Comparing and Contrasting Design-Build-Finance-Operate-Maintain (DBFOM) and Master Development Agreement (MDA) Public Private Partnerships (P3)

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ABBEL

Comparing and Contrasting DBFOM and MDA P3s

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Table of contents

Table of figures

Tables

Boxes

Figures

1. Executive Summary

IMG Rebel Advisory, Inc. ("Rebel") was engaged by the Build America Center (BAC), housed within the University of Maryland with support from the U.S. Department of Transportation, to explore the similarities and differences between design-build-finance-operate-maintain (DBFOM) public-private partnerships (P3s) and master development agreement (MDA) P3s, which can generically be termed "infrastructure P3s" and "real estate P3s", respectively, and in doing so, potentially derive any insights about each P3 type.

In practice, DBFOM and MDA P3s have many connotations and take many different forms, sometimes even blending elements of both. To control for these permutations and provide a baseline for comparison, this paper attempted to distill each P3 type into its most standard or "archetypical" form. In an archetypical DBFOM P3, the private partner takes on many responsibilities and risks throughout the life cycle of a public infrastructure project, in return for which it can either collect revenues from users or receives a performance-based payment from the public agency. DBFOM P3s are being used in transportation, energy, water, social, and technology sectors. In an archetypical MDA P3, the private partner is responsible for preparing a plan to develop a masterplan including multiple properties and often self-performs some or all individual parcels which may include commercial and residential developments, as well as public spaces, public infrastructure and government facilities.

While both archetypical P3 arrangement forms are long-term contracts between a public and private entity in which the private party bears significant risk and management responsibility, and remuneration is linked to performance of the respective assets, they contain several important differences. Table 1 provides an overview of these core differences.

Table 1: Characteristics of Archetypical DBFOM P3 and MDA P3 Arrangements

Characteristic	Definition	DBFOM P3	MDA P3
Deliverable	The kind of asset(s) the project typically delivers	Public infrastructure (e.g., highway, bridge, tunnel)	Private mixed-use commercial real estate development with public improvements
Number of Assets/Uses[1]	The amount of assets the project typically delivers or the uses by which it is characterized	One	More than one
Initial Project Scope	The extent to which the project goals, roles, and responsibilities of each party are defined at the point of financial and commercial close	Fully defined	Defined at a high level, but flexible enough to respond to market

[1] DBFOM P3 tend to have one use, i.e. as a bridge or as a school building often in one asset. MDA P3s usually have more than one use, i.e. affordable housing and a community center. These uses can be located in one or more assets.

Characteristic	Definition	DBFOM P3	MDA P3
Project Phasing	The discrete stages a project typically contains	One phase	One or more phases
Bidder Selection	The criteria the procuring agency predominantly uses to select a preferred bidder	Price and technical approach	Qualifications, technical approach, and potentially price
Proposal Commitments	The components of a bid proposal the private bidder pledges to execute at the point of proposal submission	Project cost, financing, and completion date	Developer cost*
Contract Terms Set	The point at which all contract terms, including technical program, financial compensation, and other elements of a contract are decided.	Before selection of the preferred bidder	Post-bidder negotiation and over the course of the project implementation
Procurement of Project Components Post-Award	The likelihood of procuring a complementary project asset after financial and commercial close	Complicated	Possible
* A first phase of a multi-phase MDA P3 could additionally contain fully committed financing and a completion date			

These core definitional differences inform a more nuanced understanding of each archetypical P3 arrangement across five cross-cutting themes: 1) risk allocation, 2) competitive pressure, 3) flexibility, 4) level of collaboration, and 5) protection of the public interest. While these themes are not necessarily mutually exclusive, how they are addressed in a P3 arrangement has a meaningful impact on the transaction's success. Table 2 provides an overview of these distinctions.

Table 2: Thematic Differences between Archetypical DBFOM P3 and MDA P3 Arrangements

Theme	Archetypical DBFOM P3	Archetypical MDA P3
Risk Allocation	DBFOM P3s define risk allocation in great detail upfront, resulting in explicitly allocating risks to either party and sharing some risks.	MDA P3s define risk allocation in less detail upfront but do so more downstream, resulting in parties implicitly sharing risks not allocated upfront.
Competitive Pressure	The procurement of DBFOM P3s maximizes price-focused competition upfront, as it is based on fully committed bids.	The procurement of MDA P3s does not maximize price-focused competition, but market pressure and benchmarks result in some

Theme	Archetypical DBFOM P3	Archetypical MDA P3
		level of continuous competitive pressure.
Flexibility	DBFOM P3s are not flexible, as the competitive procurement process results in highly optimized and locked-in project financing.	MDA P3s are very flexible, as the initial proposals are not locked-in and they are designed to address changing market conditions.
Level of Collaboration	DBFOM P3s are more contractual but successful DBFOM P3s exhibit good collaboration.	MDA P3s are more of a "joint development" and hence, tend to be more collaborative.
Protection of Public Interest	DBFOM P3s have detailed performance management mechanisms to align the private interest with the public interest.	MDA P3s rely primarily on regulations, zoning, and community engagement to protect the public interest.

Interviews with expert practitioners active in the DBFOM P3 and MDA P3 space, representing public officials and private developers, resulted in some potential cross-model insights across these thematic differences. They include the following:

Risk Allocation

MDA P3s offer enhanced collaboration in risk allocation, allowing real-time adjustments throughout the project lifecycle. This adaptability enables effective management of risks and emerging challenges, such as market fluctuations. DBFOM P3s typically allocate risks more rigidly at procurement, which can lead to difficulties in risk pricing, particularly in volatile markets. However, a trend towards progressive models in DBFOM P3s is introducing more collaborative risk allocation, similar to MDA P3s. Additionally, these two models differ in risk types: MDA P3s often involve substantial commercial risk, while DBFOM P3s with availability payment structures have limited commercial risk exposure. Finally, there's growing evidence that developers are increasingly reluctant to accept DBFOM P3s with commercial risk without extensive mitigation measures.

Competitive Pressure

MDA P3s utilize market forces, phased development, and third-party appraisals to foster competitive pricing, but face challenges with timing discrepancies and appraisal accuracy, potentially impacting value-for-money. Furthermore, the structure of development responsibilities and project phasing significantly influences competitive dynamics in MDA P3s. With respect to DBFOM P3s, while heavily reliant on initial competition, they are currently challenged by economic volatility, leading to increased risk pricing and contingencies. High transaction costs in DBFOM P3s also hinder robust competition. Comparing the models revealed potential cross-model insights, such as separating master developer procurement from project components in MDA P3s and seeking committed pricing for their initial phases, as well as exploring volatility risk mitigation in DBFOM P3s. Finally, the growing popularity of alternative approaches like the PDA model reflects industry efforts to balance competitive pressure with flexibility in uncertain market conditions.

Flexibility

DBFOM P3s provide more defined project scopes and completion dates but may struggle with unforeseen circumstances. With respect to MDA P3s, they offer greater flexibility in compensation structures and project vision development, often at the cost of urgency and date certainty. The comparison of models suggested potential cross-model insights in which DBFOM P3s could benefit from "open book" processes to improve transparency and adaptability.

Collaboration

Hard bid DBFOM P3 procurements focusing excessively on price have resulted in unrealistic bids and conflicts, suggesting mechanisms like joint change funds as potential solutions. With respect to MDA P3s, they tend to prioritize trust-based relationships more than traditional DBFOM P3s, although emerging PDA-style procurements in DBFOM P3s may foster more trust-based partnerships. Regardless of the P3 type, selecting the right partner was deemed crucial, suggesting the potential value of assessing potential partners' collaboration potential during the evaluation process.

Protecting the Public Interest

Safeguarding public interest in both P3 models involves generating net value and meeting public policy goals within expected timeframes and budgets. For MDA P3s, clearly defining desired outcomes at the partnership's outset is crucial due to their extended timeline for project scope definition. With respect to DBFOM P3s, if bidders don't address market uncertainties, they may include significant contingencies in fully-fixed, hard bids, potentially reducing cost-effectiveness, thereby negatively affecting the public interest. Additionally, initial commitments in DBFOM P3s leads to a more stringent procurement process to ensure long-term asset durability, creating tension between public and private entities over performance standards. Despite these differences, both P3 models implement various enforcement mechanisms, with MDA P3s also utilize external checks to protect public interest.

2. Introduction

Since the 1990s, state and local public agencies have utilized public-private partnerships (P3s) to realize public infrastructure projects, spanning transportation, energy, water, social, and technology sectors. The typical P3 model has been the "design-build-finance-operate-maintain (DBFOM) P3", in which the private partner takes on certain responsibilities and risks throughout the project life cycle.

In addition, for decades local governments have sponsored urban development projects, mixed-use developments, and other combinations of infrastructure and real estate projects to revitalize neighborhoods, foster walkable communities, and to realize—and sometimes pay for—critical infrastructure. Frequently, the arrangements governing the development and implementation of these types of projects are also known as P3s or "master development agreement (MDA) P3s". In these arrangements, a master developer is the primary partner to the public agency responsible for preparing the plan to develop one or more properties and often self-performing some or the entire project.

Both DBFOM and MDA P3s involve a substantial transfer of public responsibilities to a private party, they are thus "P3s" at their most basic. However, they are often misunderstood or conflated by practitioners. By clarifying the definitions and differences between these P3 types, this paper tries to help stakeholders to better understand each model and communicate more effectively with one another about these models.

To be sure, DBFOM and MDA P3s focus on different asset classes—a single piece of public infrastructure (e.g., a toll road or bridge) and a mixed-use, private development (e.g., a building with office and residential space), respectively.[2] Comparison of the two models could thus be considered "apples-to-oranges". However, several trends are leading these models to converge, which provide compelling reasons to distinguish the two models for practitioners who may be at the interface of both models.

First, there has been a trend away from the two-step, hard bid procurement process that characterizes the archetypical DBFOM P3 towards a more qualifications-based, jointly developed "Progressive P3" model.[3] The Progressive P3 approach is very similar to the MDA P3, in which the public agency selects its P3 contractor earlier in the project and collaborates closely with them to develop project components incrementally, guided by a "pre-development agreement" (PDA). Therefore, procuring agencies and concessionaires engaged in archetypical DBFOM P3 projects during this industry trend may benefit from understanding MDA P3s.

Additionally, transit-oriented development (TOD), a tool to leverage mass transit to coordinate public and private mixed-use investment and promote "smart growth" strategies, has become increasingly popular with state and local public agencies. TOD can be delivered using MDA P3s, often leasing publicly-owned land around transit stations to master developers to advance environmental and social public goals. At the Federal level, agencies like the Federal Transit Administration (FTA) has given greater weight to TOD projects in making its grant decisions. Furthermore, in recent years the US Department of Transportation expanded the eligibility of the TIFIA and RRIF loan program to include TOD projects, a financing source that was formerly only available for the kind of traditional infrastructure project that a DBFOM P3 would deliver.[4]

[2] DBFOM P3s are also leveraged for the delivery of social infrastructure, like courthouses, schools, and police stations. Nominally, these could be considered "real estate P3s", like an MDA P3, but crucially rely on "availability payment" structures, which are different from the commercial payment structure of MDA P3s.

[3] See: https://www.partnershipsbulletin.com/article/1814363/exclusive-progressive-p3s-%E2%80%9Chere-stay%E2%80%9D

[4] See: https://www.transportation.gov/buildamerica/TIFIA49

Consequently, for TIFIA and RRIF stakeholders—finance officials, procuring agencies, and P3 practitioners—understanding the distinguishing characteristics of DBFOM and MDA P3s may be valuable.

3. Methodology

The data supporting this research was collected from:

- Internal discussions on Rebel's DBFOM P3 and MDA P3 experience working on these transactions and Rebel's knowledge of other such projects in the industry;
- A literature review of discussion papers, articles, and research; and
- Eleven interviews with expert practitioners active in the DBFOM P3 and MDA P3 space, representing public officials and private developers (see Appendix 11.1 Practitioner Interviews).

DBFOM P3s and MDA P3s structure are not monolithic but unique to the respective project in which they are utilized. Therefore, to guide our analysis, we first created archetypical definitions of these two P3 types to control for these permutations and create a foundation for differentiation for what otherwise might be considered an "apples to oranges" comparison. Second, we identified five cross-cutting themes that affect both P3 types: 1) risk allocation, 2) competitive pressure, 3) flexibility, 4) collaboration, and 5) protection of the public interest. While these themes were not necessarily mutually exclusive, we assumed that the extent to which they were "achieved" would have a correlative impact on the successes of a generic P3. Therefore, we believed that if meaningful differences existed between each archetypical P3 arrangement along these themes, they could yield insights and potentially "lessons" for either P3 arrangement. Table 3 lists these themes alongside their definition.

Table 3: Description of Key Themes

Theme	Definition
Risk Allocation	The extent to which P3 contracts identify and allocate all risks across the life cycle of the project upfront.
Competitive Pressure	The extent to which fair market pricing for all commercial elements of the transaction can be ensured, from commercial close to the end date.
Flexibility	The extent to which the P3 arrangements are adaptable and can deal with changing circumstances.
Level of Collaboration	The extent to which the P3 arrangements allow for or even stimulate cooperative behavior between the public and private partner.
Protection of Public Interest	The extent to which the P3 arrangement has mechanisms and procedures to benefit the public, align with societal goals, and not harm the public.

We formed initial working hypotheses for each of these themes after our internal data collection efforts but prior to our literature review and conducting interviews. These hypotheses were tested during our interviews with P3 practitioners, which yielded important insights and project examples that underscored relevant differences or similarities. This informed the structure of this paper, which is divided into sections based on the key themes. Each section includes a guiding question and an overview of the core differences characteristics of the archetypical P3 types, supplemented by points of discussion prompted by our interviews with practitioners that reflect real-world insights about each P3 type, followed by a conclusion with a summary of the thematic differences.

4. Defining DBFOM P3s and MDA P3s

Design-build-finance-operate-maintain (DBFOM) P3s and master development agreement (MDA) P3s, which can generically be termed "infrastructure P3s" and "real estate P3s", respectively, are both long-term contractual arrangements between a public and private entity to provide one or more public and sometimes private assets in which the private party bears significant risk and management responsibility, and remuneration is linked to performance of the asset(s). However, while both arrangements share the "P3" banner and take many forms, when viewed from an archetypical perspective, they are distinct across several criteria (see Table 4). This chapter explores these distinctions, setting the stage for analysis on more subjective terms.

Table 4: Characteristics of Archetypical DBFOM P3 and MDA P3 Arrangements

Characteristic	Definition	DBFOM P3	MDA P3
Deliverable	The kind of asset(s) the project typically delivers	Public infrastructure (e.g., highway, bridge, tunnel)	Private mixed-use commercial real estate development with public improvements
Number of Assets/Uses	The amount of assets the project typically delivers or the uses by which it is characterized	One	More than one
Initial Project Scope	The extent to which the project goals, roles, and responsibilities of each party are defined at the point of financial and commercial close	Fully defined	Defined at a high level, but flexible enough to respond to market
Project Phasing	The discrete stages a project typically contains	One phase	One or more phases
Bidder Selection	The criteria the procuring agency predominantly uses to select a preferred bidder	Price and technical approach	Qualifications, technical approach, and potentially price
Proposal Commitments	The components of a bid proposal the private bidder pledges to execute at the point of proposal submission	Project cost, financing, and completion date	Developer cost*
Contract Terms Set	The point at which all contract terms, including technical program, financial compensation, and other	Before selection of the preferred bidder	Post-bidder negotiation and over the course of the

Characteristic	Definition	DBFOM P3	MDA P3
	elements of a contract are decided.		project implementation
Procurement of Project Components Post-Award	The likelihood of procuring a complementary project asset after financial and commercial close	Complicated	Possible
* A first phase of a multi-phase MDA P3 could additionally contain fully committed financing and a completion date			

4.1 Project Description

4.1.1 DBFOM P3

Under archetypical DBFOM P3s, the private party, known as a "project company" or "concessionaire", designs, constructs, finances, operates, and maintains an asset for public use (e.g., a highway or a courthouse), over which the public agency retains ownership.[5] This asset is fully defined and effectively designed by the bidder to a level requisite for proposer commitment, typically at least 30%,[6] prior to commercial and financial close and is usually completed in a single phase. DBFOM P3s are usually structured around either a "user payment" (e.g., collecting a managed lane toll payment) or a "performance-based payment" by the public agency (commonly known as an "availability payment"). In both arrangements, the concessionaire's return is tied to the asset's performance, incentivizing the delivery of high-quality public goods and services.

In the user payment structure, the concessionaire secures project financing and fully or partially relies on user revenues generated from the infrastructure asset (e.g., tolls) which is at least partially tied to user demand and market conditions.[7] In an availability payment structure, the concessionaire receives payments from the public agency in exchange for building and maintaining the new asset per specified performance standards throughout the concession period, regardless of the asset's revenue performance or level of usage. Box 1 provides a side-by-side comparison of these structures.

[5] In some DBFOM P3 arrangements, the private partner owns the asset during the term of the agreement, but eventually transfers ownership back to the public agency when the term ends, also known as a "build-own-operate-transfer" (BOOT) arrangement.

[6] The public agency may also contribute to this design by providing basic output parameters and other standards that must be followed.

[7] This partiality is due to 1) the government contributions for projects that are not independently financially feasible and 2) the option of revenue risk-sharing mechanisms.

Box 1: Comparison of DBFOM P3 Payment Structures

DBFOM P3 User Payment Example I-66 Express Lanes	DBFOM P3 Availability Payment Example Howard County Courthouse
In an effort to reduce traffic congestion through a densely traveled corridor in Northern Virginia, the Virginia Department of Transportation (VDOT) leveraged a DBFOM P3 to deliver two managed-toll express lanes alongside three general-purpose lanes spanning 22.5 miles. A two-step, hard bid procurement was used to select a concessionaire based predominantly on financial and technical criteria against highly defined project terms. The concessionaire would be responsible for the financing, design, construction, and upkeep of the asset, and would retain the revenue earned from the tolling facility. In return, VDOT received several payments to fund a variety of transportation and transit infrastructure improvements along the I-66 corridor over the 50-year contract term.[8]	Howard County needed a new court facility on a county-owned site and sought alternative financing to transfer risks and ensure timely completion of their new facility. The County decided to utilize a hybrid DBFOM P3 model, in which the private partner, solicited via a two-step procurement process, would design, build, operate, and maintain the project for 30 years following occupancy readiness, while the financing would be split between the public and private parties, combining attractively-priced public financing with more risk-taking private financing. The private partner would be compensated with milestone and availability payments in exchange for routine and lifecycle maintenance that met certain standards.[9]
	
Photo credit: The Washington Post	Photo credit: Edgemoor Infrastructure & Real Estate

4.1.2 MDA P3

Under archetypical MDA P3s, the private party, known as the "master development company" or simply "master developer", leases or buys publicly-owned land to develop and operate multiple uses for private and public purposes (e.g., a mixed-use building adjacent to a transit hub).[10] The master developer either self-performs the entire development of project components—the "horizontal" (e.g., land preparation,

[8] See: https://princewilliamliving.com/the-66-express-outside-the-beltway-a-3-7-billion-multi-modal-mega-project-paid-for-by-private-investment/

[9] See: https://rebelgroup.com/en/projects/howard-county-courthouse-/

[10] While larger real estate developments like Hudson Yards in New York City (see Box 2) or the Wharf in Washington, D.C. are typical "master developments" as previously defined, MDA P3s can also include single-project/single-asset real estate developments developed by private developers on behalf of public agencies. For purposes of this analysis, the archetypical MDA P3 focuses on MDA P3s with multiple assets.

infrastructure, and public spaces) and "vertical" (e.g., building construction)—or subcontracts this work. The project is typically completed in multiple phases lasting ten or more years, so the project profile is defined at a high-level at the onset but remains flexible enough to respond to market conditions over the agreement's term.

In the archetypical MDA P3 in which the master developer leases publicly-owned land, the public agency effectively serves as the "ground landlord", collecting periodic lease payments from the master developer for use of the land, which serves as the major source of revenue for the public agency.[11] Because the master developer's return is largely tied to the performance of the variety of uses and assets (e.g., securing tenancy and rental payments in a mixed-use development), the private partner is incentivized to deliver assets of high quality, which can provide knock-on benefits and positive externalities for the public agency, from securing new property tax streams to generating economic development. Box 2 provides an example of an MDA P3 with ground lease structure.

Box 2: MDA P3 Ground Lease Structure Example

MDA P3 Example

Denver Union Station

Photo credit: RTD Denver

The City of Denver had a vision to turn Denver Union Station, a once-decommissioned rail-yard in lower downtown Denver, into a vibrant, mixed-use area. In 2005, building off of efforts by the City and public

[11] There are other ways that the public agency can be compensated for its property ownership, beyond lease payments. These include 1) sharing net or gross revenues that the developer earns from tenants or 2) various value capture techniques, including special assessment districts and tax increment finance. For the purposes of this analysis, the archetypical MDA P3 will focus on ground lease payments as the primary source of revenue for the public agency.

partners to develop a master plan for the site, RTD, the regional transit authority, launched a two-step procurement to select a master developer to implement that transformation.

Because of the indicative nature of project details, there were no hard bids on price. Instead, the preferred bidder, Union Station Neighborhood Company, was selected based on their qualifications and set to work creating a detailed master plan that was achievable and financially feasible.

The master developer's responsibilities included reconfiguring and redesigning the pre-existing plan, assembling a public finance package of $200 million of local, state, federal, and private developer generated funds and $300 million of Federal loans, including Transportation Finance and Innovation Act (TIFIA) and Railroad Rehabilitation and Improvement Finance (RRIF) program loans, tendering the construction of the public infrastructure to a design and construction team via a design-build approach in 2009,[12] purchasing and developing six on-site parcels to ensure the success of the project, and shepherding the project through community engagement and the entitlements process.

Completed in 2014, the final project included $500 million in public investment to create a "regional multimodal transit district" on 19.5 acres of land—commuter rail, light rail, and regional bus facilities maintained and operated by the local transit agency and 10 acres of urban plazas and open space. It is surrounded by 1.5 million square feet of private transit-oriented development, including a mix of residential, retail, and office space valued, at more than $3.5 billion.[13]

4.2 Project Development and Procurement

4.2.1 DBFOM P3

The archetypical DBFOM P3s follows a two-step, hard bid procurement process. "Two-step" refers to the two distinct rounds of competition. First, the public agency selects a shortlist of several bidders during a request for qualifications ("RFQ") stage solely based on qualifications. Second, the shortlisted bidders compete during a request for proposals ("RFP") stage based on their technical and financial proposals. The public agency selects the "preferred bidder" based on clearly defined evaluation criteria.

The "hard bid" procurement method refers to the "fixed" nature of the project and the clearly defined evaluation criteria. The contract terms which govern the partnership and scope of the project profile—its technical requirements, performance specifications, payment mechanism, project components, design limitations, public objectives, etc.—are specified by the public agency. In addition to conforming to these fixed terms, proposals contain date-certain, "committed" financial offers, in which the necessary project financing is secured and legally committed by lenders or investors at the time of bid submission (subject to final due diligence and internal approval). For these reasons, the concessionaire faces significant challenges in subcontracting additional project components, as these are typically pre-defined in the original scope and would necessitate complex financial restructuring, barring substantial changes to the project transaction terms.

[12] Design-build is considered a P3 approach, combining design and construction phases in a single contract, enabling collaboration between the two disciplines. The terms are well-defined upfront.

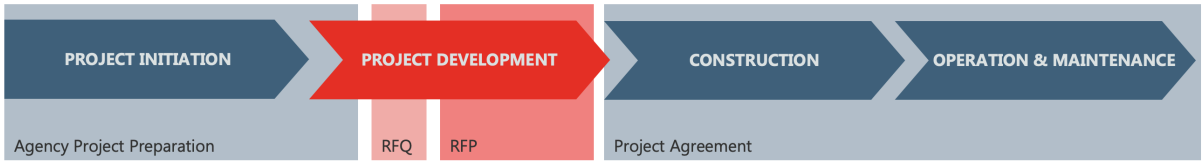
[13] See: https://www.rtd-denver.com/about-rtd/projects/denver-union-station

As described in Box 3, in recent years there has been a movement away from the traditional two-step, hard bid procurement approach of the archetypical DBFOM P3 that emphasizes competition, to a "Progressive P3 model" or towards a "Pre-Development Agreement (PDA)" model that places greater emphasis on collaboration and has some similarities to a typical MDA P3 structure.

Box 3: A Move Towards The Progressive P3 Model

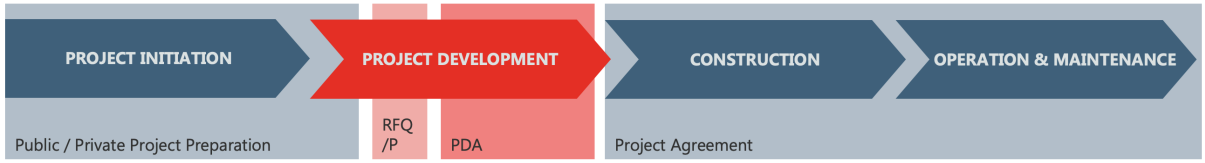
In many markets, DBFOM P3 procurements have normally followed a "two-step" request for qualification ("RFQ") and request for proposals ("RFP") process, culminating in the submission of a fully committed "hard bid". Such a process (see Figure 1) was generally thought to result in the project being awarded to a price-competitive bidder with a strong track record.

Figure 1: Two-step, Hard Bid DBFOM P3 Process



For many reasons that have led to more risk and uncertainty in these deals, such as the high cost of proposal development and external market dynamics like supply chain difficulties and volatility in commodity pricing and construction markets, bidders are more hesitant to engage in a hard bid procurement process.[14] As an alternative, there is growing support among practitioners to move towards a "Progressive P3 model," in which the procuring agency selects a private partner primarily based on qualifications and potential concept designs (see Figure 2). Both parties then enter into a pre-development agreement (PDA),[15] which enables the private partner to collaborate closely with the procuring agency to finalize detailed project design, estimate costs, and allocate risks transparently in an "open-book" process.[16] A PDA typically also grants the private party the first right to enter into the DBFOM project agreement and implement the project should it proceed. Design progresses to at least 30% completion or until a price is agreed upon, after which contracts are finalized and financial close is attained.[17]

Figure 2: Progressive P3/PDA P3 Process



[14] Squire, Patton, Boggs. *Public-Private Partnerships in 2023's Economic Environment.* Accessed via: https://www.lexology.com/library/detail.aspx?g=fb9e0947-ce13-41bc-88ea-5ebfd3e7b745, April 24, 2024

[15] PDAs can also take the form of an "exclusive negotiating agreement" (ENA) or an "interim agreement".

[16] "Open-book" processes are those that involve increased financial transparency (e.g., a bidder submits a dynamic financial model, instead of a static price sheet).

[17] Dugan, Brian. *Improving P3 Procurement Through a Progressive Model.* Accessed via: https://www.edgemoor.com/post/improving-procurement-through-a-progressive-model

4.2.2 MDA P3

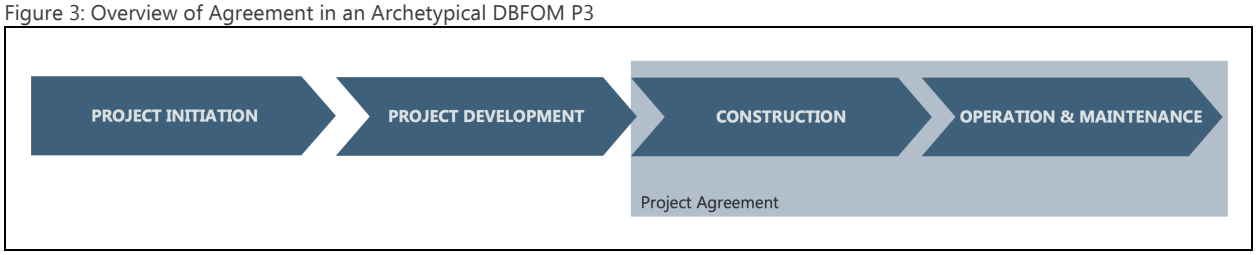
In an archetypical MDA P3, procurement follows either a one-step (RFP) process or a two-step (RFQ/RFP) process, depending on the size and complexity of the project. Unlike the archetypical DBFOM P3, the public and private parties enter into a pre-development agreement at an earlier stage of the project readiness continuum. Together, both parties jointly draft the project's scope and negotiate open-ended contract terms (which typically outline project timing, how the public and private partners will work together, termination clauses, etc.) and transaction structure, akin to the progressive P3 model discussed in "Box 3: A Move Towards The Progressive P3 Model". Therefore, submitted bids often contain schematic, high-level designs with financial proposals without full commitment that are designed to "develop themselves" in response to market conditions over the agreement term. The procuring agency places greater evaluative weight on the competitor's qualifications when selecting a bidder to engage in this process. Because of the indicative project scope, the master developer may sub-procure additional project components in the future. Further, the entitlement process (i.e., securing construction permits, zoning variances, etc.) is a crucial aspect of project development, which occurs after commercial and financial close but prior to construction.

4.3 Project Governance

4.3.1 DBFOM P3

In an archetypical DBFOM P3, a single, comprehensive "project agreement" contract governs the relationship between the public agency and the concessionaire (see Figure 3). The concessionaire typically subcontracts design, construction, [18] operations, and maintenance duties to subcontractors. The concessionaire will also sign financing agreements with lenders and equity investors. In addition to the project agreement, a contractual relationship between the lenders and the public agency is established. This "direct agreement" ensures that the lenders have specific rights and protections, particularly if the concessionaire fails to meet its obligations. It typically grants lenders "step-in" rights, allowing them to intervene and take over the project's operation or management to protect their financial interests. Direct agreements are crucial for securing financing, as they provide lenders with confidence that their investments are safeguarded against potential project defaults or other risks.

Figure 3: Overview of Agreement in an Archetypical DBFOM P3



4.3.2 MDA P3

In the archetypical MDA P3, multiple agreements govern the relationship between the public agency and the master developer (see Figure 4). The "master development agreement" (MDA) is executed following selection of the master developer upon commercial close. After entitlements are secured, both parties

[18] Often called "EPC", or engineering, procurement, and construction subcontractors.

execute a ground lease, allowing for construction to begin. If the master developer chooses to tender project components or individual parcels, it may sign several lease agreements with affiliates or third parties. These relationships, anticipated in the MDA, are similar to the "severable" lease structure discussed in "Box 2: MDA P3 Ground Lease Structure Example". Additionally, if the master developer is responsible for delivering critical infrastructure to support the development, such as roads and utilities, then the public agency and the master developer may sign a separate infrastructure agreement.

Figure 4: Overview of Agreements in an Archetypical MDA P3

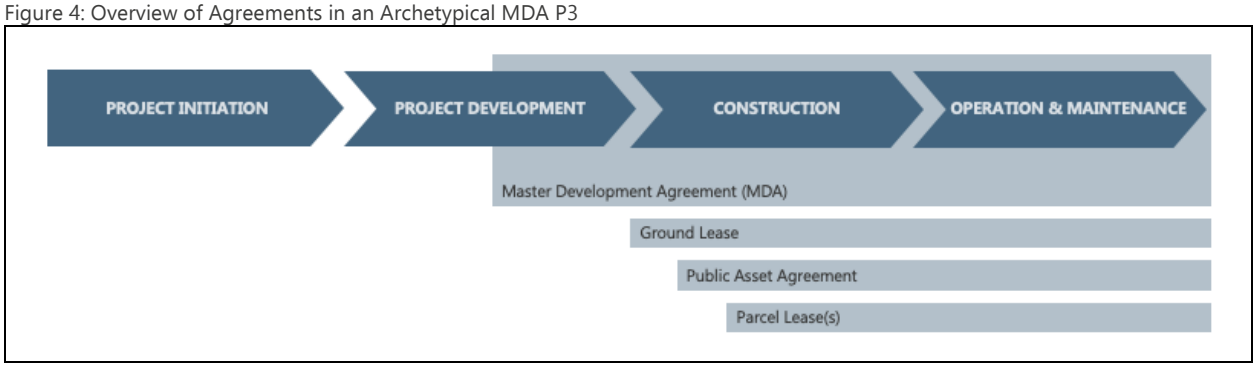


Table 5 summarizes the key differences between the contracts that govern the relationship between the public agency and private party in the archetypical DBFOM P3 and MDA P3.

Table 5: Contracts in an Archetypical DBFOM P3 and MDA P3

Contract	Summary
Project Agreement (DBFOM P3)	A comprehensive agreement between the public agency and concessionaire. It defines the infrastructure asset scope and specifies the technical requirements and performance standards it must meet, including performance deductions and other liquidated damages. The agreement allocates risks between the parties and governs all aspects of design, construction, financing, operations, and maintenance. It also outlines the delivery timeline, term length, and hand-back requirements, as well as payment mechanisms for the concessionaire.
Direct Agreement (DBFOM P3)	A contract that facilitates a direct relationship between the project's lenders and the public agency. This agreement outlines the rights and obligations of the lenders, the public agency, and the concessionaire involved in the P3. Key provisions often include step-in rights for lenders, which allow them to intervene in the project prior to exercise of the public agency's rights under the project agreement if the private party defaults or fails to fulfill its contractual duties. The direct agreement aims to mitigate risks for lenders by providing mechanisms to ensure the continuation and stability of the project, thereby enhancing the project's overall bankability and financial security.[19]
Master Development Agreement	A framework agreement between the public agency and master developer that outlines the overall development plan and phasing. It covers the obligations of the developer (securing entitlements, financing, construction schedule, etc.) and the public agency (land provision, infrastructure support, etc.). General risk

[19] Some MDA P3s utilize a direct agreement approach or a similar agreement with lenders.

Contract	Summary
(MDA P3)	allocations are established. The agreement sets conditions for executing future parcel-specific agreements.
Ground Lease (MDA P3)	Executed for the entire development parcel, the public agency leases the land to the master developer for a period generally up to 99 years. It specifies permitted uses, design guidelines, lease tenure, lease payments, and any conditions for transfer or subleasing of the parcel.
Public Asset Agreements (MDA P3)	These agreements govern the delivery of non-commercial/residential aspects of a master development, which typically fall into three categories: 1) public infrastructure (e.g., roads and utilities), 2) public spaces (e.g., parks), and 3) public facilities (e.g., transit stations and police stations). A single MDA P3 can include multiple agreements of this nature—typically a design-build (DB) or design-bid-build (DBB). They define the infrastructure scope and technical specification. These agreements also cover design, construction and completion requirements, payment terms (milestones, credits, public funding sources), and the process for ownership transfer and acceptance of the infrastructure by the public agency.

5. Risk Allocation

What are the key ways the project delivery mechanisms differ in how they allocate risk?

Risk allocation entails identifying risks and determining how to and which party should manage them. This can involve distributing all of a risk to one party or sharing it between them. The control and reduction of risk help drive a project's success, and is, therefore, a crucial project element. The two-step, hard bid traditional DBFOM P3 model defines risk allocation in detail upfront, whereas life cycle risks in the archetypical MDA P3 are not allocated in detail upfront and are shared between public and private parties, usually implicitly.

5.1 Main Differences

Risk allocation is central to the success of DBFOM P3s. For the public agency, efficient allocation and transfer of risks it is not well-placed to manage, such as cost overruns during project construction, enable it to achieve a project with greater value-for-money. For the private party, efficient risk allocation helps ensure a financeable project with an attractive risk-return ratio.

The process for structuring the DBFOM P3 project agreement, therefore, focuses heavily on identifying, assessing, and allocating risks. During the DBFOM P3 project appraisal process, project teams begin to seriously identify risks, collating them into a risk register and then assessing them qualitatively and/or quantitatively to determine their potential impact. Where possible, project teams seek to mitigate risks before contract structuring (e.g., through a change in project scope or delivery date). At the point of contract structuring, risks inherent to the scope of the contract (i.e., obligations and performance requirements) and related to the financial structure and economic rights associated with the asset (i.e., ability to charge users or receive an availability payment) are generally transferred to the private party unless the risk assessment determines otherwise.

The DBFOM P3 contract also details how to handle circumstances that negatively impact the concessionaire's ability to perform its obligations within the originally projected time and/or cost. These are known as "supervening events" and may be beyond the control of the concessionaire; others may be best managed by the public agency. Supervening events can result in some type of relief for the concessionaire (see Box 4) and eventually lead to early termination of the contract. These types of supervening events largely define the risk allocation in P3 contracts.

Box 4: Defining Supervening Events

The DBFOM P3 industry categorizes supervening events into three categories:

- **Compensation Events:** events for which the public agency takes the risk. The public agency pays compensation to the private partner and gives any other form of contractual relief required to leave the private partner in the position that it was in before the respective compensation event occurred ("no better, no worse").
- **Relief Events:** events for which the private partner is expected to take financial risk but is given relief from other consequences of non-performance that such events cause.[20] These are, by nature, events that are either insurable or not expected to continue for many days.

[20] Often called delay events when they occur during the construction phase.

- **Force Majeure Events:** events beyond the control of the parties and that render the performance of all, or a material part, of one party's obligations impossible. The definition often focuses on events that are outside of the control of either party and/or are catastrophic in nature. Each party will typically bear its own consequences of a force majeure event.

The relief provided in the DBFOM P3 contract is typically as follows:

	Schedule relief: Private party may take extra time to meet certain milestones	**Performance/breach relief:** Private party not penalized for not meeting performance requirements	**Cost compensation:** Private party is compensated for extra costs	**Delay / financing cost compensation:** Private party compensated for extra financing costs	**Termination right:** Private party has right to terminate contract
Compensation event	•	•	•	•	
Relief event	•	•			
Force Majeure event	•	•		(•)	•

(•) = relief is sometimes provided

Unlike DBFOM P3s, MDA P3s do not allocate risks as comprehensively at the start of the contractual relationship between public and private parties. This is because at the point in time the MDA P3 agreement—which provides the overarching framework for the development project—is executed, the ground lease(s), which specifically address(es) the rights and responsibilities related to the use and development of the land, are generally not yet executed (see Figure 4). Thus, many risks often covered in the ground lease, e.g., land value, market risk, escalation, and interest rates, are not yet exclusively the responsibility of one of the partners. Further, MDA P3 agreements can vary in their level of detail and as a result, the comprehensiveness of risk allocation. For example, while an MDA may refer to force majeure or an "unforeseeable event," the language is not as robust or developed as is seen in a DBFOM P3 (see Box 5).

Box 5: Force Majeure in DBFOM P3s and MDAs

It is standard practice to have a strong force majeure clause in DBFOM P3s. Originally a civil law concept, force majeure is widely used in commercial contracts, including in common law countries, and provides the affected party with relief from its obligations.[21] An example definition of Force Majeure Event from a model DBFOM P3 user payment contract is provided below:[22]

Force Majeure Event *means the occurrence after the date of this [Concession Agreement] of:*

[21] Paul, Christina Jutta; Crothers, John D.; Grandguillaume, Victor; Littot, Barthelemy. Report on recommended PPP contractual provisions (English). Washington, D.C. : World Bank Group. http://documents.worldbank.org/curated/en/617461468126281480/Report-on-recommended-PPP-contractual-provisions

[22] "Model Public-Private Partnerships Core Toll Concessions Contract Guide". U.S. Department of Transportation Federal Highway Administration. Published September 2014. See: https://www.fhwa.dot.gov/ipd/pdfs/p3/model_p3_core_toll_concessions.pdf

(a) war, civil war, invasion, violent act of foreign enemy or armed conflict;

(b) any act of terrorism or sabotage;

(c) nuclear, chemical or biological contamination unless the source or cause of the contamination is brought to or near the [Site] by [Developer] or its [Key Contractors] pr is as a result of any breach by [Developer] of the terms of this [Concession Agreement]; or

(d) riot or civil commotion on or in the immediate vicinity of the [Project].

As presented in Box 4: Defining Supervening Events, relief related to force majeure in DBFOM P3s usually takes the form of schedule relief, performance/breach relief, and sometimes, financing cost relief. In recognition of the general inability of the private party to protect itself financially against the occurrence of force majeure events through insurance, as well as the potential for force majeure events to cause substantial damage to the project and its long-term economic viability, a DBFOM P3 contract generally also includes an additional right of either party to terminate the project agreement if a force majeure event persists for an extended amount of time. An example provision permitting termination for an extended force majeure event from a model DBFOM P3 user payment contract is provided below:[23]

If one or more [Force Majeure Events] occurring after the [Financial Close Date] results in the [Project] being substantially unavailable for public use or the suspension or substantial reduction of toll collections for a period in excess of (i) [X] consecutive days or (ii) [Y] days in the aggregate within any [Z]-day period, then:

(a) the [Developer] may elect to terminate this [Concession Agreement] unless the [Department] elects, within [X] days following receipt of the [Developer]'s written notice of election to terminate, to treat such [Force Majeure Event] as a [Compensation Event]; and

(b) the [Department] may elect to terminate this [Concession Agreement] unless the [Developer] elects, within [X] days following such [Force Majeure Event], to restore any resulting damage or destruction at the [Developer]'s sole cost and expense and furnishes a restoration plan acceptable to the [Department] with respect to such damage or destruction, provided, however, in each case, that if this [Concession Agreement] is terminated, the [Department] will pay to the [Developer] the [Force Majeure Termination Sum].

In many MDAs the concept of force majeure is often but not always present in these agreements, though not always included.[24] Often, when present, force majeure clauses in MDAs are linked to providing "schedule relief." This makes sense as at the core of the development agreement is the opportunity/obligation for the master developer to achieve pre-development activities within a certain time frame. The force majeure article from an MDA showcases this:[25]

[23] "Model Public-Private Partnerships Core Toll Concessions Contract Guide". U.S. Department of Transportation Federal Highway Administration. Published September 2014. See: https://www.fhwa.dot.gov/ipd/pdfs/p3/model_p3_core_toll_concessions.pdf

[24] A review of 17 development agreements mostly found on the FHWA's Center for Innovative Finance Support "Development Agreements/Community Benefit Agreements Resources" webpage showed that eleven explicitly mentioned force majeure, two mentioned concepts, e.g., "act of war" often included as part of force majeure, and four did not mention force majeure or related concepts at all.

[25] Land Disposition and Development Agreement by and between the District of Columbia and Broadcast Residential Partners, LLC and Broadcast Center Partners, LLC for the Sale and Development of Parcel 33 – Square 44, Lot 854, Washington D.C., January 24, 2008.

> *Neither the District nor Developer, as the case may be, nor any successor-in-interest, shall be considered in breach of, or default in, its obligations with respect to the preparation of the Property for development, conveyance of the Property or the beginning and completion of construction of the Improvements, or progress in respect thereto, in the event of forced delay in the performance of such obligations due to force majeure.* ***It is the purpose and intent of this provision that in the event of the occurrence of any such force majeure event, the time or times for performance of the obligations of the District or of Developer shall be extended for the period of the force majeure.*** [Bold added by authors].[26]

5.2 Practitioner Insights

Risk identification and allocation is important and exhaustive in both MDA P3s and DBFOM P3s as a way to achieve a project with value-for-money. While at the outset, it was taken as a given that DBFOM P3s undergo exhaustive risk identification and allocation, practitioners active in the MDA field opined that risk-sharing is equally important and exhaustive in MDA P3s. Practitioners noted that in the context of developing MDA P3s, the public agency generally wants to bear as little risk as possible, but identifying and bearing some of the risk will enable the project—"to achieve the greatest benefit [...] putting the public sector in a better eventual outcome".[27]

In general, at the start of the contractual relationship between the public and private parties, the DBFOM P3 will detail risks and their allocation more so than the MDA P3. Practitioners noted that this does not mean the MDA P3 fails to identify and allocate all risks— "there is a pretty strong attempt upfront to define the risks," but "rarely does it end up exactly [as originally defined] ... because there is so much that is unknown."[28] Due to its generally longer term, the MDA P3 naturally undergoes an evolution of risk allocation, especially in multi-phased projects, where the exact scope and associated costs and revenues of the later phases are unlikely to be known. Conversely, the DBFOM P3 locks costs and financing at the point of the project agreement; therefore, deviation from the agreed financial plan that would occur if risks materialized needs to be specified. Practitioners noted that the MDA P3 ultimately defines risks in detail, "it's just a matter of when," which typically occurs downstream of the project; this affords MDA P3s the ability to address risks in real-time.[29] One practitioner mentioned that because partners pay close attention to risk pricing and contingencies in MDA P3s, risk allocation evolves as circumstances change.

Figure 5 and

Figure 6 illustrate the timing at which all risks are allocated in archetypical DBFOM P3s and MDA P3s respectively. The DBFOM P3 has generally allocated 100% of risk by signing of project agreement, whereas in the MDA P3 risks are more incrementally assigned as key agreements are signed.

[26] Land Disposition and Development Agreement by and between the District of Columbia and Broadcast Residential Partners, LLC and Broadcast Center Partners, LLC for the Sale and Development of Parcel 33 – Square 44, Lot 854, Washington D.C., January 24, 2008.

[27] Interview with Tim Eachus and Matthew Troy, The Craddock Group. Conducted on March 14, 2024.

[28] Interview with Daniel McCahan, Madison Marquette. Conducted on March 21, 2024.

[29] Interview with Corey Boock, Nossaman LLP. Conducted on April 4, 2024.

Figure 5: Timing of Risk Allocation in DBFOM P3

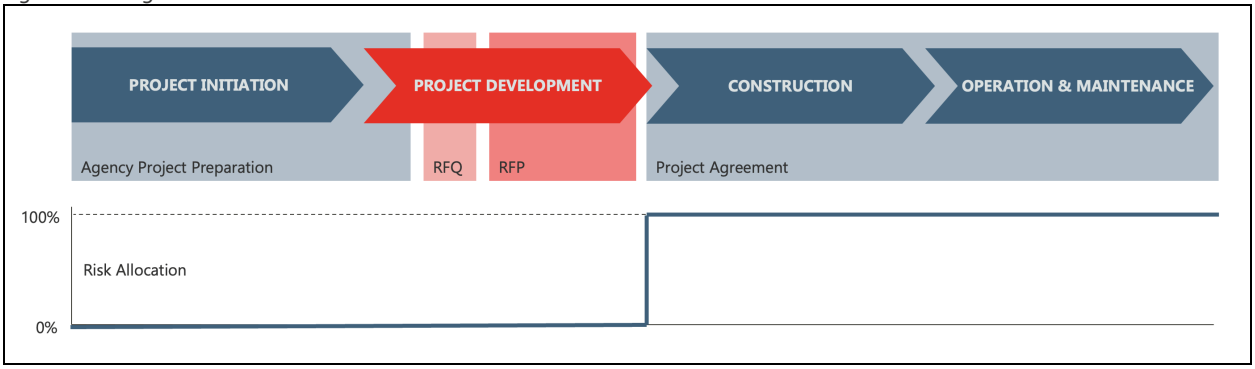
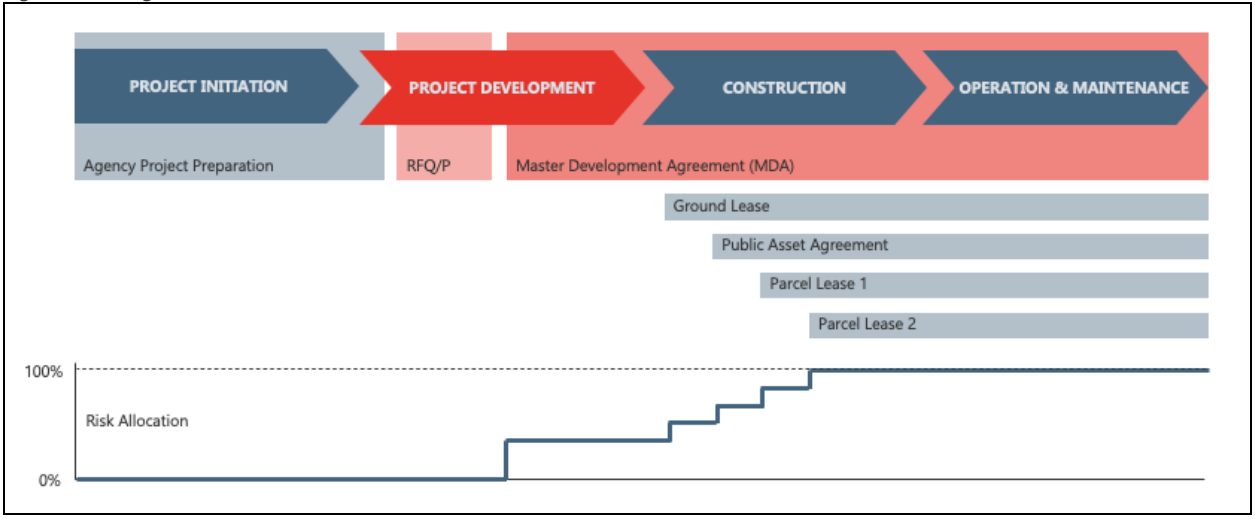


Figure 6: Timing of Risk Allocation in MDA P3



Further, practitioners noted that fixed risk allocation at procurement, a feature in the two-step, hard bid DBFOM P3, might not always lead parties to the best possible project outcome. In today's market of high inflation, high construction costs, supply chain issues, etc., DBFOM P3 bidders have had a hard time pricing all risks at procurement and as a result, will price in more contingencies. Thus, the recent trend of DBFOM P3s towards the use of more risk-sharing mechanisms or a more progressive P3 model (defined in "Box 3: A Move Towards The Progressive P3 Model")—which allows more collaboration between private and public parties in defining the project and risk allocation and has more similarities to the MDA P3 process—may lead to better outcomes.

In addition to varied timing of risk allocation, different risks can feature more prevalently in MDA and DBFOM P3s driven by the nature of the projects themselves. For example, commercial risks are a type of risk, where there can be differences between MDA and DBFOM P3s, depending on the type of DBFOM P3 structure proposed (i.e., availability payment vs. user pays). Often, a significant portion of an MDA P3 is exposed to "market risk," that is the risk that the initially proposed development (e.g., office space or residential real estate) does not meet the needs of the market and thus prevents developers from achieving their required returns. Thus, for the MDA P3, market risk is something that is evaluated, mitigated, and allocated in real time prior to signing the ground lease. Depending on the type of asset and corresponding service being delivered in the DBFOM P3, the project may not necessarily take on significant

or any commercial risk. If the DBFOM P3 project uses an availability payment structure, in which upon completion of the asset and delivery of the service according to performance requirements, the private party receives a pre-agreed payment, then the private party faces very little or no commercial (i.e., demand) risk. If the DBFOM P3 project involves user fees or private party revenues, such as from managed lanes tolls or airport tenants, then the concessionaire is taking on considerable commercial risk. Through extensive market demand studies, such as traffic and revenue (T&R) forecasts, concessionaires, the concessionaire's investor partners, and lenders become comfortable with these projections, often involving "downside cases" often resulting in overcollateralizing available cash flow to ensure that the project can meet debt service requirements in most scenarios. However, at least for managed lanes, a number of concessionaires have recently shied away from taking on such risks since relying on T&R forecasts has been increasingly difficult with the rise of electric vehicles, hybrid work patterns, and the rise of online retail, among other factors.

5.3 Conclusions

Both project delivery mechanisms ultimately identify and allocate all risks, albeit at different points in the contractual relationship. While DBFOM P3s detail risks and allocation more upfront, MDA P3s also undergo exhaustive risk identification and allocation, although typically downstream of the project's commencement in a more incremental fashion, meaning that public and private parties implicitly share those risks until they are explicitly allocated.

MDA P3s afford greater collaboration in the risk allocation process, which lends itself to enabling real-time adjustments as circumstances change during the project's life cycle. This flexibility enables stakeholders to address risks and emerging challenges (e.g., changes in market conditions) effectively. In DBFOM P3s, risk allocation occurs more fixedly at procurement, potentially leading to challenges in accurately pricing risks, especially in volatile market conditions; however, the recent trend towards the progressive model in DBFOM P3s allows for more collaboration between public and private parties, resembling the MDA P3 process.

Further, MDA P3s and DBFOM P3s exhibit differences in the prevalence and nature of certain risks. For example, MDA P3s often involve significant commercial risk, while DBFOM P3s with availability payment structures have limited commercial risk exposure. There is some evidence that developers are increasingly unwilling to accept DBFOM P3s with commercial risk, without extensive risk mitigation measures.

6. Competitive Pressure

How do the project delivery mechanisms differ in their capacity to maintain competitive pressure on the private party?

Competitive pressure in P3s refers to a project's ability to ensure fair market pricing for all financial elements of the transaction, from procurement to project completion. While both arrangement types start with competitive procurements, MDA P3s are more open to negotiations.

6.1 Main Differences

The archetypical DBFOM P3 maximizes price-focused competitive pressure. Total competitive pressure on whole lifecycle costing and risk valuation is achieved in the archetypical DBFOM P3 that utilizes a two-step, hard bid procurement, as bidders provide committed bids on fixed scopes (see Box 6 for an example of robust competitive pressure in a DBFOM P3 procurement). However, after financial close, there is no real competitive tension nor competition, meaning that other mechanisms like benchmarking, the use of an independent engineer, or a dispute resolution process may needed to ensure competitive pricing of supervening events and contract changes.

Box 6: Successful Competitive Pressure Implementation in a DBFOM P3

Howard County Courthouse DBFOM P3 (Columbia, MD): Successfully maximizing competitive pressure in an archetypical DBFOM P3 is often more of an art than a science. However, generally speaking, there are some important criteria that stimulate "successful competition" during a procurement: impactful marketing of the opportunity (typically via an RFI or and "industry day"), a high degree of communication between the procuring agency and bidders, shortlisting of qualified bidding teams, an adequately long procuring timeline, and an extensive yet efficient evaluation process, culminating in a robust number of complete, committed bids, ideally typically at least three.

The example of the Howard County Courthouse DBFOM P3 (see Box 1: Comparison of DBFOM P3 Payment Structures for background) illustrates the confluence of these criteria, resulting in a competitive procurement. To solicit its preferred partner for its long-needed new court facility, to be delivered via a hybrid DBFOM P3 model, the County led a competitive, 11 month-long procurement, with the following key features to generate competitive pressure:

- **Successful marketing:** The County initiated the procurement process with an "Industry Day" to market the project and demonstrate that the County a) understands what it is doing, b) is committed to implementing the project, and c) has a clear plan. The County then issued an RFQ, yielding nine interested bidders, demonstrating significant interest from the market. The County then shortlisted the three bidding teams that were best qualified, who were then invited to respond to an RFP, which yielded three complete, fully committed proposals.
- **Commencing the RFP stage with a reasonable, marketable and financeable project agreement:** By making a strong effort to present a reasonable set of contract documents from the beginning, the County empowered bidders to focus on material issues and optimize their bids, instead spending significant time, effort, and resources on renegotiating an unreasonable project agreement.

- **Transparent dialogue with shortlisted bidders:** The County initiated the RFP process with individual introductory meetings for bidders, followed by three rounds of one-on-one discussions over four months to discuss risk allocation and value-for-money opportunities. This approach, while deviating from typical County procurement practices, was appreciated by bidders, as it allowed them to bring up their suggestions to enhance the project agreement and better understand the County's goals and objectives, both of which engendered stronger and more competitive bids.
- **Predictable and clear evaluation methodology:** The County developed robust and explicit evaluation criteria and an evaluation method, distinguishing technical and financial criteria, with a clear formula for evaluating the financial proposal and with robust descriptions of the technical criteria, allowing the bidders to understand what was most important to the County and compete on that. Compare this to vague evaluation criteria and an unpredictable evaluation method, which disempowers competition as bidders are less likely to know what to optimize their bids on.

Photo credit: HOK

The indicative pricing approach of MDA P3 proposals limits price-focused competitive pressure. Conversely, the archetypical MDA P3 witnesses a reduced level of competitive tension. Submitted bids contain schematic designs with financial proposals without full or near commitment—i.e., a bid is designed to "develop itself" in response to market conditions over the agreement term—due to project uncertainty. As such, a bidder's financial offer does not necessarily reflect the market value(s) of the property(ies) and/or the true cost of developing the project(s) on the respective site, and a truly fair price is therefore not guaranteed in the master developer procurement. Because of the lack of fixed terms in the archetypical MDA P3 procurement, however, price negotiations are common after financial close and throughout the project term, often in response to market changes, which can have mixed effects on fairly pricing the project.

6.2 Practitioner Insights

Appraisals can help MDA P3s stimulate competitive pricing. Because MDA P3s are comprised of primarily non-public, commercial real estate assets with a variety of uses, their openness to negotiations is

balanced to some extent by market forces, thereby "naturally" regulating how high construction costs can be. In this regard, the public agency can utilize price benchmarks, like third-party appraisals and market studies, to "keep the private partner honest", determine fair market price for asset(s) in question, and arrive at a degree of competitiveness. In other words, MDA P3s, drawing upon commercial and residential real estate development devices, have the ability to "more accurately obtain real pricing on the actual project to make real time decisions more nimbly"[30] in a way that is less available for the infrastructure, public facilities, and public spaces components of the MDA P3, just like an archetypical DBFOM P3, in which the "market" consists of the competition to win the concession and prices and risks are locked-in at the outset.

However, timing and appraisal challenges can create "friction" that can have a negative impact on the revenues available for the public facilities, infrastructure, and public spaces, as well as the public agency. Practitioners pointed out that if the development is competing with the market, it does not imply that the public agency in an MDA P3 is getting the best value-for-money, as public agencies "sharing" in the revenues generated by the master developer may not necessarily be sharing in the revenue generated by the parcel developer. There are several reasons for this: 1) the development of a parcel in a master development may occur several years after the master developer is chosen, so that market conditions may have changed substantially from the time of the MDA competition with the master developer potentially gaining a "windfall" if the market improves in their favor; and 2) to overcome this, public agencies often utilize appraisers in valuing land when it is sold or leased several years from signing of the MDA. When there is an active market with numerous "comparables" and robust price discovery, appraisers are able to deliver more accurate valuations. Even in those conditions they are making reasonable assumptions about what the price to which a willing buyer and willing seller will agree, but ultimately, they cannot replace the marketplace.

Self-performance of responsibilities in an MDA P3 project can lessen competitive pressure. Practitioners pointed to the challenge of the master developer—or subcontractor(s) selected without a competitive process—wanting to self-perform all individual parcels and/or public infrastructure, thereby limiting the full potential of competitive pressure. To inject more competitive tension into the master development, public agencies could subject the delivery of non-commercial/residential aspects to a competitive bidding process, which might include 1) public infrastructure (e.g., roads and utilities), 2) public spaces (e.g., parks), and 3) public facilities (e.g., transit stations and police stations).

Similarly, public agencies can leverage the precision of the initial stage of an MDA P3 project to realize additional project commitments from bidders and therefore more price-focused competition. If the first phase or parcel of a multi-phased/multi-parcel MDA P3 project can be fully defined, much like the entire project of an archetypical DBFOM P3, then more price-focused competition can be stimulated by demanding commitments to certain financial terms, whereas the pricing and lease for other phases can be agreed upon later.

There are few comparable pricing benchmarks for typical DBFOM P3 project assets. However, practitioners did cite the use of comparable cost and discounted cashflow methods as benchmarks public agencies can use. This reinforces the importance of upfront competition in DBFOM P3s. One practitioner captured this distinction between the two P3 arrangements, saying "in DBFOM P3s, the infrastructure pieces are singular, and you want all of that tension up front when you still have market competition in play...

[30] Interview with John Smolen, Ballard Spahr LLP. Conducted on March 12, 2024.

[whereas] in MDA P3s, there is always a market alternative. What keeps pressure on the deal isn't the tension inside the P3, but the market tension that goes into the supply-demand economics of that."[31]

Capturing the "best value" in a project is not a given in DBFOM P3s, especially in an increasingly unpredictable market. As discussed, a two-step, hard bid procurement can successfully achieve complete competitive pressure and the theoretical "best price". However, this does not imply the public agency is getting the "best value". There was a perception among practitioners that some best value evaluation criteria are being skewed by public agencies tending towards lowest bids, with one practitioner sharing "it's not as if sponsors are always selecting their partner based on the best value; unfortunately, they often select on the lowest price."[32] Moreover, practitioners pointed to increased market uncertainty characterized by high interest rates, construction inflation, and volatile commodity pricing in recent years that has made risk pricing more difficult and led to more provisions for unforeseen circumstances, which diminishes the ability to achieve "best value" – and can be a recipe for deal breakdown.[33] In the words of one practitioner, "it is unlikely that committing to a budget and financing early (at the end of the competitive procurement) will provide the best value for the client, especially in a volatile market. In that case, proposers will be pricing the project early in the design, asking subcontractors to commit to pricing well ahead of them performing the work, and attempting to mitigate numerous other uncertainties such as the future financial market, construction price escalation, commodities pricing and availability, etc. All of this uncertainty leads to more contingencies."[34]

High transaction costs also contribute to the strain on competition in hard bid DBFOM P3s. Due to the hard bid procurement, bidding teams must put together comprehensive technical and financial proposals. Because of the level of financial and technical commitments therein, the designs must be very advanced, and the financing needs to be fully developed. This results in "pursuit costs" in the order of $3M to $5M per bidding team.[35] Considering this high opportunity cost of a committed bid in a market contending with volatility, the incentivization for the private party to participate in a two-step, hard bid procurement is less compelling, diminishing the opportunity for robust competition, until circumstances change for the better, e.g., "until interest rates start dropping toward zero."[36]

DBFOM P3s that cooperatively shape a project's pricing and technical solution, like MDA P3s, can potentially address these challenges. This observation reflects the growing popularity of the PDA-approach which aims to attract more submissions by allowing bidders to submit proposals without committing to fixed dates or prices, thereby reducing their upfront development costs and financial risks and enabling a more dynamic, actively managed partnership, which can potentially lead to better outcomes.

[31] Interview with Tim Eachus and Matthew Troy, The Craddock Group. Conducted on March 14, 2024.

[32] Interview with Brian Dugan, Edgemoor Infrastructure & Real Estate. Conducted on March 15, 2024.

[33] This could potentially be remedied by the institution of mechanisms during procurement that protect the preferred bidder against risks and uncertainties that cannot be efficiently priced upfront—such as construction cost, commodity pricing, and labor supply volatility—between bid submission and financial close.

[34] Interview with Brian Dugan, Edgemoor Infrastructure & Real Estate. Conducted on March 15, 2024.

[35] These include but are not limited to the costs of hiring of legal, technical, and financial advisors (public and private parties), preparing a proposal (private party), securing committed financing from lenders/investors (private party), fees to lenders/advisors to obtain committed financing letters (private party), interest costs if debt is raised during the bidding process (private party), providing proposal securities/bonds (private party), conducting due diligence on bids (public party), and running the bidding/evaluation process (public party).

[36] Interview with John Smolen, Ballard Spahr LLP. Conducted on March 12, 2024.

However, the extent to which this affects competitive pressure remains contentious – as there have been instances in which PDA-styled DBFOM P3s have not achieved financial close which may otherwise have been achieved under a typical hard bid procurement.[37] To remedy this loss of price-focused competition in a PDA-style procurement, practitioners suggested the public agency can require the bidder to demonstrate its ability to ensure competitive pricing as well as involve independent engineers/estimators—who are typically engaged in DBFOM P3s to validate costs— after selection.

6.3 Conclusions

The archetypical two-step, hard bid DBFOM P3 procurement maximizes price-focused competition upfront, as it is based on detailed, fully committed bids. The archetypical MDA P3 procurement, on the other hand, is characterized by more high-level, uncommitted bids, thus creating a lower degree of price-focused competitive pressure upfront, while market pressure and benchmarks contribute to some level of continuous competitive pressure over the course of the project.

Discussion with practitioners illuminated the nuanced aspects of competitive pressure in both MDA and DBFOM P3 arrangements. MDA P3s can leverage market forces, phased development, and third-party appraisals to stimulate competitive pricing, but face challenges related to timing differences and appraisal accuracy that may impact value-for-money. The structure of development responsibilities and project phasing in MDA P3s can significantly influence competitive dynamics. DBFOM P3s, while relying heavily on upfront competition, are currently strained by volatile economic conditions, leading to increased risk pricing and contingencies. High transaction costs in DBFOM P3s also pose a barrier to robust competition. Reflection of the differences between both models revealed several potential cross-model strategies for improvement, such as separating master developer procurement from project components in MDA P3s, seeking committed pricing for initial phases, and exploring mechanisms to mitigate volatility risks in DBFOM P3s, including the growing popularity of alternative approaches like the PDA model which reflects the industry's efforts to strike the right balance between maintaining enough competitive pressure to ensure the public agency getting a good deal with flexibility in uncertain market conditions.

[37] "Unlocking the Power of Progressive P3s", *P3 Bulletin*. Published June 28, 2023. Accessed via https://www.partnershipsbulletin.com/article/1828012/unlocking-power-progressive-p3s

7. Flexibility

How do the project delivery mechanisms differ in their ability to be flexible to changes?

In times of increasing economic, political, and environmental uncertainty, the importance of contractual flexibility cannot be understated. Not only does it avoid unnecessary contingencies, but the literature suggests it creates incentives for cooperative behavior. [38] In practice, flexibility encompasses the capacity of a project to adjust and accommodate internal and external changes. The archetypical MDA P3 is generally more flexible due to its open-ended project scope and the uncertain market it navigates, while the archetypical DBFOM P3 is generally less flexible as the competitive procurement process results in proposals with highly optimized and locked-in project financing.

7.1 Main Differences

The upfront, fully committed financing of DBFOM P3 projects can hinder flexibility. In a two-step, hard bid DBFOM P3 procurement, the public agency asks bidders to come up with bids with fully committed, often highly leveraged, financing. "Fully committed" in this regard refers to having all the necessary funds secured and legally committed by lenders or investors upfront. While not precluding DBFOM P3s from instituting project changes entirely, this level of commitment makes it more difficult to accommodate changes, especially larger changes that would come with larger capital costs, because 1) the two parties would effectively have to restructure their financing arrangement causing breakage costs[39] and 2) these financing arrangements do not have much wiggle room given that they are highly leveraged and have low margins. As a result, accommodating the truly unexpected can be more costly due to these rigidities, and flexibility is sacrificed.

Market uncertainty incentivizes flexibility in MDA P3s. The commercial foundation and underlying economics of an MDA P3 are in their nature more flexible because they are designed around the fact that one cannot predict what is needed or what the market will look like years from now. A typical MDA P3 structure is designed to allow the project to develop itself and respond to market conditions for the span of the contract, which can last decades. As such, there are typically fewer "hard commitments" upfront, as is the case in a typical DBFOM P3. Locking in exact scope and design upfront could lead to projects that do not align with market demand, unfinanceable transactions, and inefficient risk valuation. For example, a private partner may not want to lock-in the design or financing details for a parcel slated for a later development phase because future market conditions may affect the parcel's specifications, price, or even demand. Consider the importance of flexibility as it pertains to office space, as evolving norms of remote and hybrid work continue to increase office vacancy rates. To be sure, once a project's scope becomes crystallized and financing is underwritten, scored, and then sold to investors, MDA P3s would face similar restrictions to flexibility as the fully committed DBFOM P3s previously described.

[38] Athias, Laure, Saussier, Stéphane. "Contractual Flexibility or Rigidity for Public Private Partnerships? Theory and Evidence from Infrastructure Concession Contracts." See: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=828944

[39] Breakage costs refer to the fees and penalties that may be incurred when an existing financing arrangement or loan agreement is terminated or restructured before its scheduled maturity date.

7.2 Practitioner Insights

Balancing a public agency's desire to capitalize on the creativity of the private partner and the highly defined nature of a DBFOM P3 project prior to financial close creates a natural tension. In the archetypical DBFOM P3, significant time is spent defining and designing much of the project during the procurement process, conforming to what would be needed over the lifespan of the asset, and what the defining functional requirements are, which are often more output-based (e.g., quality standards, availability metrics, etc.) than input-based (prescriptive designs, processes, etc.).[40] Even if the public agency still wants to leverage the creativity and expertise of the private partner, this level of project definition theoretically may decrease the DBFOM P3's "need" for flexibility. On the other hand, a DBFOM P3's flexibility is only as robust as its ability to handle scenarios that were not predefined. How these scenarios are handled can impact the cooperative behavior of the public and private partners, which is an important factor in project success. Box 7 explores this nuance with a real-world example.

Box 7: Flexibility in the Eagle P3 DBFOM P3

Eagle P3 (Denver, CO): DBFOM P3s can be limited by inflexible financial commitments, which may reduce the flexibility of contract terms. Thus, when conflict arises, so too does the incentive to adopt a strict interpretation of the contract, which can lead to a more adversarial partnership. If both parties see contractual language differently, then when it comes to handling unforeseen project challenges, commercial and litigious disputes can arise, as was the case with the Eagle P3 project.

Photo credit: Balfour Beatty

In 2010, Denver Regional Transportation District (RTD) selected Denver Transit Partners (DTP) as a concessionaire to provide new rail transit options along three corridors in Denver, dubbed "Eagle P3", in what would be the first DBFOM P3 for commuter rail in U.S. history. The P3 was designed as a 34 year-long, availability payment contract in which RTD would own the assets, set fare policy, and retain project revenues during the term, in exchange for making periodic payments to DTP based on the availability and performance of the facility.[41]

[40] While this varies between project, during the DBFOM P3 process the design and project scoping carried out at the outset of the project by the public agency—often 30%—combined with the design prepared by the bidders—often another 30%—result in almost two-thirds of the project being designed at the end of the procurement process.

[41] See: https://www.cpr.org/2018/11/13/a-line-contractor-wants-80m-from-rtd-over-flaggers-withheld-payments/

Challenges with crossing-gate technology, a critical component for rail safety, would end up triggering a three-year review from federal and state regulators, substantially delaying the project. During this regulatory review period, DTP was required to post crossing attendants at 29 intersections that the passenger trains had to cross in both directions for every hour of every day for nearly three and a half years. This would cost DTP more than $111 million.[42]

Photo credit: Colorado Public Radio News

Disagreement over who bore responsibility for the delay costs culminated in a series of back-and-forth lawsuits with the RTD seeking project termination after DTP sought to recoup its costs. Both parties' claims were eventually denied by a judge after a 2020 trial, in which it was ruled that DTP held the regulatory risk.[43] DTP appealed the judge's rulings, to no success.[44] Notwithstanding the lawsuits, the Eagle P3 project will continue to operate—a testament to the resilience of P3s, but also a cautionary tale about handling unforeseen circumstances.

A lack of transparency into the impact of codified change order provisions on project pricing can hinder the public agency's flexibility. Practitioners suggested MDA P3s may offer a cross-model insight for DBFOM P3s, in which instituting price transparency on both sides via "open book" processes can empower both parties to approach unexpected challenges with more nuanced solutions. Open book processes, which are more common in MDA P3s, encourage price information transparency during the procurement stage, which help both parties agree on pricing and risk allocation. This increased degree of insight into a private partner's cost drivers and dynamics during procurement can provide the public agency with more confidence that they are not being taken advantage of downstream of the project when faced with a project change, which could have otherwise restricted their ability to be flexible.

In general, for MDA P3s, contract flexibility refers to "who gets paid for what, and when". One of the key benefits of an MDA structure with regards to project flexibility is the ability of the public agency to allow for adjustments to when and how they receive compensation from the private partner. For example, ground lease payments can be delayed until environmental issues or entitlements are settled, guaranteed rent can

[42] See: https://wp-cpr.s3.amazonaws.com/uploads/2023/02/RTD-DTP-ruling.pdf

[43] See: https://www.transittalent.com/articles/index.cfm?story=Denver_RTD_Ruling_2-13-2023

[44] See: https://www.partnershipsbulletin.com/article/1872632/denvers-appeals-court-backs-eagle-rail-ruling

be exchanged for participating rent, or public asset construction can be exchanged for rent (in-kind payment). Because the archetypical MDA P3 allows for both parties to develop a common project vision over time, there are more opportunities for feedback, which in turn means both sides can also learn what is most valuable to the other and make financial and scope delivery adjustments in response—which also opens the door to creativity. This is not the case with respect to the archetypical DBFOM P3, in which the public agency knows exactly what it wants from the outset and both parties have determined what is "most valuable to them" by the time the project agreement is executed.[45]

Entitlement risk, which is more acute in MDA P3s, mandates flexibility. In addition to weathering market volatility, navigating the entitlement process—e.g., securing zoning variances and permits—can be an equally uncertain factor that can decide the fate of an MDA P3. This process is out of the control of the public agency and occurs after the public agency selects a preferred bidder. Compare this to the archetypical DBFOM P3, in which this process typically occurs in the pre-procurement phase.[46] During this process, everybody—neighbors, the community groups, the special interests, etc.—has a voice in front of the zoning board or city council on use requirements, allowable density, affordable housing, or any other public policy goal. All of these factors can affect a development, and as such, requires flexibility on behalf of both parties – "You kind of put [the entitlement process] into a pot, you mix it, and you try to do the best deal you can."[47] Box 8 demonstrates the importance of flexibility during the entitlement process for an MDA P3.

Box 8: Flexibility in the Saltillo MDA P3

Saltillo MDA P3 (Austin, TX): For cash-challenged transit agencies, transit-oriented development P3s can make a material difference. Leasing property for development adjacent to a transit node can provide stable lease payments, and in the case of a mixed-use development, an increase in ridership. However, as is the case with MDA P3s, these projects must secure the approval of additional city authorities (e.g., city council, zoning board, etc.), who have their own priorities (e.g., more affordable housing, new property taxes, and/or growth limits). Therefore, to successfully realize a project, the project sponsor and the developer must be flexible in the face of such competing interests. Such was the case with the Saltillo MDA P3 Project.

The Saltillo Project represents a 20-year effort by a community organizers and Austin's Capital Metropolitan Transportation Authority ("CapMetro") to revitalize a 10-acre site on a former railyard into a master-planned, transit-oriented, mixed-use development in East Austin, to include residential components with market and affordable housing units, office, retail, and open space. In 2014, CapMetro selected Endeavor Real Estate Group ("Endeavor") as the preferred bidder based largely on financial terms - "[Endeavor] provides a higher financial return to Capital Metro by generating more revenue than the competing proposal, maximizing long-term revenue and optimizing value of assets."[48] Together, the partners would eventually enter into a 99-year ground lease, in which CapMetro would retain ownership

[45] Interview with Matthew Hunt, Hunt Advisory. Conducted on March 15, 2024.

[46] To be sure, in MDA P3s public agencies can lay much of the groundwork for a successful entitlement process as part of proactive pre-procurement, predevelopment work. This can include building community support, assisting with site assembly, and streamlining approval processes, such as updating zoning with "form-based codes", which prioritize the form of buildings, which establish clearer parameters of acceptable development than traditional zoning codes that focus first on the use of land.

[47] Interview with Tim Eachus and Matthew Troy, The Craddock Group. Conducted on March 14, 2024.

[48] See: https://www.austinchronicle.com/news/2014-06-27/plaza-saltillo-decision-comes-down-to-money/

over the land and Endeavor would make lease payments that CapMetro would appropriate for capital improvements to the transit system, totaling more than $200 million of the term of the agreement.[49]

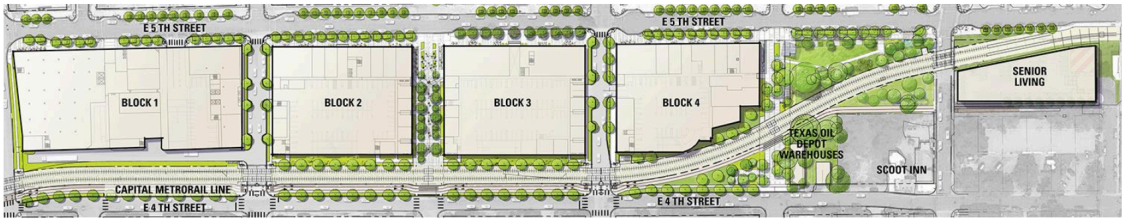


Photo credit: Endeavor Real Estate Group

In 2017, the partners went before city authorities seeking a zoning variance that included, among other proposals, permission to double the height of a proposed office building from four floors to eight floors. The reasoning behind this variance was rational: a larger office building 1) "increases ridership for CapMetro and brings more people to the development in the daytime when the residents are gone to work," and 2) increases the number of office tenants which will spur employment opportunities and boost spending in local businesses.[50] Furthermore, increased office space would likely generate higher returns for both parties, which means more dollars for transit capital improvements for CapMetro and a higher bottom line for Endeavor, because commercial space typically provides higher rental yields than residential space and thus higher earning potential.

The variance request, however, was not met with open arms. The City Council was not satisfied with the affordable housing provisions in the proposal. For example, one Councilperson wanted to require Endeavor to count office and retail space toward affordable housing, instead of the developer's proposal to only count residential space, therefore requiring a commensurate addition of affordable units,[51] while another Councilperson sought an amendment for Endeavor to build more three-bedroom units for larger families than the proposal outlined. In the eyes of Endeavor, accommodating the City's preferences would deem the project infeasible and unable to be built.[52]

[49] See: https://www.endeavor-re.com/news/developer-weighs-options-after-final-plaza-saltillo-ok/

[50] See: https://services.austintexas.gov/edims/document.cfm?id=272656

[51] See: https://spectrumlocalnews.com/news/2017/02/17/city-council-butts-heads-with-developer-of-plaza-saltillo-housing-

[52] See: https://www.endeavor-re.com/news/developer-weighs-options-after-final-plaza-saltillo-ok/

Photo credit: Endeavor Real Estate Group

Because the city council had influence over zoning, it would be the final project arbiter. Therefore, CapMetro and Endeavor knew they would have to be flexible to achieve success. Initially, Endeavor proposed it pay a one-time $600,000 "fee-in-lieu" for the marginal non-residential square footage the density bonus would provide. The fee-in-lieu would be appropriated for the City's Housing Assistance Fund, which would be spent on affordable housing within the Saltillo area. The city council wanted more and would only approve the density bonus if both Endeavor and CapMetro contributed an additional $540,000 each to the fund.[53] Both parties agreed and the zoning variance was consequently approved with Endeavor building the eight-story office, and the ground lease was amended accordingly.[54]

DBFOM P3s typically offer more definitive completion dates, while MDA P3s provide greater flexibility at the expense of less responsiveness to urgency. Archetypical DBFOM P3s usually include firm completion dates, barring supervening events, whereas MDA P3s generally do not.[55] However, MDA P3s can potentially incorporate completion date certainty for specific project components, such as the initial phase or project of a multi-phase/project development. The effectiveness of such date commitments in MDA P3s may be influenced by financial interdependencies between that first phase/project elements and latter project phases/projects (e.g., a "date certain" first project paid for by commercial developments that are highly uncertain).

Flexibility without protections can adversely affect the public agency in MDA P3s. In theory, because of the flexibility afforded to the master developer in a typical MDA P3, the master developer may delay asset construction for reasons beyond a poor market, which has raised concerns that master developers engage in "land banking." This can have adverse effects on the public agency, which often has a material interest in activating the land under master development. Furthermore, because MDAs tend not to have "termination for convenience" clauses, which give the public agency discretion in terminating the MDA for reasons other than a material breach, the public agency may have limited tools to address delayed development. However, some public agencies apply contractual clauses that mandate a construction start and end dates following a reasonable grace period and therefore can temper abuse of this flexibility.

7.3 Conclusions

DBFOM P3s and MDA P3s differ considerably in their ability to achieve flexibility. The archetypical MDA P3 is generally more flexible, as MDA P3 proposals are not locked-in and are designed to be able to conform with market conditions over the course of the project term, resulting in an MDA that is "not a straitjacket of process and procedures".[56] This is not the case with the archetypical DBFOM P3, as the competitive procurement process results in proposals with highly optimized and locked-in project financing.

DBFOM P3s offer more precise project scopes and definitive completion dates but may struggle with adapting to unforeseen circumstances. In contrast, MDA P3s provide greater flexibility in compensation

[53] See: https://www.masstransitmag.com/technology/facilities/shelters-stations-fixtures-parking-lighting/press-release/12312243/capital-metropolitan-transportation-authority-capmetro-austin-city-council-approves-plaza-saltillo-plan

[54] See: https://s3.documentcloud.org/documents/3872715/Ground-Lease-Executed.pdf

[55] In practice, MDA P3s often set start with unrealistic expectations regarding timing— arguably part of "optimism bias"—which is often necessary to garner political support for the project.

[56] Interview with Bob Paley, Metropolitan Transportation Authority. Conducted on March 29, 2024.

structures and project vision development, but often at the expense of urgency and date certainty. This analysis suggests potential cross-model improvements: DBFOM P3s could benefit from adopting "open book" processes to enhance transparency and adaptability.

8. Collaboration

How do the project delivery mechanisms differ in their collaborative potential between the public and private partners?

Many academics and practitioners note the importance of the relationship between contractual partners in weathering unexpected events and establishing successful P3 projects.[57] Demonstrating collaboration is also important for business development, as the private party often relies on positive references from previous public agency partners to supplement future proposals. Collaboration relies on positive aspects like trust, amicability, open communication, and cooperative decision-making; adversarial relationships, on the other hand, can lead to deal breakdown. Because DBFOM P3s and MDA P3s are both long-term, complex legal arrangements subject to internal (e.g. staffing) and external (e.g. economic) changes, conflict can arise, and the extent to which collaboration is present can have an impact on how well the project fares. With that said, MDA P3s are generally more jointly developed, and hence, tend to be more collaborative, whereas DBFOM P3s are more contractual, with mixed impacts on collaboration.

8.1 Main Differences

MDA P3s are jointly developed and therefore tend to be more collaborative. In the procurement process, bidders present open-ended proposals with indicative designs. After preferred bidder selection, the public agency and private partner often jointly develop the project, cooperatively shaping the project scope and price. Both parties generally understand this dynamic, and the associated mindset among them is more open to change, meaning there is less pressure on the deal's financial structure and fights over contractual issues, and more opportunities to foster partnership. In the face of a perceived conflict, this can create mutual value-creation. Box 9 illustrates this dynamic with a real-world example.

Box 9: Collaboration in 343 Madison MDA P3

343 Madison MDA P3 (New York, NY): Because MDA P3s are built on jointly developed contracts, both parties have a stake in project. This creates the opportunity for mutually beneficial give-and-take, which can be most salient when unexpected events arise. This possibility is bolstered if both parties are in alignment over the project's goals. This was the case for 343 Madison, an MDA P3 in New York City, in which the developer was granted a construction delay by the public agency during unfavorable economic conditions in exchange for securing the accelerated construction of a key public transit improvement.

In 2016, the New York Metropolitan Transportation Authority (MTA) negotiated the redevelopment of its former headquarters site in Midtown Manhattan with Boston Properties, a developer. The transit-oriented development (TOD) arrangement featured a 99-year ground lease which would generate $1B in ground rent revenues for the MTA's capital program. The MTA would maintain ownership of the land, and a 55-story Class A office tower would be constructed. In addition, in exchange for a size bonus under new rezoning rules in the area, Boston Properties was required to finance and construct numerous underground pedestrian connections to Grand Central Terminal, the neighboring train hall, including a

[57] Warsen, Rianne, et al. "What makes public-private partnerships work? Survey research into the outcomes and the quality of cooperation in PPPs". *Public Management Review.* Published 2018. See: https://www.tandfonline.com/doi/full/10.1080/14719037.2018.1428415

$92M direct entrance to the new train concourse, Grand Central Madison, which is directly below the development.[58]

The development would run into various snags. The deal was previously delayed due to a prior dispute between city and state officials, and when COVID-19 hit New York in early 2020, the project faced new delays. The pandemic also brought interest rate hikes and a diminished demand for office space, making it more difficult for Boston Properties to secure an anchor tenant for the new office, which would stabilize the property's finances in the immediate and long term. Facing this new reality, Boston Properties did not want to build in these conditions and turned to the MTA seeking relief.

In the end, the MTA and Boston Properties were able to negotiate a mutually beneficial give-and-take: MTA permitted Boston Properties to delay construction of the office tower by two to six additional years, but in return mandated the accelerated construction of the Grand Central Madison concourse entrance. The new agreement stipulated that if the developer did not secure an anchor tenant for the office building, it had the option to terminate the main lease by mid-2025, after which the property would revert to the MTA and the MTA would refund the developer the nominal cost of building the concourse entrance. A project change of this magnitude might otherwise be unattainable without both parties' willingness to collaborate on a mutually beneficial solution.

Photo credit: New York YIMBY

While DBFOM P3s are inherently more focused on the contractual allocation of risks and responsibilities, they still benefit from good collaboration. An archetypical DBFOM P3 asset—a bridge, toll road, or public building—necessitates highly detailed requirements and certainty in terms of outputs because they focus on delivering essential public services. When procured through a two-step, hard bid procurement process, the scope has typically been defined in great detail, the design may have been developed, and the costs and completion date are fixed. After commercial and financial close, the main focus is to deliver what has been agreed upon. Deviations from what was agreed will be difficult to accommodate for both sides. Because of this, the emphasis on collaborative processes is secondary to contractual processes. In practice, however, the most successful DBFOM P3s have exhibited good

[58] See: https://new.mta.info/agency/construction-and-development/tod/unlocking-value

collaboration, as this collaboration is needed most when managing changing circumstances and dealing with deviations from what was agreed, which is reflected in general industry "best practice" (see Box 10).

Box 10: Collaboration in Archetypical DBFOM P3s

Fostering Collaboration Beyond Contractual Processes – The U.S. Department of Transportation's developed its "Successful Practices for P3s" report[59] "to describe how government agencies can best work with the private sector to deliver transportation facilities that protect the public interest" via DBFOM P3s by identifying "successful practices and the important issues they address". Among these important issues is a good relationship between the public agency and the private partner, which is an enabling factor in the success of the provision of "high-quality, cost-effective, reliable, and timely service at an affordable price." Several methods are highlighted to foster collaboration. These include:

- **Partnering sessions and agreements to co-create a partnership vision.** "Partnering sessions" help to create and strengthen formal and informal lines of communication early in project implementation by bringing together relevant members of both parties together to establish a vision of partnership (i.e., joint ambitions, values, expectations for the partnership, teaming approach, and the frequency of meetings) for the entire project term, which can be codified in a partnership agreement. This can be an important means to building a more amicable partnership. While there is no standard formula for subsequent partnering sessions, they can be used to address specific issues relevant at that particular time. Partnering sessions and partnership agreements can be a part of the procurement phase.
- **Jointly staffed decision-making bodies facilitate cooperation.** In addition to partnering sessions, structured "public-private committees" and "joint project offices" can be utilized after the selection of a preferred bidder. These bodies can facilitate frequent and open communication by helping identify and resolve issues before they trigger dispute resolution mechanisms. Examples include a 1) "works committee" during construction, 2) "transition committee" between construction and the operational phase, 3) an "oversight committee" during the operations, and 4) a project management team, of which can be staffed with team members from both the public and private partner.
- **Dispute resolution mechanisms to preempt larger conflict.** By defining tiered systems of problem identification and resolving them through dialogue, dispute resolution mechanisms encourage the resolution of problems at the lowest levels, instead of mediation or arbitration, which can increase confidence of private partners and provide clarity for the public partner, thereby boosting collaboration.[60]

8.2 Practitioner Insights

DBFOM P3 procurements that prioritize price can disincentivize collaboration. Practitioners mentioned that bidding environments in which the procuring agency disproportionately weighs the financial proposal in its selection can create a dynamic whereby private bidders are incentivized to submit bids with unrealistically low price estimates. Consequently, the high transaction costs associated with submitting a

[59] "Successful Practices for P3s" *U.S. Department of Transportation*. Published March 2016.

[60] Because dispute resolution mechanisms are highly detailed in the archetypical DBFOM P3 project agreement at the point of commercial and financial close, both parties maintain a clearly defined collaborative baseline.

fully committed proposal engender a strong incentive on the awarded private party to prevent the price from rising, because project changes for which it assumes responsibility will directly impact an investor's returns. Thus, while this could present an opportunity for a good faith renegotiation in such contexts, the debate about who takes responsibility could also easily lead to a conflict in accordance with the processes laid out in the project agreement. It therefore follows that even DBFOM P3s with highly detailed change order or supervening event clauses can lead to disputes, because there are direct financial consequences that typically cannot be mitigated due to the narrow scope of the project entity and its compensation mechanism. To remediate this, DBFOM P3s could explore the use of "joint changes funds", in which the public agency mandates all bidders allocate an identical budget for undefined changes in their proposals. This standardized budget allocation establishes a level playing field and ensures that financial proposals remain comparable and competitive. The actual use of these funds is determined later, either by the public agency or collaboratively with the private partner, allowing adjustments to the project scope without necessitating a restructuring of the financing and preventing either party from facing additional pricing pressure, thus enhancing the adaptability and responsiveness to unforeseen needs or changes in project requirements downstream and can lead to less friction resulting from the financial stress of changes.

The right partner can instill a sense of trust, which practitioners noted was more apparent in MDA P3s than DBFOM P3s. One practitioner noted that "building a trust-based relationship seems to be a bigger focus in MDA P3s than DBFOM P3s. When selecting a partner for an MDA, the public sector is already asking the questions 'can I work with this partner?' and 'can I trust this partner?' … In a DBFOM P3, you are not necessarily as… focused on the trust-based relationship."[61] This sentiment may be correlated with the growing popularity of PDA-style procurements in DBFOM P3s in which the public agency solicits preliminary ideas of what the technical proposal would look like while focusing predominantly on selecting the most qualified private partner to jointly sculpt the project's scope. Although there is little empirical evidence in the literature about the correlative effects of the PDA-style procurement and collaboration, they may engender greater potential for information sharing and transparency, allowing parties to arrive at a stronger deal with less contingencies after determining the project's pricing and technical solution in tandem. This approach also allows for more points in the process where the parties can jointly decide to walk away, prior to contracts being signed and project components being set in stone, which could also incentive a greater degree of cooperation – and ultimately trust.

Pick your partner, not your plan. Regardless of the P3 arrangement, practitioners emphasized the importance of selecting the "right" partner to preempt project conflict—"With the right partner, it is easier to weather market changes and achieve the best outcomes for everyone involved."[62] To increase the likelihood of cooperation, procuring agencies in both P3 types could explore the use of "assessments" to evaluate the collaborative styles of the various bidding teams as part of the formal evaluation in the procurement process.

8.3 Conclusions

MDA P3s are by necessity more of a "partnership", and thus more collaborative, while DBFOM P3s are more of a "contractual" relationship, with each party doing its job with expectations that the other party does the same, but not inherently uncollaborative. While MDA P3s achieve the level of contractual detail of DBFOM

[61] Interview with Brian Dugan, Edgemoor Infrastructure & Real Estate. Conducted on March 15, 2024.

[62] Interview with Daniel McCahan, Madison Marquette. Conducted on March 21, 2024.

P3s after the execution of key contracts (as discussed in the "Risk Allocation" chapter), the uncertain nature of when one or more MDA P3 projects will be completed necessitates a greater amount of collaboration than DBFOM P3s. However, this does not preclude the need for collaboration in the archetypical DBFOM P3. In the words of one practitioner, "either you have a structure [i.e., MDA P3] that demands collaboration for success, or you have a structure [i.e., DBFOM P3] that benefits from it based upon the participants in it."[63]

Discussion with practitioners underscore the importance of balancing financial considerations with collaborative potential in DBFOM and MDA P3 procurements to achieve optimal project outcomes. In practice, hard bid DBFOM P3 procurements overly focused on price have led to unrealistic bids and subsequent conflicts, suggesting mechanisms like joint change funds as a remedy for mitigate disputes. Furthermore, MDA P3s tend to prioritize trust-based relationships more than traditional DBFOM P3s, though emerging PDA-style procurements in DBFOM P3s may engender more trust-based partnerships. Ultimately, regardless of the P3 type, selecting the right partner was deemed crucial for project success, and opportunities to assess a potential partner's collaboration potential during the evaluation process could therefore be valuable.

[63] Interview with John Smolen, Ballard Spahr LLP. Conducted on March 12, 2024.

9. Protecting the Public Interest

What are the key mechanisms in each project delivery mechanism for protecting the public interest?

"Protecting the public interest" refers to how the project benefits the public, aligns with societal goals more broadly, and does not harm the public. Protecting the public interest also means considering what's good for the taxpayer, i.e., "getting the asset you want, in the condition you want, at the price you want." While both the DBFOM and MDA P3 considers the needs of the public in similar ways, such as when the project sponsor initially sets the terms of an agreement as well as the collection of multifarious inputs from stakeholders during the Environmental Impact Statement (EIS) process,[64] the mechanisms for contractually ensuring protection of public interest are more spelled out in DBFOM P3 contracts.

9.1 Main Differences

A project's scope and ability to be defined at the outset help determine how well the project's contract will help enforce public interest goals. DBFOM P3 projects are public investments initiated by public agencies to provide a needed public service and can be well-defined upfront. The project's public interest objectives—e.g., being delivered on time, on budget, and at the desired service level, etc.—can be expressed in terms of evaluation criteria and minimum requirements during procurement, whereas during the project's implementation, the DBFOM P3 contract helps enforce public interest goals sought via the performance management regime of performance standards, monitoring mechanisms, and associated penalties. MDA P3s, on the other hand, can often include a mix of private and public assets, such as public infrastructure and public recreation spaces, though, and sometimes developed in later phases. Thus, the exact scope and goals related to various public elements may not be fully defined at the outset and instead are defined in-step with each phase; thus, while there are minimum requirements, these may not be as defined as in the DBFOM P3.

When public and private parties enter into a contractual relationship in DBFOM availability payment P3 contracts, the contractual system for enforcing public interest goals is well defined. Generally, P3 agreements define a performance management system comprised of three elements: clearly defined and reasonable performance standards that can be objectively measured; an approach for monitoring adherence to these performance standards; and a penalty regime that defines consequences for non-adherence to performance standards. Public and private parties to the DBFOM P3 agree on the performance standards during the RFP process. Monitoring of those requirements occurs during construction to determine whether the asset, as delivered, conforms to contractual specifications, and during operations to ensure service quality adheres to requirements. In many DBFOM P3 projects, the public and private parties will retain the services of an independent certifier or engineer to help with the monitoring function. If monitoring determines that the private party has failed to achieve performance requirements, then various penalties, often in the form of financial penalties, such as payment deductions or liquidated damages, are levied on the private party to incentivize better performance. Box 11 provides a descriptive overview of an effective performance management regime in a DBFOM P3.

[64] According to the National Environmental Protection Act (NEPA) an EIS is prepared when a potential Federal action is determined to significantly impact the quality of the human environment. Some states have comparable environmental requirements. See: https://www.epa.gov/nepa/environmental-impact-statement-filing-guidance.

Box 11: Enforcement of Public Interest Goals in Clackamas County DBFOM P3

Clackamas County Courthouse DBFOM P3 (Clackamas County, OR): Public and private interests are not always aligned in a P3 contract. For Clackamas County, the public agency that utilized an availability payment-based DBFOM P3 to deliver a new courthouse, the development of output specifications, a payment mechanism, and a monitoring process were the three pillars required to align interests over the life of their project agreement.

Photo credit: Clackamas County

Output specifications are the agreed-upon performance standards that the concessionaire is contractually required to maintain to receive full compensation. The payment mechanism provides financial incentives for the concessionaire to comply with output specifications—it includes rewards for good performance and a deduction schedule when the concessionaire fails to meet performance standards. The link between output specifications and the payment mechanism cannot be enforced without actual data from business operations. Therefore, a monitoring process allows the agency to gauge the concessionaire's performance accurately and objectively. It helps to ensure that performance is measured and verified – allowing the agency to reward high performance and penalize performance failures. These three pillars – output specifications, a payment mechanism, and a monitoring process – created value for money for the public agency because they translated the lifecycle priorities of the public agency into profit and loss terms that produced a response from the concessionaire and establish a system of oversight that added "teeth" to the agency's priorities.

9.2 Practitioner Insights

Those involved in developing MDA P3s and DBFOM P3s do not differ in what it means to: "protect the public interest". Practitioners across both MDA P3 and DBFOM P3 disciplines seemed to concur that achieving a project in service of the public interest means creating net value and delivering on required public policy goals (e.g., building the expected amount of affordable housing to the expected quality) in the expected amount of time at a fair price with no cost overrun borne by the public agency.

As the MDA P3 project definition process takes longer, the process for fully defining public policy objectives could theoretically extend over a longer period. Thus, several MDA practitioners strongly emphasized the importance of the public agency having an honest and clear-eyed understanding of its desired outcomes at the beginning of the partnering process in an MDA P3 and memorializing these outcomes in the development agreement. One practitioner noted that if a project seeks to achieve fixed outcomes (e.g., x number of affordable housing units) these should be clearly defined in initial agreements and appropriately underwritten, making it more likely for the project to achieve its goals.

Several DBFOM P3 practitioners emphasized that the two-step, hard bid DBFOM process, resulting in a firm commitment, could come at a cost and does not always lead to best value for money. The two-step DBFOM procurement, as contemplated in this paper, faces two key issues: high transaction costs and uncertainties stemming from market volatility that cannot be efficiently priced. The growing use of PDA-like procurements, which require a less detailed proposal, necessarily result in an uncommitted bid, thus easing the burden of high transaction costs associated with committed bids in archetypical DBFOM P3s. The PDA approach could also help address some of the market volatility, mainly related to construction markets, supply chain issues, and financing. However, the risks and increased costs associated with these uncertainties could also be addressed by incorporating into the DBFOM P3 contract certain protection mechanisms. If bidders choose not to deploy levers to address market uncertainties, it is very difficult for them to contemplate arriving at fully-fixed, hard bids, so they build in significant contingencies and thus increase the project cost.

Because the increased level of commitment upfront in an archetypical DBFOM P3 makes it more difficult to accommodate changes that remediate a poorly performing asset, the public agency is more likely to implement a more demanding procurement timeline and selection. There is alignment between the public agency and private party on the long-term durability of the asset. The private partner has an incentive to build for quality since they will ultimately oversee maintenance and thus has an interest in minimizing long-term O&M costs, and the public agency naturally wants to ensure that the asset is as durable as possible for public use. Therefore, because it is more difficult to remedy a correction if an asset is poorly built or maintained (See Flexibility Chapter 7.1 Overview), the public agency expends significant effort upfront to define its baseline needs in procurement documents, which are upheld contractually by demanding technical specifications and maintenance and operating standards. This creates an inherent tension between the public and private parties for the asset to perform, which can adversely incentivize the private party to loosen performance specifications if project revenues are imperiled. Because the public agency is wary of this reality, it is typically more demanding in its procurement timeline and selection.

It is possible that at the start of the contractual arrangement between public and private parties that DBFOM P3s are more likely to enforce performance, but MDA P3s enforce performance, too. One practitioner mentioned that in a DBFOM P3, if a developer realizes after construction begins that they are not going to make money on the project, the public partner can still legally and contractually force them to perform, whereas this level of enforcement is typically not within the structure of an MDA P3.[65] That said, several MDA practitioners shared several enforcement mechanisms used in MDA P3s that are also found in DBFOM P3s, e.g., performance metrics, fines or non-payment for under-performance, step-in rights and deal termination, among others (see Box 12 for how one MDA P3 used these mechanisms). Further, MDA P3s include numerous external checks that provide an additional layer of public interest protection. These external checks include 1) going before the zoning board for entitlements, 2) facing external audits, 3) public board approval, and 4) sending explanatory statements to the state prior to project approval.

Several MDA P3 practitioners cited incentive structures to encourage the private party to build the development in a way that maximizes public interest. Several practitioners referred to the use of "incentive fees" to encourage performance maintenance as well as providing zoning bonuses in exchange for improvements to public infrastructure.

[65] Interview with Tim Eachus and Matthew Troy, The Craddock Group. Conducted on March 14, 2024.

Box 12: Enforcement of Public Interest Goals in Bronzeville Lakefront Development MDA

Bronzeville Lakefront Development MDA P3 (Chicago, IL): The City of Chicago sought to redevelop an approximately 48.6-acre site on Chicago's lakefront in Chicago's Near South and Douglas community areas that once housed the Michael Reese hospital complex, which closed in 2008. The City contracted with developer GRIT Chicago, LLC in January 2022 to redevelop the area, newly named the "Bronzeville Lakefront Development". Delivering the project would not only revitalize the underused area but would also advance the public welfare through new affordable housing and access to public green spaces. To deliver on these long-term goals within the expected time frame and budget constraints while creating net value, the MDA P3 relied on internal and external incentives and protections.

Photo credit: GRIT Chicago

The MDA was designed to respond to market uncertainty and promote flexibility. As a binding purchase option agreement, the developer was granted the right—but not the obligation—over 14 years to purchase parcels as they were needed, softening their exposure to market risk. Furthermore, because project costs were indexed to the Consumer Price Index (CPI), the developer was incentivized to complete the project within the expected time frame. For the city, the agreement included incentives to push for greater density, specifically increasing the floor-to-area ratio.

Additionally, as part of the redevelopment of this site, the City of Chicago relied on local ordinances and the redevelopment's governing agreements to help ensure public interest goals were met, such as:

1. **Affordable Housing Requirements:** The rezoning of the Property for the development triggered the requirements of Section 2-44-080 of the Municipal Code of Chicago (the "Affordable Requirements Ordinance" or "ARO") and because the developer acquired a portion of the property from the city, the affordability requirements increased such that the developer needed to ensure that 20% of units were affordable, meaning that the weighted average of the units provided to achieve ARO equal 60% of the Chicago area median income. To help bind the developer to the affordable housing requirements, prior to the issuance of building permits, the developer must execute and record an affordable housing agreement, which would be recorded against the property and constitute a lien against the property.

2. **Employment Obligations:** As described in the Bronzeville Lakefront Agreement for the Redevelopment and the Sale of the Land, January 2022 (Bronzeville Development Agreement), the project seeks the following employment goals:

    a. **Local Inclusion Requirements:** Article 24.2 required developer and subcontractors to comply with the minimum percentage of 50% of total worker hours performed by actual residents of the City of Chicago, provided it does not violate a collective bargaining agreement.

    b. **Minority and women-owned business:** Article 35 required developer to create an outreach plan targeting minority and women-owned business and provide 10 internships a year for the duration of the construction of the Development. The developer is required to provide evidence of achieving these obligations via ongoing reporting/compliance reports. Further, Article 24.3 expressed the developer's commitment to achieving Minority-Owned and Women-Owned Business requirements and goals. During the course of construction, aggregate 30% of hard and soft costs should be for Minority-owned enterprises (MBE) and aggregate of 10% of hard and soft costs should be for Women-owned business enterprises (WBE), and developer should describe efforts to achieve compliance with MBE/WBE commitments. via reporting to the City monitoring staff.

3. **Parks:** The Bronzeville Lakefront Infrastructure Agreement (2022) committed the Developer to developing public benefits on public land in the development area. The developer's obligations under this agreement were bound by performance and payment bonds as well as an escrow account.

4. **Community Space:** Article 35 of the Bronzeville Development Agreement committed the developer to construct a Community Space, operations of which would be supported by a "community impact fee" paid by tenants. Failure of the developer to implement the community impact fee or apply the impact fee for intended purposes would result in a written notice of default and an opportunity to cure such default. If default were not cured this would result in a community space penalty ($1/SF).

9.3 Conclusions

Archetypical DBFOM and MDA P3s differ in how they protect the public interest. DBFOM P3s can clearly articulate public interest objectives upfront through evaluation criteria and minimum requirements during procurement, which are then enforced through a contractually defined performance management system, including specific standards, monitoring mechanisms, and penalties. In contrast, MDA P3s often involve a mix of private and public assets, with public elements potentially developed in later phases. This phased approach means that public interest goals may be less defined at the outset and evolve as the project progresses. Consequently, while MDA P3s do include minimum requirements, they are generally less specific than those in DBFOM P3s, resulting in a more flexible but potentially less stringent framework for enforcing public interest goals throughout the project lifecycle.

There was agreement between MDA P3 and DBFOM P3 practitioners that safeguarding the public interest entails generating net value and meeting required public policy goals within the expected time frame and

budget. For MDA P3s, practitioners stressed the importance of clearly memorializing desired outcomes at the partnership's outset to ensure goal achievement due to their extended timeline required to define project scope. With respect to DBFOM P3s, if bidders do not employ mechanisms to address market uncertainties, it can become challenging for them to contemplate arriving at fully-fixed, hard bids, so they build in significant contingencies and thus decreasing the cost effectiveness of the project. Additionally, the initial commitment required in DBFOM P3s results in a more stringent procurement process to ensure long-term asset durability, creating tension between public and private entities over performance standards. Despite these differences, both MDA P3s and DBFOM P3s implement various enforcement mechanisms to ensure compliance, with MDA P3s also utilize external checks to protect the public interest.

10. Conclusion

In many instances, the arrangements for the development and implementation of DBFOM P3s and MDA P3s have been misunderstood and conflated by some participants in infrastructure and public real estate projects. By exploring, identifying, and clarifying the distinct characteristics of each model and deriving cross-model insights, this paper aims to foster a greater understanding of each model, thereby enabling better, more effective communication between public and private practitioners engaging with these P3s.

DBFOM and MDA P3s are both long-term contracts between public and private entities to provide one or more public assets and/or public benefits in which the private party bears significant risk and management responsibility. Furthermore, remuneration is technically linked to performance of the project asset(s) in both P3 types. However, these P3 types are distinct in a myriad of ways in their core focus, flexibility, and approach to project development.

Viewed from their archetypical form, DBFOM P3s are used for singular, well-defined public infrastructure projects like highways or transit facilities. These projects feature a fully defined scope from the outset, a single-phase approach, and a rigorous two-step, hard bid procurement process based primarily on price and technical considerations. The entire contract, including all technical and financial terms, is established before selecting the preferred bidder, reflecting a more structured and predetermined project lifecycle.

In contrast, archetypical MDA P3s are designed for complex, multi-faceted urban development projects that often combine private commercial real estate with public improvements. These arrangements start with a high-level project definition that evolves to respond to market conditions. They involve multiple assets and/or phases, allowing for adaptive development over time. The selection process is more comprehensive, considering qualifications and potential pricing, with contract terms often negotiated post-bid and throughout the project's implementation.

With respect to risk allocation, DBFOM P3s are typically more rigid, with risks explicitly detailed upfront, resulting in clearly delineated responsibilities between parties. However, in increasingly volatile and uncertain markets, it has become more difficult to price risks, that may be addressed by the trend towards progressive, PDA-style procurements, which enable more collaborative risk allocation. MDA P3s offer a more gradual approach to risk allocation, allowing real-time adjustments throughout the project lifecycle as contractual agreements are subsequently executed.

With respect to competitive pressure, two-step, hard bid DBFOM P3s involve intense, maximized price-focused competition based on fully committed bids, leading to highly optimized and locked-in project financing. However, this procurement approach is challenged by economic volatility, leading to increased risk pricing and contingencies. High transaction costs in DBFOM P3s may also hinder robust competition. The growing popularity of alternative DBFOM P3 approaches, like the PDA model, may reflect industry efforts to balance competitive pressure with flexibility and collaboration in uncertain market conditions. MDA P3s, in contrast, leverage market forces, phased development, and third-party appraisals to foster competitive pricing, but face challenges with timing discrepancies and appraisal accuracy. The separation of master developer procurement from project component procurement and seeking committed pricing for initial phases may also reflect cross-model insights to increase competitive pressure in MDA P3s.

With respect to flexibility, DBFOM P3s provide more defined project scopes and completion dates but may struggle with unforeseen circumstances due to breakage costs. MDA P3s offer greater flexibility in compensation structures and project vision development, albeit often at the cost of urgency and date

certainty. This flexibility extends to the potential for procuring additional project components after the initial award in MDA P3s, reflecting their suitable use for dynamic, long-term urban development initiatives.

With respect to collaboration, DBFOM P3s tend to be more "contractual" than collaborative, although emerging PDA-style procurements are fostering more trust-based partnerships. MDA P3s prioritize trust-based relationships, fostering a higher level of ongoing partnership in response to jointly developing project scope, design, and budget.

Finally, with respect to public interest protection, both DBFOM P3s and MDA P3s aim to generate net value and meet public policy goals within expected timeframes and budgets, and both rely on detailed performance management mechanisms to uphold these goals. External mechanisms that serve to protect the public interest, such as securing entitlements (e.g., permitting, zoning, and community engagement), are also present in both P3 types, but generally differ in the timing of their application. In archetypical MDA P3s, the entitlement process occurs after the preferred bidder is selected, whereas they occur prior to selection of the preferred bidder in DBFOM P3s, when environmental impact assessments also take place as well as other rigorous predevelopment activities. To be sure, because the archetypical MDA P3 can weather market uncertainties more flexibly than the archetypical DBFOM P3, the “best value” opportunities for the public agency in the latter P3 type may not be achieved if market uncertainties lead to significant contingencies in fixed bids.

11. Appendix

11.1 Practitioner Interviews

Twelve interviews with expert practitioners in the MDA P3 and DBFOM P3 industry were conducted to prepare this paper. They include:

1. John Smolen, Ballard Spahr LLP. Conducted on March 12, 2024.
2. Matthew Troy, The Craddock Group. Conducted on March 14, 2024.
3. Tim Eachus, The Craddock Group. Conducted on March 14, 2024.
4. Brian Dugan, Edgemoor Infrastructure & Real Estate. Conducted on March 15, 2024.
5. Matthew Hunt, Hunt Advisory. Conducted on March 15, 2024.
6. Anna Lan, Capital Metropolitan Transportation Authority. Conducted on March 20, 2024.
7. Daniel McCahan, Madison Marquette. Conducted on March 21, 2024.
8. Paul Shadle, DLA Piper LLP (US). Conducted on March 21, 2024.
9. Julie Barr, Capital Metropolitan Transportation Authority. Conducted on March 27, 2024.
10. Bob Paley, Metropolitan Transportation Authority. Conducted on March 29, 2024.
11. Bill Sirois, Regional Transportation District. Conducted on April 1, 2024.
12. Corey Boock, Nossaman LLP. Conducted on April 4, 2024.

11.2 Definitions

Change order: an amendment to a contract that changes the contractor's scope of work. A change order can impact the required scope of work in the contract—thereby typically affecting the contract price—or adjust the amount of time the contractor has to complete the work, or both.

Compensation event: a set of events for which the public agency broadly accepts the risk, because the events are under its control, are most efficiently managed by it, or the risk of which represents value-for-money when assumed by the public agency. Examples include government-imposed changes, changes in law, damage to infrastructure caused by incidents, and failure of the public agency to fulfil its obligations.

Concessionaire: also known as a "project company", the private party in an archetypical DBFOM P3, which can consist of a single company or a consortium of companies. The similar private party in an MDA is the master developer.

Delay event: a set of events typically outside of the private party's control. The private party is best placed to manage the risk. The P3 contract provides partial relief, including extending deadlines that the private party is required to meet but is unable to as a direct result of the relevant delay event. Examples include unexpected delays in the permitting process and suspension of work due to the presence of protected animal or plant species.

Developer: see master developer.

Design-build-operate-finance-maintain (DBFOM) P3: the archetypical model of an infrastructure P3 in which the private party designs, constructs, operates, finances, and maintains the public transportation infrastructure in question, either based on user payments, a toll concession, or based on payments by the public agency, an availability payment. In a DBFOM P3 toll concession, the private party secures project financing and often relies on revenue generated from the infrastructure asset (e.g. tolls) to repay the debt and generate a return on investment. As such, the private party bears the revenue risk, as the income is tied to user demand and market conditions. In a DBFOM P3 AP, the private party is responsible for securing project financing, yet the credit risk is that of a public agency which usually is considered riskier than typical project revenue risk. The private consortium receives availability payments, which are predetermined and stable, from the public agency throughout the concession period. In this arrangement, the public agency retains revenue risk, as it is responsible for making the availability payments to the private consortium, regardless of the infrastructure asset's revenue performance

Entitlement risk: risk of receiving zoning changes and land-use approvals necessary for a project, which may not be established ahead of time. A city's zoning board is often separate from city's development arm and thus relatively independent. Approval from the zoning board is not automatic even if the city more broadly agrees with the project. This can lead to delay or project changes if the zoning board does not agree with the proposed changes.

Financing risk: risk of arranging lenders and investors and/or favorable terms for the project developer and/or the sponsor for capital needs during a project's life cycle.

Force majeure event: a set of unforeseeable events outside either party's control, which results in the private party being unable to fulfill its contractual obligations. Examples include war, terrorism, protests, pandemics, explosions, and natural disasters or "acts of God".

Fully committed bid: a proposal for a project for which costs, finances, and other key project terms are "locked-in". With respect to financing, it refers to having all the necessary funds secured and legally committed by lenders or investors upfront.

Incumbent: the existing private party entity that currently provides a particular service or operates a specific infrastructure project. The public agency may choose to continue working with this "incumbent" as part of a P3 or they may open the project up to competitive bidding to allow other private parties to participate.

Joint changes fund: a mechanism whereby public and private parties contribute reserve capital in the event of an unexpected change order to absorb marginal cost.

Master developer: the primary party in a TOD P3 responsible for putting together the overarching development plan in a TOD P3, conducting the entitlement process, including securing permitting and any necessary zoning changes, and analyzing the condition of the parcels.

Master development agreement (MDA): the contract outlining the terms, conditions, and responsibilities between the master developer, the public agency, and any additional parties in a TOD P3. The purpose of the agreement is to establish a framework for the development, design, financing, construction, operation, and management of a TOD project that often includes multiple phases, uses, and components. MDAs are also commonly used for complex and multi-use developments, such as mixed-use urban districts, master-planned communities, and large commercial or residential projects.

Performance/breach relief: relief that shields a private party from being penalized for not meeting performance requirements. Force majeure events typically lead to this kind of relief, given the event was outside of their control.

Permitting risk: risk in obtaining general and environmental permits from authorities or other third parties.

Pre-development agreement (PDA): an agreement in which a private partner is selected after an RFQ and jointly works with the public agency to draft the project scope and pricing.

Project agreement: the contract between the concessionaire and the public agency in a DBFOM P3.

Public consultation: the extent to which residents and community organizations are invited to provide formal or informal input on a project.

Public-private partnership (P3): a collaborative arrangement between public and private entities to deliver essential infrastructure assets, services, and facilities. These partnerships are established with the goal of leveraging the strengths and resources of both sectors to efficiently deliver the stated objective, while risks are allocated to the party best suited to manage them. P3s are commonly used to address funding limitations, accelerate project delivery, and improve the quality of public infrastructure. Key governance documents include a project or comprehensive agreement, associated schedules, and a direct agreement.

Refinancing risk: risk of market conditions that the private party and/or the public agency may face when they obtain new financing when their existing financing matures.

Relief: a public agency can grant various types of consolation in a typical P3 contract. In general, types of relief include performance or breach relief, schedule relief, delay cost compensation, cost compensation, and termination right.

Schedule relief: relief that permits a private party to take additional time to meet certain milestones under certain conditions.

Supervening event: risks that cannot be managed by either the public agency or the private party, often defined as circumstances that negatively impact a contractor's ability to perform its obligations under a P3 contract within the time and/or cost originally projected for the project. Some of these circumstances may be beyond the control of the developer; others may be best managed by the public agency. Supervening events can eventually lead to early termination of the contract. Supervening events typically fall into three categories: compensation event, delay event, and force majeure event.

Termination right: the power to end a contract.

Two-step procurement process: this is a procurement procedure that involves 1) the issuance of an RFQ (request for qualifications) and 2) an RFP (request for proposals).

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