San Francisco Peninsula Rail Program: Downtown Rail Extension (DTX)

Item 6 – DTX Project Delivery Alternatives Study

Executive Steering Committee

November 19, 2021

San Francisco Peninsula Rail Program Memorandum of Understanding (MOU)

MOU Task #16: Develop a project delivery and contracting strategy:

a) Analyze project delivery options based on a business case and risk-adjusted financial analysis, including input from the market sounding

b) Analyze legal framework and issues for delivery options, procurement, and development of contracts

c) Develop a strategic implementation roadmap including a procurement and contracting plan, risk management plan, and organizational requirements

d) Conduct workshops to allocate risk based on risk analysis performed under tasks above, and develop analysis and plans for insurance

e) Scope pre-procurement engineering and early works contracts tailored to the delivery options

MOU Task #16 Roles

Co-Leads: TJPA & SFCTA

Concur: MTC

Contribute: Caltrain, CHSRA, CCSF

Approve: TJPA Board

DTX Project Delivery Alternatives Study – Context

TJPA and SFCTA, in cooperation with IPMT, are undertaking the DTX Project Delivery Alternatives Study, to serve as the technical foundation for the Project Delivery and Contracting Strategy.

- Wide range of potential methods to deliver a project of DTX's type and scale
- Varying experiences with transit mega-project delivery in Bay Area and other regions
- DTX Project Delivery Strategy to define contract packaging and procurement method(s) for execution of the Project
- Current Project Delivery Alternatives Study to assess/narrow options, grounded in DTX requirements and context
- Finalization of the Delivery Strategy in 2022 coordinated with other MOU Tasks, including industry outreach, funding plan development, and governance study

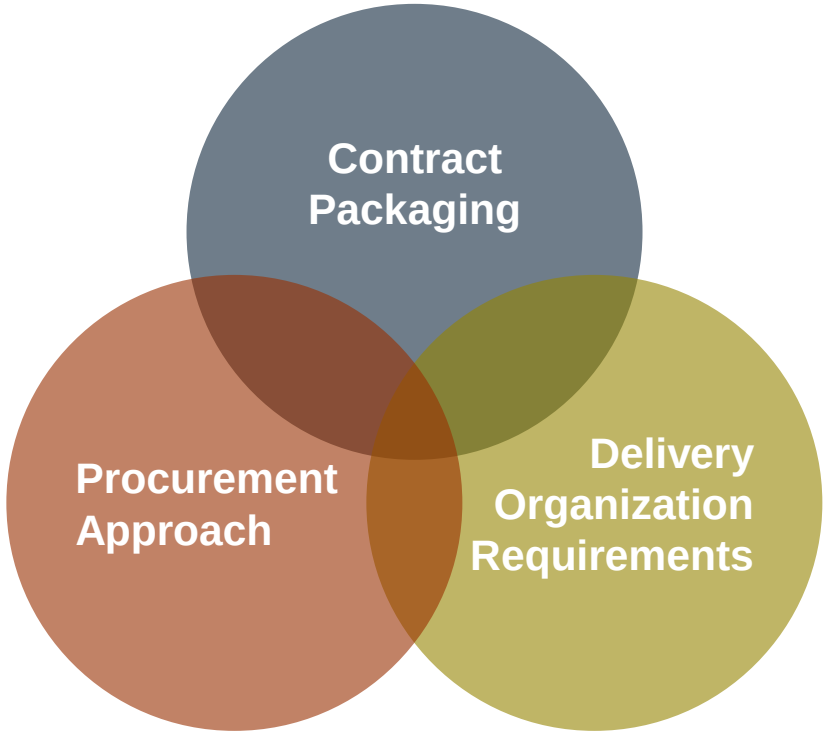
Terminology

Contract Packaging: Aggregation or disaggregation of work packages (quantity and scope make-up of contracts)

Procurement Approach: Selection of contract model(s), which define allocation of responsibilities and nature of interaction between the delivery agency and the private sector

Delivery Options: Alternative combinations of Contract Packaging and procurement model(s) for the delivery of DTX

Early Contractor Involvement: Term to describe procurement models where a contractor is engaged at an early stage in project development.



Delivery Strategy: The overall approach to delivering the project, reflecting Contract Packaging, Procurement Approach, procurement process, implementation, and the corresponding delivery organization requirements.

DTX Contract Packaging Options

- Contract packaging considers balance between aggregation and disaggregation of work packages
- Enabling Works program identified in all options to reduce/mitigate risks
- Options B, C, and D evaluated as most viable for DTX

Scope	Contract Packaging options			
	Option A	Option B	Option C	Option D
	Less Aggregated 2x civil 2x rail/ systems	1x civil 2x rail/ systems	1x civil 1x rail/ systems	**Aggregated**
Enabling Works	1	1	1	1
General Civil	2	2	2	2
Tunneling	3			
Stations Fit-out	4	3	3	
Supporting Systems				
Core Systems	5	4		
Trackwork				

Procurement Models and Applicability to DTX

Category	Method		Owner retains design	Early contractor involvement	Private finance	Inclusion of maintenance scope	Applicability to DTX
Traditional	**DBB**	Design-Bid-Build	**Yes**	No	No	No	Applicable to Enabling Works; also evaluated for rail/system and station fit-out
Integrated	**DB**	Design-Build	No	No	No	No	Anticipated limited applicability; evaluated for civil packages
	DBF	Design-Build-Finance	No	No	**Yes**	No	Anticipated limited applicability; evaluated for civil packages
	DBFM	Design-Build-Finance-Maintain	No	No	**Yes**	**Yes**	Potentially applicable when developed via a PDA to attract market interest and develop a bankable project
Collaborative	**PDB**	Progressive Design-Build	No	**Yes**	No	No	Under consideration for packages where design is closely tied to construction means and methods
	CMGC*	Construction Manager / General Contractor	**Yes**	**Yes**	No	No	Under consideration for packages where there is preference for the Owner to retain design
	PDA	Project Development Agreement	No	**Yes**	**Yes**	**Yes**	Method for developing a DBFM, structured with off-ramp for non-financed option

* For purposes of this Study, CMGC varies from the approach taken by TJPA for Phase 1 of the Transbay Program. For DTX, CMGC reflects an approach whereby the contractor would be permitted to self-perform a significant component of the scope, aligned with their core competencies, provided that the negotiated construction cost is fair and reasonable. This definition of CMGC is analogous to the model adopted by Sound Transit in the delivery of its transit program.

Long List of DTX Delivery Options

Delivery Options are a combination of contract packaging approach and procurement method(s). A spectrum of DTX-specific delivery options has been developed to consider relative strengths, weaknesses, and risks.

<table>
<tr><th>Scope</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th><th>9</th><th>10</th></tr>
<tr><td>Enabling</td><td>DBB</td><td>DBB</td><td>DBB</td><td>DBB</td><td>DBB</td><td>DBB</td><td>DBB</td><td>DBB</td><td>DBB</td><td>DBB</td></tr>
<tr><td>General Civil</td><td>DB</td><td>PDB</td><td>PDB</td><td>PDB</td><td rowspan="2">PDB</td><td rowspan="2">PDB</td><td rowspan="2">PDBF</td><td rowspan="4">PDB</td><td rowspan="4">PDBF</td><td rowspan="4">PDA-DBFM</td></tr>
<tr><td>Tunnel</td><td>PDB</td><td>CMGC</td><td>PDB</td><td>PDB</td></tr>
<tr><td>Station Fit-out & Supporting Systems</td><td>CMGC</td><td>CMGC</td><td>CMGC</td><td rowspan="2">CMGC</td><td>CMGC</td><td rowspan="2">CMGC</td><td rowspan="2">CMGC</td></tr>
<tr><td>Core Systems & Trackwork</td><td>DBB</td><td>CMGC</td><td>CMGC</td><td>CMGC</td></tr>
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Design transferred

Design retained

Includes private finance

Procurement Objectives

The following objectives provide a framework for evaluating the strengths, weaknesses, and trade-offs of Delivery Options:

- **Market interest and competition:** Attract sufficient market interest to promote competition amongst well-qualified contractors.
- **Value:** Deliver the project within the identified budget and support realization of value.
- **Flexibility and adaptability:** Manage and accommodate change during project development, construction, and operation.
- **Risk:** Effectively manage and allocate risk.
- **Delivery Agency:** Identify clear and achievable responsibilities for the delivery agency.
- **Schedule:** Develop and deliver the project on the planned timeline.
- **Procurement Process:** Implement a fair and deliberate procurement process.

Key Considerations for Evaluating the Long-List of Options

Procurement Objective	Considerations
Market interest and competition	The market is trending away from competitively-tendered **lump sum contracts** on large, complex transit projects and is interested in **early contractor involvement** to inform design, cost, and schedule and to enable more accurate pricing of risk. Large aggregated contracts could reduce competition but are appropriate where a long-term contract (DBFM) is considered.
Risk	**One aggregated civil contract** is preferred to address construction access risk. There would be significant risk associated with the coordination of two civil contracts, due to staging and construction access needs. An **enabling works package**, including public and private utility relocates and demolition, would address high-risk items early in project delivery and support effective mobilization of construction contracts. All options assume an enabling works package. Tunnel design is a key mitigation of tunnel construction risk, and design is influenced by means and methods of construction. The **transfer of design for the civil scope** is a preference.
Flexibility and adaptability	The requirements of the two operators on the DTX will likely evolve over time, and flexibility in the design process is considered advantageous. **Owner retention of the design** for the systems and track scope is preferred, except for long-term, consolidated contracts.
Other considerations	**Key evaluation considerations include:** • **Delivery Agency:** Considerations regarding the number of contract packages and the capability required to effectively manage interfaces. • **Value:** Potential risk premiums due to the allocation of undefined or poorly quantified risks; the approach to pricing changes and level of transparency post contract award. • **Schedule:** The overall duration of the project development and procurement processes.

Next Steps

- Advance the Project Delivery Alternatives Study (November 2021 to January 2022)
  - Recommend narrowed set of most viable Delivery Options for DTX
  - Seek direction from ESC and TJPA Board
- Finalize the Project Delivery Strategy (January 2022 to mid-2022)
  - Further technical and financial/commercial analysis of short-listed Delivery Options
  - Coordinate with funding, governance, and design tasks
  - Conduct next industry sounding with private sector
  - Prepare Strategic Implementation Roadmap for procurement and delivery of project

Thank you.