Bridge	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Passenger Car 30-Day Unlimited E-Zpass	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 41.00	\$ 42.03	\$ 43.08	\$ 44.15
Passenger Cars-Cash	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.25	\$ 4.25	\$ 4.50	\$ 4.50
Passenger Cars-Out-of-State E-Zpass	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.10	\$ 4.20	\$ 4.31	\$ 4.42
Passenger Cars-RI E-Zpass	\$ 0.83	\$ 0.83	\$ 0.83	\$ 0.83	\$ 0.83	\$ 0.83	\$ 0.85	\$ 0.87	\$ 0.89	\$ 0.92
Trucks-Cash - PER AXLE	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.25	\$ 2.25	\$ 2.25	\$ 2.25
Trucks-E-ZPass - PER AXLE	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.05	\$ 2.10	\$ 2.15	\$ 2.21

Sakonnet River Bridge	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Passenger Cars-Out-of-State E-Zpass	\$ 1.60	\$ 1.64	\$ 1.68	\$ 1.72	\$ 1.77	\$ 1.81	\$ 1.86	\$ 1.90	\$ 1.95	\$ 2.00
Passenger Cars-RI E-Zpass	\$ 1.60	\$ 1.64	\$ 1.68	\$ 1.72	\$ 1.77	\$ 1.81	\$ 1.86	\$ 1.90	\$ 1.95	\$ 2.00
Trucks-E-ZPass - PER AXLE	\$ 0.80	\$ 0.82	\$ 0.84	\$ 0.86	\$ 0.88	\$ 0.91	\$ 0.93	\$ 0.95	\$ 0.97	\$ 1.00
Video Surcharge - All Non-E-Zpass, on top of Out-of-State toll	\$ 1.50	\$ 1.50	\$ 1.50	\$ 1.50	\$ 1.50	\$ 1.50	\$ 1.50	\$ 1.50	\$ 1.50	\$ 1.50

Details of each tolling option are as follows:

- Option #1 keeps the Pell Bridge toll rates at \$4.00 (cash/out-of-state E-ZPass) and \$0.83 (RI E-ZPass). Sakonnet rates are the same as Pell for this alternative, also without increases.
- Option #2 keeps the Pell Bridge at a \$4.00 rate for cash and undiscounted E-ZPass, and charges a \$3.75 undiscounted E-ZPass toll and a \$0.75 discounted E-ZPass toll at the Sakonnet Bridge. Pell Bridge E-ZPass tolls are increased every year starting in FY 2020 at 2.5%, the assumed rate of inflation, while cash tolls are increased in increments of \$0.25. Sakonnet River Bridge tolls are increased every year by 2.5% starting in FY 2016.
- Option #3 has the same Pell rates and toll increases assumed in the second option. Sakonnet charges \$1.60 for all E-ZPass transactions, a rate that is expected to produce 10-year revenues similar to Option #1, with 2.5% annual increases beginning in FY 2016.
- Some toll rate assumptions apply to *all* the options:
 - Sakonnet River Bridge customers without an E-ZPass will be identified through video license plate recognition and be sent a bill. These customers will pay a video toll surcharge of \$1.50 per transaction above the out-of-state E-ZPass toll rate.
 - Several new discount plans are considered in these options:
 - What is currently known as the “Resident Rate” will now apply to all passenger cars - as long as they have a RI E-ZPass. This will make it unnecessary to continue the current 6-Trip Plan, but the Unlimited Monthly plan will remain for Options #1 and #2.
 - Passenger cars with a RI E-ZPass do not pay for more than one trip per direction per bridge (per transponder) in one day or 24-hour period
 - 2-Axle trucks are eligible to sign up for a \$100/month unlimited travel plan. It is assumed there will be a separate plan on each bridge
 - RI E-ZPass passenger cars with trailers pay the same rate per axle as passenger cars without trailers. Four-tire trucks (no dual tires) over 7,000 lbs such as landscaping trucks will also pay the RI E-ZPass passenger car rate.

Late Fee Assumptions

For all options it is also assumed that there will be late fees charged to Sakonnet River Bridge video toll customers who do not pay on time. If an invoice is not paid within 30 days, a late fee - in an amount equal to the toll plus video surcharge - will be charged per transaction on the second invoice. So, for instance, with Toll Option #2, a video toll customer is charged \$3.75 + \$1.50 = \$5.25 per crossing on their first invoice. If this is not paid within 30 days, the customer is charged a late fee of \$5.25 on their second invoice, on top of their toll, for a total \$10.50 per crossing.

This late fee doubles on the third invoice. Using the previous example, if the second invoice is not paid, the customer is charged a late fee of \$10.50 on their third invoice. This is on top of the \$5.25 toll. The total amount due on the third invoice would be \$15.75 per crossing.

While some forgiveness of late fees has been assumed in Jacobs' forecasts for the first two years of operation, it is expected that by FY 2016 11.9 percent of video tolls plus late fees will be paid on the 2nd invoice and 2.0 percent will be paid on the 3rd invoice.

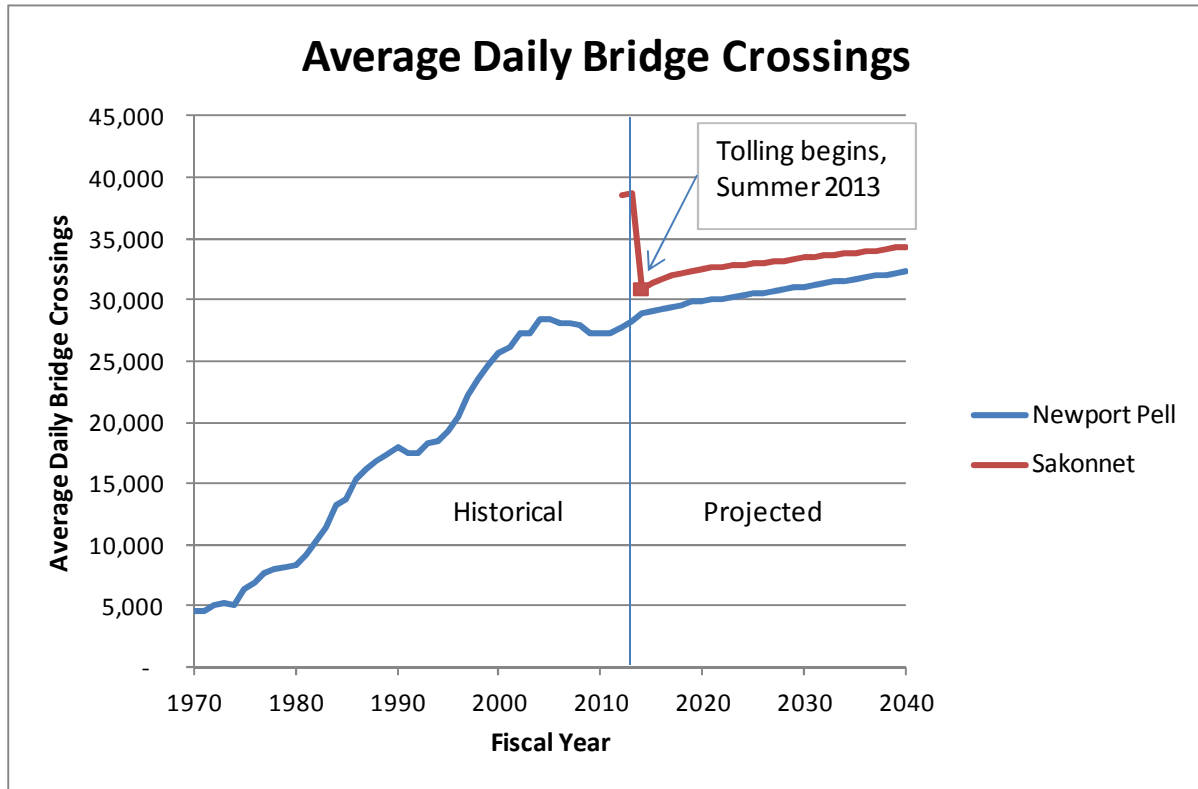
Traffic Estimates

Currently, traffic on the Newport Pell Bridge averages about 28,000 vehicles per day. Sakonnet River Bridge traffic averages about 39,000 vehicles a day; however, with tolling, about 21 percent of traffic is expected to no longer use the Sakonnet River Bridge. Of these trips, some will no longer be made, some will divert to the Mt. Hope Bridge, some will become carpools, and a small number will use the Newport Pell Bridge instead.

Jacobs estimated background traffic growth (i.e., growth without toll increases) by correlating historical Pell Bridge car and truck traffic growth to gross domestic product (GDP) and industrial production index (IPI), respectively, and applying these correlations to consensus forecasts of future GDP and IPI as presented in the *Blue Chip Economic Indicators*. Overall background traffic growth is estimated at about 0.5 to 0.7 percent a year. Since toll increases are assumed to be small – only 2.5 percent – there is almost no associated traffic loss with each subsequent toll increase.

Figure 2 shows Jacobs' estimates of future traffic on the Newport Pell and Sakonnet River Bridges with Option 2 tolls.

Figure 2: Historical and Future Traffic Estimates, Newport Pell Bridge and Sakonnet River Bridge



Gross Revenue Estimates

Toll and Fee Revenues

Table 6 presents Jacobs’ estimates of gross toll revenues and late fees revenues through 2042 for the three tolling options. Revenues resulting from transponder sales are also shown. Customers are charged \$20.95 for a new transponder, which currently has a life span of about eight to nine years. For the Sakonnet River Bridge, toll revenue leakage associated with bad video images, customers who cannot be reached, etc., were estimated from data from other AET facilities, and have been considered in the projections.

While Options 2 and 3 produce similar results (Option 3 rates were selected because they produce the same revenue as Option 2 for the first 10 years), Option 1 revenues are well below the other two options from the middle to later years of the forecast, because no toll increases are assumed.

Table 6: Gross Annual Revenues from Tolls, Fees, and Transponder Sales, in Millions

FY	OPTION 1					OPTION 2					OPTION 3				
	Pell Tolls	Sakonnet		Transponder Sales	TOTAL	Pell Tolls	Sakonnet		Transponder Sales	TOTAL	Pell Tolls	Sakonnet		Transponder Sales	TOTAL
		Tolls	Late Fees				Tolls	Late Fees				Tolls	Late Fees		
2013	\$18.3	\$ -	\$ -	\$ 0.4	\$18.7	\$18.3	\$ -	\$ -	\$ 0.4	\$18.7	\$18.3	\$ -	\$ -	\$ 0.4	\$18.7
2014	\$17.2	\$21.7	\$ 1.2	\$ 0.8	\$40.9	\$17.2	\$20.5	\$ 1.1	\$ 0.8	\$39.6	\$17.2	\$19.4	\$ 0.8	\$ 0.8	\$38.2
2015	\$17.1	\$20.5	\$ 1.4	\$ 0.7	\$39.8	\$17.1	\$19.4	\$ 1.4	\$ 0.7	\$38.6	\$17.1	\$19.1	\$ 0.9	\$ 0.7	\$37.8
2016	\$17.1	\$19.9	\$ 1.6	\$ 0.4	\$39.0	\$17.1	\$19.1	\$ 1.5	\$ 0.4	\$38.2	\$17.1	\$19.3	\$ 1.0	\$ 0.4	\$37.9
2017	\$17.2	\$19.4	\$ 1.4	\$ 1.6	\$39.7	\$17.2	\$19.0	\$ 1.4	\$ 1.6	\$39.2	\$17.2	\$19.6	\$ 0.9	\$ 1.6	\$39.4
2018	\$17.3	\$19.3	\$ 1.3	\$ 1.0	\$38.9	\$17.3	\$19.2	\$ 1.3	\$ 1.0	\$38.9	\$17.3	\$20.1	\$ 0.9	\$ 1.0	\$39.3
2019	\$17.4	\$19.2	\$ 1.2	\$ 0.7	\$38.6	\$17.4	\$19.5	\$ 1.3	\$ 0.7	\$39.0	\$17.4	\$20.6	\$ 0.9	\$ 0.7	\$39.6
2020	\$17.5	\$19.2	\$ 1.2	\$ 0.7	\$38.7	\$18.1	\$19.9	\$ 1.2	\$ 0.7	\$40.0	\$18.1	\$21.1	\$ 0.9	\$ 0.7	\$40.7
2021	\$17.6	\$19.3	\$ 1.2	\$ 0.3	\$38.4	\$18.5	\$20.5	\$ 1.3	\$ 0.3	\$40.5	\$18.5	\$21.6	\$ 0.9	\$ 0.3	\$41.3
2022	\$17.8	\$19.4	\$ 1.2	\$ 0.6	\$39.0	\$19.2	\$21.0	\$ 1.3	\$ 0.6	\$42.1	\$19.2	\$22.2	\$ 0.9	\$ 0.6	\$42.8
2023	\$17.9	\$19.5	\$ 1.2	\$ 1.5	\$40.1	\$19.7	\$21.5	\$ 1.3	\$ 1.5	\$44.0	\$19.7	\$22.7	\$ 0.9	\$ 1.5	\$44.8
2024	\$18.0	\$19.6	\$ 1.2	\$ 0.9	\$39.7	\$20.4	\$22.1	\$ 1.3	\$ 0.9	\$44.7	\$20.4	\$23.3	\$ 0.9	\$ 0.9	\$45.5
2025	\$18.1	\$19.7	\$ 1.2	\$ 0.6	\$39.6	\$20.9	\$22.6	\$ 1.4	\$ 0.6	\$45.5	\$20.9	\$23.9	\$ 0.9	\$ 0.6	\$46.3
2026	\$18.2	\$19.8	\$ 1.2	\$ 1.8	\$41.0	\$21.7	\$23.2	\$ 1.4	\$ 1.8	\$48.1	\$21.7	\$24.5	\$ 1.0	\$ 1.8	\$48.9
2027	\$18.3	\$19.9	\$ 1.2	\$ 1.2	\$40.6	\$22.2	\$23.8	\$ 1.4	\$ 1.2	\$48.6	\$22.2	\$25.2	\$ 1.0	\$ 1.2	\$49.5
2028	\$18.4	\$20.0	\$ 1.2	\$ 0.9	\$40.5	\$22.7	\$24.4	\$ 1.5	\$ 0.9	\$49.4	\$22.7	\$25.8	\$ 1.0	\$ 0.9	\$50.4
2029	\$18.5	\$20.1	\$ 1.2	\$ 0.9	\$40.7	\$23.5	\$25.0	\$ 1.5	\$ 0.9	\$50.8	\$23.5	\$26.5	\$ 1.0	\$ 0.9	\$51.8
2030	\$18.6	\$20.2	\$ 1.3	\$ 0.4	\$40.5	\$24.0	\$25.7	\$ 1.5	\$ 0.4	\$51.6	\$24.0	\$27.2	\$ 1.0	\$ 0.4	\$52.6
2031	\$18.7	\$20.3	\$ 1.3	\$ 0.7	\$41.0	\$24.8	\$26.3	\$ 1.6	\$ 0.7	\$53.5	\$24.8	\$27.9	\$ 1.0	\$ 0.7	\$54.5
2032	\$18.8	\$20.4	\$ 1.3	\$ 1.7	\$42.1	\$25.7	\$27.0	\$ 1.6	\$ 1.7	\$56.0	\$25.7	\$28.6	\$ 1.1	\$ 1.7	\$57.0
2033	\$18.9	\$20.5	\$ 1.3	\$ 1.0	\$41.7	\$26.3	\$27.7	\$ 1.6	\$ 1.0	\$56.7	\$26.3	\$29.4	\$ 1.1	\$ 1.0	\$57.8
2034	\$19.0	\$20.6	\$ 1.3	\$ 0.8	\$41.7	\$27.2	\$28.4	\$ 1.7	\$ 0.8	\$58.0	\$27.2	\$30.1	\$ 1.1	\$ 0.8	\$59.2
2035	\$19.1	\$20.7	\$ 1.3	\$ 2.0	\$43.1	\$27.8	\$29.1	\$ 1.7	\$ 2.0	\$60.6	\$27.8	\$30.9	\$ 1.1	\$ 2.0	\$61.8
2036	\$19.2	\$20.8	\$ 1.3	\$ 1.4	\$42.7	\$28.7	\$29.9	\$ 1.7	\$ 1.4	\$61.7	\$28.7	\$31.7	\$ 1.1	\$ 1.4	\$63.0
2037	\$19.3	\$20.9	\$ 1.3	\$ 1.1	\$42.6	\$29.4	\$30.7	\$ 1.8	\$ 1.1	\$62.9	\$29.4	\$32.6	\$ 1.2	\$ 1.1	\$64.2
2038	\$19.4	\$21.0	\$ 1.3	\$ 1.0	\$42.8	\$30.3	\$31.5	\$ 1.8	\$ 1.0	\$64.7	\$30.3	\$33.4	\$ 1.2	\$ 1.0	\$66.0
2039	\$19.5	\$21.1	\$ 1.3	\$ 0.6	\$42.6	\$31.3	\$32.3	\$ 1.9	\$ 0.6	\$66.1	\$31.3	\$34.3	\$ 1.2	\$ 0.6	\$67.4
2040	\$19.6	\$21.2	\$ 1.3	\$ 0.9	\$43.1	\$32.4	\$33.1	\$ 1.9	\$ 0.9	\$68.3	\$32.4	\$35.2	\$ 1.2	\$ 0.9	\$69.7
2041	\$19.7	\$21.3	\$ 1.3	\$ 1.8	\$44.3	\$33.5	\$34.0	\$ 1.9	\$ 1.8	\$71.2	\$33.5	\$36.1	\$ 1.2	\$ 1.8	\$72.7
2042	\$19.8	\$21.5	\$ 1.3	\$ 1.2	\$43.8	\$34.6	\$34.8	\$ 2.0	\$ 1.2	\$72.6	\$34.6	\$37.1	\$ 1.3	\$ 1.2	\$74.2

As the table shows, Pell Bridge toll revenue declines by more than \$1M from FY 2013 to FY 2014. This is due to the effects of the proposed new discounts, as discussed in this next section. Sakonnet toll revenues also experience an initial decline, as many people who initially pay by video will switch over to the less-expensive E-ZPass.

Effects of Potential Discount Plans on Gross Revenues

The effects of the potential discount plans have been included in the toll revenues shown previously in Table 6. Table 7 is a sample of the effects of the proposed new discounts, for one year (FY 16) and one tolling option (Option 2), broken down by toll bridge and discount type. The effects will vary by year and by tolling option.

**Table 7: Sample Effects of Potential New Discounts
Option 2, FY 2016, in \$M**

Facility	1-Trip Cap per direction per bridge, RI E-Z Cars	RI E-Z Cars w/trailers and Certain CL 2s pay RES cost/axle	\$100/mo UNL Plan offered to all CL2 Trucks	Charge all Cars with RI E-ZPass the RES rate	Total Toll Revenue Loss*
Pell	\$ 0.44	\$ 0.08	\$ 0.10	\$ 1.08	\$ 1.71
Sakonnet	\$ 0.43	\$ 0.13	\$ 0.14	\$ 2.44	\$ 3.14
Total	\$ 0.87	\$ 0.21	\$ 0.24	\$ 3.52	\$ 4.85

*Revenue loss due to proposed discounts was included in Table 6

Capping the number of paid trips to one per direction per bridge has a greater effect on revenues, running close to a loss of \$870,000 per year on both bridges in Option 2.

Charging RI E-ZPass passenger cars with trailers the same rate per axle as passenger cars without trailers, and charging four-tire trucks over 7,000 lbs – including those pulling trailers – this same rate, will have a minimal effect on toll revenues of some \$210,000 annually. Similarly, offering a \$100/month plan to Class 2 trucks has a minimal effect, reducing revenues by some \$240,000.

Of all the discounts included in the analysis, giving all cars with RI E-ZPass the Resident Rate has the greatest negative effect on revenues. It will spur some people to get a RI E-ZPass, and increase the E-ZPass market share. The impact is more significant at Sakonnet because current E-ZPass penetration is much lower than on the Pell Bridge, plus Sakonnet has more out-of-staters than Pell, and therefore more people who would benefit would switch over to the RI transponder. This new discount is expected to incur a revenue loss of more than a \$3.5 million with Option 2.

It should be noted that other discount plans have been under consideration, but have *not been included* in these tolling option analyses, such as: extending the 6-Trip Plan to 90 days, making Unlimited and 6-Trip plans cover both bridges, developing a mobile phone app that gives diners in local restaurants a reduced rate, reducing rates or giving free passage to school buses, and allowing pre-registration for video toll payers to reduce their toll surcharge. It is possible that one or more of these plans may be considered at a later date, however, the discounts that were chosen for Options 1-3 would apply to the same customers as some of the plans analyzed.

Transponder Sales

Revenues from the sale of RI E-ZPass transponders have also been included in Table 6. Interior transponders are sold by RITBA for \$20.95, while a small share of exterior transponders are sold for \$33.04. As a promotion, for a limited time RITBA is planning to give transponders for free to new customers who open an account with \$25 in it. Jacobs has estimated that some 20,000 transponders would be given away for free, with another 40,000 sold at full price in the coming year to both Sakonnet and Pell Bridge customers. This number would decrease over time as E-ZPass ramps up, but there are occasional “bumps” in the transponder sales forecasts where replacement tags are purchased. An E-ZPass transponder’s life span is about 8 to 9 years.

Operation and Maintenance Costs*Newport Pell Bridge / Mt. Hope Bridge*

Jacobs and RITBA staff worked closely together to identify, evaluate, and forecast operations and maintenance costs (O&M) for Newport Pell and Mt. Hope Bridges. The forecast was developed by first approximating the cost for each item in FY 2013. Cost escalation factors were derived and applied individually to the various cost elements to determine the future O&M. The primary data source was RITBA’s FY 2013 budget, supplemented by data from RITBA CSC Operations Reports, Xerox (ACS)’s existing contract costs for E-ZPass services, CS ITS America’s future contract costs for E-ZPass and violations processing services as well as Jacobs’ estimates for future E-ZPass accounts, transponders, transactions and additional RITBA back office staff.

The O&M costs for RITBA’s two current bridges included the following elements:

- Personnel Services costs, which consists of payroll, benefits, and payroll taxes. Staffing costs were increased to account for additional staff that would be needed for the E-ZPass back office operations and image review when the back office operation is transitioned from Xerox (ACS) to RITBA .
- Insurance costs.
- Building maintenance and utilities costs as well as safety and security costs
- Contingency reserve
- “Other” O&M costs including marketing, dues and subscriptions, and travel and meetings
- E-ZPass back office and transaction processing costs which include E-ZPass toll collection, back office staffing, toll system maintenance, postage, credit card fees and transponder costs.

- Transponder costs
- E-ZPass toll collection costs

Sakonnet River Bridge / Jamestown-Verrazzano Bridge

When the Sakonnet River Bridge is tolled, it will be operated and maintained under the authority of RITBA. The proposed transfer of the Jamestown-Verrazzano Bridge to RITBA will be finalized at the same time as the Sakonnet River Bridge, before Sakonnet tolling begins. For this financial analysis these two bridges were not treated as a separate entity with its own staff, instead, Jacobs treated the Sakonnet and Jamestown O&M costs as *additional* costs to RITBA for the operation and maintenance of the two additional bridges, including operational costs related to tolling the Sakonnet River Bridge. Jacobs worked with RITBA to determine these future costs, and also received forecasts of bridge maintenance costs from RIDOT which were escalated in future years to account for assumed increases in construction costs. The following assumptions were used in preparing O&M estimates for the Sakonnet River and Jamestown-Verrazzano Bridges:

- Additional in-house staff needed for managing new E-ZPass accounts and processing video images
- Sakonnet video toll collections costs, which will be contracted out to a third party video toll collections firm. This firm will be in charge of finding, invoicing, and collecting from the video toll customers. While a contract is not yet in place for this task, in discussions with RITBA it was assumed that, of amounts collected, \$1.50 per video transaction and 50 percent of late fee revenues would be paid to this third party.
- Future postage, credit card fees and transponder costs due to the tolling of the Sakonnet River Bridge.
- Sakonnet toll system maintenance costs
- Routine bridge maintenance costs for the two bridges, as received from RIDOT. These bridge maintenance costs include landscaping, maintenance personnel, electricity, and cleaning
- Insurance costs for the two bridges

Table 8 presents the future RITBA O&M cost estimates for the current and future RITBA facilities, for the three toll options analyzed. As the table shows, there is little difference among the alternatives due primarily to changes to the toll collection costs based upon each alternative.

Table 8: Operations and Maintenance Estimates, in Millions

FY	OPTION 1			OPTION 2			OPTION 3		
	Pell & Mt Hope	Add'l for Sakonnet & Jamestown	TOTAL	Pell & Mt Hope	Add'l for Sakonnet & Jamestown	TOTAL	Pell & Mt Hope	Add'l for Sakonnet & Jamestown	TOTAL
2013	\$ 6.3	\$ -	\$ 6.3	\$ 6.3	\$ -	\$ 6.3	\$ 6.3	\$ -	\$ 6.3
2014	\$ 6.1	\$ 6.3	\$ 12.4	\$ 6.1	\$ 6.3	\$ 12.4	\$ 6.1	\$ 6.6	\$ 12.7
2015	\$ 6.3	\$ 5.7	\$ 12.0	\$ 6.3	\$ 5.7	\$ 12.0	\$ 6.3	\$ 5.8	\$ 12.1
2016	\$ 6.5	\$ 4.7	\$ 11.2	\$ 6.5	\$ 4.7	\$ 11.2	\$ 6.5	\$ 4.7	\$ 11.2
2017	\$ 7.2	\$ 5.1	\$ 12.2	\$ 7.2	\$ 5.1	\$ 12.2	\$ 7.2	\$ 5.2	\$ 12.3
2018	\$ 7.2	\$ 5.1	\$ 12.3	\$ 7.2	\$ 5.1	\$ 12.3	\$ 7.2	\$ 5.2	\$ 12.4
2019	\$ 7.2	\$ 5.0	\$ 12.3	\$ 7.2	\$ 5.1	\$ 12.3	\$ 7.2	\$ 5.2	\$ 12.4
2020	\$ 7.5	\$ 4.1	\$ 11.6	\$ 7.5	\$ 4.1	\$ 11.6	\$ 7.5	\$ 4.3	\$ 11.7
2021	\$ 7.5	\$ 5.0	\$ 12.5	\$ 7.5	\$ 5.0	\$ 12.5	\$ 7.5	\$ 5.1	\$ 12.6
2022	\$ 7.9	\$ 4.2	\$ 12.1	\$ 7.9	\$ 4.3	\$ 12.1	\$ 7.9	\$ 4.4	\$ 12.3
2023	\$ 8.1	\$ 7.1	\$ 15.2	\$ 8.1	\$ 7.1	\$ 15.2	\$ 8.1	\$ 7.3	\$ 15.4
2024	\$ 8.3	\$ 4.7	\$ 13.0	\$ 8.3	\$ 4.7	\$ 13.1	\$ 8.3	\$ 4.8	\$ 13.2
2025	\$ 8.5	\$ 5.4	\$ 13.9	\$ 8.5	\$ 5.5	\$ 14.0	\$ 8.5	\$ 5.6	\$ 14.1
2026	\$ 9.3	\$ 4.6	\$ 14.0	\$ 9.3	\$ 4.7	\$ 14.0	\$ 9.3	\$ 4.8	\$ 14.1
2027	\$ 9.3	\$ 5.5	\$ 14.9	\$ 9.3	\$ 5.6	\$ 14.9	\$ 9.3	\$ 5.7	\$ 15.0
2028	\$ 9.5	\$ 5.0	\$ 14.5	\$ 9.5	\$ 5.1	\$ 14.6	\$ 9.5	\$ 5.2	\$ 14.7
2029	\$ 9.8	\$ 5.9	\$ 15.6	\$ 9.8	\$ 6.0	\$ 15.7	\$ 9.8	\$ 6.0	\$ 15.8
2030	\$ 9.9	\$ 4.7	\$ 14.6	\$ 9.9	\$ 4.8	\$ 14.7	\$ 9.9	\$ 4.9	\$ 14.8
2031	\$ 10.3	\$ 5.9	\$ 16.3	\$ 10.3	\$ 6.0	\$ 16.3	\$ 10.3	\$ 6.1	\$ 16.4
2032	\$ 10.6	\$ 5.2	\$ 15.8	\$ 10.6	\$ 5.3	\$ 16.0	\$ 10.6	\$ 5.4	\$ 16.0
2033	\$ 10.9	\$ 7.3	\$ 18.3	\$ 10.9	\$ 7.4	\$ 18.4	\$ 10.9	\$ 7.5	\$ 18.5
2034	\$ 11.2	\$ 5.4	\$ 16.6	\$ 11.2	\$ 5.5	\$ 16.8	\$ 11.2	\$ 5.6	\$ 16.8
2035	\$ 12.1	\$ 6.5	\$ 18.5	\$ 12.1	\$ 6.6	\$ 18.7	\$ 12.1	\$ 6.6	\$ 18.7
2036	\$ 12.2	\$ 5.2	\$ 17.4	\$ 12.2	\$ 5.3	\$ 17.5	\$ 12.2	\$ 5.3	\$ 17.6
2037	\$ 12.5	\$ 6.6	\$ 19.1	\$ 12.5	\$ 6.8	\$ 19.2	\$ 12.5	\$ 6.8	\$ 19.3
2038	\$ 12.8	\$ 6.0	\$ 18.8	\$ 12.8	\$ 6.2	\$ 19.0	\$ 12.8	\$ 6.2	\$ 19.0
2039	\$ 13.1	\$ 7.0	\$ 20.1	\$ 13.1	\$ 7.2	\$ 20.3	\$ 13.1	\$ 7.2	\$ 20.3
2040	\$ 13.6	\$ 5.5	\$ 19.1	\$ 13.6	\$ 5.7	\$ 19.3	\$ 13.6	\$ 5.7	\$ 19.3
2041	\$ 14.0	\$ 7.4	\$ 21.4	\$ 14.0	\$ 7.6	\$ 21.6	\$ 14.0	\$ 7.6	\$ 21.7
2042	\$ 14.4	\$ 5.8	\$ 20.2	\$ 14.4	\$ 6.0	\$ 20.4	\$ 14.4	\$ 6.0	\$ 20.4

Table 9 displays both the gross revenues and O&M costs for the three tolling options for each bridge.

Table 9: Revenues and O+M for Each Toll Option by Facility, \$000s

Toll Option #1: Both Pell and Sakonnet at \$4.00(Non-RI E-Zpass)/\$0.83 (RI E-Zpass); no increases

REVENUES	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	TOTAL
Newport	17,536	17,441	17,360	18,668	18,231	18,044	18,133	17,828	18,266	18,344	179,849
Sakonnet	23,374	22,327	21,642	21,003	20,715	20,574	20,533	20,601	20,692	21,735	213,194
TOTAL REVENUES	40,910	39,767	39,001	39,670	38,946	38,618	38,665	38,429	38,958	40,078	393,043
O&M	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	TOTAL
Newport / Mt.Hope	6,119	6,305	6,464	7,183	7,159	7,245	7,456	7,506	7,877	8,102	71,416
Jamestown	1,092	1,313	650	1,384	1,517	1,581	693	1,525	723	2,642	13,118
Sakonnet	5,176	4,397	4,041	3,677	3,596	3,469	3,411	3,440	3,514	4,453	39,174
TOTAL O&M	12,387	12,014	11,155	12,245	12,273	12,295	11,560	12,471	12,114	15,197	123,708

Toll Option #2: Pell at \$4.00/\$0.83 until 2020, Sakonnet at \$3.75 (Non-RI E-Zpass)/\$0.75 (RI E-Zpass)

REVENUES	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	TOTAL
Newport	17,536	17,441	17,360	18,668	18,231	18,044	18,696	18,704	19,720	20,177	184,576
Sakonnet	22,088	21,132	20,825	20,573	20,676	20,935	21,305	21,802	22,336	23,835	215,508
TOTAL REVENUES	39,624	38,572	38,184	39,241	38,907	38,979	40,002	40,507	42,056	44,012	400,084
O&M	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	TOTAL
Newport / Mt.Hope	6,119	6,305	6,464	7,183	7,159	7,245	7,456	7,506	7,877	8,102	71,416
Jamestown	1,092	1,313	650	1,384	1,517	1,581	693	1,525	723	2,642	13,118
Sakonnet	5,186	4,397	4,039	3,681	3,604	3,482	3,429	3,464	3,543	4,488	39,314
TOTAL O&M	12,397	12,014	11,153	12,249	12,281	12,308	11,578	12,494	12,143	15,232	123,849

Toll Option #3: Pell at \$4.00/\$0.83 until 2020, Sakonnet at \$1.60 for All E-Zpass Cars

REVENUES	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	TOTAL
Newport	17,536	17,441	17,360	18,668	18,231	18,044	18,696	18,704	19,720	20,177	184,576
Sakonnet	20,691	20,367	20,524	20,756	21,116	21,560	22,038	22,558	23,116	24,640	217,366
TOTAL REVENUES	38,227	37,808	37,883	39,424	39,347	39,604	40,734	41,262	42,836	44,816	401,942
O&M	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	TOTAL
Newport / Mt.Hope	6,119	6,305	6,464	7,183	7,159	7,245	7,456	7,506	7,877	8,102	71,416
Jamestown	1,092	1,313	650	1,384	1,517	1,581	693	1,525	723	2,642	13,118
Sakonnet	5,517	4,507	4,088	3,775	3,720	3,611	3,564	3,595	3,670	4,611	40,659
TOTAL O&M	12,727	12,125	11,202	12,343	12,397	12,437	11,712	12,625	12,270	15,355	125,193

Financial Analysis

First Southwest (FSW) conducted financial analyses to fully fund the RITBA 10-year plan using the net revenue estimates contained in this analysis, proposed 10-year capital plan costs, and the existing debt service. FSW’s plan of finance for Option 2 includes revenues from three future bond sales between now and 2019, and the associated projections of debt service for those new bond sales. Table 10 shows the funding that RITBA is projected to obtain through those future bond sales.

Table 10: Revenues from Proposed Future Bond Sales

	Bond Revenues
Proposed Series 2015	\$100,000,000
Proposed Series 2017	\$47,000,000
Proposed Series 2019	\$47,000,000

The Federal Highway Administration’s (FHWA’s) Title 23 is also a consideration in this financial analysis, because the Sakonnet River Bridge is part of the Federal-aid system. Title 23 specifically addresses the conditions and allowances for tolling Federal-aid or other facilities under the direction of FHWA; it limits the projects that can legally be funded by Sakonnet River Bridge toll revenues. Therefore, it was necessary to split the RITBA’s costs into two categories: those that can legally be funded by Sakonnet revenues (“Title 23”) and those that must be funded by Newport Pell Bridge revenues (“Non-Title 23”).

Another constraint to the financing plan is the RITBA Board policy of maintaining a debt service coverage ratio of at least 1.50x for each toll bridge with the intended effect of maintaining RITBA’s existing credit rating levels.

FSW developed a plan of finance for Option 2. Options 1 and 3 assumed the same bond revenues and future debt service as Option 2 for simplicity. If one of these options is selected, a detailed financial analysis by FSW should be conducted to optimize the balance of bond financing and pay-go funding for the capital plan.

Option 1 net toll revenues, projected annual debt service, and debt service coverage ratios for the Newport Pell and Sakonnet River Bridges are shown in Table 11 and Table 12. While the Newport Pell Bridge has adequate coverage ratios throughout, the Sakonnet River Bridge has inadequate coverage beginning in FY 2020. Toll increases would be necessary with this scenario, even though it begins at a higher toll rate (\$4.00/\$0.83) than the other options, to be able to fund operations.

Table 13 and Table 14 show the net toll revenues, projected annual debt service, and debt service coverage ratios for the Newport Pell and Sakonnet River Bridges under Option 2. For each bridge the

annual debt service coverage ratios are 1.50 or above. It is important to note that in FY 2022 the coverage ratio is at this minimum coverage for the Sakonnet River Bridge. Any unforeseen occurrence such as extended bad weather, a longer period of economic distress or some other change in the factors affecting travel may result in a coverage ratio below 1.5. If that occurs, actions the RITBA may take include delaying or changing the proposed capital plan, raising tolls or some combination of these and other actions.

Table 15 and Table 16 show the net toll revenues, projected annual debt service, and debt service coverage ratios for the Newport Pell and Sakonnet River Bridges under Option 3. For the Pell Bridge, the numbers do not change when compared to Option 2 because the toll rates are the same for both cases. Sakonnet debt service coverage is above the minimum coverage ratio for all years, slightly better than Option 2's coverage with a minimum of 1.55 in FY 2022.

Limits and Disclaimers

It is Jacobs' opinion that the traffic and toll revenue forecasts provided herein are reasonable and that they have been prepared in accordance with accepted industry-wide practice. However, given the uncertainties within the current economic climate, it is important to note the following assumptions which, in our opinion, are reasonable:

- This report presents the results of Jacobs' consideration of the information available as of the date hereof and the application of our experience and professional judgment to that information. It is not a guarantee of any future events or trends.
- The traffic and toll revenue estimates will be subject to future economic and social conditions, demographic developments and regional transportation construction activities that cannot be predicted with certainty.
- The estimates contained in this report, while presented with numeric specificity, are based on a number of estimates and assumptions which, though considered reasonable to us, are inherently subject to economic and competitive uncertainties and contingencies, most of which are beyond the control of the RITBA and cannot be predicted with certainty. In many instances, a broad range of alternative assumptions could be considered reasonable. Changes in the assumptions used could result in material differences in estimated outcomes.

This report was prepared for planning purposes to assist the RITBA Board in selecting a preferred tolling option. It is not suitable for and cannot be used to secure financing.

Table 11: NEWPORT PELL BRIDGE Projected Debt Service and Coverage, OPTION 1

Fiscal Year	Projected Operating Info - \$4.00/0.83 (No Incs) Revs			Existing Debt Service			Total Debt Service	Total Projected Coverage
	Gross Revenues	O&M Expenses	Net Revenues	Series 2003	Series 2010	Total		
2013	\$ 18,706,560	\$ 6,270,891	\$ 12,435,669	\$ 3,259,462	\$ 2,387,400	\$ 5,646,862	\$ 5,646,862	2.20x
2014	17,536,290	7,210,787	10,325,503	3,257,498	2,387,400	5,644,898	5,644,898	1.83x
2015	17,440,558	7,617,672	9,822,886	3,251,984	2,387,400	5,639,384	5,639,384	1.74x
2016	17,359,528	7,113,693	10,245,834	3,247,296	2,387,400	5,634,696	5,634,696	1.82x
2017	18,667,749	8,567,632	10,100,117	3,247,536	2,387,400	5,634,936	5,634,936	1.79x
2018	18,231,084	8,676,896	9,554,189	3,237,503	2,387,400	5,624,903	5,624,903	1.70x
2019	18,043,791	8,825,899	9,217,892	-	3,708,863	3,708,863	3,708,863	2.49x
2020	18,132,664	8,148,645	9,984,019	-	3,710,200	3,710,200	3,710,200	2.69x
2021	17,828,234	9,030,298	8,797,936	-	3,708,200	3,708,200	3,708,200	2.37x
2022	18,265,514	8,599,421	9,666,093	-	3,710,425	3,710,425	3,710,425	2.61x
2023	18,343,918	10,743,568	7,600,350	-	3,707,425	3,707,425	3,707,425	2.05x
2024	18,406,424	9,292,360	9,114,063	-	3,710,778	3,710,778	3,710,778	2.46x
2025	18,417,013	10,219,025	8,197,988	-	3,709,150	3,709,150	3,709,150	2.21x
2026	19,739,678	10,228,311	9,511,367	-	3,711,006	3,711,006	3,711,006	2.56x
2027	19,296,382	11,111,020	8,185,361	-	3,707,081	3,707,081	3,707,081	2.21x
2028	19,108,106	10,538,891	8,569,215	-	3,708,084	3,708,084	3,708,084	2.31x
2029	19,200,877	11,802,980	7,397,896	-	3,712,566	3,712,566	3,712,566	1.99x
2030	18,898,642	10,716,383	8,182,260	-	3,711,050	3,711,050	3,711,050	2.20x
2031	19,337,999	12,285,926	7,052,073	-	3,709,294	3,709,294	3,709,294	1.90x
2032	19,418,929	11,480,860	7,938,068	-	3,713,253	3,713,253	3,713,253	2.14x
2033	19,482,383	13,371,678	6,110,705	-	3,712,250	3,712,250	3,712,250	1.65x
Total	\$ 389,862,321	\$ 201,852,837	\$ 188,009,484	\$ 19,501,278	\$ 69,974,025	\$ 89,475,303	\$ 89,475,303	



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Table 12: SAKONNET RIVER BRIDGE Projected Debt Service and Coverage, OPTION 1

Fiscal Year	Projected Operating Info - \$4.00/0.83 (No Incs) Revs			Proposed New Debt Service				Total Debt Service	Total Projected Coverage
	Gross Revenues	O&M Expenses	Net Revenues	Series 2015	Series 2017	Series 2019	Total		
2013	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	N/A
2014	23,373,785	5,175,942	18,197,843	-	-	-	-	-	N/A
2015	22,326,778	4,396,749	17,930,029	-	-	-	-	-	N/A
2016	21,641,629	4,040,852	17,600,777	1,347,000	-	-	1,347,000	1,347,000	13.07x
2017	21,002,503	3,677,304	17,325,199	6,962,625	-	-	6,962,625	6,962,625	2.49x
2018	20,714,610	3,595,658	17,118,952	6,959,875	644,938	-	7,604,813	7,604,813	2.25x
2019	20,573,991	3,468,660	17,105,331	6,962,875	3,696,125	-	10,659,000	10,659,000	1.60x
2020	20,532,754	3,411,014	17,121,739	6,961,375	3,697,375	775,650	11,434,400	11,434,400	1.50x
2021	20,600,837	3,440,269	17,160,568	6,438,625	2,462,250	3,102,600	12,003,475	12,003,475	1.43x
2022	20,692,431	3,514,141	17,178,290	6,961,625	2,462,250	3,102,600	12,526,475	12,526,475	1.37x
2023	21,734,539	4,453,295	17,281,243	6,961,750	2,462,250	3,102,600	12,526,600	12,526,600	1.38x
2024	21,254,161	3,718,618	17,535,544	6,961,500	2,462,250	3,868,900	13,292,650	13,292,650	1.32x
2025	21,185,302	3,728,936	17,456,366	6,960,625	2,462,250	3,870,000	13,292,875	13,292,875	1.31x
2026	21,270,964	3,728,944	17,542,020	6,963,750	3,008,250	3,868,100	13,840,100	13,840,100	1.27x
2027	21,338,148	3,759,865	17,578,283	6,960,625	3,033,875	3,868,050	13,862,550	13,862,550	1.27x
2028	21,429,859	3,945,878	17,483,981	6,961,000	3,695,375	3,869,550	14,525,925	14,525,925	1.20x
2029	21,515,098	3,841,589	17,673,510	6,964,375	3,697,375	3,867,450	14,529,200	14,529,200	1.22x
2030	21,585,869	3,875,321	17,710,548	6,960,500	3,695,875	3,866,600	14,522,975	14,522,975	1.22x
2031	21,679,173	3,966,311	17,712,862	6,964,000	3,695,750	3,866,700	14,526,450	14,526,450	1.22x
2032	22,723,014	4,368,508	18,354,506	6,964,375	3,696,750	3,867,450	14,528,575	14,528,575	1.26x
2033	22,248,394	4,898,555	17,349,839	6,961,375	3,698,625	3,868,550	14,528,550	14,528,550	1.19x
Total	\$ 429,423,841	\$ 79,006,410	\$ 350,417,431	\$ 119,177,875	\$ 48,571,563	\$ 48,764,800	\$ 216,514,238	\$ 216,514,238	

Table 13: NEWPORT PELL BRIDGE Projected Debt Service and Coverage, OPTION 2

Fiscal Year	Projected Operating Info - \$4.00/0.83 Revs			Existing Debt Service			Total Debt Service	Total Projected Coverage
	Gross Revenues	O&M Expenses	Net Revenues	Series 2003	Series 2010	Total		
2013	\$ 18,706,560	\$ 6,270,891	\$ 12,435,669	\$ 3,259,462	\$ 2,387,400	\$ 5,646,862	\$ 5,646,862	2.20x
2014	17,536,290	7,210,787	10,325,503	3,257,498	2,387,400	5,644,898	5,644,898	1.83x
2015	17,440,558	7,617,672	9,822,886	3,251,984	2,387,400	5,639,384	5,639,384	1.74x
2016	17,359,528	7,113,693	10,245,834	3,247,296	2,387,400	5,634,696	5,634,696	1.82x
2017	18,667,749	8,567,632	10,100,117	3,247,536	2,387,400	5,634,936	5,634,936	1.79x
2018	18,231,084	8,676,896	9,554,189	3,237,503	2,387,400	5,624,903	5,624,903	1.70x
2019	18,043,791	8,825,899	9,217,892	-	3,708,863	3,708,863	3,708,863	2.49x
2020	18,696,258	8,148,645	10,547,613	-	3,710,200	3,710,200	3,710,200	2.84x
2021	18,704,290	9,030,298	9,673,992	-	3,708,200	3,708,200	3,708,200	2.61x
2022	19,719,891	8,599,421	11,120,470	-	3,710,425	3,710,425	3,710,425	3.00x
2023	20,176,508	10,743,568	9,432,941	-	3,707,425	3,707,425	3,707,425	2.54x
2024	20,875,249	9,292,360	11,582,889	-	3,710,778	3,710,778	3,710,778	3.12x
2025	21,247,233	10,219,025	11,028,208	-	3,709,150	3,709,150	3,709,150	2.97x
2026	23,229,946	10,228,311	13,001,635	-	3,711,006	3,711,006	3,711,006	3.50x
2027	23,180,863	11,111,020	12,069,843	-	3,707,081	3,707,081	3,707,081	3.26x
2028	23,383,561	10,538,891	12,844,670	-	3,708,084	3,708,084	3,708,084	3.46x
2029	24,161,498	11,802,980	12,358,518	-	3,712,566	3,712,566	3,712,566	3.33x
2030	24,319,669	10,716,383	13,603,286	-	3,711,050	3,711,050	3,711,050	3.67x
2031	25,475,630	12,285,926	13,189,704	-	3,709,294	3,709,294	3,709,294	3.56x
2032	26,316,435	11,480,860	14,835,575	-	3,713,253	3,713,253	3,713,253	4.00x
2033	26,882,967	13,371,678	13,511,289	-	3,712,250	3,712,250	3,712,250	3.64x
Total	\$ 442,355,559	\$ 201,852,837	\$ 240,502,722	\$ 19,501,278	\$ 69,974,025	\$ 89,475,303	\$ 89,475,303	

Source: First Southwest



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Table 14: SAKONNET RIVER BRIDGE Projected Debt Service and Coverage, OPTION 2

Fiscal Year	Projected Operating Info - \$3.75/0.75 Revs			Proposed New Debt Service				Total Debt Service	Total Projected Coverage
	Gross Revenues	O&M Expenses	Net Revenues	Series 2015	Series 2017	Series 2019	Total		
2013	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	N/A
2014	22,087,691	5,186,348	16,901,342	-	-	-	-	-	N/A
2015	21,131,725	4,396,632	16,735,093	-	-	-	-	-	N/A
2016	20,824,745	4,039,380	16,785,365	1,347,000	-	-	1,347,000	1,347,000	12.46x
2017	20,573,456	3,681,241	16,892,215	6,962,625	-	-	6,962,625	6,962,625	2.43x
2018	20,676,341	3,604,373	17,071,968	6,959,875	644,938	-	7,604,813	7,604,813	2.24x
2019	20,935,009	3,481,947	17,453,062	6,962,875	3,696,125	-	10,659,000	10,659,000	1.64x
2020	21,305,401	3,429,049	17,876,352	6,961,375	3,697,375	775,650	11,434,400	11,434,400	1.56x
2021	21,802,251	3,463,680	18,338,571	6,438,625	2,462,250	3,102,600	12,003,475	12,003,475	1.53x
2022	22,336,350	3,543,184	18,793,166	6,961,625	2,462,250	3,102,600	12,526,475	12,526,475	1.50x
2023	23,835,083	4,488,232	19,346,851	6,961,750	2,462,250	3,102,600	12,526,600	12,526,600	1.54x
2024	23,825,848	3,759,721	20,066,127	6,961,500	2,462,250	3,868,900	13,292,650	13,292,650	1.51x
2025	24,243,051	3,776,487	20,466,564	6,960,625	2,462,250	3,870,000	13,292,875	13,292,875	1.54x
2026	24,830,110	3,783,232	21,046,878	6,963,750	3,008,250	3,868,100	13,840,100	13,840,100	1.52x
2027	25,414,454	3,821,192	21,593,263	6,960,625	3,033,875	3,868,050	13,862,550	13,862,550	1.56x
2028	26,039,525	4,014,552	22,024,973	6,961,000	3,695,375	3,869,550	14,525,925	14,525,925	1.52x
2029	26,674,774	3,917,930	22,756,844	6,964,375	3,697,375	3,867,450	14,529,200	14,529,200	1.57x
2030	27,312,667	3,959,661	23,353,006	6,960,500	3,695,875	3,866,600	14,522,975	14,522,975	1.61x
2031	27,990,682	4,058,990	23,931,692	6,964,000	3,695,750	3,866,700	14,526,450	14,526,450	1.65x
2032	29,637,309	4,469,878	25,167,431	6,964,375	3,696,750	3,867,450	14,528,575	14,528,575	1.73x
2033	29,784,052	5,008,979	24,775,073	6,961,375	3,698,625	3,868,550	14,528,550	14,528,550	1.71x
Total	\$ 481,260,523	\$ 79,884,686	\$ 401,375,836	\$ 119,177,875	\$ 48,571,563	\$ 48,764,800	\$ 216,514,238	\$ 216,514,238	

Source: First Southwest

Table 15: NEWPORT PELL BRIDGE Projected Debt Service and Coverage, OPTION 3

Fiscal Year	Projected Operating Info - \$4.00/0.83 Revs			Existing Debt Service			Total Debt Service	Total Projected Coverage
	Gross Revenues	O&M Expenses	Net Revenues	Series 2003	Series 2010	Total		
2013	\$ 18,706,560	\$ 6,270,891	\$ 12,435,669	\$ 3,259,462	\$ 2,387,400	\$ 5,646,862	\$ 5,646,862	2.20x
2014	17,536,290	7,210,787	10,325,503	3,257,498	2,387,400	5,644,898	5,644,898	1.83x
2015	17,440,558	7,617,672	9,822,886	3,251,984	2,387,400	5,639,384	5,639,384	1.74x
2016	17,359,528	7,113,693	10,245,834	3,247,296	2,387,400	5,634,696	5,634,696	1.82x
2017	18,667,749	8,567,632	10,100,117	3,247,536	2,387,400	5,634,936	5,634,936	1.79x
2018	18,231,084	8,676,896	9,554,189	3,237,503	2,387,400	5,624,903	5,624,903	1.70x
2019	18,043,791	8,825,899	9,217,892	-	3,708,863	3,708,863	3,708,863	2.49x
2020	18,696,258	8,148,645	10,547,613	-	3,710,200	3,710,200	3,710,200	2.84x
2021	18,704,290	9,030,298	9,673,992	-	3,708,200	3,708,200	3,708,200	2.61x
2022	19,719,891	8,599,421	11,120,470	-	3,710,425	3,710,425	3,710,425	3.00x
2023	20,176,508	10,743,568	9,432,941	-	3,707,425	3,707,425	3,707,425	2.54x
2024	20,875,249	9,292,360	11,582,889	-	3,710,778	3,710,778	3,710,778	3.12x
2025	21,247,233	10,219,025	11,028,208	-	3,709,150	3,709,150	3,709,150	2.97x
2026	23,229,946	10,228,311	13,001,635	-	3,711,006	3,711,006	3,711,006	3.50x
2027	23,180,863	11,111,020	12,069,843	-	3,707,081	3,707,081	3,707,081	3.26x
2028	23,383,561	10,538,891	12,844,670	-	3,708,084	3,708,084	3,708,084	3.46x
2029	24,161,498	11,802,980	12,358,518	-	3,712,566	3,712,566	3,712,566	3.33x
2030	24,319,669	10,716,383	13,603,286	-	3,711,050	3,711,050	3,711,050	3.67x
2031	25,475,630	12,285,926	13,189,704	-	3,709,294	3,709,294	3,709,294	3.56x
2032	26,316,435	11,480,860	14,835,575	-	3,713,253	3,713,253	3,713,253	4.00x
2033	26,882,967	13,371,678	13,511,289	-	3,712,250	3,712,250	3,712,250	3.64x
Total	\$ 442,355,559	\$ 201,852,837	\$ 240,502,722	\$ 19,501,278	\$ 69,974,025	\$ 89,475,303	\$ 89,475,303	



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Table 16: SAKONNET RIVER BRIDGE Projected Debt Service and Coverage, OPTION 3

Fiscal Year	Projected Operating Info - \$1.60/\$1.60 Revs			Proposed New Debt Service				Total Debt Service	Total Projected Coverage
	Gross Revenues	O&M Expenses	Net Revenues	Series 2015	Series 2017	Series 2019	Total		
2013	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	N/A
2014	20,690,973	5,516,615	15,174,357	-	-	-	-	-	N/A
2015	20,367,148	4,507,293	15,859,854	-	-	-	-	-	N/A
2016	20,523,628	4,088,258	16,435,370	1,347,000	-	-	1,347,000	1,347,000	12.20x
2017	20,755,909	3,775,318	16,980,590	6,962,625	-	-	6,962,625	6,962,625	2.44x
2018	21,116,200	3,719,954	17,396,247	6,959,875	644,938	-	7,604,813	7,604,813	2.29x
2019	21,560,305	3,611,211	17,949,094	6,962,875	3,696,125	-	10,659,000	10,659,000	1.68x
2020	22,037,846	3,563,550	18,474,297	6,961,375	3,697,375	775,650	11,434,400	11,434,400	1.62x
2021	22,557,925	3,594,587	18,963,338	6,438,625	2,462,250	3,102,600	12,003,475	12,003,475	1.58x
2022	23,116,141	3,670,334	19,445,807	6,961,625	2,462,250	3,102,600	12,526,475	12,526,475	1.55x
2023	24,639,915	4,611,461	20,028,454	6,961,750	2,462,250	3,102,600	12,526,600	12,526,600	1.60x
2024	24,656,675	3,878,856	20,777,819	6,961,500	2,462,250	3,868,900	13,292,650	13,292,650	1.56x
2025	25,100,864	3,891,354	21,209,510	6,960,625	2,462,250	3,870,000	13,292,875	13,292,875	1.60x
2026	25,715,937	3,893,652	21,822,285	6,963,750	3,008,250	3,868,100	13,840,100	13,840,100	1.58x
2027	26,329,360	3,926,978	22,402,381	6,960,625	3,033,875	3,868,050	13,862,550	13,862,550	1.62x
2028	26,984,612	4,115,516	22,869,096	6,961,000	3,695,375	3,869,550	14,525,925	14,525,925	1.57x
2029	27,651,187	4,013,877	23,637,310	6,964,375	3,697,375	3,867,450	14,529,200	14,529,200	1.63x
2030	28,321,591	4,050,391	24,271,201	6,960,500	3,695,875	3,866,600	14,522,975	14,522,975	1.67x
2031	29,033,346	4,144,297	24,889,048	6,964,000	3,695,750	3,866,700	14,526,450	14,526,450	1.71x
2032	30,714,985	4,549,552	26,165,433	6,964,375	3,696,750	3,867,450	14,528,575	14,528,575	1.80x
2033	30,898,059	5,082,804	25,815,254	6,961,375	3,698,625	3,868,550	14,528,550	14,528,550	1.78x
Total	\$ 492,772,605	\$ 82,205,859	\$ 410,566,746	\$ 119,177,875	\$ 48,571,563	\$ 48,764,800	\$ 216,514,238	\$ 216,514,238	