

I-70 East Project Financing and Delivery Options

A Summary of the Value for Money Analysis



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PREFACE

The purpose of this paper is to provide a summary of a Value for Money analysis completed by the Colorado Department of Transportation (CDOT) and its High Performance Transportation Enterprise (HPTE) to evaluate options to construct and finance the first phase of the I-70 East project. A Value for Money analysis compares key quantitative and qualitative factors with a goal of determining the project delivery option that best fulfills CDOT's objectives, including the objective of building an affordable project on I-70 East from I-25 to I-225. This public summary is also one of many steps CDOT has taken to encourage public engagement in the discussion of project delivery for I-70 East.

Three delivery models are evaluated in the Value for Money. Two models, Design Build Operate Maintain (DBOM) and Design Build Finance Operate and Maintain (DBFOM) involve private investment and/or a long-term contractual relationship with the private sector. These are compared against a well-known public-sector model, Design-Build, which has been used to construct dozens of large construction projects across Colorado. Project affordability and risk transfer are two key concepts evaluated in this analysis. Project affordability includes not just the cost of constructing the I-70 East project but also future financial constraints and risk mitigation. Risk transfer examines how key areas of project risk (e.g. a construction defect) is allocated between the public and private sector.

As the I-70 East project is still in the study and development phase, this paper begins with a description of the status of the Environmental Impact Statement and describes the preliminarily identified preferred alternative for I-70 East.



I-70 East

I-70 EAST PROJECT: STATUS AND DESCRIPTION

In 2003, CDOT began an Environmental Impact Statement (EIS) to study the future of the I-70 East corridor from I-25 to Tower Road. This 12-mile segment is an essential component of Colorado's only east-west interstate. It serves as a hub of state and regional commerce, moving residents and tourists between the airport, downtown Denver, and the communities and resorts to the west. A key feature in this corridor, the I-70 East viaduct (the elevated portion of I-70 on a bridge), was constructed in the early 1960's, and is reaching the point where it needs to be reconstructed in order to safely convey the traveling public and freight that keeps the Colorado economy moving.

I-70 East Project Area



To date, the EIS for I-70 East has involved over eleven years of study, detailed analyses of the environmental and community impacts of many alternatives, and a community outreach process exceeding any effort in CDOT history. The latest milestone in this effort was the release of a Supplemental Draft Environmental Impact Statement (SDEIS) in August of 2014. The SDEIS updated information on previously analyzed alternatives while also providing detailed analysis of a new option, known as the Partial Cover Lowered (PCL) alternative.

I-70 East Project Alternatives

In addition to a “no action” alternative that would rebuild the viaduct with no additional capacity, two “build alternatives” are analyzed in the SDEIS: the Revised Viaduct Alternative (with a north or south option) and the Partial Cover Lowered Alternative.¹

I-70 EAST PROJECT: STATUS AND DESCRIPTION cont.

Revised Viaduct Alternatives

These alternatives would rebuild the viaduct between Brighton Boulevard and Colorado Boulevard. A “North Option” would expand the north edge of the highway up to 160 feet north from the existing highway edge in some areas. A “South Option” extends the south edge of the highway up to 140 feet south of the existing highway edge. Additionally, both options would add up to two General Purpose or Managed Lanes in each direction from I-25 to Tower Road.

Partial Cover Lowered Alternative (PCL)

This alternative proposes to remove the elevated section of I-70, lower the highway below ground, cover a portion of the highway Swansea Elementary School, and reconnect the Elyria and Swansea neighborhoods. As with the Revised Viaduct Alternatives, it would add up to two General Purpose or Managed Lanes in each direction from I-25 to Tower Road.

The recently released Supplemental Draft Environmental Impact Statement (SDEIS) provided a comprehensive analysis of all alternatives and identified the PCL as the “preliminarily identified preferred alternative”. Over 900 comment submissions were received on the SDEIS and CDOT is currently working to respond to those comments and prepare a final EIS. CDOT and the Federal Highway Administration (FHWA) expect to issue a Record of Decision finalizing plans for I-70 East in mid-2016, so that construction can begin as soon as 2016.

The primary purpose for evaluating project delivery methods at this stage of the environmental process is to engage the construction industry to allow CDOT to assess project construction costs and consistency with the available funding. To complete the Record of Decision (ROD), CDOT must have a feasible financing plan for a specific phase of the approved project. Entering into discussions with industry will align phased project scope with funding. No agreements for construction will be made until completion of the environmental process.

¹ Additional information of the EIS for I-70 East is also available at www.i-70east.com.

I-70 EAST PHASE ONE PROJECT

The full scope of the preliminarily identified preferred alternative (the PCL) analyzed in the SDEIS has a construction cost of approximately \$1.8 billion. It is not feasible for CDOT to fund the full project scope. Instead, staff has identified a first phase of the project. This phase² is the basis for the analysis contained in this report.

The first phase of the I-70 East project includes the following elements:

- Replacing the viaduct;
- Lowering the highway between Colorado Blvd and Brighton Blvd;
- Placing a landscaped cover over the highway between Columbine Street and Clayton Street; and
- Constructing one additional Express Toll Lane in each direction from I-25 to I-225

As stated in the Preface, The I-70 East Value for Money analysis pays particular attention to how each project delivery method meets CDOT's stated financial goals and objectives for the first phase project. CDOT's financial priorities are to implement a transportation solution that improves safety, access, and mobility, including:

- Maximizing the scope of the transportation and supporting infrastructure to promote corridor-wide economic and community vitality
- Optimizing operating and lifecycle maintenance costs by providing a quality product
- Achieving the goals of the EIS process to minimize adverse environmental impacts

² Notwithstanding the steps that have been taken to date, CDOT has not committed to implement any alternative currently being evaluated in the I-70 East EIS process. A final selection of an alternative will not be made until the issuance of a Record of Decision (ROD). Since a ROD has not been issued for this project, all the information provided is preliminary, and providing this preliminary information in this document does not affect the integrity of the I-70 East NEPA process. The ROD could select a no build alternative or another build alternative. The proposed design, which serves as the basis of project funding discussed in this document, are representative of a potential Phase 1 project of the PCL Alternative.

PROJECT FUNDING

The I-70 East Project Team has identified a total project delivery cost of approximately \$1.17 billion to construct the first phase of the PCL. Three established funding sources currently committed to the I-70 East Project are summarized below in Table 1; leaving a \$90 million funding gap that CDOT proposes be funded through non-CDOT sources.

Table 1: Funding Summary

Source	Identified Funding Amount
Colorado Bridge Enterprise	850 million
DRCOG	50 million
2 Years of SB 228 ³ transfers to CDOT	180 million
Funding Gap	90 million
Total Project Cost for Phase One	1,170 million

The largest funding source for I-70 East is the Colorado Bridge Enterprise (CBE). The passage of FASTER legislation in 2009 established the CBE in order to accelerate the repair and reconstruction of deficient bridges further defined as structures that are “poor”.⁴ Using this criterion, 128 bridges were originally determined to be eligible for the program and the viaduct was among the 30 worst bridges on the list. Despite the critical nature of the viaduct, it still remains one of the last bridges out of the original 128 and is the last of the worst 30 bridges to be addressed. Today, the I-70 viaduct represents 61% of Colorado’s total CBE eligible bridge deck area.

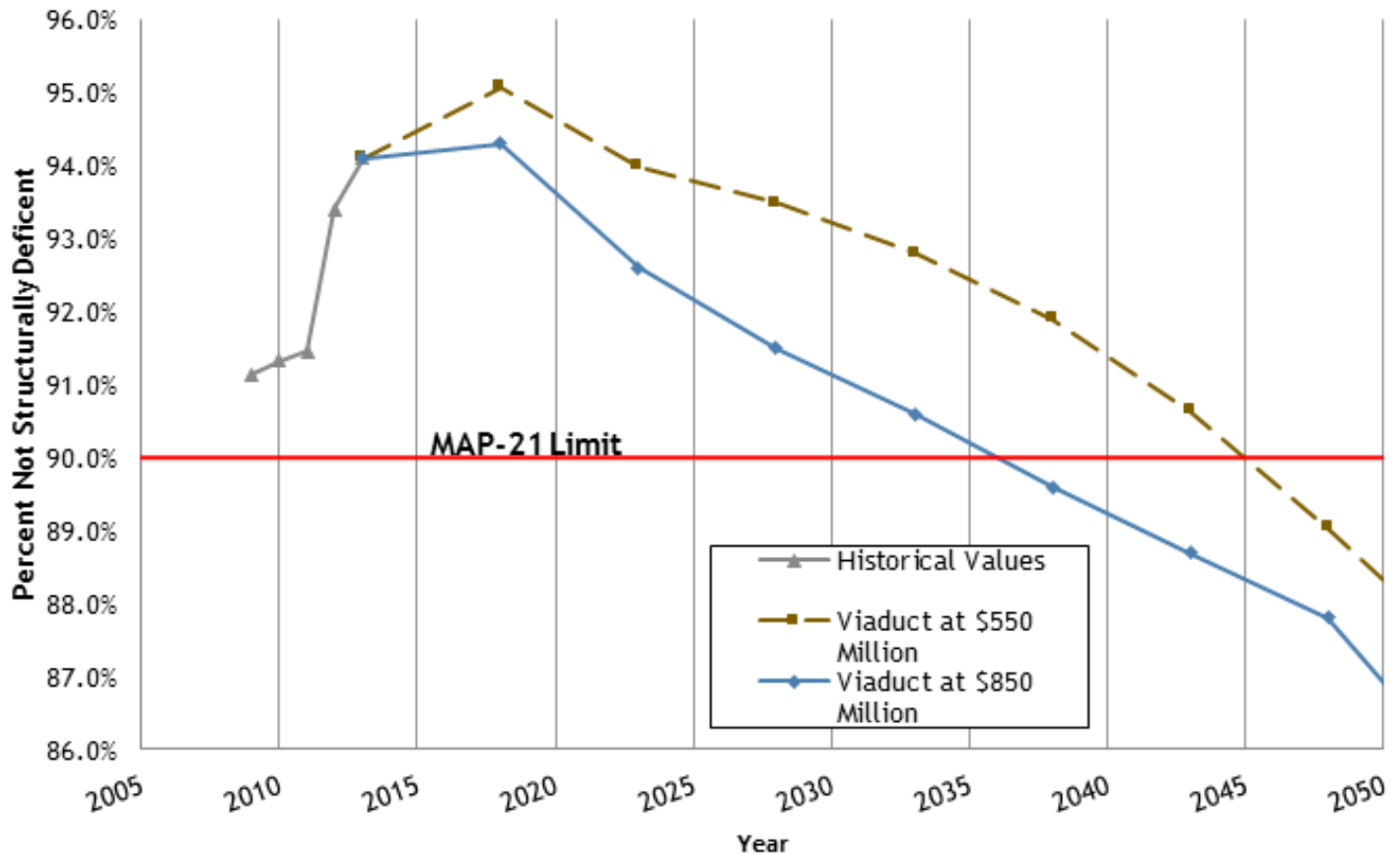
While costly, CDOT needs to address this very large portion of the state’s deficient bridge deck in any responsible scenario. The graph below assesses the impact of two replacement options for the viaduct. The SDEIS “Do Nothing” or “No Action” alternative would replace the viaduct in its current location with no lane expansion at a cost of \$550 million. The PCL alternative would allocate \$850 million from the Bridge Enterprise to enhance mobility and better integrate the project into the surrounding neighborhoods. The following graph compares the impact of these two options on the quality of all Colorado bridges over the next 35 years. Under both funding options, the quality of Colorado bridges will begin to fall below the Federal target of 90% “not structurally deficient” bridge deck area in the years between 2035 and 2045. In 2050, the more costly PCL alternative will result in about 1.5% more structurally deficient bridge deck in Colorado when compared to the No Action alternative.

³ Forecasts for Senate Bill 09-228 revenues are based on a December 22, 2014 projection published by the Office of State Planning and Budget

⁴ CDOT uses a national sufficiency rating formula to evaluate a bridge’s sufficiency to remain in service. This formula is based on a 100 point scale: 100 represents an entirely sufficient bridge and 0 represents an entirely insufficient or deficient bridge. A “poor” rated structure has a sufficiency rating less than 50.

PROJECT FUNDING cont.

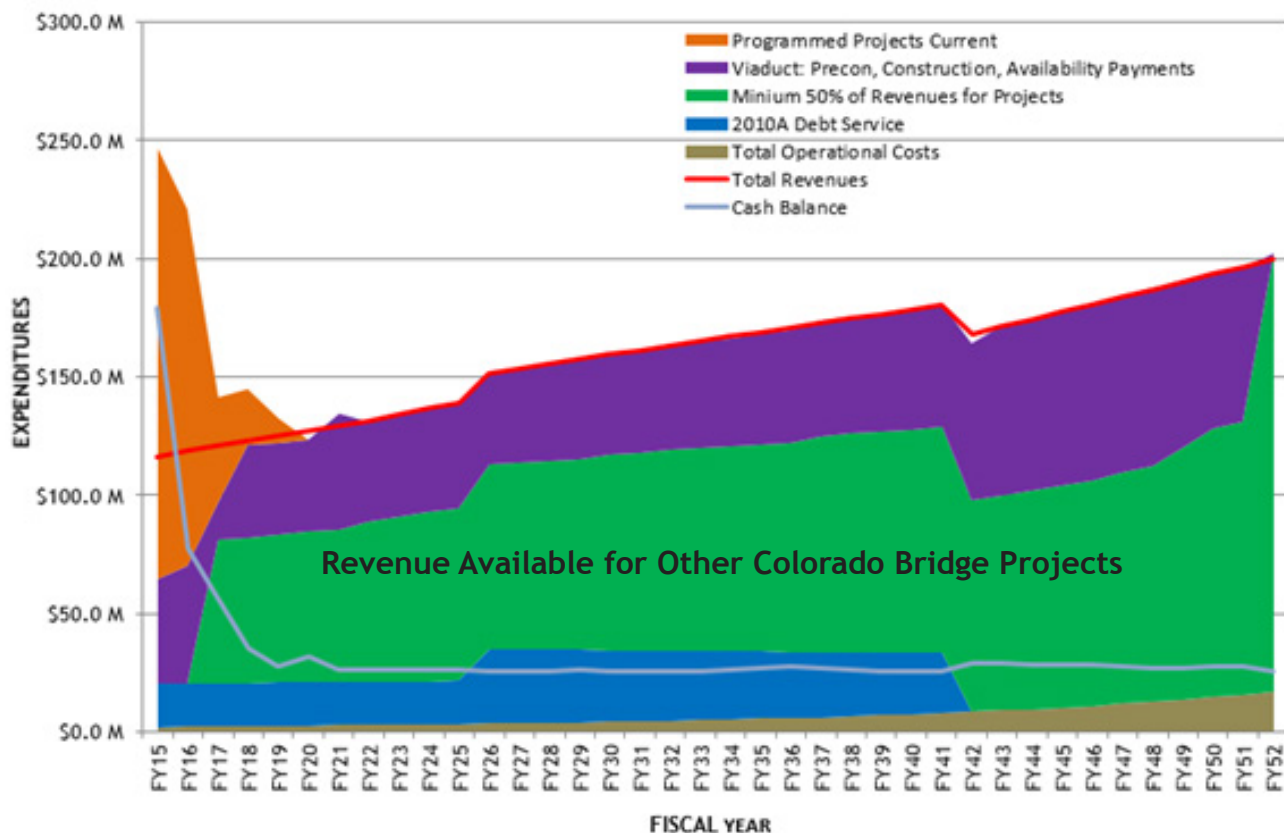
Table 2: Viaduct Funding Impact on Deterioration of CDOT Bridge Network



PROJECT FUNDING cont.

Due to the concern of the funding impact of the I-70 viaduct replacement on long term revenues available for rehabilitating other Colorado bridges, CDOT set out a goal to shape viaduct financing in a way that will retain 50% of bridge revenues for other needed projects across the state. The chart below shows all current long term bridge funding commitments through FY2052—operational costs, existing 2010 bond debt payments, and 50% of funding available for projects other than the viaduct. The remaining area in purple illustrates annual funding available to retire viaduct reconstruction debt.

Table 3: Long-Term Commitments of Bridge Enterprise Revenue



PRIVATE SECTOR INVOLVEMENT IN TRANSPORTATION

A key consideration in evaluating delivery options for I-70 East is the appropriate level of private involvement in the project. Today CDOT undertakes a broad spectrum of partnership projects with the private sector. While its maintenance crews conduct \$250 million of annual maintenance activity, they do so with materials and equipment purchased through competitive pricing agreements. Traditional Design-Bid-Build projects on CDOT highways involve cooperation between CDOT engineers and consultants during design, with private contractors earning the construction work through the nearly 200 projects advertised by CDOT annually. These partnerships are critical in building and maintaining Colorado's infrastructure because they allow a small group of government staff to carry out a large annual construction program.

CDOT is now considering whether for the state's largest projects, there could be more value to the public by adding long-term operations and maintenance work, as well as potentially expensive reconstruction obligations, to the private sector's responsibilities once the project is built. These type of arrangements are commonly known as Public-Private Partnerships (also referred to as P3s).

In a typical public private partnership, the private partner or group of partners (known as a "concessionaire") designs, builds, finances, operates and maintains the project. Other forms of P3s, including the Design-Build-Operate-Maintain model examined in this paper, do not rely on private finance. Public Private Partnerships (P3) can offer several advantages for highway construction projects including improved construction and design, accelerated delivery, increased scope and schedule. Throughout the life of the agreement with a concessionaire, CDOT continues to hold ownership and oversight of the highway (meaning the highway is never "sold" to the private sector) and can guarantee that the road is repaired and well-maintained by tying annual payments made to the concessionaire to performance criteria set by CDOT for the life of the partnership.

CDOT has begun considering public private partnerships to:

- Bring private sector financing into a much needed project
- Turn over long term road repair and maintenance requirements to the private sector for a fixed payment, providing the Department a long-term cost certainty that otherwise wouldn't be possible
- Transfer a variety of risks to the private sector, such as reconstruction, that otherwise would be borne by the state

Role of the High Performance Transportation Enterprise

Determining whether the state should pursue a public private partnership and what type of partnership is best suited for an individual project is an important purpose of the High Performance Transportation Enterprise (HPTE). In 2009 the HPTE was formed by the legislature to help CDOT find the best ways to pay for important transportation and infrastructure projects. The HPTE operates as a government-owned, independent business within CDOT with the objective of pursuing innovative ways to pay for important transportation projects. To determine the best project delivery and financing option, HPTE conducts financial and risk analyses to compare the financial impacts of partnering with private entities versus a traditional public transportation delivery.

In July of 2014, the Governor-appointed Colorado Transportation Commission, CDOT's policy making body, formally asked HPTE to explore public-private partnership alternatives for the major improvements being proposed for I-70 East. In asking HPTE to conduct this evaluation, the Commission also confirmed the direction set forth in Executive Order (E.O. D 2014-010) requiring public outreach and transparency through this process. This paper provides a public summary of a recent Value for Money analysis prepared by HPTE for I-70 East. This is one of many steps CDOT and HPTE have taken to encourage public engagement in the discussion of I-70 East project delivery.

Given the state-wide importance and size of the I-70 East project, the Transportation Commission will make the ultimate decision as to the delivery option.



DELIVERY METHODS UNDER CONSIDERATION

If constructed, I-70 East will be the largest project in CDOT's history, nearly \$400 million larger than the highway portion of I-25 T-REX. CDOT has teamed with HPTE to assess many variables including the project schedule, available funding, project costs, need for innovation, the level of design and the opportunity to transfer risk. CDOT's goal is to deliver congestion relief and infrastructure safety to I-70 East while protecting the taxpayers and traveling public in an unpredictable funding future. The discussion below is the latest iteration in a several-months long process to evaluate options and to engage the public in these deliberations.⁵

For the I-70 East project, CDOT is considering two public-private partnership models along with a public sector comparator, Design-Build. A public-private partnership is being considered for I-70 East because these models could provide a number of advantages for a project as large and complex as I-70 East. For example, when considering delivery methods for large projects, life cycle cost analysis can be as important to CDOT as the up-front construction costs. Life cycle cost analysis considers the initial construction of the project, the long-term maintenance of the project, and its eventual reconstruction or rehabilitation.

Under a P3 the concessionaire assumes risk for a specified project life. When a concessionaire has to operate and maintain the roadway for an extended period of time it takes a different perspective toward constructing the project. For example, when the concessionaire assumes responsibility for maintaining a facility once constructed, the contractor is financially incentivized to build a project that can be maintained at a high level for the least cost over time.

⁵ Additional analysis and documents are available at <https://www.codot.gov/programs/high-performance-transportation-enterprise-hpte/projects/i-70/i-70-east-1>.

Delivery Options for I-70 East

The I-70 East Value for Money paper analyzes the following three delivery models: Design Build (DB), Design Build Operate Maintain (DBOM), and Design Build Finance Operate Maintain (DBFOM). The Federal Highway Administration considers all three to be forms of public-private partnerships.

1. Design Build (DB)

CDOT contracts with a private contractor to complete the design and construction of the project. CDOT retains complete responsibility, including financial responsibility, for operation and maintenance of the project after completion. As noted in the box to the right, Design Build is a well-known delivery method to CDOT and has been used on 28 projects since 2008.

DESIGN BUILD

Key benefits include:

- Opportunity for more scope for a fixed amount
- Innovative design partnerships with contractor and CDOT
- Potential for schedule improvements

Colorado's Experience with Design Build Projects (28 since 2008):

- T-REX - \$1.6 billion highway and light rail expansion in central Denver
- COSMIX - \$150 million interstate expansion in Colorado Springs
- US 285 - \$40 million highway expansion in west Denver
- US 36 Phase I - \$317 million highway expansion from Denver to Interlocken
- US 6 Bridges - \$106 million bridge replacement projects in Denver
- I-25 Woodman - \$66 million interstate expansion in Colorado Springs
- Peak Period Shoulder Lanes along I-70 in mountains

DELIVERY METHODS UNDER CONSIDERATION cont.

2. Design Build Operate Maintain (DBOM)

This model integrates the operation and maintenance of the project into CDOT's contract with the private sector. Essentially, a DBOM is compensated for two services: a Design-Build component in which the vendor is paid for the construction and completion of the project, and an operations, maintenance and rehabilitation (OMR) component which is paid over the term of the operating period. The contractor is responsible for designing, building, operating, maintaining, and rehabilitating the asset over a long period of time. The goal of a DBOM is to transfer lifecycle cost risk of the asset to the contractor, taking into account not just the initial project construction but also the total operation and maintenance and rehabilitation costs. CDOT oversees and monitors the concessionaire's compliance with contract requirements.

DESIGN BUILD OPERATE MAINTAIN

Key Benefits Include:

- CDOT retains control over financing terms and debt placement
- Significant construction and operations, maintenance and rehabilitation (OMR) risk is transferred to the concessionaire
- Lower overall cost of borrowing due to CDOT's ability to issue long-term municipal debt

Over the last twenty years the DBOM method has been used for many U.S. water infrastructure projects, however only two transportation projects have been delivered with a DBOM:

- Hudson-Bergen Light Rail Transit
- JFK People Mover

The Texas and Arizona DOTs are currently planning two new DBOM highway projects.

DELIVERY METHODS UNDER CONSIDERATION cont.

3. Design Build Finance Operate Maintain (DBFOM)

DBFOM is similar to a DBOM with the added element that the concessionaire finances some or all of the capital cost of the project. The concessionaire is responsible for designing, building, financing, operating, maintaining, and rehabilitating the asset over a long period of time. While CDOT has some oversight and monitoring role in the project to ensure the concessionaire's compliance with contract requirements, it is in this delivery model where CDOT turns over the most project oversight to the private sector. In exchange for the developer keeping the project maintained in compliance with performance standards, CDOT pays the developer a series of payments called performance payments (also known as availability payments) following Project completion, over the life of the project.

DESIGN BUILD FINANCE OPERATE MAINTAIN

Key Benefits Include:

- Less need to carry construction contingencies as concessionaire is responsible for increased costs and unexpected events
- Very significant construction and operations, maintenance and rehabilitation (OMR) risk is transferred to the concessionaire
- Private lenders and equity provide additional oversight and monitoring during construction
- Payments are limited to annual performance payments, limiting public budget exposure

Colorado's Experience with DBFOM Projects (2 since 2010):

- U.S. 36 Phase II - \$179 million construction of one additional express lane in each direction from Interlocken to Table Mesa (toll revenues and some performance payments are being used to pay the private partner)
- RTD Eagle P3 (RTD FasTracks) - \$1.6 billion light rail line from Denver Union Station to DIA (performance payments are the exclusive method to compensate the contractor)

DBFOM has been used on 65 transportation projects across the U.S. over the last twenty years. It also is used frequently as a delivery method for international transportation projects.

DELIVERY METHODS UNDER CONSIDERATION cont.

The following table illustrates which elements of the I-70 East project would fall into the public or private spheres for each delivery model.

Table 4: Comparison of Private Sector Engagement by Delivery Method

	Identify Infrastructure Need	Propose Solution	Project Design	Project Financing	Construction	Operations/ Maintenance	Ownership
Design/Build	Public Sector	Public Sector	Private Sector	Public Sector	Private Sector	Public Sector	Public Sector
DBOM	Public Sector	Public Sector	Private Sector	Public Sector	Private Sector	Private Sector	Public Sector
DBFOM	Public Sector	Public Sector	Private Sector	Private Sector	Private Sector	Private Sector	Public Sector

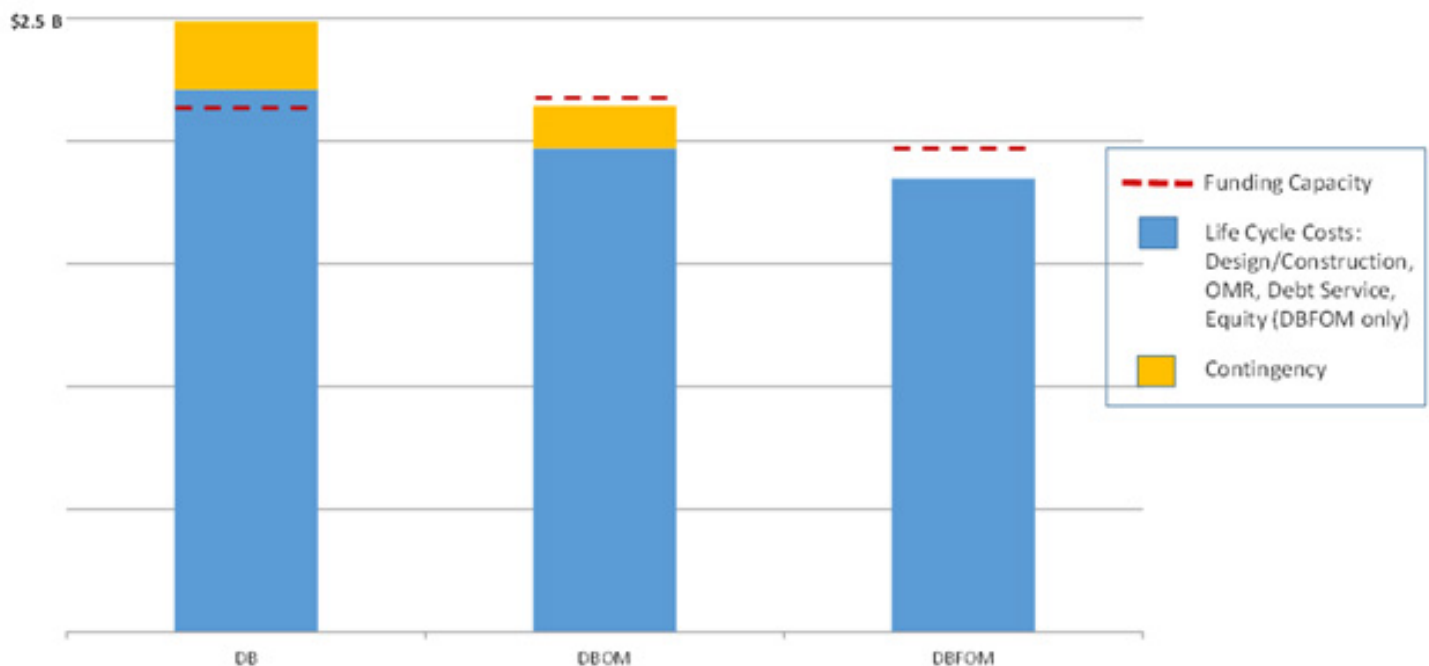
DELIVERY METHODS AND PROJECT AFFORDABILITY

Determining project affordability may not be as simple as choosing the lowest cost method to deliver a project. One must not only look at the price tag of initial construction, but also the long term financial considerations of maintaining the asset.

Based on CDOT's flat revenue projections, it may make sense to prioritize the ability to make future I-70 East maintenance costs as predictable as possible. Fixing future costs and transferring risks to the private sector may provide value greater than simply identifying the lowest cost way to deliver a project.

The following chart (provided for illustrative purposes) assesses total life cycle costs versus available funding for the I-70 PCL phase one project from Brighton Boulevard to I-225. The dotted red line represents what CDOT can afford given the available resources/revenues, varying by construction cost estimates and financing constraints of each delivery method.

TABLE 5: Net Present Value of Total Life Cycle Cost and Funding Capacity



DELIVERY METHODS AND PROJECT AFFORDABILITY cont.

According to this analysis, only the DBOM and DBFOM delivery models reach affordability, i.e. total project costs are within available revenues. In other words, after taking all costs into consideration, with the goal of accomplishing the Phase One project to I-225, the Design Build model is not affordable-it can't be built with the funds expected to be available.

It is important to highlight in particular the contingency assumptions for each delivery method. In the DB and DBOM scenarios, contingency is shown separately in the orange bar in Table 5. In contrast, under a DBFOM, any contingencies are built into the concessionaire's financing and not expressed separately. If the project goes exactly as planned, the overall life cycle cost for DBOM is similar to DBFOM. If there are cost overruns and other unexpected project costs not supported by the contractor and performance sureties, the total life cycle costs of DBOM are higher than under DBFOM.

Based on initial estimates, Table 5 shows that the life cycle costs (represented by the blue bar) for Design Build are \$240 million more expensive (net present value) than DBOM. The major reasons for the larger cost for DB are additional construction and maintenance expenses. DBOM is \$120 million more expensive (net present value) than DBFOM. The major reason for larger DBOM cost compared to DBFOM in this scenario is due to additional interest costs associated with capitalizing contingency reserves as explained above. For purposes of this analysis, these interest costs are reflected as part of the DBOM lifecycle costs.



DELIVERY METHODS AND RISK TRANSFER

Risk transfer refers to how these delivery methods can allocate key areas of project risk between the public and private sector. While project cost risks are mitigated by a large contingency under both DB and DBOM and an equity component under DBFOM, there are still meaningful differences in risk between the three delivery methods. Under both the DBOM and DBFOM models, the project meets the affordability goal of delivering the Phase One project, and the two delivery methods are relatively close in overall project affordability. That makes risk allocation differences between DBOM and DBFOM an important consideration.

The following table summarizes key risk considerations for the DB, DBOM and DBFOM delivery methods. Focusing on the two affordable methods, DBOM and DBFOM are very similar in degree of risk transfer. However, there are differences in three areas:

- Project Financing Schedule
- Lifecycle Maintenance Cost
- Long-term Security Cost

None of these three risk areas are well enough documented by empirical studies to be translated into probability assessments or quantified into expected costs.

Table 6: Degree of Risk Transfer

Amount of Risk Retained by the Public

	DB	DBOM	DBFOM
NEPA Approvals	High	High	High
Permitting	Medium	Low	Low
Right of Way	High	Medium	Medium
Utilities	Medium	Low	Low
Project Financial Schedule	Low	Medium-High	Medium
Interest Rate Changes	Medium	Medium	Medium
Design	Medium	Low	Low
Ground Conditions	High	Low	Low
Unknown Hazmat	High	High	High
Construction Costs	Medium	Low	Low
Quality Assurance/Quality Control	Medium	Low	Low
Operating Performance	High	Low	Low
Lifecycle Maintenance Cost	High	Medium	Low
Long-term Security Cost	High	Medium	Low

Project Financial Schedule Risk

Project financial schedule risk refers to the amount of time involved in arranging the financial contracts necessary for the DBOM and DBFOM delivery methods and the possibility that an overall delay in the project schedule could occur as a result of this process. The DBOM method of project delivery is relatively untested in the U.S. transportation industry. Further, the DBOM approach would require CDOT (vs a private partner) to structure and obtain debt, as well as contingency instruments that may not currently exist on a commercial scale. Although these challenges can be managed, the small amount of U.S. experience with DBOM could cause project schedule delays. In contrast, the significant history of successful DBFOM procurements and the use of private equity to enhance project financial structure are factors that would reduce project financial schedule risk under a DBFOM.

Life Cycle Maintenance Risk

As described earlier in this paper, life cycle costs are a significant consideration for large highway projects. Insufficient maintenance can lead to a deterioration of the condition of a project and can ultimately lead to temporary closures or unsafe conditions for travelers. Insufficient maintenance can also cause long term deterioration of pavements or structures, leading to greater rehabilitation costs. OMR contractors are incented to provide quality maintenance through annual performance payments. However, the DBFOM delivery method better transfers life cycle maintenance risk when compared to DBOM. With a private finance/equity component, DBFOM best aligns the interests of the concessionaire with the public, because insufficient maintenance could result in exposure of equity investment to more serious rehabilitation costs over the longer run. In other words, a DBFOM concessionaire is more likely to proactively address problems in order to protect their financial investment in the project. A DBOM OMR contractor does not have a continuing equity investment and therefore does not have the same aligned interests.

Long Term Security Risk

At contract conclusion, the contractor will be required to turn back the project to CDOT in a sound state of repair, including possible rehabilitation. Under a DBOM delivery, CDOT may purchase performance bonds and Letters of Credit in order to provide security against the annual, routine maintenance performance of the contractor. But these sureties are unlikely to cover a significant portion of the contractor's rehabilitation obligation at turn back. DBFOM provides a higher quality long term security due to the contractor's equity investment that remains at risk until acceptance of infrastructure condition by the public at contract conclusion.

Additionally, in a worst case reconstruction scenario, there is much greater value of security with DBFOM because CDOT is not the obligor of the debt secured to finance initial construction. In a DBOM scenario CDOT would issue its own bonds - so if substantial costs occur that expend CDOT's entire contingency-- CDOT would be responsible for both the worst case event costs and its continuing obligations to bondholders. In contrast, in the case of a worst case event on the DBFOM side, there is first a level of security based on the contractor's equity investment. But once the equity is drained, and the rehabilitation event needs to be paid for, CDOT's only obligation is the performance payment, and the concessionaire remains responsible to the bondholders.

PUBLIC ENGAGEMENT

CDOT's constrained funding future only increases the importance of having all options available and the continued need to engage the public and stakeholders in the discussion so they understand the tradeoffs. This public summary of the Value for Money analysis is one of many steps CDOT and HPTE have taken to encourage public engagement in the discussion of project delivery. In addition to many open Transportation Commission and HPTE Board presentations and discussions, the following public meetings were specifically focused on soliciting public input on financing and delivery decisions.⁶

- Vision Stage: Series of public meetings held early in the process of considering a P3 model for I-70 East. Provided an overview of an initial Value for Money analysis (June/July 2014).
- Pre-RFQ Stage: Another series of meetings held as CDOT entered the very early stages of developing a Request for Qualifications for I-70 East. Input sought on what kind of partner is desired for I-70 East along with providing a review of key elements in a typical Request for Qualifications (October 2014).

In the coming months, the following key milestones are anticipated for the I-70 East project. Public engagement will be a key part of each of these steps. Additional, planned meetings on the procurement process are noted in particular.

- Transportation Commission Resolution of support for funding plan and project delivery method (February 2015)
- Request for Qualifications (Spring 2015)
- Publish Draft Request for Proposals (RFP) (Summer 2015)
 - A public meeting to discuss the Draft RFP will be held prior the release of this document
- Final Environmental Impact Statement (Fall 2015)
- Final RFP (late Fall 2015)
- FHWA Record of Decision ROD) (2016)
- Contractor Selection (2016)
 - A public meeting to discuss contract elements, protections for state & public, performance standards will be held prior to the selection of a contractor
- Transportation Commission and Bridge Enterprise Board funding approval (2016)
- Construction start (late 2016)

⁶ Additional information on these meetings is available at <https://www.codot.gov/programs/high-performance-transportation-enterprise-hpte/projects/i-70/i-70-east-1/transparency-events-outreach/events-1>.

CONCLUSION

As with any major project, I-70 East requires a careful evaluation of not just the process by which to design and build this project; but also how this roadway will be maintained and operated in a way that protects future taxpayers and meets the needs of the traveling public. Each of the models discussed in this paper, whether Design Build, DBOM or DBFOM, offer important differences in how CDOT delivers the I-70 East project to the public. CDOT recognizes these differences present a paradigm shift for the public. Consequently CDOT has engaged the public and stakeholders about these options.

The main conclusions of the I-70 East Value for Money analysis is that the project is not affordable under a Design Build model but can be afforded under both DBOM and DBFOM models. With equivalent affordability, risk transfer becomes a key valuation point. Across many elements of risk transfer, DBOM and DBFOM achieve similar results. However, DBFOM provides somewhat more risk transfer and certainty in three areas: Project Financing Schedule, Lifecycle Maintenance Cost, and Long-term Security Cost. **The choice of delivery method will depend on the perceived importance of and tolerance for these risks.**