TOLL FEASIBILITY STUDY

ADDENDUM

Additional Revenue Requirements

Prepared For:

HAMPTON ROADS
PLANNING DISTRICT COMMISSION

Prepared by:

Baker

801 Cromwell Park Drive, Suite 110
Glen Burnie, Maryland 21061

and

Public Financial Management
CRA International
Fitzgerald & Halliday

November 2005

TABLE OF CONTENTS

Figures

Tables

1 INTRODUCTION

This supplemental study examines project feasibility using toll values that optimize revenue while considering alternative revenue sources such as proceeds from gas or sales tax. Also, this study examines project feasibility using a more realistic, reduced toll values in combination with revenue from gas or sales tax. The original toll study revealed that toll values that optimize revenue also significantly decrease patronage on project roadways.

The Hampton Roads travel model used to develop demand estimates for this study contains the same modifications/enhancements as used in the original toll study for evaluation of project scenarios. Project definitions, costs, and construction schedules are the same as used in the original study.

Projects were evaluated as "stand-alone" (individual) in the original study, using only toll revenues generated by the projects once they opened. Projects were then grouped into "project scenarios" that feature tolling of existing unimproved roadways parallel to the projects under study. Table 1-1 provides a review of project scenario definitions.

Table 1-1 Project Scenarios

Features	Project Scenario #1	Project Scenario #2	Project Scenario #3
Projects	• HRX	• Improved HRBT (1)	• Midtown & MLK
Existing/Unimproved, Tolled Roadways	• MMMBT • JRB • HRBT	• MMMBT • JRB • HRBT	• Downtown Tunnel

MMMBT – Monitor Merrimac Bridge Tunnel
JRB – James River Bridge
HRBT – Hampton Roads Bridge Tunnel
(1) Hampton Roads Crossing Study, Alternative #1

In the original study, as shown below in Table 1-2, two individual projects (Route 460 and Southeastern Parkway) and one scenario (Project Scenario #1) were found not financially feasible using only toll revenues as a source of funding.

Table 1-2 Capital Sources & Cost Summary with Optimized Tolls

Project	P/D & E (1)	Net Total Cost (2)	Additional Funding (3)	Total Bond / Loan Funds	Funding Deficit	Const. Start Date	Total Revenue Start Date
Scenario #1 HRX	81,000,000	4,152,400,000	193,500,000	2,805,000,000	1,153,900,000	2006	2006
Scenario #2 HRBT	36,000,000	1,845,500,000	116,300,000	1,729,200,000	-	2006	2006
Scenario #3 Midtown & MLK	12,600,000	548,800,000	251,100,000	297,700,000	-	2009	2009
SP&G	17,940,000	1,116,713,000	520,000,000	598,046,400	337,797,000	2010	2017
Route 460	26,820,000	1,468,264,000	321,000,000	454,236,600	902,375,200	2010	2018

(1) Preliminary design and engineering costs are estimated to be 3% of non-inflated project cost.
(2) Preliminary design and engineering have been subtracted out
(3) NHS, RSTP, and Primary funds or toll revenues from unimproved roadways (project scenarios). Only part of these funds is used to offset capital costs; the remainder is used to increase bond capacity.
Note: all values are US dollars at year of accrual or expenditure

This supplemental study examines the impact of introducing tax revenues at the beginning of the project expenditure schedule and determines the tax rate needed to cover costs associated with two groups or “packages” of projects. Table 1-3 defines the two project packages that build on the project scenarios defined in the previous analyses.

Table 1-3 Project Packages

Package #1	Package #2
• Project Scenario #1 (HRX) • Project Scenario #3 (Midtown & MLK) • SP&G • Route 460	• Project Scenario #2 (HRBT) • Project Scenario #3 (Midtown & MLK) • SP&G • Route 460

2 FINANCIAL FEASIBILITY EVALUATION

This Study determined the amount of tax revenues needed to fund the project packages using revenue-optimized tolls. This Study also examined how tax revenue requirements increase when toll rates are reduced

2.1 Revenue-Optimized Tolls with Tax Revenues

In addition to secured NHS, RSTP, Primary funding sources for applicable projects, the implementation of a taxing source was deemed necessary to the financial feasibility of some of the projects and combinations.

The Hampton Roads Planning District Commission provided revenue estimates for a ½ percent sales tax (on all items except food and drugs) and a $.01 gas tax. It was estimated that the sales tax would produce $75,000,000 in Year 2005, and the gas tax would produce $10,700,000 in Year 2005. A 4.5% annual growth rate was also assumed for the tax revenues. Under these assumptions it is estimated that a ½ percent sales tax would produce a maximum of $1.08 billion and a 1-cent/gallon gas tax would produce $155 million in additional capacity in Year 2005.

Tax revenues were applied in the same manner as revenues produced by tolling existing facilities.[1] However, tax revenues were separately bonded as part of a different finance structure.[2] The level of tax revenues required was calculated to finance the remaining deficit after the issuance of toll revenue bonds. The Study assumed that tax revenues are generated from general sales[3] or gas sales. In addition to providing more revenue, dedicated taxes provide for a better quality credit rating and a more efficient, less costly bond-financing plan. Tax revenues significantly increase available funding aside from bond/loan proceeds.

The objective of this analysis is to “size” the general sales or gas tax rate needed to completely cover costs associated with the project packages. Project package components have the same toll revenue sources available as they did in either the “stand-alone” or project combination analysis. The introduction of tax revenues and the beginning of the construction expenditure schedule significantly increased the amount of funding available aside from bond/loan proceeds. Table 2.1-1 shows annual tax revenue needed to fund the Project Packages.

1 Project scenario analysis in the original study

2 Appendix “A”

3 Excludes food, prescribed medicines, and gas

Table 2.1-1 Tax Revenue Requirements with Optimized Tolls

	Project Package 1	Project Package 2
Annual Tax Revenue Required	$140,700,000	$40,700,000
Gas Tax (cents/gal)	13.15	3.80
or	or	or
Sales Tax (percent)	0.94%	0.27%

Gas Tax: 1 cent gas tax estimated to generate $10,700,000 in Year 2005 US dollars
Sales Tax: ½ pct. Sales tax estimated to generate $75,000,000 in Year 2005 US dollars
Annual tax growth rate estimated to be 4.5%
Taxes assumed to be in place through final bond maturity

Required tax revenue for Package #2 is considerably less than that required for Package #1. Analyses indicate that Project Package #1 could be financed with approximately a $0.13/gallon gas tax or less than a 1% sales tax. Financial feasibility analyses indicate that Project Package #2 could be financially feasible with approximately a $0.04/gallon gas tax or approximately a 0.25% sales tax.

2.2 Reduced Tolls with Tax Revenues

In the original study, toll revenue was based on toll values that maximize revenue, and even though those toll values were established with the objective of not "tolling-off"[4] roadway patrons, those values still significantly reduce travel demand on the tolled roadways. The reduction of travel demand is so significant that funded roadway capacity is not used in many locations and may indicate with respect to impact of travel demand; that toll revenue financing is not feasible. This effect of tolls on travel demand prompted another analysis using reduced; more practical toll values that better balance toll revenue and travel demand. The objective in reducing toll values is to increase travel demand, thus better utilizing added roadway capacity. Most toll values were reduced 50% or greater from values used to maximize toll revenue. Table 2.2-1 shows the resulting revised, reduced toll values for the components of the two project packages (refer to Table 2.1-1).

4 Toll value high enough that the majority of roadway capacity is unused due to travelers avoiding the roadway.

Table 2.2-1 Reduced Toll Values(2)

	Project		Unimproved Roadways(3)									
			JRB		MMMBT		HRBT		Midtown Tunnel		Downtown Tunnel	
	Peak	Off-Peak	Peak	Off-Peak	Peak	Off-Peak	Peak	Off-Peak	Peak	Off-Peak	Peak	Off-Peak
Scenario #1 HRX	0.08/mi	0.06/mi	1.15	0.80	1.15	0.80	1.15	0.80	-	-	-	-
Scenario #2 HRBT	0.11/mi	0.08/mi	0.77	0.55	0.77	0.55	0.77	0.55	-	-	-	-
Scenario #3 Midtown & MLK	0.86/mi. 0.26/mi(1)	0.61/mi. 0.20/mi(1)	-	-	-	-	-	-	0.86	0.61	0.92	0.65
SP&G	0.07/mi.	0.07/mi.	-	-	-	-	-	-	-	-	-	-
Route 460	0.02/mi.	0.02/mi.	-	-	-	-	-	-	-	-	-	-

(1) Values for MLK extension portion of project
(2) All toll values in Year 2004 US dollars
(3) If roadway is improved under the subject project, project toll rates in effect at the end of construction.
(4) SP&G and Route 460 are not "value-priced" since tolling starts after construction is complete and improved roadways associated with the two projects are not interstates.

Table 2.2-2 shows the effect of lowering toll rates in the absence of tax revenues. Lower toll rates decrease toll revenue to offset construction costs for the project scenarios ("Additional Funding") and decrease revenue that leverages bond and loan funds ("Total Bond/Loan Funds") for all projects as compared to using "optimized" toll rates[5]. As a consequence, project funding deficits increase when lower toll rates are in place.

The funding deficit associated with Scenario #1 has almost increased two and one-half times over a deficit of $1.15M when maximizing toll revenue. Scenario #2 now has a funding deficit of $0.85M, as opposed to having no funding deficit under maximum toll revenue.

5 Table 1-2, as reported in the Toll Feasibility Study

Table 2.2-2 Capital Sources & Cost Summary with Reduced Tolls

	P/D & E (1)	Net Total Cost (2)	Additional Funding (3)	Total Bond / Loan Funds	Funding Deficit	Const. Start Date	Toll Revenue Start Date
Scenario #1 HRX	81,000,000	4,152,400,000	76,561,900	1,270,028,000	2,805,810,000	2006	2006
Scenario #2 HRBT	36,000,000	1,845,500,000	62,631,900	932,005,600	850,862,500	2006	2006
Scenario #3 Midtown & MLK	12,600,000	548,800,000	162,276,800	404,051,400	-	2009	2009
SP&G	17,940,000	1,116,713,000	520,000,000	275,000,000	471,713,000	2010	2017
Route 460	26,820,000	1,468,264,000	321,000,000	310,000,000	1,037,263,967	2010	2018

(1) Preliminary design and engineering costs are estimated to be 3% of non-inflated project cost.
(2) Preliminary design and engineering have been subtracted out
(3) NHS, RSTP, and Primary funds or toll revenues from unimproved roadways (project scenarios). Only part of these funds is used to offset capital costs; the remainder is used to increase bond capacity.
Note: all values are US dollars at year of accrual or expenditure

Since toll revenues have decreased, and funding deficits increased; a revised, larger general sales or gas tax rate is needed to completely cover costs associated with the project packages needs. Computation of this rate assumes that project package components have the same toll revenue sources available as shown in Table 2.2-2. The results are summarized below in Table 2.2-3 for the project packages and compared with tax revenue requirements previously calculated when using an "optimized" toll rate.

Table 2.2-3 Tax Revenue Requirements with Reduced Tolls

	Toll	Project Package 1	Project Package 2
Annual Tax Revenue Required	Optimized	$140,700,000	$40,700,000
	Reduced	$174,400,000	$108,000,000
Gas Tax (cents/gal)	Optimized	13.15	3.80
	Reduced	16.29	10.15
or		or	Or
Sales Tax (percent)	Optimized	0.94%	0.27%
	Reduced	1.16%	0.72%

Gas Tax: 1 cent gas tax estimated to generate $10,700,000 in Year 2005 US dollars
Sales Tax: ½ pct. sales tax estimated to generate $75,000,000 in Year 2005 US dollars
Annual tax growth rate estimated to be 4.5%
Taxes assumed to be in place through final bond maturity

Tax revenues needed to cover the toll funding deficit associated with Package #1 using a reduced toll rate are approximately $174M, an increase of 24% over what is required when using the revenue "optimized" toll rates. However, tax revenue requirements for Package #2 are significantly more sensitive to a reduction in toll rate-more than doubling from $41M to $109M.

3 TRANSPORTATION SYSTEM IMPACTS

Feasibility of toll implementation for the purposes of funding infrastructure improvements also constitutes an examination of the effect of tolls on travel demand. Tolls may also cause travelers to deviate from tolled routes creating congestion problems on roadways that are part of competing routes. These effects can impact existing transportation plans and planning activities associated with other projects. As discussed previously, the original study analyzed project financial feasibility under conditions that maximize revenue and in many instances this assumption resulted in toll values that significantly reduced travel demand on project roadways. This section focuses on impacts associated with the more realistic "reduced" toll values.

3.1 Regional Impacts

Table 3.1-1 below compares various measures of performance for the projects with the "no project" condition. Similar to regional impacts using optimized tolls, impacts to the system are not relatively great and in general; do not vary significantly between projects under the reduced tolls examined in this supplemental study. Some projects provide for more efficient movement throughout the region as compared to the "no project" condition, while others improve the level of regional congestion, albeit slightly.

Individual projects such as Southeastern Parkway and Greenbelt and Relocated US 460, using reduced tolls, show less congestion and higher average travel speeds regionally as compared to conditions with optimized tolls[6]. These conditions may reflect less re-routing of traffic to avoid tolled roadways, lessening congestion on competing routes. Under reduced tolls, the Southeastern Parkway and Greenbelt contributes to a regional decrease in congestion of approximately 2%.

Project Scenarios #1 and #2 with reduced tolls provide a reduction in VMT, VHT and delay; but to a lesser degree than with optimized tolls. The original study indicated that these benefits are more likely due to a spatial re-orientation of demand than added capacity - caused by tolling roadways over the harbor that are parallel to the project improvements. Using reduced tolls, this re-orientation of demand is less pronounced.

6 Table 4.1-1, Toll Feasibility Study

Table 3.1-1 Year 2026 Average Daily Mobility and Congestion

Project	Supply (lane-miles)	Measures of Performance				Operation Speed	
		VMT	Free-Flow VHT	Congested VHT	Delay	Free Flow	Congested
No Project	6,172	41,277,785	932,667	1,663,871	731,204	44.3	24.8
Proj. Scenario #1	6,269	40,396,387	913,541	1,608,157	694,616	44.2	25.1
Proj. Scenario #2	6,210	40,331,857	912,888	1,612,642	699,754	44.2	25.0
Proj. Scenario #3	6,173	40,975,562	924,656	1,662,354	737,698	44.3	24.6
SP&G	6,299	40,913,469	918,836	1,624,870	706,034	44.5	25.2
RT 460	6,285	41,268,591	926,363	1,691,535	765,172	44.5	24.4

VMT – vehicle-miles traveled; absent VMT from roads not included in the travel model
VHT – vehicle-hours traveled; absent VHT from roads not included in the travel model
Delay – difference between congested and free-flow VHT, in vehicle-hours
Speeds - calculated as VHT/VMT

3.2 Level-of-Service (LOS) Impacts

This study includes an examination of Year 2026 "average daily" level-of-service (LOS) for specific sections of roadways for components of the two project packages defined in the financial feasibility analysis; including a "no-project" scenario. Tables 3.1-1 and 3.1-2 below, show the impact of tolls under "optimized" and "reduced" toll conditions.[7]

As indicated in Tables 3.1-1 and 3.1-2, demand changes significantly for proposed projects in response to a reduction in toll. Note the change in demand on the Monitor-Merrimac Memorial Bridge Tunnel for Package #1. With "optimized" toll values daily demand is 44,000 vehicles. When tolls are reduced demand increases almost 100% to 82,000 vehicles. All roadway segments show an improvement in LOS as opposed to the "No Project" condition. This LOS improvement is due to a combination of a

7 The original study examined peak period LOS using "optimized" toll values. Average daily LOS under optimized toll values is provided here as a basis for comparison to daily LOS associated with reduced toll values.

reduction in demand due to tolls and the addition of roadway capacity.

Table 3.2-1 Daily Level-of-Service – Project Package #1

Location	No Project		Revenue-Optimized Tolls			Reduced Tolls		
	Demand	LOS	Demand	Toll	LOS	Demand	Toll	LOS
MMMBT	66,000	D	44,000	$0.15/mi.	A	82,000	$0.06/mi.	B
HRBT	101,000	**F**	67,000	$1.42	D	67,000	$0.80	D
James River Bridge	41,000	A/B	19,000	$1.42	A	24,000	$0.80	A
Midtown Tunnel	54,000	**F**	25,000	$1.48	A	42,000	$0.61	B
Downtown Tunnel	120,000	**F**	45,000	$1.59	B	77,000	$0.65	E
SE Parkway & Greenbelt								
Dominion Boulevard	40,000	**F**	26,000	$0.83/mi.	A	73,000	0.07/mi.	E
Oak Grove Connector	73,000	E/ **F**	40,000	$0.56/mi.	B	77,000	0.07/mi.	C
Great Bridge-VA Beach	N/A	N/A	35,000	$0.07/mi.	A	43,000	0.07/mi.	B
US 460	N/A	N/A	21,000	$0.11/mi.	A	38,000	0.02/mi.	B

All toll values represent “off-peak” and are in Year 2004 US dollars

Table 3.2-2 Daily Level-of-Service – Project Package #2

Location	No Project		Revenue-Optimized Tolls			Reduced Tolls		
	Demand	LOS	Demand	Toll	LOS	Demand	Toll	LOS
MMMBT	66,000	D	58,000	$0.55	C	49,000	$0.55	B/C
HRBT	101,000	**F**	64,000	0.16/mi.	B	88,000	0.08/mi.	B/C
James River Bridge	41,000	A/B	29,000	$0.55	A	29,000	$0.55	A
Midtown Tunnel	54,000	**F**	25,000	$1.48	A	42,000	$0.61	B
Downtown Tunnel	120,000	**F**	45,000	$1.59	B	77,000	$0.65	E
SE Parkway & Greenbelt								
Dominion Boulevard	40,000	**F**	26,000	$0.83/mi.	A	73,000	0.07/mi.	E
Oak Grove Connector	73,000	E/ **F**	40,000	$0.56/mi.	B	77,000	0.07/mi.	C
Great Bridge-VA Beach	N/A	N/A	35,000	$0.07/mi.	A	43,000	0.07/mi.	B
US 460	N/A	N/A	21,000	$0.10/mi.	A	38,000	0.02/mi.	B

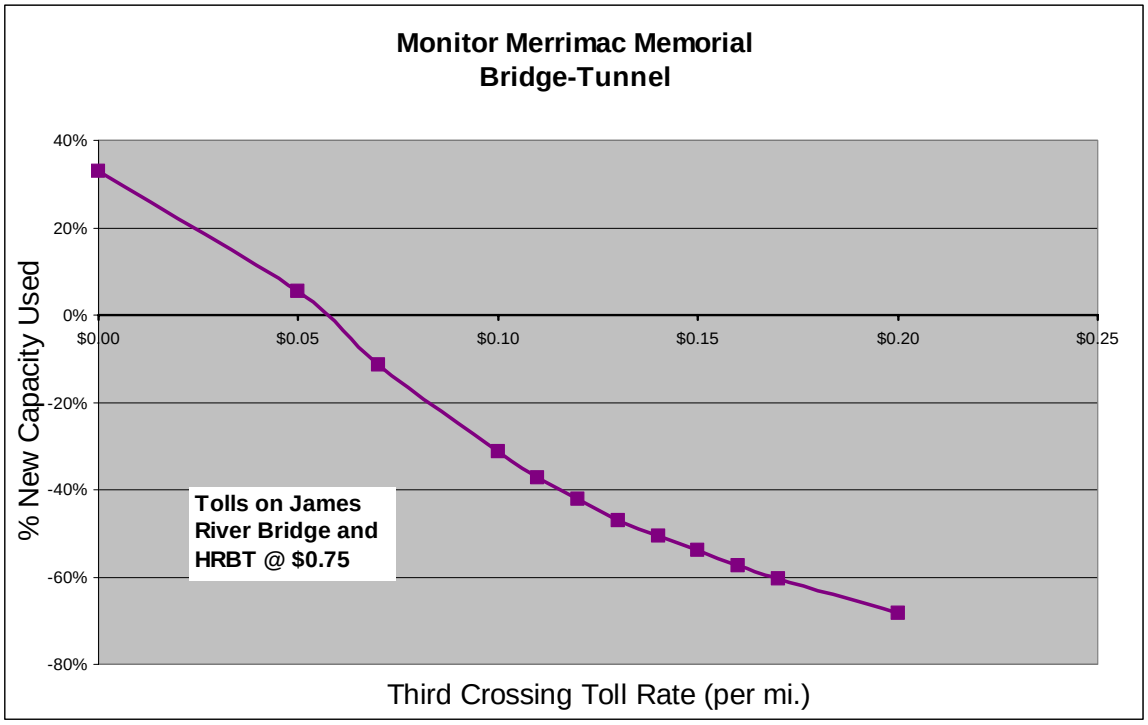
All toll values represent "off-peak" and are in Year 2004 US dollars

3.3 Impact of Tolls on Project Feasibility

The original study analyzed project financial feasibility under conditions that maximize revenue and in many instances this assumption resulted in toll values that significantly reduced travel demand on project roadways[8]. It is important to gauge the utilization of the tolled roadways – how much of the roadway capacity is being used. While roadway improvements are designed to alleviate congestion; if tolls are too high, travel demand for these roadways may be relatively low leaving a significant amount of excess capacity. The improvements the tolls are financing will therefore not sufficiently benefit the traveling public. Figure 3.3-1 further illustrates the effect of toll values on roadway utilization for the Third Crossing project (Project Scenario #1). This figure shows that toll rates greater that approximately $0.06/mi. reduce demand to the point where added capacity, financed by the tolls, is not used.

8 Note that this reduction is not due to a reduction of travel in the region, but due to a change in travel demand patterns and the route choice of the traveler

Figure 3.3-1 Added Roadway Capacity Utilization vs. Toll Value



3.4 Travel Pattern Impacts

This study includes an examination of travel pattern impacts for the components of both project packages using "reduced" tolls. A tabular summary of travel pattern changes can be found in Appendix "B".

Trip origin-destination difference tables were produced for each stand-alone project and project scenario, including the "no-project" condition in Year 2026 between each of the 14 localities or jurisdictions in the Hampton Roads area. The trip distributions were provided as trips per day. A tabular comparison was made between the "no project" condition and an individual projects and scenarios to show the percent change in trips between the localities and the change in the actual number of trip ends. Those changes over 10% and over 1000 trip changes per day were flagged as a major change in a user's decision to travel between the localities due the presence of a project. Graphics displaying travel pattern differences are located in Appendix "B".

Appendix A

Plan of Finance and Financial Model Overview

This study uses a proprietary toll facility financing model. This model is integrated, combining Microsoft excel software and DBC Finance ("DBC"). The toll revenue model incorporates data input, including construction schedules and revenue sources from Microsoft Excel and operates simultaneously with DBC financing software, the industry standard for municipal bond structuring, to structure bond issuances.

Using toll revenues for each stand-alone project, and defined project combination scenarios and packages; operations expenses were subtracted from toll revenues resulting in a net revenue pledge used as security for toll revenue bonds.[9] As additional (non-tax) funding sources were identified for specific projects, they were applied to either increase bonding capacity, offset construction requirements or both.

This study assumes the following priority of funds for the toll-financing model:

- Pledged Revenues is equal to Gross Revenues less O&M expenses, i.e. net operating revenues. Gross Revenues include the interest earnings from the O&M Reserve Fund, Renewal & Replacement Fund, and General Reserve Fund.
- Pledged Revenues cover Net Debt Service, which is gross annual debt service less capitalized interest and less interest earnings on the debt service accounts.
- DSRF is next in line from Pledged Revenues. The DSRF deposit that can be legally funded from bond proceeds will be limited the maximum annual debt service ("MADS") for a five-year period. Given the ascending debt service structure, the DSRF requirement will not be fully funded from bond proceeds and will require future deposit from toll revenues. The DSRF is restricted in use to the payment of bond debt service.
- The next priority is an operations and maintenance reserve fund ("O&M Reserve Fund") to be funded from excess toll revenues at two months worth of O&M expenditures with the initial fund up from the first available revenues. The O&M Reserve Fund should come behind the DSRF fund in the flow of funds. O&M Reserve Fund balances would be restricted in use to O&M expenditures in the event annual cash flow was insufficient for such purposes.
- A renewal & replacement fund ("R&R Fund") should be maintained at an adequate balance from toll revenues. The R&R Fund should come behind the DSRF and the O&M Reserve in the flow of funds priority. R&R Fund balances would be restricted in use to non-recurring maintenance expenditures as well as O&M expenditures and debt service on the bonds in the event annual cash flow was insufficient for such purposes.
- A loan repayment account should be established next within the flow of funds for the repayment of government loans and developer/contractor notes. Interest on unpaid balances would accrue at 3% per annum compounded semi-annually beginning when surplus toll revenues exist. The loan repayments come after the

9 Projected maintenance costs to be paid by VDOT maintenance funds.

R&R Fund.

- Finally, excess revenues flow to a general reserve fund.

The net revenue pledge, additional funding sources and construction requirements were entered into DBC to structure bond financing according to an array of inputs detailed below.

Composition

Toll revenue bonds were structured using a combination of CIBs and CABs. Because CABs do not pay interest periodically, they are a common feature of start-up toll facility financings. For the same reason, CABs also have a higher cost of borrowing associated with them and as such are only issued as necessary to complete a financing. Tax revenue bonds were structured using CIBs.

Interest Rates

Current Municipal Market interest rates were assumed for bond transactions. A credit spread was applied to interest rates in order to simulate actual market pricing. For example, we would expect stand-alone toll revenue bonds to be credit rated "BBB" at best and therefore such bonds would carry a higher interest rate.

Debt Service Structure

Toll revenue bonds were structured for ascending debt service, i.e. debt service increases annually as toll revenues increase, maintaining a 2.0x coverage ratio. Toll revenue bonds can be structured for ascending debt service because of the ability to raise toll rates in the future if revenues are lower than projected. Tax revenue bonds were structured for level debt service, i.e. debt service remains level throughout the life of the bonds, increasing in a "step" fashion with each new bond issue. Because debt service remains level throughout the life of the bonds, coverage continues to increase above 1.25 times after the last tax-backed bond issue as revenues increase. The inability to raise tax levels in the future requires that tax revenue bonds be structured for level debt service. We believe the combination of ascending and level debt service, together with upfront toll and tax revenues, can create a marketable investment grade credit. It is anticipated that a plan of finance with such a structure would fall in the 'A' credit category, assuming a market acceptable traffic & revenue report and consulting engineer's report.

Coverage

Toll revenue bonds were structured to maintain 2.0 times projected coverage (Net toll revenues divided by debt service) over ascending annual debt service, as recommended by rating agencies in order to achieve investment grade. Subordinate toll revenue bonds and loans were structured to maintain 1.25 times projected coverage. We believe that this coverage is reasonable for any project or combination scenario when combined with innovative financing techniques and PPTA.

Tax Revenue Bonds were structured to maintain 1.25 times historical coverage (tax revenues divided by debt service) over future maximum annual debt service. This is a more conservative coverage test but is market standard for limited taxes, and it typically results in better credit ratings. Since taxes cannot easily be raised (like tolls can) after bonds are issued, historical coverage tests are the norm.

Capitalized Interest

Due to the delay in revenues and upfront construction costs associated with start-up toll facilities, many are required to capitalize interest payments until the toll facility is opened. It is further recommended that interest be capitalized through the first six to twelve months of construction to provide for potential construction delays or a longer than anticipated ramp-up period.

Other Costs

Cost of Issuance, Underwriters Discount and Bond Insurance were applied to each bond issue. Cost of Issuance was assumed to be $250,000 per transaction and bond insurance was assumed to be equal to 40 basis points of total debt service. Underwriter's Discount is calculated on a per bond basis (discount/$1,000) and differs by both the type of bond and the security backing. $6.50, $7.25 and $5.00 were applied to toll revenue CIBs, toll revenue CABs and tax revenue CIBs, respectively. These costs are normal costs associated with the issuance of municipal bonds, and closely parallel the costs of similar transactions.

Based largely on the Project Team's experience with start-up toll facility financings the overall plan of finance was structured in accordance with market standards. Given a market acceptable traffic & revenue report and consulting engineer's report, all of the financing assumptions utilized to structure the plan of finance are acceptable to rating agencies and credit enhancers and are sufficient to achieve investment grade credit ratings of "BBB" or better. DBC was incorporated to structure bond financings according to construction requirements and available revenue sources. The financial model calculates long-term debt service schedules, applicable debt service coverage requirements, and excess revenues remaining after debt service payment.

Three separate financing structures were provided to the Metropolitan Planning Organization in September, October, November, and January, each with an alternate plan of finance including the attributes explained previously. The initial analysis anticipated utilizing toll revenue bonds to finance stand-alone projects. The second analysis incorporated tolling existing roadways in order to generate upfront financing sources, thus limiting the additional cost of capitalizing interest. The final analysis looked at adding an alternate revenue source, such as a sales or gas tax. The Table 3.2-1 below compares the different structures.

Plans of finance were structured differently due to the introduction of additional and alternative revenue sources, above new toll revenues, as the study progressed. For instance, the first analysis attempted to finance stand-alone projects solely using toll revenues produced by those facilities. As such, interest was capitalized through the

construction phase. A greater amount of CABs were also issued in order to maximize financing proceeds. In comparison, the second analysis, which included revenues produced by tolling existing facilities, did not require capitalized interest or the issuance of as many CABs. Each plan of finance was structured to achieve investment grade credit ratings (single "A" for tax backed packages).

Table A-1 Debt Financing Structures

	Stand Alone Toll Facilities	**Combination Toll Facilities**	**Package Combination Toll Facilities**
Toll Revenue Bonds			
CIBS	yes	Yes	Yes
CABS	yes	Yes	Yes
Coverage	2.00	1.75	1.25
Structure	Ascending	Ascending	Ascending
Capitaled Interest	Thru Construction Period	N/A	Final year of construction
Bond Insurance	40 bps	40 bps	40 bps
Underwriter's Discount	$7.50/$6.25 ($/1,000)	$7.50/$6.25 ($/1,000)	$7.50/$6.25 ($/1,000)
Costs of Issuance	$250,000	$250,000	$250,000
Multiple Issuance	No	Yes	No
Tax Revenue Bonds			
CIBS	N/A	N/A	Yes
CABS	N/A	N/A	No
Coverage	N/A	N/A	1.25
Structure	N/A	N/A	Level
Capitaled Interest	N/A	N/A	N/A
Bond Insurance	N/A	N/A	40 bps
Underwriter's Discount	N/A	N/A	$5.00 ($/1,000)
Cost of Issuance	N/A	N/A	$250,000
Multiple Issuance	N/A	N/A	Yes

Capitaled interest - interest that is included "upfront" in the financing, or capitalized, therefore not paid from annual revenues (prepaid through bond proceeds)

Underwriter's Discount – this is the bankers per bond fee associated with selling the bonds

Costs of Issuance – normal costs associated with selling bonds (fees for attorney, financial advisor, rating agencies)

Appendix B

Reduced Toll Traffic Impacts – Travel Patterns

[under separate cover]

Appendix C

Cash Flow

[under separate cover]