Financial Analysis and Modeling Overview

Washington Joint Transportation Committee

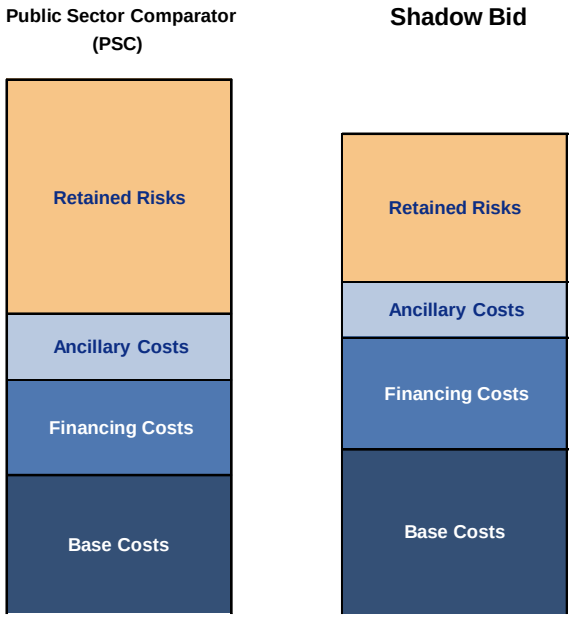
September 29, 2011

Overview of Financial Analysis

Financial Analysis

- The financial model is a tool used to quantitatively evaluate various financing and delivery approaches
- Two financial models are used in the Value for Money (VfM) analysis
  - Shadow bid model
  - Public sector comparator (PSC)

VfM analysis compares the total risk-adjusted present value (PV) cost of delivery under a P3 model versus a traditionally financed model



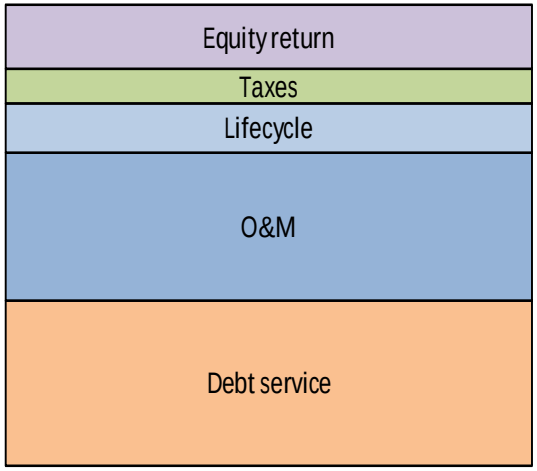
Public Sector Comparator (PSC)

- Risk adjusted, whole-life costs of a project if the project is procured traditionally
- Design-bid-build (DBB) or design-build (DB) normally the model used to model traditional delivery
- PSC is used to compare to the cost of P3 delivery
- PSC is stated in Net Present Value (NPV) terms
  - Estimation of project full cost and revenue under traditional delivery
  - Consideration and quantification of project risks
  - Use of discount rate

Shadow Bid: Availability Payment P3 Model

- Design, build, finance, operate, maintain (DBFOM) model
- Concessionaire receives a periodic payment as compensation
- Payment is dependent upon:
  - Availability
  - Performance
- Deductions for unavailability or non-performance
- Consistent non-performance or unavailability can lead to termination
- Uses state appropriations as pledge for repayment of availability payments
- Tolls (if any) can still be collected by WSDOT and used to pay availability payment
- Handback requirements (which ensure ongoing useful asset life) set forth in P3 agreement and must be met before end of term

Availability Payment Components



Shadow Bid: Toll Concession P3 model

- DBFOM model over a period of time (normally longer than availability payment P3 model)
- Concessionaire responsible for collecting toll revenue generated by the facility. Toll revenue compensates the concessionaire for costs incurred
- Performance standards normally included in the P3 agreement
- Inability of concessionaire to meet performance standards can be grounds for termination
- Concessionaire retains revenue risk (both upside and downside)
- Handback requirements set forth in P3 agreement and must be met by end of term

Financing Alternatives: Tax-Exempt Toll Revenue Bonds

- Public agency issues tax-exempt bonds
  - Revenue Bonds – 2.0x coverage, 40 year maximum term
  - Triple Pledge General Obligation (GO) Bonds – 1.3x coverage, 30 year maximum term
- Net project revenue (revenue less O&M) is generally pledged as source of repayment
- Excess toll revenue may be leveraged through future bond issues
- Facility users bear the risk of potential toll adjustments to satisfy bond covenants
- Toll revenue forecasts for tax-exempt toll revenue bonds are historically more conservative (higher confidence level) than those for equity financing
- Investment grade ratings coupled with tax-exempt status results in a lower cost of project capital than taxable bonds or equity

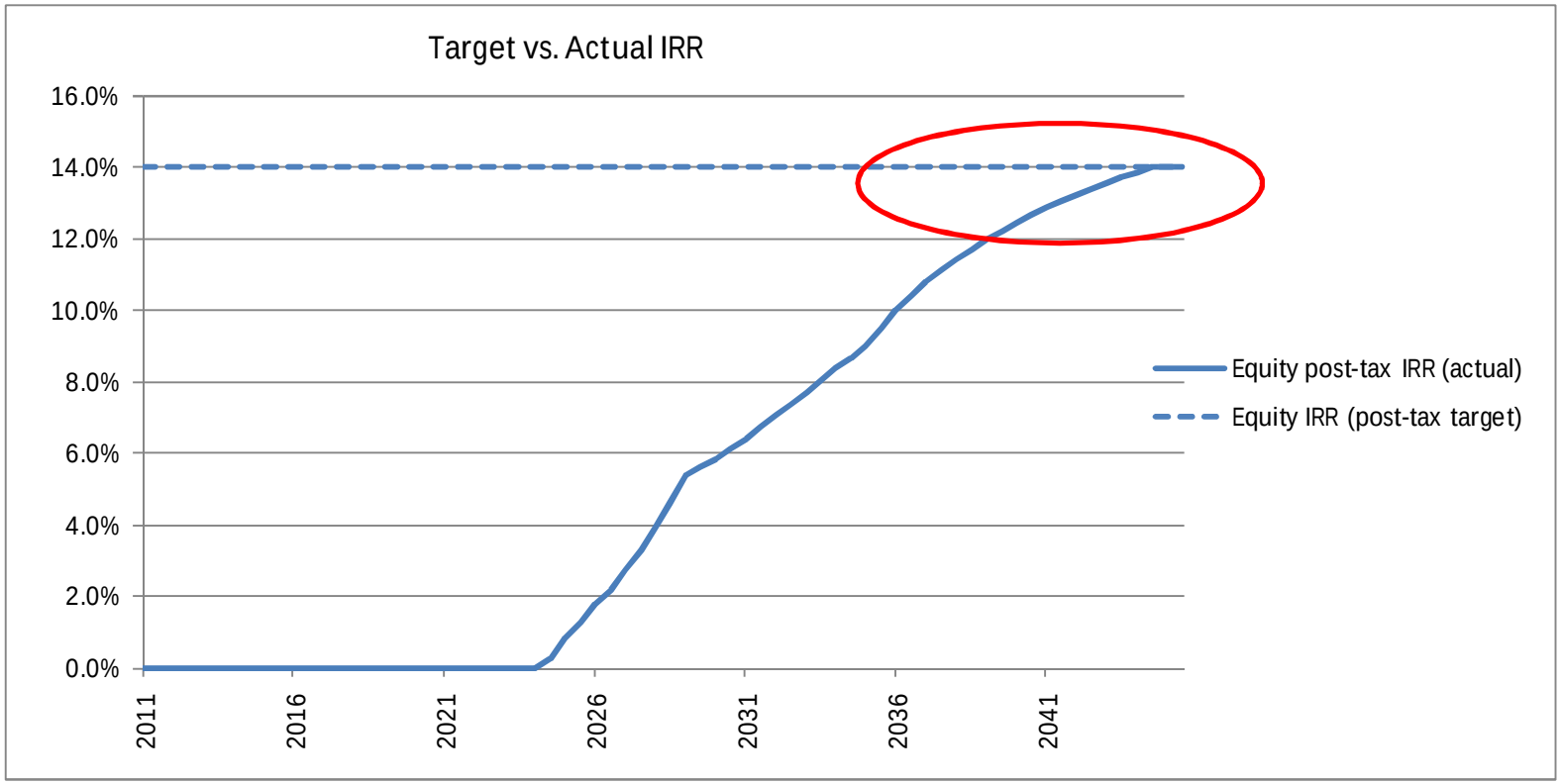
1 Coverage ratios of 1.50x, 1.50x, and 2.0x used for SR167, SR509, and I-405 tolling feasibility studies, respectively.

Financing Alternatives: Private Finance

- Private financing of tolled highways and roads often involves private equity in addition to bank or bond debt
- Equity repayments are subordinate to debt repayments; all payments are made from net project revenue
- Banks may provide 5 – 7 year “mini-perm” financing subject to refinance upon construction completion; equity investors are at risk for execution of planned refinancing
- Historically, lenders and equity investors bear the risk of insufficient toll revenues; however, banks are resistant to toll project “revenue risk” in the current market
- Typical private finance capital structure reflects:
  - 60-70% debt and 30-40% equity for toll concession P3 model
  - 70-80% debt and 20-30% equity for availability payment P3 model
- Taxable project debt generally carries higher cost of capital than tax-exempt debt although equity investors enjoy depreciation benefits and tax-deduction of interest
- Equity investors’ toll revenue forecasts are generally more aggressive than lenders’ forecasts. In exchange, equity investors require a higher cost of capital (avg. 13-15% post-tax equity internal rate of return (IRR))
- Attractiveness of private finance structures more dependent on federal TIFIA and PABs programs

Financing Alternatives: Equity

- Equity investors generally do not achieve targeted return on investment for an extended period of time
- Equity is the highest risk capital component



All dates and percentages are hypothetical and for illustrative purposes

Value for Money and Financial Modeling

Financing Comparison: Tax-Exempt Toll Revenue Bonds vs. Private Finance

For certain projects, equity finance can serve as an additional source of financing that monetizes future cash flows. Equity can supplement debt finance to pay additional up front construction costs and close funding gaps.

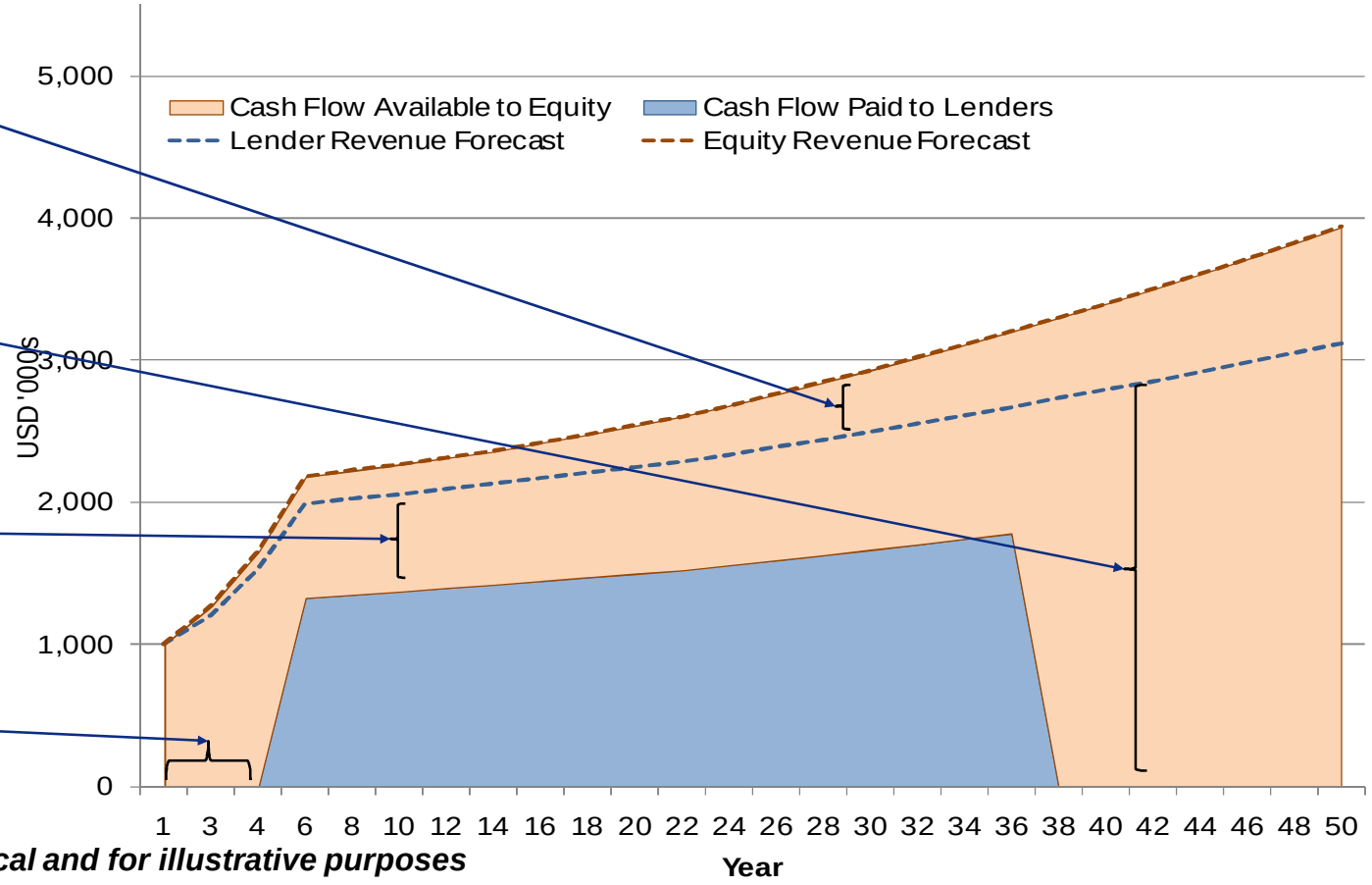
Equity repayment is subordinate to debt repayment in the cashflow "waterfall".

Difference between lender revenue forecast and equity revenue forecast reflects greater risk appetite of equity investors. In return, equity providers require a high return on invested capital.

Equity financing supplements project lending to monetize a greater portion of forecast revenues. Equity generally takes a longer term view of project risk and return.

WA State toll revenue bonds include a coverage ratio of 2.0x. WA State triple pledge GO bonds include a coverage ratio of 1.3x.

Toll revenue bond interest is often capitalized until one year into the revenue "ramp-up" period, when revenues begin to stabilize. Additional capitalized interest results in less proceeds available for construction.



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Value for Money and Financial Modeling

Financing Comparison: Tax-Exempt Toll Revenue Bonds vs. Private Finance

	Tax-Exempt Toll Revenue Bonds	Private Finance
Debtor	Public agency	Private concessionaire
Pledge	Net project revenue (toll revenue less O&M)	Net project revenue (toll revenue less O&M)
Type	Bonds (maturity up to 40 years)	Construction bank loan (avg. 5-7 years), refinanced in bank market with final maturity 2-4 years prior to end of concession term
Coverage Ratios	• 2.0x toll revenue bonds • 1.3x triple pledge GO bonds	• 1.2x – 1.4x senior bank debt • 1.1x – 1.2x global (TIFIA)
Cost of Capital	5.0%[1]	6.0 – 7.0%[2] bank debt 13.0 – 15.0% equity
Capital Structure	100% debt	• Toll concession: 60-70% debt; 30-40% equity • AP: 70-80% debt; 20-30% equity
Other	• Public agency, users, and lenders bear the risk (and potential benefit) of fluctuations in toll revenue • Triple pledge GO bonds have balance sheet implications • TIFIA federal financing program available	• Concessionaire bears the risk (and potential benefit[3]) of fluctuations in toll revenue • Non-recourse debt issued at special purpose vehicle (SPV) level • TIFIA and PABs federal financing programs are important to private finance structure

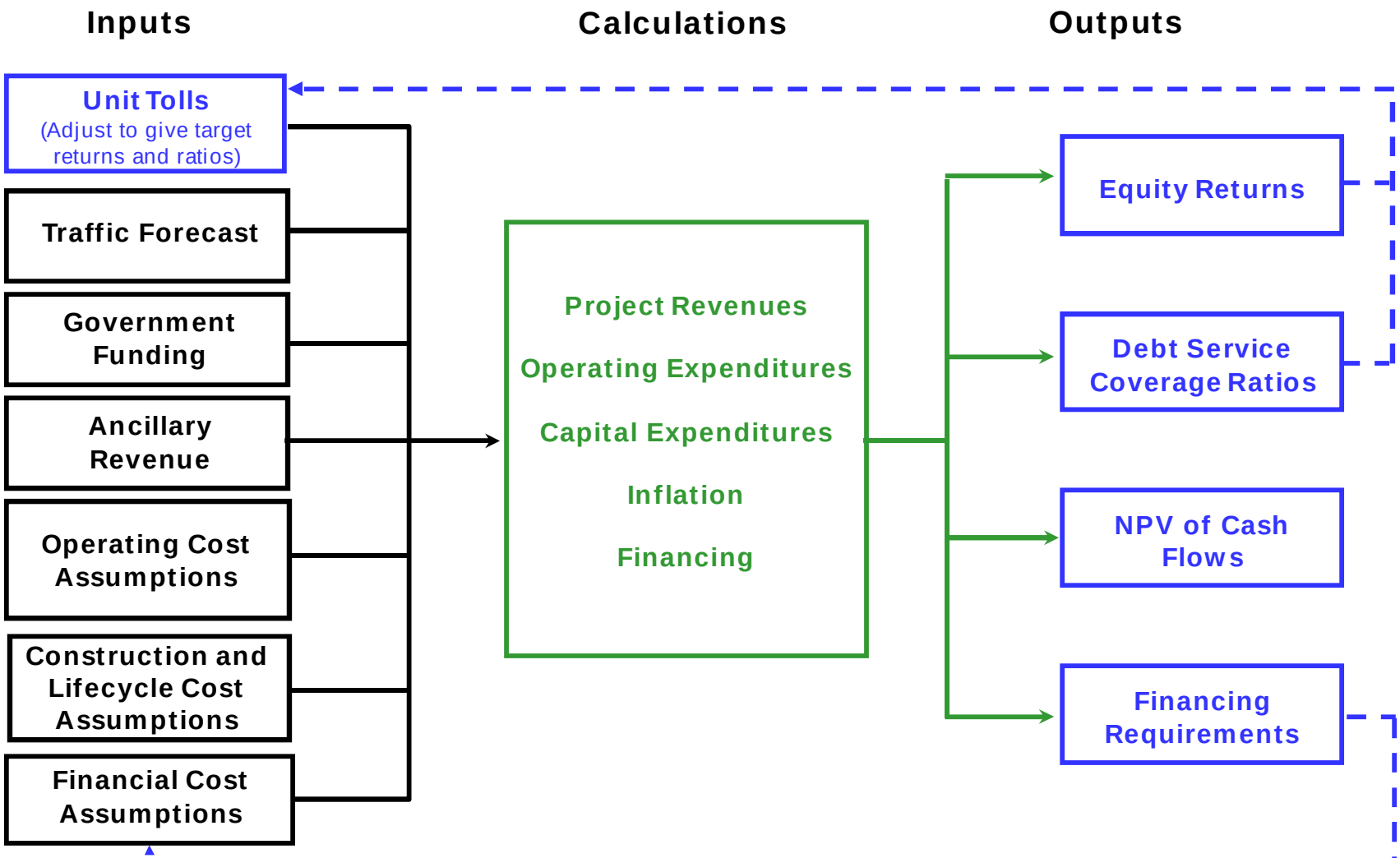
1 5.0% all-in rate = municipal market data (MMD) 30-year rate of [3.5%] + 1.5% spread

2 6.0 - 7.0% all-in rate = 30-year forward rate in 3 years US London Interbank Offered Rate (LIBOR) of [3.0%] + 2.0 – 3.0% margin

3 Subject to negotiated revenue share formula

Financial Model Development

Developing a Financial Model: Core Components



Developing a Financial Model: Inputs

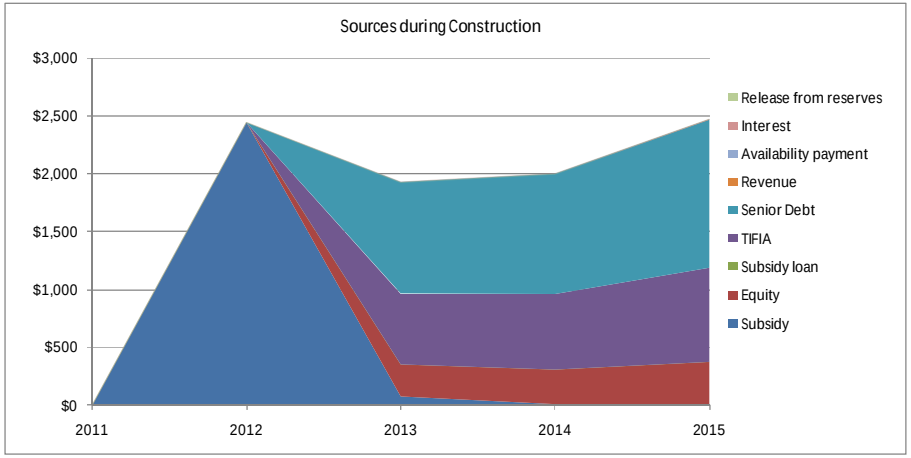
	PSC	Shadow Bid Model
Revenue	Baseline projections considering Investment Grade Debt view	Baseline projections considering “equity” view
Construction	Baseline cost projections for construction of facility using DBB or DB model	Projections using a fixed-price DB model
O&M	Baseline projections for O&M assuming WSDOT as provider	Baseline projections assuming private O&M provider
Lifecycle	Baseline projections for lifecycle assuming ‘status quo’ approach	Baseline projections with impact of enhanced capital investment and routine O&M to reduce lifecycle costs
Tax	Not applicable	• Federal, state, and local taxes • Depreciation and concessionaire tax liability
Financing	• For toll projects: toll revenue-bond (or alternative GO bonds) financing terms • TIFIA • For non-toll projects: GO or GARVEE bond financing terms	Private finance terms for: • Taxable bank/bond debt • Tax-Exempt Private Activity Bonds • TIFIA • Equity
Inflation	Inflation rates for revenue, construction, O&M	Inflation rates for revenue, construction, O&M
Tenor of analysis	Match shadow bid model	• Generally, for availability payment P3: avg. 30-35 years post-construction completion • Generally, for toll concession P3: avg. 50 years
Risk adjustments	Input from risk workshop	Input from risk workshop

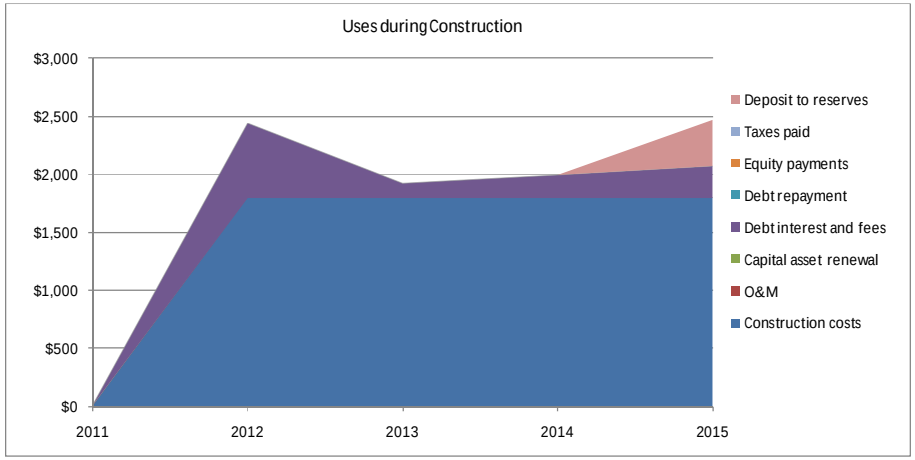
Developing a Financial Model: Outputs

- Long-term cash flow analysis of project inputs
- Funding gap assessment over the project life
- Valuations in both year of expenditure and present dollar terms using inflation and discount rate assumptions
- Financial capacity assessments for both tax-exempt debt and taxable debt/private equity, depending on delivery option

Developing a Financial Model: Sample Outputs

Sources and Uses During Construction	
Sources	Uses
Public Contribution	Capital construction costs
Equity	Debt interest during construction
TIFIA	Debt fees
Bank debt I	MMRA deposit
PABs	DSRA deposit
Interest earned	Capitalized interest fund deposit
	Concession payment
Total	Total





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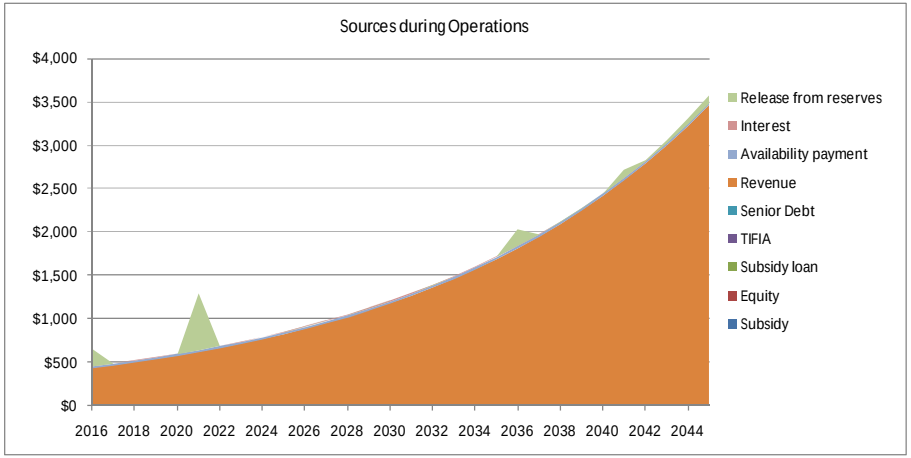
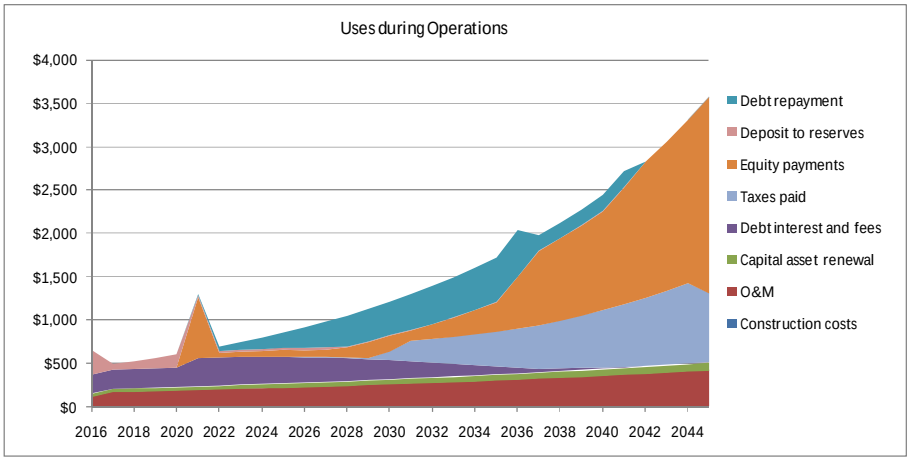
Developing a Financial Model: Sample Outputs

Sources and Uses During Operations	
Sources	Uses
Revenue	O&M
Availability payment	Capital asset renewal
Interest on cash balances	Debt interest
Refinance	Debt principal
	Equity repayment
	Taxes (paid)/ refunded
	Transfers to/(from) reserve accounts
Total	Total





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Developing a Financial Model: Functionality

- Functionality within the model allows a user to analyze:
  - Chosen public and private sector delivery options
  - Public sector funding and financing and private sector financing solutions, including:
    - “Governmental Purpose” tax-exempt bonds
    - Private activity bonds (PABs)
    - TIFIA
    - Equity
    - Taxable bonds and bank debt
    - State and Federal grants
- Model will include “breakeven” analysis functionality
- Model will include net present value (NPV) analysis functionality

Developing a Financial Model: Discount Rate

- A discount rate is needed to convert project cash flows into net present values (NPV)
- Adjusting discount rate to reflect inherent risk in cash flow can be counter-intuitive for costs – if a high discount rate is applied to high risk cost projections, the result will be a low NPV
- Generally, the values of risks are added/included in the cost projections
- The same discount rate is generally applied to cost projections of both P3 and PSC
- Choice of the discount rate:
  - Government borrowing rate – Probably most widely used and easiest to explain but often will not accurately reflect inherent risk in cash flows. Discount rate is from government's perspective.
  - Project level discount rate (Project weighted average cost of capital (WACC)) – discount rate is from the project's perspective, reflective of risk inherent in cash flows.
  - Choice of discount rate is both an economic and policy decision

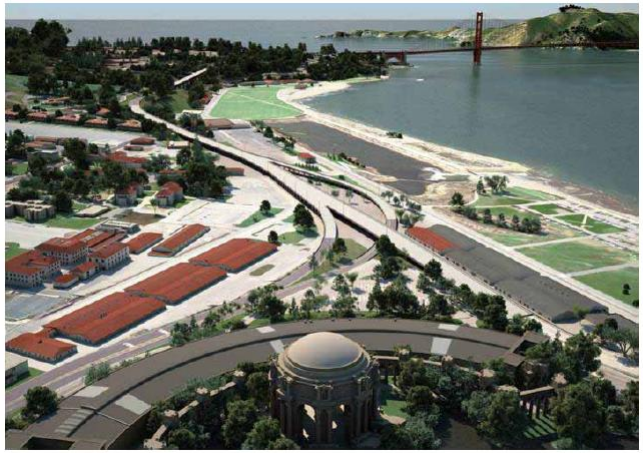
Developing a Financial Model: Next Steps

- Determine traditional delivery model for each project (DBB vs. DB)
- Further development of the PSC and Shadow Bid models is dependent upon receipt of the following inputs:
  - Revenue
  - Construction Costs
  - O&M Costs
  - Lifecycle Costs
  - Financing (KPMG to provide)
- Perform analyses and refine inputs as needed
- Present preliminary findings

Appendix 1: Case Studies

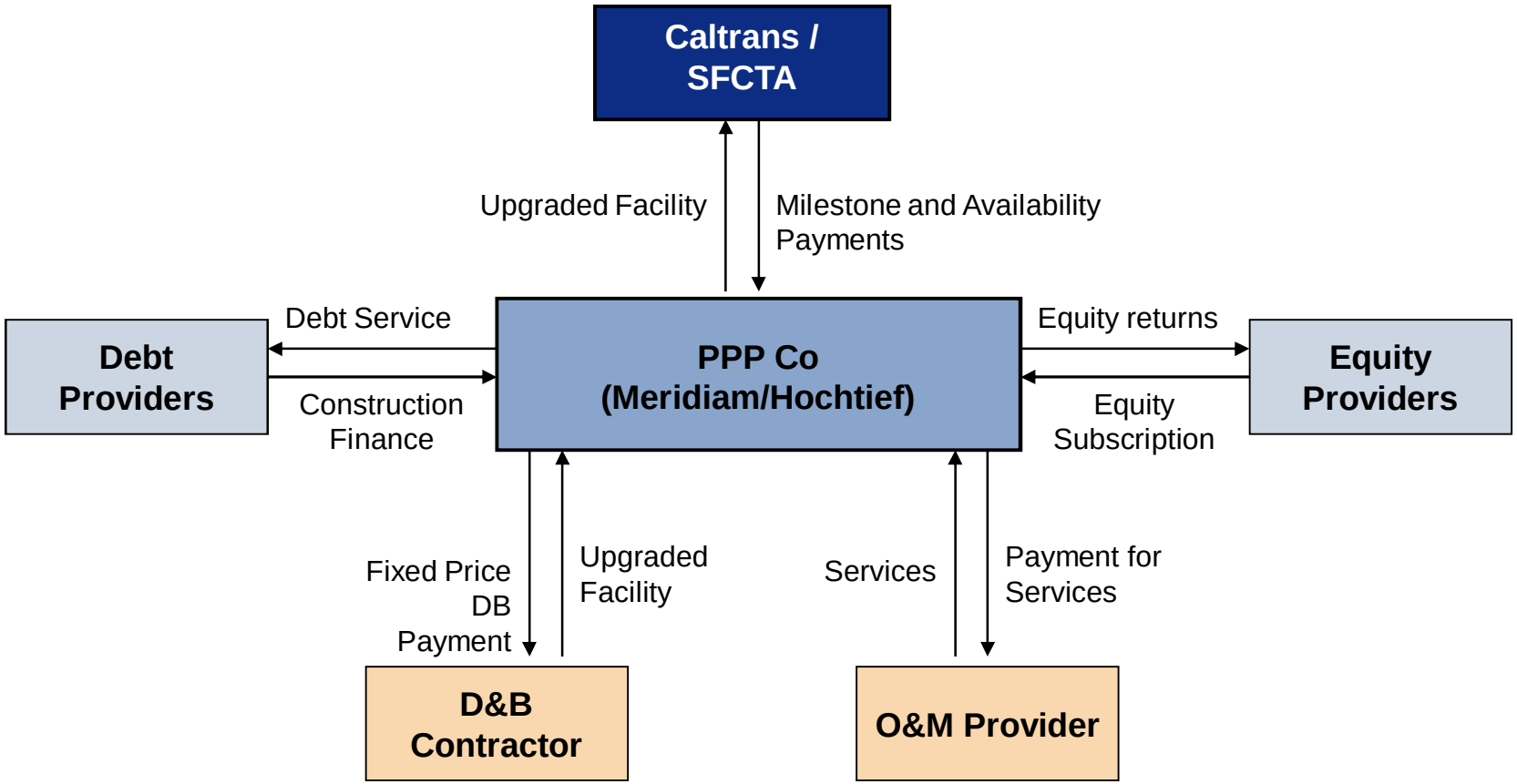
Case Study: Presidio Parkway P3 Project

- Replacement of 73-year old south access roadway to the Golden Gate Bridge
- Non-tolled facility
- Business case analysis showed that a P3 offered better value for money than traditional delivery for Phase II of the project
- VfM results estimated $147m in cost savings if procured using DBFOM instead of DBB.
  - This was primarily due to an estimated $93m savings in construction cost but also estimated savings in maintenance and finance costs (on a PV basis) over the 30-year concession term.



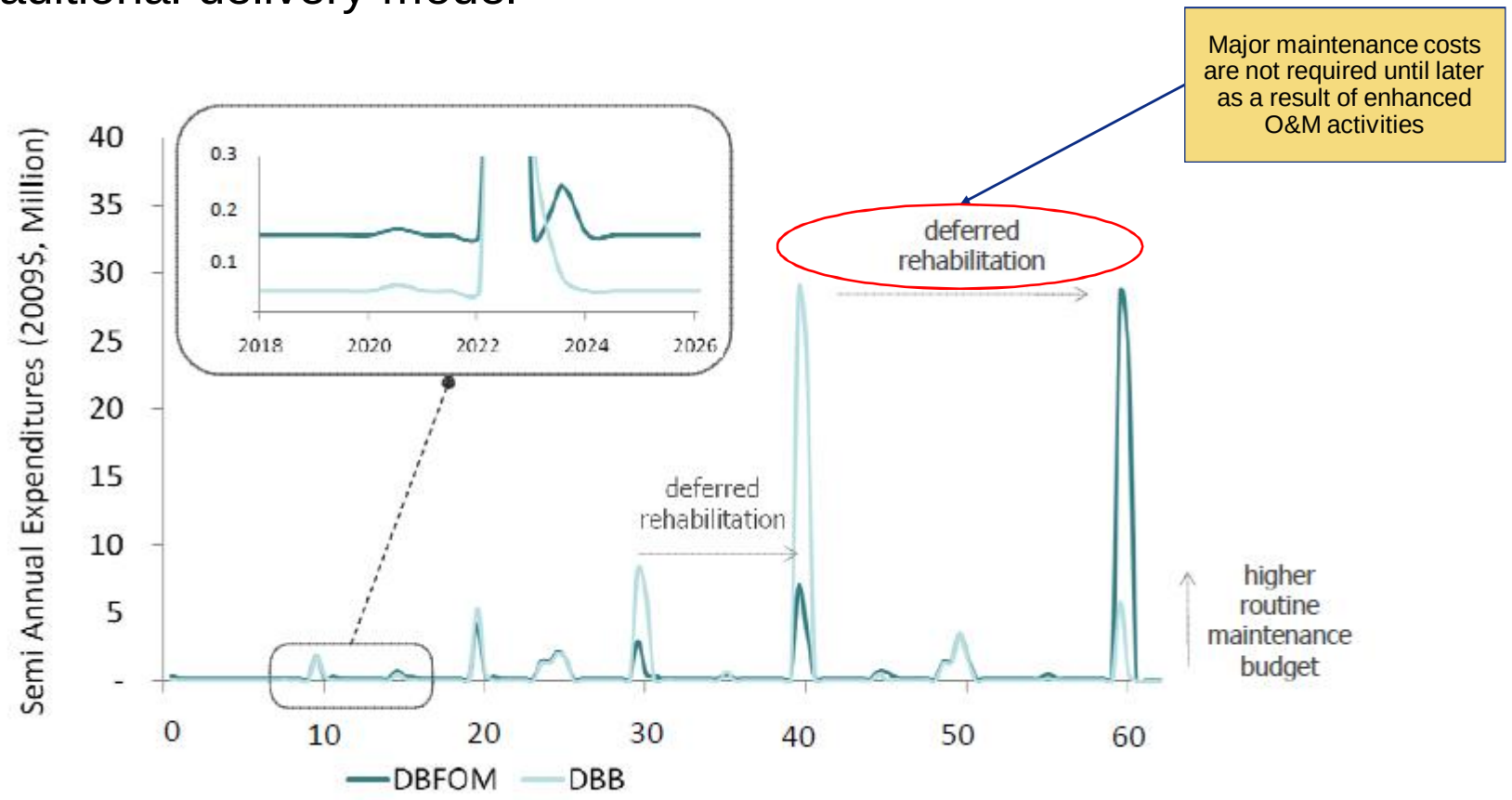
- Procured using an availability payment structure (DBFOM) over a 30-year term
- Milestone payment of $173m due at construction completion
- Availability payments of $28.5m begin at the start of operations and continue until hand back of the asset (30 years), 15% of AP inflated with CPI
- Procured using a DBFOM availability payment structure over a 30-year term

Case Study: Presidio Parkway P3 Project



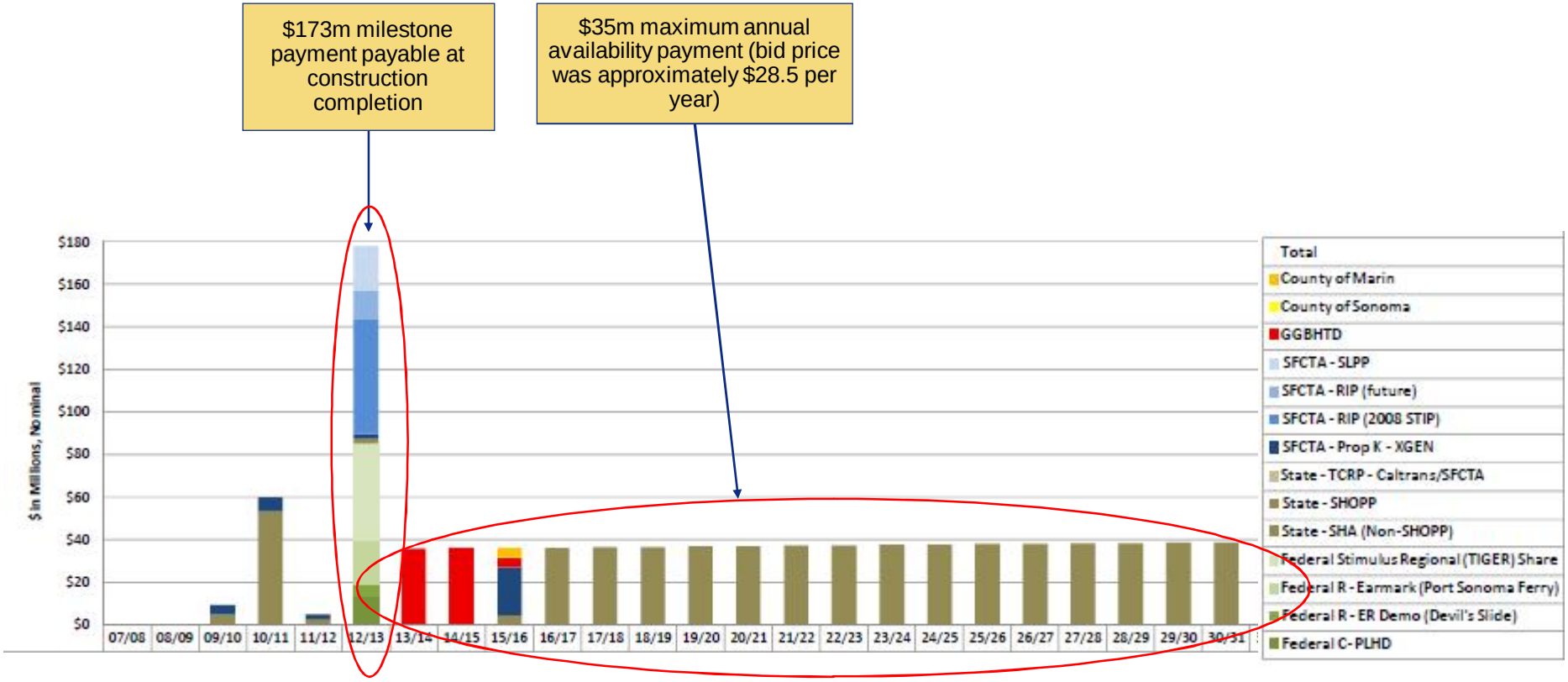
Case Study: Presidio Parkway P3 Project

- P3 concessionaires normally enhance their O&M activities and rehabilitation is not required until later in the asset life, when compared to a traditional delivery model



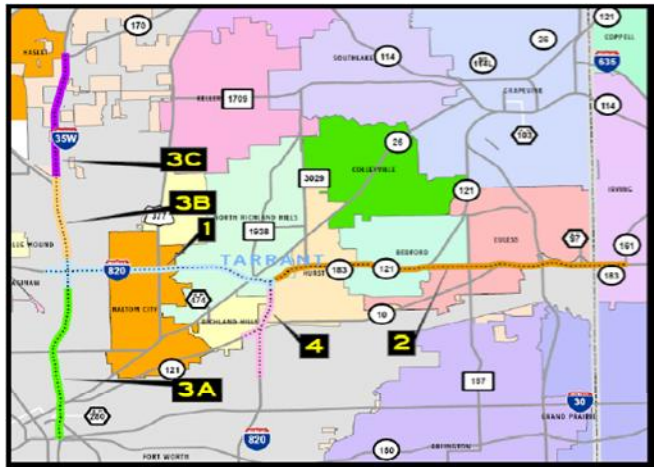
Case Study: Presidio Parkway P3 Project

- Milestone payment is anticipated to be paid using federal, state, and local funds
- Availability payments are anticipated to be paid using state highway account



Case Study: North Tarrant Express P3 Project

North Tarrant Express PPP Project (Fort Worth)



- DBFOM (52 years) toll concession for 13 miles
- Improvements include three general purpose lanes in each direction with two managed lanes in each direction. In addition, two existing general purpose lanes in each direction.
- Cintra/Meridiam delivering the project for $570 million in exchange for169 miles (vs. 64 miles) of initial construction. Represents nearly $2 billion in construction plus O&M and lifecycle for 52 years.
- *Multiple reference cases created during Value for Money analysis:*
- During construction (nominal terms), TxDOT had only $600 million in public funds available and an estimated $700 million in debt could be issued
- Cash shortfall during construction of nearly $700 million (which was not available)
- In present value terms, TxDOT required an additional $300 million to develop the project (future surplus cash flows did not offset upfront investment requirements)

Case Study: North Tarrant Express P3 Project