



Ohio River Bridges Project Options Analysis

October 6, 2011



Exploration of Alternative Delivery Options

“The Project Sponsors are currently evaluating the potential benefits of alternative project delivery contracting tools that may accelerate the Project schedule. The alternative project delivery models that may be considered range from design-build to full concession, under which the private sector would have the responsibility to design, build, finance, operate and maintain the Project. The benefits from the use of alternate contracting methods may include acceleration of Project construction, potential Project cost guarantees and more certainty surrounding Project completion dates.”

--Updated Initial Financial Plan (endorsed by Bridges Authority and Kentucky Public Transportation Infrastructure Authority, December 2010)

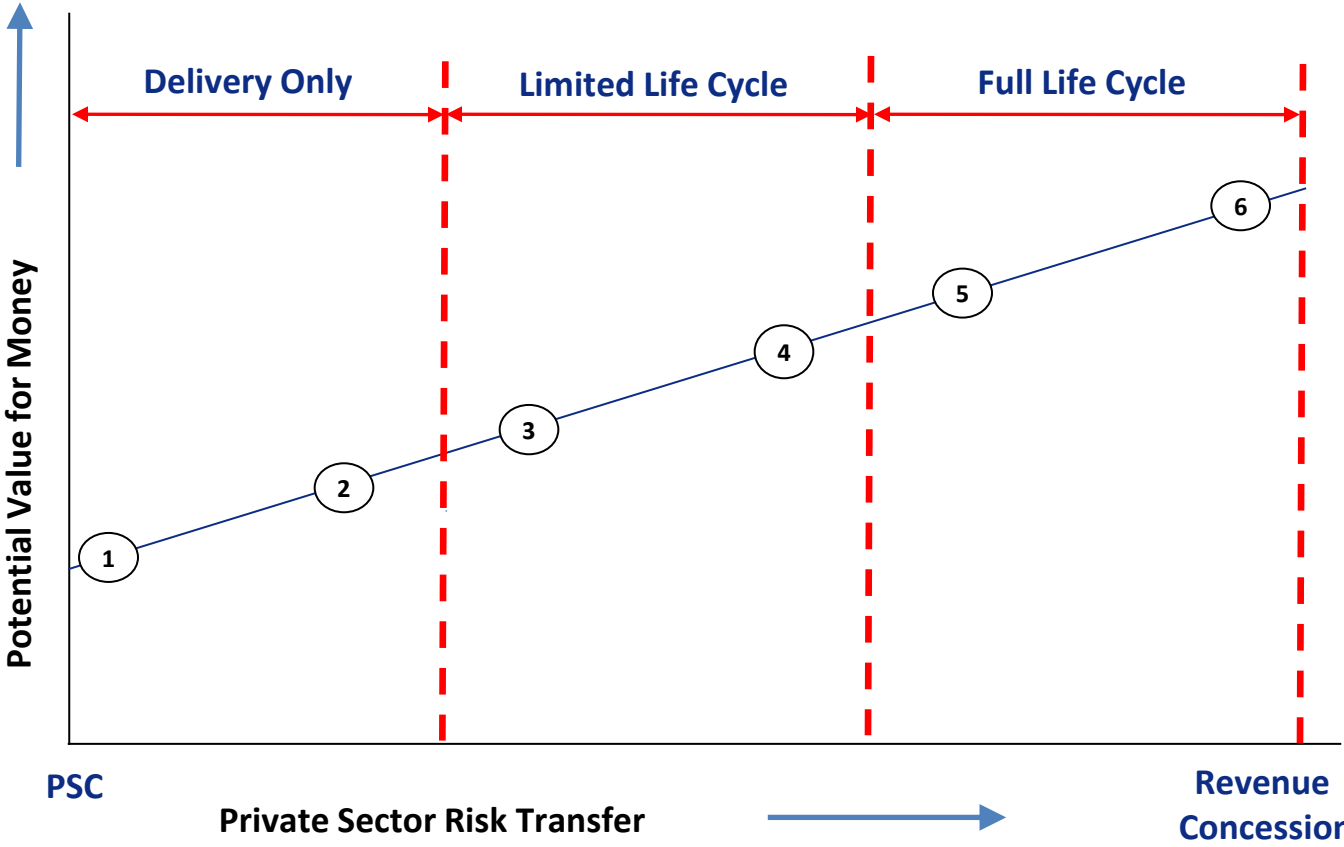
Objectives

- Lifecycle view—now more relevant than ever
- Fair, sound and doable—understanding the tradeoffs
- Optimize risk allocation—to party best able to manage
- Flexibility—to react to things outside our control
- Value for Money—maximize return to states
- Cash flow sufficiency—both construction period and life cycle funding

Overview of Options Analysis

Goal is to quantify value of incrementally shifting risk to a private partner.

- 1. Design-Bid-Build (Public Sector Comparator)
- 2. Design-Build
- 3. Design-Build and Operate & Maintain (with private operating and maintenance contracts)
- 4. Design-Build-Finance and Operate & Maintain (with private operating and maintenance contracts)
- 5. Availability Concession
- 6. Toll Concession



Overview of Scenarios

1. Design-Bid-Build (DBB)	2. Design-Build (DB)	3. Design-Build and Operate & Maintain
<ul style="list-style-type: none"> • Traditional DBB approach. • Standard KYTC and InDOT procurement methods. • Public sector is responsible for: <ul style="list-style-type: none"> • Project financing • Operations and recurring maintenance • Life cycle (non-recurring maintenance) costs 	<ul style="list-style-type: none"> • Single DB contract for the entire project. • Public sector is responsible for <ul style="list-style-type: none"> • Project financing • Operations and recurring maintenance • Life cycle (non-recurring maintenance) costs 	<ul style="list-style-type: none"> • Single DB contract for the entire project. • Private operations and recurring maintenance contracts compliant with IRS restrictions on tax-exempt debt: <ul style="list-style-type: none"> • Maximum 15-year term • Periodic “rolling” contracts • Public sector is responsible for: <ul style="list-style-type: none"> • Project financing • Lifecycle (non-recurring maintenance) costs • Changed terms of “rolling” O&M contracts

Overview of Scenarios

4. Design Build Finance and Operate & Maintain	5. Availability Concession	6 A & B - Toll Concession
<ul style="list-style-type: none"> • Single DB contract for entire project. • Private sector finances construction, public sector refinances with tax-exempt debt upon construction completion. • Private operations and recurring maintenance contracts compliant with IRS restrictions on tax-exempt debt. <ul style="list-style-type: none"> • Maximum 15-year term • Periodic “rolling” contracts • Public sector responsible for: <ul style="list-style-type: none"> • Refinancing • Lifecycle costs • Changed terms of “rolling” O&M contacts 	<ul style="list-style-type: none"> • Single concession • Private sector responsible for project financing, long term operations, recurring maintenance and life cycle costs • Concessionaire may collect tolls on behalf of public sector • Public sector responsible for: <ul style="list-style-type: none"> • Contract monitoring to ensure performance • Making performance-based Availability Payments to concessionaire • Any cash flow differences between Availability Payments and toll revenue receipts 	<ul style="list-style-type: none"> • Single concession • Private sector responsible for project financing, long term operations, recurring maintenance and life cycle costs • Private sector assumes traffic and toll revenue risk • Public sector responsible for: <ul style="list-style-type: none"> • Contract monitoring • Scenario 6b represents a sensitivity analysis which increases annual traffic growth by 1% relative to the baseline concession revenue forecast

Delivery Options Analysis Overview

Overview

- Modeling inputs derived from designated teams:
 - Revenue
 - Costs
 - Construction
 - Operations and recurring maintenance
 - Lifecycle (non-recurring maintenance)
 - Funding
 - Financing
- All scenarios remain subject to review by counsel with regard to tax-exempt debt eligibility and private sector tax treatment

Delivery Options Analysis Overview (cont'd)

Standard Assumptions

- Common scope: IFP update scope, adjusted per cost-savings initiatives
- All scenarios assume a single project
- All scenarios include Project tolling
- Public funds are assumed to be committed up-front in all scenarios
 - Lenders and/or equity sponsors will finance expected cash flow shortfalls based on up-front public sponsor funding commitments; future adjustments will impact equity returns and debt service coverage forecasts
- All scenarios are based on limited or non-recourse project financing
 - Scenario 5 (Availability Concession) reflects financing secured by Availability Payments, rather than financing secured by Toll Revenues as reflected in all other scenarios
- Objective of the Delivery Options Analysis
 - Objective is to evaluate the relative merits of the alternatives
 - Not a financial plan

Key Inputs: Cost

- Parsons, on behalf of CTS, provided cost and schedule inputs related to:
 - Construction
 - Operations and maintenance*
 - Lifecycle/rehabilitation
- Cost and schedule inputs were provided separately for the design-bid-build (DBB) scenario, then adjusted to reflect other alternatives
 - DB, DBFOM and concession cost estimates reflect certain assumptions regarding accelerated design and construction schedules, and the transfer of various risks
- DBB cost and schedule estimates were used as inputs for Option 1 (public sector comparator, or PSC)
- DB cost and schedule estimates were used as inputs for Options 2-3
- DBF cost and schedule inputs were used as inputs for Options 4-5-6
- The DBB, DB and DBF costs were provided in 2010 dollars
- Estimates of construction cost obligations retained by the Public Sector (costs of ROW acquisition, contract monitoring, program management, etc.) are identified in the summary tables.

*Tolling O&M costs were provided by Wilbur Smith Associates (WSA) pursuant to the traffic and revenue analysis

Key Inputs: Revenue

- WSA developed traffic and revenue inputs, including:
 - Annual transactions
 - Gross revenues
 - Tolling O&M costs
- WSA's revenue inputs were based on the following assumptions:
 - Under the DBB scenario (Option 1), tolling begins in 2018 on the East End Bridge and 2021 on the I-65 Bridge
 - Under the DB scenarios (Options 2-3), tolling begins in 2018 on both the East End and I-65 Bridges
 - Under the DBF scenarios (Options 4-5-6), tolling begins in 2017 on both the East End and I-65 Bridges
- WSA revenue forecast and cost estimates were provided in 2010 dollars
- Toll rates, and therefore toll-based revenue, reflect expected diversion to Sherman Minton and Clark Memorial bridges

Key Inputs: Financing

- Financing assumptions were provided by KPMG based on current market conditions
- Assumptions reflect precedent transaction and finance structures
- Finance structures differ by Option:
 - Options 1-2-3 reflect tax-exempt “governmental purpose” bonds
 - Sensitivity analysis conducted to show impact of TIFIA on Option 3
 - Option 4 reflects taxable debt and equity during construction, with tax-exempt “governmental purpose” bond refinancing at Project completion
 - Option 5 reflects taxable bank debt, TIFIA and equity
 - Sensitivity analysis conducted to show impact of no TIFIA on Option 5
 - Option 6 reflects tax-exempt (AMT) Private Activity Bonds, TIFIA and equity

Key Inputs: Funding

- Funding inputs were based on KYTC and INDOT estimates by funding category as reflected in the December 2010 IFP Update
 - For INDOT, totals are spread equally over 8 years
 - For KYTC, totals are consistent with the IFP Update, with the exception that funds identified for 2011 and 2012 are rolled forward to more closely align with estimated commencement of construction (note: these assumptions are for relative evaluation purposes, are not assumed to be final, and are expected to be refined by the states)
- Funding inputs are consistent across all options
 - For Options 2-3-4-5-6, assumed construction schedule acceleration results in some state funds flowing to the Project during the operational period in addition to the construction period
- Funding inputs are assumed to be in nominal (year-of-expenditure) dollars
- Ultimate state funding levels could be reduced by:
 - Further cost reductions
 - Savings through innovation and speed generated by alternative project delivery and competitive bidding process
 - Increased toll revenues, subject to traffic dynamics

Key Inputs: Financing Assumptions (Scenarios 1 – 4)

Scenario	1. Design-Bid-Build (DBB)	2. Design-Build (DB)	3. Design-Build and Operate & Maintain	4. Design Build Finance and Operate & Maintain
Financing Scenario / Assumptions				
Evaluation Period	46 years (including construction)	46 years (including construction)	46 years (including construction)	46 years (including construction)
Tax-Exempt “Governmental Purpose” Bonds				
Term	35 years (including construction)	35 years (including construction)	35 years (including construction)	35 years (post construction)
Repayment	Capitalized interest fund to pay interest during construction. P&I in operation period, sculpted to 1.75x DSCR	Capitalized interest fund to pay interest during construction. P&I in operating period, sculpted to 1.75x DSCR	Capitalized interest fund to pay interest during construction. P&I in operating period, sculpted to 1.75x DSCR	P&I in operating period, sculpted to 1.75x DSCR
Minimum DSCR	1.75x (gross revenue less O&M)	1.75x (gross revenue less O&M)	1.75x (gross revenue less O&M)	1.75x (gross revenue less O&M)
Construction Loan				
Term	N/A	N/A	N/A	5 years (term of construction)
Repayment	N/A	N/A	N/A	Refinanced in first year of operations via tax-exempt “Governmental Purpose” Bonds

Key Inputs: Financing Assumptions (5 – 6)

Scenario	5. Availability Concession	6a. Toll Concession	6b. Toll Concession
Financing Scenario / Assumptions			
Evaluation Period	46 years (including construction)	46 years (including construction)	46 years (including construction)
Debt / Equity	85/15	55/45	55/45
Senior Debt			
Type of Debt	Mini-Perm (MP) with Refinance	Tax-Exempt (AMT) Private Activity Bonds	Tax-Exempt (AMT) Private Activity Bonds
Term	40 years total (mini-perm with refinance facility)	35 years (including construction)	35 years (including construction)
Repayment	Interest only during MP, level P&I during Refinance period	Interest only during construction, P&I during operational period	Interest only during construction, P&I during operational period
Minimum DSCR	1.35x	1.75x	1.75x
Subordinated Debt (TIFIA Loan)			
Term	36 years	36 years	36 years
Repayment	P&I from day 1 of operational period	P&I from day 1 of operational period	P&I from day 1 of operational period
Minimum Global DSCR	1.15x	1.25x	1.25x
Size	Draws based on 33% of eligible project costs or 50% of total debt.	Draws based on 33% of eligible project costs or 50% of total debt.	Draws based on 33% of eligible project costs or 50% of total debt.

Results

Overview of Financial Analysis

- The Public Sector Comparator (Option 1) and Shadow Bid (Options 2-3-4-5-6) analyses were compared on a NPV basis over a common term
 - Option 1 reflects 8 years of construction plus 38 years of tolling operations
 - Options 2-3 reflect 6 years of construction plus 40 years of operations
 - Options 4-5-6 reflect 5 years of construction plus 41 years of operations
 - A discount rate of 5% was used as a proxy for both KYTC and INDOT cost of capital
- For all Options, additional funds were required during the operational period to meet cash flow needs
- The following tables display the results from the financial analysis with a focus on three parameters:
 - Assumed Public Funds: funds identified on “Key Inputs: Funding” page, assumed committed towards the Project
 - Additional Public Funds: funds required in addition to the Assumed Public Funds to meet cash flow needs
 - Net Funding Return/(Requirement): total public sector contribution net of forecast revenues
 - Scenario 1-2-3-4-6: Net Toll Revenues less Construction Costs Attributed to Public Sector less Total Additional Public Funds
 - Scenario 5: Gross Toll Revenues less Construction Costs Attributed to Public Sector less Availability Payments less Total Additional Public Funds
- Scenario 6b is a sensitivity case reflecting an additional annual increase in traffic growth of 1%

Scenario Summary

Values	1. D-B-B (NPV)	1. D-B-B (nominal)	2. D-B (NPV)	2. D-B (nominal)	3. D-B & O-M (NPV)	3. D-B & O-M (nominal)	4. D-B-F & O-M (NPV)	4. D-B-F & O-M (nominal)
Assumed Public Funds								
During Construction	1,383	1,719	1,077	1,260	1,077	1,260	970	1,112
During Operations	-	-	306	459	306	459	413	607
Total Assumed Public Funds	1,383	1,719	1,383	1,719	1,383	1,719	1,383	1,719
Additional Public Funds								
During Construction	362	480	184	240	168	219	222	291
During Operations	-	-	-	-	-	-	-	-
Total Additional Public Funds	362	480	184	240	168	219	222	291
Net Funding Return / (Requirement)								
Net Toll Revenues (A)*	227	3,835	408	4,322	414	4,378	384	3,655
Construction Costs Attributed to Public Sector (B)**	-	-	115	134	115	134	115	132
Availability Payment (C)	-	-	-	-	-	-	-	-
Total Additional Public Funds (D)	362	480	184	240	168	219	222	291
Net Funding Return / (Requirement): (A – B – C – D)	(135)	3,355	109	4,024	131	4,025	47	3,232

*Discounted at 9% to reflect credit risk of forecast excess toll revenue

** Construction Costs Attributed to Public Sector represent costs related to certain ROW acquisition, design, program management, utility and environmental work

Scenario Summary

Values	5. Availability Concession (NPV)	5. Availability Concession (Nominal)	6a. Toll Concession (NPV)	6a. Toll Concession (Nominal)	6b. Toll Concession (NPV)	6b. Toll Concession (Nominal)
Assumed Public Funds						
During Construction	970	1,112	970	1,112	970	1,112
During Operations	413	607	413	607	413	607
Total Assumed Public Funds	1,383	1,719	1,383	1,719	1,383	1,719
Additional Public Funds						
During Construction	-	-	289	332	235	269
During Operations	93	316	26	78	8	23
Total Additional Public Funds	93	316	315	410	243	292
Net Funding Return / (Requirement)						
Gross Toll Revenues (A)*	2,534	9,851	-	-	-	-
Construction Costs Attributed to Public Sector (B)**	115	132	115	132	115	132
Availability Payment (C)	2,190	8,787	-	-	-	-
Total Additional Public Funds (D)	93	316	315	410	242	292
Net Funding Return / (Requirement): (A – B – C – D)	136	617	(430)	(542)	(357)	(424)

* Gross Toll Revenues in Scenario 5 discounted at 5% to reflect state cost of capital of supplementing any Availability Payment shortfalls

** Construction Costs Attributed to Public Sector represent costs related to certain ROW acquisition, design, program management, utility and environmental work

Governmental Purpose Tax-Exempt Bonds (TIFIA Sensitivity Case)

Values	Option 3: D-B & O-M (NPV) Without TIFIA	Option 3: D-B & O-M (Nominal) Without TIFIA	Option 3: D-B & O-M (NPV) With TIFIA	Option 3: D-B & O-M (Nominal) With TIFIA
Assumed Public Funds				
During Construction	1,077	1,260	1,077	1,260
During Operations	306	459	306	459
Total Assumed Public Funds	1,383	1,719	1,383	1,719
Additional Public Funds				
During Construction	168	219	(3)	(4)
During Operations	-	-	-	-
Total Additional Public Funds	168	219	(3)	(4)
Net Funding Return / (Requirement)				
Net Toll Revenues (A)*	414	4,378	281	4,101
Construction Costs Attributed to Public Sector (B)**	115	134	115	134
Availability Payment (C)	-	-	-	-
Total Additional Public Funds (D)	168	219	(3)	(4)
Net Funding Return / (Requirement) : (A – B – C – D)	131	4,025	169	3,971

*Gross Toll Revenues in Scenario 5 discounted at 5% to reflect state cost of capital of supplementing any Availability Payment shortfalls

** Construction Costs Attributed to Public Sector represent certain ROW acquisition, design, program management, utility and environmental work

Private Concession (TIFIA Sensitivity Case)

Values	Option 5: Availability Concession (NPV) Without TIFIA	Option 5: Availability Concession (Nominal) Without TIFIA	Option 5: Availability Concession (NPV) With TIFIA	Option 5: Availability Concession (Nominal) With TIFIA
Assumed Public Funds				
During Construction	970	1,112	970	1,112
During Operations	413	607	413	607
Total Assumed Public Funds	1,383	1,719	1,383	1,719
Additional Public Funds				
During Construction	-	-	-	-
During Operations	248	715	93	316
Total Additional Public Funds	248	715	93	316
Net Funding Return / (Requirement)				
Gross Toll Revenues (A)*	2,534	9,851	2,534	9,851
Construction Costs Attributed to Public Sector (B)**	115	132	115	132
Availability Payment (C)	2,414	9,597	2,190	8,787
Total Additional Public Funds (D)	248	715	93	316
Net Funding Return / (Requirement) : (A – B – C – D)	(243)	(593)	136	617

*Discounted at 5% to reflect credit risk of forecast excess toll revenue

** Construction Costs Attributed to Public Sector represent certain ROW acquisition, design, program management, utility and environmental work

Select Qualitative Considerations

- Legislative and legal framework
- Strength of bidder pool
- Potential for innovation
- Complexity of contract arrangements and administration
- Likelihood of securing TIFIA
- Reliance on state support and/or credit backstop
- Whole life performance standard
- Toll administration and back office operations
- Potential to benefit from toll revenue surplus