

26 August 2015

Palmdale Regional GRRP

Preliminary Evaluation of Financing Options

MWH Infrastructure Development, Inc.



BUILDING A BETTER WORLD

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Why Would You Consider Private Finance?

Leverage Capital

- New sources of capital to better leverage your own – resulting in more needs met at optimal cost.

Save Money

- Delivery approaches provide faster & less expensive options than traditional means.

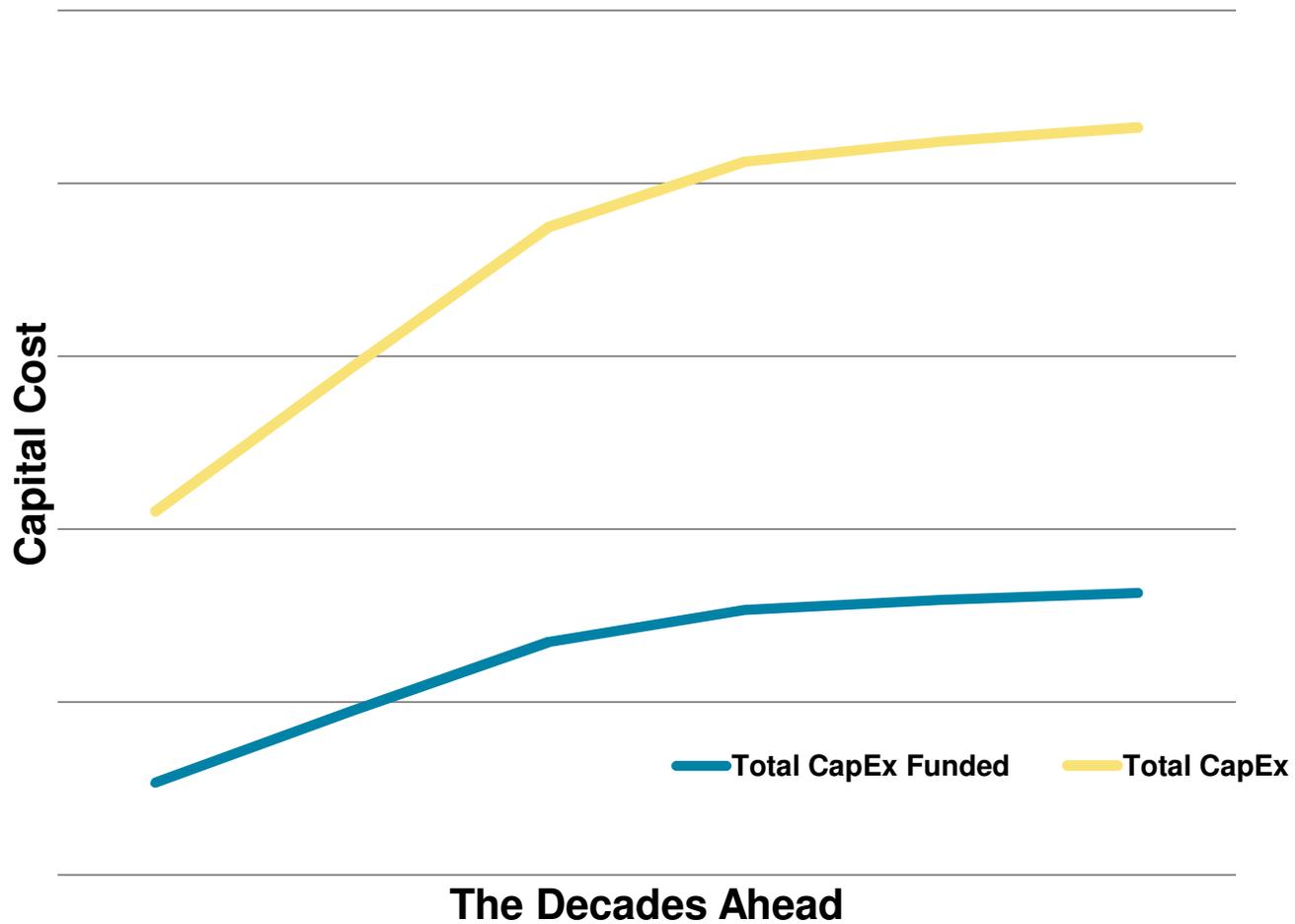
Transfer Risks

- Allows you to allocate risk through proven private sector risk management approaches.

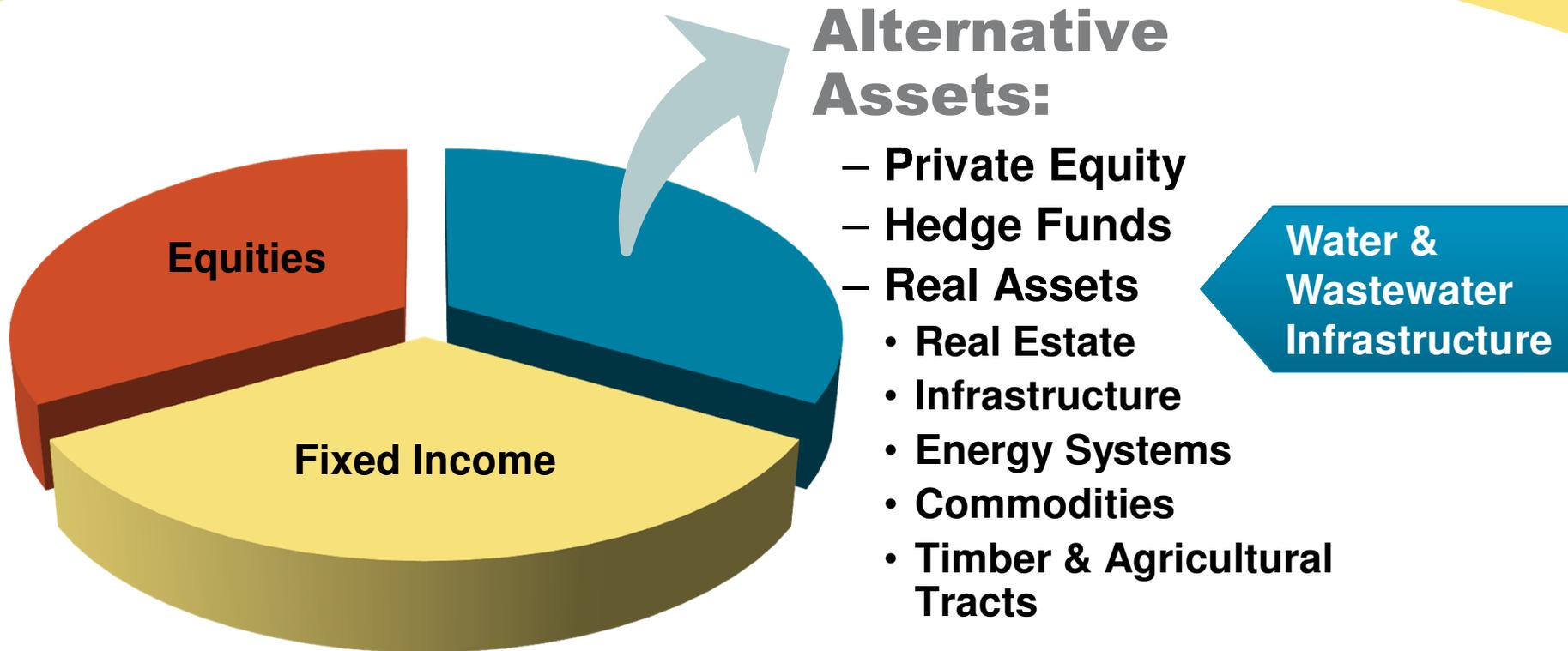
Background



Water Infrastructure Funding Gap

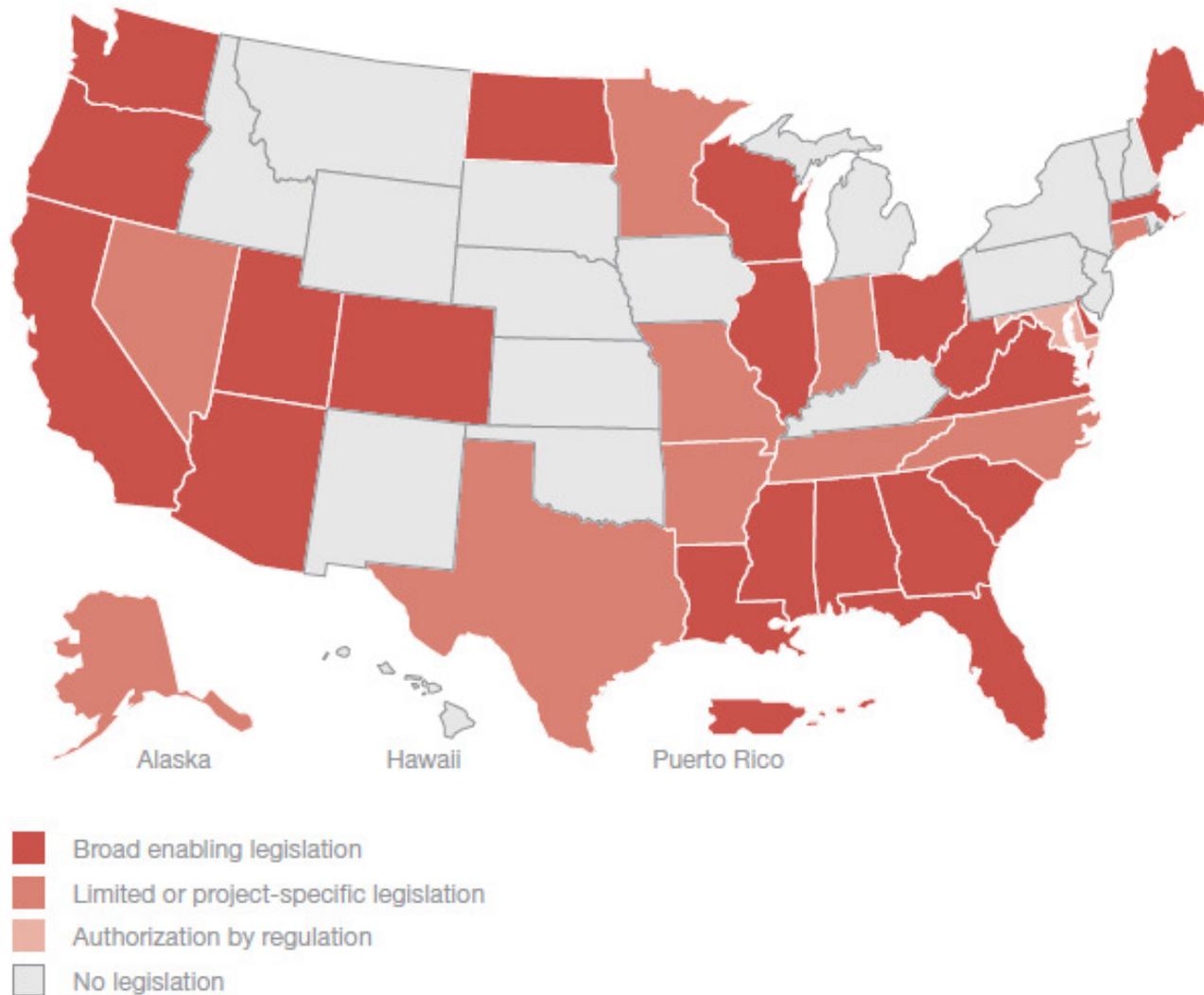


Private Capital Targeting Infrastructure Investments



Institutional Investors

States with PPP Enabling Legislation



Parties to the Deal: Roles and Expectations

Project Sponsor

Role: Project Sponsor

Expected Return:

Capital, Efficiency, Quality,
Consistency

Investor

*Role:
Capital Provider*

Expected Return:

8 -12% ROE, 5 - 8%
WACC*

*Risk profile dependent

MWH

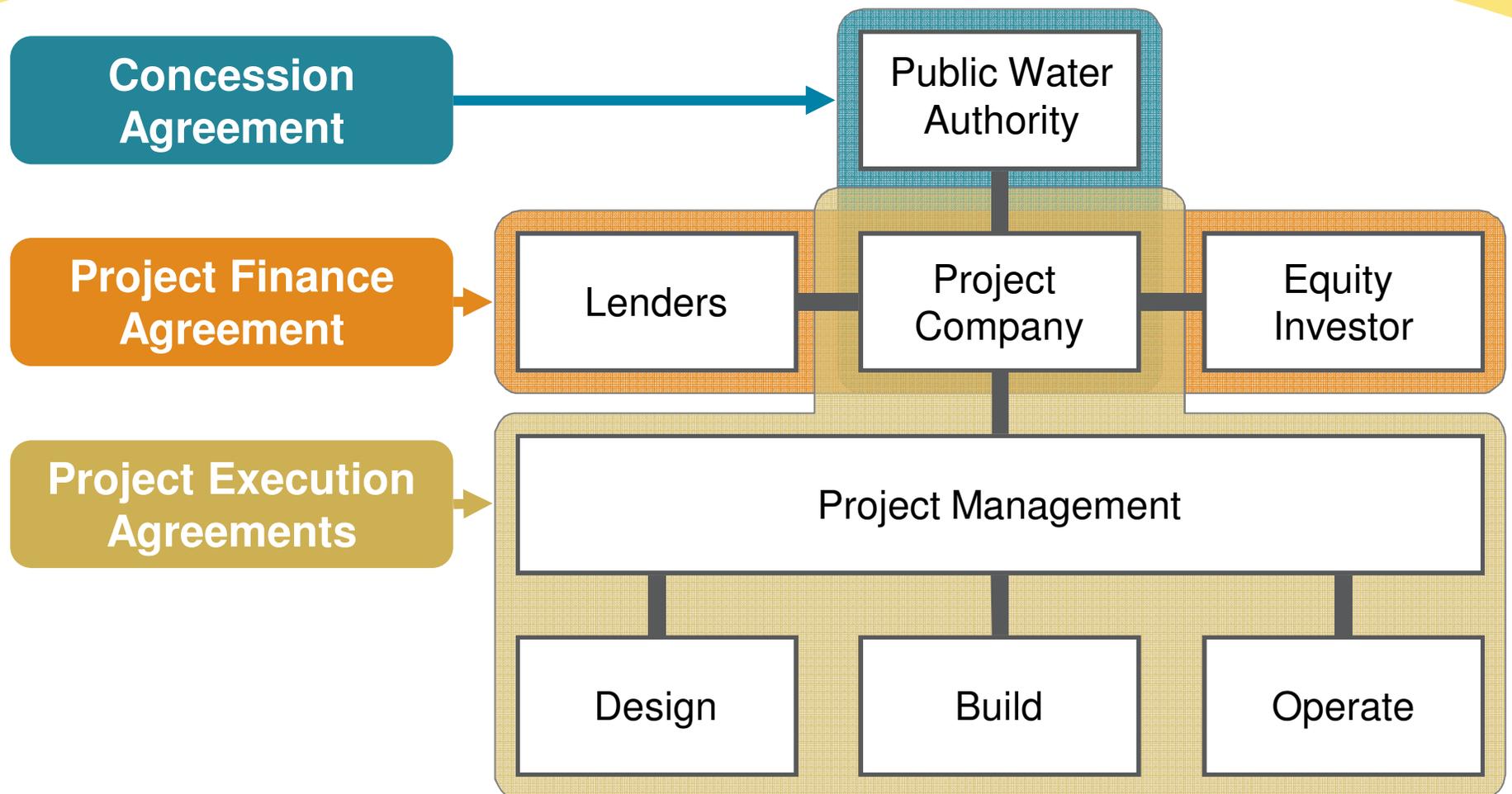
*Role: Deal Origination,
Project Development,
Project Execution*

Expected Return:

Fees, Carried Interest



Typical Project Development Structure



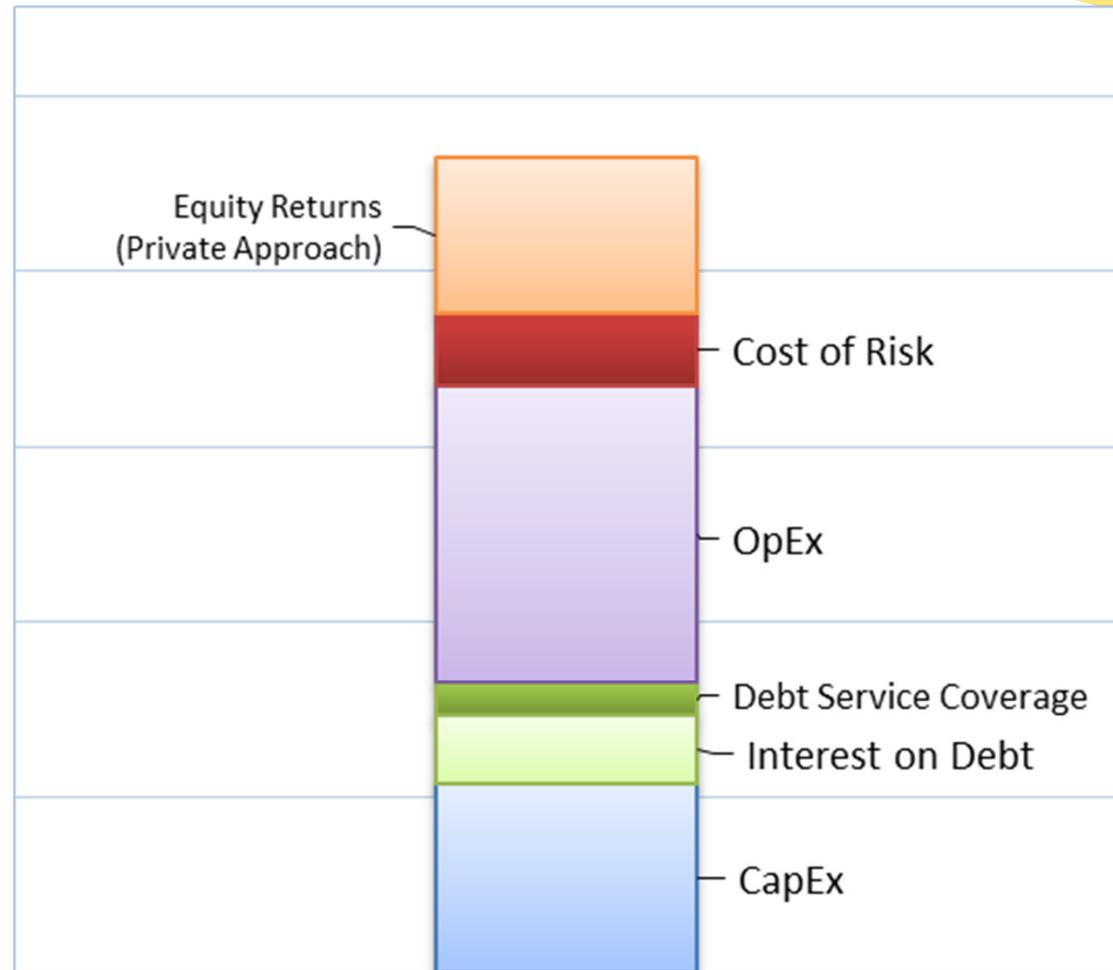
Palmdale Regional GRRP
Model Review



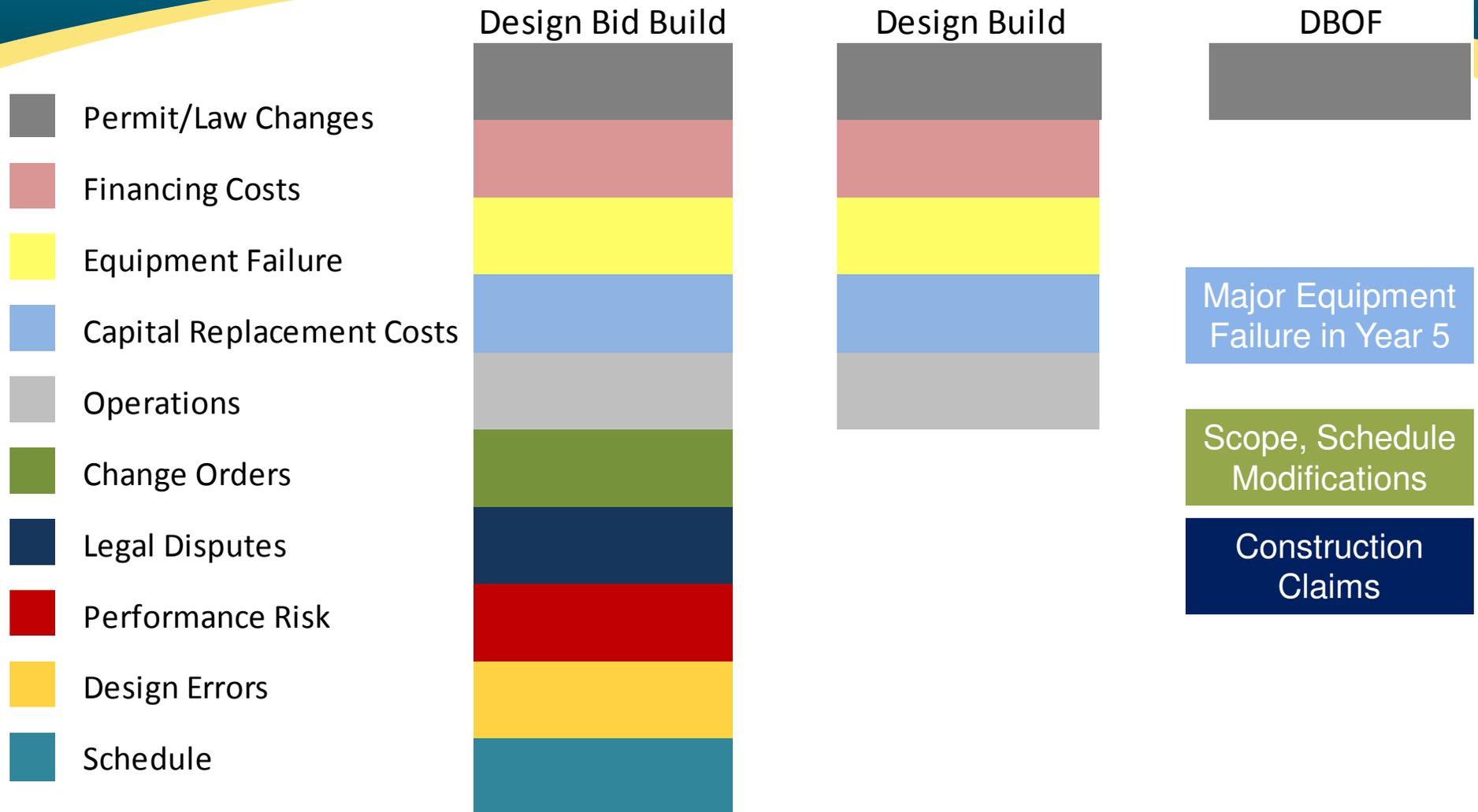
Cost of Service Over the Life of the Project

- CAPEX
- OPEX
- FINEX
- RISKEX

Lifecycle Cost per Unit Delivered



How Risks Stack Up for the Project Sponsor



Quantify the Risk

Northern Ohio Regional Sewer District
Division of Public Works

RISK REGISTER - INITIAL DRAFT

Wastewater Treatment and Tunnel Construction Pump Station

RISK TYPE & RISK EVENT	Likelihood of Occurrence (L)	Severity (S)	Risk Rating	Area Impacted	Approvable Schedule Impact (Months)	Probable Cost Impact (\$M)	WHY Risk	IF Risk	Lead Responsibility	Design Discipline Affected	Risk Assessment	Risk Control Measures in Design or Mitigation	Residual Risk
Regulatory	1 Very Low	4 High	4	L.S.B C - Cost H - Safety/Health O - Other					1. Design 2. Design Team 3. Consultant 4. Other				
PA mandated minimum velocity of all outfalls	1	4	4	S.C.									

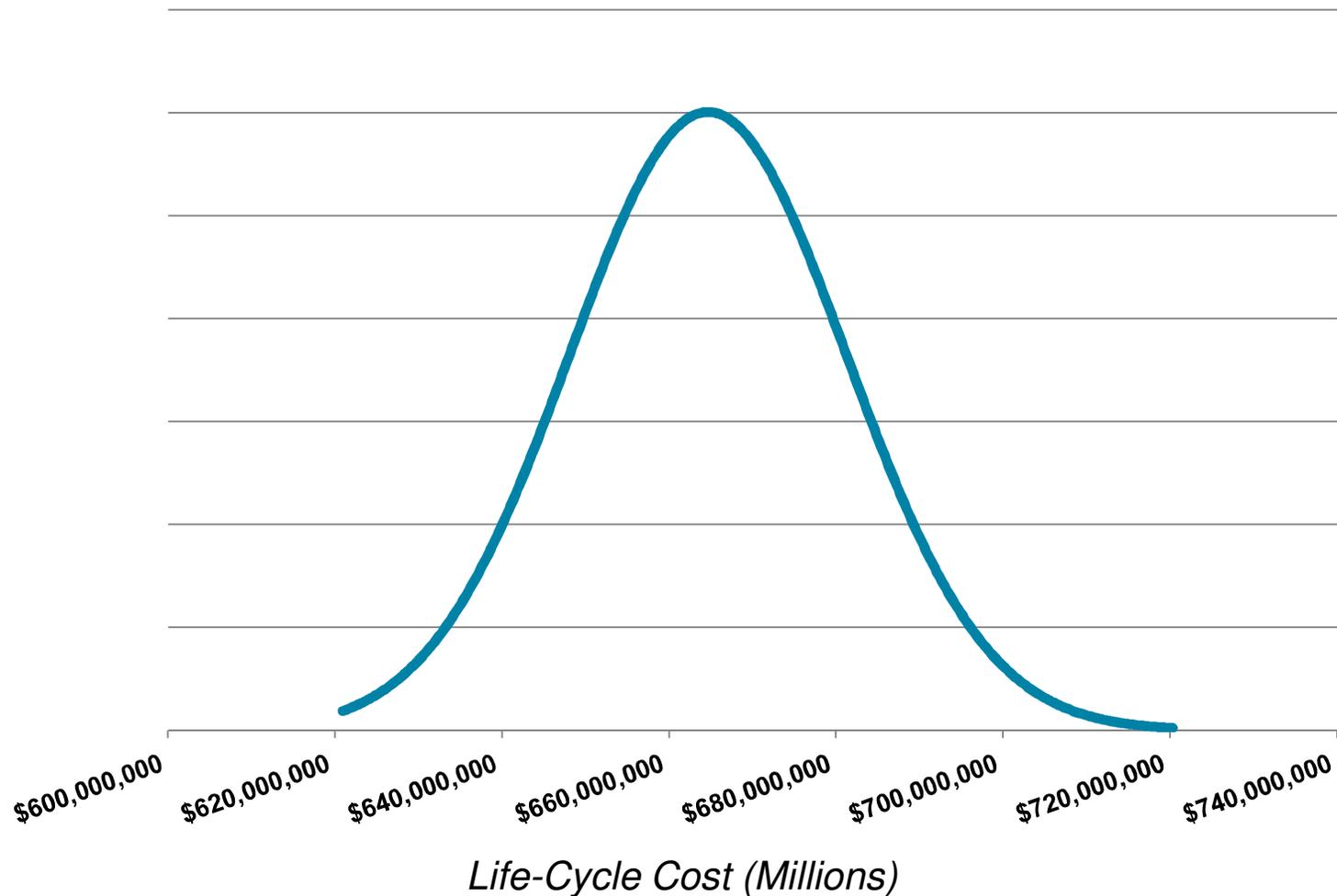
Transferrable Risks	Estimated Cost	Probability of Occurrence	Probability-Adjusted Cost of Risk
Design Delay	\$3,000,000	30%	\$900,000

Risk Description	L	S	Rating	Area	Cost (\$M)	WHY Risk	IF Risk	Lead Responsibility	Design Discipline	Risk Assessment	Mitigation	
insufficient characterization rock or soil conditions	3	4	12	S.C.	20000	50000	1,2				work with GEOTECH to establish needed and estimable earth codes and construction requirements on construction and operation	
inability to obtain property acquisitions, utility easements, permits for SR and COOT coverage or unforeseen legal actions by community, SPA, COOT, etc.	3	4	12	S.C.		50000	2	B			work with planning on multiple settings and to use existing data. This is a big item for us and we have time and scope to resolve it as reasonable as possible. Additional resources should be placed to handle the potential legal consequences as indicated above.	
PA establishes unrealistic requirements for their covering	2	3	6	C	0	1		1	C		work with PA to establish realistic requirements for their covering	
insufficient number of bidders	2	3	6	C	0	10		1,2	C		include the right technical parameters to support SR and be involved in the final decision, getting to it if needed. Otherwise, accept PA's requirements and make it work. If they want done, we can design to have one bidder.	
contractor bids higher than option of probable cost due to inaccurate estimate, change in market conditions, change in material quantities, inflation, perturbation of many contracts, etc.	3	3	9	C	0	30		1	C		avoid overhead and contract terms will get the bidders to come. Monitor positive relationships with contract administration including those prepared and dispute resolution.	
delays due to antiquities in contract	3	2	6	S.C.	0	0		3	C		avoid overhead and contract terms will get the bidders to come. Monitor positive relationships with contract administration including those prepared and dispute resolution.	
contractor Change Orders exceed District General Allowance	3	2	6	C	0	20	45000	100000	1,2	C	through review of the contract covering terms and conditions in the contract development, including if there are known unknowns, include alternative contract mechanisms to cover the costs such as contract allowances or unit price pay basis. Future projects need to have a different change order threshold as well.	
conflicts with COOT work using shortfalls	3	3	9	S.C.		20000	50000	1,2	C		work with COOT to resolve issues, include alternative contract mechanisms to cover the costs such as contract allowances or unit price pay basis. Future projects need to have a different change order threshold as well.	
conflicts with O&M for installation of guard track, chemical deliveries or personnel access	3	1	3	A		50000		2	C		work with O&M to resolve issues, include alternative contract mechanisms to cover the costs such as contract allowances or unit price pay basis. Future projects need to have a different change order threshold as well.	
conflict with GREAT LAKES Towing near building	3	2	6	S.C.A		20000	50000	1,2	G.C.B		work with O&M to resolve issues, include alternative contract mechanisms to cover the costs such as contract allowances or unit price pay basis. Future projects need to have a different change order threshold as well.	
General Construction Risks												
shutdown or stoppage of knowledge excavation production due to unforeseen geologic conditions	3	4	12	S.C.		50000		1,2,3	G		document project and keep extensive and appropriate field records to ensure data validity and design. Adequate geotechnical investigation to provide ground conditions. Clearly define these conditions/allow and pricing during construction.	
equipment failure, excessive stoppage, labor unrest, force majeure, adverse weather impact the schedule	4	4	16	S.C.				1,2,3	C		document project and keep extensive and appropriate field records to ensure data validity and design. Adequate geotechnical investigation to provide ground conditions. Clearly define these conditions/allow and pricing during construction.	
Other Construction Risks												
SM major component failure	3	4	12	S.C.							document project and keep extensive and appropriate field records to ensure data validity and design. Adequate geotechnical investigation to provide ground conditions. Clearly define these conditions/allow and pricing during construction.	

Probability Distribution of Life-Cycle Costs

Publicly Funded Project

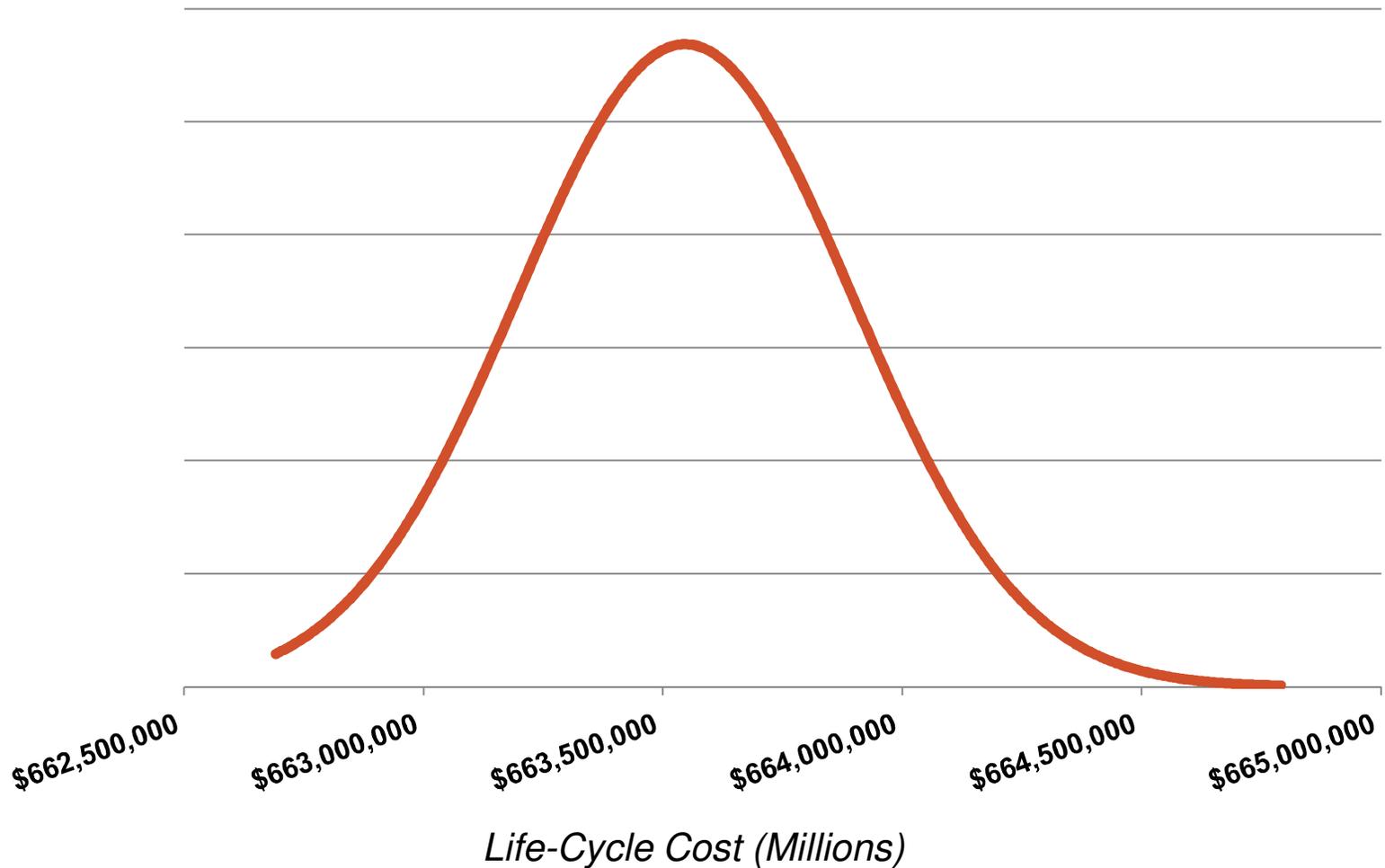
Publicly Funded Life-Cycle Cost



Probability Distribution of Life-Cycle Costs

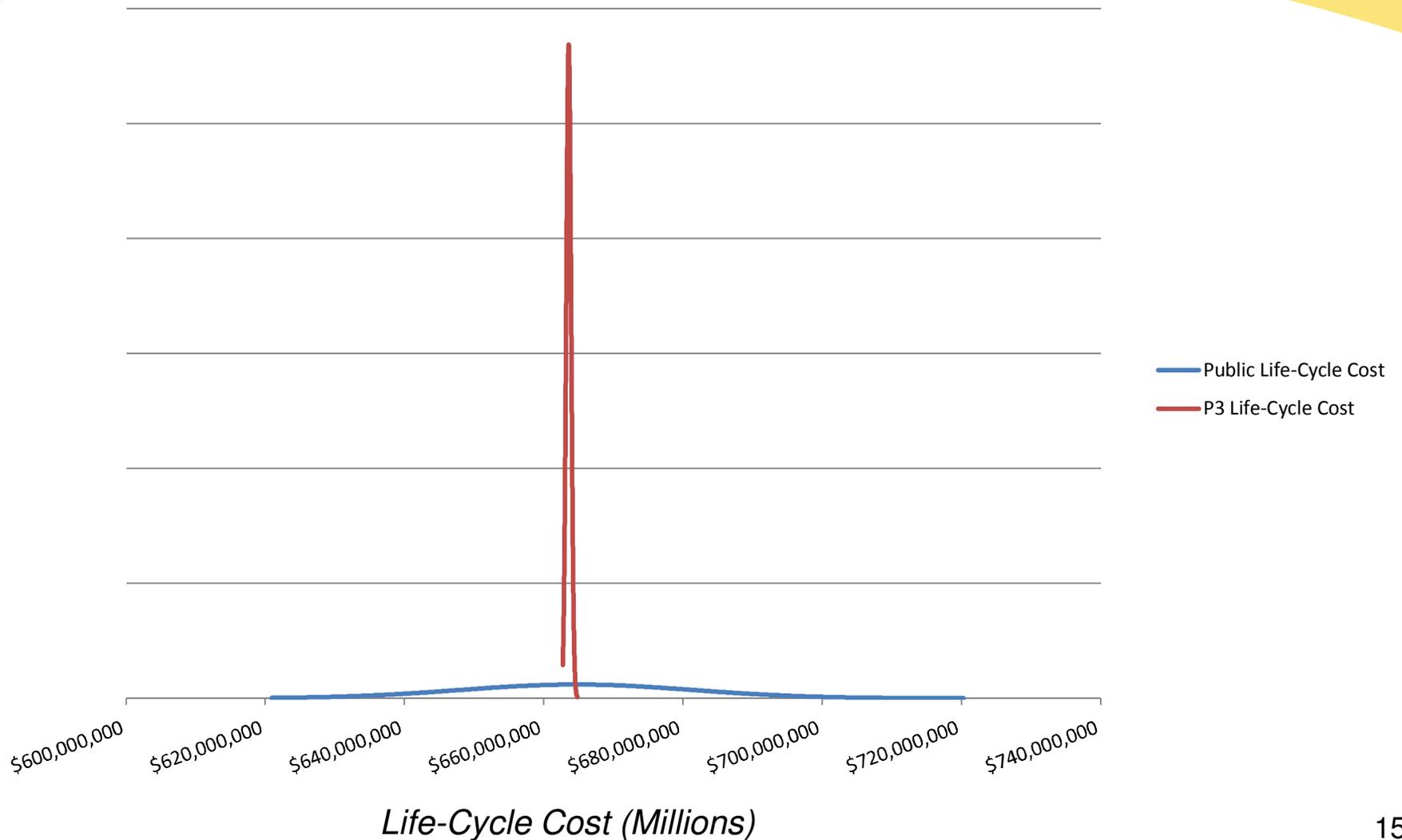
Public-Private Partnership

Privately-Financed Life-Cycle Cost



Probability Distributions of Life-Cycle Costs

Public Funding vs. Private Finance

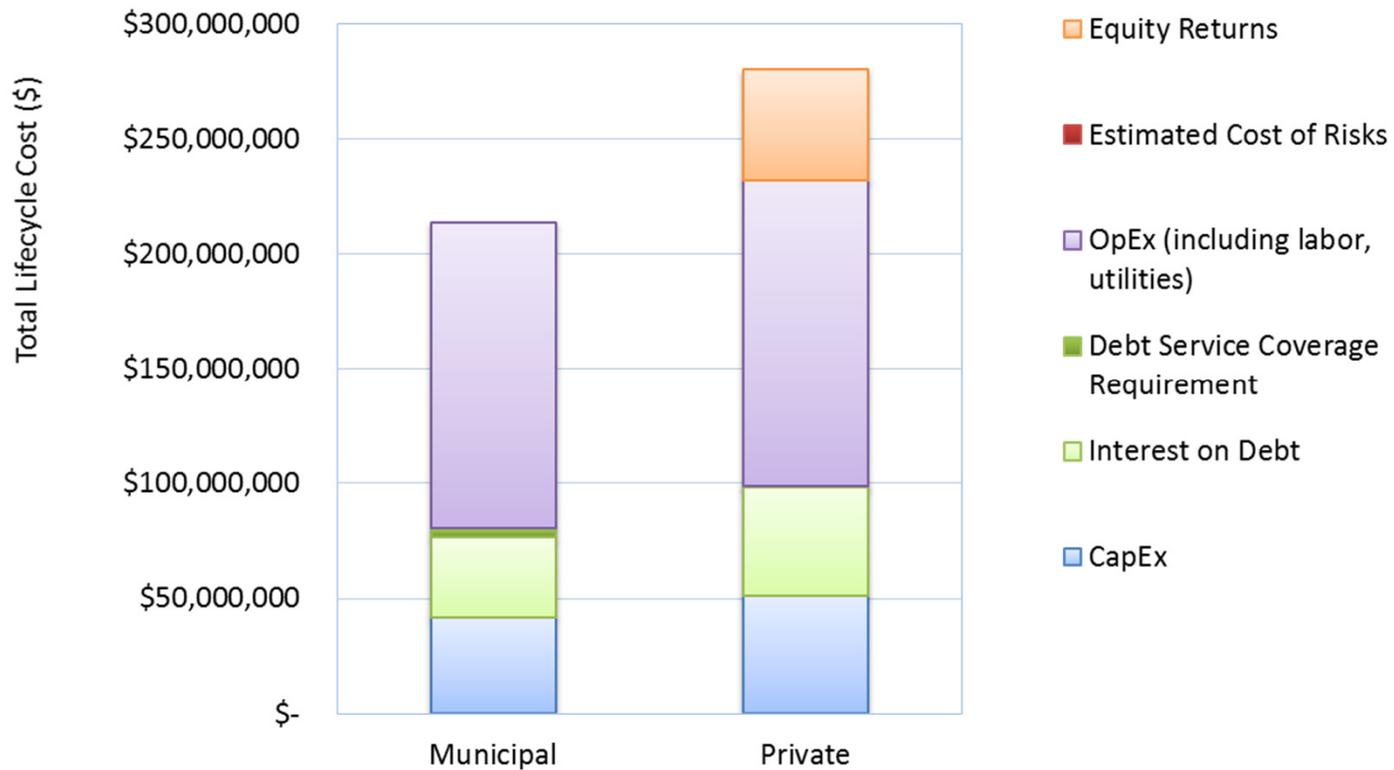


Assumptions in the Model for Palmdale

- Kennedy/Jenks report was the basis of the assumptions
- Phase 1 only
 - CapEx = \$85,310,000
 - Design time = 1 year
 - Construction time = 2 years
 - 50 year asset life
- Discount rate = 5%
- Inflation = 3%
- Muni Debt @ 3.5%
- Commercial Debt @ 6.0%
- Equity Rate of Return goal: 12.0%

Palmdale Regional GRRP Comparison Model

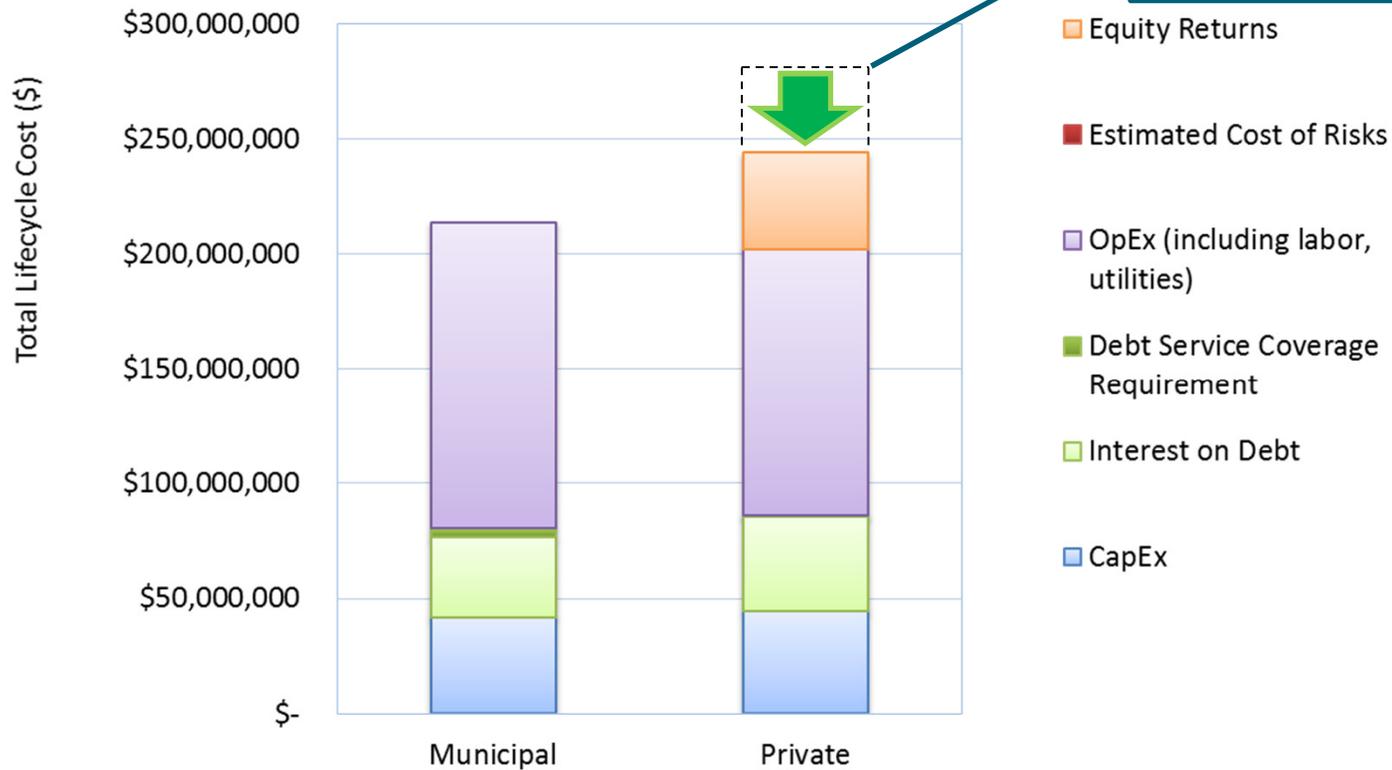
Comparison of Total Project Lifecycle Cost



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Comparison Model – Shared Savings

Comparison of Total Project Lifecycle Cost



Shared Incentives for Cost Reduction

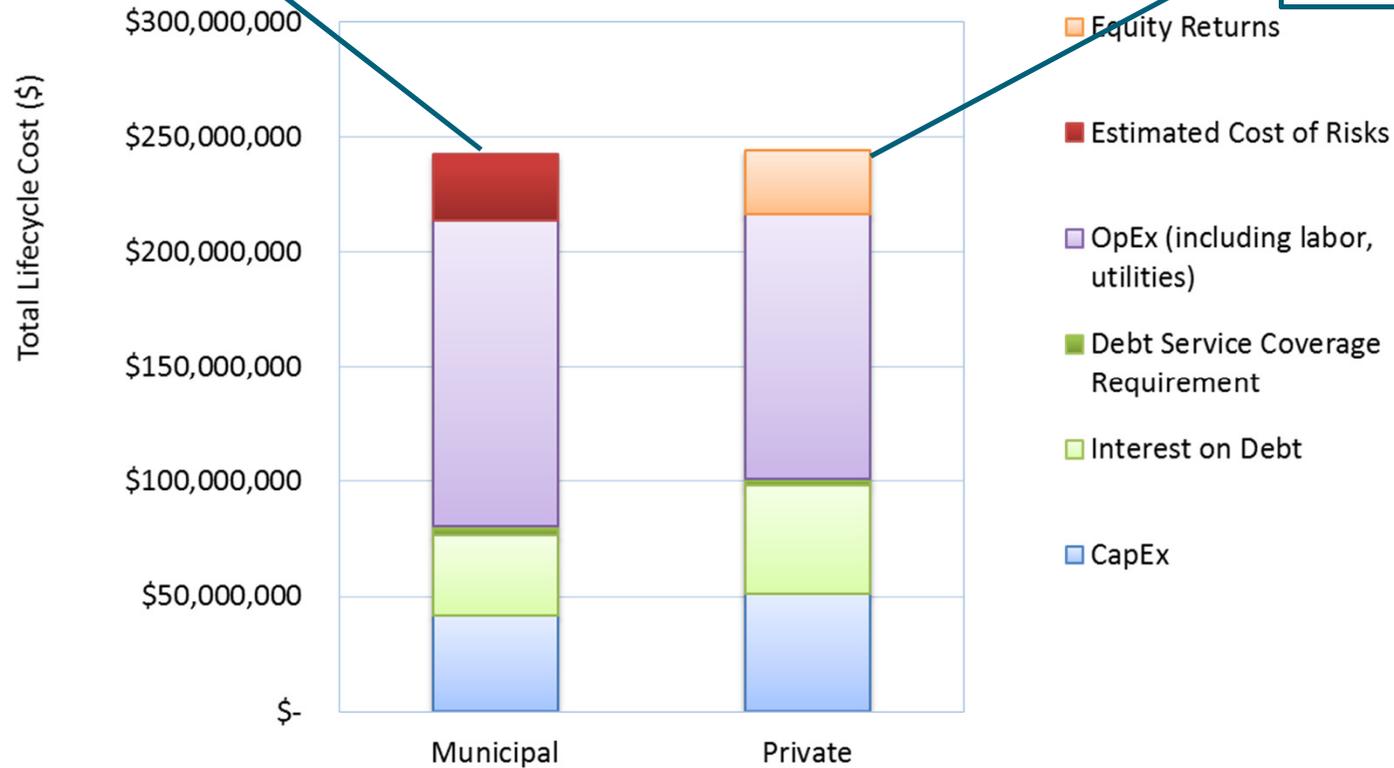
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Comparison Model – Risk Transfer

Risk Exposure

Comparison of Total Project Lifecycle Cost

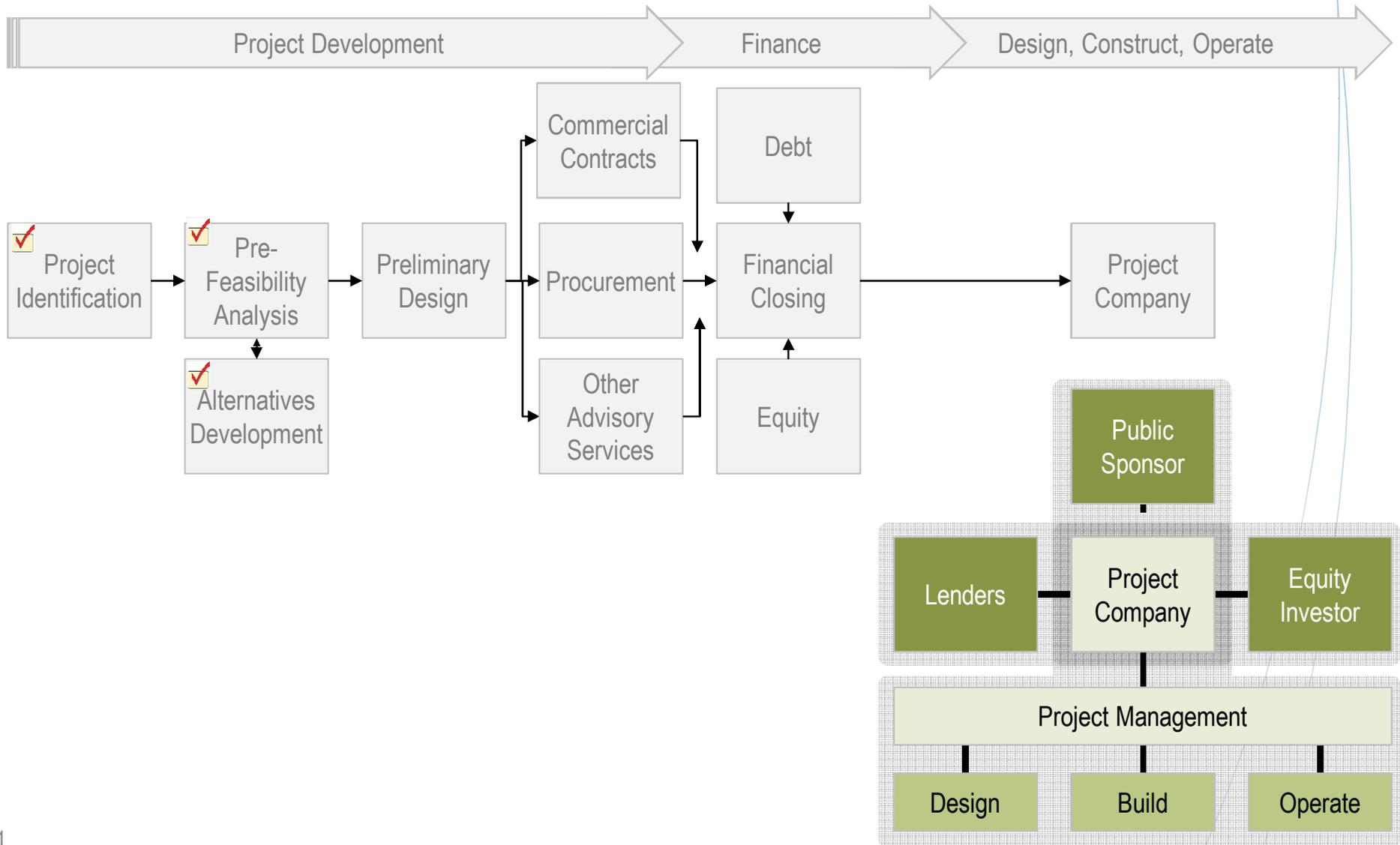
Risk Transfer
 - Costs Increased
 - Rates Preserved
 - Lower Equity Return



Next Steps



Typical Project Development Cycle



6 August 2015

Thank You

Rick Adcock

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MWH Global, Inc.



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