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Federal Highway Administration RESOURCE CENTER 20 YEARS OF SERVICE

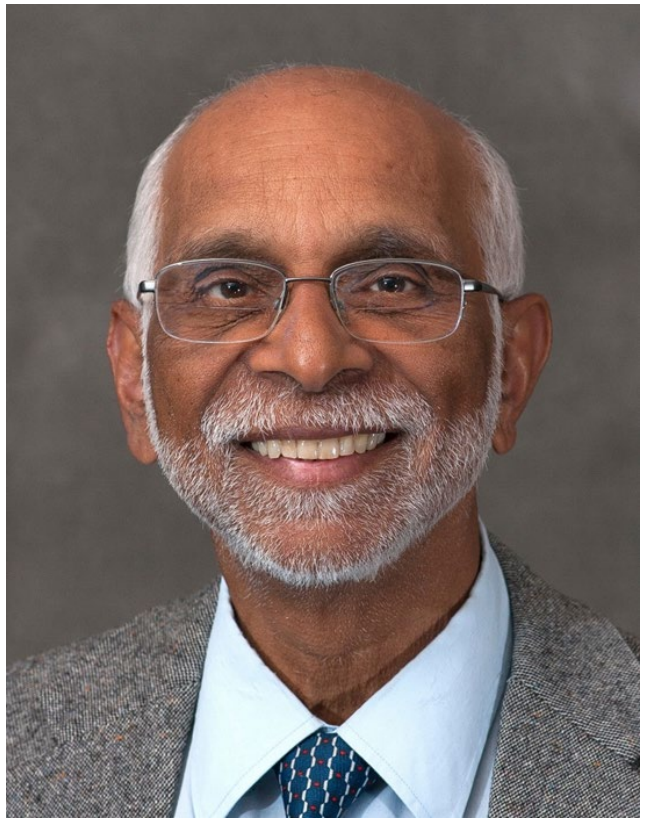
What's the best contracting method for my project?

An Introduction to the CASE Webtool (Contracting Alternatives Suitability Evaluator)

Webinar

March 3, 2021

Presenters



Patrick DeCorla-Souza

David Unkefer

U.S. Department of Transportation
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Today's Agenda

- Background
- Overview of CASE Webtool
- Overview of P3-VALUE
- Resources

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Background

CASE: Value and Purpose

Image credit: FHWA, David Unkefer

- Alternative contracting methods (ACMs) can save significant time and money
- Evaluation of short/long-term ACMs

CASE Project Objective

To develop

- a **suite of linked analytical tools** that
- **integrate strong national practices** from FHWA, State DOTs and others,
- while **filling important the gaps** wherever they exist and enhancing their capabilities.

Why CASE?
Alternative Contracting vs. Traditional Methods

- Shorten project delivery
- Reduce cost and schedule risk
- Incorporate innovation
- Manage life cycle costs and performance
- Conserve public sector debt capacity

Image credit: FHWA, David Unkefer

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Why CASE? ACM Benefits

"More work in place with less disruption to the traveling public"

✓"CM/GC ~ **50% faster** than D-B-B"
✓"D-B/LB ~ **50% faster** than D-B-B"
✓"D-B/BV ~ **15% faster** than D-B-B"

Opportunity for big savings

➢ Caltrans Experience	
Design-Build	$87M (9%) savings/4 years
CMGC	$291M (17%) savings/6 years

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The Making of CASE

- Synthesis and assessment of existing methodologies
- Case studies of leading state DOTs
- Meeting with subject matter experts
- Pilot tests with state DOTs
- Working Web-based tool

Image credit: FHWA, David Unkefer

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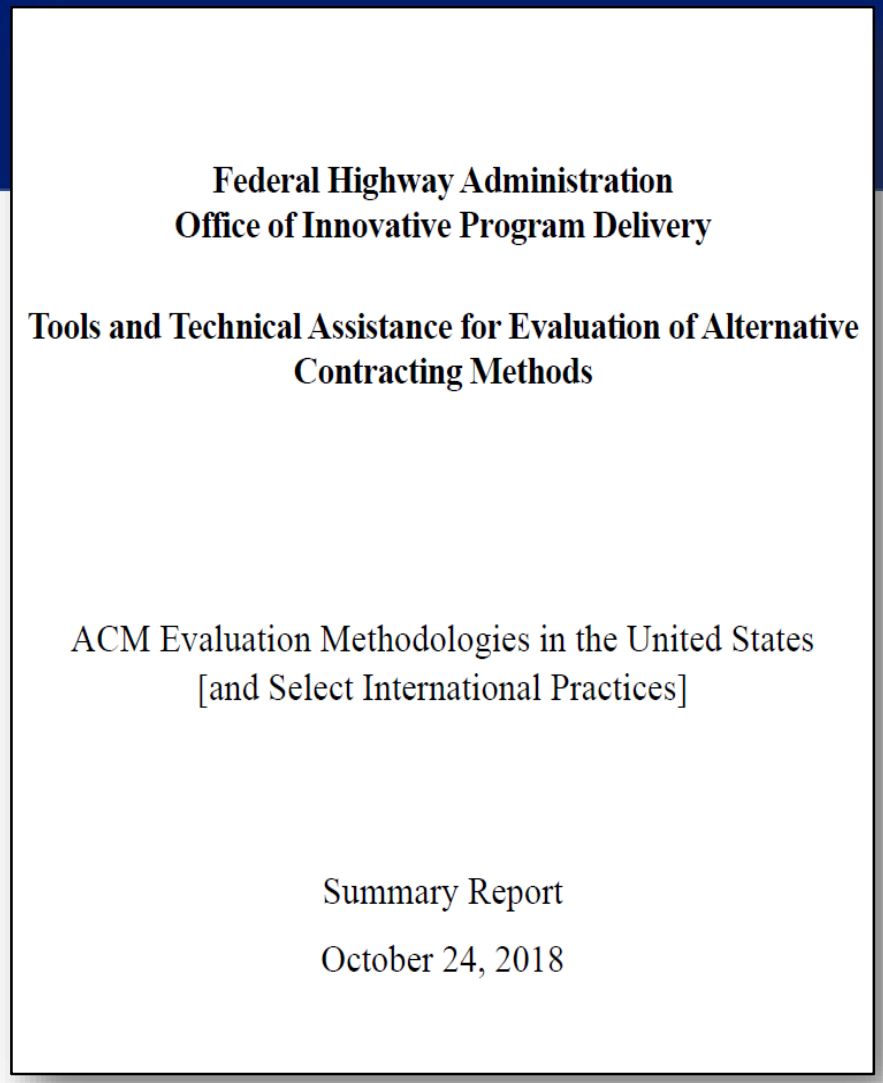
Existing Methodologies

Key Findings:

- DOTs choose ACMs for 3 primary reasons
- Performance measurements of selected ACMs very limited
- Selections rely significantly on user judgments



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Tools and Technical Assistance for Evaluation of Alternative Contracting Methods

ACM Evaluation Methodologies in the United States
[and Select International Practices]

Summary Report

October 24, 2018

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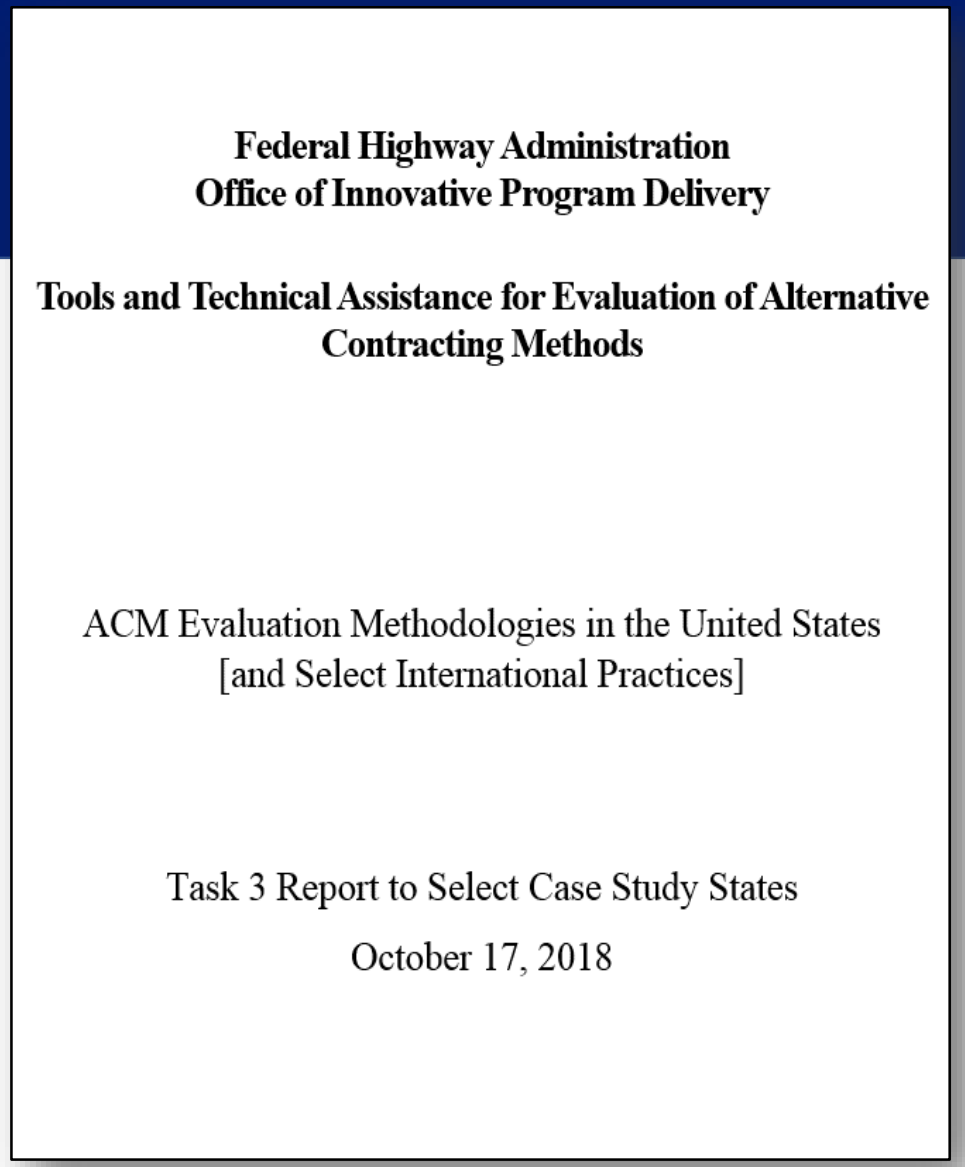
Case Studies

- Mature ACM programs
- More than one ACM
- Institutionalized (manuals, guidebooks, policy documents)
- Availability of performance data



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Office of Innovative Program Delivery

Tools and Technical Assistance for Evaluation of Alternative Contracting Methods

ACM Evaluation Methodologies in the United States
[and Select International Practices]

Task 3 Report to Select Case Study States

October 17, 2018

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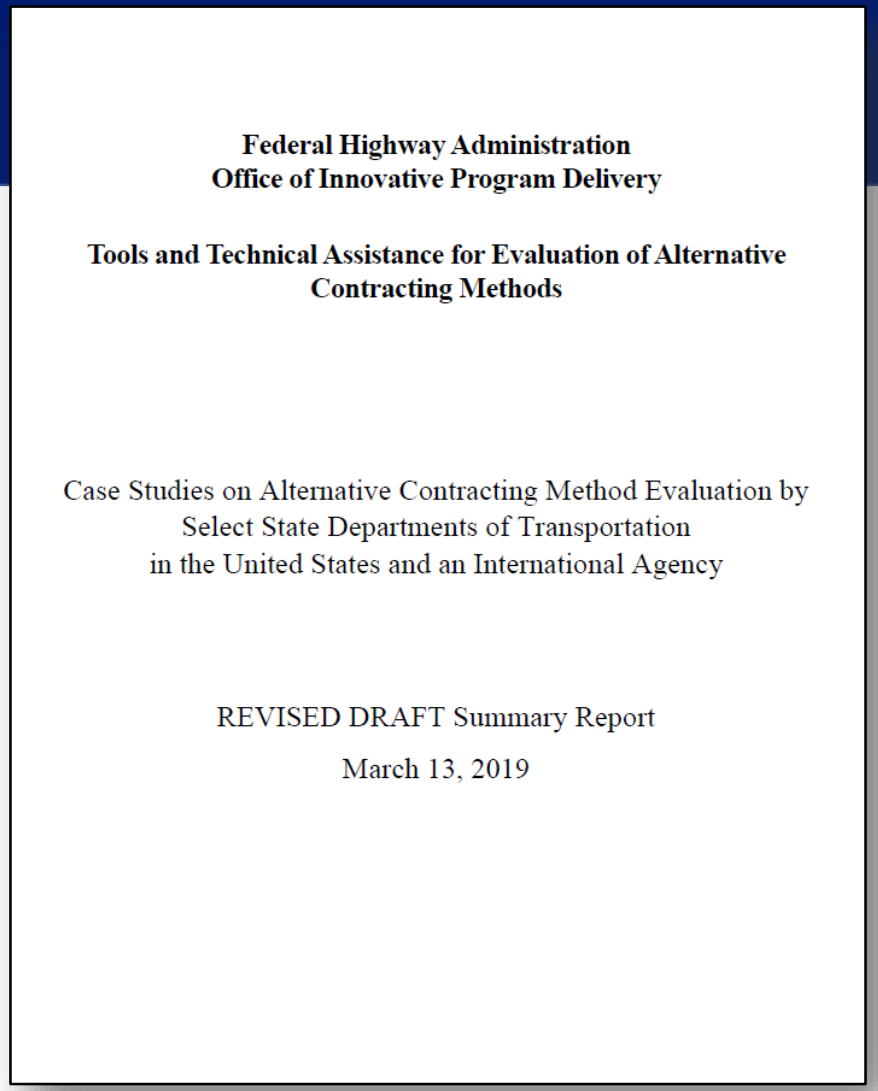
Case Studies (contd.)

- California DOT
- Florida DOT
- Michigan DOT
- Texas DOT
- Utah DOT
- Virginia DOT
- Washington DOT
- Australia
- Transit – Purple Line



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Tools and Technical Assistance for Evaluation of Alternative Contracting Methods

Case Studies on Alternative Contracting Method Evaluation by Select State Departments of Transportation in the United States and an International Agency

REVISED DRAFT Summary Report

March 13, 2019

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ACM evaluation tools considered/used

- CDOT's PDSM
- Caltrans' Alternative Procurement Guide
- TCRP Report 131: A Guidebook for the Evaluation of Project Delivery Methods
- Value for Money (VfM) Analysis
- P3-SCREEN, P3-EFFECTS, and

  P3-VALUE 2.2
- SHRP2 R10 – Project Management Strategies

Image credit: FHWA, David Unkefer

Questions?

An Overview of CASE

Case.fhwa.dot.gov

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Getting Started

P3 Home › P3 Toolkit ›

Contracting Alternatives Suitability Evaluator (CASE) Webtool

Launched in 2021, the Contracting Alternatives Suitability Evaluator (CASE) is FHWA's online webtool, which supports public agencies and other transportation organizations in selecting short- and long-term contracting methods. The webtool is supported by:

- Accessing the CASE Webtool
- CASE Webtool Getting Started Guide
- CASE Webtool User Guide

Training and technical assistance is available from FHWA. For assistance, contact David Unkefer at David.Unkefer@dot.gov.

Visit case.fhwa.dot.gov to use the CASE Webtool for your next project.

- Register for an account
  - LOGIN.GOV
  - CASE

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Case.fhwa.dot.gov

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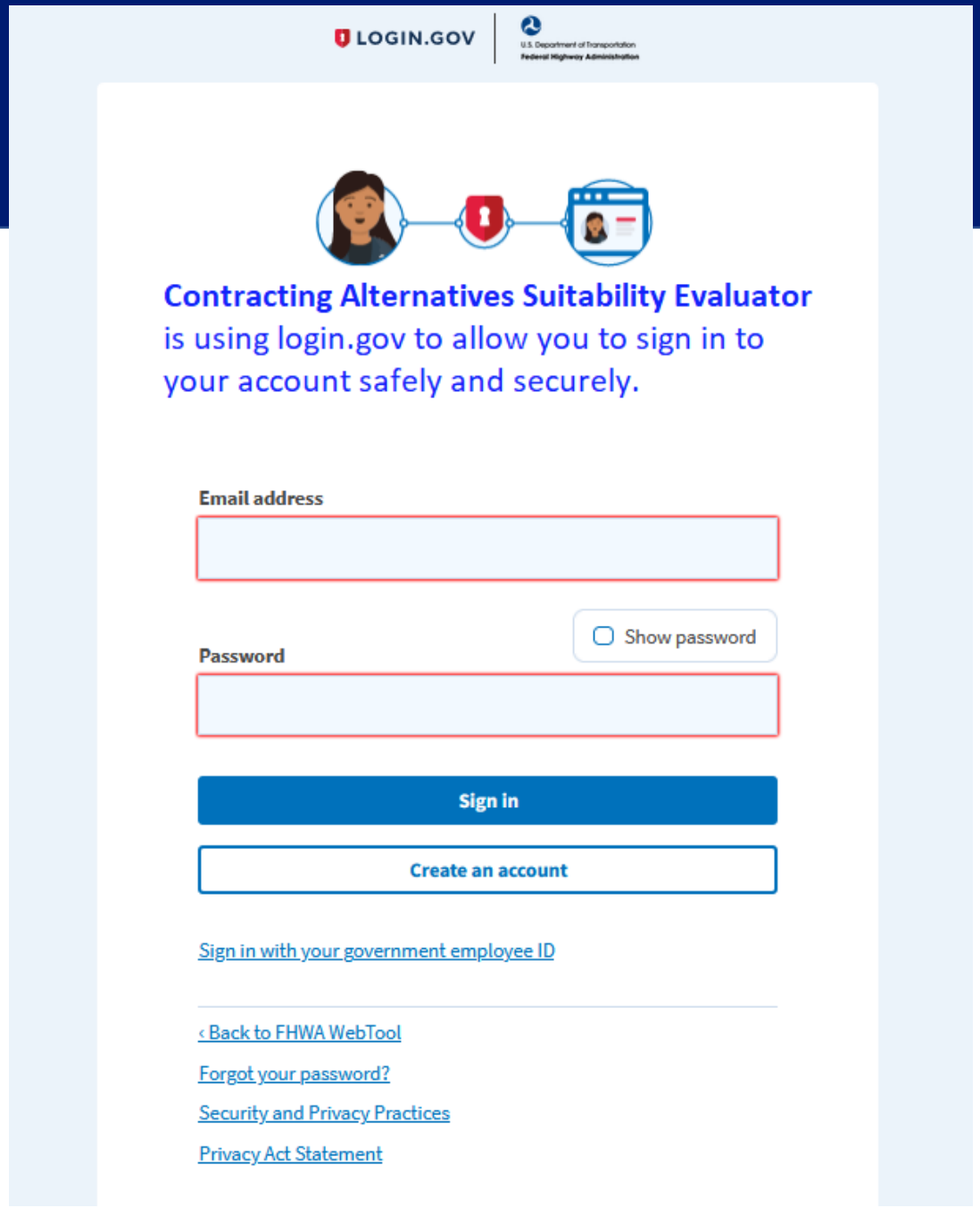

LOGIN.GOV: User ID Authentication

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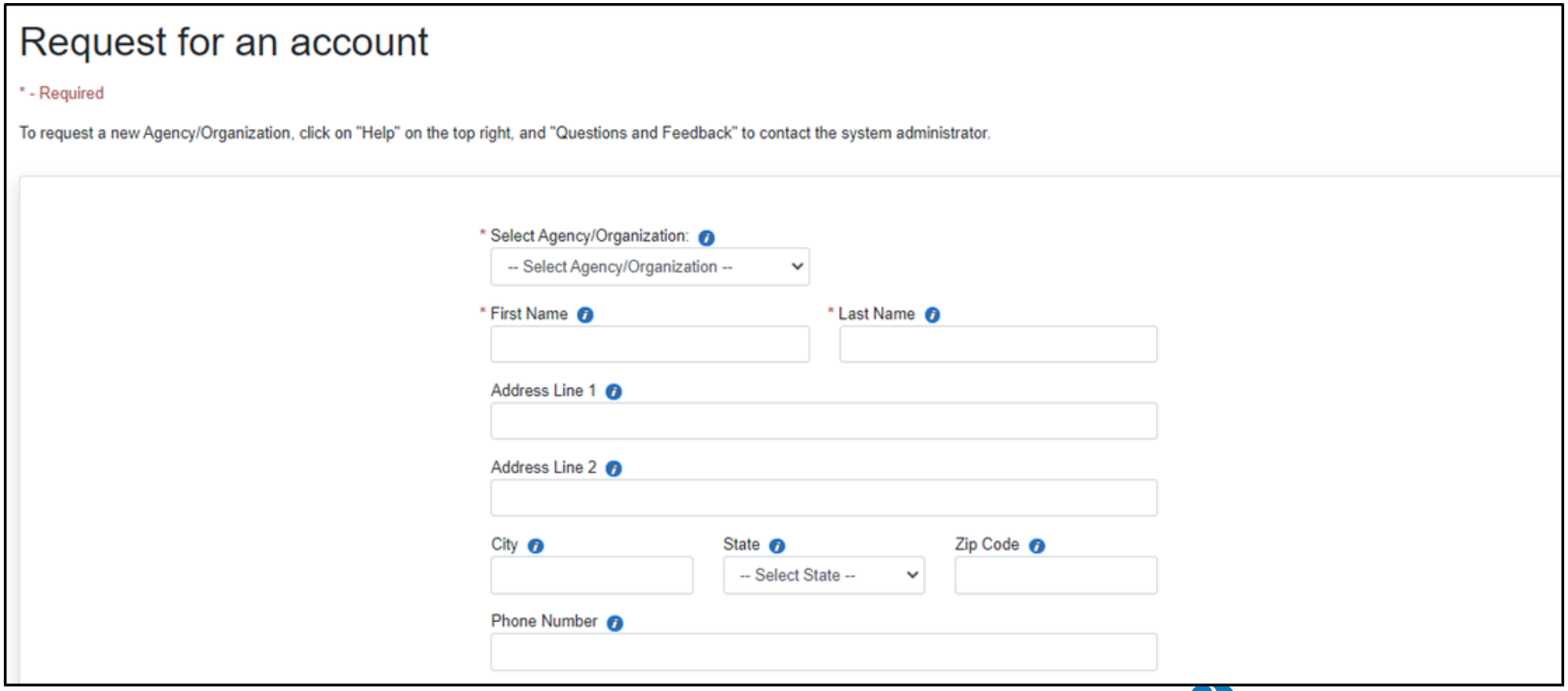
CASE Account



Registration

After CASE Account Approval

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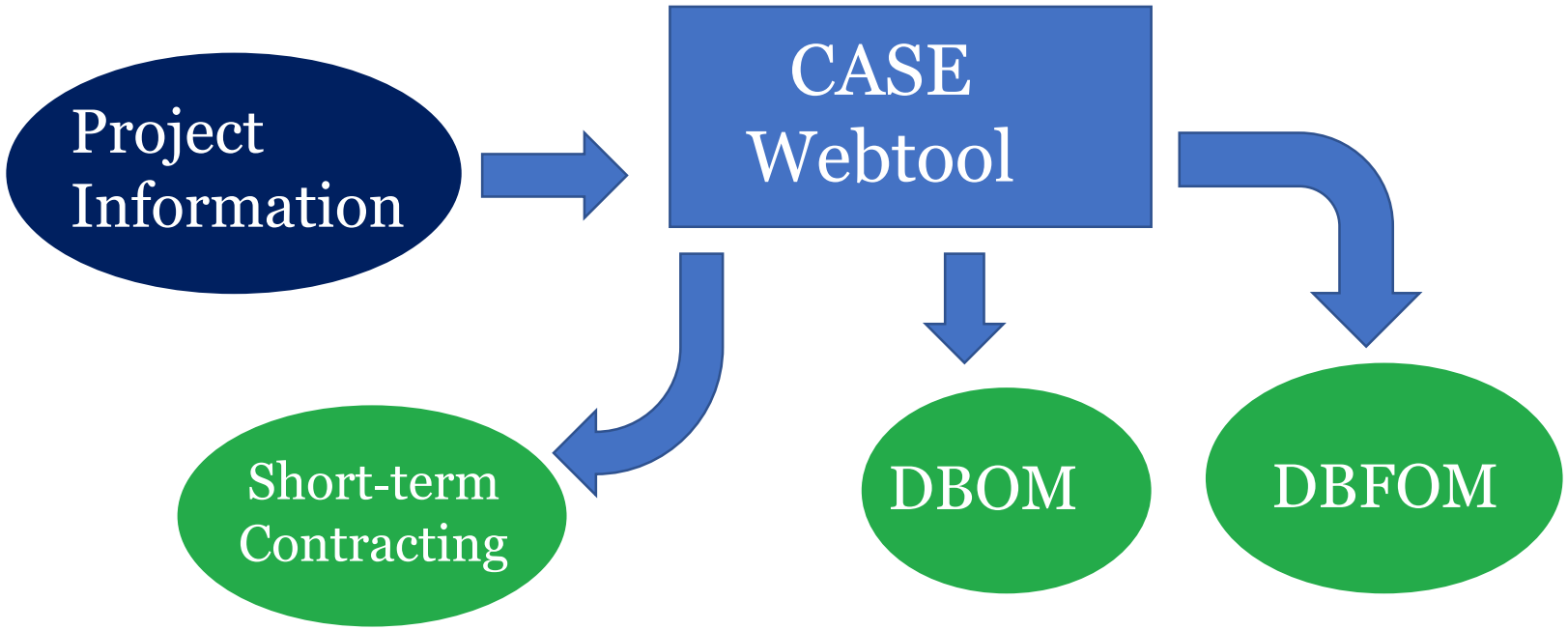
CASE Webtool: Inputs and Outputs



DBB, CM/GC, DB and PDB

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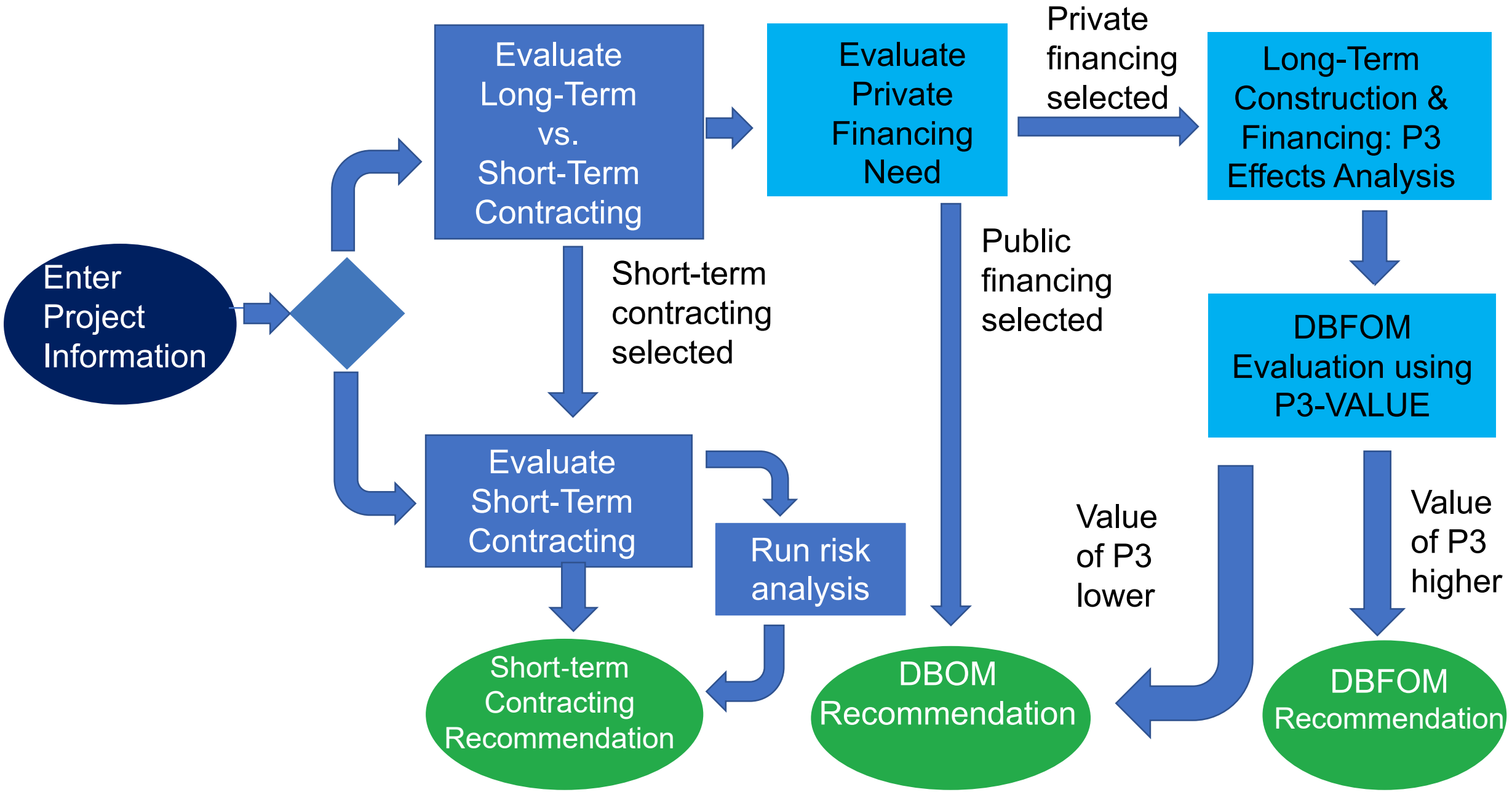
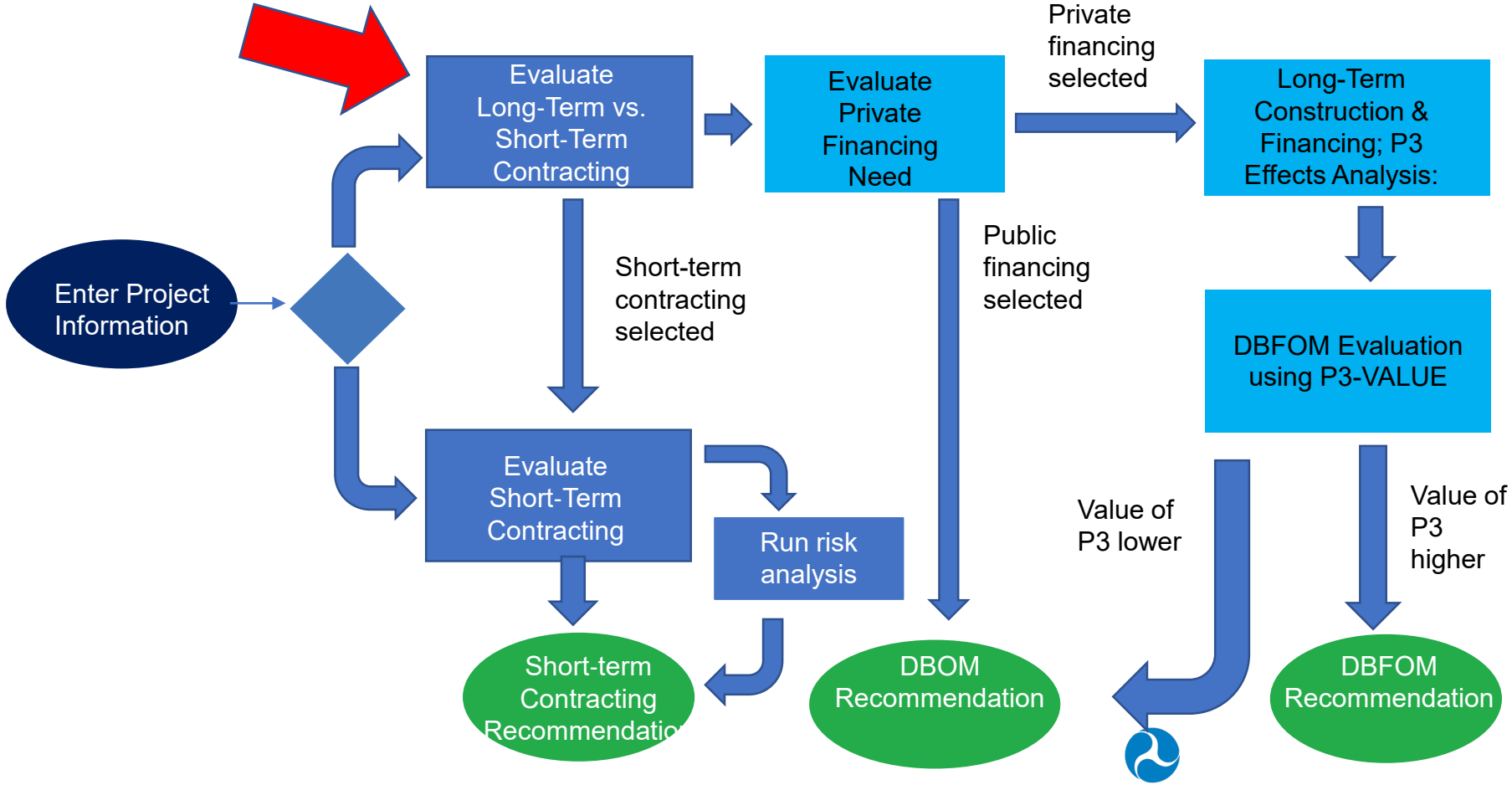

Enter Project Information
Evaluate Long-Term vs. Short-Term Contracting
Short-term contracting selected
Evaluate Private Financing Need
Private financing selected
Long-Term Construction & Financing: P3 Effects Analysis
Public financing selected
DBFOM Evaluation using P3-VALUE
Evaluate Short-Term Contracting
Run risk analysis
Value of P3 lower
Value of P3 higher
Short-term Contracting Recommendation
DBOM Recommendation
DBFOM Recommendation

Step 1: Short-term vs. Long-term



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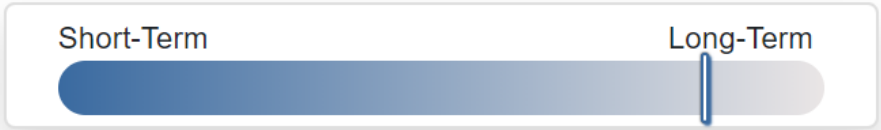
Sample Output: Short-Term vs. Long-term

Long-Term vs. Short-Term Comparison Results



Based on answers to questions in this section, the position of the needle in this heat map represents the results of the toolset's evaluation of long-term vs. short-term contracting. The closer the needle is placed to either end of the map indicates the toolset's recommendation of whether Long-Term or Short-Term contracting may be preferred for the project.

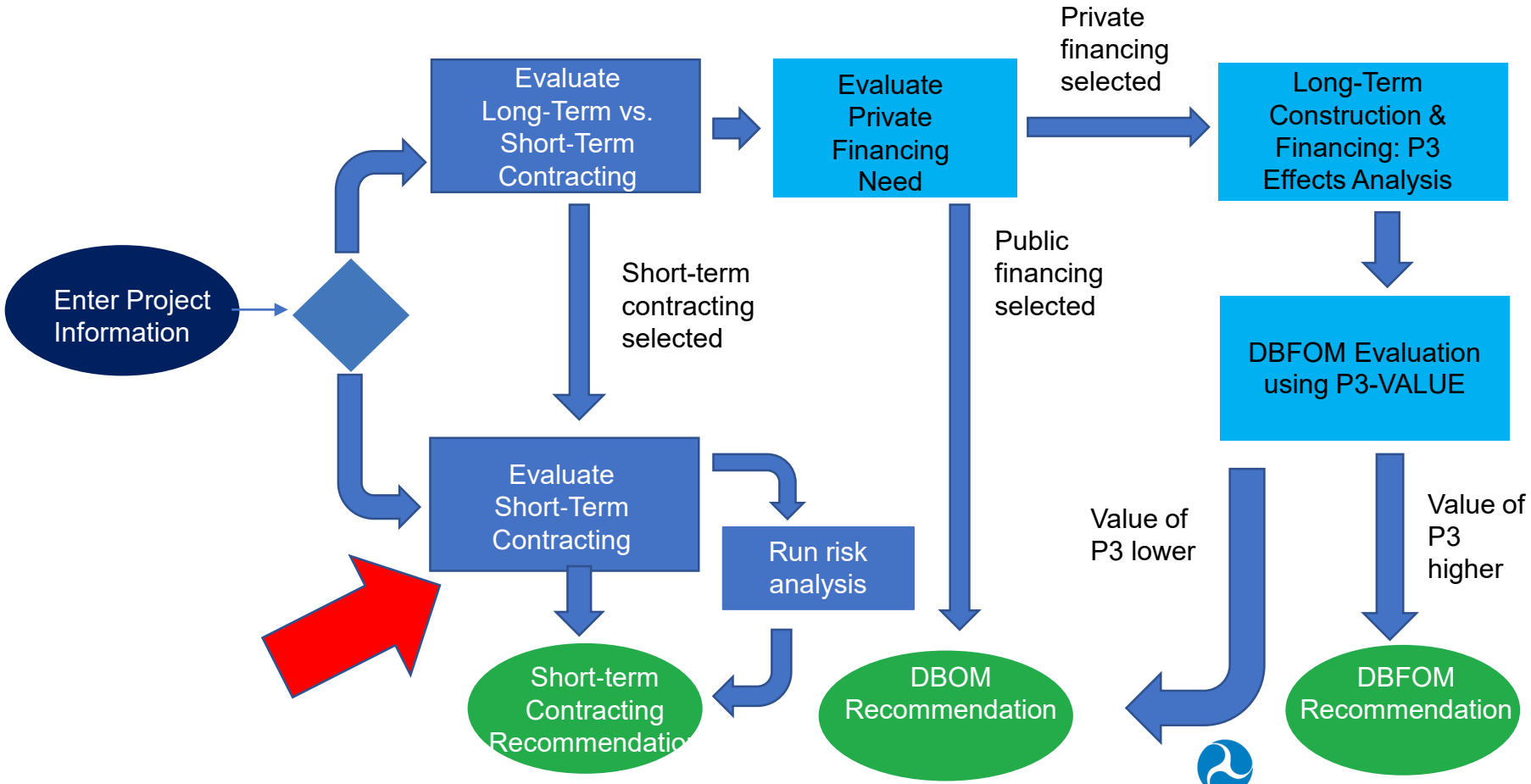
Based on your responses, the toolset's recommendation is :

Long-Term Contracting is preferred.

Questions?

Short-Term Contracting Evaluation with CASE

Step 2: Short-term



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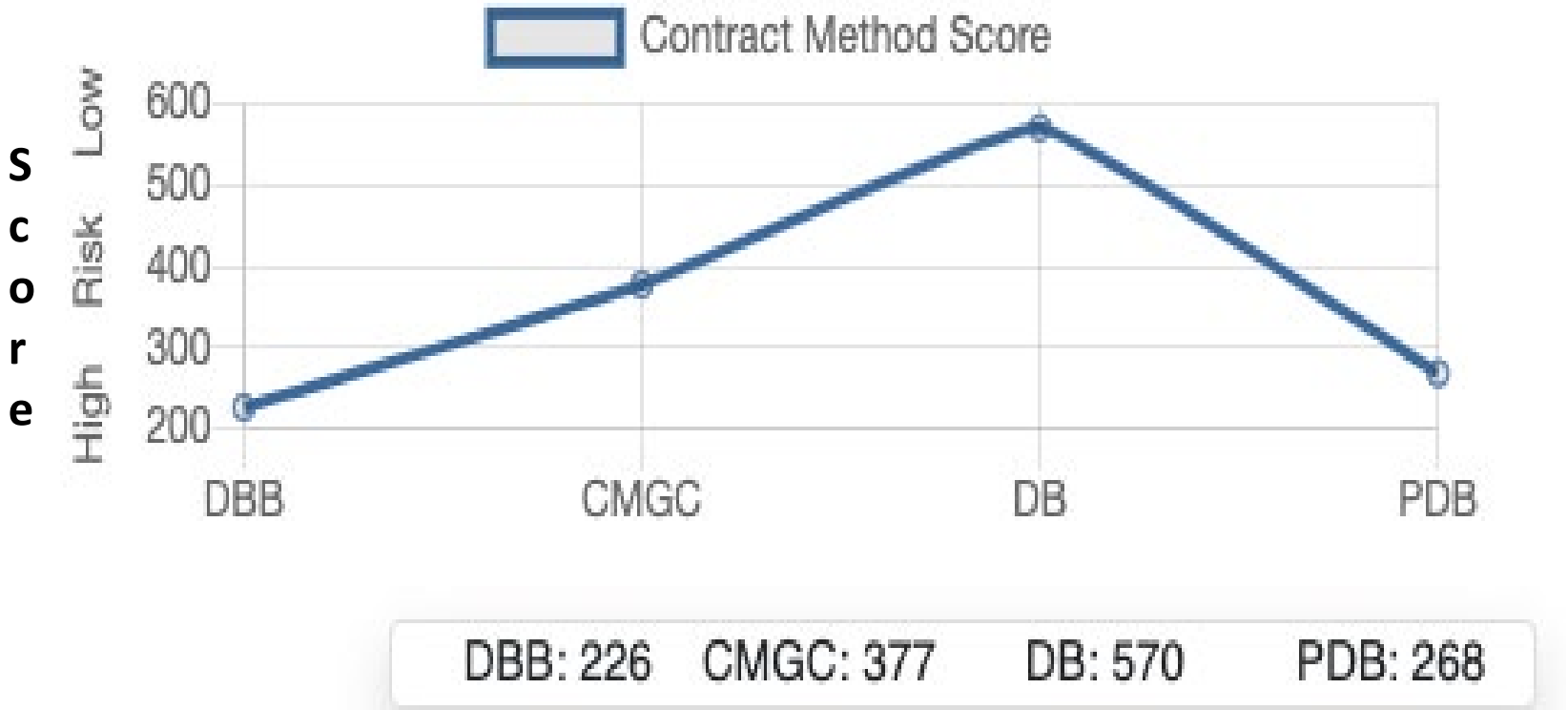
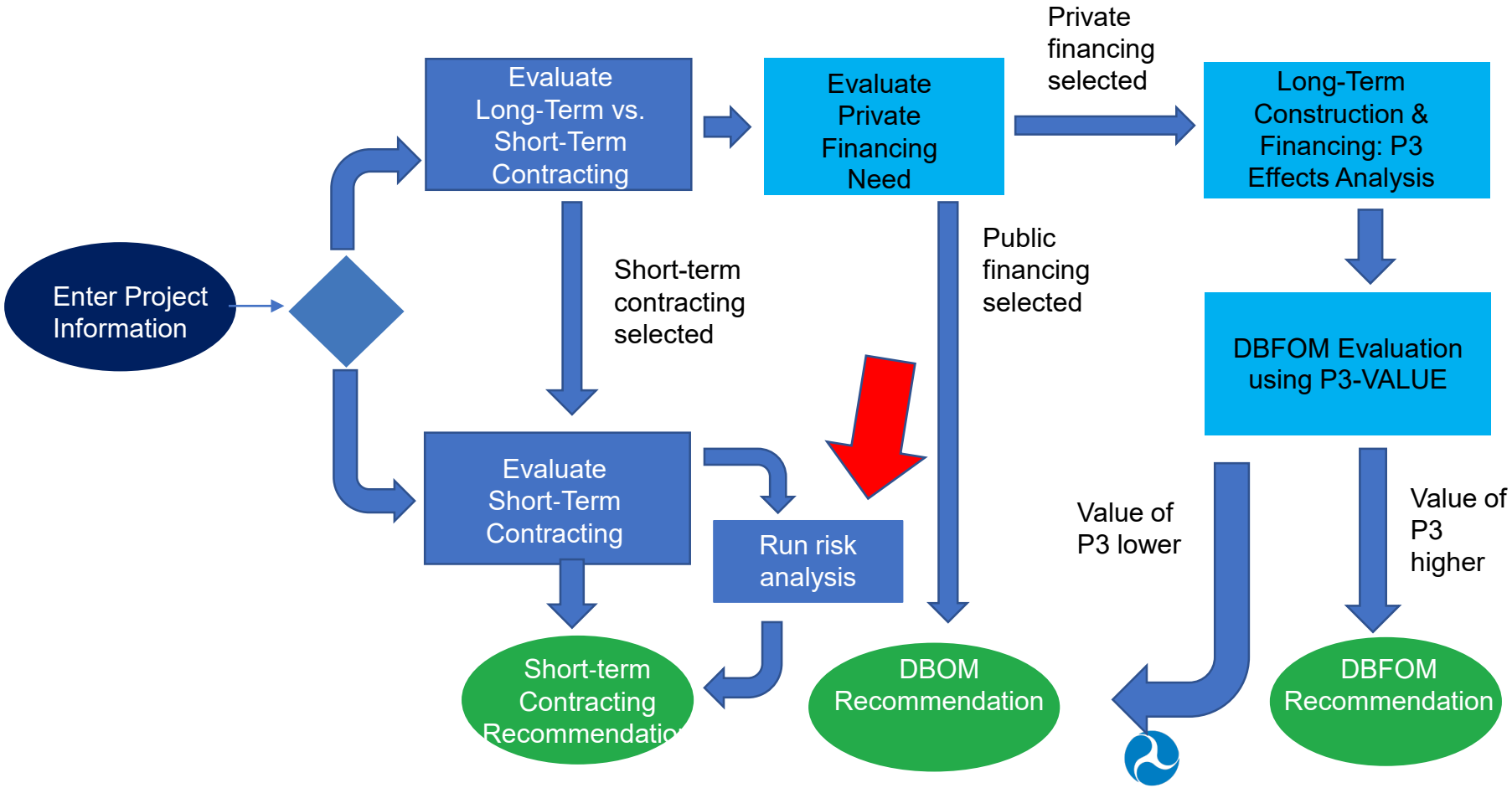
Example: Short-term Contracting Comparison



DBB = Design-Bid-Build
CMGC = Construction Manager/General Contractor
DB = Design-Build
PDB = Progressive Design-Build

Step 3: Risk Analysis



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Risk Analysis Sample Output

Risk Description	Qualitative Risk Assessment		
	Probability of Occurrence	Severity of Impact	Risk Rating
Environmental impact statement (EIS) required	5% <= P < 20%	Catastrophic Delay and	8
Unforeseen delays due to utility owner and third-party	P <= 5%	Negligible Schedule or	1
Railroad involvement	20% <= P < 60%	Minor Delay and/or Cos	6
Lack of coordination/ communication	20% <= P < 60%	Major Delay and/or Cos	9
Community relations	P >= 60%	Major Delay and/or Cos	12
Project complexity - scope, schedule, objectives, cost, and deliverables - are	20% <= P < 60%	Major Delay and/or Cos	9
Maintenance of Traffic/ Work Zone Traffic Control	P >= 60%	Minor Delay and/or Cos	8

Risk Mitigation Sample Output

Risk Mitigation Decision Matrix

Select the ACM methods for Risk Mitigation

DBB	CMGC	DB	PDB
☐	☐	☑	☑

Risk Description	Risk Rating	Ability to Mitigate through Delivery Method			
		DBB	CMGC	DB	PDB
Environmental impact statement (EIS) required	8			Advantageous to	Advantageous to
Unforeseen delays due to utility owner and third-party	1			Costly to Manag	Reasonable to M
Railroad involvement	6			Costly to Manag	Reasonable to M
Lack of coordination/ communication	9			Reasonable to M	Advantageous to
Community relations	12			Reasonable to M	Reasonable to M
Project complexity - scope, schedule, objectives, cost, and del	9			Reasonable to M	Advantageous to
Maintenance of Traffic/ Work Zone Traffic Control	8			Reasonable to M	Reasonable to M

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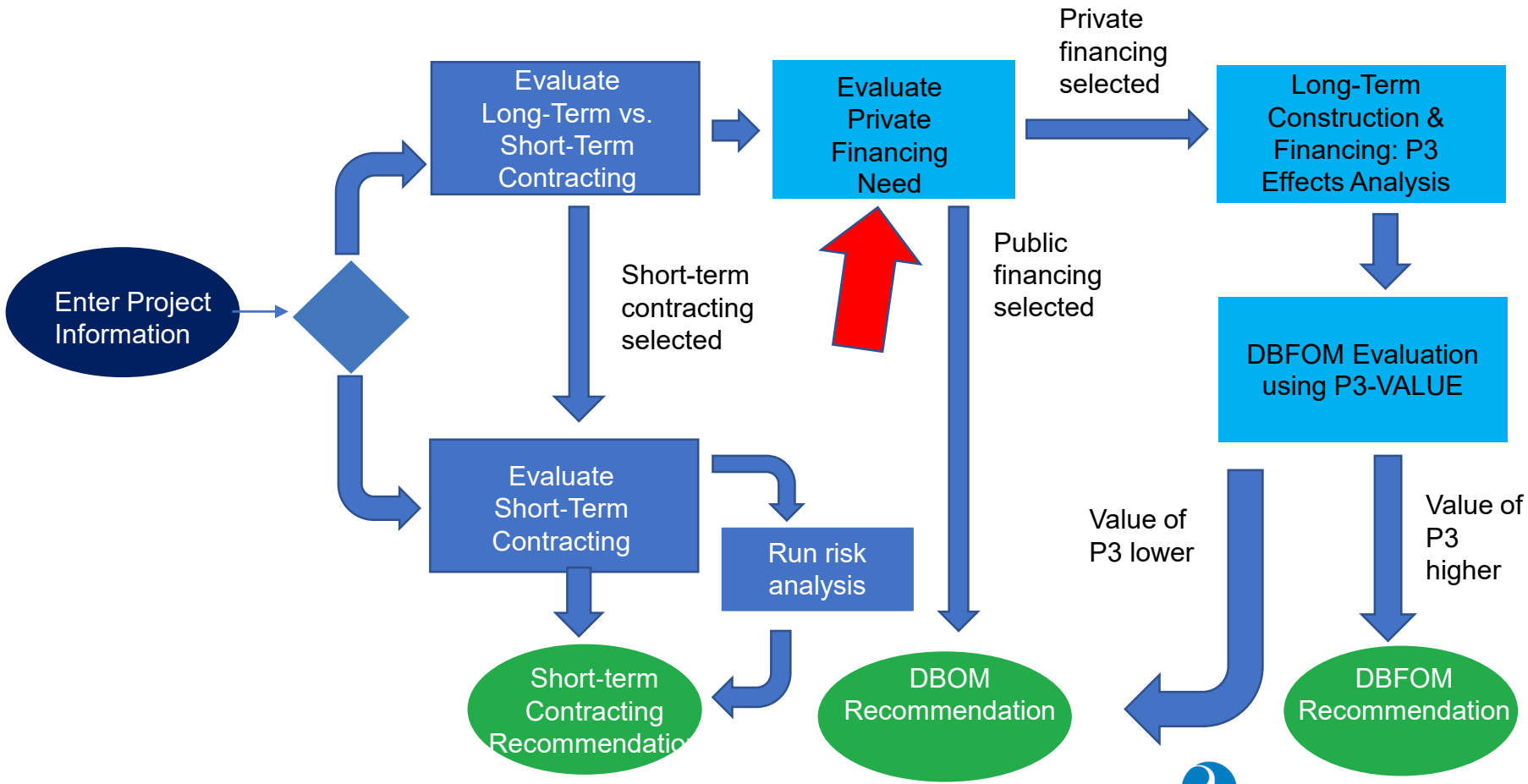
Long-term Contracting Evaluation with CASE

Step 4: DBOM vs. DBFOM



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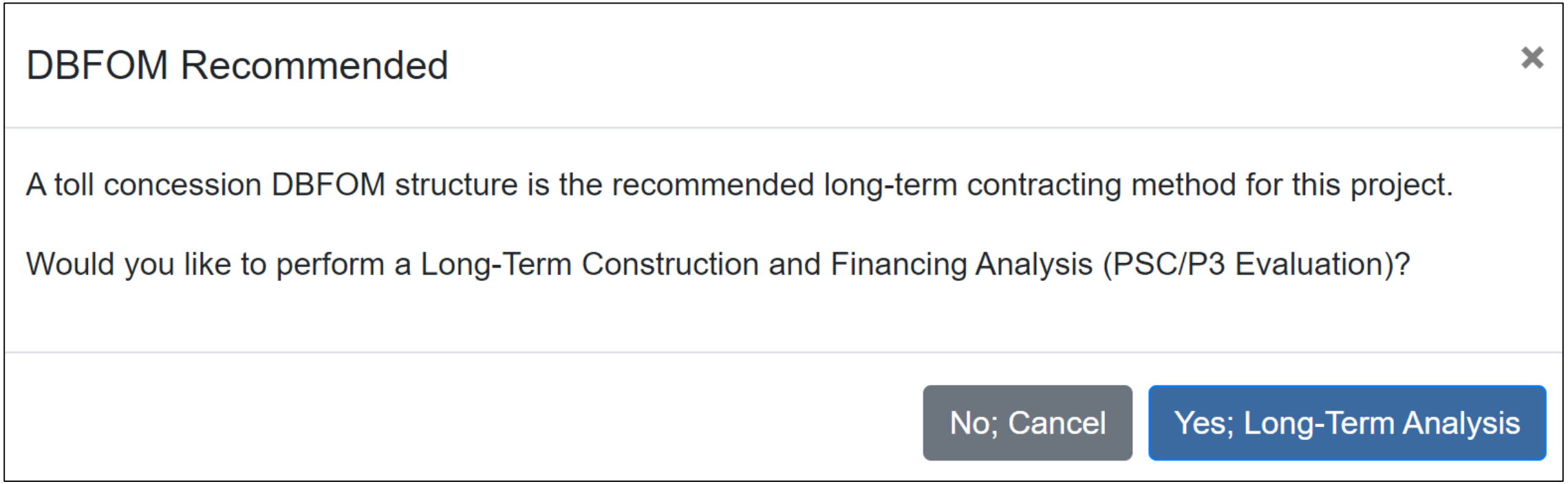
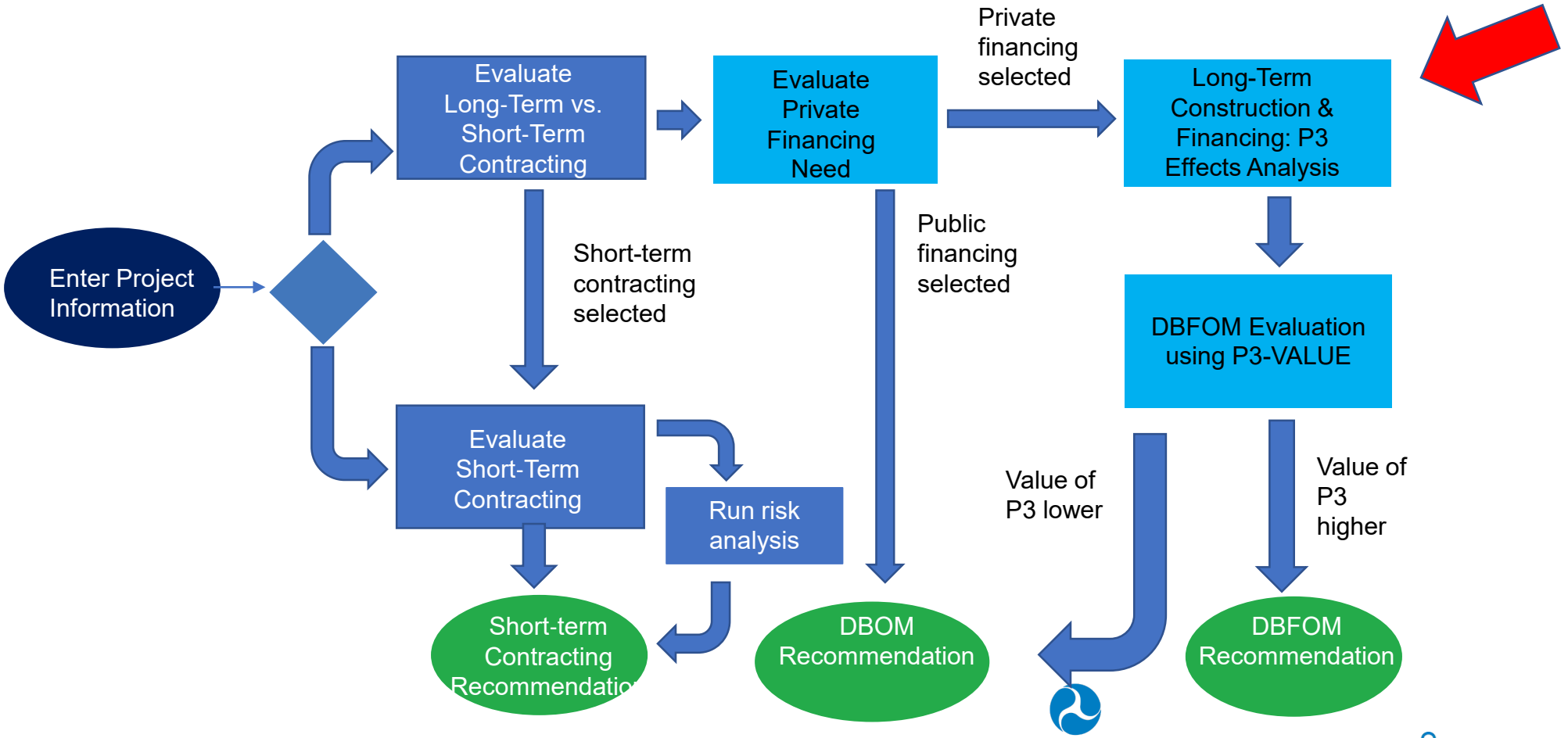
Step 4 Sample Output: DBOM vs. DBFOM



Step 5: Analysis of P3 Effects



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Example: P3 Effects on Project Timing

TRAINING PARAMETERS	PSC Value	P3 Min Value	P3 Max Value
Project Preparation Duration (months)	12	12	18
Project Procurement Duration (months)	12	22	36
Project Implementation Duration (months)	24	22	26
Operation Duration (years)	20	-	-

Example: P3 Effects on Project Costs

COST PARAMETERS	PSC Value	P3 Min Value	P3 Max Value
Project Preparation Cost	$5,000,000	$5,000,000	$6,250,000
Public Procurement Cost	$5,000,000	$5,750,000	$10,000,000
Private Procurement Cost	$5,000,000	$7,500,000	$15,000,000
Project Implementation Cost	$3,400,000,000	$3,230,000,000	$3,400,000,000

Summary of CASE Outputs

1. Appropriateness for long-term contracting
2. Short-term ACMs ranked based on how they respond to project needs
3. Project team's risk assessment against short-term ACMs
4. Appropriateness for long-term contracting with private financing (DBFOM)
5. Effects of DBFOM

CASE Summary Report

Executive Summary

Long-Term vs Short Term Analysis

Based on answers to questions in this section, the toolset evaluates whether Long-Term or Short-Term contracting is preferred for the project.

Based on your responses, the toolset's recommendation is : Long -Term Contracting is preferred.

Short-Term Contracting Methods – Evaluation Results

Below are your scores for each of the methods based on your answers. (→ denotes selected method.)

DBB : 145

→CMGC : 281

DB : 231

PDB : 272

Risk Mitigation Decision Matrix Summary

Risk Mitigation Rating (Higher Score = Better Risk Mitigation)

DBB: —

CMCG: 90

DB: —

PDB: 100

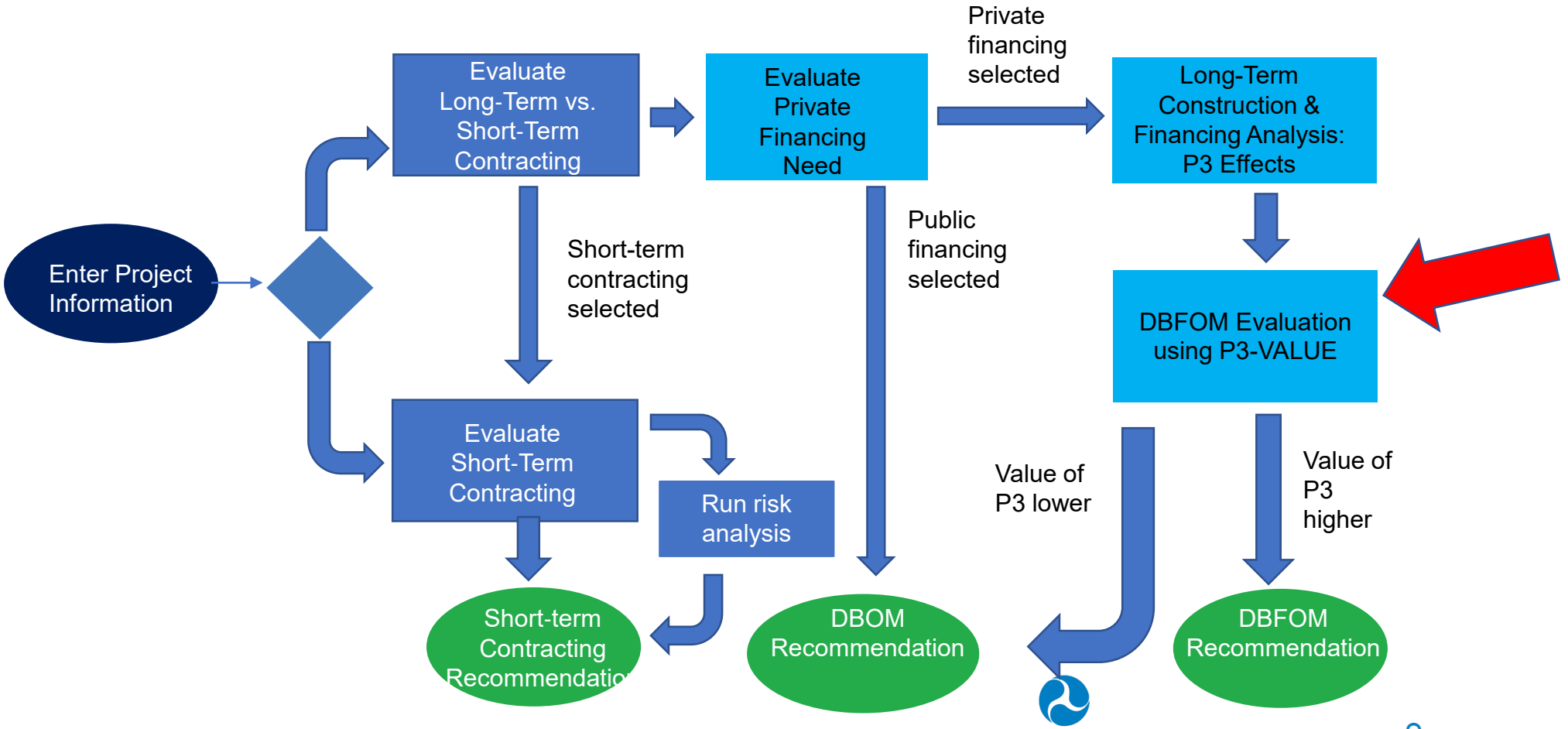
Private Financing (DBFOM) or Public Financing (DBOM) Evaluation

A toll concession DBFOM structure is the recommended long-term contracting method for this project.

Questions?

An Overview of P3-VALUE
(Long-term Contracting Evaluation)

Step 6: DBFOM Evaluation



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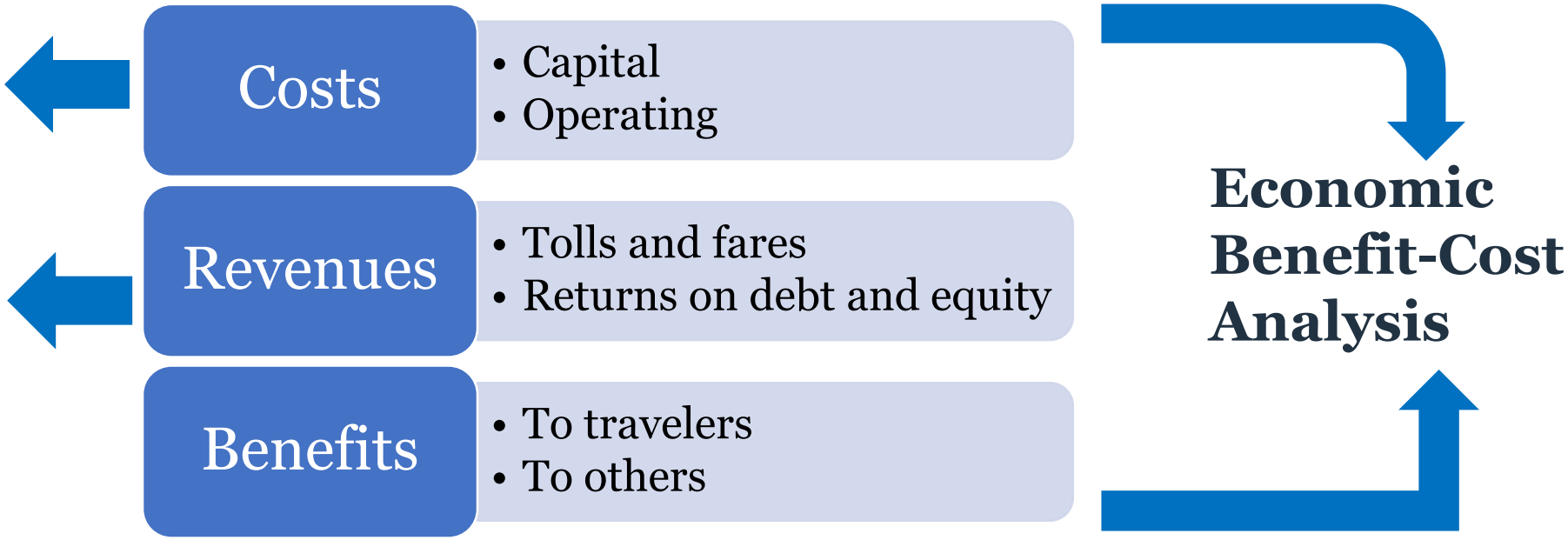
P3-VALUE

Financial "Value for Money" Analysis



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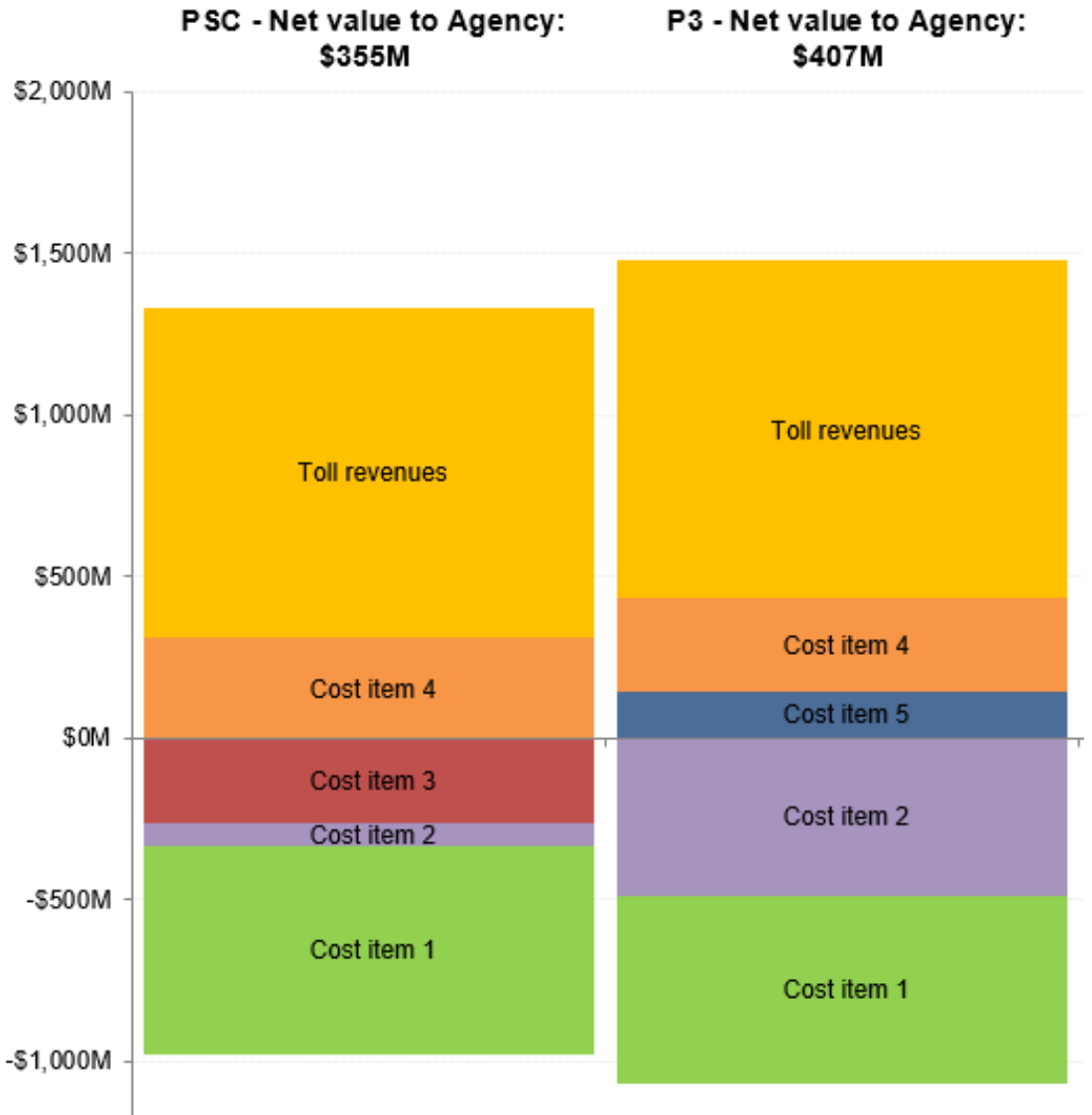
P3-VALUE Output Example: Value for Money



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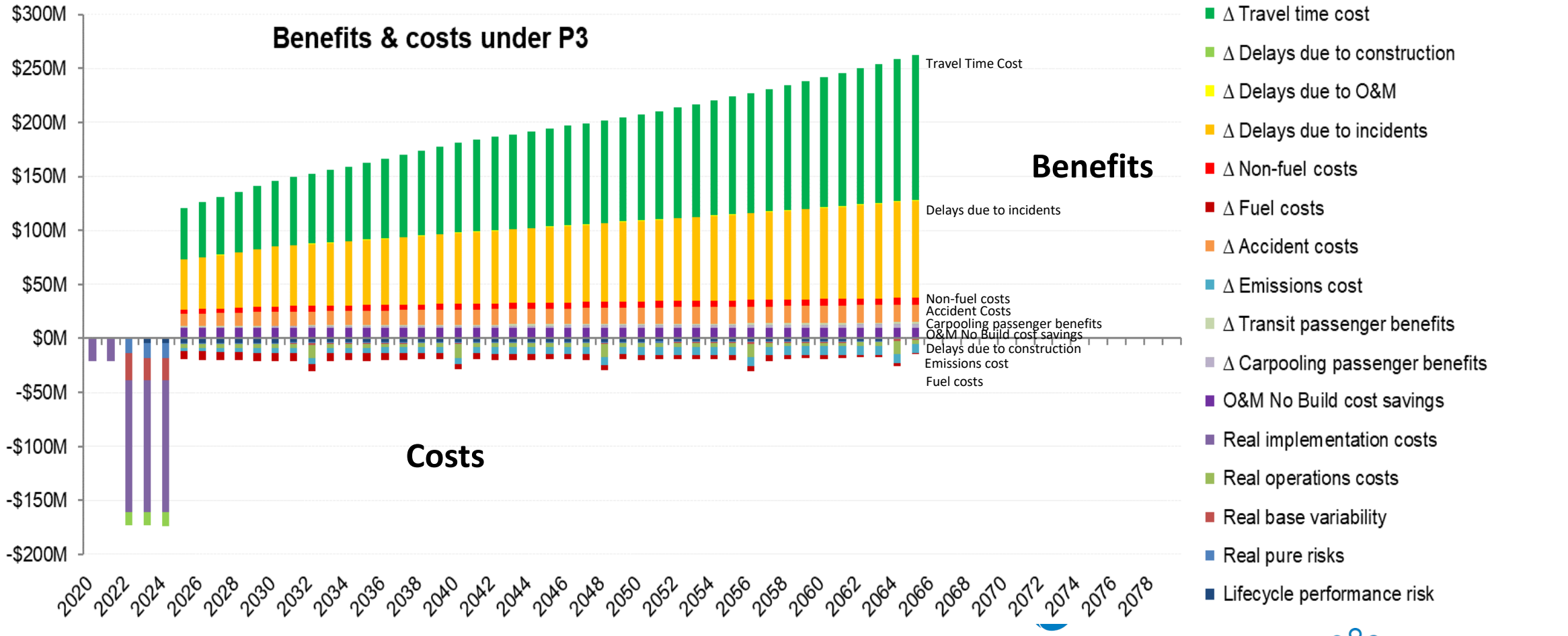
P3-VALUE Output Example: Benefits vs. Costs



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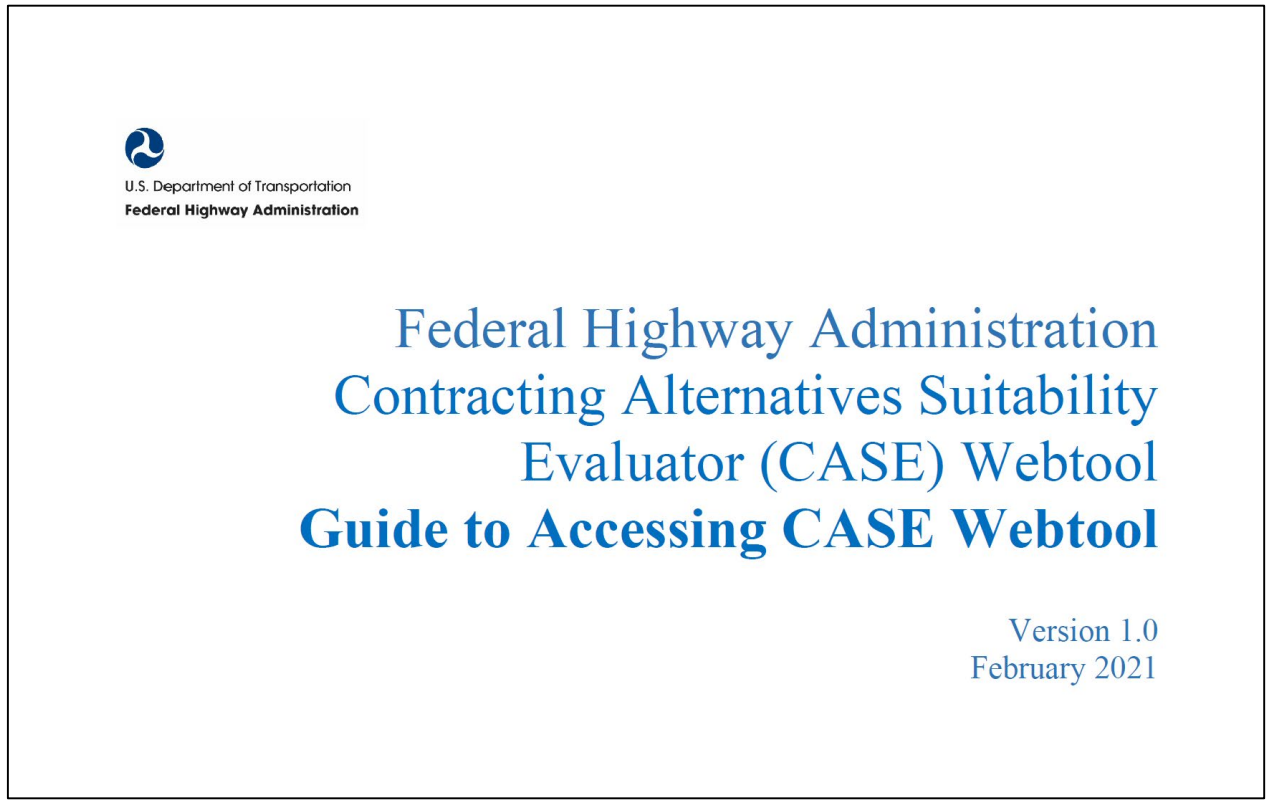
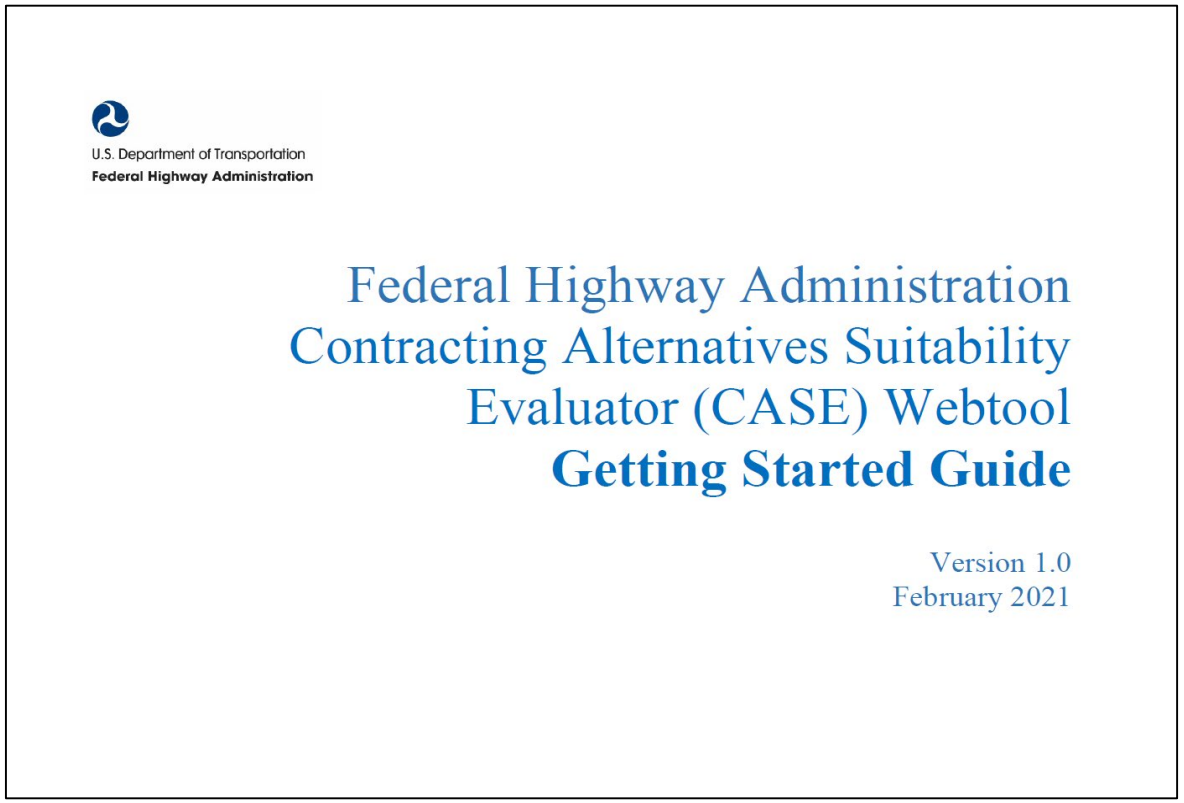
Questions?

Resources

CASE Webtool Supporting Documentation





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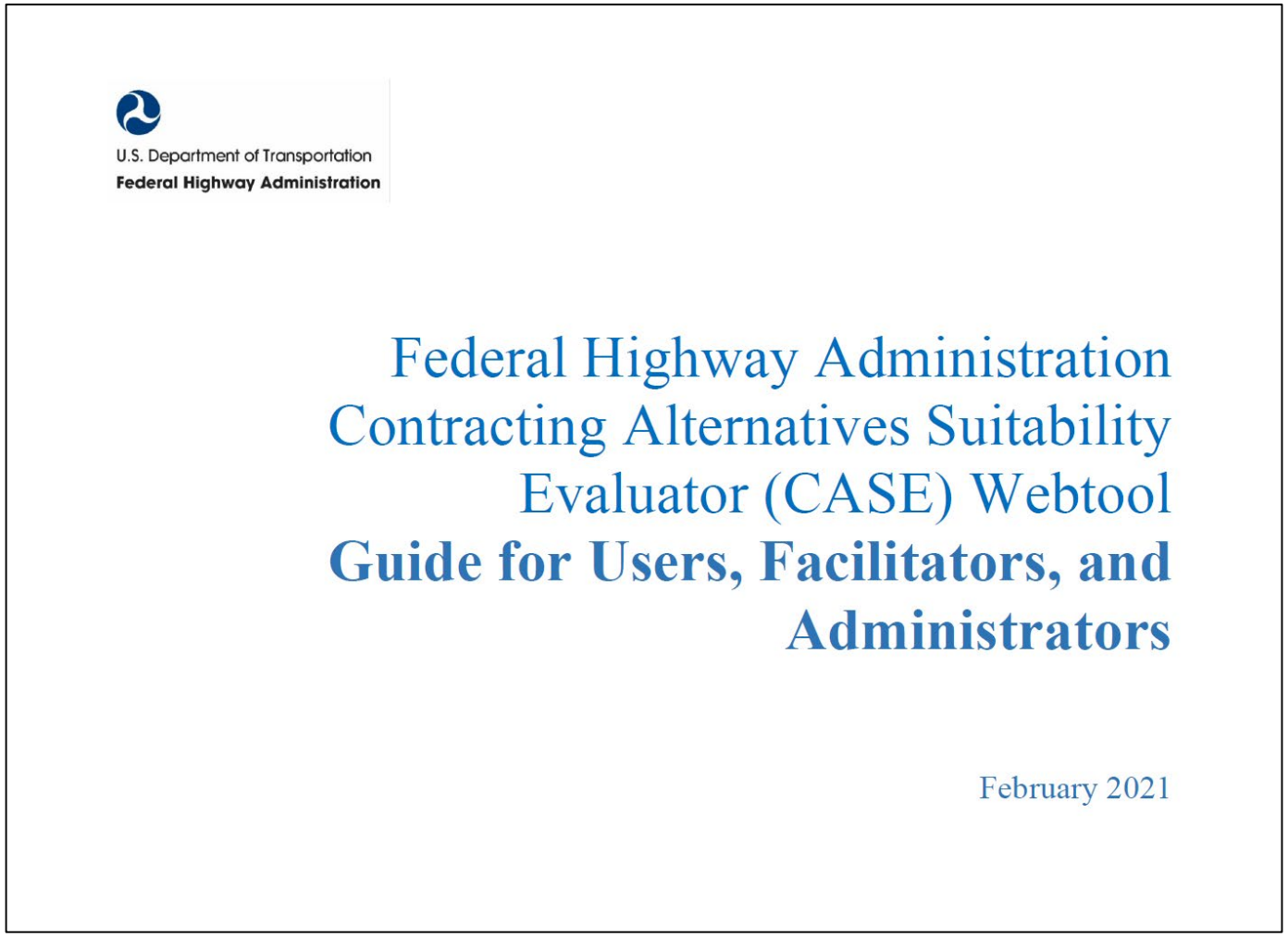
CASE Webtool Supporting Documentation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Contracting Alternatives Suitability
Evaluator (CASE) Webtool
Guide for Users, Facilitators, and Administrators

February 2021

User Guide includes Facilitator Workbook and Administrator Guide

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CASE Webtool Training?

Available to State and Local Agencies

David Unkefer
david.unkefer@dot.gov

Image credit: FHWA, David Unkefer

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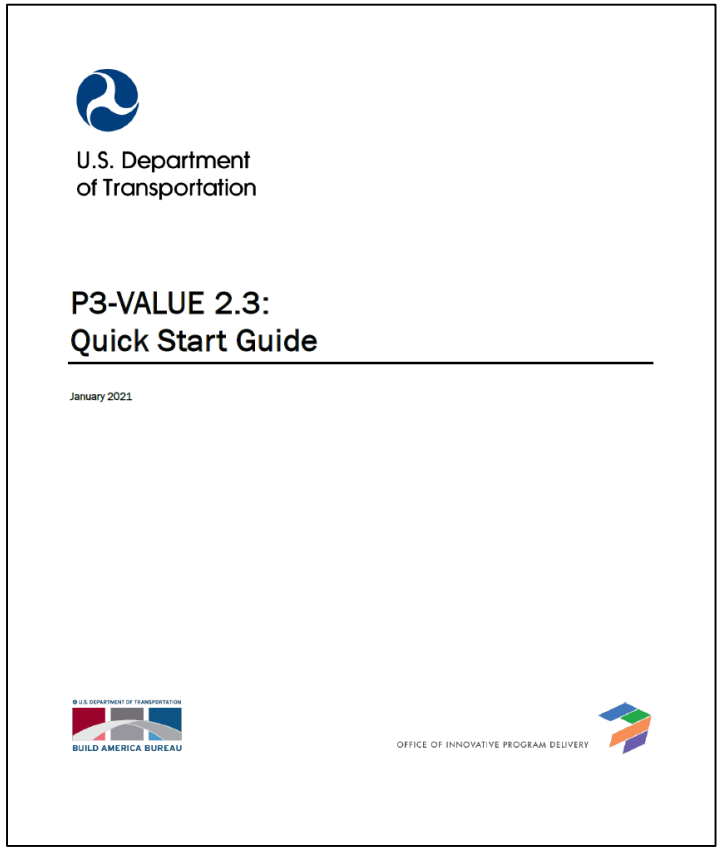
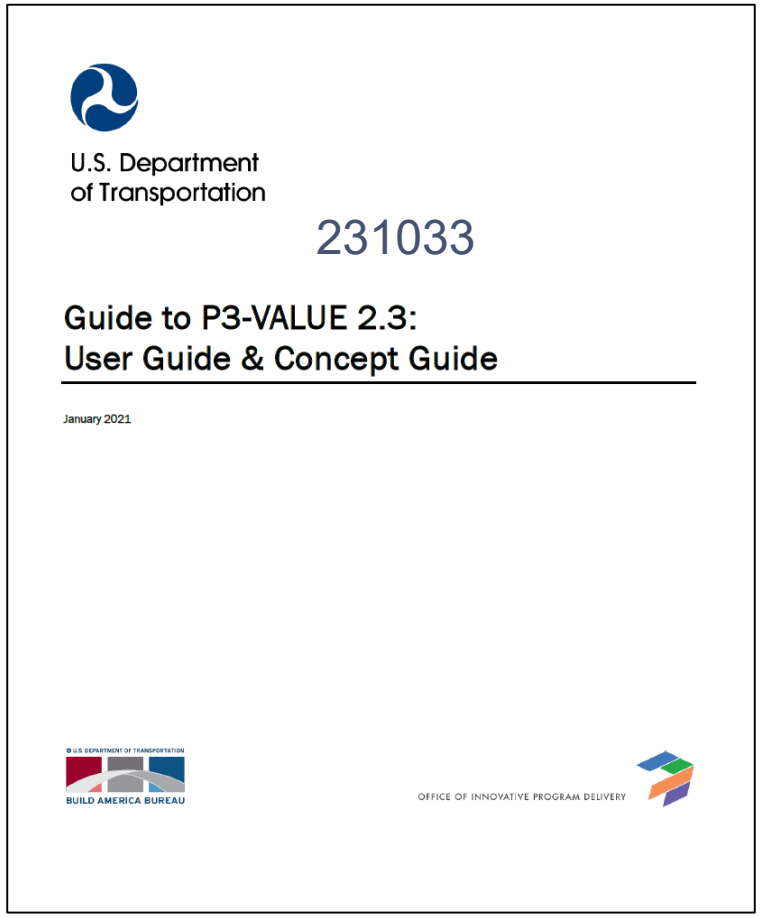
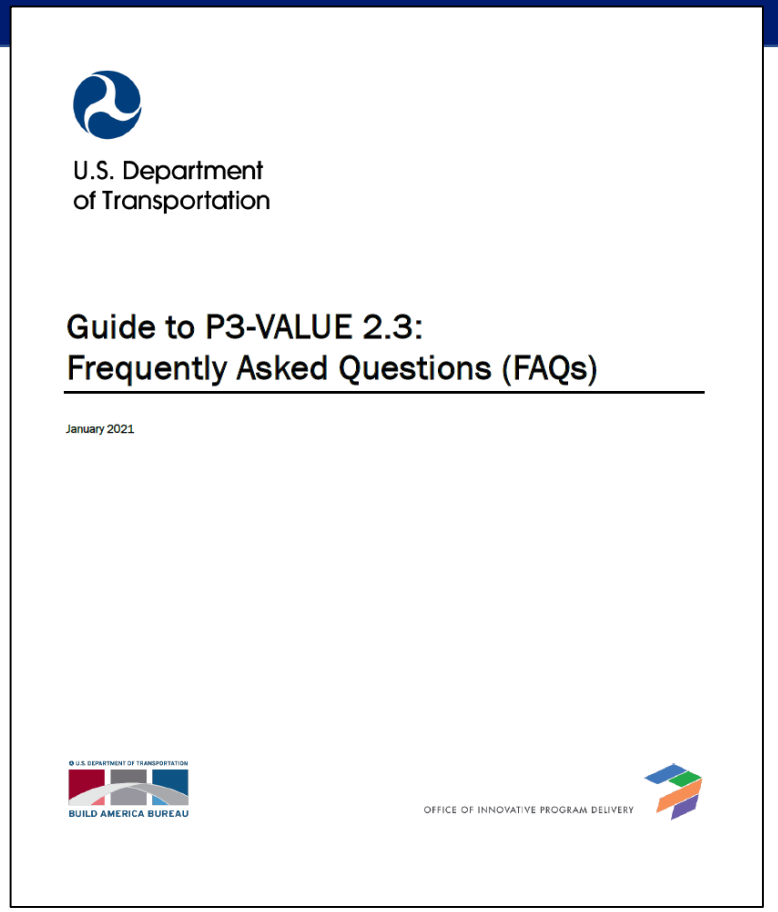
P3-VALUE Supporting Documentation



Quick Start Guide

User Guide (includes Concept Guide)





Frequently Asked Questions

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P3 Training

P3 Training is available to State and local agency sponsors by contacting Patrick DeCorla-Souza at: patrick.decorla-souza@dot.gov

Individuals may register for P3 training (Course 231033) at the National Highway Institute (NHI) website: www.nhi.fhwa.dot.gov

- Introductory
- Intermediate
- Advanced

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FHWA Web Resources

Short-term contracting:

- Office of Preconstruction, Construction and Pavements:
  - Web: https://www.fhwa.dot.gov/programadmin/contracts/
- Resource Center: Construction and Project Management Team
  - Web: https://www.fhwa.dot.gov/resourcecenter/teams/construction/

Long-term contracting:

- FHWA Center for Innovative Finance Support: P3 Toolkit
  - Web: https://www.fhwa.dot.gov/ipd/p3/toolkit/

Questions?