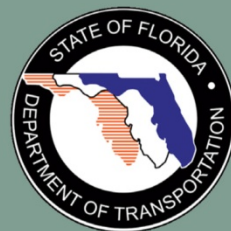




# **I-595 Corridor Roadway Improvements**

## **Value for Money Analysis**



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## 0. Executive Summary

In August, 2007, the Florida Department of Transportation (“FDOT”, or the “Department”) completed an estimated value for money (“VfM”) analysis for the I-595 Corridor Roadway Improvements Project (the “Project”) in Broward County. FDOT’s work program initially separated the Project into several smaller contract packages to be delivered over a period of 15 to 20 years. By bundling these packages into a single design-build contract to cover the entire project scope, FDOT determined it could deliver the capacity improvements approximately 15 years earlier than under a traditional pay-as-you-go procurement. However, to accomplish this, FDOT found that alternative source(s) of financing would be required. The August, 2007 VfM analysis assisted FDOT in choosing between two financing/project delivery methods under consideration: a Design-Build-Finance (“DBF”) or a Design, Build, Finance, Operate and Maintain (“DBFOM” or “concession”) contract.

The VfM analysis compared, in present value dollars, the estimated cost of FDOT payments to a DBFOM concessionaire versus the estimated cost of its payments under a DBF scheme. The results suggested that a concession could offer “value for money” relative to a DBF. FDOT considered not only the quantitative results of the analysis, but also qualitative factors, such as the potential to focus design on long-term service quality and safety goals, improve FDOT cash flow management, lock-in lifecycle costs, incentivize schedule acceleration and transfer appropriate risks (for example, schedule delays) to the private sector, which could strengthen the case for a concession.

On September 5, 2008, FDOT received bids for a DBFOM contract. On March 3, 2009, the selected best-value proposer, I-595 Express LLC, achieved financial close and FDOT concurrently executed the 35-year Concession Agreement. Under the Agreement, FDOT will pay final acceptance and availability payments to the Concessionaire based on the Concessionaire’s timely performance and FDOT will retain control over toll setting, collection and revenue.

Comparing the executed agreement to the forecasts in the August, 2007 VfM analysis, FDOT derived significant savings in three principal ways: (1) the \$65.9 million annual Maximum Availability Payment<sup>1</sup> upon financial close is more than 8% lower than the forecast of \$71.9 million<sup>1</sup> assumed in the VfM; (2) while the 2007 analysis assumed FDOT would make milestone payments during the five-year construction period, the executed Concession Agreement achieved cash flow benefits by deferring the first of several progress payments by five or more years until after the Final Acceptance of the construction works; and (3) these “Final Acceptance Payments” to the Concessionaire will total \$686 million<sup>2</sup>—nearly \$400 million<sup>2</sup> less than the total progress payments assumed to be necessary in August, 2007.

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<sup>1</sup> July 1, 2008 dollars

<sup>2</sup> Year-of-expenditure dollars

FDOT has undertaken in this report an updated analysis of whether the actual concession contract awarded would continue to demonstrate value for money relative to a theoretical DBF as of March 2009. To do this, FDOT updated the assumptions in its August, 2007 VfM analysis based on current market conditions and the actual terms of the closed concession contract. While the concession case is now based upon an actual contract, executed after extensive competition and financial structuring, the DBF alternative is based only on assumptions. Consequently, the updated VfM analysis summarized in this report includes a range of results, demonstrating the sensitivity of the VfM to several key DBF assumptions. The base case assumptions of the analysis indicate that the concession would continue to demonstrate value for money of approximately \$78 million while the sensitivity analysis suggests a range between negative \$0.7 million to positive \$244 million, all in present value dollars. These results exclude qualitative considerations that FDOT found also favored a concession.

FDOT intends for this VfM report to contribute to future improvement and learning in implementing PPP transactions and to the ongoing development of a consistent VfM methodology for the next generation of FDOT projects. Careful tracking of FDOT's experiences with planned DBFOM and DBF projects and those now entering construction should provide useful data regarding risk allocation, overrun experience, cost of financing and other assumptions that can further improve the reliability of VfM analysis in the future.

This report is structured as follows:

- **Section 1:** Project timeline, location, and scope.
- **Section 2:** Selection of Funding and Contracting Method.
- **Section 3:** Procurement Process.
- **Section 4:** Comparison of FDOT 2007 DBFOM Estimates versus Executed DBFOM Contract.
- **Section 5:** Updated Value for Money Analysis.
- **Section 6:** Conclusion.

## **1. Project Background**

### **1.1. Project History**

The I-595 Corridor opened to the public in 1989. In the early 1990s economic development along the corridor, population shifts triggered by Hurricane Andrew and changing driving patterns increased daily traffic counts considerably. The impact of traffic growth on corridor operations was analyzed in the “Interstate 595 Freeway Operational Analysis Report of 1994,” which recommended an expansion of the corridor. By 2003 a joint Master Plan Study for the I-95/I-595 corridor was completed, outlining a Locally Preferred Alternative (“LPA”) for the expansion. This LPA served as the base alternative for a Project Development and Environmental (“PD&E”) Study, undertaken by FDOT in 2004. The PD&E study updated the LPA and ensured coordination with other projects that might impact the I-595 corridor. Additionally, the PD&E effort aimed to satisfy the requirements of the National Environmental Policy Act (“NEPA”) and qualify the Project for Federal funds.

Throughout the PD&E process, FDOT actively communicated with government and regulatory agencies, local municipalities, county officials and staff, legislators and local communities through a Public Involvement Program. A series of public hearings were held between April and November of 2005 to inform the public on the alternatives considered and to seek feedback. With this input, the PD&E study was completed in May, 2006. One month later, on June 29, 2006, the Federal Highway Administration (“FHWA”) granted Location Design Concept Approval (“LDCA”) for the Preferred Alternative Concept (Alternative 2A).

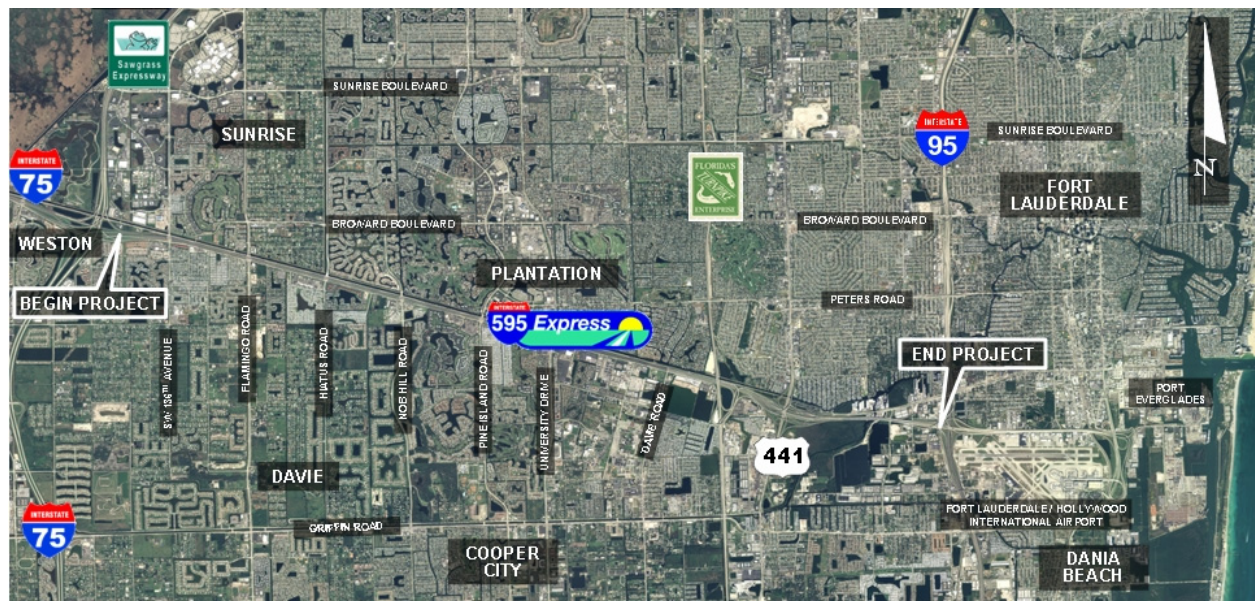
Florida’s Turnpike Enterprise also initiated planning efforts to widen the mainline and provide an enhanced interchange with I-595. Ultimately, Turnpike’s interchange work scope and capital funding were integrated with the I-595 improvements as a single undertaking.

### **1.2. Location**

The I-595 Corridor is a major east-west artery for southeast Florida located in central Broward County. The Project passes through or lies immediately adjacent to six governmental jurisdictions: the City of Sunrise, Town of Davie, City of Plantation, City of Ft. Lauderdale, and Town of Dania, as well as unincorporated areas of Broward County.

Figure 1 illustrates the boundaries of the Project: the I-75/Sawgrass Expressway interchange west of SW 136th Avenue and the I-595/I-95 interchange. The total project length measures approximately 10.5 miles.

Figure 1 : Project Location



The I-595 corridor is comprised of two facilities: I-595 and SR 84. The I-595 portion of the corridor is a six lane limited access facility with three lanes in each direction. In addition to the interchanges with the two roadway systems at each end of the corridor, there are nine intermediate interchanges at the following crossroads: SW 136<sup>th</sup> Avenue, Flamingo Road (SR 823), Hiatus Road, Nob Hill Road, Pine Island Road, University Drive (SR 817), Davie Road, Florida's Turnpike (SR 91) and SR 7 (US 441).

The SR 84 portion of the corridor lies both north and south of the I-595 mainline. The two lanes north of the mainline operate one-way westbound while the two lanes south of the mainline operate one-way eastbound. In the area west of the I-75 interchange and continuing east to Davie Road, the SR 84 lanes serve as a collector-distributor system for the I-595 mainline. The SR 84 system is not continuous through the I-595 interchanges with Florida's Turnpike and SR 7. East of the SR 7 interchange, the SR 84 and I-595 rights of way separate. The SR 84 alignment veers to the northeast and the I-595 alignment continues nearly due east.

A mix of local, commuter and long distance travelers use the corridor. Recent total average daily traffic for weekdays shows volumes that exceed 184,000 vehicles over the 10-mile length of the facility. Traffic is currently constrained during peak periods and is expected to grow significantly in the future.



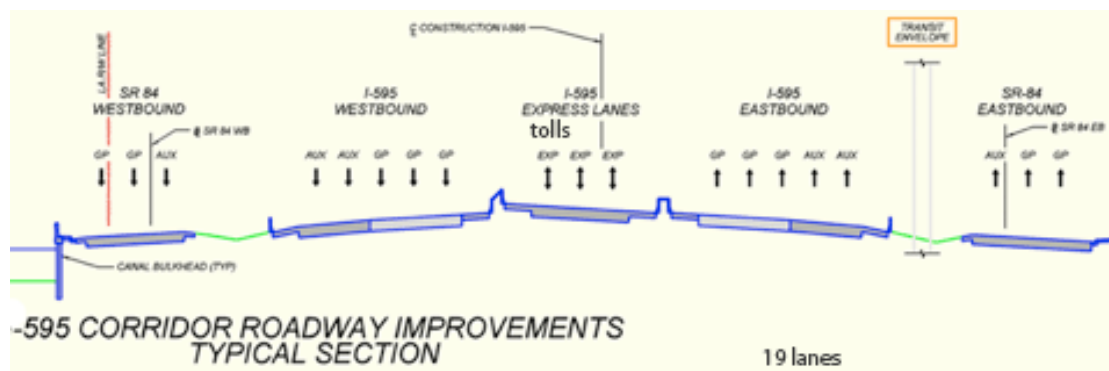
### 1.3. Scope

The Project is designed to expand the current corridor by adding improvements including<sup>3</sup>:

- Auxiliary freeway lanes to add traffic capacity;
- 3 reversible managed toll lanes in the median, with variable toll rates set by FDOT to maintain free flow (“express lanes”);
- Extension of the SR 84 to make a continuous frontage road which will allow some local traffic to avoid the mainline of I-595;
- Redesign and reconstruction of interchange entry and exit ramps to reduce weaving conflicts and facilitate movements between I-595 and Florida’s Turnpike; and
- Sound barriers and other environmental improvements.

The final configuration of the corridor is illustrated in Figure 2.

**Figure 2 : I-595 Corridor Typical Section**



<sup>3</sup> FDOT also plans to deploy a Bus Rapid Transit (“BRT”) service using the express lanes; however the cost of and responsibility for the BRT remain with FDOT and are outside of the scope of the concession contract. Transferring these responsibilities was never considered and is not part of the VfM analysis.

## 2. Selection of Funding and Contracting Method

### 2.1. FDOT's goals

The decision to use alternate financing and contracting methods for the Project was driven by four primary goals:

- i. To provide capacity improvements much sooner than possible under a traditional pay-as-you-go approach;
- ii. To maximize corridor throughput rather than toll revenue from the express lanes;
- iii. To minimize required FDOT outlays while transferring cost, performance and delay risks to a private concessionaire; and
- iv. To enhance long-term, lifecycle cost efficiency and service quality.

### 2.2. Funding and Contracting Methods

In order to match the cost of the project to available work program funding, FDOT initially separated the I-595 capacity improvements into a number of smaller contract packages to be delivered over a period of many years with some elements still unfunded. However, FDOT determined it could deliver the capacity improvements approximately 15 years earlier, than under traditional pay-as-you-go procurements, by bundling these packages into a single construction contract to cover the entire project scope, provided an adequate financing mechanism was available. Accelerated delivery would also provide cost efficiencies by avoiding multiple mobilization efforts as each contract was let, create less disruption to traffic flow due to work-related lane closures, eliminate the need for temporary work, and yield economies of scale in soft costs for design and construction management, the use of equipment and in ordering raw materials. The regional economy would benefit from having access to the complete infrastructure years sooner and from a reduced period of disruption during construction.

To address the work program cash shortfall, FDOT could have financed the accelerated project delivery with a bond issue; however, a bond of the magnitude required would have consumed a large amount of FDOT debt capacity and limited FDOT's ability to finance other projects across the State. FDOT also had never let a single contract of this magnitude and sought to minimize potential risks for completion, capital cost overruns, and ongoing maintenance, operations and resurfacing outlays. FDOT considered a public-private-partnership (PPP) scheme as a means to address both the financial and risk transfer elements of the Project.

The first funding option considered was a Design-Build-Finance ("DBF") procurement, authorized under Public-Private Partnership legislation approved by the Florida Legislature in



2004. The legislation provides for FDOT to advance projects programmed in the adopted Work Program using funds provided by private entities. The contractor advances are then reimbursed from Department funds as programmed in the adopted work program in the years following completion of construction. For example, the Work Program may show funding allocations for a project spread over seven years in multiple contract lettings that could otherwise be built in three years. Using a DBF procurement the Department could let a single contract to complete the total project in three to five years. Payments would be earned by the contractor as construction milestones are reached but would not be paid by FDOT until the time of the future Work Program allocations. To fund the work, the contractor and/or a third party finances the future payments. In March 2007, FDOT completed a procurement for the “iROX” I-75 Road Expansion Project (<http://www.irox75.com>) using this project delivery method to accelerate the widening Interstate 75 in Southwest Florida and replacement of twin bridges at a cost of approximately \$469 million<sup>4</sup> (iROX was the largest design-build contract ever signed by FDOT prior to I-595).

FDOT also considered a DBFOM or “concession” contract for I-595. A concession is another form of PPP that differs from a DBF in that the contract includes not only design, construction, and financing, but also the operations and maintenance of the project. Financing generally includes both debt and equity, and a concessionaire derives revenue from the project over a longer investment horizon and assumes a greater level of risk. A DBF is essentially a receivables structure for design-build progress payments which, once earned, are not at risk for future performance. In contrast, revenue under a DBFOM must be earned through ongoing performance over the life of the contract (e.g. through annual availability payments, future toll revenue or shadow tolls depending on the concession type<sup>5</sup>). A DBFOM contract offers a concessionaire the opportunity to complete construction in order to earn a future revenue stream, whereas a DBF is a design-build construction contract with delayed milestone payments.

A critical step in understanding which procurement method would provide the best value for FDOT was to estimate the amount of competition that could be expected in each case.

FDOT held an industry forum on July 25, 2007 to present the I-595 Project to interested firms. During these meetings FDOT outlined the primary technical specifications it envisioned for the Project, shared the provisional traffic and revenue studies it had undertaken, and reviewed the main procurement options under consideration. Participants provided feedback through a combination of responses to structured surveys distributed in advance of the forum and individual meetings with 13 potential bidding teams. During the one-on-one meetings and other interaction with industry, FDOT found that a concession attracted significantly greater bidder interest than a DBF.

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<sup>4</sup> Including FDOT costs.

<sup>5</sup> As further discussed below, FDOT ultimately elected to structure the I-595 concession so the Concessionaire earns revenue through availability payments with FDOT setting, collecting, and retaining tolls.

### **2.3. Basis for Initial Value for Money Analysis in 2007**

To assist in the selection of procurement method (DBF or concession), FDOT undertook a quantitative VfM analysis in August, 2007. The VfM study incorporated a range of inputs, including preliminary cost estimates, and was designed to test whether or not potentially higher financial costs and risk premiums associated with a concession could be offset partially or completely by efficiency gains from the transfer to the private concessionaire of completion risks and lifecycle cost, operating performance and maintenance risks.

The analysis compared the projected costs of a concession in net present value terms to FDOT with those of a DBF. Because the payout profile to FDOT over time differed in each of the schemes, the costs were expressed in present day dollars in order to account for the time value for money.<sup>6</sup> Since the exercise compared both scenarios in terms of their cost to FDOT, the same discount rate was used in each case to calculate the present value of the cash payments. There is much discussion among those who perform value for money analysis regarding the correct discount rate to choose<sup>7</sup>. FDOT selected a baseline nominal discount rate of 5%, consistent with the cost of financing to the State of Florida at that time (as well as FDOT's opportunity cost for investing in other projects or paying off existing debt). Additional sensitivities are run with a 6% and 7% discount rate, respectively.

If the cost of the DBF in present value exceeded the cost of the DBFOM in present value terms, there could be value for money in pursuing a concession over a DBF, and vice versa. However, value for money is a broad concept that looks to capture quantitative factors, as well as qualitative and policy considerations. Examples of non-quantitative factors include long-term budget/cost certainty, as well as broader measurements of social and economic welfare. The 2007 VfM analysis only considered quantitative factors specific to the Project budget.

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<sup>6</sup> A dollar in hand today has greater value than one received in five years, even after adjusting for inflation, because the dollar in hand now can be invested. Likewise, a dollar spent today is more costly than a dollar spent five years from now.

<sup>7</sup> There is no single methodology to determine the appropriate discount rate for VfM studies. In the United Kingdom a "social time preference rate" is calculated by adding: (a) the rate at which individuals discount future consumption over present consumption, on the assumption that no change in per capita consumption is expected; to (b) an additional element accounting for estimated growth in per capita consumption adjusted for the expected marginal utility. This methodology yields a 3.5% real (inflation-adjusted) discount rate in the UK (HM Treasury, *The Green Book*). The State Government of Victoria in Australia, by contrast, recommends a discount rate based on the Capital Asset Pricing Model (CAPM), combining the risk free rate with the estimated project risk premium. The Australian methodology generates bands of discount rates for very low, low and medium risk projects ranging from 5% to 8% in real terms (Partnerships Victoria, *Use of Discount rates in the Partnerships Victoria Process*). In a December 2005 *Project Report: Achieving Value for Money, Sea-to-Sky Highway Improvement Project*, Partnerships British Columbia applied a similar methodology by using a baseline discount rate of 7.5% to reflect the public cost of debt plus a project risk premium which it equated to the concessionaire's weighted average cost of capital (WACC). However, the more recent June 2006 *Golden Ears Bridge Value for Money Report* cited a 6% discount rate to reflect the cost of borrowing of the South Coast British Columbia Transportation Authority (TransLink), the grantor.

The analysis assumed the same project scope for both procurement methods. Two sets of cost estimates were prepared from the same baseline project cost estimate. The baseline costs were adjusted to reflect the risks retained by FDOT and those transferred to the private sector under each approach. The analysis further assumed that a portion of the facility construction would be financed against payments made from FDOT's work program while the remainder would be financed through debt and, in the case of a concession, equity.

The net present cost of the DBF was calculated first by forecasting payments from FDOT under a DBF scheme, including but not limited to: the payments made from FDOT's work program, debt service costs paid by FDOT, construction oversight, operations and maintenance expense, insurance, and capital renewal and replacement. These payments were then discounted to the present. Next, the net present cost of the DBF was compared to that of the concession, which was calculated as the present value of any payments made by FDOT to the concessionaire.

In order to evaluate the concession scheme, FDOT built a financial projection model that simulated the financial statements of the theoretical concessionaire to whom the Project would be awarded. In the base case scenario, all real toll revenue accrued to FDOT, and the concessionaire's sole sources of revenue were grants from FDOT's work program and a stream of availability payments from FDOT.<sup>8</sup> A separate set of financial statements was developed for a concession case using shadow toll payments in lieu of availability payments. Section 6 below describes the methodology used in the original VfM study, as well as its main assumptions and findings.

Ultimately, the 2007 VfM analysis estimated that the net present cost of the DBF exceeded that of a concession based on availability payments by approximately \$24 million to \$104 million. This represented between 1.2% and 5.2% of the net present cost of the DBF. Therefore, the base case demonstrated value for money could be achieved with an availability payment-based concession scheme. This positive value for money was in addition to the potential qualitative considerations favoring an availability payment-based concession including long-term cost certainty and the avoidance of future fiscal implications to FDOT of a significant "take-out" payment in FY2020/21 under a DBF (for which FDOT would hold the financing risk).

A concession based on shadow tolls was found to have the potential to demonstrate value for money if funds for the Project from FDOT's Work Program were closer to the high end of the range considered in the analysis. Although the net present cost of such a scheme was estimated at negative 2.0% of the net present cost of the DBF, this alternative was the subject of extensive review.<sup>9</sup>

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<sup>8</sup> Analysis was performed to test the sensitivity of the VfM to a transfer of toll setting authority and revenue risk from FDOT to the concessionaire.

<sup>9</sup> The analysis generated a lower value for money for shadow tolls due to the market's perception of this payment mechanism as riskier – payments would be dependent on demand for the road, an exogenous factor outside of the concessionaire's control. The analysis therefore assigned it less favorable financing assumptions compared to those assumed for an availability payment scheme: lower leverage, higher wrap fees from a monoline insurer, and

FDOT considered the quantitative results of the base case scenario, as well as extensive sensitivity analysis that tested alternative assumptions (including but not limited to: different discount rates, interest rates, risk adjustments, overrun factors, competitive interest, debt structure, cost estimates, IRR requirements, and traffic and revenue forecasts). FDOT weighed these results together with qualitative factors, such as long-term budget/cost certainty and the future fiscal implications of the “take-out” payment under a DBF. Finally, FDOT took into account feedback from potential bidders which indicated markedly stronger interest in a concession. Based upon these considerations, FDOT decided in August, 2007 to procure a DBFOM contract.

The decision on whether or not to transfer revenue and/or traffic volume risk to a private partner also was intensively investigated during this period. Through the industry survey and one-on-one meetings, FDOT determined that there was significant bidder interest in either approach. A number of important factors led to FDOT’s decision to set, collect, and retain tolls and use an availability payment-based compensation scheme:

- FDOT’s primary goal for the Project is to increase throughput in the Corridor. Analysis of incentives, detailed discussions in one-on-one sessions, the results of an industry survey, and conversations with financial market participants all confirmed that a revenue risk transfer would require a concessionaire to focus on revenue maximization. This was problematic because traffic forecasts by Wilbur Smith & Associates indicated that on the express lanes, higher tolls than necessary to achieve free flow could result in greater revenue but lower utilization. As a result, the interests of a concessionaire profiting from toll revenue would not be aligned with FDOT’s goal of relieving congestion on all lanes at the lowest cost to the public.
- In pursuing a DBFOM, FDOT intended to achieve efficiencies by transferring lifecycle cost and long-term operations and maintenance responsibilities. Because inferior operations and maintenance on the general purpose lanes would lead to congestion and thus higher profits on the toll lanes, it would have been illogical to transfer these responsibilities to a concessionaire that would profit from higher toll revenue – again the result would be a misalignment of FDOT and concessionaire interests. FDOT believed the concessionaire should maximize profits by best meeting the public goals for the entire facility.

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a higher IRR requirement. The lower value for money may also be explained by the higher average life of the debt under shadow tolls. Unlike availability payments that were assumed to escalate at 2.5% annually in this analysis, shadow tolls were assumed to be lower in the early years and much higher in the later years due to the traffic growth rate. Consequently, debt repayment and equity returns were more back-ended. In retrospect, the market premium for traffic risk might have been substantially higher than estimated in 2007 – as of March 2009, there is very limited lender appetite for traffic risk and equity requirements are higher. Also of note is that the discussion of shadow toll mechanisms considered both the managed and general purpose lanes as a means of aligning the concessionaire’s compensation with FDOT’s policy emphasis on maximizing throughput for the overall facility.

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- Having FDOT set, collect and retain tolls would help facilitate public acceptance of congestion pricing and the relatively high toll rates that might eventually be required in order to maintain free traffic flows.
- FDOT is planning to construct a network of congestion-priced express lanes throughout South Florida (including those recently opened on I-95). Private control over the pricing of the I-595 express lanes would have impaired FDOT's ability to manage and price the future lanes as part of a wider network.
- Unless FDOT were to postpone the improvements to the general purpose lanes, the toll revenues were expected to cover less than half the Project capital cost, meaning a subsidy would be required in any case.
- If demand risk were transferred, it was expected that terms from lenders would be less favorable, that additional equity investment would have been required and that equity investors would have expected somewhat higher rates of return. These concerns were magnified for I-595 because the capital markets had limited experience with traffic and revenue forecasts based upon congestion and because the bulk of the capital investment for the Project is directed to increasing the capacity of the non-tolled, general purpose lanes, the "ramp-up" of toll revenues would be all the more uncertain. The associated increases in finance costs would have resulted in reduced value for money for the DBFOM case, lowering leveraging potential and requiring a greater need for subsidy – albeit in exchange for transferring demand risk. FDOT was willing to accept demand risk given that it would retain the ability to manage toll levels as needed and that the tolls were likely to make up less than half of the funds needed for the Project in any case. In retrospect, the concern of increased cost of financing would have been magnified given the higher pricing of risk during to the current international financial crisis.
- Long-range plans for the corridor include provision for future fixed guideway transit improvements. The future construction impacts and toll revenue implications associated with such an investment generated uncertainty and would have required a compensation regime to be built into a concession agreement based on demand risk. Given the relatively modest contribution of toll revenues to the overall finance plan, it was preferable to avoid these potential complications.

Ultimately, the toll revenue potential, even under optimistic scenarios, was modest relative to overall project costs and the follow-on risks associated with the transfer of revenue risk, such as higher finance costs, political risk, and misalignment of incentives, were deemed to be too high relative to the potential benefits.

### 3. Procurement Process

#### 3.1. Procurement Structure

Given the high priority of the project, FDOT sought to advance the procurement for the I-595 Corridor as rapidly as possible, including minimizing the potential for negotiations post-award. The process from advertisement to contract award lasted under 13 months.

FDOT's ability to move the process forward efficiently stemmed in part from the existence enabling legislation that had explicitly contemplated DBFOM procurement. The RFQ and RFP were issued pursuant to Chapter 334.30 of the Florida Statutes, which states in part, "The Legislature hereby finds and declares that there is a public need for rapid construction of safe and efficient transportation facilities for the purpose of travel within the state, and that it is in the public's interest to provide for the construction of additional safe, convenient, and economical transportation facilities.... [FDOT] may receive or solicit proposals and...enter into agreements with private entities, or consortia thereof, for the building, operation, ownership, or financing of transportation facilities."

A two stage procurement process was chosen by FDOT. A Request for Qualifications ("RFQ") and Project Information Memorandum (PIM) were released on October 1, 2007. Given the size of the construction contract and the level of interest at the industry forum, FDOT introduced stringent qualification criteria. In response to the RFQ, six (6) teams submitted Statements of Qualification ("SOQ") outlining experience, technical know-how and financial strength.

The SOQs were submitted on November 5, 2007 and evaluated through a double-blind process designed to ensure transparency and independence. Technical and financial expert panels developed narrative consensus comments for each SOQ submittal, based on a set of factors to consider. The expert panels then debriefed a Scoring Committee, who assigned adjectival scores to each team. Finally, the procurement office converted adjectival scores into points using a pre-determined scale chosen by the Project Selection Committee that was undisclosed during the adjectival scoring process.

On December 3, 2007, FDOT selected four (4) Short-Listed Proposers from amongst the six (6) teams that submitted SOQs:



### ACS Dragados-Macquarie Partnership

Equity Member	ACS Infrastructure Development
Equity Member	MIHI LLC (Macquarie Group)
Lead Contractor	Dragados USA, Inc.
Lead Contractor	Grandi Labori Florida (GLF Construction Corporation)
Lead Contractor	Hubbard Construction Company
Lead Engineering Firm	Earth Tech, Inc.
Lead Operations and Maintenance Firm	Iridium Concesiones de Infraestructuras S.A.

### Direct Connect Partners

Equity Member	Skanska Infrastructure Development AB
Equity Member	John Laing plc
Equity Member	Fluor Enterprises, Inc.
Lead Contractor	Skanska USC Civil, Inc.
Lead Contractor	Fluor Enterprises, Inc.
Lead Engineering Firm	HDR Engineering Inc.
Lead Operations and Maintenance Firm	Roy Jorgenson Associates, Inc.

### Express Access Team

Equity Member	Babcock & Brown Infrastructure Group US LLC
Equity Member	Bilfinger Berger BOT Inc.
Lead Contractor	PCL Civil Constructors, Inc. (JV)
Lead Contractor	Archer Western Contractors, Ltd. (JV)
Lead Engineering Firm	PB Americas, Inc.
Lead Operations and Maintenance Firm	Transfield Services Limited

### I-595 Development Partners

Equity Member	OHL Concesiones, S.A.
Equity Member	Goldman Sachs Global Infrastructure Partners I, LP
Equity Member	Balfour Beatty Capital, Inc.
Lead Contractor (70%)	OHL, S.A.
	Community Asphalt Corp.
	Condotte America, Inc.
Lead Contractor (30%)	Kiewit Southern, Co.
Lead Engineering Firm	Jacobs Engineering Group, Inc.
Lead Operations and Maintenance Firm	OHL Concesiones, S.L.

A Request for Proposals (“RFP”) was distributed to the Short-Listed Proposers in draft form on December 17, 2007. The RFP included:

- Instructions to Proposers (“ITP”), which outlined the procurement rules and contained the submittal requirements, evaluation methodology for choosing the best value proposer, the interest rate benchmarking mechanisms, requirements for receiving stipends and other information governing interactions with FDOT and its advisors during the procurement;
- Concession Agreement; and
- Technical specifications.

### **3.2. Opportunities for Federal Financing**

To stimulate robust price competition, FDOT decided to advance a number of financing options on its own and make them available to all bidders. FDOT obtained approval from the U.S. Department of Transportation (“USDOT”) for a provisional allocation of \$2 billion in Private Activity Bond (“PAB”) authority for the project in July, 2008. Additionally, FDOT initiated a SEP-15 process with USDOT to pre-approve a TIFIA loan covering up to 33% of the Project’s eligible costs under each team’s proposal. Advancing these applications helped provide an even playing field for all proposers with regard to access to federal programs, thereby channeling competition towards achieving the lowest cost for the Project.

### **3.3. Selection of Best Value Proposer**

Direct Connect Partners withdrew from consideration on February 11, 2008. On September 3, 2008, two days prior to bid submission, I-595 Development Partners indicated in a letter to FDOT that it would not be submitting a proposal. Several changes to the composition of the remaining two teams were approved by FDOT. These primarily involved the assumption by ACS Infrastructure Development Inc. (“ACSID”) of responsibility for 100% of the equity requirement and Macquarie becoming financial advisor; and for the other team, a change in the mix of equity contributions between Babcock & Brown and Bilfinger-Berger and substitution of an alternate Babcock & Brown-related equity source. The final composition of the two (2) teams submitting Detailed Proposals on the September 5<sup>th</sup> 2008 deadline was:

#### **ACS Dragados-Macquarie Partnership**

Equity Member	ACS Infrastructure Development
Lead Contractor	Dragados USA, Inc.
Lead Contractor	Grandi Labori Florida (GLF Construction Corporation)
Lead Contractor	Hubbard Construction Company
Lead Engineering Firm	Earth Tech, Inc.
Lead Operations and Maintenance Firm	Iridium Concesiones de Infraestructuras S.A.

### Express Access Team

Equity Member	Babcock & Brown Infrastructure Fund North America (BBIFNA)
Equity Member	Bilfinger Berger Project Investments (U.S.A.) Inc.
Lead Contractor	PCL Civil Constructors, Inc. (JV)
Lead Contractor	Archer Western Contractors, Ltd. (JV)
Lead Engineering Firm	PB Americas, Inc.
Lead Operations and Maintenance Firm	VMS Inc.

The Detailed Proposals were evaluated primarily on technical merit and price, with a small component of scoring for the relative robustness and feasibility of the financial plan. The financial proposals including prices were placed in escrow until the technical scoring was complete. A double blind scoring process (using intermediate adjectival scores, similar to the SOQ stage) was used to determine the teams' technical and financial feasibility scores.

FDOT then applied an innovative scoring formula based on FDOT's stipulated indifference curve between technical score and price to evaluate the cost proposals. FDOT set forth the formula in the ITP, which indicated to bidders that FDOT would be willing to pay up to an additional \$10 million per year in un-escalated maximum annual availability payments ("MAP") for a proposal achieving a perfect technical score versus a proposal with a lower MAP that only met the minimum pass/fail technical requirement.

On October 24, 2008, pursuant to Chapter 120, Florida Statutes, ACSID was selected as the Best Value Proposer. The financial offer made by ACSID was for a MAP of \$63,980,000. The second place bidder, EAT proposed a \$144,497,830 MAP. EAT achieved a higher technical score, but it was insufficient to overcome the significant cost difference. EAT's financial feasibility score also was lower than ACSID's.

### 3.4. Contract Execution and Financial Close

The best value proposal envisioned a debt structure using two tranches of Private Activity Bonds, a bank letter of credit to mitigate construction risk, a TIFIA loan, and \$153.9 million equity investment. However, as a consequence of financial market disruption during the months of September and October 2008, FDOT and ACSID mutually agreed to change the financial plan to use taxable bank loans in lieu of PABs. This change was consistent with ITP provisions regarding interest rate risk sharing that afforded FDOT the flexibility to approve alternative debt structures subsequent to contract award as a result of market conditions.

The financial plan was revised with, (i) two tranches of bank loans structured as mini-perm, 10-year loans, scheduled to be refinanced by a future take-out financing and (ii) a TIFIA loan. In response to bank credit committee guidance, ACSID increased its equity investment to \$207.7 million and implemented various adjustments to the financial model as a result of the lenders' due diligence process. ACSID also agreed to accept the downside refinance risk associated with

the mini-perm structure and to share any potential refinance gains with FDOT on a 50/50 basis. ACSID mitigated some of this risk by entering into a base rate swap agreement. ACSID placed the private bank debt through a 12-bank club and achieved Financial Close on March 3, 2009, when the 35-year Concession Agreement was signed by both parties.

Two tranches of debt were proposed because FDOT's payments for the Project are comprised of two separate streams of revenue.

**"Tranche A"** debt totals \$526 million and will be funded from Final Acceptance Payments. These payments are conditioned only on Final Acceptance, although they may be subject to certain deductions for performance lapses during the construction period. The first Final Acceptance Payment of \$69.68 million includes \$50 million in potential bonus incentives for the Concessionaire to complete the Interim Milestone Works defined in the RFP by pre-set deadlines. This bonus structure reflects FDOT's desire to accelerate project delivery. Final Acceptance Payments are scheduled as follows (in year-of-expenditure dollars):

- \$69,680,000 on the Final Acceptance Date or July 1, 2012, whichever is later;
- \$103,631,000 on the Final Acceptance Date or July 1, 2013, whichever is later;
- \$71,712,000 on the Final Acceptance Date or July 1, 2014, whichever is later;
- \$95,434,000 on the Final Acceptance Date or July 1, 2015, whichever is later;
- \$123,173,000 on the Final Acceptance Date or July 1, 2016, whichever is later;
- \$217,622,000 on the Final Acceptance Date or July 1, 2017, whichever is later; and
- \$4,298,000 on the Final Acceptance Date or July 1, 2018, whichever is later.

**"Tranche B"** debt totaling \$256 million will be drawn between 2011 and 2012 and will be repaid from Availability Payments FDOT will begin making at Substantial Completion. These payments will extend until the end of the concession period and are conditioned on the availability of the facilities pursuant to strictly defined performance criteria in the concession agreement. The availability payments are subject to deductions if the performance criteria are not met.

A \$603 million subordinated TIFIA loan completes the debt financing and is drawn during the entire construction period through mid-2014. Like Tranche B, The TIFIA loan will be repaid from Availability Payments, although primarily from Availability Payments received later in the concession term.

While FDOT bore the risk of fluctuation in the base interest rate (LIBOR and SLGS TIFIA rate) of up to 100 basis points, the procurement documents also established an approach to share the risk of market fluctuations in credit spreads, loan establishment fees, and LIBOR swap margin whereby FDOT would absorb 75% of movements and ACSID 25%, through a simultaneous adjustment to the MAP and IRR. After these adjustments, the final MAP and Equity IRR set at closing were \$65,905,000 (July 1, 2008 dollars) and 11.5%.

## 4. Comparison of FDOT 2007 Estimates versus Executed Contract

**FDOT derived significant savings relative to the forecasts developed in August, 2007 in three principal ways, as summarized below and in Table 1:**

- When FDOT completed its final draft of the VfM analysis in August, 2007, the base case concession model assumed a \$1.3 billion Work Program allocation for both cash progress payments and early year availability payments and yielded a MAP of \$68.4 million in July 1, 2007<sup>10</sup> dollars, or \$71.9 million in July 1, 2008 dollars. This compares to the final MAP upon financial close of \$65.9 million (July 1, 2008 dollars) which represents an 8.3% savings relative to forecast.
- The \$71.9 million MAP estimated in August 2007 assumed cash progress payments from FDOT to the Concessionaire that totaled \$1.1 billion in year-of-expenditure dollars. The \$65.9 million final MAP assumes Final Acceptance Payments totaling \$686 million in year-of-expenditure dollars. This represents a savings to FDOT of almost \$400 million compared to the anticipated outlays at the time the decision to utilize a PPP structure was made.
- Not only did FDOT decrease the total milestone/final acceptance payments by almost \$400 million, FDOT also deferred payments until further in the future. In August, 2007, FDOT's concession model assumed that cash progress payments from the Work Program would take the form of both milestone payments during construction, beginning in the first year of construction (FY 09-10) and Final Acceptance Payments during the initial years of operations. The executed Concession Agreement, however, provides only for Final Acceptance Payments, and the ACSID construction schedule does not anticipate the first Final Acceptance Payment until the first quarter of its FY 14-15. This cash flow benefit has proven significant during the current period of extraordinary budgetary stress in Florida due to distressed economic conditions. The deferred payments represent a significant risk transfer to ACSID for timely completion and cost overruns, as well as an incentive to accelerate construction.

**Table 1**  
**Actual Costs versus 2007 Expectations**

	2007 Forecast	Financial Close	Savings	Savings (%)
Maximum Availability Payment <sup>1</sup>	\$71.9	\$65.9	\$6.0	8.3%
Progress Payments/Final Acceptance Payments <sup>2</sup>	\$1,079	\$686	\$394	36.5%
First FDOT progress payment/final acceptance payment	FY 2009-2010	FY2014-2015	5 years	

<sup>1</sup>millions of July 1, 2008 dollars

<sup>2</sup>millions of year-of-expenditure dollars

<sup>10</sup> FDOT's fiscal years run from July 1 – June 30.

## **4.1. Project Costs**

In its 2007 VfM analysis, FDOT estimated the concessionaire's costs at \$1.9 billion for construction, design, construction engineering and inspection (CEI), and insurance and operating expense during construction. The budget in the Concessionaire's financial model upon closing included \$1.3 billion for these same costs—a savings of more than \$500 million in year-of-expenditure dollars. This savings is reflected in the lower availability payment, as well as the ability of FDOT to absorb higher operations, maintenance, insurance and capital renewal and replacement costs than was anticipated in 2007.

## **4.2. Financing**

The 2007 VfM analysis assumed the concessionaire would finance both the Final Acceptance Payments and the Availability Payments with Private Activity Bonds. Equity was anticipated to make up the difference between the bond proceeds and project costs.

The ACSID bid received did, in fact reflect a PAB-based financing solution. It also assumed a \$675 million TIFIA loan which offered significant interest savings compared to PABs at the time the bids were submitted.<sup>11</sup> Within weeks after award of the concession, however, it became increasingly apparent to both the FDOT and the Concessionaire that the upheaval in the financial markets following the collapse of Lehman Brothers in October, 2008 rendered a PAB-based finance plan infeasible. Base interest rates, credit margins, and the additional margin related to the Alternative Minimum Tax (AMT) all increased significantly. Moreover, there was reduced appetite in the market for a PAB issue of the size required to finance the Project, and there was doubt the bonds could even be sold. Consequently, the Concessionaire replaced PABs with commercial bank debt.

Upon financial close, the weighted average cost of debt of the bank and TIFIA loans was 4.65%. This compares favorably to the 4.77% weighted average cost of debt assumed in the 2007 VfM analysis, especially given the deterioration in the financial markets since 2007. A key factor in keeping the Project affordable is the favorable TIFIA lending rate of 3.64% which will cover approximately 41% of the project costs.<sup>12</sup>

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<sup>11</sup> In 2007 TIFIA was more costly than PABs.

<sup>12</sup> The TIFIA statute limits the size of a loan to 33% of project costs. However, for I-595 "project costs" include considerable FDOT expenditures for planning, engineering, environmental studies, right of way, legal and advisory services, CEI, contingencies and other costs, in addition to eligible costs that will be incurred by the Concessionaire.



### 4.3. Equity

In 2007, the VfM analysis assumed the concessionaire would require a 10.0% internal rate of return (“IRR”) on an equity investment of \$96.6 million. The Concessionaire’s bid model projected a similar IRR (9.9%), but on a larger \$154 million equity investment. At financial close, the Concessionaire’s financial model assumed a higher, 11.5% IRR on a \$208 million equity investment. The additional IRR requirement resulted in large part from the refinancing risk that the Concessionaire assumed when it switched from PABs with a final repayment date in 2029 to bank loans with a maximum 10-year term (due in 2019). The larger equity investment emerged from bank lending requirements that increased the portion of the project costs (12.5%) funded by equity than was assumed in its original bid and in FDOT’s VfM analysis (8 – 10%).

## 5. Updated Value for Money Analysis

This section describes the assumptions, methodology, and results of the initial VfM analysis performed in 2007, followed by the updated analysis undertaken based on the Concession Agreement made effective March 3, 2009. It must be recognized that the updated concession case is derived from the actual, successfully closed transaction that resulted from a highly competitive process. By contrast, the DBF alternative is purely theoretical, based upon a host of assumptions that were not validated by an actual market competition.

### 5.1. 2007 VfM Assumptions

Tables 2 and 3 below describe the key common and contract method-specific assumptions incorporated into the 2007 VfM analysis.

**Table 2**  
**2007 Contract Method-Neutral VfM Assumptions**

Baseline Costs and Assumptions Common to DBF and DBFOM	
Term	The term for the analysis was set equal to the assumed concession term. Since a 35-year concession term was assumed for the concession, a 35-year stream of cash flows was considered for the DBF so that both schemes were analyzed over the same time period. The cash flows for the DBF included all payments made by FDOT to deliver the Project, not only for the DBF contractor, but also for operations and maintenance, capital renewal and replacement, and debt service. While an argument can be made that a concessionaire has a greater incentive than a DBF contractor to complete construction and begin earning income more quickly, the analysis assumed a 5-year construction period and 30-year operating period for both procurement methods.
Baseline Construction Costs	The baseline construction costs were the same for both procurement schemes since the project to be delivered was intended to be the same. FDOT estimated the baseline construction cost at \$1.25 billion in 2007 dollars and estimated additional design costs at 10% of construction costs. The construction cost inflation factors from FDOT's Work Program instructions, together with a spend-out curve applied over the 5-year construction period, were used to escalate the baseline construction costs.
Progress Payments	FDOT's 10-year Work Program ran through fiscal year 2016-2017. The total amount of funds allocated to the Project from the 10-year Work Program (in inflated dollars) was assumed to range from a low of \$875 million to a high of \$1.3 billion. These funds were assumed to be available for disbursement by FDOT through fiscal year 2020-2021 in both procurement schemes according to a cash flow matrix generated by FDOT's Central Office that converted the Work Program obligations into cash flows. Regardless of whether FDOT made \$875 million or \$1.3 billion available to the Project from the 10-year Work Program, the analysis assumed that, in the concession scenario, FDOT

	reserved enough cash flow from the Work Program during construction so that sufficient funds remained on hand for FDOT to make availability payments or shadow toll payments during the first three operating years of the concession (fiscal years ending in 2015, 2016, and 2017). Only the remaining funds were assumed available as progress payments to the concessionaire.
Baseline Operating Period Costs	FDOT estimated routine annual operations and maintenance expense at \$8.7 million (2007 dollars). The estimate covered Intelligent Transportation Systems (ITS), the roadway maintenance of the reversible and general purpose lanes, maintenance of toll equipment and overhead gantries, and the cost of traffic management and operations of both the non-tolled and reversible express lanes. FDOT estimated capital renewal and replacement costs at \$43 million (2007 dollars) every 15 years to cover resurfacing costs. The model escalated these costs at 2.50% per annum. Absent an independent cost estimate, the model added a 10% contingency to these FDOT cost estimates. Like the construction cost estimate, the operations and maintenance and capital renewal and replacement cost estimates were assumed as a common baseline for both procurement schemes. Toll collection costs for the managed lanes were deducted from FDOT's toll revenue estimates and were not reflected in the operating cost assumptions.
Advisory and Financial Fees	In 2007, FDOT assumed the differences between the two procurement methods would be insignificant with regard to the transaction costs to the concessionaire and DBF contractor, including due diligence, development fees, and financial and legal advisory fees, and therefore excluded these from the analysis. An underwriting fee of 60 basis points was applied to the debt amount in both the DBF and concession scenarios.
Procurement Cost	In 2007, FDOT did not assume any differences in the cost of procurement between the two procurement methods. (This "neutrality" assumption was modified in the 2009 VfM update to impute a \$2 million lower cost under the DBF.)

**Table 3**  
**2007 Contract Method-specific VfM Assumptions<sup>13</sup>**

	DBFOM	DBF
CEI Costs	In a concession scheme, the CEI costs for the Grantor are smaller than the CEI costs in a design-build contract because the concessionaire performs most of the project oversight and the contractor initially prepares and commits to a highly demanding quality plan. The analysis assumed a CEI cost for the concession equal to 5% of baseline construction costs based on an allowance of 2% to cover the concessionaire's oversight costs and 3% to cover FDOT's CEI costs.	CEI costs were estimated at 12% of construction costs consistent with the 12-15 percent range typically used in FDOT work program planning for CEI.
Construction Costs	<p>The baseline construction costs were increased by 5% to approximate the contingency that the concessionaire would include in its pricing for assuming the risk of cost overruns. FDOT chose a 5% risk contingency as a medium to conservative assumption given the relatively straight-forward construction involved in the I-595 improvements. A 5% risk contingency was also consistent with FDOT experience in its extensive design-build program.</p> <p>The total risk-adjusted capital cost estimate, including construction, CEI, and design costs with capital cost escalation over the 5-year construction period, was \$1.9 billion.</p>	<p>The model assumed a 5% expected cost overrun. While a 10-20% cost overrun is more typical of a traditional design-bid-build procurement method, FDOT determined that a properly structured DBF scheme warranted a lower expectation of cost overruns. This 5% expected cost overrun captures the greater risk of claims, for example, resulting from the DBF contract structure. This risk of cost overruns was deemed independent of how the winning bid compared to FDOT's construction cost estimate.</p> <p>In addition to the 5% expected cost overrun, the model assumed a 10% risk contingency. Half of this approximated the contingency that the design-build contractor would include in its cost estimate for assuming the risk that the actual costs could exceed budgeted amounts. The other half was assumed to capture the added risk of less competition and, therefore, higher pricing as compared to FDOT's construction cost estimate, based</p>

<sup>13</sup> Note this chart describes base case assumptions. During the 2007 analysis, these assumptions were extensively tested using sensitivity analysis.

		<p>on the smaller number of market participants who expressed enthusiasm for a DBF procurement during the one-on-one meetings following the industry forum. The experience on the iROX project described above reflected less competition and high pricing than FDOT's estimates versus the number and pricing of bids received on the Port of Miami Tunnel DBFOM (significantly below FDOT's estimate).</p> <p>The total risk-adjusted capital cost, including construction, CEI, and design costs with capital cost escalation over the 5-year construction period was \$2.1 billion.</p>
Financing	<p>Based in part on the finance plans included in the bids received by FDOT in 2007 for the Port of Miami Tunnel project and prevailing market conditions at that time, the base case assumed that the concessionaire would use tax-exempt Private Activity Bonds ("PABs") authorized by SAFETEA-LU<sup>14</sup> to finance the progress payments pledged by FDOT from its 10-year Work Program. The base case also assumed the concessionaire would meet 90-92 percent<sup>15</sup> of the remaining funding requirement with proceeds from PABs that achieved an investment grade rating and were wrapped by a monoline insurer. The high degree of leverage (90-92 percent) was deemed reasonable for a project with limited traffic risk to the concessionaire.</p> <p>The concessionaire was assumed to meet the remaining 8-10 percent of the funding requirement with equity investment.</p>	<p>The base case assumed that a design-build contractor would secure tax-exempt municipal debt to advance grants paid from FDOT's Work Program after completion of construction. Progress payments made from FDOT's Work Program during the first five years would go toward offsetting construction costs, and progress payments disbursed thereafter would be used toward debt repayment.</p> <p>At the end of the 12-year bond term (corresponding to the final year of FDOT's cash-flowed work program), FDOT would retire the DBF contractor's outstanding debt balance with the proceeds from state bonds. The outstanding balance would reflect total project costs, plus accrued interest, less the progress payments paid from FDOT's cash-flowed 10-year Work Program to either offset construction costs or repay debt.</p>

<sup>14</sup> Section 11143 of Title XI of SAFETEA-LU amends Section 142 of the Internal Revenue Code to add highway and freight transfer facilities to the types of privately developed and operated projects for which private activity bonds may be issued. This change allows private activity on these types of projects, while maintaining the tax-exempt status of the bonds up to a total of \$15 billion.

<sup>15</sup> The lower debt-to-equity ratio was assumed for a shadow toll scheme to reflect the market perception of this payment mechanism as riskier. Thus, the analysis assumed high leverage of 92% for the availability payment mechanism and a more conservative 90% for the shadow toll payment mechanism.

Operating Period Costs	<p>In the same way the analysis assumes that the concessionaire would add an estimated 5% risk contingency to the baseline construction costs, it also assumed the concessionaire would add a 5% contingency to the baseline operations and maintenance expense and capital renewal and replacement costs for accepting the risk that the actual costs could exceed budgeted amounts.</p>	<p>The model assumed FDOT would incur cost overruns of 20% above the baseline operations and maintenance expense and capital renewal and replacement cost estimates. The separation of the initial construction from the future operations under a DBF was assumed to result in greater risk of maintenance issues during the operating period because the design-build contractor does not “live with” the end product for 30 years after substantial completion.</p> <p>Because the financing assumptions included tax-exempt bonds, 15 years is the maximum length assumed for a contract that FDOT could execute with an independent operator. To reflect the risk of a step increase in operations and maintenance expense upon contract renewal, an additional 10% contingency was assumed.</p>
Revenue	<p>The base case set of assumptions assumed that the concessionaire’s sole source of revenue, other than grants from FDOT’s 10-year Work Program, would be payments from FDOT in the form of either availability payments or a shadow toll per vehicle up to a maximum number of vehicles. FDOT would set the toll rates and retain the toll revenue from the managed toll lanes. The payments from FDOT would allow the concessionaire to meet all debt service requirements, provide a return of/on equity, pay for all routine and periodic operations and maintenance expenses, fulfill handback specifications, meet reserve requirements, and pay any income taxes due.</p> <p>The estimated shadow toll per vehicle assumed that the concessionaire would present a bid based on the medium growth traffic optimization transaction forecast from Wilbur Smith Associates (“WSA”), and the value for money calculation assumed that actual</p>	<p>The progress payments from FDOT’s cash-flowed Work Program would comprise the DBF contractor’s sole source of revenue until the final, “take-out” payment was received from the proceeds of an FDOT bond.</p>



	transactions matched WSA's forecast. Sensitivity analysis measured the effect on value for money if a concessionaire relied on WSA's base case or high growth forecast while actual transactions matched WSA's medium growth forecast.	
Tax	The model assumed the concessionaire would pay federal and state corporate income tax. FDOT reduced its total projected payments to the concessionaire by the estimated state corporate income tax the State of Florida would receive from the concessionaire.	FDOT's estimated payments to the DB and O&M contractors exclude any potential mark ups for taxes.

## 5.2. 2007 Base Case Results

Given the base case assumptions presented above, Table 4 below provides the 2007 forecast of the expected net present cost of all payments to be made by FDOT over a 35-year period under both the DBF and concession scenarios. The concession scenario is further broken down according to the payment mechanism assumed. (In 2007, FDOT ultimately reviewed a much larger sensitivity analysis results table during the decision-making process). All net present cost figures include the capital cost and the annual costs of operation, maintenance, and renewal of the entire facility.

**Table 4**

	<u>\$1,335,700,000 Work Program</u>			<u>\$874,500,000 Work Program</u>		
	Concession Availability Payments	Concession Shadow Tolls	DBF	Concession Availability Payments	Concession Shadow Tolls	DBF
<i>(millions of 2007 dollars)</i>						
Net Present Cost	\$1,896	\$2,040	\$2,000	\$1,987	\$2,167	\$2,011
Value for Money	\$104	(\$40)		\$24	(\$156)	
Value for Money (as % of DBF)	5.2%	-2.0%		1.2%	-7.8%	

## 5.3. March 2009 VfM – Updated Base Case Assumptions

Key assumptions underpinning the updated VfM analysis are explained below in Table 5. (The numerical differences in assumptions between the 2007 and 2009 base case DBF and DBFOM cases are shown side by side in Table 7.) A number of the changes in the debt assumptions are significant given current financial market conditions.

**Table 5**  
**Key Assumptions in 2009 Update of VfM**

	DBFOM (Per Executed Contract)	DBF
Term	35 years.	35 years. As in the case of the concession, a 5-year construction schedule is assumed to commence with a March 3, 2009 financial close and effective date. Costs associated with the operations and maintenance of the corridor and capital renewal and replacement costs are forecasted through March 2, 2044 when the DBFOM concession ends. All debt is assumed to be repaid in full before this date.
CEI Costs	CEI costs incurred by the Concessionaire are reflected in the availability payments (see Revenue row below). However, FDOT will incur its own CEI costs related to the concession and these outlays are added to the net payments to the Concessionaire.	As in 2007, FDOT continues to model a 12% allocation for CEI.
Construction Costs	Included in availability payment price and final acceptance payments (approximately \$1.2 billion per Concessionaire financial model.)	FDOT assumes that a DBF contractor could match the Concessionaire's baseline construction cost estimate of \$1.2 billion (Section 5.4 includes analysis of the sensitivity of the VfM to the use of FDOT's pre-bid construction cost estimate). FDOT assumes this \$1.2 billion estimate already includes any contingency that the DBF contractor might charge to assume the risk that actual costs exceed budgeted amounts. Based on the smaller number of market participants who expressed enthusiasm for a DBF procurement during the one-on-one meetings following the industry forum, however, FDOT increased the baseline construction cost estimate by 5%, as it did in 2007, to capture the added risk of less competition and, therefore, higher pricing as compared to the Concessionaire's construction cost estimate. As in 2007, FDOT also adds a 5% expected cost overrun (Section 5.4

		<p>includes analysis of the sensitivity of the VfM to removing this 10% total risk adjustment). The total risk-adjusted capital cost, including construction, CEI, and design costs in year-of-expenditure dollars is \$1.4 billion.</p> <p>FDOT assumes the DBF contractor can obtain construction insurance and operate and maintain the corridor during construction at the same costs reflected in the Concessionaire's model, i.e. FDOT applies no additional risk adjustments to these costs.</p>
Revenue	<p>Under the executed contract, FDOT's payments to the Concessionaire consist of two streams: (1) Final Acceptance Payments and (2) Availability Payments. Final Acceptance Payments are fixed according to the amounts and timing set forth in Section 4.10.4.1 of the Concession Agreement and based on the Concessionaire's construction schedule which assumes Final Acceptance in June 2014. Availability Payment forecasts assume the \$65.9 MAP set at financial close, availability payment escalation based on inflation forecasts taken from the Concessionaire's financial model,<sup>16</sup> and the start of availability payments once substantial completion is achieved in March 2014 (according to the Concessionaire's construction schedule).</p>	<p>In January 2008, FDOT confirmed a \$1.3 billion 10-year Work Program allocation for the Project. In March 2008, FDOT reprogrammed the annual disbursements to commence after the end of construction to match its cash flow needs to make the estimated Availability Payments (during the operating years that overlapped with FDOT's 10-year Work Program) and the Final Acceptance Payments to the Concessionaire. The updated VfM analysis, however, assumes FDOT makes disbursements to the DBF contractor as the funds become available according to the 10-year cash-flowed Work Program <i>before the funds were reprogrammed to fit a concession scenario</i>. These include \$318 million in progress payments during the construction period and \$995 million in payments during the operations period through FY 2020-2021—the final year of the cash-flowed 10-year work program.<sup>17</sup> In other words, the updated VfM assumes FDOT sacrifices the cash flow benefit and completion risk transfer it received under the actual Concession Agreement terms.</p>

<sup>16</sup> 30% of the Availability Payment escalates according to changes in the Consumer Price Index from the July 1, 2008 base date; 70% escalates at a fixed rate of 3.00% per annum.

<sup>17</sup> The assumption that there would be \$318m in payments made by FDOT during construction under a DBF (versus no payments made during construction under the DBFOM) was used because it reflects the pre-existing profile of funds for the project in the work program. However, in the past year, FDOT has cut more than \$9 billion from its work program due to a slowdown in the state's economy. So while, it is uncertain that FDOT would have been able to protect the construction period payments to the DBF contractor in the work program, this assumption was retained because it is more conservative (i.e. favors DBF over DBFOM) albeit only slightly.

Financing	Implicit in the availability payment price.	To capture the significant cost savings of a TIFIA loan compared to bank debt (as well as bond financing), the updated DBF scenario assumes that FDOT revises its original DBF finance plan to assume that FDOT would be the borrower on a TIFIA loan to cover 33% of eligible project costs and would disburse the loan proceeds to the DBF contractor. <sup>18</sup> Eligible project costs for TIFIA were increased to include the higher CEI costs incurred by FDOT in a DBF scenario. Bank debt is assumed to bridge the gap between the DBF contractor's construction period costs and funds disbursed by FDOT from either its Work Program or draws on the TIFIA loan (Section 5.4 includes analysis of the sensitivity of the VfM to the use of tax-exempt municipal bonds instead of bank debt). The DBF contractor would repay the bank loan in full by fiscal year 2018-2019 from disbursements made by FDOT during the operating period. FDOT would pay down TIFIA principal with the remaining work program funds and then retire the TIFIA debt with level debt service payments through the final year of the 35-year analysis period. Unlike the 2007 VfM analysis, the updated DBF scenario requires no issue of state bonds due to the lower construction period costs.
Operating Period Costs	Implicit in the availability payment price.	The Concessionaire is relying on expected efficiency gains based on the greater use of existing structures. This approach results in lower construction costs, but higher operating period costs. Because FDOT assumes the DBF contractor matches the Concessionaire's baseline construction costs, it also assumes the Concessionaire's higher operations and maintenance expense and capital renewal and replacement costs as its baseline under a DBF scenario. Unlike the 2007 VfM analysis, however, FDOT has not added the risk adjustments described in Table 3 to these baseline costs (Section 5.4 includes analysis of the sensitivity of the VfM to the use of FDOT's pre-bid operations and maintenance and capital renewal and replacement cost estimates and the risk adjustments).

<sup>18</sup> Note that this broad assumption regarding the use of TIFIA is favorable for DBF. TIFIA cannot be used to advance future federal grants, so the updated finance structure would have to shift the timing and sources of FDOT funding to assure that no federal funds were used for TIFIA debt service.

		FDOT assumes that insurance costs during operations (as well as construction) are the same under both the DBF and concession schemes, so it has used the insurance cost estimates reflected in the concession model. However, it should be noted that the Concession Agreement includes benchmarking provisions which now indicate that the Concessionaire's insurance costs, and therefore the Availability Payments, will be adjusted downward to reflect these savings.
Tax	The NPV of the payment streams to the Concessionaire is reduced by the NPV of the corporate income tax that the Concessionaire estimates it will pay the State of Florida.	As in 2007, FDOT's estimated payments to the DB and O&M contractors exclude any potential mark ups for taxes.
Procurement Costs	Used as baseline.	FDOT reduced the NPV of its payments under the DBF scenario by \$2 million to reflect the lower expected costs to FDOT of procuring a DBF. A concession requires more developed contractual documents, for example to cover the 30-year operating period and handback, including the study and design of the payment mechanism.

#### 5.4. Updated VfM Results

FDOT's base case assumptions in the updated VfM analysis indicate potential value for money of \$78 million, or 4.2% of the net present cost of FDOT payments under the DBF scheme. Depending upon certain key assumptions tested in the sensitivity analysis, a sample of which is summarized in Table 6 below, potential value for money may range between negative \$13 million and positive \$244 million (-0.7% to 12.0%). These results, combined with the factors listed below, indicate that FDOT's original conclusion stands that the concession demonstrates value for money compared to a DBF. These quantitative results are in addition to qualitative factors that may strengthen the case for a concession, such as improved cash flow management, long-term cost/budget certainty, incentives for schedule acceleration, and greater alignment of interest on key performance goals.

**Table 6: Updated Value for Money Results**

Assumptions	Base Case	Debt Structure	Cost Basis / Adjustments			Discount Rate	
DBF finance plan based on bank debt	✓	Tax-exempt municipal bonds	✓	✓	✓	✓	✓
DBF assumes Concessionaire's construction and design costs	✓	✓	✓	FDOT estimates <sup>1</sup>	FDOT estimates <sup>1</sup>	✓	✓
DBF assumes Concessionaire's O&M and capital renewal and replacement costs	✓	✓	✓	FDOT estimates w/ no overrun	FDOT estimates w/ 20% overrun	✓	✓
DBF construction costs increased by 10% <sup>2</sup>	✓	✓	No adjustments	No adjustments	✓	✓	✓
5% Discount Rate	✓	✓	✓	✓	✓	6%	7%
<b>Value for Money (millions of dollars)</b>	<b>\$78</b>	<b>\$95</b>	<b>-\$13</b>	<b>\$65</b>	<b>\$244</b>	<b>\$100</b>	<b>\$117</b>
<b>Value for Money (as % of DBF)</b>	<b>4.2%</b>	<b>5.1%</b>	<b>-0.7%</b>	<b>3.5%</b>	<b>12.0%</b>	<b>6.1%</b>	<b>7.9%</b>

<sup>1</sup>Assumes the most recent cost estimate of \$1.6 billion in year-of-expenditure dollars for construction, design, and CEI that FDOT had just before receiving bids (without cost overrun and risk contingency adjustments described in Table 5)

<sup>2</sup>5% for cost overrun and 5% for reduced competition, as explained in Table 5.

The basis for the sensitivity analysis cases included are further described below:

- **Debt structure sensitivity.** If the DBF finance plan is based on slightly less expensive tax-exempt municipal debt, the VfM nevertheless increases to \$95 million, or 5.1% largely due to higher net interest and financing fees during construction. Moreover, FDOT believes the bond markets on March 3, 2009 did not substantially improve from December, 2008 when the Concessionaire re-based its finance plan on bank debt in part because of the uncertainty that such a large, long-term bond issue could be placed given investor demand and the pressures on Florida's credit ratings.
- **Cost basis and adjustments sensitivities.** If FDOT maintains its base case assumptions that (1) the operating period costs are the same in both the DBF and concession scenarios, and (2) a DBF contractor could deliver the Project for the same *baseline* construction costs as the Concessionaire, but with no 10% upward adjustment to capture both (a) the added risk of less competition and, therefore, higher pricing as compared to the Concessionaire's construction cost estimate and (b) the expected cost overrun that captures the greater risk of claims, for example, resulting from the DBF contract structure, the expected value for money may turn negative, to -\$13 million (-0.7%).
  - If FDOT uses its own pre-bid construction cost estimate but without the 10% risk adjustment, as well as its own O&M and capital renewal and replacement cost estimates but without any cost overrun adjustments, the expected value for money is \$65 million, or 3.5%.
  - If FDOT uses its own pre-bid construction cost estimate, including the 10% risk adjustment, as well as its own O&M and capital renewal and replacement cost estimates, including the 20% cost overrun adjustment assumed in 2007, the expected value for money increases to \$244 million, or 12%.



- Discount rate sensitivity. As highlighted in Section 2.3, there is much discussion among those who perform value for money analysis regarding the correct discount rate to choose. To address the lack of a “standard” discount rate methodology, Table 3 shows a range of nominal rates between 5% and 7%. FDOT’s selection of a 5% baseline discount rate generates results that are more favorable for the DBF than they would be if a higher discount rate were used, as demonstrated in the results of the analysis based on discount rates of 6% and 7%. Consequently, FDOT’s baseline discount rate assumption may be viewed as conservative.

As a final summary, Table 7 compares key quantitative assumptions from the 2007 and 2009 VfM analyses for all DBFOM and DBF base cases.

**Table 7**  
**Comparison of Quantitative Assumptions**

COMPARISON OF DBF AND CONCESSION					
	AUGUST 2007			MARCH 2009	
	DBF	Concession		DBF	Concession
		Availability Payments	Shadow Tolls		Availability Payments
<b>Construction</b>					
Construction period (years)	5	5	5	5	5
Construction costs (millions of 2007\$)	\$1,250	\$1,250	\$1,250	\$1,111	\$1,111
Design costs	10%	10%	10%	\$86	\$86
CEI	12%	5%	5%	12%	5%
Risk contingency	10%	5%	5%	5%	-
Construction cost overrun	5%	-	-	5%	-
<b>Operations</b>					
Operating period (years)	30	30	30	30	30
Annual O&M expense (millions of 2007\$)	\$8.7	\$8.7	\$8.7	Concessionaire's annual schedule assumed for both DBF & Concession	
Capital renewal & replacement costs (millions of 2007\$)	\$43.0	\$43.0	\$43.0		
Capital renewal & replacement cycle (years)	15	15	15	N/A	N/A
Operating period expense contingency	10%	10%	10%	N/A	N/A
Operations risk contingency	-	5%	5%	N/A	N/A
Operating period expense overrun	20%	-	-	N/A	N/A
O&M contract renewal overrun (after year 15)	10%	-	-	N/A	N/A
Federal corporate income tax rate	-	35.00%	35.00%	-	35.00%
State corporate income tax rate	-	5.50%	5.50%	-	5.50%
<b>Financing</b>					
<i>Financing of FDOT progress payments/FAPs:</i>	Bonds	PABs	PABs	Loan	Loan
All-in interest rate	4.28%	4.28%	4.28%	6.25%	6.58% <sup>2</sup>
Debt establishment fee	0.60%	0.60%	0.60%	3.00%	3.00%
Term (years)	12	12	12	9.5	9.5
<i>State-issued bonds for refinancing / long-term debt:</i>	Bonds	PABs	PABs	Loan	Loan
Base interest rate	4.60%	3.82%	3.82%	N/A	3.84%
Credit margin	1.00%	1.10%	1.10%	N/A	3.00% <sup>2</sup>
Wrap fees	N/A	0.26%	0.41%	N/A	-
Swap spread	-	-	-	N/A	0.30%
All-in interest rate	5.60%	5.17%	5.32%	N/A	7.14%
Term (years) <sup>1</sup>	23	34	34	N/A	23
TIFIA interest rate (including 0.01% credit margin)	N/A	N/A	N/A	3.64%	3.64%
Initial debt-to-equity ratio	N/A	92%	90%	100%	87.5%
Equity IRR	-	10.00%	10.75%	N/A	11.5%
<b>Procurement</b>					
Adjustment for procurement costs	-	-	-	(\$2.0)	-

<sup>1</sup> For DBF, 23-year bonds assumed in 2007 replace 12-yr construction debt for total debt term of 35 yrs. Concession long-term financing is concurrent with financing of progress payments/FAPs.

<sup>2</sup> Includes 3.00% credit margin during construction that steps up to 3.25% in years 6 and 7, 3.50% in year 8 and 9, and 4.00% in year 10.

### 6. Conclusion

A review of the terms of the financing closed on March 3, 2009 and the risk transfer embodied in the executed Concession Agreement point to a concession which is even more attractive to FDOT than that envisioned in the original VfM analysis when the DBFOM choice was made. Further validating FDOT's selection of a concession scheme are the results of an updated VfM analysis performed after financial close. The base case of the updated analysis continues to indicate potential value for money of \$78 million and a potential range of negative \$13 to positive \$244 million. These quantitative results exclude any qualitative factors that also favor a concession, including greater incentives for schedule acceleration, improved cash flow management, budget certainty from the transfer of long-term operating and major maintenance risk for 35 years, enhanced public confidence in government resulting from the delivery of infrastructure on time and on budget, significant remedies in the event of underperformance at any point during the operating period, and the assurance that the facility will be in excellent condition upon handback.