

OCAPPA Presentation

December 9, 2024

Collaborative vs Traditional Delivery Models: Flexibility for Operations

Dick Bayer
Rory Tuite



Project Leaders



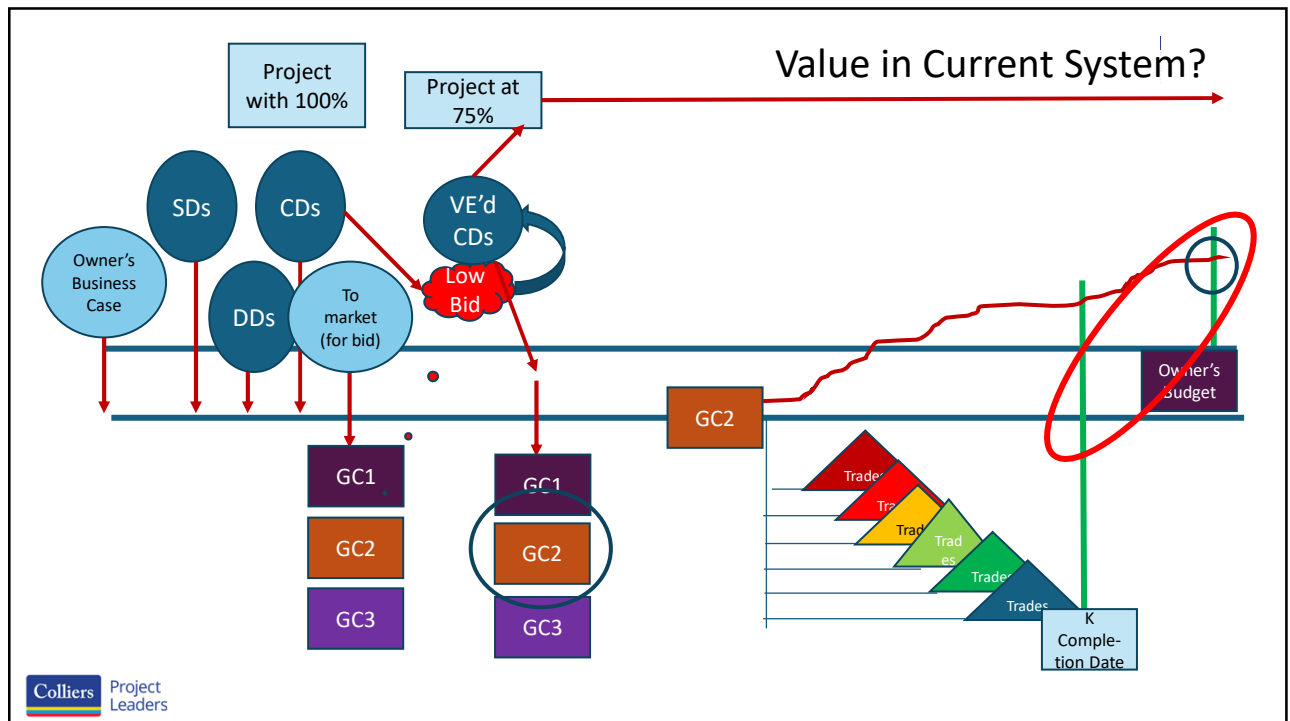
Agenda

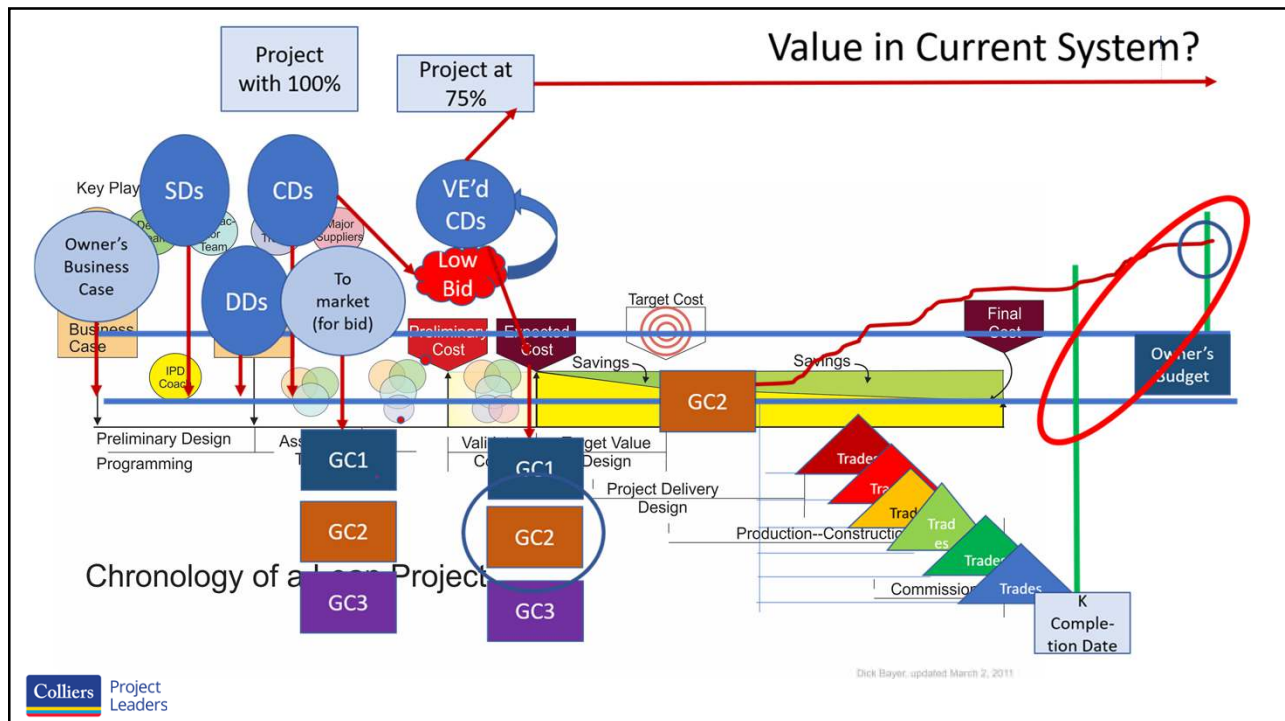
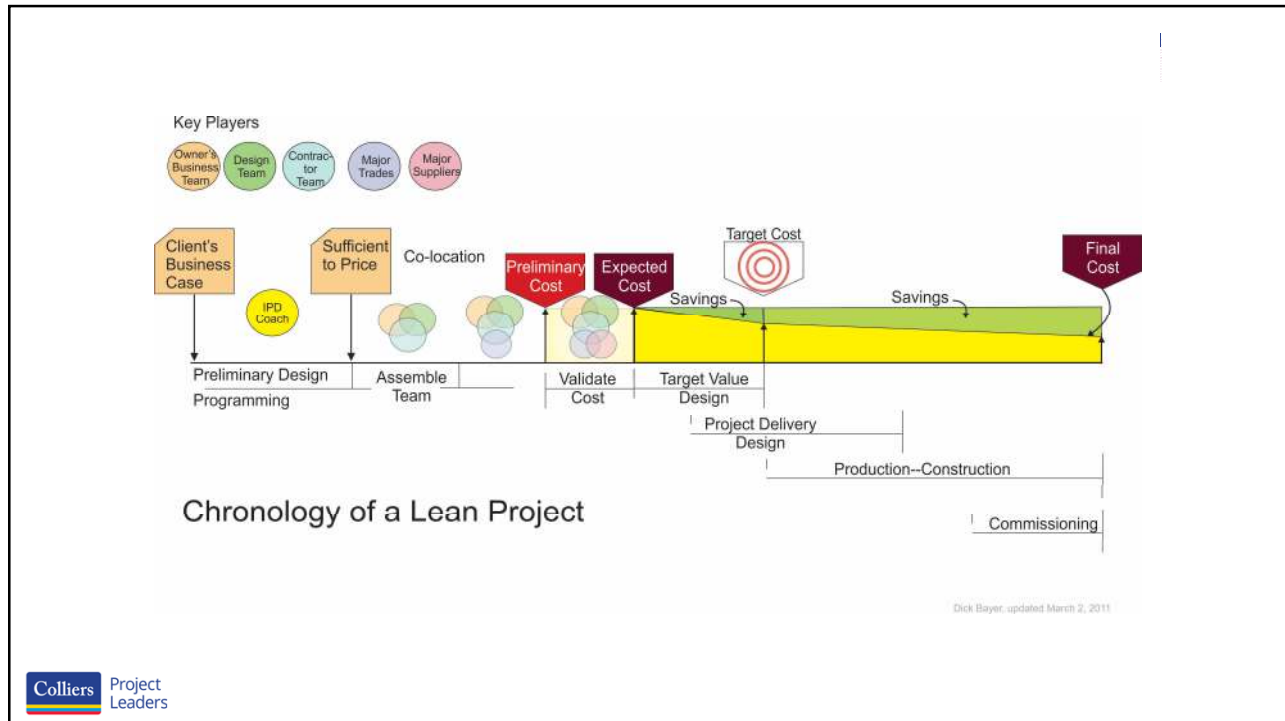
1. Traditional vs. Collaborative contracting
2. Driving Operational Success through Contract Model
3. Benefits of Collaboration



Traditional vs Collaborative

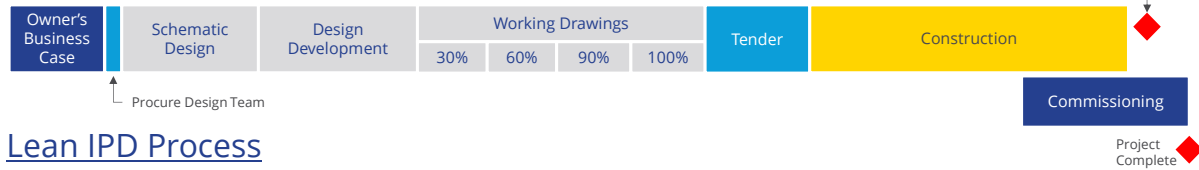
Section 1



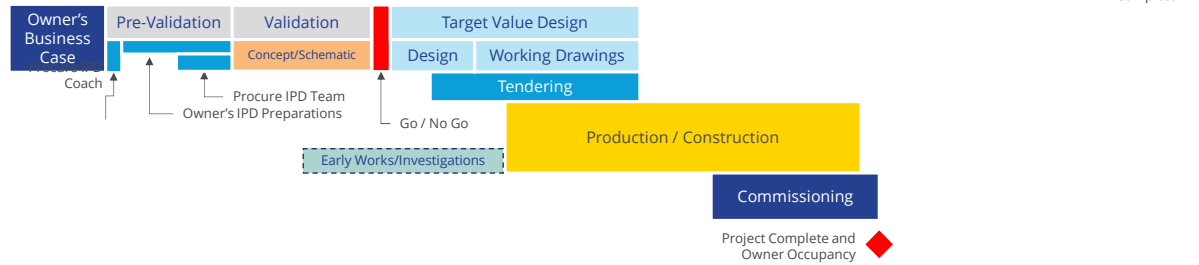


Integrated Project Delivery

Traditional Design-Bid-Build Process

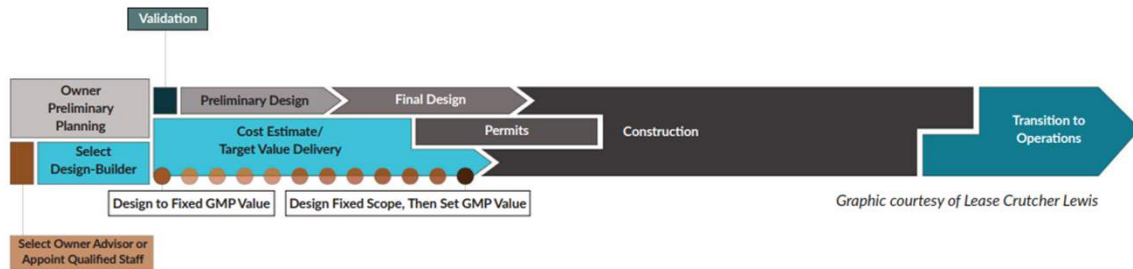


Lean IPD Process



Progressive Design Build

PROGRESSIVE DESIGN-BUILD



When total contract value can be set:

- Fixed Budget/Variable Quantity-Quality: Teams design to budget
- Fixed Quantity-Quality/Variable Budget: Teams design to need, then sets final value



<https://dbianw.org/wp-content/uploads/2023/06/Deeper-Dive-Progressive-Design-Build-2023-pidtpk.pdf>

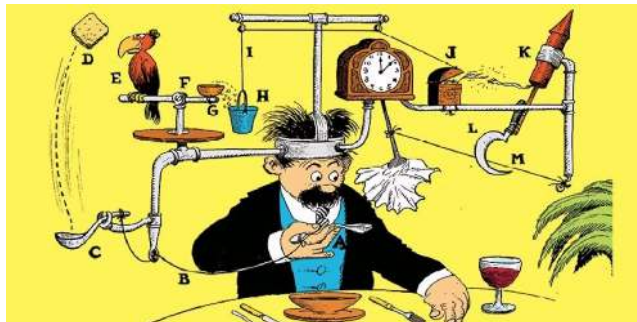
Driving Operational Success

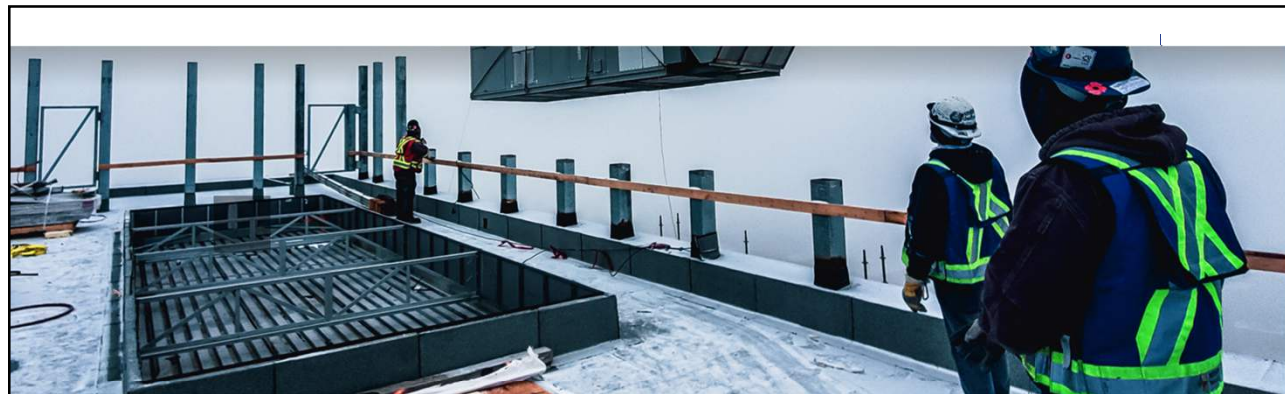
Section 2



The Importance of Contract Models

Operations does not usually choose the Contract Model but contract models have influence of systems that are **chosen**, **space** for systems, **access** to systems, up to date **technology** and **coordination** with current systems





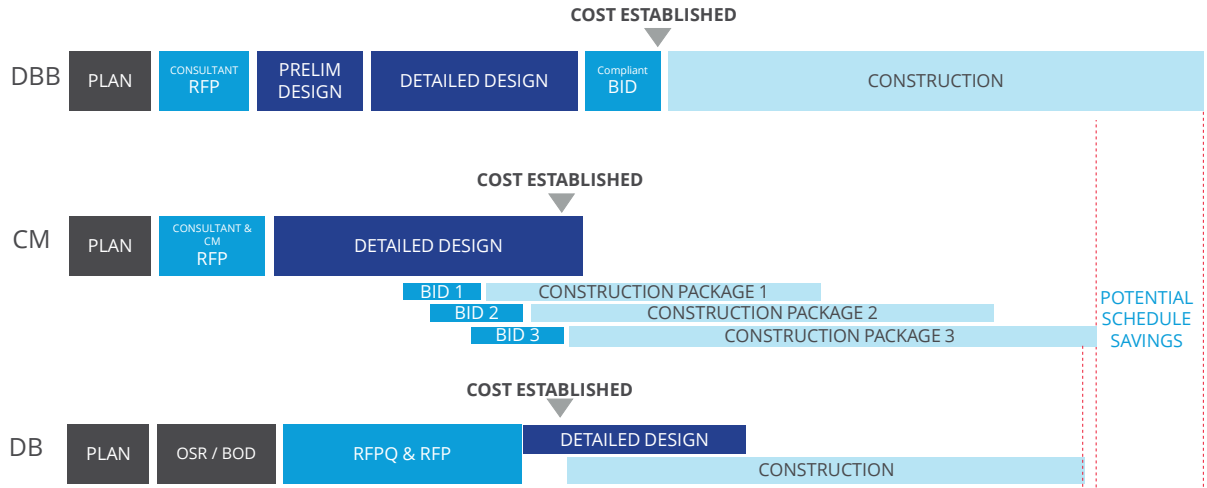
HOME > MODERN NIAGARA CONVERTS AMPED SPORTS LAB AND ICE COMPLEX INTO A ZERO CARBON BUILDING (ZCB)

Modern Niagara converts AMPED Sports Lab and Ice Complex into a Zero Carbon Building (ZCB)

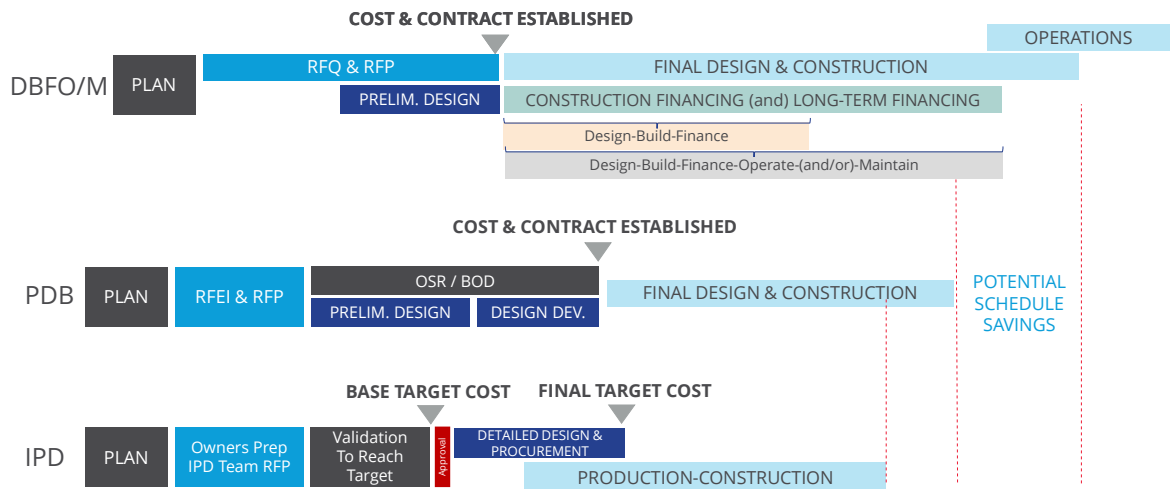
Modern Niagara has converted AMPED Sports Lab and Ice Complex into the first Zero Carbon Building™ – Performance Standard certified arena, achieved in December 2020 through the Canada Green Building Council's Zero Carbon Building™ Program. Modern Niagara is a national mechanical and electrical, building services, and integrated building technology contractor that delivers to its clients a broad spectrum of service offerings, including data-driven energy solutions for retrofits and new construction alike.

Colliers Project Leaders

Traditional Models Comparison



Emerging Models Comparison



What can Operations influence?

Design Bid Build
Design Build
Progressive Design Build
Integrated Project Delivery

Category	↔ Ability to influence ↔			
Equipment	Trade chooses least expensive that meets spec (argue over spec)	DB chooses least expensive within SOR requirements (could be performance spec)	Equipment options in design; DB chooses least expensive	Team chooses equipment in design
Ability to pivot with new tech	None without C.O.	None without C.O.	None without C.O. unless SOR has performance spec that requires new tech	Can choose within last responsible moment and no increase to target cost
Space	Space is determined at design; Contractor objections = C.O.	Space is determined in detailed design; Des-Builder objections = C.O.	Should be able to influence location and space in Phase 1	Can option different spaces and locations during design and procurement as long as no increase to F.T.C.
Access	Access is determined in design; Trade influence = C.O.	Access is determined in detailed design; if different than model = C.O.	Access is sometimes compromised to get to Fixed Price or GMP; usually = C.O. in const.	Access is part of Target Value Design; Operations influence is primary

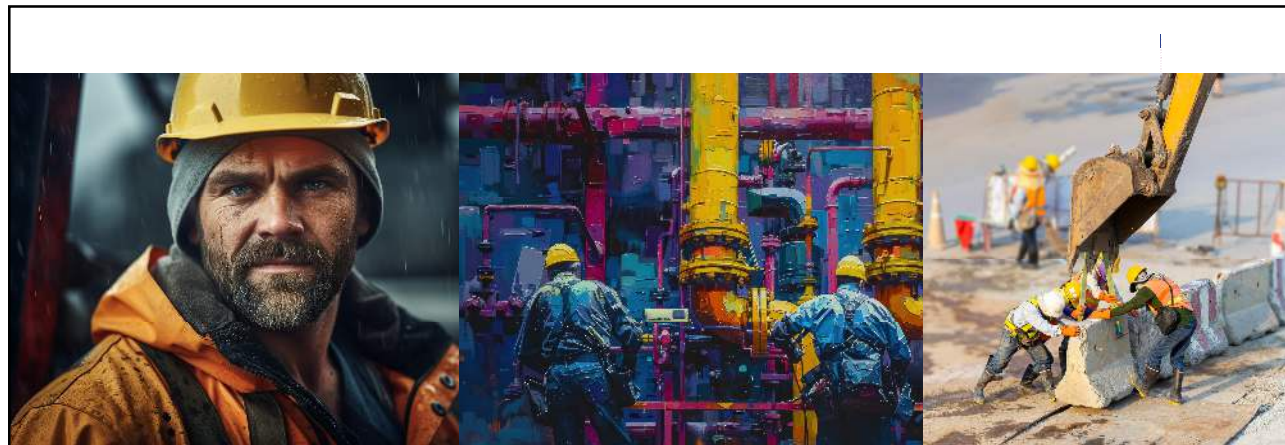
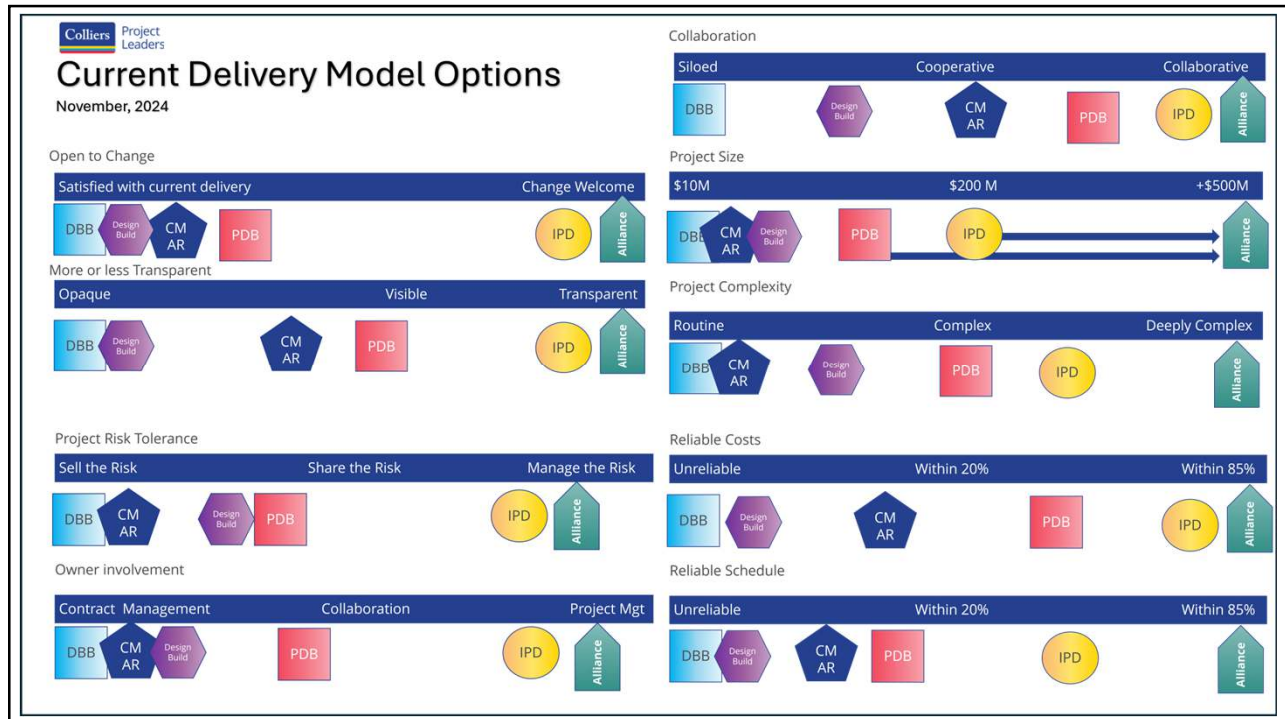


What can Operations influence?

Design Bid Build
Design Build
Progressive Design Build
Integrated Project Delivery

Category	↔ Ability to influence ↔			
Coordination	Needs to be detailed in design and spec; least costly system that meets spec	Can be specified as performance, but specific system has to be named in SOR	Operations participates in choices but cost at GMP or Fixed Price is basic	Most malleable in terms of coordinating with existing systems; Also area for savings
Operational information	Warranty information only, mfg manuals	Warranty information typically but could require manuals as part of SOR	Because Operations participates in Phase I, usually a better understanding of operations	Operations decides level of information including Facility Information Model based on BIM
Escalation	Price at bid closing is price (usually includes escalation)	Price is determined as equipment is specified and can result in C.O.	Price is determined as equipment is specified; purchase happens after SOR development and may increase	Equipment can be bought very early after the team is on-boarded to mitigate potential escalation
Maintenance	Not usually considered	No usually considered	Operations can influence performance	Operations is primary in maintenance needs





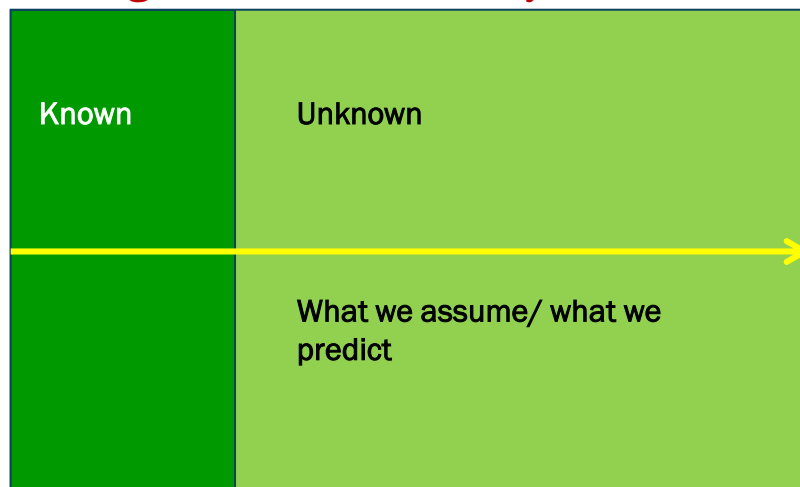
Benefits of Collaboration

Section 3

Why Collaborative Models?

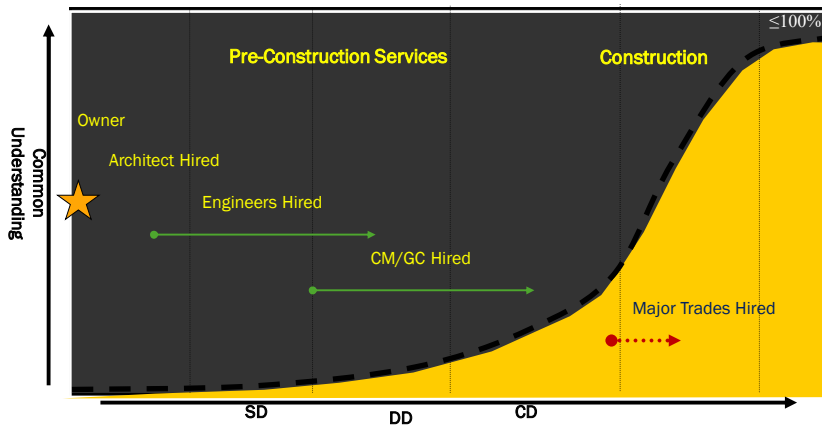
1. Risk Management

Manage Risk Collaboratively



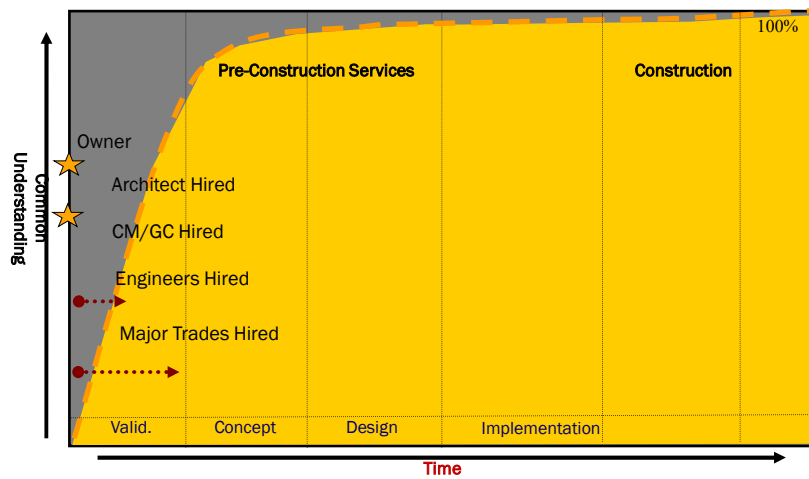
Manage Risk Collaboratively

Understanding the Work: Traditional Processes

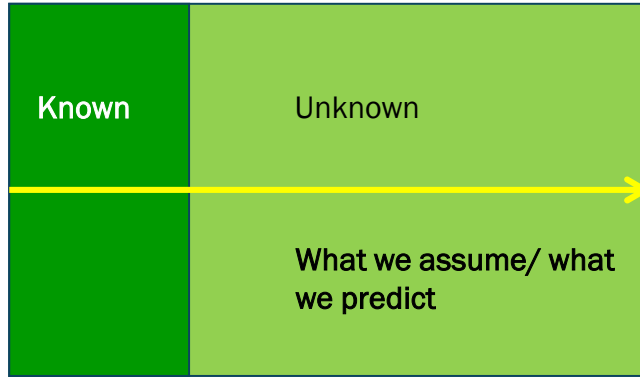


Manage Risk Collaboratively

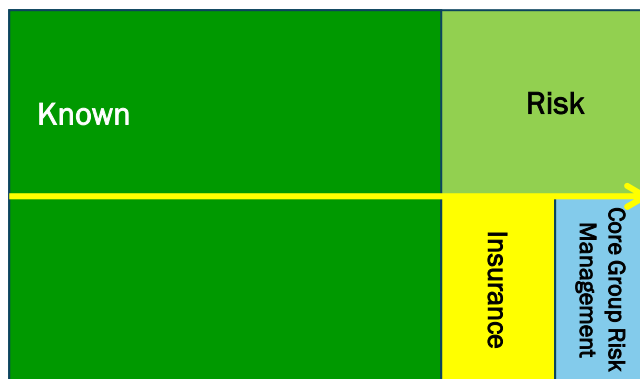
Understanding the Work: LEAN IPD Project



Manage Risk Collaboratively



Manage Risk Collaboratively



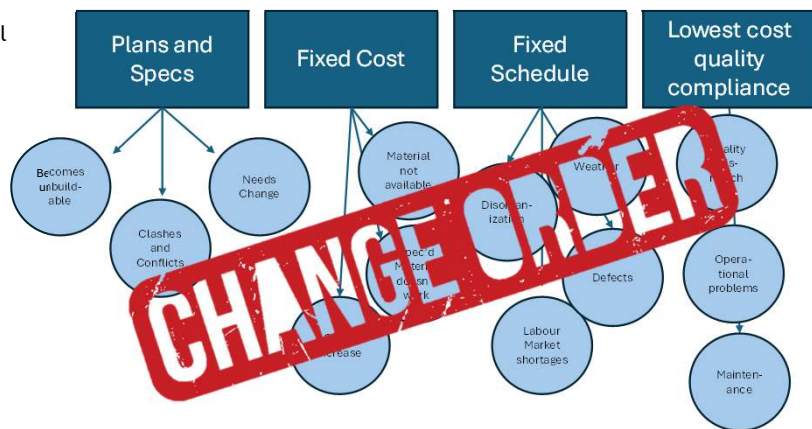
Why Collaborative Models?

2. Flexibility



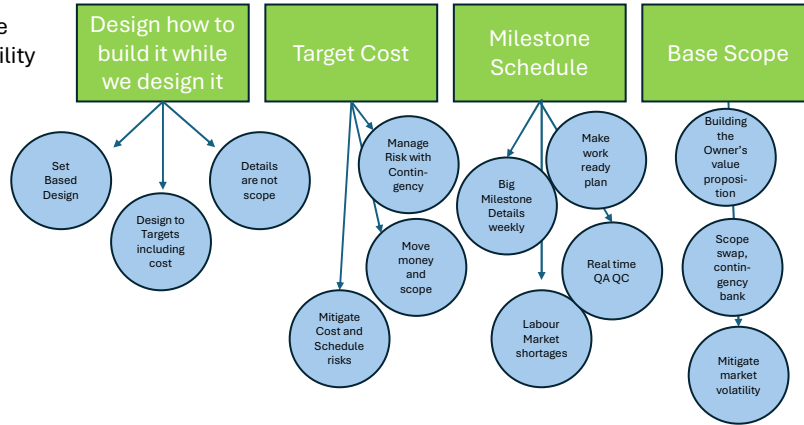
Flexibility

Traditional Transactional Contracts rely on never changing scope.



Flexibility

Relational, Collaborative Contracts provide flexibility for changed conditions without a change order.



Why Collaborative Models?

3. Common Purpose

Common Purpose



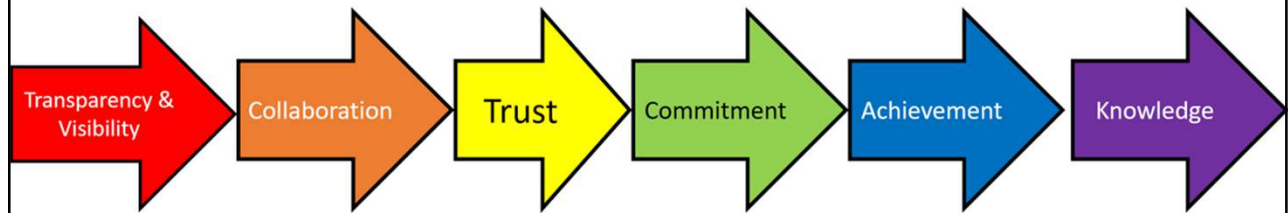
Sink or Swim Together



No Blame Culture



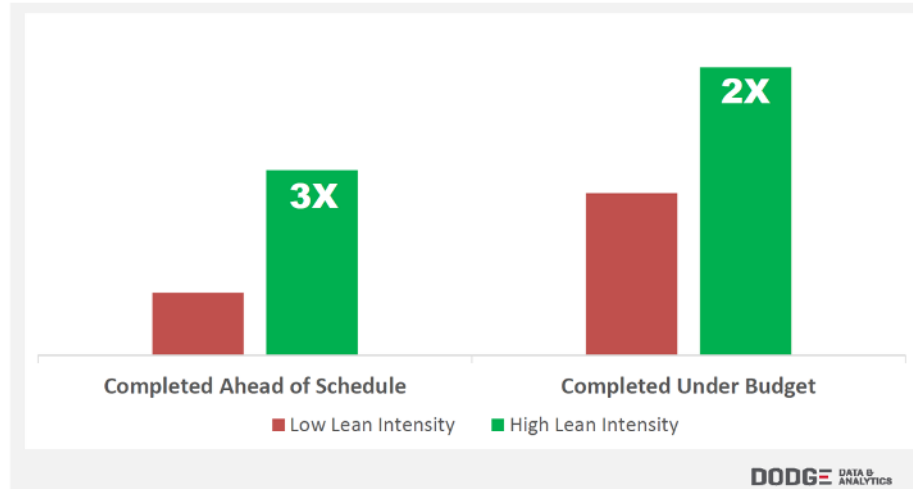
Focus on Project First



Why Collaborative Models?

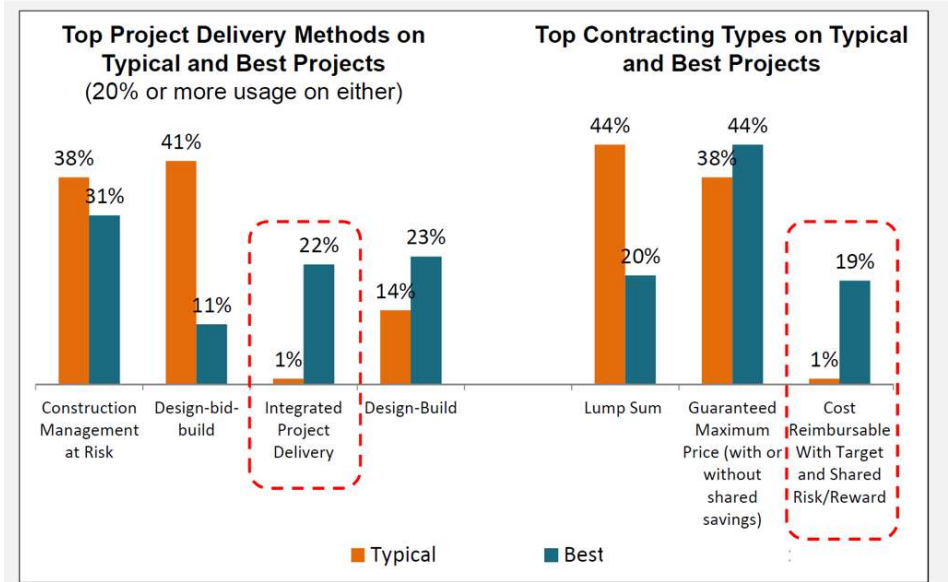
4. Better Reliability

Correlation of lean intensity to outcomes (% likelihood on best projects)

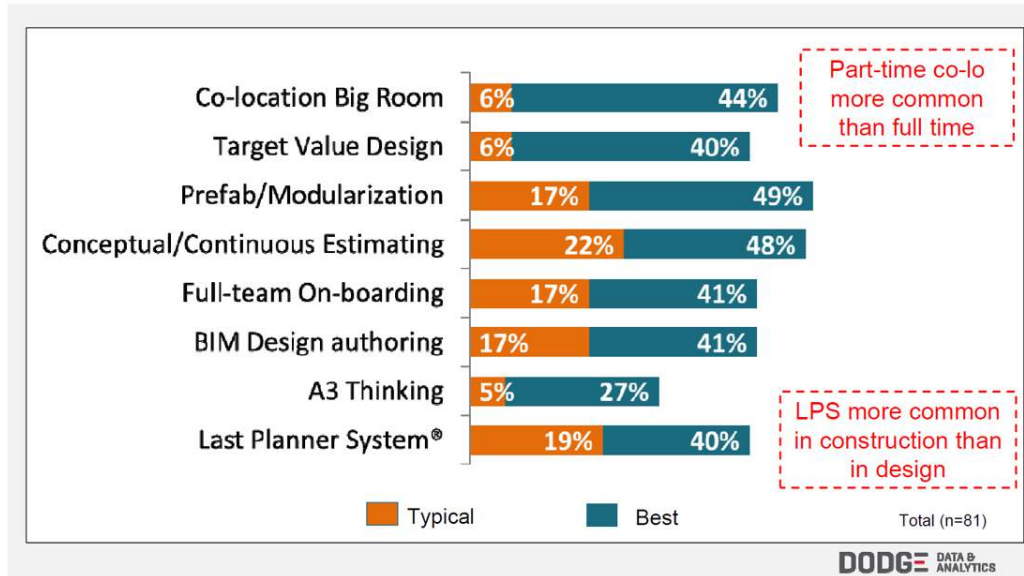


Top Project Delivery Methods on Typical and Best Projects (20% or more usage on either)

Top Contracting Types on Typical and Best Projects



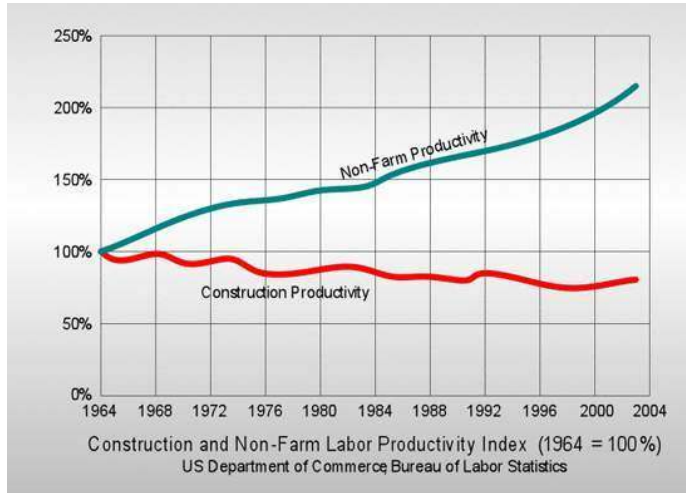
Methods with Most Degree of Difference Between Usage



Why Collaborative Models?

5. Better Productivity

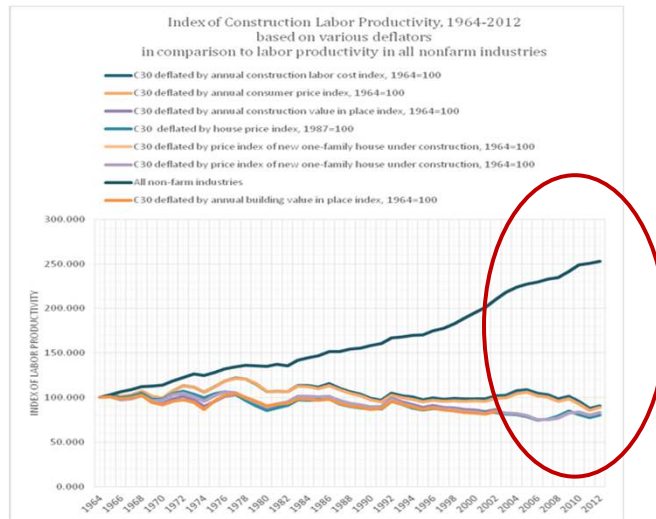
Underperforming



Continuing to Underperform



Paul Teicholz
article
updated,
March 14,
2013

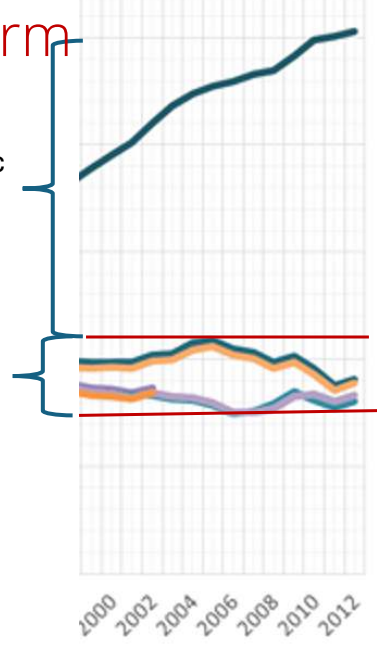


Continuing to Underperform

Since 2004

Continued dramatic **increases** in productivity

Continued **decreases** in productivity



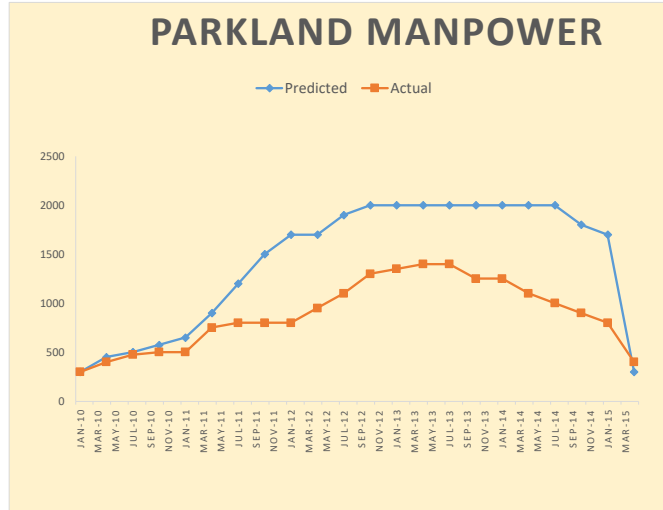
Better Productivity

Collaborative Planning processes like the Last Planner® System have been shown to increase productivity by 20% or more.



Better Productivity

Real projects, real results



Why Collaborative Models?

6. Safer Projects



Safer Projects

CAPTURE AND LEVERAGE THE LEAN ADVANTAGE



Are Lean Projects Safer?

Evidence that lean projects are safer dates back to 2003, when MT Hojgaard presented the data below, showing the impact of Last Planner on jobsite safety.

		2001 all year	2002 1. half-year
LC	Working hours	138822	146460
Projects	Accidents causing absence	4	5
	Days of absence due to accidents	-	37
	Incident rate (accidents per 200000 w.hours)	5,8	6,8
	Absence rate (preliminary results)	-	1,9
Ordinary	Working hours	426984	150127
Projects	Accidents causing absence	42	15
	Days of absence due to accidents	-	110
	Incident rate (accidents per 200000 w.hours)	19,7	20,0
	Absence rate (preliminary results)	-	5,4

From "Why Lean Projects are Safer," Dr. Glenn Ballard, University of California Berkeley 19th LCI Congress, 2017

Publications: Thomassen 2003, Saurin et al. 2004, Nahmens & Ikuna 2009, Leino 2010



Safer Projects



- Better planning reduces the difference between work as found and work as planned thus reducing the frequency when workers get into hazardous situations
- Lean culture builds skills and attitudes that help workers "catch" errors and "defuse" hazards

Glenn Ballard, *Ibid.*



- "In the weakest teams, there is no accountability
- In mediocre teams, bosses are the source of accountability
- In high performance teams, peers manage the vast majority of performance problems with one another"

Joseph Grenny, "The Best Teams Hold Themselves Accountable," Harvard Business Review (2014)



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Questions?

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Thank you

