

Nexus Geostructural Research Institute (NGRI)



Advancing geosturctural systems to enhance the adaptation and resiliency of underground civil and energy infrastructure

Alternative Delivery Contracts: Observations and Industry Impacts



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Director

April 3, 2026

- **Delivery methods**
- **Observations & impacts**



- **Delivery methods**
- Observations & impacts

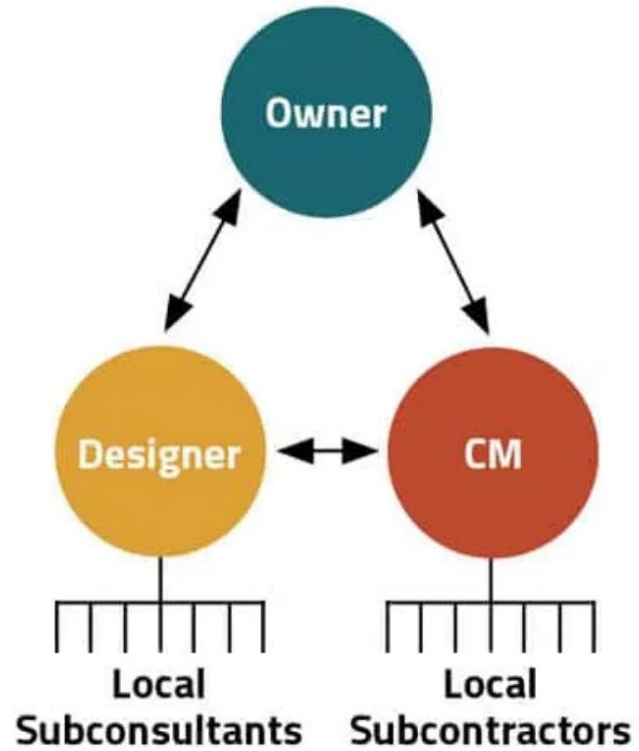


Sound Transit E330 Tunnel
Courtesy of Atkinson Construction



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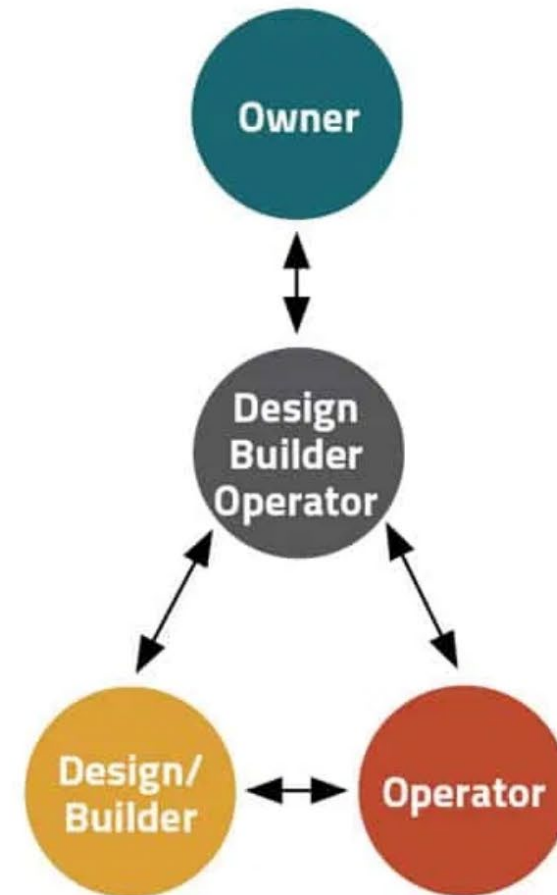
CMGC / CMAR
Construction Management
General Contractor at Risk



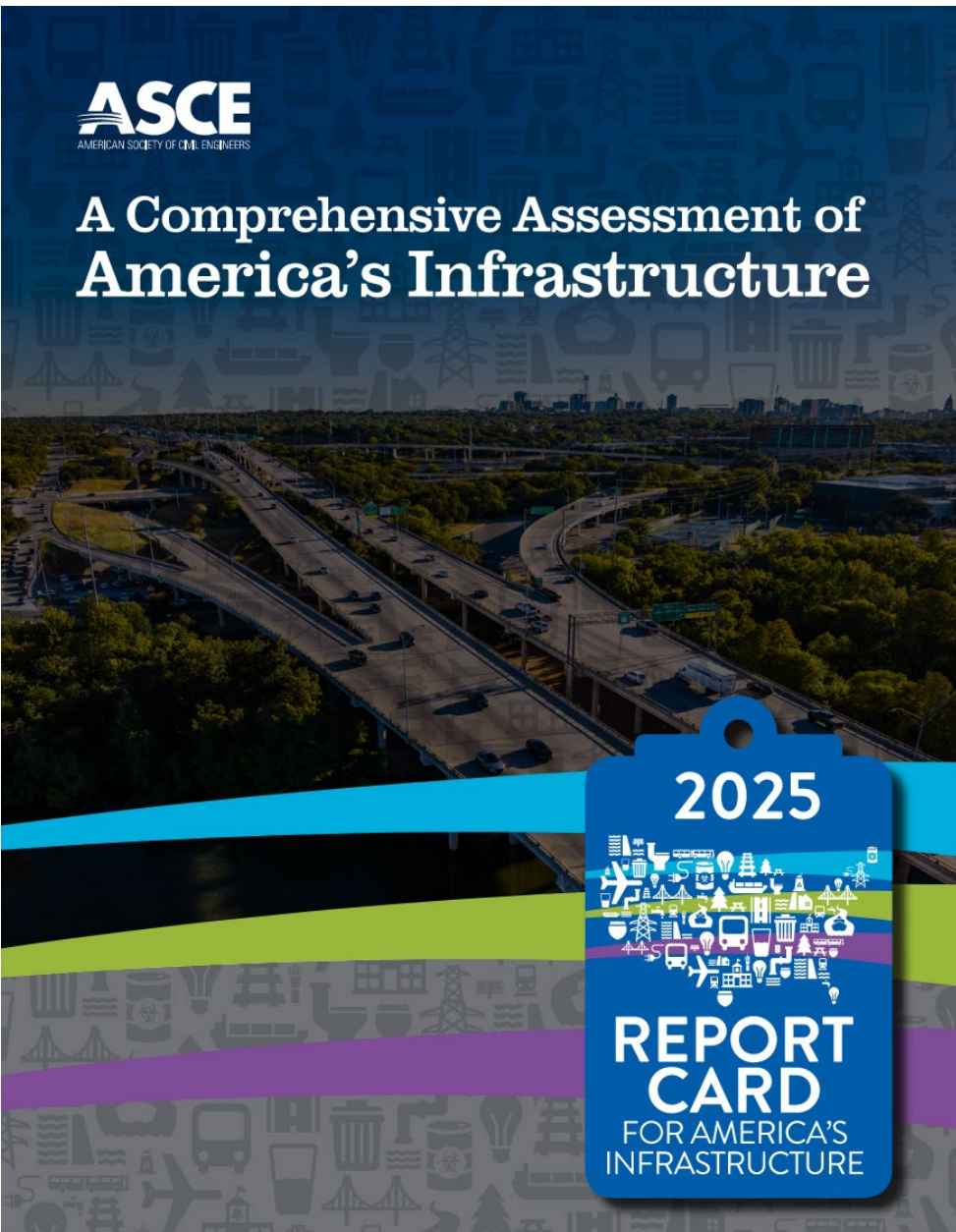
DB / PDB
Design Build



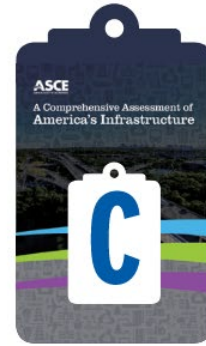
3P DBF / DBFOM



Delivery methods



The 2025 Report Card for America's Infrastructure



OVERALL GPA

Aviation
D+

Bridges
C

Broadband
C+

Dams
D+

Drinking Water
C-

Energy
D+

Hazardous Waste
C

Inland Waterways
C-

Levees
D+

Ports
B

Public Parks
C-

Rail
B-

Roads
D+

Schools
D+

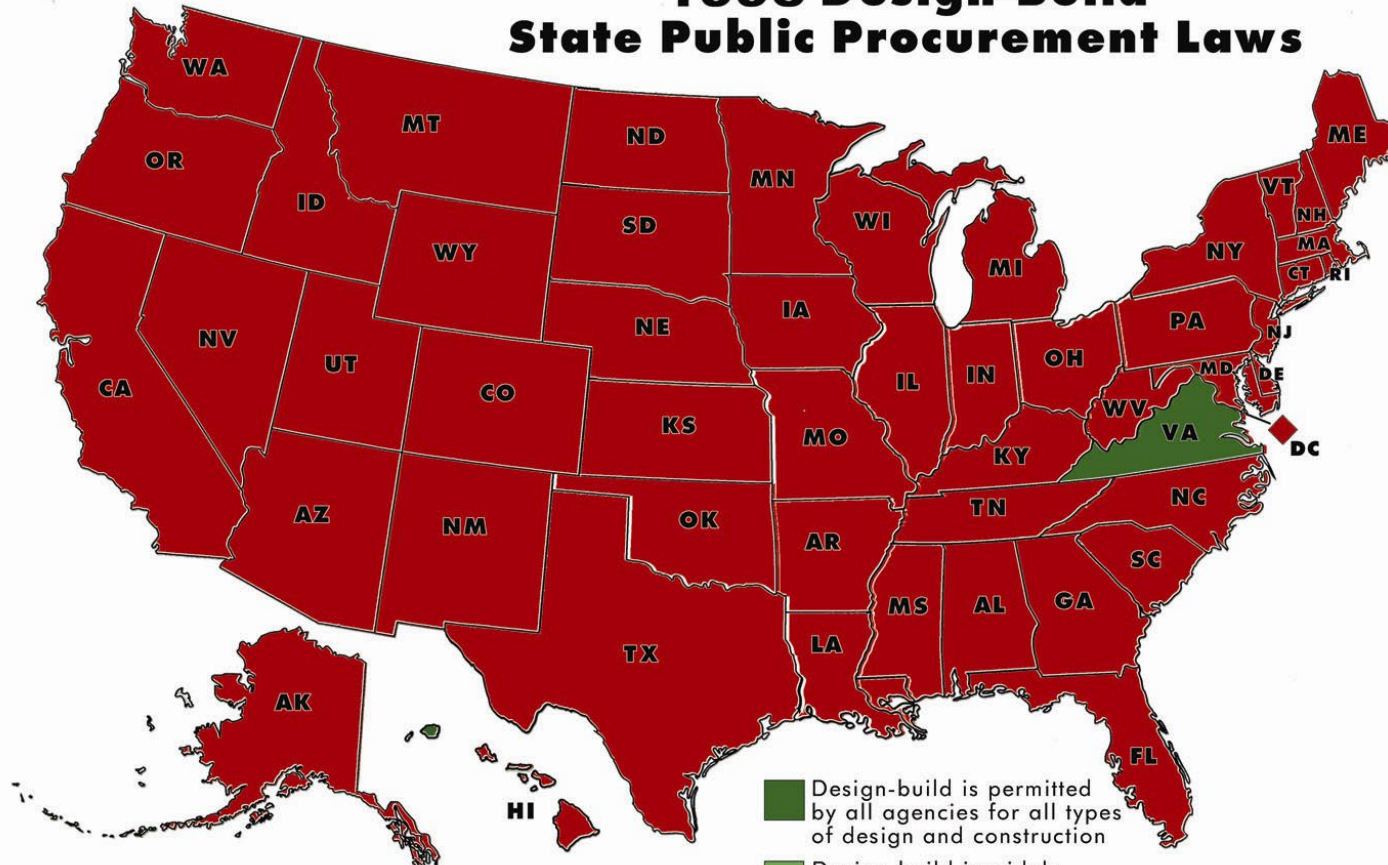
Solid Waste
C+

Stormwater
D

Transit
D

Wastewater
D+

1993 Design-Build State Public Procurement Laws



-  Design-build is permitted by all agencies for all types of design and construction
-  Design-build is widely permitted
-  Design-build is a limited option
-  Design-build is not specifically authorized for public agencies *

* Certain states allow design-build procurement by case law.



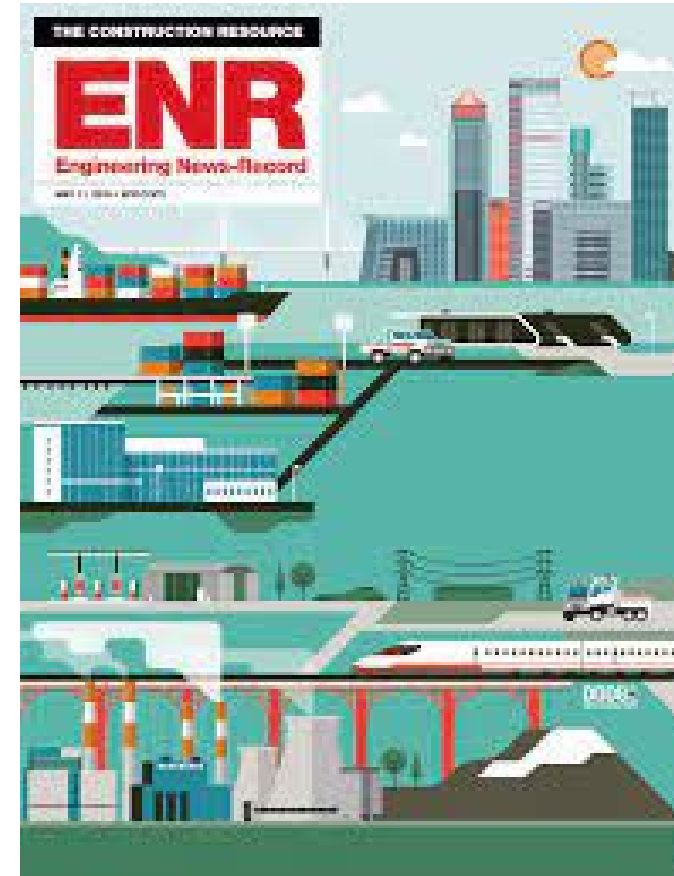
Value (real or perceived)

- Schedule compression
- Lower cost
- Innovation
- Single point of contact
- Alignment between design and construction
- Reduced disputes
- Higher quality



ENR– Study Finds Design-Builder Shortfall on Big Infrastructure Projects

- Travelers Insurance study of 224 projects from 2004 to 2020.
- Construction Cost from \$250M to \$4B.
- More than 4 out of 10 projects DB contractor did not cover costs.
- Big DB infrastructure project often are “money-losers” for design build contractors.
- According to study, contractors did better with traditional design-bid-build procurement.
- Perception that project cannot be accurately priced at 30% design.



Project Delivery

Iowa Governor Weighs Bill To End Design-Build Carveout

Legislation would no longer allow universities to use DB



News

PROJECT DELIVERY

New Study Finds Design-Build Losses, Especially on P3s

Big design-build projects often turn out to be money-losers for design-build contractors, preventing them from covering their overhead, much less earning a profit, according to the newest study of the subject. Large highway and bridge projects, many involving public-private partnerships, are the least profitable of all infrastructure work.

Carried out by Travelers National Construction Services Surety team, the study looked at 224 highway, bridge, rail, transit and tunnel projects with different delivery methods from 2004 to 2020. All projects had contract values between \$250 million and \$4 billion and almost all were projects on which Travelers had been the surety or co-surety.

On more than four out of 10 design-build projects, the study found, the design-build contractor failed to cover its costs. And on megaprojects with a value of \$250 million or more, the contractor often fared better when traditional design-bid-build procurement was used, according to the study.

"If the contractor had design liability, in general, the average profit margin fell by 77%," says Stan Halliday, chief underwriting officer for Travelers contractor surety.

Public-private partnerships performed the worst. "My understanding is that owners see design-build in such projects as almost completely a risk-transfer mechanism to the contractor, and it hasn't worked well," says Halliday.

There is a recent possible example, not mentioned in the study's summary.

A Kiewit-led team is in federal court with the Port Authority of New York & New Jersey over disputed costs on the \$1.5-billion replacement Goethals Bridge between New Jersey and Staten Island, N.Y. Work was completed in 2018, and Kiewit has made an estimated \$100-million claim tied to its costs on that project that the agency refuses to pay.



DISPUTED COSTS Goethals Bridge replacement in New York and New Jersey generated a big claim.

Halliday says that CM/GC arrangements—where the construction manager provides a price guarantee—and progressive design-build procurement models work better. Those delivery methods usually involve the contractor or design-builder in the earliest phases of design development so that it can set the guaranteed maximum price at 50% to 75% or higher of the design.

"Contractors find they can't provide price on 30% design," says Halliday. "It's just not working. The under-billing results in a lot of claims."

There are many reasons that complicated megaprojects go over-budget and exceed schedules, notes Lisa Washington, chief executive of the Design-Build Institute of America. Not all can be traced to design-build. But the Travelers study is another example that design-build "is not a panacea," says Washington.

DBIA has had a "Design-Build Done Right" educational initiative since 2014. "It's a mindset as well as a contract," Washington says. To yield good results on big projects, work must be carried out in a collaborative spirit, with a shared interpretation of contract terms and an experienced leader in charge. ■

By Richard Korman

INFRASTRUCTURE

High Price Ends Georgia Road P3

Georgia transportation officials dropped a public-private partnership plan for the estimated \$1.8-billion lane additions to State Route 400 in Forsyth and Fulton Counties after the selected P3 team's price came in unexpectedly high.

Both the Georgia Transportation Board and the proposing team, led by contractor The Walsh Group and its subsidiary Archer-Western, expressed regrets about the project delay and work gone to waste. "This is obviously a very upsetting point in the cycle" of procurement, board member Kevin Abel said at an Aug. 19 meeting.

The long-planned design-build-operate-finance contract was supposed to create new tolled express lanes on a 16-mile stretch of one of the state's busiest highways. Georgia will continue the project without employing a P3, according to Meg Pirkle, Georgia Dept. of Transportation chief engineer. The submitted price, which she said "far exceeds" state funding, was not disclosed.

The change of plans comes at a time when the risks of infrastructure design-build P3s are being more widely discussed. Numerous prior design-build P3 team members have posted losses on their bottom lines, according to recent studies.

The proposing team, led by developer Meridian and Walsh Investors, included Archer-Western Construction and C.W. Matthews Contracting Co. in a joint venture. Arcadis was the lead engineer and Meridian and Walsh Investors were to be lead maintenance firms. Two competitors eliminated earlier in the selection process included one team partly comprised of ACS, Dragados, Halmar and Parsons, and the second that included John Laing, Acciona and Wood Environment.

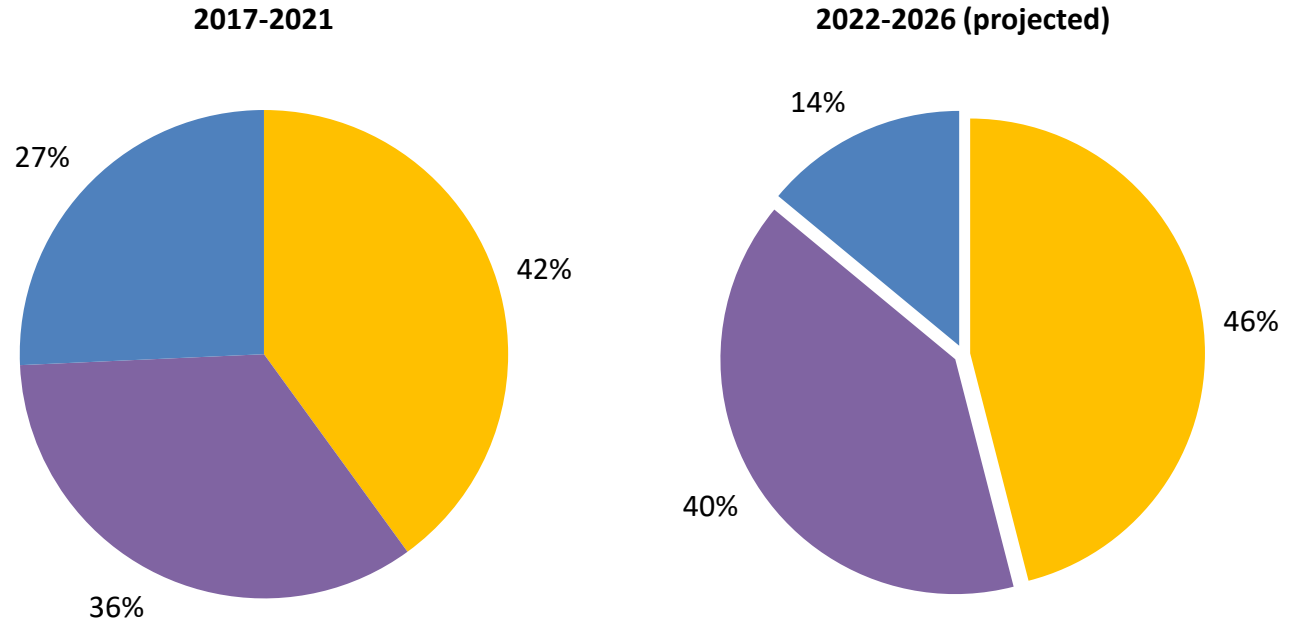
"Our team invested a significant amount of time and money ... and we're extremely disappointed in the outcome," a spokesman for Chicago-based The Walsh Group said. ■

By Richard Korman

Alternative Delivery Market Share Continues to Grow

Source:
Mid-Cycle Update
Report,
March 2023, FMI
& DBIA

Other Alternative Methods
include:
CM/ GC, CMAR, EPC & IPD



- Design-Build
- Other Alt. Delivery
- Design-Bid-Build

- Delivery methods
- **Observations & impacts**



Sound Transit E330 Tunnel
Courtesy of Atkinson Construction



22/08/2023 04:35

Global observations

- **Unbalanced risk allocation**
- **Consistent cost overruns**
- **Delays in project completion**
- **DB team contracting**
- **Excessive claims and drawn-out litigation**



Specific topics

- Owner project concept
- Project size
- DB team contracting
- Project documentation
- Submittal reviews
- Staffing



Lake Dorothy hydropower project, Juneau , Alaska

Topic

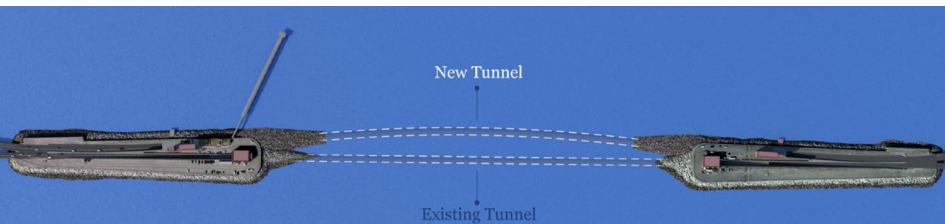
Observations

Impacts

Owner project
concept

- 5% - 90%
- Limited site investigation
- GBR's that provide no basis for DSC
- Unbalanced risk on DB
- Misses critical risk elements
- Zero tolerance

- Excessive pre-bid expenses
- Higher bid pricing
- Increase number of claims
- Can minimize entitlement recovery



Topic

Project size

Observations

- Requires teaming
- Too few bidders
- Bids above engineer's estimates
- Increasing limitations of liability for both contractor & engineer

Impacts

- Unattainable insurance coverage for smaller firms
- Primes insure subs
- Increasing claims or change orders
- Extended procurement times



Observations and impacts

Topic

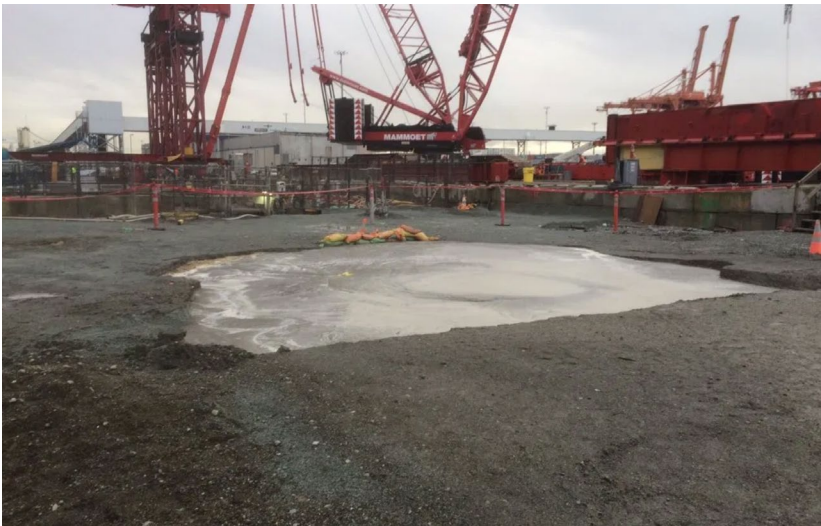
**DB team
contracting**

Observations

- **Difficult fixed price design**
- **Limited or no prior relationship**
- **Lack of trust**
- **Not true partners**

Impacts

- **Finger pointing rather than collaboration during difficulties**
- **Excessive pre-bid expenses**
- **Sub-swap mid project**



Topic

**Project
documentation**

Observations

- Incomplete
- Cannot be reproduced
- Incorrect jurisdiction
- Ineffective QA/QC
- Uncoordinated between disciplines
- Unsupported basis for engineering judgement

Impacts

- Uncompensated re-work
- Construction delays
- Material order delays
- Constructability issues
- Lack of trust



Topic

Submittal reviews



Observations

- Excessive comments from CM reviewers
- Preferential vs contractual
- Owner design interference

Impacts

- Construction delays
- Order delays
- Constructability issues
- Promotes adversarial relationship

Topic

Staffing

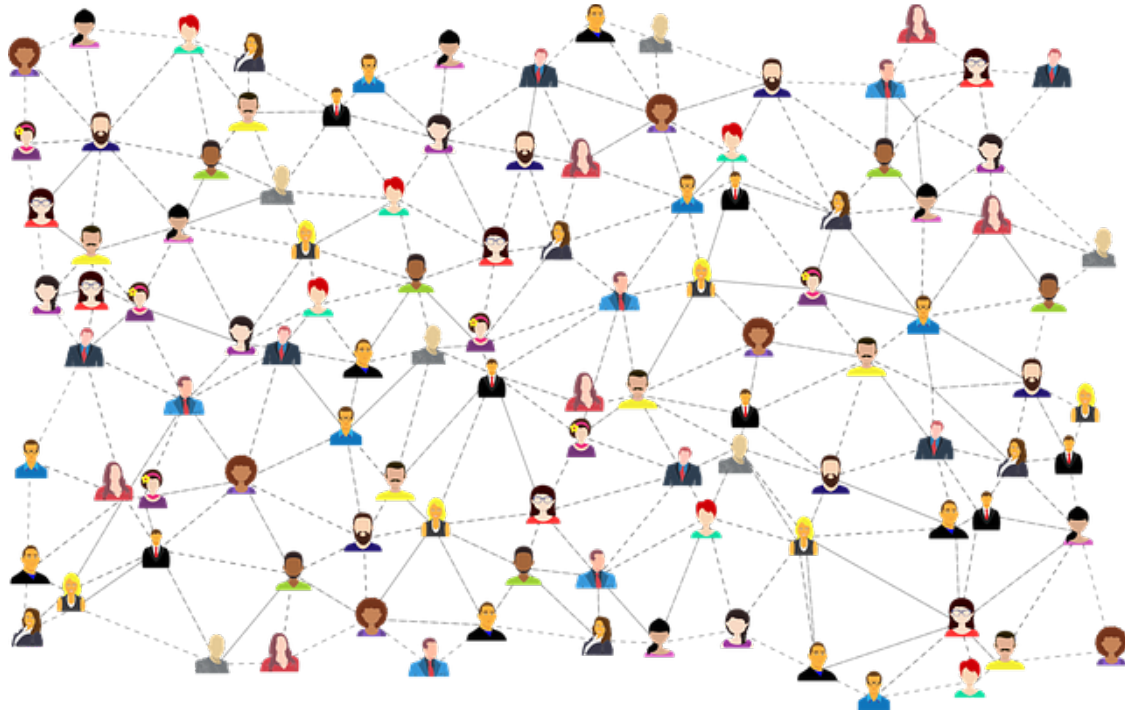
Observations

- Excessive turnover
- Staff not committed to project duration
- Lack of construction experience
- Underappreciation for design
- Staff not full time
- Multi-country staffing

Impacts

- Unplanned costs from unfamiliar project history
- Sub-turnover
- Fragmented submittals





“Communication”



1

Owners using full range of delivery options for tunnel projects.

2

With APD, risks of delivery shifting to designers and contractors. Costs of these risks being added to bid prices.

3

Use of APD significantly increased for tunnel projects in past 10 years especially for transportation projects.

4

Increased concerns about pricing with limited design development.

5

Owners seeking alternatives to conventional DB.

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