



THE EFFECTIVE USE OF DISPUTE REVIEW BOARDS ON PUBLIC PRIVATE PARTNERSHIP (P3) INFRASTRUCTURE PROJECTS IN THE U.S.

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**DRBF 26TH ANNUAL CONFERENCE & WORKSHOP
SEPTEMBER 28-30 | AUSTIN, TX**





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Chair, DRBF PPP Task Force

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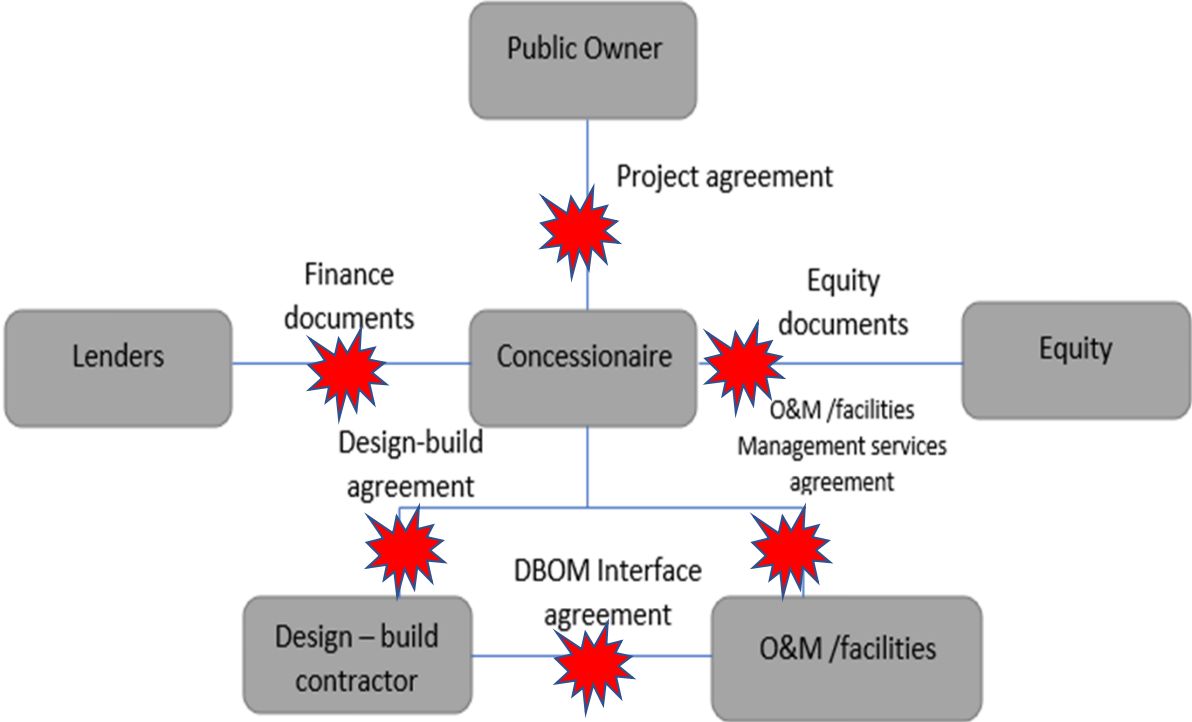
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Ph.D., Iowa State University



Problem Statement: P3 Structure “Friction Points”

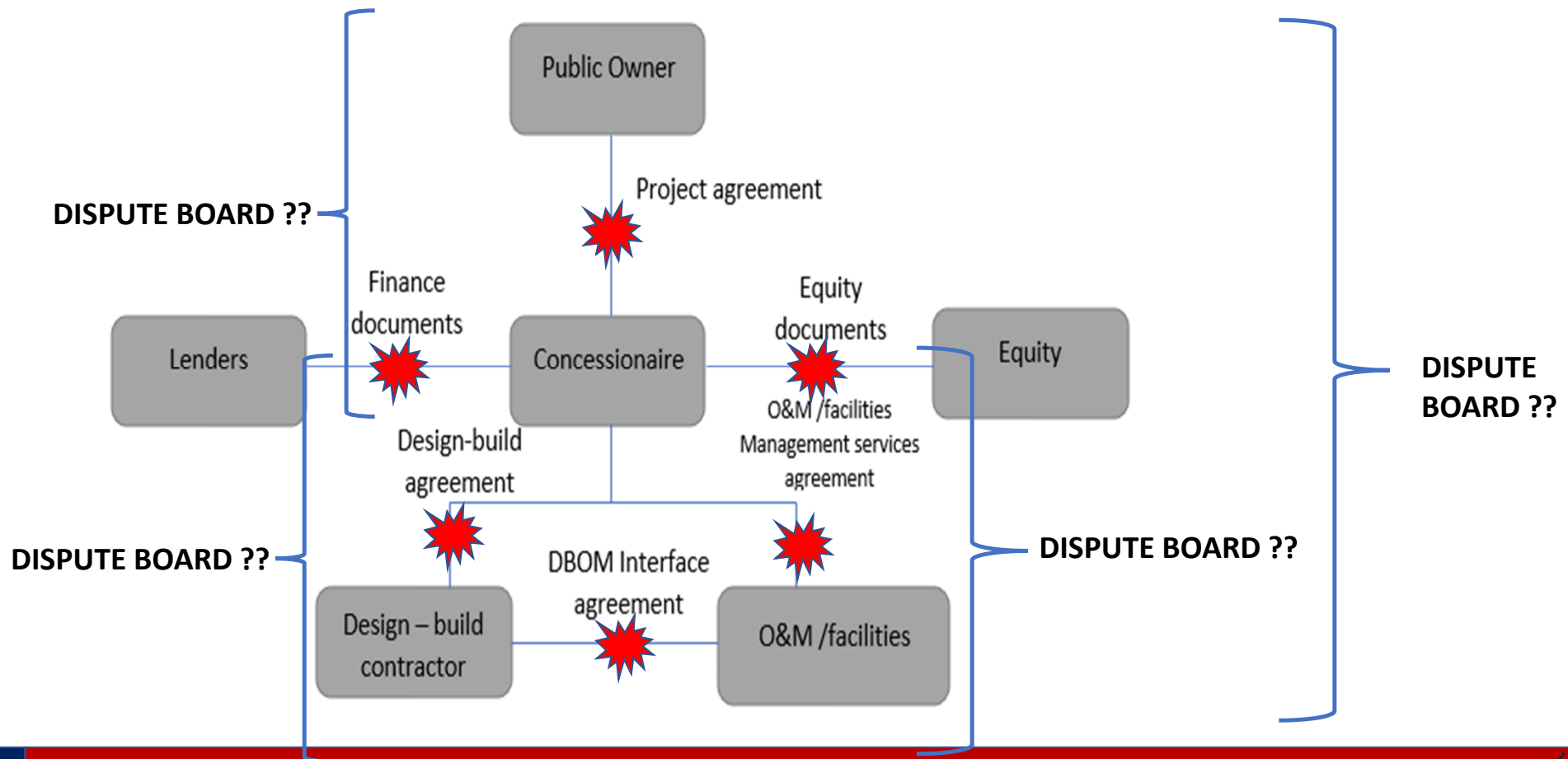
P3 Structure



DBFOM/DBFM P3 structure (DBIA P3 Primer, 2016)



Problem Statement: P3 Structure “Friction Points”



Dispute Review Boards & P3 Disputes

- P3 disputes are unavoidable & can result in significant time & financial losses
- P3 process becomes smoother if there is in-depth understanding of dispute sources and a corresponding dispute process is established ahead of time
- DRBs can often foresee situations leading to future problems and work with parties to prevent them from evolving to formal disputes
- DRBs maintain an open and collaborative relationship, which is necessary to sustain the "partnership" on P3 projects
- DRB process is much faster, less expensive, and more suited for construction conflicts compared to arbitration and litigation
- There is an increased trend in DRB usage on P3 projects, because it is seen to be tool well-suited for P3s

Outline



Research Objective



Methodology



Result and Analysis



Conclusion & Recommendations



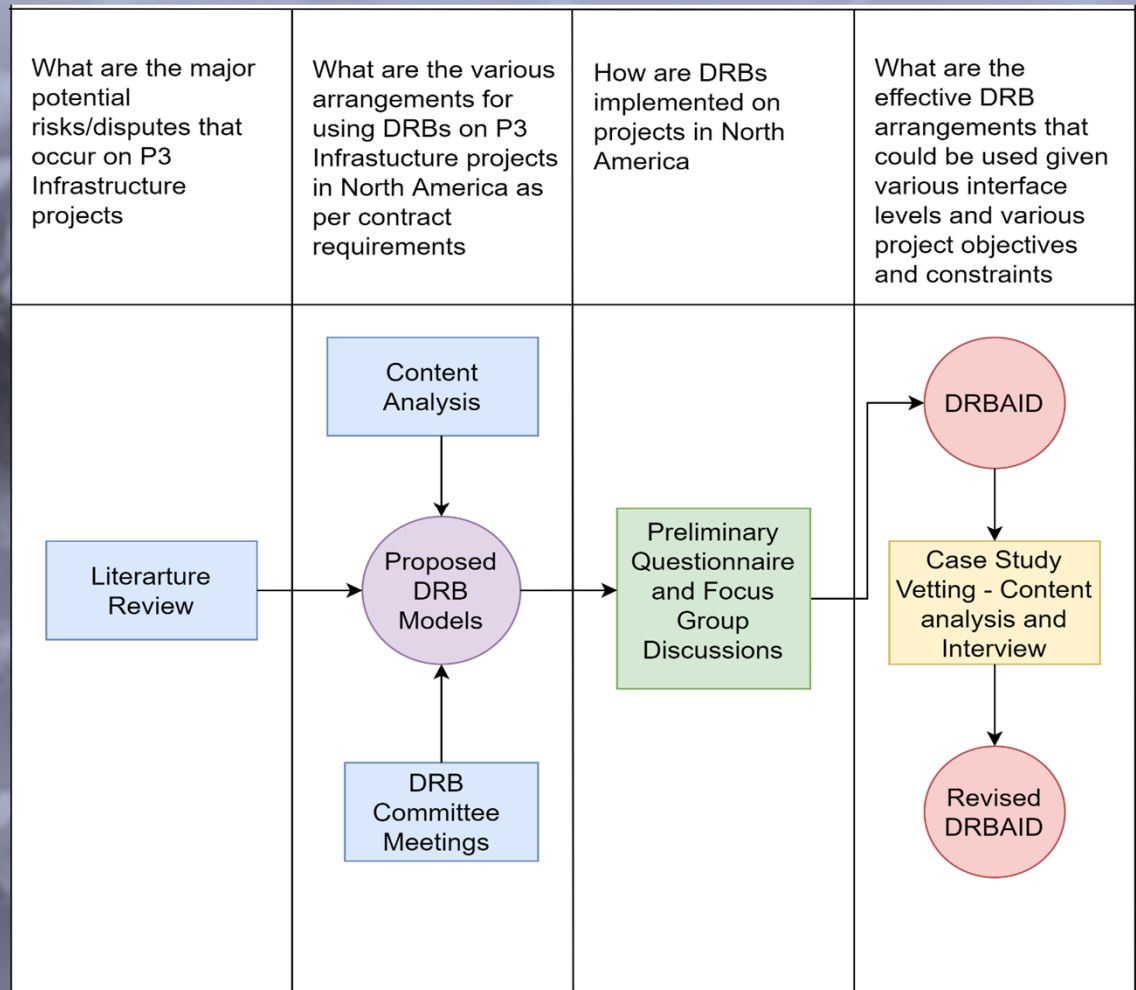
Research Objectives

To determine the effective arrangements/models of DRBs that could be used at various parties' interface levels on P3 projects, given various project characteristics and owner objectives.

To develop a framework for effective analysis of DRB options that could be used at various interface levels, based on owner's project objectives and constraints.



Methodology



Literature Gap

Limited research on DRB arrangements that are most effective for P3 projects given variability of parties' involvement and their interface levels

Methodology – Content Analysis

10 P3 infrastructure projects in North America

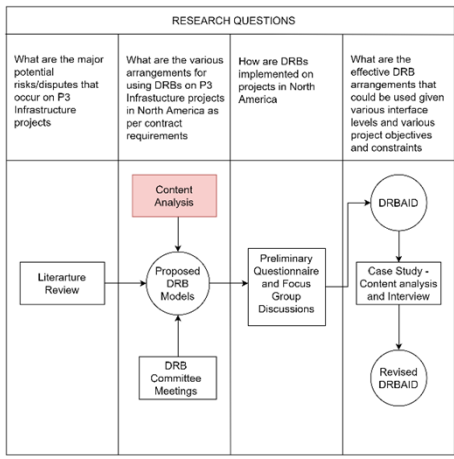
Benchmark P3 contracts set up in terms of dispute resolution processes

Excel sheet developed to retrieve and document contracts information

Noted whether a DRB was used

If used, detailed analysis of dispute ladder noted along with type of DRB deployed

If no DRB used, noted whether P3 agreement included alternatives





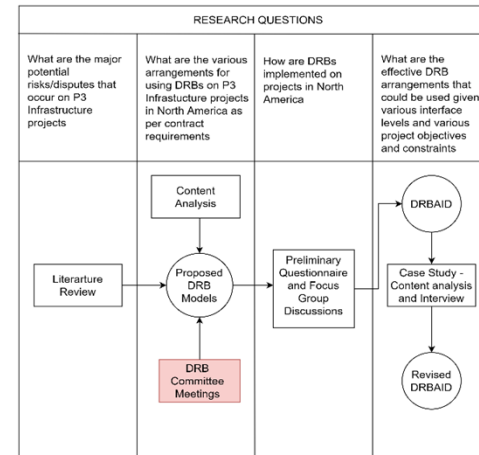
Methodology – DRBF P3 Task Force Input

DRBF P3 Task Force members for Region 1 (US and Canada) - majority of team members with 30+ years of experience

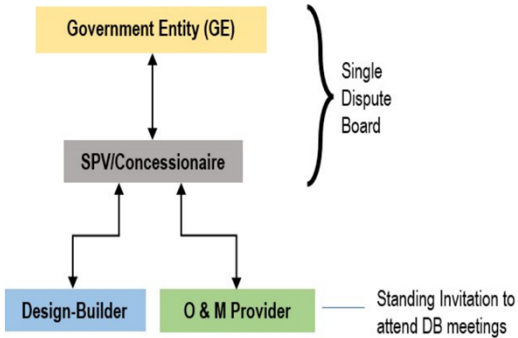
DRBF P3 Task Force - Formed in 2016 to assist P3 project parties in adopting DRB process and implementing best practices

Discussed progress findings and various DRB model arrangements that could be developed to address P3 parties' interface issues

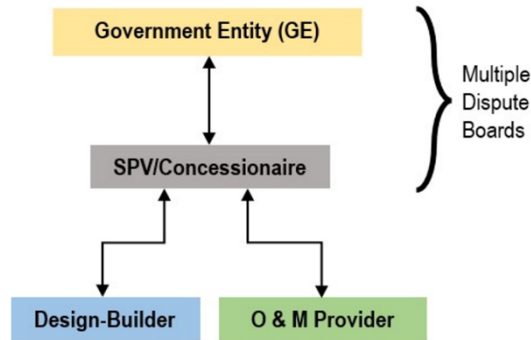
Adopted DRBF Task Force-proposed 5 DRB model arrangements - output from content analysis and DRBF Task Force input



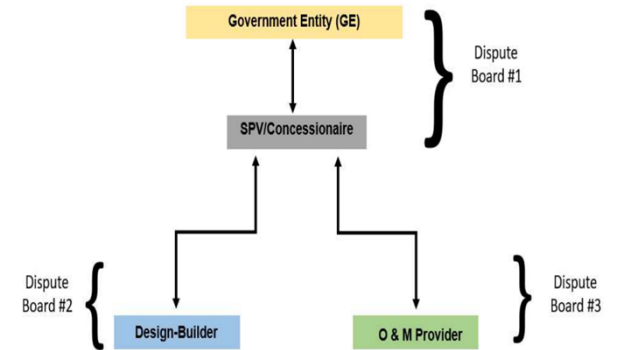
Methodology – Proposed Models



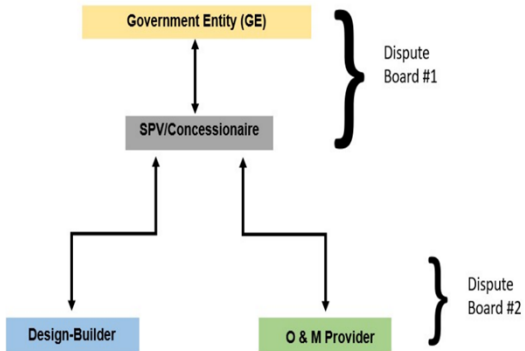
Model 1



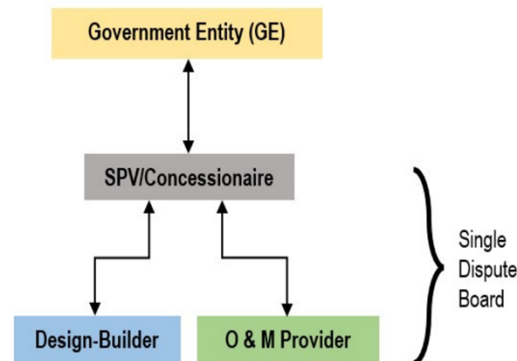
Model 1.1



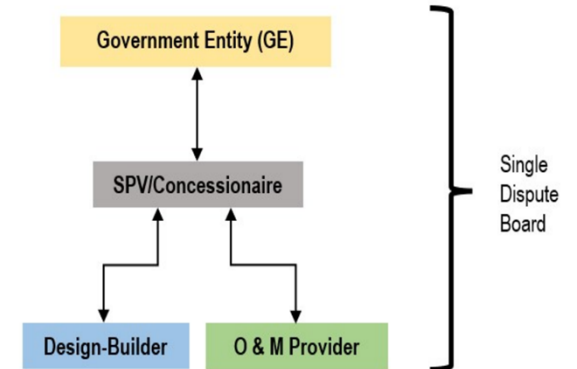
Model 2



Model 3



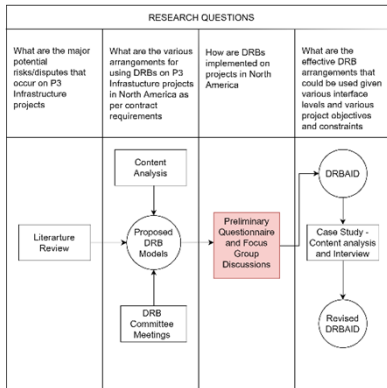
Model 4



Model 5



Methodology – Focus Groups



Subject matter experts to evaluate various DRB models

3 Focus groups – 90 minutes sessions on Zoom

Included a preliminary survey to collect information on participants' previous experiences with DRBs and P3 projects

Model Assumptions

Assume	DBFOM Project Delivery Method
Assume	Project has good P3 project governance/ management practices in place
Assume	Project encompassed early selection of DRB members & used for project duration
Assume	Contract agreement allows DRBs to handle any type of dispute
Assume	Use of a DRB Process (No separate technical & financial DRBs)
Assume	Only Owner, Concessionaire, Design Build Team, & O&M Entity involved

MODEL EVALUATION

EVALUATION ASSUMPTIONS	<ol style="list-style-type: none"> The project delivery method will be Design Build Finance Operate Maintain (DBFOM) Assume the project has good P3 project governance/management practices in place Assume the project has early selection of DB members and use for duration of projects Assume contract agreement allows DB to handle any type of dispute (that is, both technical and financial) Assume use of a DB Process (even though details may vary, such as separate technical and financial DRBs) Assume only Owner, Concessionaire, DBT, O&M involvement, and <u>not</u> Financial Entities or Other Stakeholders are part of the DB Process 				
Model Evaluation	Model 1.0 - Conventional DB	Model 2.0	Model 3.0	Model 4.0	Model 5.0 - Omnibus
	<p>DB Process at the Concession Contract level only, with a standing invitation for the D&B Contractor and O&M entity to attend the Concession level DB meetings</p>	<p>Three separate DB Processes, with one covering the Concession Contract, one covering the D&B Contract, and one covering the O&M Contract for the full term</p>	<p>Two separate DB Processes, one for the Concession Contract, and one covering the D&B Contract and the early years of the O&M Contract</p>	<p>One DB Process at the D&B Contract and O&M contract level</p>	<p>One DB Process covering the Concession, the D&B Contract and the O&M Contract</p>
Have you been involved in this DB arrangement before? (Yes/No)					
Using Model 1.0 "cost" (defined by out of pocket cost of DB Process) as a baseline, how does each other Model compare (e.g., lower, higher, same)? Justification? Please include actual cost range if available					
Using Model 1.0 time (defined by DB process time from dispute initiation to resolution) as a baseline, how does each other Model compare (e.g., shorter, longer, same)? Justification?					
How does the parties' participation in each Model impact (improve) the avoidance and resolution of disputes?					
What impediments/barriers would you foresee in implementing the DB Process in these various arrangements?					
How effective is the Model at bringing up all issues that might give rise to disputes within the overall P3 framework and contracts?					
Does the Model enable all relevant information and people to be available to/within the DB Process (e.g., including subcontractors, designers, lenders and financial					

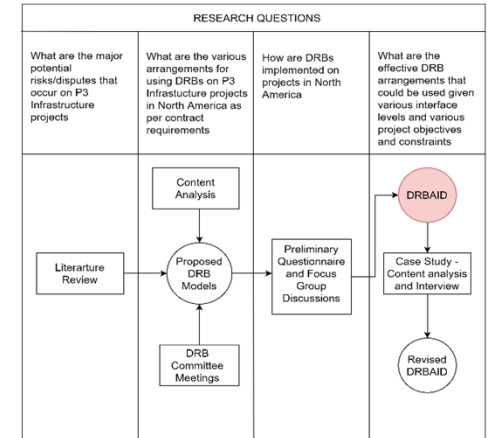
Methodology – Draft DRB Model Selection Aid Tool (DRBAID)



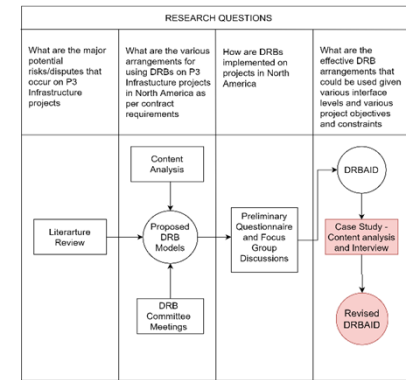
To aid owners and owner representatives in selection of most appropriate DRB model



Microsoft Excel used to develop the tool



Methodology – Case study including content analysis and interviews for Vetting



Project Name	Location	Interviewed
Central 70 project	Denver, Colorado	Project Engineer (Owner)
I-75 Modernization Project Segment 3	Detroit Metropolitan Region, Michigan	Project Engineer (Owner)
Southern Ohio Veterans Memorial Highway (Portsmouth Bypass) project	Scioto County, Ohio	DRB Chair, Owner Project Engineer and Concessionaire rep



Revised DRBAID tool based on comments from case study participants



Results and Analysis



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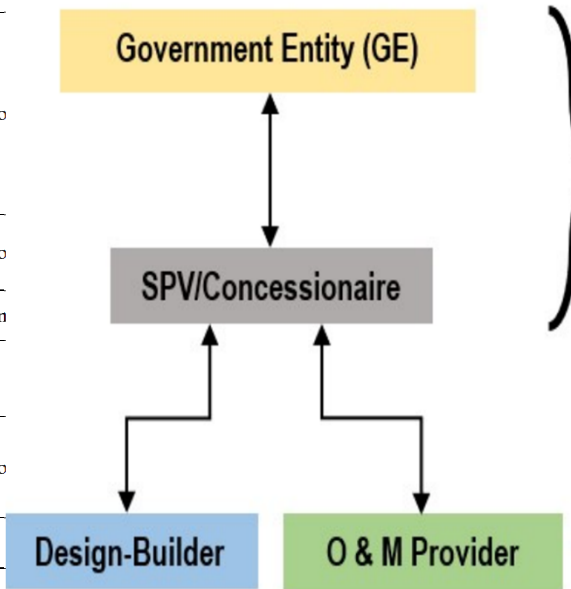


Content Analysis

No.	Project	Location	P3 type	Cost
1	Michigan I-75 Modernization Project (Segment 3)	Michigan	DBFM	\$1.4 billion
2	I-77 Managed Lanes Project	North Carolina	DBFOM	\$647 million
3	Belle Chasse Bridge and Tunnel Replacement	Louisiana	DBFOM	\$148 million
4	Central 70 Project	Colorado	DBFOM	\$1.2 billion
5	US 36	Colorado	DBFOM	\$208.4 million
6	Metro Region Freeway Lighting	Michigan	DBFOM	\$172 million
7	Rapid Bridge Replacement Project	Pennsylvania	DBFM	\$1.118 billion
8	SH99 Grand Parkway Segment F - G Project	Texas	DBM	\$1.04 billion
9	North Tarrant Express Segments 1&2a	Texas	DBFOM	\$650 million
10	I-595 Corridor Roadway Improvements	Florida	DBFOM	\$1.8 billion

Project Name	P3 Type	Cost	Owner	Concessionaire party arrangement	Dispute resolution ladder							DRB Model arrangement	Members Selection Method	Binding/ Non-binding DRB	If non-binding, binding option	
					Partnering	Designated Senior Person of each Party	Third party facilitator	DAB	DRB	Arbitration	Mediation					Litigation
Michigan I-75 Modernization Project (Segment 3)	DBFM	\$1.4 billion	Michigan Department of Transportation (MDOT)	John Laing (40%) AECOM (30%) Dan's Excavating, AJAX Paving, Jay Dec Contractors (30%)		✓							Model 1	Conventional Selection	Non-binding	Litigation
I-77 Managed Lanes Project	DBFOM	\$647 million	North Carolina Department of Transportation	Cintra I-77 Mobility Partners, LLC 50.10% GCM TH Investments, LLC 20.58% John Laing I-77 Holdco Corp 10.00% Aberdeen Infrastructure Investment I-77 LLC 10.00% GCM BD Investments, LLC 9.32%		✓					✓	✓	No DRB	No DRB	No DRB Nonbinding mediation	Litigation
Belle Chasse Bridge and Tunnel Replacement	DBFOM	\$148 million	Louisiana Department of Transportation	Plenary Infrastructure Belle Chasse (PIBC)		✓	✓				✓	✓	No DRB	No DRB	No DRB Nonbinding mediation	Litigation
Central 70 Project	DBFOM	\$1.2 billion	Colorado Department of Transportation	Kiewit Development Company (40%) Meridiam (60%)		✓			✓			✓	Model 1 - Multiple	Conventional Selection	Non-binding	Litigation
US 36	DBFOM	\$208.4 million	Colorado Department of Transportation	Plenary Roads Finco LP (Plenary) - the TIFIA Borrower		✓			✓			✓	Model 1	Joint Selection	Non-binding	Litigation
Metro Region Freeway Lighting	DBFOM	\$172 million	Michigan Department of Transportation	Star America Fund GP, LLC (85% equity partner) Aldridge Electric Company (15% equity partner)		✓			✓			✓	Model 1	Conventional Selection	Non-binding	Litigation
Rapid Bridge Replacement Project	DBFM	\$1.118 billion	Pennsylvania Department of Transportation	Plenary Group USA Ltd. (80%) Walsh Investors, LLC (20%)		✓			✓			✓	Model 1 - Multiple	Conventional Selection	Non-binding	Litigation
SH99 Grand Parkway Segment F - G Project	DBM	\$1.04 billion	Texas Department of Transportation	Zachry-Odebrecht Parkway Builders, a Texas joint venture comprised of Zachry Construction Corporation and Odebrecht Construction, Inc	✓	✓		✓					DAB	No DRB	DAB Binding	
North Tarrant Express Segments 1&2a	DBFOM	\$650 million	Texas Department of Transportation	Cintra Concesiones de Infraestructuras de Transporte, S.A. (56.7%) Meridiam Infrastructure (33.3%) Dallas Police and Fire Pension System (10%)	✓	✓		✓					DAB	No DRB	DAB Binding	
I-595 Corridor Roadway Improvements	DBFOM	\$1.8 billion	Florida Department of Transportation	I-595 Express, LLC (ACS Infrastructure Development and TIAA (50/50 split of the equity portion on loan)) as Concessionaire		✓			✓				Model 1	Conventional Selection	Non-binding	Any ADR

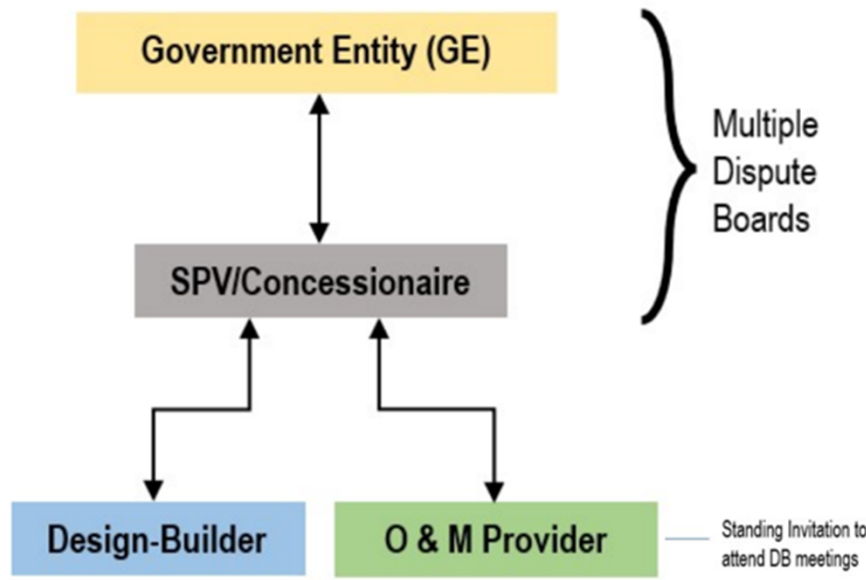
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Single Dispute Board

Standing Invitation to attend DB meetings

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Central 70 Project	DBFOM	\$1.2								✓			Model 1 Multiple	Conventional Selection	Non-binding	Litigation
US 36	DBFOM	\$208 millic								✓			Model 1	Joint Selection	Non-binding	Litigation
Metro Region Freeway Lighting	DBFOM	\$172									✓		Model 1	Conventional Selection	Non-binding	Litigation
Rapid Bridge Replacement Project	DBFM	\$1.1 billion									✓		Model 1 Multiple	Conventional Selection	Non-binding	Litigation
SH99 Grand Parkway Segment F - G Project	DBM	\$1.0											DAB	No DRB	DAB Binding	
North Tarrant Express Segments 1&2a	DBFOM	\$650 million	Texas Department of Transportation	Cintra Concesiones de Infraestructuras de Transporte, S.A. (56.7%) Meridiam Infrastructure (33.3%) Dallas Police and Fire Pension System (10%)	✓	✓		✓					DAB	No DRB	DAB Binding	
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Result and Analysis – Content Analysis Summary



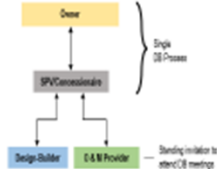
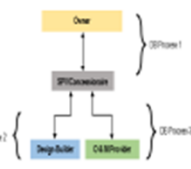



Model 1 conventional model, and its variations, were the most widely used model in the industry



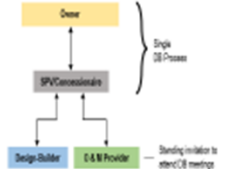




Industry used models and hypothetical models were included in the model list, all of which was further discussed through the focus groups



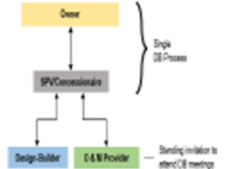




MODEL EVALUATION

EVALUATION ASSUMPTIONS	<ol style="list-style-type: none"> 1. The project delivery method will be Design Build Finance Operate Maintain (DBFOM) 2. Assume the project has good P3 project governance/management practices in place 3. Assume the project has early selection of DB members and use for duration of projects 4. Assume contract agreement allows DB to handle any type of dispute (that is, both technical and financial) 5. Assume use of a DB Process (even though details may vary, such as separate technical and financial DRBs) 6. Assume only Owner, Concessionaire, DBT, O&M involvement, and <u>not</u> Financial Entities or Other Stakeholders are part of the DB Process 				
Model Evaluation	Model 1.0 - Conventional DB	Model 2.0	Model 3.0	Model 4.0	Model 5.0 - Omnibus
	<p>DB Process at the Concession Contract level only, with a standing invitation for the D&B Contractor and O&M entity to attend the Concession level DB meetings</p>	<p>Three separate DB Processes, with one covering the Concession Contract, one covering the D&B Contract, and one covering the O&M Contract for the full term</p>	<p>Two separate DB Processes, one for the Concession Contract, and one covering the D&B Contract and the early years of the O&M Contract</p>	<p>One DB Process at the D&B Contract and O&M contract level</p>	<p>One DB Process covering the Concession, the D&B Contract and the O&M Contract</p>
					
<p>Have you been involved in this DB arrangement before? (Yes/No)</p>	<p>1. Have you been involved in any of this DB arrangement before? Most Involved Model was Model 1 Hybrid Model of Model 1 and 5</p>				
<p>Using Model 1.0 "cost" (defined by out of pocket cost of DB Process) as a baseline, how does each other Model compare (e.g., lower, higher, same)? Justification? Please include actual cost range if available</p>					
<p>Using Model 1.0 time (defined by DB process time from dispute initiation to resolution) as a baseline, how does each other Model compare (e.g., shorter, longer, same)? Justification?</p>					
<p>How does the parties' participation in each Model impact (improve) the avoidance and resolution of disputes?</p>					
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<p>How effective is the Model at bringing up all issues that might give rise to disputes within the overall P3 framework and contracts?</p>					
<p>Does the Model enable all relevant information and people to be available to/within the DB Process (e.g., including subcontractors, designers, lenders and financial</p>					

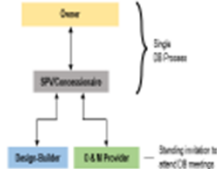
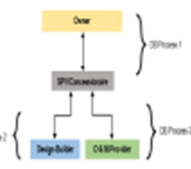



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<p>Have you been involved in this DB arrangement before? (Yes/No)</p>					
<p>Using Model 1.0 "cost" (defined by out of pocket cost of DB Process) as a baseline, how does each other Model compare (e.g., lower, higher, same)? Justification? Please include actual cost range if available</p>	<p>2. Using Model 1.0 "cost" (defined by out-of-pocket cost of DB Process) as a baseline, how does each other Model compare (e.g., lower, higher, same)? Justification?</p> <p>Model 1 as baseline</p> <p>Model 2 three times Model 1</p> <p>Model 3 two times model 1</p> <p>Model 4 half the model 1 and</p> <p>Model 5 - 1.5 times the cost of model 1.</p> <p>Cost for each model will be dependent on how often the DRB meets and depend on the nature of dispute.</p>				
<p>Using Model 1.0 time (defined by DB process time from dispute initiation to resolution) as a baseline, how does each other Model compare (e.g., shorter, longer, same)? Justification?</p>					
<p>How does the parties' participation in each Model impact (improve) the avoidance and resolution of disputes?</p>					
<p>What impediments/barriers would you foresee in implementing the DB Process in these various arrangements?</p>					
<p>How effective is the Model at bringing up all issues that might give rise to disputes within the overall P3 framework and contracts?</p>					
<p>Does the Model enable all relevant information and people to be available to/within the DB Process (e.g., including subcontractors, designers, lenders and financial</p>					

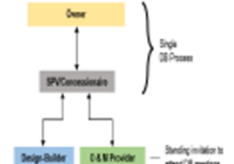
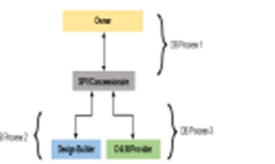
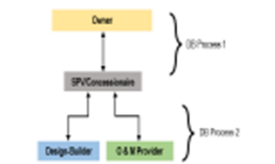

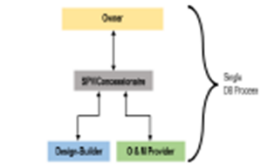
MODEL EVALUATION

EVALUATION ASSUMPTIONS	<ol style="list-style-type: none"> 1. The project delivery method will be Design Build Finance Operate Maintain (DBFOM) 2. Assume the project has good P3 project governance/management practices in place 3. Assume the project has early selection of DB members and use for duration of projects 4. Assume contract agreement allows DB to handle any type of dispute (that is, both technical and financial) 5. Assume use of a DB Process (even though details may vary, such as separate technical and financial DRBs) 6. Assume only Owner, Concessionaire, DBT, O&M involvement, and <u>not</u> Financial Entities or Other Stakeholders are part of the DB Process 				
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	<p>DB Process at the Concession Contract level only, with a standing invitation for the D&B Contractor and O&M entity to attend the Concession level DB meetings</p>	<p>Three separate DB Processes, with one covering the Concession Contract, one covering the D&B Contract, and one covering the O&M Contract for the full term</p>	<p>Two separate DB Processes, one for the Concession Contract, and one covering the D&B Contract and the early years of the O&M Contract</p>	<p>One DB Process at the D&B Contract and O&M contract level</p>	<p>One DB Process covering the Concession, the D&B Contract and the O&M Contract</p>
					
<p>Have you been involved in this DB arrangement before? (Yes/No)</p>					
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<p>Using Model 1.0 time (defined by DB process time from dispute initiation to resolution) as a baseline, how does each other Model compare (e.g., shorter, longer, same)? Justification?</p>	<p>3. Using Model 1.0 time (defined by DRB process time from dispute initiation to resolution) as a baseline, how does each other Model compare (e.g., shorter, longer, same)?</p> <ul style="list-style-type: none"> • Models 2, 3, and 4 - almost the same time as Model 1. • Model 5 - longer time. • Time variability by type and complexity of the dispute 				
<p>How does the parties' participation in each Model impact (improve) the avoidance and resolution of disputes?</p>					
<p>What impediments/barriers would you foresee in implementing the DB Process in these various arrangements?</p>					
<p>How effective is the Model at bringing up all issues that might give rise to disputes within the overall P3 framework and contracts?</p>					
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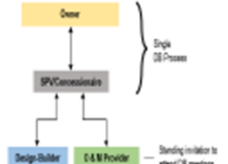


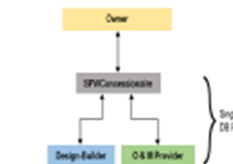

MODEL EVALUATION

EVALUATION ASSUMPTIONS	<ol style="list-style-type: none"> 1. The project delivery method will be Design Build Finance Operate Maintain (DBFOM) 2. Assume the project has good P3 project governance/management practices in place 3. Assume the project has early selection of DB members and use for duration of projects 4. Assume contract agreement allows DB to handle any type of dispute (that is, both technical and financial) 5. Assume use of a DB Process (even though details may vary, such as separate technical and financial DRBs) 6. Assume only Owner, Concessionaire, DBT, O&M involvement, and <u>not</u> Financial Entities or Other Stakeholders are part of the DB Process 				
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<p>Have you been involved in this DB arrangement before? (Yes/No)</p>	<div style="background-color: #f4a460; padding: 10px;"> <p>4. How does the parties' participation in each Model impact (improve) the avoidance and resolution of disputes?</p> <ul style="list-style-type: none"> • Both model 1 and model 5 are expected to have a similar impact if the design-builder and O&M participate in the meetings for model 1. • Model 4 will own the significant risk because no owner involvement. • Model 2 will be difficult to implement when there is an interface agreement between the design-builder and the O&M. </div>				
<p>Using Model 1.0 "cost" (defined by out of pocket cost of DB Process) as a baseline, how does each other Model compare (e.g., lower, higher, same)? Justification? Please include actual cost range if available</p>					
<p>Using Model 1.0 time (defined by DB process time from dispute initiation to resolution) as a baseline, how does each other Model compare (e.g., shorter, longer, same)? Justification?</p>					
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<p>What impediments/barriers would you foresee in implementing the DB Process in these various arrangements?</p>					
<p>How effective is the Model at bringing up all issues that might give rise to disputes within the overall P3 framework and contracts?</p>					
<p>Does the Model enable all relevant information and people to be available to/within the DB Process (e.g., including subcontractors, designers, lenders and financial</p>					

MODEL EVALUATION

EVALUATION ASSUMPTIONS	<ol style="list-style-type: none"> 1. The project delivery method will be Design Build Finance Operate Maintain (DBFOM) 2. Assume the project has good P3 project governance/management practices in place 3. Assume the project has early selection of DB members and use for duration of projects 4. Assume contract agreement allows DB to handle any type of dispute (that is, both technical and financial) 5. Assume use of a DB Process (even though details may vary, such as separate technical and financial DRBs) 6. Assume only Owner, Concessionaire, DBT, O&M involvement, and <u>not</u> Financial Entities or Other Stakeholders are part of the DB Process 																			
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Have you been involved in this DB arrangement before? (Yes/No)	<p>5. What impediments/barriers would you foresee in implementing the DB Process in these various arrangements?</p> <p>Model 2 and Model 3 - more complex the DRB process, more barriers will occur. Cross relation conflicts within the Design Build Team and O&M team could be a barrier for Model 3 and Model 4.</p> <p>Model 5 will require a holistic management approach.</p> <p>Major barrier in member selection for Models 2, 3 and 5.</p>																			
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<p>Have you been involved in this DB arrangement before? (Yes/No)</p>	<p>6. How effective is the Model at bringing up all issues that might give rise to disputes within the overall P3 framework and contracts? Increased compartmentalization with separate DRB processes will result in fewer issues being raised. Effectiveness will vary based on the nature of the disputes that occur.</p>									
<p>Using Model 1.0 "cost" (defined by out of pocket cost of DB Process) as a baseline, how does each other Model compare (e.g., lower, higher, same)? Justification? Please include actual cost range if available</p>										
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<p>Have you been involved in this DB arrangement before? (Yes/No)</p>	<p>7. Does the Model enable all relevant information and people to be available to/within the DRB Process (e.g., including subcontractors, designers, lenders, and financial entities)?</p> <p>Model 5 removes the barriers and involves all relevant information and people. Model 2, 3 will have less involvement of the parties due to separate DRB processes. Even though Model 4 does not allow for owner involvement, it does allow everyone at that level to attend the meeting.</p>				
<p>Using Model 1.0 "cost" (defined by out of pocket cost of DB Process) as a baseline, how does each other Model compare (e.g., lower, higher, same)? Justification? Please include actual cost range if available</p>					
<p>Using Model 1.0 time (defined by DB process time from dispute initiation to resolution) as a baseline, how does each other Model compare (e.g., shorter, longer, same)? Justification?</p>					
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<p>Does the Model enable all relevant information and people to be available to/within the DB Process (e.g., including subcontractors, designers, lenders and financial</p>					

Result & Analysis – Focus Group

Experts' preferences on which model they would like to implement on their projects:

- Model 1 and Model 5



Model Pros and Cons

	Model 1	Model 2	Model 3	Model 4	Model 5
	One DB at the concession-contract level only, with a standing invitation for the D&B contractor to attend the concession DB meetings.	Three separate DBs, with one covering the concession contract, one covering the D&B contract and one covering the early years of the O&M contract	Separate DBs for the concession contract, and one covering the D&B contract and one covering the early years of the O&M contract.	One DB at the D&B and O&M contract level only	One DB covering both the concession and the D&B contract
Pros	<ol style="list-style-type: none"> 1. Enables pass through 2. Only One set of Dispute board members. 3. Enabling DB dispute process to extend to all primary parties when needed 4. Less chance for confusions 	<ol style="list-style-type: none"> 1. Enables DB process at all contract levels 2. All parties involved but separately 	<ol style="list-style-type: none"> 1. Enables DB process at all contract levels 2. All parties involved but separately 	<ol style="list-style-type: none"> 1. More attractive to financiers than other options 	<ol style="list-style-type: none"> 1. All parties involved 2. Enables pass through 3. Permits Dispute board to apply as a whole 4. Less chance for confusions
Cons	<ol style="list-style-type: none"> 1. All parties involved but DBT and O&M requires a standing invitation 	<ol style="list-style-type: none"> 1. Leading to confusion. 2. Disable pass through of disputes 3. Expensive to maintain 4. Difficult to implement when there is an interphase agreement between the design-builder and the O&M 	<ol style="list-style-type: none"> 1. Leading to confusion. 2. Disable pass through of disputes 3. Expensive to maintain 4. Cross relation conflicts within the Design build team and O&M will be an issue 	<ol style="list-style-type: none"> 1. No pass through 2. Owner not involved 3. Effectiveness will be questioned. No mechanism to go to owner. 4. Cross relation conflicts within the Design build team and O&M will be an issue 	<ol style="list-style-type: none"> 1. Difficult for appointing Dispute board members suitable to all primary parties.

Factors affecting Model selection



Parties' participation



Interface levels at which DRB process is involved



Pass-through claims process



Cost and time



Complexity of the project or nature of the disputes occurring on the project



DB member selection



Project parties' interrelationships

Result and Analysis – Focus Group



DRB MODEL SELECTION AID TOOL -
 Assume you were in the planning stage of the project, and you have decided to use DRB as your form of DRM
 This tool will aid you in making a decision on the most effective DRB arrangement given your agency/project requirements/constraints

Please select all that apply

	Appropriate model
1 Does the contractual agreement requires the participation of all parties in the DRB process?	4
<input type="checkbox"/> Yes	
<input checked="" type="checkbox"/> No	

3 At what interface level(s) do you think you need the DRB(s)?

<input checked="" type="checkbox"/>	Owner and Concessionaire (DB and O&M with standing invitation)	1,
<input type="checkbox"/>	Owner and Concessionaire, Concessionaire & DB, Concessionaire and O&M (each separately)	
<input type="checkbox"/>	Owner and Concessionaire and Concessionaire, DB and O&M	1,
<input type="checkbox"/>	Concessionaire, DB and O&M only (no owner)	
<input type="checkbox"/>	Owner, Concessionaire, DB and O&M all together	

DRB Selection Aid Tool (DRBAID)

5 How would you rate the budget and the time available to form the DRB process on your project?		
<input type="checkbox"/>	Limited budget and time	1,5
<input checked="" type="checkbox"/>	Average budget and time	
<input type="checkbox"/>	High budget and time	
6 How would you rate the complexity (define) of your project?		
<input type="checkbox"/>	Low/Medium complexity	1,5
<input checked="" type="checkbox"/>	Difficult/challenging complexity	
7 Do you foresee challenges in finding appropriate DB members for project?		
<input checked="" type="checkbox"/>	Yes	1,5
<input type="checkbox"/>	No	
8 Is the SPV Standalone? Standalone means....		
<input checked="" type="checkbox"/>	Yes	2,3,4
<input type="checkbox"/>	No	
9 Any parties interrelated? (for example: concessionaire being the owner of DB firm)		
<input checked="" type="checkbox"/>	Yes	1,5
<input type="checkbox"/>	No	

Q	Model 1	Model 2	Model 3	Model 4	Model 5
1					
2	0	0	0	1	0
3	1	0	0	0	0
4	1	0	0	0	1
5	1	0	0	0	1
6	1	0	0	0	1
7	1	0	0	0	1
8	0	1	1	1	0
9	1	0	0	0	1
Results	6	1	1	2	5

DRB Model Recommendation	
Model 1	Option 1
Model 5	Option 2

Result and Analysis – Case Study Vetting

Major Findings

Factors	Model 1	Model 2	Model 3	Model 4	Model 5
Contractual agreement requirement	0	1	1	0	1
Parties' arrangement	1	1	1	0	1
Interface levels	0	0	0	0	1
Pass through	1	0	0	0	1
Budget and time	1	0	0	0	1
Complexity of project	1	0	0	0	1
DB Member selection	1	0	0	0	1
SPV nature	0	1	1	1	0
Parties' interrelation	0	1	1	1	0
Results	5	4	4	2	7

DRBAID tool	Case 1 Central 70 project	Case 2 I-75 Modernization project Segment 3	Case 3 Southern Ohio Veterans Memorial Highway (Portsmouth Bypass) project
First Choice	Model 1 score 7	Model 1 score 7	Model 5 score 7
Second Choice	Model 5 score 6	Model 5 score 5	Model 1 score 5
Actual Model Used	Model 1	Model 1	Model 1



Conclusions

Content analysis of 10 P3 projects

Each DOT had its own standard way of arranging the DRB process-- mostly Model 1 (Conventional) and its variations

Three focus groups

- * Identified pros and cons for each model
- * Identified the various factors to determine the models' selection
- * Formed the basis of the DRBAID development

Case study vetting

Use of selection aid tool at the initial planning stage of project would have helped owners in selecting the appropriate DRB model selection

Major contribution of this study

Developed a tool that addresses a DRB arrangement that could be used to address all interface levels of P3s (major "friction points")

Recommendations

- Because of P3 complexity and multi-party relationships, **early attention** needs to be given to appropriate dispute mechanisms at **major friction points**
- Project sponsors should assess and implement criteria to select the appropriate DRM based on the **project's dispute risk profile**
- Conventional practice of **standing three-person DRB** appointed at the start of a P3 project and continuing for the duration of the project is the most used arrangement to date
- However, the type of DRB process and DRB member qualifications should be **tailored to specific project circumstances** for most effective implementation

Recommendations

- **DRBAID tool** intended to
 - **assist project sponsor** in evaluating P3 project dispute risk profile and select most appropriate DRB model
 - to be a **starting point** to evaluate most effective arrangement of the DRB model
- **Final selection** of P3 project-specific DRB model should be **part of procurement** process, including getting input from proposers
- Final model selected and implemented should be done **collaboratively** among project sponsor, concessionaire, design-build entity, and O&M entity.

Where is the DRBF going with this study?

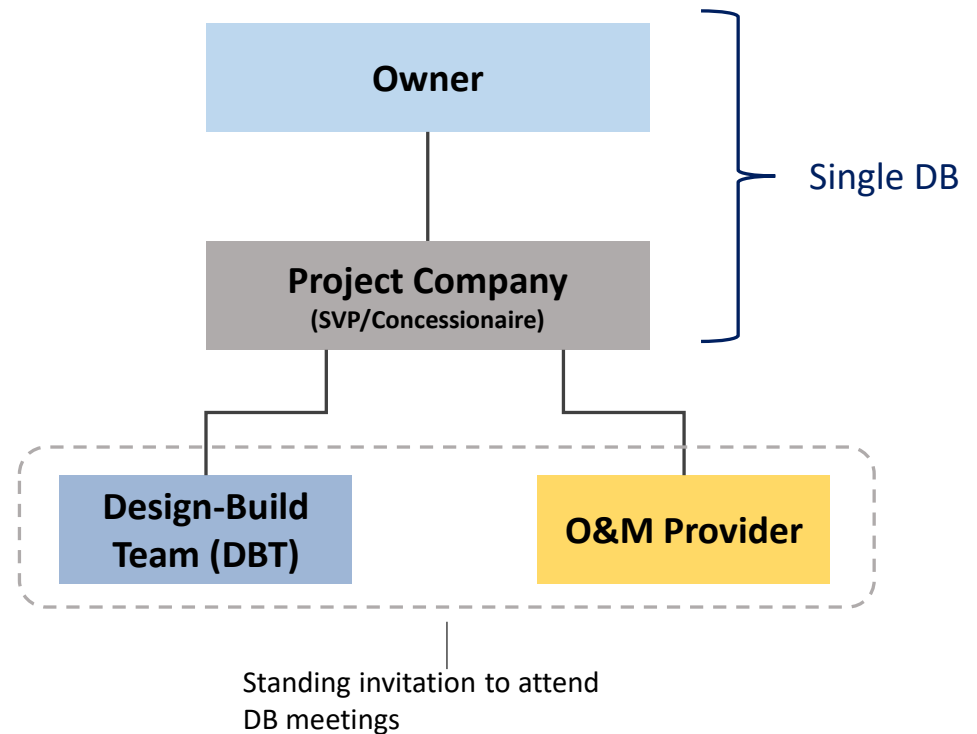


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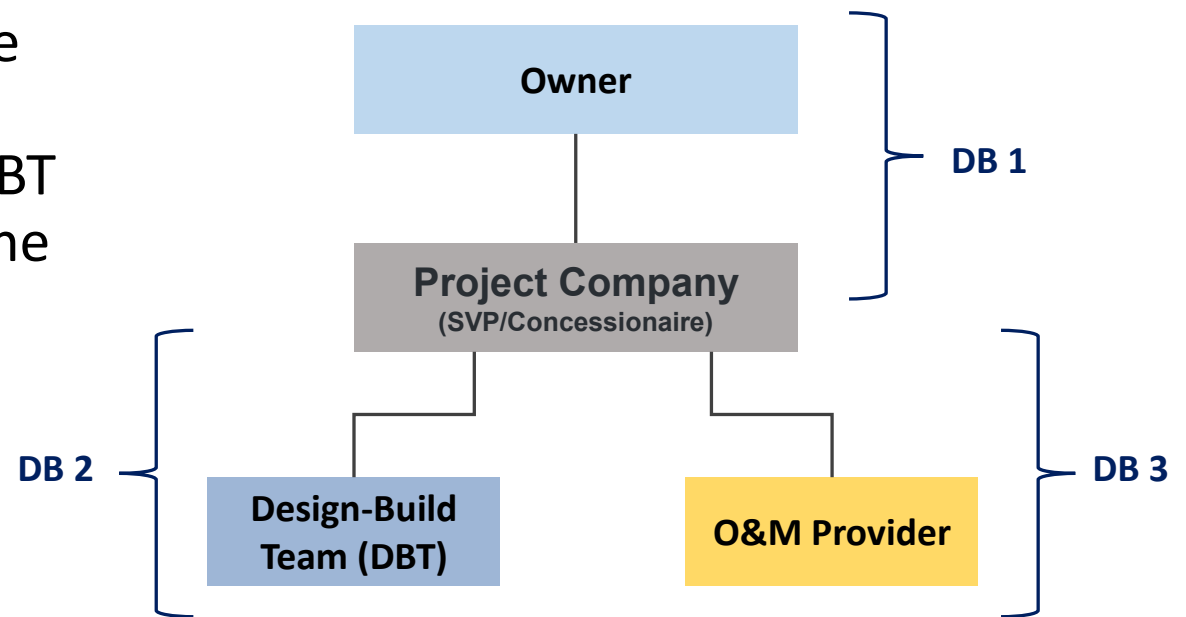
Conventional DB

- One DB at the Concession contract level, with a standing invitation for the DBT and O&M Provider to attend the Concession-level DB meetings
- DB has jurisdiction over Owner-Concessionaire claims, including DBT/O&M “pass-through” claims



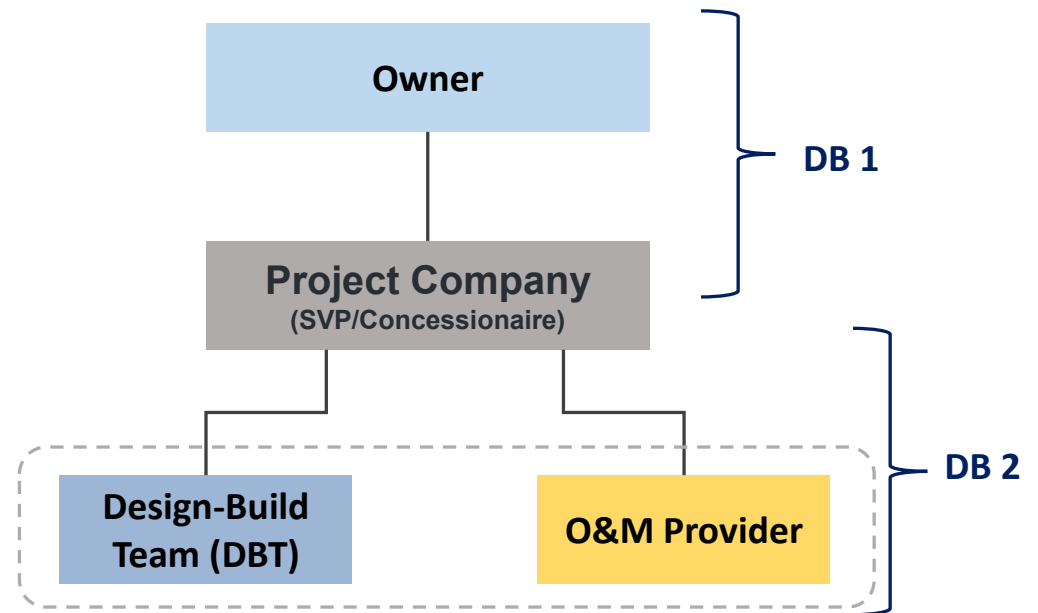
Three Separate DBs

- Three separate DBs, with one covering the Concession contract, one covering the DBT contract, and one covering the O&M contract
- Each DB handles claims only within its own contractual grouping



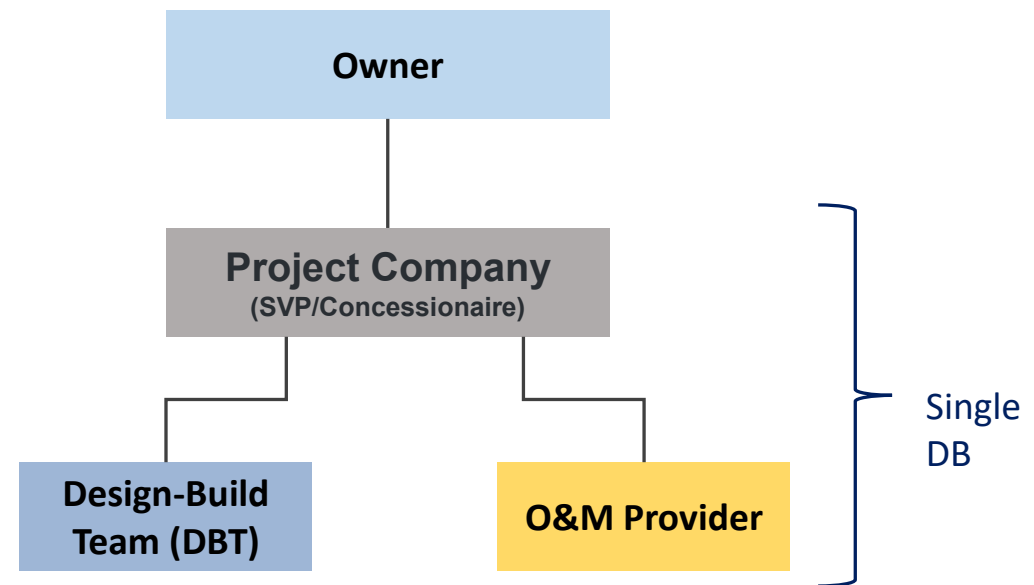
Two Separate DBs

- Two separate DBs, one for the Concession contract, and one covering the DBT contract and the O&M contract
- Owner-Concessionaire DB has jurisdiction over Owner-Concessionaire claims, including DBT/O&M “pass-through” claims
- Concessionaire-DBT/O&M DB has jurisdiction over “non-pass-through” claims



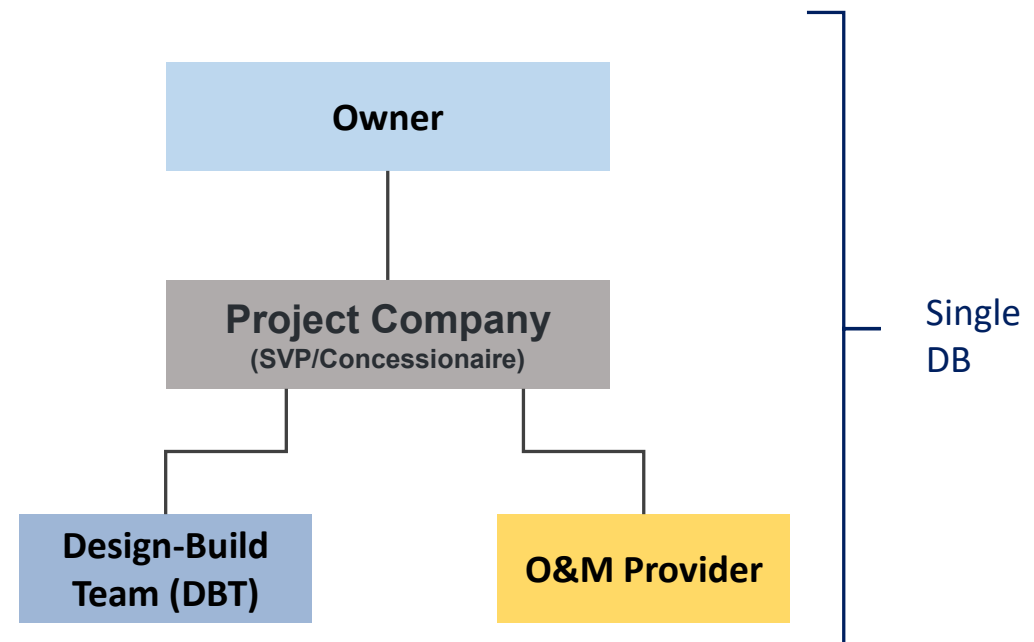
One DB at Lower Tier

- One DB at the DBT contract and O&M contract level
- Concessionaire-DBT/O&M DB has jurisdiction over “non-pass-through” claims (no Owner involvement)



Omnibus DB—DRBF Recommended Model

- One DB covering the Concession Contract, the D&B Contract, and the O&M Contract
- DB handles Owner-Concessionaire claims, including DBT/O&M “pass-through” claims
- DB also handles Concessionaire-DBT/O&M claims (“non-pass-through” claims)



DRBF P3 Toolkit Development

- Summary level document covering the following:
 - P3 “Friction Points” Summary
 - Business Case for DBs on P3s
 - Dispute Systems Design approach to developing project dispute process, incl. placement of DB in it
 - Model Selection process and criteria—DRBAID as “framing” tool
- Implementation model documents:
 - P3 DB Specification
 - P3 DB Multi-party Agreement
 - P3 DB Operating Procedures

*Thank
You*

Questions ??

