

### 3. PROJECT FINANCING

The Virginia Corridor Partners team understands that how the USR 460 project is financed is a key factor in deciding whether the project advances and which team will be selected to partner with VDOT through the Public Private Transportation Act ("PPTA") process to develop this needed road. As this section outlines, VCP is committed to a partnership approach with VDOT for the life of this project, including investing our own equity into the project. Through this investment, and other innovative financing and project development methods, VCP and VDOT's interests will be aligned. We will both have a vested interest in the quality of the construction, the on-going maintenance and operations of the project, and its long-term financial viability.

In developing this finance plan, we began with a thorough analysis of the financial aspects set forth in the DEIS. Our own analysis shows that the USR 460 project cannot be completed solely using tolls generated by traffic on that facility. Not only is the traffic, particularly in the early years, too light to generate sufficient revenue, but higher tolls would only cause additional diversions to free alternative routes including Interstate 64 and Route 58.

As Section 3 makes clear, we went through a rigorous internal analysis of various funding options to financing this essential transportation project. For purposes of this analysis, we assessed several concession models which involve equity investments in the project by our team along with a more traditional 63-20 tax-exempt approach. Within the concession models, we analyzed various terms - 50, 75, and 99 years - to determine which provided the best value to the users of Route 460 and met project goals. We have also looked at the project itself in order to identify areas where construction costs could be reduced to help to narrow the financing gap.

In the end, we believe a 50 year concession model, which includes a nearly \$400 million equity investment by Macquarie and Skanska Infrastructure Development, is the most viable financing option. Unfortunately, even this option does not fully cover project costs. Therefore, we believe it will be necessary to explore alternative revenue streams, to make the project feasible. Our view is that the project could be funded by placing tolls on other transportation facilities in the Hampton Roads region as well as by other revenue streams discussed later in this section. This approach would not only provide additional revenues to improve those assets and for Route 460, but it would be the first step towards a regional transportation solution that does not result in unnecessary traffic diversions and instead, spreads out traffic and congestion.

#### 3.1. PRELIMINARY ESTIMATE AND METHODOLOGY

The conceptual construction cost for the U.S. Route 460 Corridor Improvements Project, based upon the limited information available to us and the assumptions outlined below, is estimated to be **\$1,913,000,000** (in nominal terms). The total capitalized development cost, including interest during the construction period, is estimated to be \$2.2 billion. For this conceptual proposal, the preliminary construction estimated was prepared based upon the CBA 1 alignment and making certain assumptions regarding cross sections, structure needs, elevations, and quantities based upon our analysis of the CBA 1 plan and our own expectations of what would be required to build a fully limited

access, interstate quality highway from Suffolk to Petersburg. For our analysis, we divided the project into four segments and asked the cost estimator of our contracting team members to independently provide estimates of the expected cost.

This conceptual estimate includes the following items:

1. Submitted Schedule, with construction commencement in 2010 and completion in 2014
2. Escalation to 2010
3. Design - 100 year flood plus two (2) feet
4. CEI and QA/QC
5. Engineering and Services for obtaining Permits
6. Right-of-Way cost and acquisition services
7. Utility Relocations
8. Rolling Performance and Payment Bond based on a maximum value of \$200 million
9. Mutually agreeable Terms and Conditions

Excluded from the estimate are the following items:

1. Hazardous materials cost and delay impacts
2. Contaminated materials cost and delay impacts
3. Archaeological investigation cost and delay impacts

**TABLE 3. 1: PRELIMINARY ESTIMATE AND METHODOLOGY**

<b>CONCEPTUAL ESTIMATE</b>		<b>\$m</b>
Construction Elements		840
Right-of-Way Costs		71
	Subtotal	912
Indirect Costs		93
Bonds		3
Tolling Infrastructure		20
Building Facilities (incl. Toll plazas)		18
O/H, profit, design, inspection, contingency, etc.		490
	Total	1,536
Including escalation to July 2010		377
	Escalated Total	1,913



It is worth noting that our conceptual estimate includes a \$377 million cost attributable to likely materials and other construction-related inflation that will occur between the time of this submission and the proposed construction start date of 2010. We strongly believe that by accelerating the PPTA review process and other project aspects we can reduce this escalation amount, thus reducing project costs and the reliance upon alternative revenue streams.

## 3.2. DEVELOPMENT, FINANCING AND OPERATION PLAN

### 3.2.1. PLAN TO DEVELOP, DESIGN, CONSTRUCT, OPERATE AND MAINTAIN THE PROJECT

VCP is a team with experienced firms and individuals to support the Project's development in such disciplines as engineering, environmental, construction, finance, traffic and revenue forecasting, operations and maintenance, life-cycle costing analysis, legal and community relations. These management organizations are seamlessly integrated into our three-phased approach to Project development: Development, Construction, and Operations. These three phases are described in further detail below.

The key development objectives are summarized below:

- Design and operational efficiencies to match funding and revenues
- Efficient and interoperable tolling systems
- Timely Project delivery at optimal cost
- Partnership (with VDOT and key beneficiaries and users)

**Project Development** consists of mobilization of project team.

**Project Construction** consists of mobilization of project team and design/build contract.

**Operations and Maintenance** utilizes a life-cycle cost approach to ensure best value throughout and beyond the concession period.

These three phases are described in further detail below.

#### PROJECT DEVELOPMENT PHASE

Development activities will include project definition, identification and securing of revenue streams, financial analysis, implementation planning and financial close.

- **Project definition:** During this phase, VCP will focus on ensuring the support of major stakeholders to maximize project revenues, refining the tolling concept and further development of the project design to support construction cost estimating. VCP's approach will be to minimize development costs until the financial feasibility can be established. Utility conflicts will be identified, as will any developer right-of-way needs. VCP will also identify the most effective life-cycle cost for the Project. Importantly, buy-in from key beneficiaries will be secured during this phase.

- **Financial analyses:** During this phase, VCP will conduct further traffic and revenue and feasibility studies, perform detailed construction cost estimates and detailed operations and maintenance cost estimates. It is at this stage that VCP would provide input to VDOT for preparation of TIFIA term sheets and PABs allocation for the Project.
- **Implementation planning:** During this phase, VCP will participate in "industry review" of the request for detailed proposals, evaluate approach to tolling and systems integration, arrange debt and equity, work with VDOT to finalize the terms of the CA and work with other governmental agencies on the framework of agreements, as required, for provision of police services, emergency services, utility relocations, etc. VCP will also negotiate the design-build contract, develop a mobilization plan for project office, personnel and equipment and participate with VDOT's public information program if required.
- **Financial close:** VCP's objective is to reach financial close as soon as possible following execution of the CA. Early agreement on terms and conditions for financing would allow VCP to move swiftly and conclude all negotiations and draft final debt and equity documentation following execution of the CA.

## PROJECT CONSTRUCTION PHASE

Upon execution of the CA, the focus of the development plan shifts from planning to execution, culminating with opening the facility to revenue service and operations. The CA phase includes:

- **Mobilization of on-site project team:** The VCP team has coalesced for the submission of this SFP, and will continue to work as a team to provide VDOT with the best approach to deliver the Project through the submission of our final financial and technical proposals. Once the CA has been awarded, the core team will then lead a broader group of Project delivery personnel to provide a seamless transition during the execution phase of the CA.
- **Comprehensive Project Management Plan:** VCP will deliver the Project through a single design-build contract led by Tidewater/Lane. Our lead engineer, DMJM Harris, will perform design engineering services as a subcontractor to Tidewater/Lane. In addition, the team offers opportunities for DBE subcontractors, suppliers and consultants to participate in Project delivery. The Project team will operate in accordance with a Project-specific comprehensive Project Management Plan ("PMP"). The PMP primarily encompasses the Project programmatic structure shown in Figure 3.1. During the final proposal process and prior to initiating the Project's delivery, each of these plan components would be fully developed and incorporated into our development approach.

FIGURE 3.1: PROJECT MANAGEMENT PLAN



**OPERATIONS AND MAINTENANCE PHASE**

VCP will assemble an appropriately qualified asset-specific senior management team that will have primary responsibility for the Operations and Maintenance ("O&M") phase of the Project. This team will be directly employed by the Proposer and will report to its Board of Directors and be the key contact point for VDOT. Based on its global toll road experience, Macquarie and Skanska (together with the Proposer's senior management team) will determine which O&M functions are best performed in-house by the concession company and which functions should be outsourced to appropriate service providers. Therefore, at this time, we have not included an O&M provider as part of our team; however, we anticipate, and our cost estimates and financial projections include, our responsibility for these costs over the life of the project.

VCP members have successfully implemented many different solutions to address O&M requirements, from keeping all functions in-house (such as the M6 Toll in the United Kingdom) to fully outsourcing all major activities (as is the case for the Eastern Distributor in Australia and Dulles Greenway in Virginia). In deciding whether to outsource or not, VCP will consider the importance of retaining control, any relevant VDOT requirements, the size of potential cost savings and the expertise of third-party service providers. Major maintenance, rehabilitation works and toll collection staff are often outsourced by toll road operators in other jurisdictions.

High-quality customer service will be a priority during the O&M phase as this is a key driver for optimizing Project revenue. Key customer service initiatives include maintaining a Project website, providing convenient toll payment options for users (including automatic direct debit and web-based applications), operating a telephone inquiry line (if appropriate), implementing effective complaint-handling procedures and conducting advertising to inform commuters about major events associated with the Project.

**Value Oriented Life-Cycle Cost Analysis**

VCP's approach is to provide the most economical whole life cost for the Project. This is accomplished through a systematic process of analyzing design, construction and scheduling alternatives to meet the Project's structural and performance objectives. A number of potential opportunities exist to minimize

the whole life cost of this Project, including reviewing alternative pavement design (such as asphalt and concrete), simultaneous construction along the route to facilitate early opening as well as implementing interim solutions for the interchanges until traffic volumes warrant full build-out. Each of these options will be evaluated to determine initial capital costs, the maintenance activity required to maintain high service levels and the potential impacts of maintenance items on facility availability, level of service and revenue. VCP will also review opportunities to outsource appropriate O&M functions where doing so provides the best-value solution for the Project.

The project would be delivered with a focus on ensuring the most economical capital costs with the highest revenue potential while maintaining economical roadway life cycle costs. By minimizing the whole life cost of the Project, rather than just the upfront capital cost, VCP should be able to develop a toll road that will continue to provide optimal service to travelers.

### 3.2.2. FINANCING PLAN

The VCP financing plan focuses on the likely beneficiaries of the project from a 'whole of corridor' perspective in order to bridge the gap that exists between the cost of building the road and the funds that are able to be raised from tolls in isolation.

#### 3.2.2.1. APPROACH

Our approach to advancing the Project has three tiers:

1. Tolling new USR 460;
2. Regional Corridor Management - whereby tolls are introduced on roads in the Hampton Roads Region to be used to upgrade those roads as well as help finance the new USR 460; and
3. Focus on working with the key beneficiaries of the project alongside VDOT to come to an agreement on implementing the revenue streams required to fund USR 460.

In addition, VCP would focus on performing appropriate traffic demand and engineering studies, design, life-cycle cost analysis, and construction phasing and implementation. This approach should maximize benefits for the region by matching Project scope and capacity requirements with demand over the term of the Comprehensive Agreement.

### PROJECT DEVELOPMENT APPROACH WITH KEY STAKEHOLDERS

The key beneficiaries of the new road are expected to be:

- **Local Users** - Increased safety and high quality to access to surrounding areas. Existing 460 users will also benefit from truck traffic diversion from existing 460;
- **Visitors to Hampton Roads area** - increased access to the region.
- **Shipping Companies** - improved access to and through the container ports;
- **Truck Drivers** - improved travel times to and from Hampton Roads port facilities on the VA460 and other routes as well as to distribution centers in the region;

- **Property Owners Along Corridor** - increased property value through increased opportunity for high value uses and development; and
- **Residents of Hampton Roads** - increased capacity during hurricane evacuation periods; greater access to port will allow increased development and employment opportunities.

A key feature in VCP's Project approach is to create a collaborative effort among VDOT and other key stakeholders to define the optimal financial, physical and operating solutions to maximize Project revenues, thereby yielding the most asset value and effective mobility improvements for the area. As a key stakeholder in the project, discussions will also be held with the port operators and users to ensure all issues are properly addressed. Through this collaborative effort, VCP plans to advance the Project through:

- Detailed traffic capacity and demand studies
- Flexibility of Project scope and phasing
- Alternative Technical Concepts ("ATC") analysis
- Revenue generating analysis
- Detailed construction cost estimates
- Innovative financing
- Accelerated Project delivery
- Efficient operations and maintenance services
- Stakeholder strategic planning

VCP's experience in implementing these key elements should maximize value to VDOT and result in capacity improvements for the benefit of the motorists traveling through this area of Virginia.

#### 3.2.2.2. REVENUE STREAMS

VCP have identified a number of different revenue streams that can be attributed to the project to ensure that the construction of the new USR 460 is fully funded. These revenue streams will be raised based upon those who derive the most benefit from the new road.

In summary, the major revenue streams could include:

- **Tolls on USR 460** - truck drivers, local users, residents of Hampton Roads, visitors to Hampton Roads area;
- **Tolls on USR 460** - truck drivers, local users, residents of Hampton Roads, visitors to Hampton Roads area;
- **Introducing Tolls on other facilities in the Hampton Roads region** - truck drivers, local users, residents of Norfolk, visitors to Norfolk area; and
- **Other Contributions from Key Beneficiaries** - For example, property value capture, where developers along the corridor contribute towards the development of critical infrastructure. Shippers may be prepared to contribute through a small increase in shipping charges in return for increased access to and competitiveness of the Port of Norfolk. VCP advocates an inclusive and voluntary process for engaging with these key stakeholders.

With regard to tolling of other existing facilities in the Hampton Roads area, we believe that such an approach delivers multiple benefits to the Route 460 project as well as to the regional transportation system. Revenues generated by these tolls would:

- Provide revenue to cover the financial gap in the Route 460 project;
- Reduce the amount of diversion from Route 460 to free alternatives;
- Provide funding for improvements to the other tolled facilities; and
- Enhance regional congestion management activities.

These revenue streams will need to be explored in more detail, and it is anticipated that assistance from VDOT and other stakeholders would be required in the setting and collection of these revenue streams. Other states, such as South Carolina, have implemented similar strategies to those detailed above (for example, a hotel levy on beneficiaries).

Other strategies to help increase tolling revenue on the new USR 460 would include limiting through truck traffic on the existing 460 route, driving traffic onto the new 460. Building a direct connection into the Port from USR 460 would also significantly increase the viability of the road.

### 3.2.2.3. CONCEPTUAL FINANCIAL PLAN

VCP, with the assistance of Macquarie Securities (USA) Inc. ("MSUSA"), has prepared a conceptual financing plan for the project that is designed to minimize the cost of financing and maximize the debt and equity available for the Project. For the purposes of this proposal, VCP has considered two alternatives, each of which are discussed in more detail later in this section - a) Concession approach and b) Public Finance approach. Within each approach, VCP has reviewed numerous funding solutions to develop, design, construct, finance, operate and maintain the Project. Ultimately, the most appropriate funding solution will be a product in the form required by the Comprehensive Agreement and the types of risks that VDOT transfers to the developer.

In addition, MSUSA will ensure that the funding solution includes financial guarantees that are in place for both debt and equity pieces at the appropriate time.

## DEBT STRATEGY

VCP will seek to secure the most efficient financing from the following markets:

- **Private Activity Bonds:** tax-exempt bonds that can be issued by non-government entities in the case of projects with a public benefit that meet a strict definition.
- **TIFIA:** a loan from the U.S. Department of Transportation to qualifying transportation projects. This loan must be subordinate to some other form of senior debt.
- **Capital Markets Debt:** notes, credit agreements and/or bonds issued into the private finance market on behalf of the Proposer by an underwriter. The underwriter bears the risk that there is not sufficient demand for the bonds in the market.

- **Bank Debt:** debt sourced directly from one or more banks that may or may not syndicate the debt by selling it onto other banks at a later date.

The relative advantages and disadvantages of each of these are as follows:

**TABLE 3.2: CONCEPTUAL FINANCIAL PLAN**

Type	Advantages	Disadvantages
Private Activity Bonds	<ul style="list-style-type: none"> <li>▪ most competitive cost of funding</li> <li>▪ maximizes funding available for the Project</li> <li>▪ allows a layer of equity to be combined with the efficiency of tax-exempt debt</li> </ul>	<ul style="list-style-type: none"> <li>▪ limited allocation of \$15 billion approved for U.S.</li> </ul>
TIFIA Direct Loan	<ul style="list-style-type: none"> <li>▪ repayment flexibility, including long deferrals</li> <li>▪ competitive cost of funding</li> <li>▪ low coverage ratios</li> </ul>	<ul style="list-style-type: none"> <li>▪ all debt senior to TIFIA must be investment grade</li> <li>▪ time consuming to put in place</li> <li>▪ may seek a sweep of excess project revenues</li> <li>▪ tight definition for eligibility</li> </ul>
Capital Markets Debt	<ul style="list-style-type: none"> <li>▪ repayment flexibility</li> <li>▪ long term of 30+ years</li> <li>▪ fixed rate</li> <li>▪ many variations:                             <ul style="list-style-type: none"> <li>▪ Floating Rate Notes;</li> <li>▪ Auction Rate Notes;</li> <li>▪ Sterling or Euro denominated bonds; and</li> <li>▪ Accretion bonds.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ cost of rating</li> <li>▪ cost of carry due to upfront drawdown</li> <li>▪ required wrapping by a monoline insurer</li> <li>▪ required rating</li> </ul>
Bank Debt	<ul style="list-style-type: none"> <li>▪ draw down funding as required</li> <li>▪ repayment and refinancing flexibility</li> </ul>	<ul style="list-style-type: none"> <li>▪ term may be shorter than desired</li> </ul>

Each of the options above does not preclude the additional use of one of the other options, especially with the TIFIA debt which is typically subordinated.

VCP envisions undertaking a process where bond underwriters and European bank debt providers compete head to head to maximize the flexibility of the Financing Plan and achieve the lowest cost of debt for the Project. VCP has utilized this type of process on comparable transactions and believes that it is an appropriate mechanism for this Project. This process results in competitive terms, guards against either debt provider having excessive leverage and provides the Proposer a fallback plan in the event market movements affect one solution or the other at the time of financial close.

VCP expects that the Project would be eligible for an allocation of private activity bond issuance authority from the United States Department of Transportation. PABs, being a tax exempt form of finance, offer significant cost savings over other forms of funding available to the private sector and can

be structured to have long durations (40 years), have multiple tiers and be callable after a certain period. The tax-exempt market is very deep in the United States with almost \$2 trillion in debt outstanding. The transportation sector is a very attractive asset class for tax-exempt investors so there should be strong investor demand for PABs associated with this project.

VCP anticipates the engagement of one or potentially more monoline insurers to "wrap" any bond issue that is undertaken. By providing credit enhancement of the bond issue, the insurer allows the project to access debt finance at a reduced cost. The wrapping of the bonds also removes the added risk of construction, resulting in a stable credit rating throughout construction and operations. In addition to the dual track process outlined above, we will be discussing the Project with a number of monoline insurers and electing to proceed with the most flexible and cost-effective.

Based on the TIFIA program's eligibility criteria, TIFIA funding should be available for this project, as USR 460 has a construction cost over \$50 million and it is a project of regional importance. TIFIA can be used by the Proposer to finance up to 1/3 of "eligible" project costs. Eligible costs are generally defined to include design and construction costs but exclude transaction costs and reserves. Importantly, TIFIA offers an attractive fixed interest rate set at 0.05% above the prevailing 30-year treasury rate at execution as well as the flexibility to defer debt service payments for up to five years after construction completion.

European banks are familiar with taking risks under a typical PPP structure and can provide long tenor, floating rate debt that can be swapped to provide the appropriate long term profile. European banks have significant experience completing transactions similar to this project and are accustomed to providing certainty of financing by underwriting the transaction at a relatively early stage.

The construction estimate for the project has been prepared assuming that the Title 23 requirements will apply - this refers to both PABs and TIFIA eligibility.

## EQUITY STRATEGY

The VCP recognizes, however, the importance of having a stake in the success of the project and that stake can be best achieved through a contribution of our own equity. For this project, the equity investment will be shared equally between Skanska Infrastructure Development and Macquarie. Given that equity is the most expensive of the proposed financing sources, however, the equity providers may propose to utilize this funding source after securing the optimal amount of debt funding for the Project. As both Macquarie and Skanska have extensive experience with the development and financing of toll roads, MSUSA is confident that the potential equity providers will be able to appropriately price the transaction.

### 3.2.2.4. PRIVATE FINANCE VS PUBLIC FINANCE

As part of the conceptual financing plan, VCP has considered both a private finance structure (Private Activity Bonds) and a public finance structure (63-20 corporation).

VDOT should note the key differences between the private and public finance approach. In particular:

- Under the private finance approach, the private is wholly responsible for the cost of construction and operation and maintenance of the Project to agreed performance standards, with recourse only to

the toll and other revenues generated by the Project at pre-agreed rates. The equity investment by the private sector ensures that the long term objectives of the private sector and VDOT are met.

- Under a public finance approach, the construction and of operation and maintenance of the project will be undertaken by a public entity. Under this structure, cost overruns are typically passed on to motorists through price increases to ensure that the finance raised for the project can be repaid.
- Further, under a private finance approach, the significant equity investment made by the private sector can bridge a funding gap allowing the project to proceed, where is otherwise would not, thereby accelerating project delivery.

In our view a private finance approach offers significant benefits compared to a public finance approach.

Under a private finance scenario, there is a much greater level of risk transfer than under a public financing structure. This includes revenue risk, construction risk, and operations and maintenance risk. All these risks are borne by the sponsoring agency in a public finance structure.

With regards to revenue risk, for which the concessionaire takes all the risk, the concessionaire is locked into pre-agreed tolling regimes, and other cost/pricing structures that have been negotiated as part of the Comprehensive Agreement. This leaves users of the road with an agreed tolling increase schedule over time.

Under the public financing structure, the government/public entity is able to raise tolls and other charges as and when required to meet debt service requirements should debt service coverage ratios fall below acceptable levels. This leaves motorists, and any other sources of revenue, vulnerable to unplanned price increases.

It is important to understand this difference to show that a private finance structure is qualitatively better than a 63-20 structure.

VCP prefers the use of a concession, but we have also examined the possibility of using a 63-20 corporation.

### 3.2.2.5. FUNDING SOLUTIONS - CONCESSION APPROACH

#### *Base Case*

The most effective debt strategy for the Project is expected to include a combination of Private Activity Bonds ("PABs") and TIFIA funding along with the significant equity contribution by our team. VCP considered other solutions, including bank debt; however, none was as attractive as the Base Case presented. For the purposes of this analysis, we have included all of the potential supplemental revenue sources previously outlined, including a charge negotiated with port users.

FIGURE 3.2: BASE CASE STRUCTURE: PRIVATE ACTIVITY BONDS / TIFIA / EQUITY

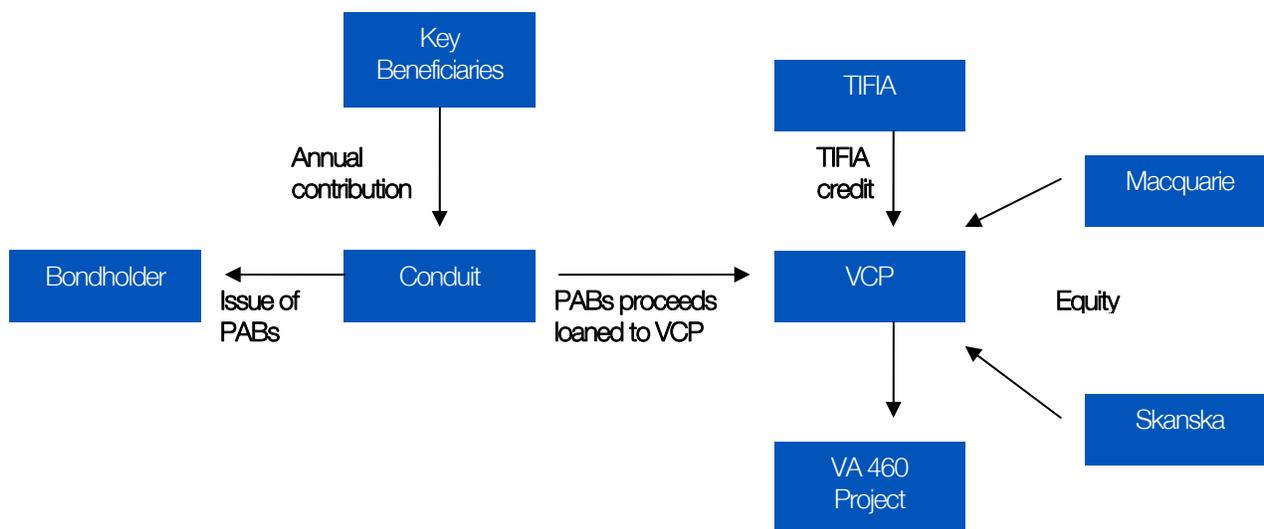


TABLE 3.3: BASE CASE SOURCES & USES OF FUNDS AT SUBSTANTIAL COMPLETION

Sources	\$m	Uses	\$m
Private Activity Bonds	1,849	D&C Contract	1,913
TIFIA	219	Interest	271
Equity	363	Reserves & Transaction Costs	248
<b>Total Sources</b>	<b>2,432</b>	<b>Total Uses</b>	<b>2,432</b>

MSUSA's Base Case financing plan includes funding upfront transaction costs and construction costs with PABs and TIFIA. MSUSA expects that the project can be structured to be eligible for PABs and TIFIA.

The total PAB allocation is drawn at the start of construction and placed on deposit. These funds earn interest at an equivalent rate to the yield payable on the PABs, so that there is no negative carry while they are on deposit. As the funds on deposit are progressively drawn to meet construction payments, the interest payable to PAB investors exceeds the interest received by the Project from the funds on deposit. Consequently, funds on deposit are also used to meet PAB debt service obligations as construction progresses.

All financing plans envisage the investment of equity at substantial completion.



*Alternative Scenario*

Scope modifications which do not affect the functionality of the Project and a more rapid procurement timetable have the potential to reduce the construction costs for the project through a combination of reduced quantities and escalation. These options are discussed in more detail in Section 3.2.2.7, Alternative Scenario. Under the Alternate Scenario, the estimated construction cost is \$1,568,000,000.

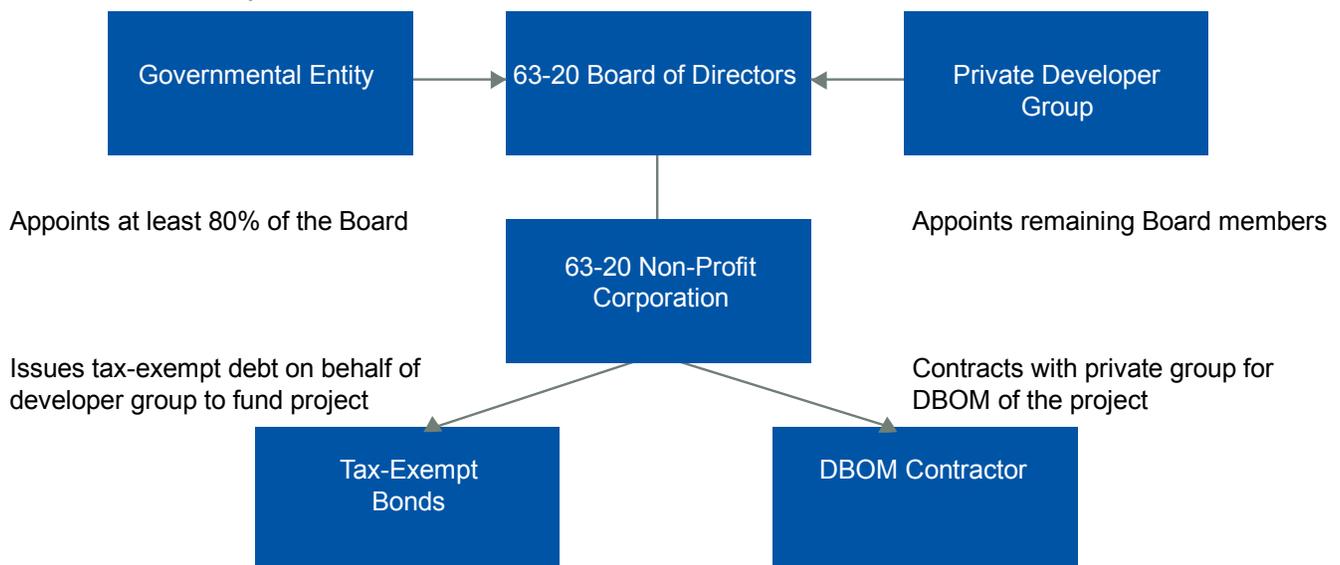
The sources and uses for the Project under this scenario are outlined below:

**TABLE 3.4: ALTERNATIVE FINANCING SOURCES & USES OF FUNDS AT SUBSTANTIAL COMPLETION**

Sources	\$m	Uses	\$m
Private Activity Bonds	1,657	D&C Contract	1,568
TIFIA	148	Interest	333
Equity	314	Reserves & Transaction Costs	218
<b>Total Sources</b>	<b>2,119</b>	<b>Total Uses</b>	<b>2,119</b>

3.2.2.6. FUNDING SOLUTIONS - PUBLIC FINANCE APPROACH

**FIGURE 3.3: FUNDING SOLUTIONS - PUBLIC FINANCE APPROACH (63-20 CORPORATION)**



A public finance strategy is achieved by using a 63-20 corporation structure to issue tax-exempt debt, alongside TIFIA. There is no equity investment under this structure. In this scenario, assuming the same revenue as in the Base Case, there is a funding gap of \$248 million.

The sources and uses for the Project under this scenario are outlined below:

**TABLE 3.5: 63-20 SCENARIO SOURCES & USES OF FUNDS AT SUBSTANTIAL COMPLETION**

Sources	\$m	Uses	\$m
Tax Exempt Bonds	2,035	D&C Contract	1,913
TIFIA	225	Interest	281
VDOT Contribution	248	Reserves & Transaction Costs	314
<b>Total Sources</b>	<b>2,508</b>	<b>Total Uses</b>	<b>2,508</b>

Due to the requirement for a significant contribution from VDOT, the public finance approach is not our preferred approach.

**3.2.2.7. Alternative Scenario**

VCP has also undertaken an analysis of an alternative scenario that could be implemented to reduce the construction costs under the Base Case assumptions.

The reduced estimate is based upon the following items being performed by VDOT or one of their agents:

- No CEI inspection services
- No ROW acquisition services
- Others will obtain additional ROW for wetland mitigation
- Remove 25 bridge structures for extremely minor local road crossings of Route 460
- Four year construction period
- Design begins July 1, 2007 (compressed procurement schedule)
- VDOT to obtain all permits
- Bonding of \$200 million sufficient for work underway
- VDOT to acquire ROW and design and build any frontage or connector roads
- Low-traffic interchanges can be delayed for full build-out

The table below shows the cost breakdown under the alternative scenario.



**TABLE 3.6: PRELIMINARY ESTIMATE AND METHODOLOGY (ALTERNATIVE SCENARIO)**

CONCEPTUAL ESTIMATE		\$m
Construction Elements		801
Right-of-Way Costs		-
	Subtotal	801
Indirect Costs		82
Bonds		3
Tolling Infrastructure		20
Building Facilities (incl. Toll plazas)		18
O/H, profit, design, inspection, contingency, etc.		367
	Total	1,291
Escalation to December 2008		277
	Escalated Total	1,568

**3.2.3. CONCEPTUAL OPERATIONAL PLAN**

A robust financial plan has been developed for the operations phase of the project on the basis of value engineering. Through the CA, the operational plan transfers all operational risk to the concessionaire. Importantly, the plan has been developed with sufficient financial flexibility to respond to unforeseen events over the course of the concession. This is evidenced by senior debt service coverage ratios in excess of 1.65 times throughout the life-cycle of the project. In addition, a debt service reserve account of more than \$160 million is to be established at financial close in the Base Case scenario. This reserve is sized to cover the average annual debt service over the tenor of the bonds.

The table below describes the downside protection built into the finance and operations plan for the project.

**TABLE 3.7: DEBT SERVICE COVERAGE AND DOWNSIDE PROTECTIVE MEASURES**

Downside Protection	Description
Senior Debt Average Debt Service Coverage	1.71x
TIFIA Average Debt Service Coverage	1.55x
Debt Service Reserve Fund	\$161.9 million funded at financial close Equal to average annual debt service
TIFIA Repayment	Flexible repayment profile for TIFIA allows



Senior Debt (PABs) Repayment	amortization to be shifted to later years should project not perform to forecasts
	PABs repaid by year 40, 10 years prior to end of concession, giving bondholders substantial downside protection

For further detail on the schedule and plan to maintain, including life-cycle cost optimization, refer to Section 2.11.

### 3.3. 3.3. KEY ASSUMPTIONS AND TEAM MEMBERS

#### 3.3.1. 3.3.1. Key Assumptions

##### 3.3.1.1. 3.3.1.1. General

General assumptions that have been made by VCP are:

- VCP will have the flexibility for financing, legal, tax or other legitimate reasons to enter into a CA for the Project directly or through one or more affiliated entities, provided that such entities are acceptable to VDOT;
- VDOT will employ a "best value" developer selection process that permits us to offer "Alternative Technical Concepts" to the Project description and design requirements of Modified Candidate Build Alternative alignment 1;
- All permits required to undertake the construction of the project have been received; and
- Start date of construction is July 2010.

##### 3.3.1.2. 3.3.1.2. Legal

Legal assumptions that have been made by VCP are as follows:

- VCP's obligations will be established and governed solely by the terms and conditions of the CA;
- No changes in laws, regulations, policies or actions will prevent, significantly delay or obstruct the implementation of the Project;
- Although we are not requesting a non-compete clause, we do believe that potential competing facilities that are not contained within the local transportation plan will need to be evaluated for their effect on the Project's traffic and revenue. CA provision will be made to mitigate damages to the developer for those facilities implemented having a negative impact on traffic and revenue;
- All hazardous materials will be the responsibility of the generator. While VCP may assist VDOT and the generator in mitigating, isolating or removing such materials, neither VCP nor any of its affiliates will become the generator or otherwise accept any responsibility for or costs associated with such materials; and
- We expect reasonable inter-governmental agreement terms with and between local communities and stakeholders consistent with similar agreements in the region.

### 3.3.1.3. Comprehensive Agreement Terms

VCP has assumed that the Comprehensive Agreement will contain commercial terms that are within the market parameters for internationally project financed projects of a similar nature, including:

- A clear toll rate framework and mechanism for toll adjustment, based on commonly understood indices;
- Developer responsibility for financing the project;
- Appropriate risk sharing by the party best able to price and bear the risk, in respect of site conditions and hazardous materials;
- Objective criteria for design, construction, operations and maintenance, based on an output specification;
- A commercially reasonable insurance program;
- A mechanism to provide time and financial compensation for events that are outside the control of the Developer and prevent the Developer from performing substantially all of its obligations under the Comprehensive Agreement;
- A change mechanism, including appropriate compensation, for changes required by VDOT after submission of a binding proposal by the Developer;
- Limited and reasonable events of default by the Developer and by VDOT, with appropriate cure periods and step-in rights for the lenders to the Project;
- An objective and efficient Dispute Resolution Procedure;
- Reasonable hand-back standards at the end of the concession period;
- The ability of either party to terminate for Force Majeure events, for the Developer to terminate due to VDOT default or VDOT termination for convenience and for VDOT to terminate due to Developer default;
- Compensation for termination due to Developer default based on the fair market value of the project less any costs required to remedy the default;
- Compensation for VDOT termination for convenience, or VDOT default that compensates equity and debt providers for their investment in the project, and covers debt and subcontractor breakage costs; and
- Compensation for Force Majeure termination that covers outstanding debt, the equity in the project and any subcontractor breakage costs.

### 3.3.1.4. 3.3.1.4. Financial

Financial assumptions that have been made by VCP are as follows:

- VCP may employ any financial methods, structures or sources appropriate to the Project, including but not limited to tax-exempt debt, private activity bonds, taxable debt, federal loans and credit guarantees, equity, public or private contributions in cash or in kind (including all methods contemplated by United States SAFETEA-LU) or any combination thereof allowed by state and federal law;

- VCP has assumed that PABs and TIFIA loans are available to finance construction of the Project;
- VCP will pay normal and customary sales taxes on materials and services required for the Project's operations and maintenance. The Project will be exempt from all other property, sales, use and other state and local taxes; and
- VCP will pay normal and customary sales taxes on materials and services required for the Project's design and construction, unless the Project is operated and/or maintained by a public entity.

**3.3.1.5. 3.3.1.5. Traffic and Revenue**

Traffic and revenue assumptions that have been made by VCP are as follows:

- A systematic approach will be identified to all Proposers for allowing interaction with the MPO concerning Travel Demand Modeling consistent with the local transportation plan
- The developer will have the right to assess and collect a toll from each vehicle that travels on the Project's toll lanes, and to adjust such tolls from time to time as the developer deems appropriate for traffic management, financial or other reasons within the structure defined by the CA
- Transponders issued for use on the Project must comply with VDOT's published standards for interoperability in effect on the date of execution of the CA
- Toll facility:
  - > Toll rates - Parsons 'High' toll schedule utilized in all financing scenarios presented
  - > Facility usage - Average daily transactions of 27,810 in 2026 assumed (per Parsons 'High' tolls schedule)
- Port usage:
  - > TEUs (Twenty-foot equivalent units) - Base 2006 TEUs of 2.1 million assumed for throughput for ports in Hampton Roads, growing to 6.1 million in 2020 and 8.5 million in 2030
  - > Containers - Base 2006 container throughput assumed to be 1.2 million, with growth to 2020 total of 3.5 million and 2030 total of 4.9 million

**3.3.1.6. Additional Revenue Streams**

Additional revenue streams have been included to ensure the project is fully funded. These may include tolls from other roads in the region, port user contributions and property development value capture. Refer to Section 3.2.2.2 for further details. It is assumed that VDOT will work with VCP and the key stakeholders to come to agreement on the terms required.

**3.3.1.7. Modeling**

The major operating period assumptions for the Base Case are outlined below.

**TABLE 3.8: KEY BASE CASE OPERATING ASSUMPTIONS**

Assumption	Description			
Daily Transactions (2026)	▪ 27,810			
Toll Rates (2004 \$)	<b>Toll Plaza</b>	<b>Motorcycle</b>	<b>Two-Axle</b>	<b>Additional</b>



Assumption	Description			
			Vehicle	Axles over 2 (max 4)
	S of I-295	\$1.40	\$2.80	\$1.40
	SB on ramps & NB off ramps at SR 156	\$1.10	\$2.20	\$1.10
	N of Route 604, Wakefield	\$1.90	\$3.80	\$1.90
	N of Route 58 Bypass, Suffolk	\$1.55	\$3.10	\$1.55
Additional Revenue Streams	▪ \$70.8 million (year 1)			
Interest Revenue	▪ 4.84% (year 1)			
Operating Expenses	▪ \$12.8 million (year 1)			
Maintenance Capital Expenditure	▪ \$6.4 million (year 1)			
Base Construction Cost	▪ \$1.9 billion			
Inflation	▪ 2.59% per annum long-term			

3.3.1.8. 3.3.1.8. KEY DEBT TERMS

TABLE 3.9: DEBT TERMS AND ASSUMPTIONS

	Deferred Amortization, Tax-Exempt Bonds	Zero Coupon Senior Lien Taxable Bonds	Private Activity Bonds	TIFIA Loan
<b>Maturity</b>	40-45 years	Based upon the term of the concession allowing for a minimum 5 year concession period "tail"	40-45 years	35 years post project construction
<b>Ratings Target</b>	Minimum investment grade	Minimum investment grade	Minimum investment grade	Senior debt must be investment grade



<b>Amortization and Capitalized Interest</b>	Deferred amortization to accommodate construction and ramp-up periods; interest is capitalized through six months after construction completion	Long durations with serial amounts of principle and interest at maturity	Deferred amortization to accommodate construction and ramp-up periods; interest is capitalized through six months after construction completion	Principal deferred 5 years post construction; interest is capitalized through six months after construction completion
<b>Interest Rate</b>	Spread to the tax-exempt AAA benchmark (MMD); structured as premium bonds with 5% coupons for serial bonds (avg spread to MMD of 49 bps) and premium bonds with 5.50% coupons for term bonds (avg spread to MMD of 51 bps)  Average zero coupon bond spread of 118 bps over the MMD	150-200 bps over 30-year U.S. Treasury	Spread to the tax-exempt AAA benchmark (MMD); structured as premium bonds with 5% coupons for serial bonds (avg spread to MMD of 69 bps) and premium bonds with 5.50% coupons for term bonds (avg spread to MMD of 76 bps)	Approximately 5 bps over 30-year U.S. Treasury
<b>Forecast Debt Service Coverage Ratio</b>	Forecast net revenue coverage minimum of 1.50-1.75x after construction completion	DSCR of 1.40-1.75x, and 1.15-1.20x aggregate coverage from forecast net revenues	Forecast net revenue coverage minimum of 1.50-1.75x after construction completion	Minimum aggregate coverage of 1.35x including TIFIA debt service (1.10x legislated)
<b>Debt Service Reserve Fund Requirement</b>	Average annual debt service	Average annual debt service	Average annual debt service	N/A
<b>Fees and cost of issuance</b>	2% of par amount	3% of par amount	2% of par amount	50 bps of par amount

### 3.3.2. Finance team members

#### 3.3.2.1. Macquarie Securities (USA)

MSUSA, as financial advisor to VCP, is highly experienced in sourcing competitively priced capital and implementing innovative financing structures to maximize the value of a transaction. Macquarie has a strong track record of arranging innovative and optimal debt funding solutions on many recent infrastructure projects. These solutions often include capital market and other financial enhancements



designed to provide optimum value for money. This experience extends to all forms of debt funding including:

- Arranging and underwriting debt capital
- Arranging bank debt
- Arranging and underwriting bank debt bridge

Macquarie is a leader in developing innovative funding solutions for infrastructure developments. Macquarie has been responsible for planning and structuring innovative financial solutions and the development of financial enhancements on numerous large-scale and high profile infrastructure projects. This innovation has seen the development of:

- Institutional investment in public infrastructure
- Infrastructure Bonds in Australia
- A retail market investing directly in infrastructure through the Australian Stock Exchange or indirectly through infrastructure trusts (such as MIG)
- Debt alternatives such as CPI-linked securities, mezzanine and subordinated debt, and higher yield debt securities as well as TIFIA for private toll road projects
- Bondholders accepting demand risk
- Bondholders and banks being ranked pari passu

**MACQUARIE RELEVANT TOLL ROAD EXPERIENCE**

**TABLE 3.10: INDUSTRY EXPERIENCE**

Asset	Date	Value <sup>1</sup> (\$m)	Role
Autoroutes, Paris-Rhin-Rhone, France	Feb 2006	9,000	Financing
Indiana Toll Road, Indiana	Jun 2006	3,948	Financing, O&M
EastLink, Melbourne, Australia	Nov 2004	2,913	Financing, PPP
Chicago Skyway, Chicago, Illinois	Jan 2005	1,882	Financing, O&M
Westlink M7, Sydney, Australia	Feb 2003	1,650	Financing, PPP
Chicago Skyway Refinancing, Chicago, Illinois	Aug 2005	1,550	Financing, O&M
M6 Toll, Birmingham, UK	Oct 2000	1,430	Financing, PPP, O&M
407 ETR, Ontario, Canada	April 2002	1,150	Financing
South Bay Expressway, San Diego, California	May 2003	635	Financing, PPP, O&M
Dulles Greenway, Washington, D.C.	Sep 2005	618	Financing, O&M

<sup>1</sup> All amounts have been converted to U.S. dollars at prevailing rates as of July 14, 2006.



Asset	Date	Value <sup>1</sup> (\$m)	Role
Yorkshire Link Refinancing, Leeds, United Kingdom	Sep 2001	611	Financing
Sea-to-Sky Highway, Vancouver, Canada	Jun 2005	532	Financing, PPP
M5 Motorway Refinancing, Sydney, Australia	May 2005	407	Financing, O&M
Eastern Distributor Refinancing, Sydney, Australia	Nov 2004	389	Financing, O&M
Incheon Grand Bridge, Incheon, South Korea	Jul 2005	369	Financing
Edmonton Ring Road, Alberta, Canada	Dec 2005	341	Financing, PPP
Cheonan-Nonsan Expressway, South Korea	Jun 2004	283	Financing
Warnow Tunnel, Rostock, Germany	Mar 2000	256	Financing, O&M
Gwangju 2nd Beltway, Section 1, South Korea	Jan 2003	205	Financing, PPP, O&M
Soojongsan Tunnel, Busan, South Korea	Jun 2005	148	Financing
Yongin-Seoul Expressway, South Korea	Jun 2005	141	Financing
Baekyang Tunnel, Busan, South Korea	Mar 2004	131	Financing, PPP, O&M
M4 Motorway, Sydney, Australia	Dec 2000	115	Financing, O&M
Incheon Expressway, Seoul, South Korea	Dec 2003	115	Financing, PPP
Gwangju 2nd Beltway, Section 3, South Korea	Dec 2004	109	Financing, PPP, O&M
Machang Bridge, Masan, South Korea	Mar 2004	106	Financing, PPP
Daegu 4th Beltway East, South Korea	Jun 2006	94	Financing
Seoul-Chuncheon Expressway, South Korea	Aug 2004	83	Financing

### 3.3.2.2. Skanska ID

Skanska ID, a member of the Skanska group, is a world leader in public-private partnerships with experience in all phases of the process. Skanska has extensive experience with international, privately financed infrastructure projects and has successfully closed transportation projects based on different payments structures demonstrating a wide financing experience. Based on our competence and experience, Skanska can bring greater cost effectiveness and certainty of delivery in the financing structure by using in-house resource in providing financial advisory services.

Our principal strategy towards structuring the funding is to achieve two objectives:

1. Minimize funding costs for the client, leading to the lowest cost bid
2. Certainty of delivery on the terms offered and in accordance with the timetable

Skanska projects demonstrating experience with similar transportation projects are Autopista Central in Chile (tolls), the E-39 Klett - Bardshaug highway in Norway (availability payments), and the Helsinki - Lahti Motorway in Finland (shadow tolls). Section 1.2.2 has more information about these projects. In addition to these Skanska have worked with hybrid payment structures on the A1 project in Poland.

3.3.2.3. Morgan Stanley

Morgan Stanley is acting as financial advisor to VCP, and Morgan Stanley and Morgan Keegan are acting as joint bond advisors. Morgan Stanley has unmatched experience in the full breadth of services and products most important to the consideration of public-private partnerships. The Firm has a truly global reach, having both advised on and executed public-private transportation partnerships worldwide. Morgan Stanley has been at the leading edge of the recent movement towards the further integration of the public and private sectors to assure an optimal use of private sector experience and resources to expand and enhance the effectiveness of limited public sector resources. This experience spans all sectors of the industry, including serving as financial advisor and concession advisor to U.S. toll authorities and other public sponsors, strategic advisor on public-private projects, as well as being a leading underwriter of toll road and other surface transportation financings. Furthermore, Morgan Stanley professionals have extensive experience with TIFIA and private activity bond financings, and the credit expertise to evaluate and to advise regarding different public-private partnership financing structures.

Morgan Stanley's international reach in the surface transportation privatization industry is exemplified by underwriting financings for Autopistas del Nordeste (serving as underwriter/advisor to the concessionaire, Grupo Odinsa, S.A.), Autopistas del Maipo, Italian high speed rail network, F Tav, GS Superhighway in China, Auto Link in the U.K. the Zhuhai Highway Company in China, and the acquisition of the Hangzhou Ring Road by Chinese Future Corp. in China. Also, Morgan Stanley is currently serving as underwriter and financial advisor to several bidding consortia for greenfield toll road projects in the U.S.

Additionally, Morgan Stanley is the leading financial advisor to global transportation clients having advised entities such as the Narita Airport Authority (Tokyo Airport), Autoroutes Paris-Rhin-Rhone Autostrade (the Italian toll road developer and operator) and Abertis. Domestically, Morgan Stanley also has extensive experience advising and serving as underwriter for toll road financings and derivatives transactions for the Chesapeake Expressway, the New Jersey Turnpike Authority (acquisition and permanent financing for the Turnpike consolidation), the Orlando-Orange County Expressway Authority, the Bay Area Toll Authority, Miami-Dade Expressway Authority, the Turnpike Authority of Kentucky, and several state departments of transportation, including Texas Department of Transportation, Mississippi Department of Transportation, Oregon Department of Transportation, Pennsylvania Turnpike Commission and the Alaska Department of Transportation.

3.4. RISK FACTORS

Our proposal contemplates that Project risk and responsibility will be shared between VDOT and VCP in a manner that allocates risks and processes to the party with the best ability to manage them. Risk management and mitigation on this basis allows VCP to provide the greatest level of efficiency and certainty in financing, delivering the best-value Project for VDOT.

The following table is a summary of the risks and responsibility associated with the Project.

TABLE 3. 11: KEY RISK FACTORS

Risk	Responsibility	Comments
------	----------------	----------



Risk	Responsibility	Comments
Construction Risk	VCP	<p>The three risks entailed by construction are for schedule, budget, and quality/warranty. We plan to mitigate these risks in the following ways:</p> <ul style="list-style-type: none"> <li>Issue a fixed price Design/Build contract</li> <li>Provide incentives and penalties for schedule adherence</li> <li>Hire a QA auditing consultant</li> </ul>
Environmental/Permitting	VCP/VDOT	<p>Delays in receiving permits and extended permitting approvals are the risks in this category. The risk can be mitigated by:</p> <ul style="list-style-type: none"> <li>Requesting VDOT assistance in expediting permit approval</li> <li>Beginning design work by July 1, 2007 to advance permit applications</li> <li>Applying for permits by segment rather than the entire alignment</li> </ul> <p>Environmental risks include the discovery of hazardous materials and wetlands issues. These can be mitigated by:</p> <ul style="list-style-type: none"> <li>Sharing risk of pollution discovery with VDOT</li> <li>Ensuring that the Commonwealth is designated as the generator of hazardous material</li> <li>Finding sufficient wetlands mitigation property along the newly acquired ROW</li> <li>Using construction techniques for marine works by launching along viaducts and trestles.</li> </ul>
Toll Revenue Risk	VCP	<p>Toll revenue risk will be highly dependant upon commercial usage of the road as well as the predicted growth in port container volumes. There is no absolute way to mitigate this risk prior to the beginning of construction, however a number of measures can be undertaken in order to give the Project Sponsors a level of comfort that this Project will be successful, including undertaking:</p> <ul style="list-style-type: none"> <li>investment grade Traffic and Revenue studies</li> <li>specific commercial traffic research</li> </ul> <p>studies on the competitive position of the Virginia Port Authority</p>
Securing of Financing	VCP	VCP intends to submit a fully committed, underwritten detailed proposal at the appropriate time that is not conditional on financing arrangements.
Competing Facilities	VCP	The ability to build competing routes and the effect on revenues is a key risk factor for the USR 460 Project. Where the CA clearly identifies an appropriate area for protection from competing facilities, and the current transportation plans that would be excluded from a definition of competing facilities, VCP may be in a position to perform sufficient due diligence to accept the risk of these planned competing facilities and price them into its proposal.
Site Conditions	VCP/VDOT	The acceptance of certain risks may not always provide the best value outcome for VDOT, and we would work with VDOT to best meet VDOT's requirements and maximize value for the Project. Where VCP has a suitable opportunity for due diligence, it may be able to accept site condition risk.
Hazardous Materials	VDOT	VDOT is better placed to assess and manage risks associated with pre-existing contamination and should remain responsible for control and remediation of these materials, as contemplated in the CA. It may be



Risk	Responsibility	Comments
		appropriate for VCP to be responsible as subcontractor for remediation work under VDOT’s direction. Depending on the cost and availability of insurance, hazardous materials generated after the CA is executed could be assumed by VCP unless specifically generated by VDOT.
Utility Relocations	VDOT	It would be most efficient if VDOT could develop a framework agreement with the relevant utilities, within which the developer could work. The framework agreement should address relocation, notification, response time, costing, requirements, step-in rights and betterments and would expedite delivery of the Project. We welcome the time relief contemplated in the CA for unreasonable delay by utility companies, but note that this delay would not be insurable and compensation for cost (a Compensation Event) is the appropriate form of relief.
Technology Enhancements	VCP	Where a safety or business case supports technology enhancements, VCP will implement them.
Insurance – D&C period and O&M period	VCP	VCP will work with VDOT to develop an insurance program that provides appropriate levels of protection. Insurance is a major cost item, and we recognize that good communication and cooperation is important to delivering good value.
Compensation Events and Relief Events	VDOT	Risks that are not within the developer’s control, for which insurance is available, should be relief events where VDOT grants the developer time relief. Risks that are outside the developer’s control and uninsurable must be compensation events, entitling the developer to time and financial relief (agreed between the parties and which may be delivered via direct payments). In principle, VCP can accept risks that it can manage, assess and/or price and would work with VDOT to develop definitions that reflect the risk profile of the Project and the availability of insurance in the market.

### 3.5. LIFE CYCLE COST

#### 3.5.1. Preliminary Cost Estimates and Methodology

##### 3.5.1.1. Cost Estimates

The table below shows the cost estimates for each phase of the project over the 50 year concession period. The start date for the Project is anticipated to be June 30, 2008.

Equity and debt commitments are outlined in Section 3.2.2.5.

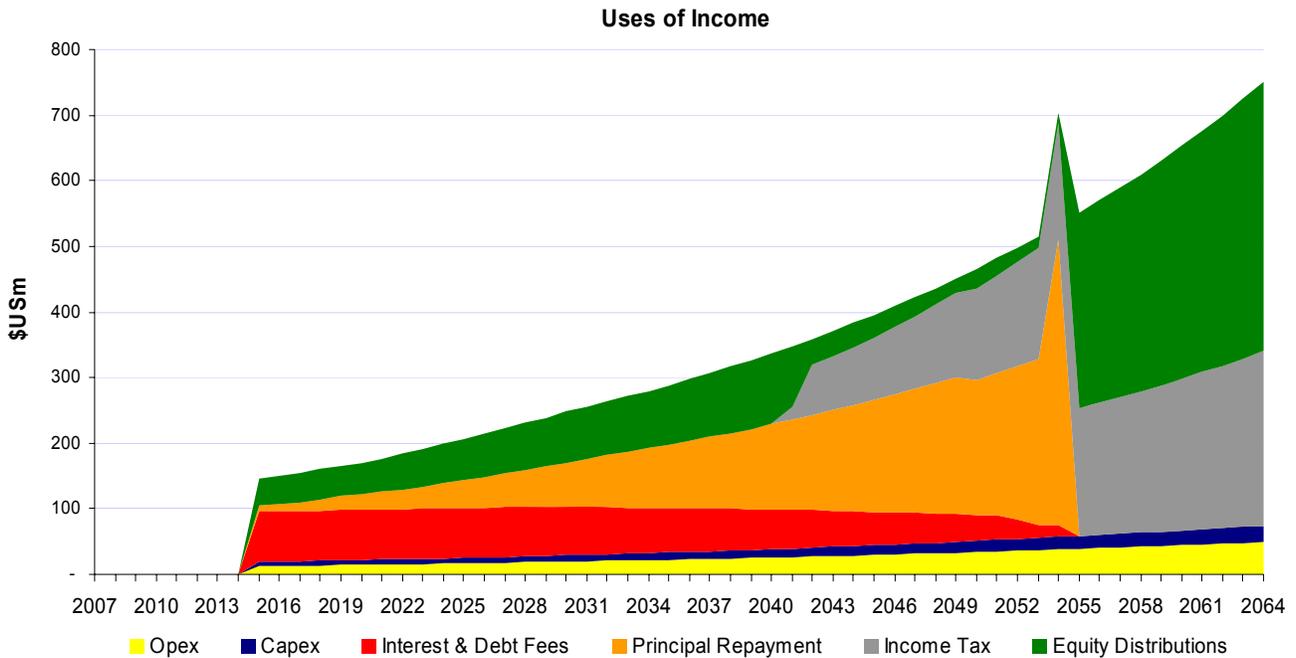
TABLE 3 .12: LIFECYCLE COST ANALYSIS (BASE CASE)

	Construction Period	Operating Years				
		1-10	11-20	21-30	31-40	41-50
<b>REVENUES (\$m)</b>						
<b>Toll Revenue</b>	-	905	1,371	2,078	3,150	4,765



<b>Alternate Revenue</b>	-	782	1,045	1,238	1,437	1,668
<b>Interest Income</b>	-	11	14	17	21	25
<b>Total Revenues</b>	-	<b>1,698</b>	<b>2,430</b>	<b>3,333</b>	<b>4,608</b>	<b>6,458</b>
<b>COSTS (\$m)</b>						
<b>Development</b>	62	-	-	-	-	-
<b>Design</b>	83	-	-	-	-	-
<b>Construction</b>	1,768	-	-	-	-	-
<b>Operations and Maintenance</b>	-	145	192	254	337	441
<b>Capital Expenditure</b>	-	73	96	127	168	220
<b>Interest</b>	-	764	731	609	374	-
<b>Principal Repayment</b>	-	222	656	1,274	2,298	-
<b>Taxes</b>	-	-	-	265	1,346	2,283
<b>Total Cost</b>	<b>1,913</b>	<b>1,204</b>	<b>1,674</b>	<b>2,528</b>	<b>4,524</b>	<b>2,944</b>

The graph below demonstrates the uses of revenue throughout the life-cycle of the project.



3.5.1.2. Methodology

VCP will adopt a whole of life approach to asset management to ensure the long term reliability and performance of the asset. This is described in more detail in Section 2.11. For the purposes of this Conceptual Proposal, VCP has used the information provided in the April 2005 Parsons Transportation Group report.

3.5.2. Description of Design and Construction Methods

The Design-Build Team will utilize Best Management Practices ("BMP") as the basis for developing construction methods for corridor construction. The construction methods used for the 460 Corridor Improvements Project will take full advantage of the resources each member of the team brings to the project. Using experienced construction supervisors and craftsmen, our Design Build team will deliver a quality finished product using accepted methods found throughout the construction industry as well as innovative solutions to the unique obstacles inherent with all projects.

A detailed Maintenance of Traffic Plan will be developed and instituted as well to insure safety of the traveling public and construction staff during all phases of the project. The goal of the plan will be to have the least possible interruption to traffic as possible. Detailed work plans will include a narrative and schedule which will be reviewed by production staff prior to construction. All traffic plans will be in strict adherence to the latest Virginia Work Area Protection Manual.

Environmental sensitivity will be incorporated into all methods used throughout construction of the project. Construction methods will be evaluated by the Design Build team to ensure sensitivity to the environmental concerns of the project and to assure compliance with the permits obtained by VDOT. All construction methods will adhere to VDOT Road and Bridge Specifications and Standards.



Throughout development of our detailed proposal we will more thoroughly define the scope of the work and the strategies for its implementation. Our team will begin to define many of the methods that will be used in constructing and designing the project as the project is developed through the procurement process.

### 3.5.3. Overview of Design Concepts

#### 3.5.3.1. Compliant Design

The following is a list of clarifications for the basis of pricing the fully compliant design for USR 460.

**Included:**

1. Submitted Schedule
2. Escalation
3. Design - 100 year flood plus two (2) feet
4. CEI and QA/QC
5. Engineering and Services for obtaining Permits
6. Right-of-Way cost and acquisition services
7. Utility Relocations
8. Rolling Performance and Payment Bond based on a maximum value of \$200 million
9. Mutually agreeable Terms and Conditions

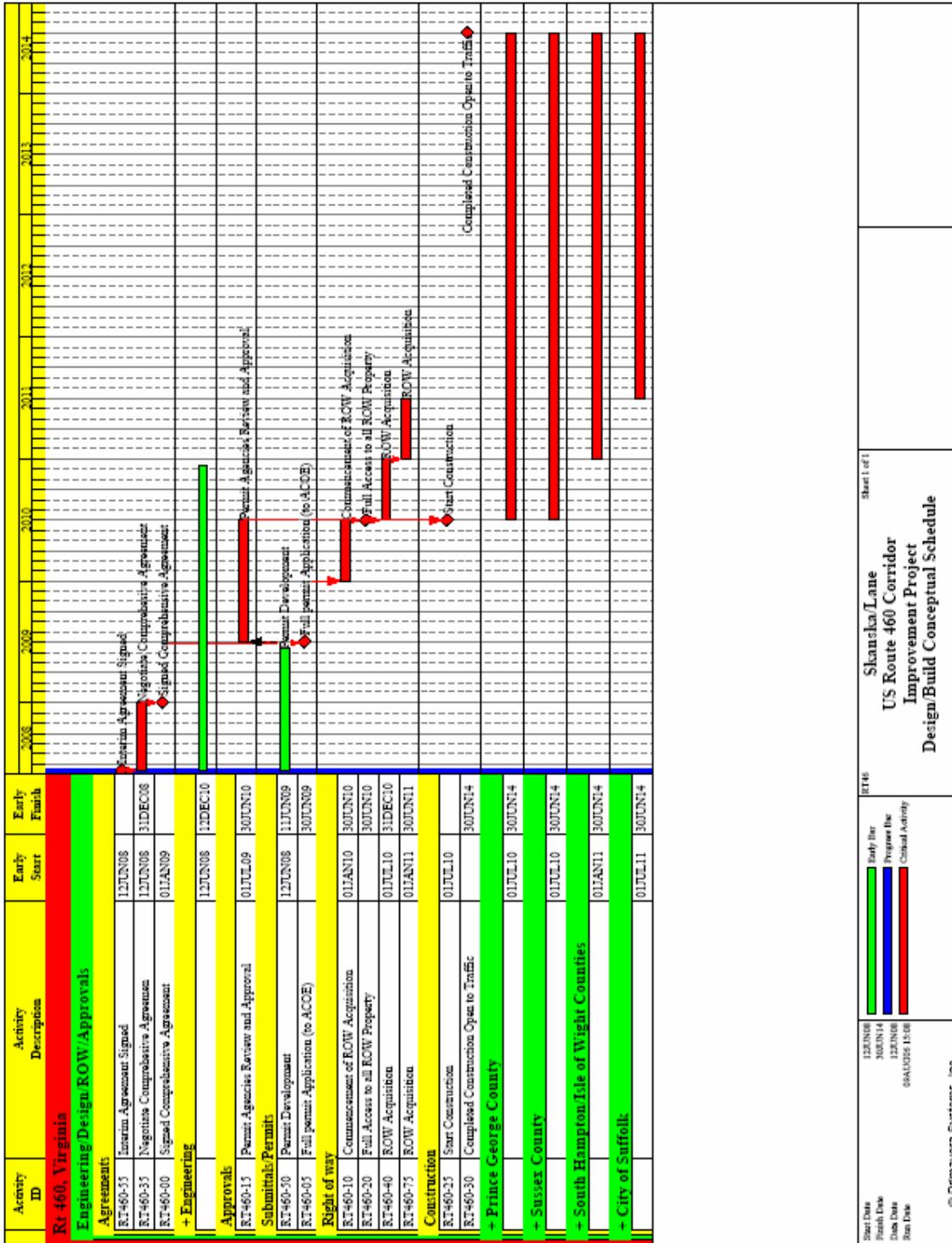
**Excluded:**

1. Hazardous materials cost and delay impacts
2. Contaminated materials cost and delay impacts
3. Archaeological investigation cost and delay impacts

#### 3.5.3.2. Non Compliant Design

VCP has also priced a design that is not fully compliant with the DEIS requirements for CBA 1. Refer to Section 3.2.2.7 for details of changes in project scope that allow a reduction in overall construction cost and time.

3.5.4. Preliminary Schedule of Construction



### 3.5.5. Present Value Calculation of Costs

The following table represents the present value of the costs and revenues associated with the project from the point of the first cash outlay, which is anticipated to be June 30, 2008. The discount rate used is 5.00%.

**TABLE 3.13: PRESENT VALUE (BASE CASE)**

PV Revenue (\$m)		PV Costs (\$m)	
Tolling Revenue	2,340	Construction	1,620
Alternate Revenue	1,475	Operations and Maintenance	298
Interest Income	21	Capital Expenditure	149
		Interest	817
		Principal Repayment	897
		Taxes	427
<b>Total</b>	<b>3,836</b>	<b>Total</b>	<b>4,208</b>

### 3.5.6. Life Cycle Cost Analysis

Refer to table in Section 3.5.1.1 for a life-cycle cost analysis over the course of the 50 year concession period.

The major benefits derived from a longer concession period include:

- ability to debt finance any rebuild rather than finance through cashflow
- greater comfort level for debt providers
- incentivizes the concessionaire to build best quality road to attain lowest life-cycle maintenance costs

### 3.5.7. Forecast Return

The projected equity returns throughout operations is shown in the following table.

**FIGURE 3.14: FORECAST EQUITY YIELD (BASE CASE)**

Concession Year	1	2	3	4	5	6	7	8	9	10
Equity Yield	11.6%	12.0%	12.5%	13.0%	12.6%	13.1%	14.1%	15.1%	15.8%	16.5%



### 3.6. PUBLIC RESOURCES REQUIRED

Based on the TIFIA program's eligibility criteria, TIFIA funding should be available for this project, as the Project has a construction cost over \$50 million and it is a project of regional importance. TIFIA can be used by the Proposer to finance up to 1/3 of "eligible" project costs. Eligible costs are generally defined to include design and construction costs but exclude transaction costs and reserves. Importantly, TIFIA offers an attractive fixed interest rate set at 0.05% above the prevailing 30-year treasury rate at execution as well as the flexibility to defer debt service payments for the up to five years after construction completion.

It is assumed that VDOT will apply for credit assistance under TIFIA program as well as an allocation from the United States Department of Transportation ("USDOT") of a portion of the \$15 billion of PABs.

The financing plans envisage the full equity contribution occurring at substantial completion of construction.

As discussed in Section 3.2.2.2, alternate sources of revenue have been identified so that if used, the project is fully funded under the two private finance scenarios.

### 3.7. CONSORTIA FINANCIAL STATEMENTS

See Appendix C.

### 3.8. TOLLING

Tolling operations would evolve across a number of phases during the concession period. As the proportion of electronic transactions increase, cash collection would be phased out. In order to evaluate various tolling options, our team has sought the advice of Transfield Services, which has experience in operations of cash collection and transitioning to electronic, i.e. operations of dual systems, during the development of this conceptual proposal.

VCP would be responsible for the overall manual collection of toll monies, the monitoring and accounting of the monies and determining daily the earned revenue. The toll collection and operation plan would be used to securely manage the toll monies, maintain full audit ability of the toll process, and provide a complete accountability and responsibility charter and to minimize revenue loss. VCP would establish under the Finance and Administration Manager, a Toll Audit function. This group would have responsibility to ensure the integrity of day-to-day operations. The Toll Collection and Operation Plan would also carefully govern the training, data collection, technical structure/support and procedures for all toll collections, establishing a set of guidelines that meet the requirements of Commonwealth of Virginia, VDOT, local laws and codes. Under the guidelines Toll operation activities would be regularly audited and the Toll Collection and Operation Plan would be subjected to periodical review to ensure continued compliance.

Maintenance and inspection of the Tolling would be carried out at regular intervals and that intervention levels are in compliance. The routine maintenance activities including inspections would be performed with the minimum inconvenience to traffic.

The key factors in evaluating methods for collecting tolls on the USR 460 Toll facility are the low traffic volumes and the need to attract customers from the existing, non-tolled competing facility. In addition, development of a long-term partnership with VDOT and the SmartTag program will help guide the development of business rules and strategies so that USR 460 Project can form an integral part of Virginia's growing toll facility network. That USR 460 is expected to experience relatively low traffic volumes places a premium on the cost effectiveness of the toll collection methods used. Large economies of scale cannot be achieved for any one toll collection method. Excessive capital expenditures for toll plaza infrastructure and/or high operating costs will severely impact the feasibility of the project as a toll-financed facility.

The Parsons Toll Feasibility Summary report describes four mainline toll plazas and one set of ramp toll plazas for the entire corridor. Considering the necessary capital expenditures for Right-of-Way, pavement, structures, utilities and toll collection equipment it is apparent that the reported cost of \$1.75 million per toll plaza is significantly underestimated. The associated operational costs could also be considered low given that they are based on the capital estimate and assuming that the economies of scale underlying the quoted transaction costs will not materialize. Therefore, the construction and operation of four mainline and two ramp plazas could become cost prohibitive.

In regard to the second factor, the USR 460 Project should offer convenience and ease of payment in order to attract customers from the non-tolled alternative route. This would entail offering multiple means of payment and as many customer contact points as possible. The basic methods are cash collection and electronic toll collection via the SmartTag system. Other toll products such as passes and video tolling can be added when they prove cost effective.

The preliminary toll collection strategy should attempt to keep capital and operating costs low while simultaneously offering as much payment flexibility as can be provided at reasonable costs. This may mean that fewer plazas are constructed and greater reliance on open-road tolling via SmartTag and video-based toll products. The long-term strategy should be designed to drive costs down by encouraging customers to utilize the SmartTag, the internet and lower cost collection methods. This can be accomplished through marketing and careful design of business rules. The SmartTag program also provides an ideal vehicle to implement any special toll rate programs that may be required for local customers. Various discount programs already use SmartTag and E-Z Pass at other Virginia toll facilities.

## ANALYSIS OF THE START-UP PERIOD FOR TOLL OPERATIONS

The start up period for toll operations on USR 460 will be, as with any new toll facility, crucial to the success and acceptance of the project. As previously discussed, operational cost-effectiveness, limiting capital expenses and providing ease of payment to potential customers are all important objectives. Therefore, the layout of toll plazas and operational plans would be designed with the flexibility to accommodate a higher percentage of cash customers during initial operations and then transition to open road tolling as SmartTag and other non-cash toll products increase in usage. This could entail the use of temporary toll booths and convertible plaza layouts. Comprehensive operational plans for processing traffic in the opening months would be developed to avoid delays, payment difficulties and other operational problems that could lead to a poor customer experience or result in unfavorable

publicity. As the facility matures, enhanced business rules and toll products would be introduced to further improve customer service and lower costs.

Given that SmartTag and E-Z Pass are established programs and the potential customer base for the toll facility can be fairly easily identified, a carefully crafted marketing and customer outreach campaign would be conducted in the months prior to opening the toll facility. This campaign will seek to raise awareness of the new facility and encourage potential users to enroll in the SmartTag program.

Special efforts would be directed at commercial trucking companies since they will form an important constituency for the new USR 460.

In addition to marketing, comprehensive testing of the toll collection system and training of staff would take place in the months prior to opening. Any provisions for a phased opening of the facility would be incorporated into initial operational planning.

### 3.8.1. Toll Collection Methods

There should be concern about the number of mainline toll plazas proposed (four in 50 miles), as these will be a significant source of irritation to drivers. Ideally, there should be no more than 2 plazas per trip, but it needs to be determined if this could work without serious revenue leakage. Electronic methods would undoubtedly help in this regard and may need to be encouraged (see 3.8.4).

### 3.8.2. Variable pricing plans and congestion mitigation measures as part of toll operations

Variable pricing plans would have two main issues:

- Pricing by time period; and
- Discounts to electronic tag users.

Given the generally low traffic flows, it would be necessary to determine whether revenues would exceed operating costs during the night or even at other quiet times. If not, it may be necessary to rely on honesty payments under video surveillance (as effectively is the case on some of the ramps on the existing sections of the Mon/Fayette Expressway) or simply leave the road as toll free during these periods.

Discounts to encourage greater use of electronic tags should be considered if these increase the number of such users, as this would solve the issues relating to the number of main toll plazas and collecting revenues at an affordable cost when traffic flows are low during some periods.

It is thought unlikely that congestion mitigation measures would be a significant consideration. Traffic volumes on the toll road are forecast to be sufficiently low that 1-2 plazas per direction for cash payments (a capacity of approximately 500-1000 vehicles per hour) are likely to be ample. One additional lane would be necessary for electronic tags (capacity 800 - 1500 depending on presence of barrier or not). With up to 3 lanes each way, congestion at the toll plazas is highly unlikely except at short periods in the summer, when one of the cash booths in the opposite direction could be switched to provide four.

### 3.8.3. Local Traffic

Ensuring that local traffic is not affected by the introduction of the new USR 460 is a key concern for VCP. It is anticipated that accommodation would be made for local traffic utilizing the new road. This could take the form of reduced tolls, or potentially free use of the road. These options will be further investigated during detailed traffic studies yet to be undertaken.

### 3.8.4. Effect of Changing Speed Limits

While all of the work put forward on previous reports has been based on the 55 mph standard, if the speed limit could be raised to a 65 mph standard; to produce an average speed of 60-65 mph, we would expect to see a fairly notable effect on revenues of approximately 25-50%.

## 3.9. ANCILLARY REVENUE OPPORTUNITIES

With the exception of revenues generated from alternate revenue streams outlined in Section 3.2.2.2, we have not included in our financing proposal any ancillary funds from other development opportunities along the corridor. While we do believe some of these opportunities may exist, principally through the development of land at certain key interchanges or various tax overlay districts, the amount of money that they would generate is minimal and does not fundamentally alter our finance plan.

Discussions with landowners and economic development interests along the corridor have been preliminary and are based solely upon building CBA 1. We believe that some opportunities for cost sharing and additional revenue could exist if modifications were made to the scope to add interchanges to foster specific development opportunities. As the PPTA process moves forward, we intend to remain in contact with these interests to identify these opportunities and potentially provide some toll rate relief.

## 3.10. DEBT ISSUANCE

A "63-20 corporation" is a private, non-stock corporation established under state law and governed by a board of directors that may be composed of members of the private consortium and public officials from interested public entities. Importantly, under this structure, the represented public entities must have the power to appoint at least 80% of the board and must hold beneficial possession of at least 95% of the fair value of the corporation's assets.

The 63-20 structure enables the issuance of non-recourse tax-exempt debt, avoiding the need for further leveraging of VDOT's limited resources and/or those of any other existing public agency. The 63-20 corporation therefore provides an alternative for public development of a new transportation asset, while providing for the transfer of certain key risks to the private sector pursuant to a series of qualified project delivery (design/build) contracts, and one or more "Qualified Management Contracts" as defined under IRS Revenue Procedure 97-13 to operate and maintain the project.

In order to establish eligibility to issue tax-exempt bonds, the 63-20 corporation must meet certain criteria regarding its governance, income distribution and basic activities. Specifically, 1) a 63-20 corporation may not distribute its income to any private person or entity, 2) the corporation must engage in activities that meet a public interest, 3) the related public entities must have a "beneficial interest" in

the 63-20 corporation and title to the financed assets must revert to the public members after the tax-exempt bonds are repaid, either after final maturity or through defeasance.

The 63-20 non-profit structure does not allow for financing a project's capital structure with equity and as such a project's financing is constrained by the conventions and conditions of the tax-exempt bond market.

VCP will evaluate the use of private activity bond financing for the project in order to take advantage of the \$15 billion private activity bond volume that has been allocated to transportation under the SAFETEA federal legislation. Since for profit corporations cannot issue private activity bonds directly, VCP would have to rely on a local governmental conduit issuer, such as the Commonwealth Transportation Board or another appropriate governmental entity. The local conduit issuer would hold rights to receive revenues from the project and would assign those rights under a lease agreement to a trustee on behalf of bondholders. This local conduit entity would then issue private activity bonds and would pass through the proceeds to VCP in exchange for debt service payments on bonds or lease payments that match debt service on the bonds. As we assess the alternative financing strategies, we will determine the appropriate local conduit issuer and the ultimate legal structure of the arrangement between that issuer and the consortium in preparation for our final detailed proposal.

### 3.11. COST SAVINGS

VCP will design, build, operate and maintain the new USR 460 for the length of the concession period. By undertaking a concession agreement, all ownership risk is transferred from the Commonwealth to VCP. In doing so, the life-cycle costs of maintaining the road are minimized to the Commonwealth. In most cases, the concessionaire is able to run operations less expensively than the government. At the completion of the concession period, the road is handed over in the condition specified in the Comprehensive Agreement.