



AGC
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DEFINING PROJECT DELIVERY OPTIONS IN TODAY'S DEVELOPMENT ENVIRONMENT

**Airport Construction Strategy Summit
Kansas City, MO | May 20-21, 2019**



KANSAS CITY
AVIATION DEPARTMENT

Panel Participants

→ Roger Johnson, Jacobs

→ Michael Kenig, Holder Construction Company



DEFINING PROJECT DELIVERY OPTIONS IN TODAY'S DEVELOPMENT ENVIRONMENT

OVERVIEW:

- (A previous) Owner's take on using alternative delivery methods?
- Project Delivery – Defining Terms
- Expanding Project Delivery Options
- Discussion/Wrap Up

DEFINING PROJECT DELIVERY OPTIONS IN TODAY'S DEVELOPMENT ENVIRONMENT

Roger Johnson:

→ (A previous) Owner's take on using alternative delivery methods?

Why Vocabulary Matters?

The screenshot shows the enr.com website interface. At the top, there's a navigation bar with links for 'home', 'news', 'features', 'projects', and 'products'. Below that, a sidebar on the left contains a subscription prompt: 'Click here to subscribe to: McGraw Hill CONSTRUCTION ENR'. Below this is a 'be the first to know' section with a photo of a man and the text 'subscribe to our FREE e-newsletter today!'. Further down is a 'Marketplace Sponsored Links' section featuring 'The Jobclock' with the description 'The Contractor's Timeclock. Portable, Rugged and Weatherproof.' The main content area displays the article title 'The Industry Needs Common Language' and the author's name 'KENIG'. The article text discusses the need for a common vocabulary in the construction industry to capture best practices and improve productivity through technology.

- ✓ Capturing Lessons!
- ✓ Identifying Best Practices!
- ✓ Continuous Improvement!!

The sidebar on the right side of the website contains several sections. At the top is a 'Hazard?' section titled 'Hexavalent Chromium and Cement' with links for 'Story', 'Full Safety & Health Coverage', and 'Industry Links'. Below this is a 'click here for construction jobs' button. Further down are logos for 'CONTECH', 'For Pavement Lifting', 'U.S.COST', and 'CH2MHILL'. At the bottom, there's a 'Construction' logo.



Let's go ahead and test this... This is my...

First Time Attending
this Summit

Been awhile since I
have attended

Attended Most

Who Cares?! (about Project Delivery)

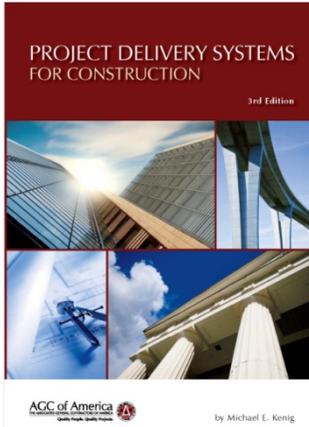
A Strategy for Getting the Most for the \$'s...

$$\text{Value} \uparrow = \frac{\text{Quality} \uparrow}{\text{Cost} \downarrow + \text{Schedule} \downarrow}$$

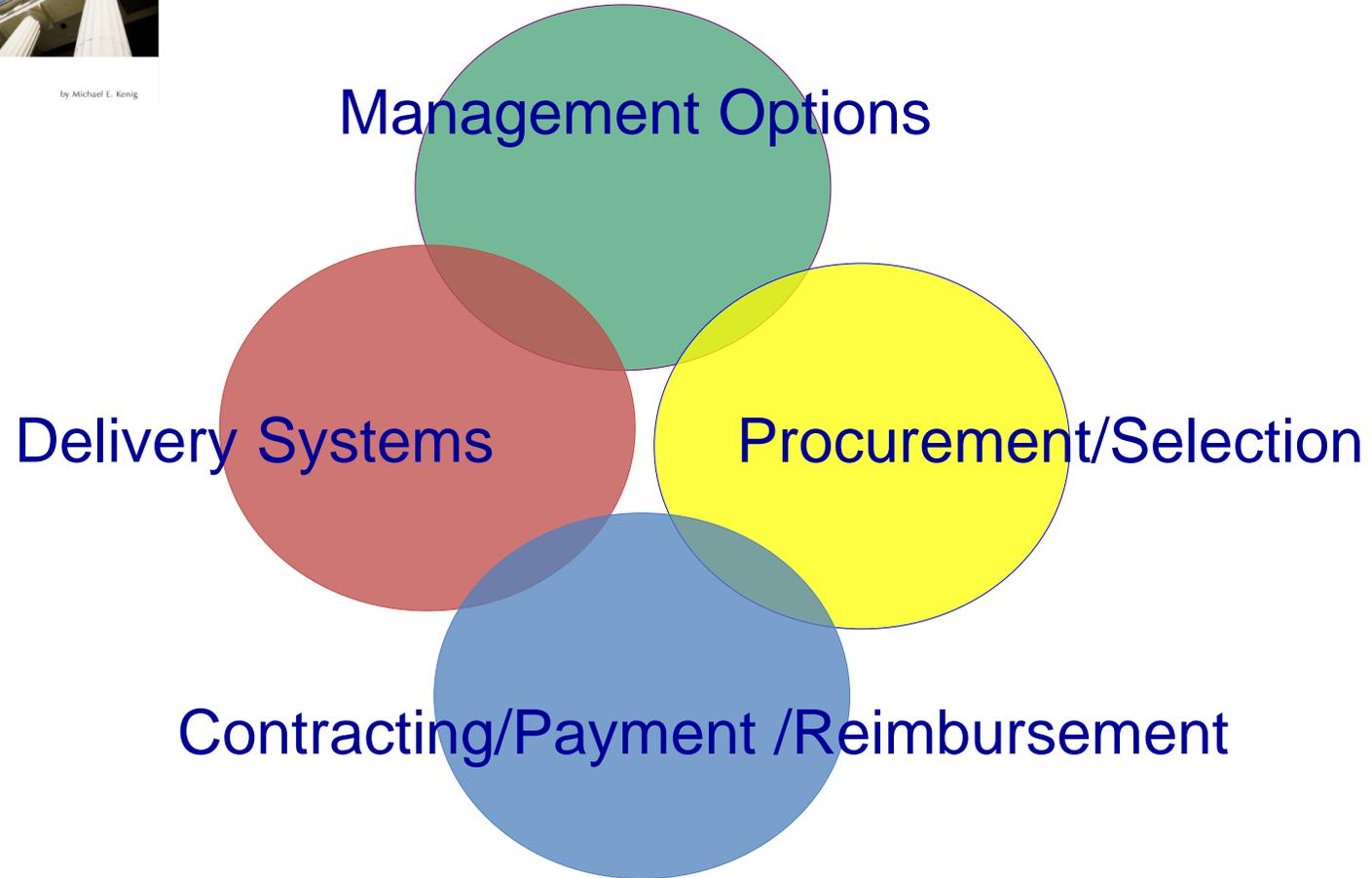


1. We measure cost and schedule... how do we measure quality?
2. Collaboration/Project Delivery as a strategy to manage risk

Project Delivery: A way to maximize value!

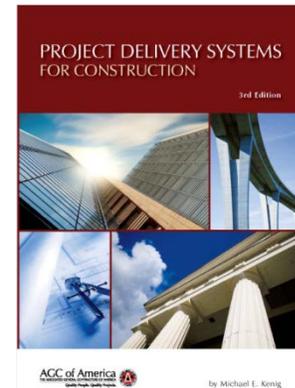


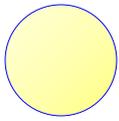
Delivery of Projects



Defining Terms

- Management Options
- Contracting/Payment/Reimbursement
- Delivery Methods
- Procurement/Selection





Procurement: What is the “Price”?

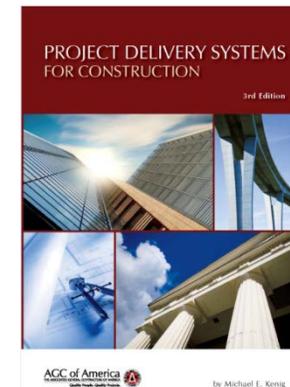
Cost of Construction

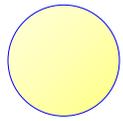
- + Contractor’s Fee and General Conditions
- + Construction Contingencies /Allowances

Total Construction Cost

- + Professional Services Fees
- + Other Project Costs
- + Permitting & Other Soft Costs
- +Owner Contingency

Total Project Budget





Procurement /Selection Types

1. *Low Bid*

- *Total Construction Cost, is the only final selection criteria
(Total Construction weighted 100%)*

2. *Best Value: Total Cost*

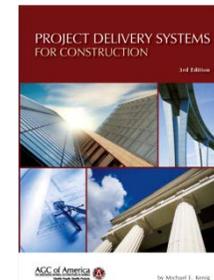
- *Construction Cost is a weighted final selection criteria
(Total Construction Cost weighted between 0% & Total C100%)*

3. *Best Value: Fees*

- *Fees and/or General Conditions are weighted;
but Total Construction Cost is not a weighted selection criteria
(Fees weighted between 0% & 100%)*

4. *Qualifications Based Selection*

- *Price is not a selection criteria
(Price weighted 0%)*



Typical Delivery Method / Selection Options



DELIVERY METHOD Common Nicknames	Low Bid	Best Value: Total Cost	Best Value: Fees	Qualifications Based Selection (QBS)
Design-Bid-Build Competitive Sealed Bid; Low Bid; Inv. to Bid (IFB)	<input type="checkbox"/>	<input type="checkbox"/>	n/a	n/a
CM at-Risk CM/GC; GC/CM; CMc; ECI	n/a	n/a	<input type="checkbox"/>	<input type="checkbox"/>
Progressive Design-Build Engineer-Procure-Construct (EPC)	n/a	n/a	<input type="checkbox"/>	<input type="checkbox"/>
Traditional Design-Build Engineer-Procure-Construct (EPC)	<input type="checkbox"/>	<input type="checkbox"/>	n/a	n/a
IPD Multi-party; Alliancing	Not Typical	Not Typical	<input type="checkbox"/>	<input type="checkbox"/>

Example: (fill in yours copy and paste)

DELIVERY METHOD Common Nicknames	Low Bid	Best Value: Total Cost	Best Value: Fees	Qualifications Based Selection (QBS)
Design-Bid-Build Competitive Sealed Bid; Low Bid; Inv. to Bid (IFB)			n/a	n/a
CM at-Risk CM/GC; GC/CM; CMc; ECI	n/a	n/a		
Progressive Design-Build Engineer-Procure-Construct (EPC)	n/a	n/a		
Traditional Design-Build Engineer-Procure-Construct (EPC)			n/a	n/a
IPD Multi-party; Alliancing	Not Typical	Not Typical		

Typical Delivery Method / Selection Options

DELIVERY METHOD Common Nicknames	Low Bid	Best Value: Total Cost	Best Value: Fees	Qualifications Based Selection (QBS)
Design-Bid-Build Competitive Sealed Bid; Low Bid; Inv. to Bid (IFB)	<input type="checkbox"/>	<input type="checkbox"/>	n/a	n/a
CM at-Risk CM/GC; GC/CM; CMc; ECI	n/a	n/a	<input type="checkbox"/>	<input type="checkbox"/>
Progressive Design-Build Engineer-Procure-Construct (EPC)	n/a	n/a	<input type="checkbox"/>	<input type="checkbox"/>
Traditional Design-Build Engineer-Procure-Construct (EPC)	<input type="checkbox"/>	<input type="checkbox"/>	n/a	n/a
IPD Multi-party; Alliancing	Not Typical	Not Typical	<input type="checkbox"/>	<input type="checkbox"/>

Which do you use? (use next slide)

Which Delivery/Selection Types do you use most?

DELIVERY METHOD Common Nicknames	Low Bid	Best Value: Total Cost	Best Value: Fees	Qualifications Based Selection (QBS)
Design-Bid-Build Competitive Sealed Bid; Low Bid; Inv. to Bid (IFB)	A	B	n/a	n/a
CM at-Risk CM/GC; GC/CM; CMc; ECI	n/a	n/a	C	C
Progressive Design-Build Engineer-Procure-Construct (EPC)	n/a	n/a	D	D
Traditional Design-Build Engineer-Procure-Construct (EPC)	E	E	n/a	n/a
IPD Multi-party; Alliancing	Not Typical	Not Typical	F	F

Airports Only: Which delivery method do you use the most?

Design-Bid-Build (Low Bid) **A**

Design-Bid-Build (Best Value - Price = Total Cost) **B**

CM at-Risk (Best Value: Price - Total Cost OR QBS (Qualification Based Selection no price) **C**

Progressive Design-Build (Best Value price = Fees OR QBS) **D**

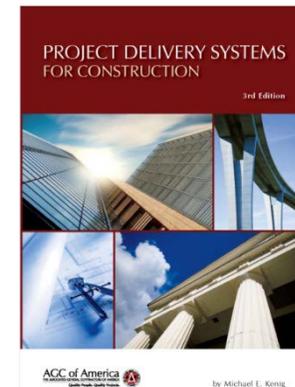
Traditional Design-Build (Low Bid OR Best Value, price = Total Cost) **E**

Integrated Project Delivery (Multi-party agreement) **F**

Contracting/Payment/ Reimbursement

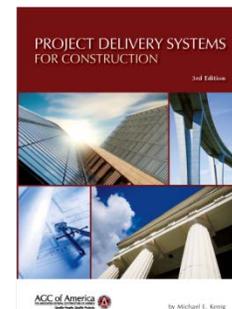
How the Owner wants to pay for the services provided.

Common Options: GMP, Cost plus, lump sum, or *target price*



Contracting/Payment/Reimbursement

- ✓ **Guaranteed Maximum Price**
- ✓ **Cost Plus**
- ✓ **Firm Fixed price (lump sum)**
- ✓ **Target Price (IPD)**





Typical Basis of Reimbursement

DELIVERY METHOD Common Nicknames	Low Bid	Best Value: Total Cost	Best Value: Fees	Qualifications Based Selection (QBS)
Design-Bid-Build Competitive Sealed Bid; Low Bid; Inv. to Bid (IFB)	Lump Sum	Lump Sum	n/a	n/a
CM at-Risk CM/GC; GC/CM; CMc; ECI	n/a	n/a	GMP	GMP
Progressive Design-Build Engineer-Procure-Construct (EPC)	n/a	n/a	GMP	GMP
Traditional Design-Build Engineer-Procure-Construct (EPC)	Lump Sum	Lump Sum	n/a	n/a
IPD Multi-party; Alliancing	Not Typical	Not Typical	Target Price	Target Price

Which Design-Build??

DELIVERY METHOD Common Nicknames	Low Bid	Best Value: Total Cost	Best Value: Fees	Qualifications Based Selection (QBS)
Design-Bid-Build Competitive Sealed Bid; Low Bid; Inv. to Bid (IFB)			n/a	n/a
CM at-Risk CM/GC; GC/CM; CMc; ECI	n/a	n/a		
<u>Progressive Design-Build</u> Engineer-Procure-Construct (EPC)	n/a	n/a	<i>Open Book</i>	
<u>Traditional Design-Build</u> Engineer-Procure-Construct (EPC)	<i>Closed Book</i>		n/a	n/a
IPD Multi-party; Alliancing	Not Typical	Not Typical		

Airports Only: Which delivery method do you use the most?

Design-Bid-Build (Low Bid) **A**

Design-Bid-Build (Best Value - Price = Total Cost) **B**

CM at-Risk (Best Value: Price - Total Cost OR QBS (Qualification Based Selection no price) **C**

Progressive Design-Build (Best Value price = Fees OR QBS) **D**

Traditional Design-Build (Low Bid OR Best Value, price = Total Cost) **E**

Integrated Project Delivery (Multi-party agreement) **F**

Example: Seattle Delivery Method Options

DELIVERY METHOD Common Nicknames	Low Bid	Best Value: Total Cost	Best Value: Fees	Qualifications Based Selection (QBS)
Design-Bid-Build		n/a	n/a	n/a
CM at-Risk	n/a	n/a	✓	n/a
Design-Build	n/a	✓	✓	n/a
IPD	n/a	n/a	n/a	n/a

SFO Contract Delivery Methods

Contract Elements	Contract Delivery Method			
	Design-Bid-Build	CM at Risk	Design-Build (Lump Sum)	Design-Build (Progressive)
Contract Relationship				
Pricing Model for Direct Construction Cost	Lump Sum/Low Bid	Negotiated GMP	Lump Sum/Low Bid	Negotiated GMP
Qualifications Part of Selection of Builder	No	Yes	Yes	Yes
Design Philosophy	Owner Managed Design	Design Assist	Builder Managed Design	Collaborative Design

Example: San Francisco Delivery Method Options

DELIVERY METHOD Common Nicknames	Low Bid	Best Value: Total Cost	Best Value: Fees	Qualifications Based Selection (QBS)
Design-Bid-Build	✓	X	n/a	n/a
CM/GC	n/a	n/a	✓	X
“Design-Build”	X	✓ Traditional Design-Build	✓ Progressive Design-Build	X
IPD	n/a	n/a	X	X



DEFINING PROJECT DELIVERY OPTIONS IN TODAY'S DEVELOPMENT ENVIRONMENT

Roger Johnson:

→ Expanding project delivery options

– LAX

Delivery Approaches: LAX

DELIVERY METHOD Common Nicknames	Low Bid	Best Value: Total Cost	Best Value: Fees	Qualifications Based Selection (QBS)
Design-Bid-Build Competitive Sealed Bid; Low Bid; Inv. to Bid (IFB)	✓	X	n/a	n/a
CM at-Risk CM/GC; GC/CM; CMc; ECI	n/a	n/a	✓	X
Progressive Design-Build Engineer-Procure-Construct (EPC)	n/a	n/a	✓	✓
Traditional Design-Build Engineer-Procure-Construct (EPC)	✓	✓	n/a	n/a
IPD Multi-party; Alliancing	Not Typical	Not Typical	X	X

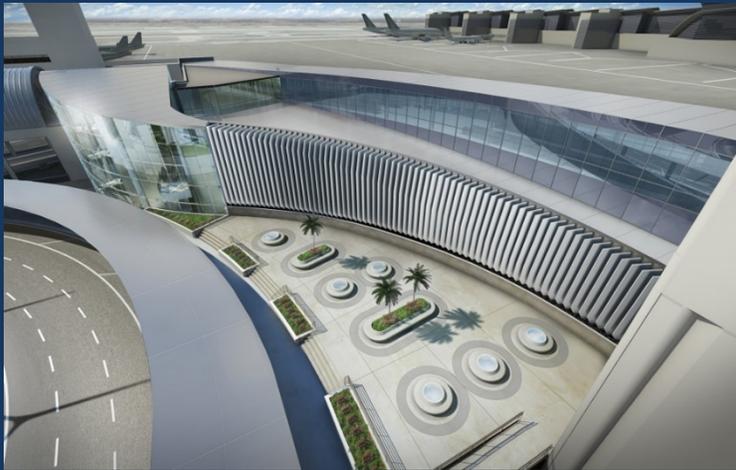
Project Delivery at LAX



Bradley West CM@R Open Book



MSC Progressive Design/Build Open Book



CUP Traditional Design/Build Closed Book

T4 Connector Traditional Design/Build Open Book



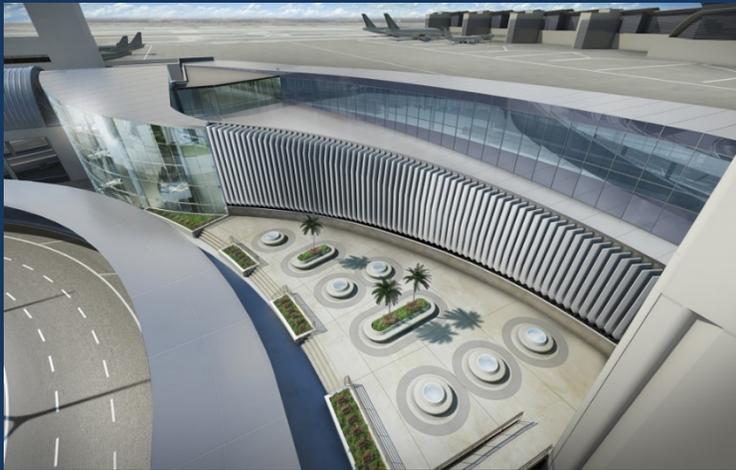
Project Delivery at LAX



Bradley West CM@R GMP



MSC Progressive Design/Build GMP



CUP Traditional Design/Build Lump Sum

T4 Connector Traditional Design/Build GMP



Airports Only: Regardless of which one you use, which one do you believe allows you to best maximize value?

Design-Bid-Build (Low Bid)

Design-Bid-Build (Best Value - Price = Total Cost)

CM at-Risk (Best Value: Price - Total Cost OR QBS - Qualifications Based Selection)

Progressive Design-Build (Best Value price = Fees OR QBS)

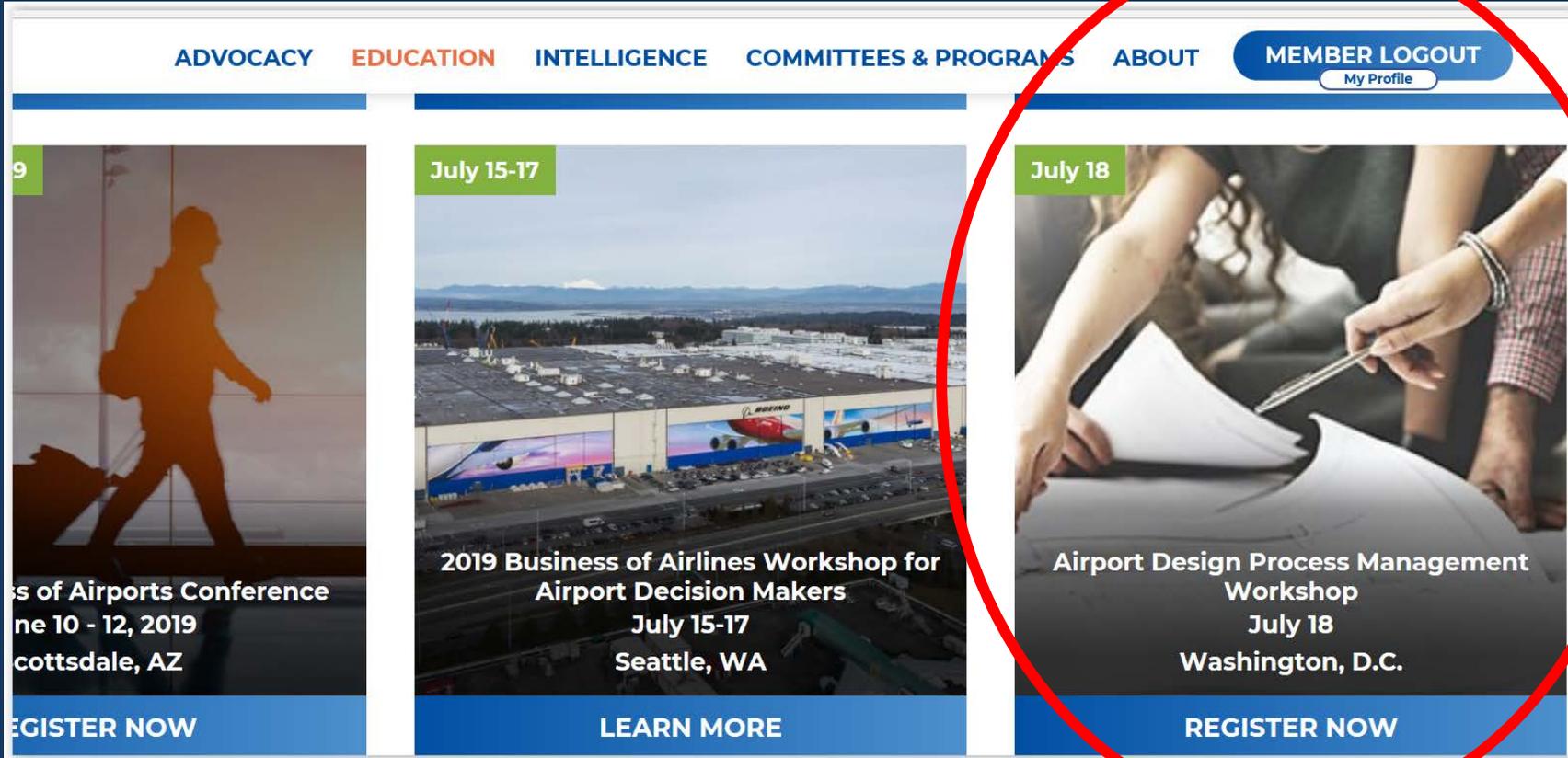
Traditional Design-Build (Low Bid OR Best Value, price = Total Cost)

Integrated Project Delivery (Multi-party agreement)

Discussion...

DELIVERY METHOD Common Nicknames	Low Bid	Best Value: Total Cost	Best Value: Fees	Qualifications Based Selection (QBS)
Design-Bid-Build Competitive Sealed Bid; Low Bid; Inv. to Bid (IFB)	<i>Closed Book</i>		n/a	n/a
CM at-Risk CM/GC; GC/CM; CMc; ECI	n/a	n/a	<i>Open Book</i>	
Progressive Design-Build Engineer-Procure-Construct (EPC)	n/a	n/a		
Traditional Design-Build Engineer-Procure-Construct (EPC)	<i>Closed Book</i>		n/a	n/a
IPD Multi-party; Alliancing	Not Typical	Not Typical	<i>Open Book</i>	





The screenshot shows the COAA website navigation bar with links for ADVOCACY, EDUCATION, INTELLIGENCE, COMMITTEES & PROGRAMS, ABOUT, and MEMBER LOGOUT (with a My Profile dropdown). Below the navigation are three event cards:

- July 10-12, 2019**: Business of Airports Conference, Scottsdale, AZ. REGISTER NOW
- July 15-17**: 2019 Business of Airlines Workshop for Airport Decision Makers, Seattle, WA. LEARN MORE
- July 18**: Airport Design Process Management Workshop, Washington, D.C. REGISTER NOW

Training for Owners, by Owners!

Airport Owners: If I had to use an Open Book delivery approach, I would prefer to use...

CM at-Risk **A**

Progressive Design-Build **B**

Integrated Project Delivery (IPD) **C**

Remember Why Vocabulary Matters!

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- ✓ Capturing Lessons!
- ✓ Identifying Best Practices!
- ✓ Continuous Improvement!!

The sidebar on the right contains several sections. At the top is a "Hazard?" section titled "Hexavalent Chromium and Cement" with links for "Story", "Full Safety & Health Coverage", and "Industry Links". Below this is a "click here for construction jobs" button. Further down are logos for CONTECH, U.S.COST, and CH2MHILL, each with associated text like "For Pavement Lifting".

Everyone: How much did you enjoy this session?

OMG...
it was
the
BEST!!

Thank You!

→ Panelists:

– Roger Johnson, Jacobs

- Roger.Johnson3@Jacobs.com cell:949-338-5044



– Michael Kenig, Holder Construction Company

- mkenig@holder.com cell: 770-355-3876

