



INTRODUCTION TO INTEGRATED PROJECT DELIVERY (IPD)

March 2024



AGENDA

1. WHAT IS IPD?
2. RULES OF ENGAGEMENT
3. IPD EXPERIENCE
4. BEST PRACTICES
5. OPEN DISCUSSION



**LARRY
ARNDT**

Vice President



**SHANNON
BROKENSHIRE**

**Director of
Business Strategy**

UNDERSTANDING INTEGRATED PROJECT DELIVERY

WHAT IS IPD?

IFOA:

Uses an Integrated Form of Agreement (IFOA) signed by the Owner, Lead Designer, Lead Builder, and partners.

COLLABORATION AGREEMENT:

Uses IPD techniques in another delivery model (e.g. Design-Build or CM at Risk).



1 SHARED DESIRE TO WORK TOGETHER



2 EARLY PARTNER SELECTION



3 COLOCATION THROUGHOUT



4 ALIGNED INCENTIVES

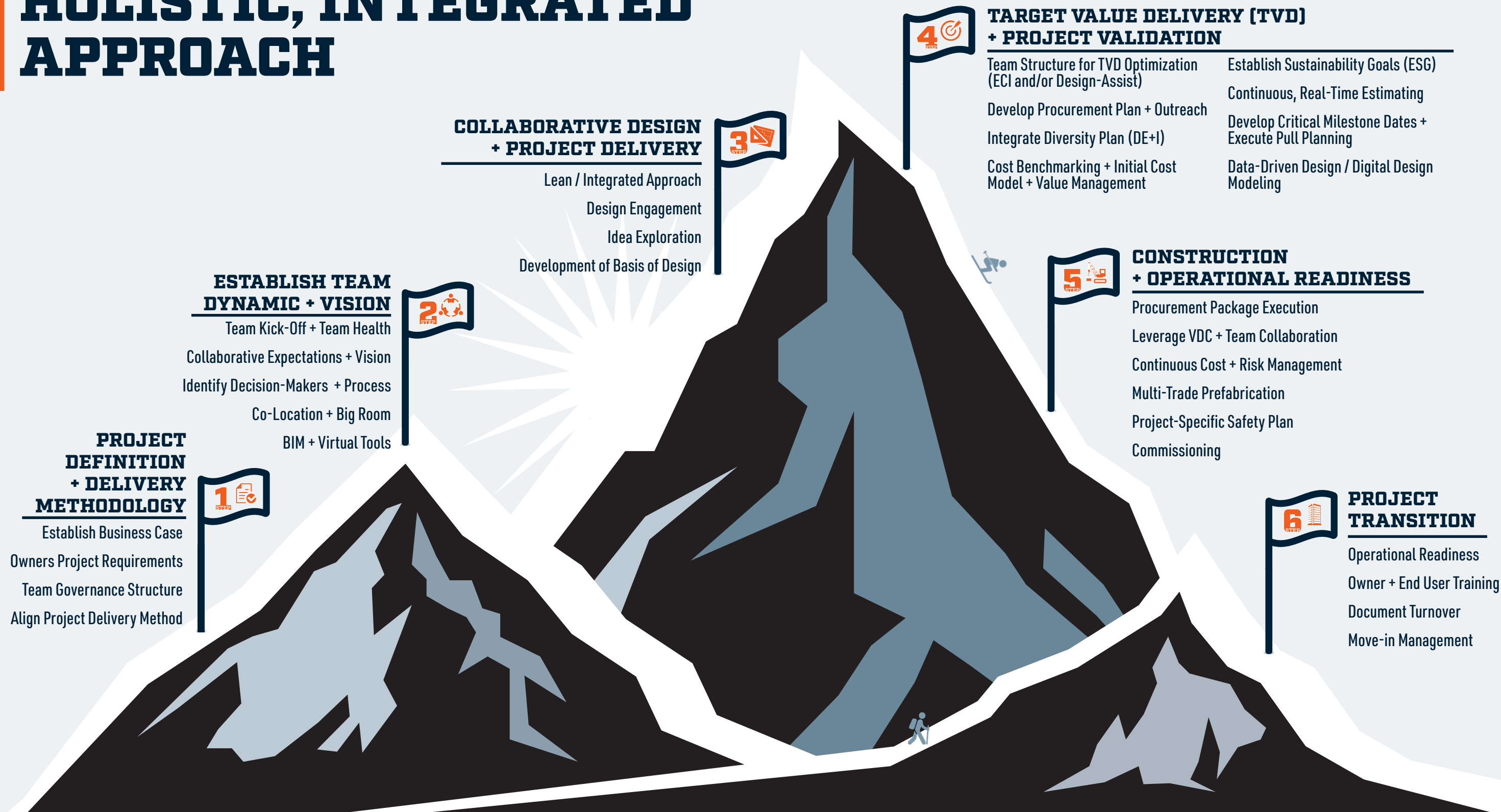


5 TARGET VALUE DESIGN

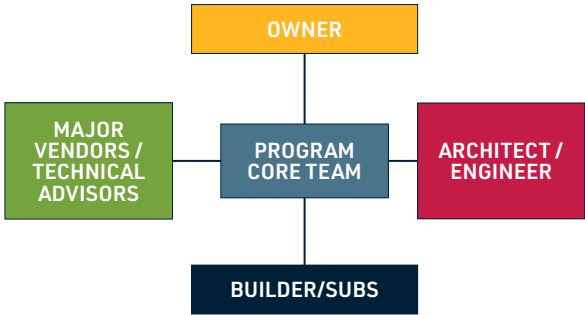


6 LEAN PRINCIPLES

HOLISTIC, INTEGRATED APPROACH



IFOA CONTRACT



CONTRACTUAL AGREEMENTS

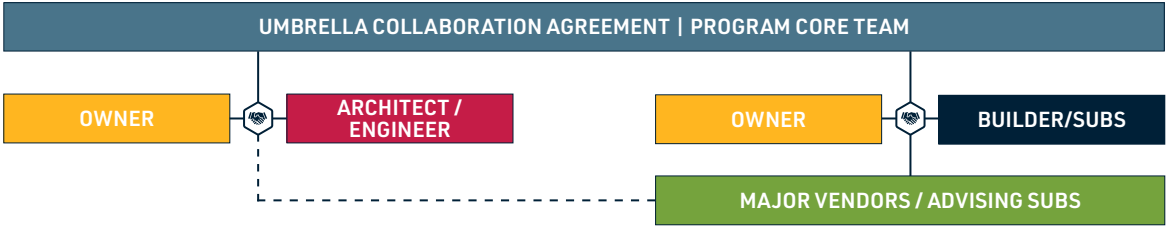
- Joint goals / Conditions of Satisfaction (CoS)
- Fee-based open book contract
- Pooled Risk & Reward (performance incentives based on metrics)
- Early project involvement of all parties
- Culture of cooperation + information sharing
- Integrate leadership in decision-making
- Defined Target Design Value
- Defined schedule and quality requirements
- Dispute mitigation

CORE TEAM MEMBERS

- | | |
|--------------------|--------------------------------------|
| • Owner | • Mechanical |
| • Lean Facilitator | • Plumbing |
| • Designer | • Fire Protection |
| • Contractor | • Other key trades (enclosure, etc.) |
| • Electrical | |



COLLABORATION AGREEMENT



CONTRACTUAL AGREEMENTS

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RISK VS. REWARD

PURPOSE OF SHARED SAVINGS

Align all Participants to the Same Project Goals

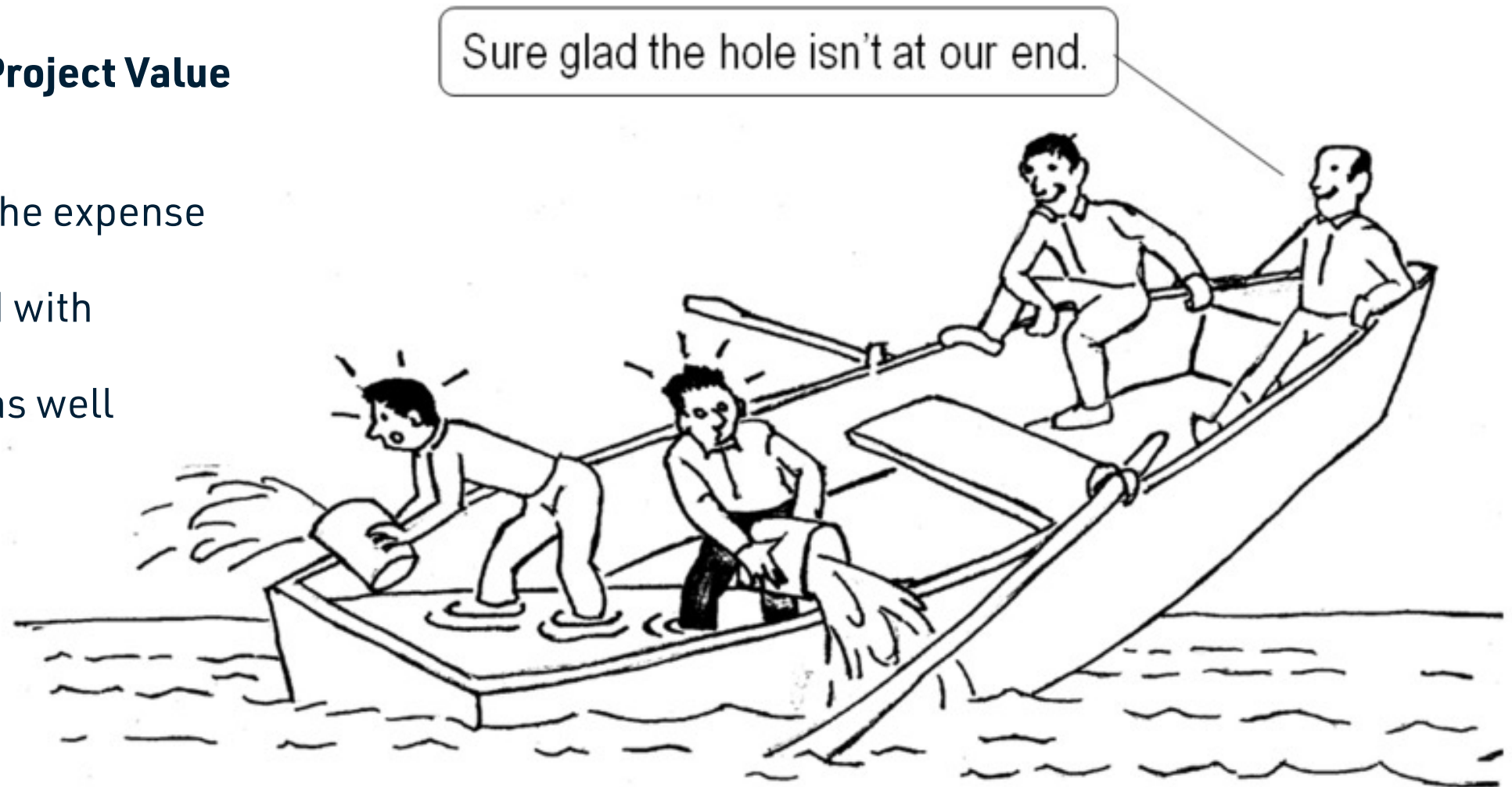
- Defined in the Conditions of Satisfaction

Drive the Team to Innovate; Optimize Project Value

Eliminate Win-Lose Outcomes

- The architect can no longer win at the expense of the builder or vice versa
- Gainshare means success is shared with commensurate financial rewards
- Painshare means failure is shared as well

ONE
TEAM



DELIVERY METHOD SCHEDULE IMPACTS

DRIVING SPEED TO MARKET



DESIGN-BID-BUILD / GC



CM AT RISK



COLLABORATIVE IPD APPROACH



TIME/COST

IPD APPROACH



DELIVERY
SPEED

23%

FASTER THAN
CM@RISK

33%

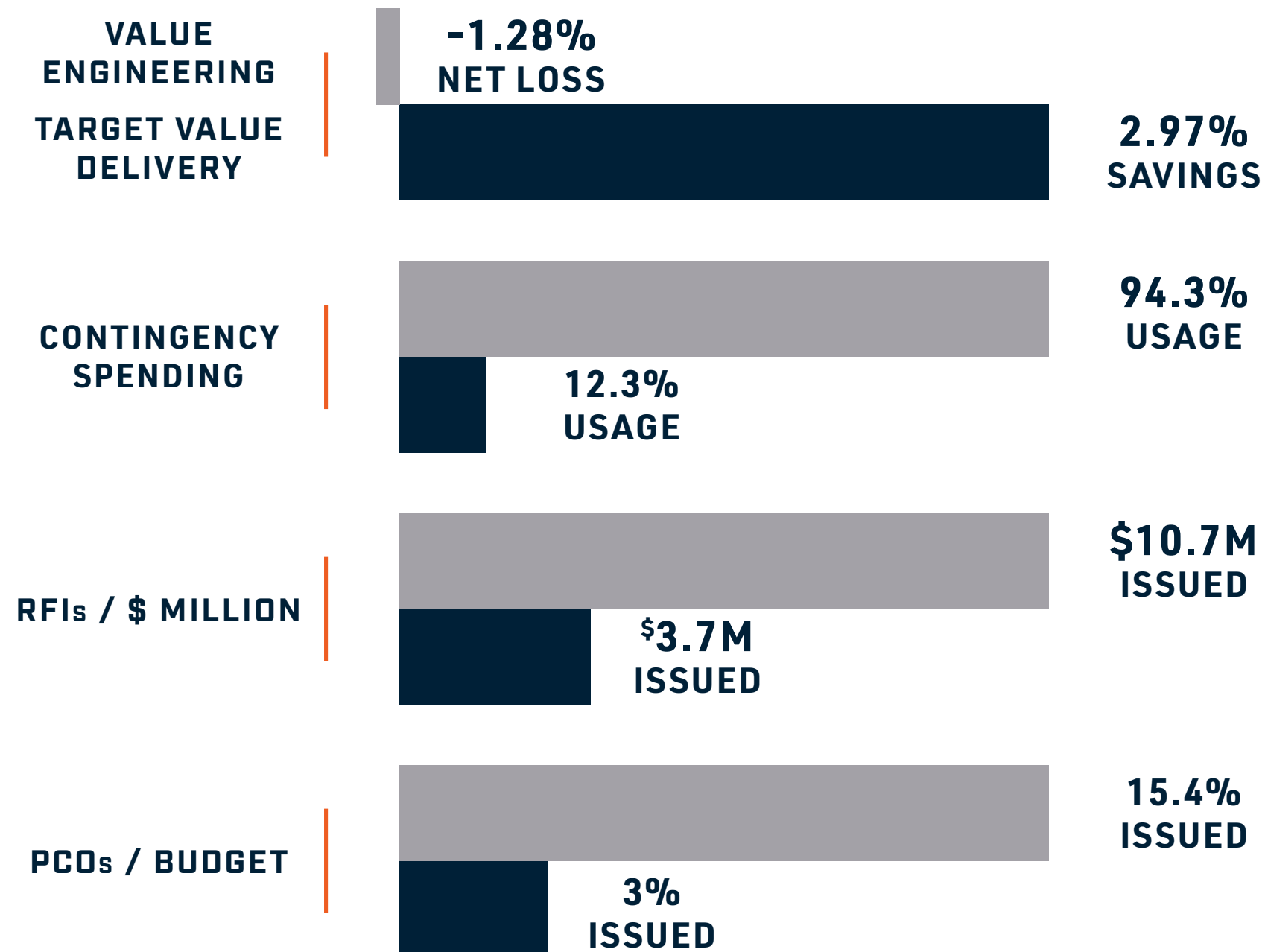
FASTER THAN
DESIGN-BID-BUILD

*CII Study of 351 projects in 37 states

SUB PARTNERS RECOGNIZED SAVINGS *(When technology is incorporated early in collaborative approach)*

METRICS TRACED AMONG FOUR SELECTED SUBCONTRACTORS	SHOP DRAWING	FABRICATION COST	MATERIAL COST	INSTALLATION COST	FIELD SUPERVISION	OVERALL SCHEDULE
AVERAGE SAVINGS	22%	3%	11%	11%	10%	21%

SUCCESS METRICS - COMPARISON



IPD: THE PREFERRED MODEL

DRIVES IMPROVEMENT IN:



COST



QUALITY



SCHEDULE



INNOVATION



SAFETY



TEAMWORK



SUSTAINABILITY



SATISFACTION

IPD EXPERIENCE



BMC PERIOPERATIVE + CLINICAL EXPANSION

WVU MEDICINE | MARTINSBURG, WV



\$24.8M



38,678 SF



Awarded
April 2023

IPD EXPERIENCE



LMC REPLACEMENT HOSPITAL

INTERMOUNTAIN HEALTH (SCL) | WHEAT RIDGE, CO



\$423M



660,000 SF



Awarded
October 2020

BEST PRACTICES



KEY FACTORS FOR SUCCESS

Early Alignment with the Owner Organization

Select the Right Team for the Project

- Partners who are willing to learn and change
- Focus on people, not the company

Validate the Proposed Scope, Schedule, and Budget

Co-locate + Big Room

Use Lean Techniques

Radical Candor

Collaborate, Really Collaborate

Trust

Put interests of project ahead of individual interests

BEST PRACTICES

ROADBLOCKS TO MITIGATE

Public Procurement Laws

Novelty and Complexity

**Takes Time to Learn IPD
+ Negotiate the Deal**

**Up-front Engagement of Greater
Leadership + Administration**

**Hesitancy about
Trust-based Relationships**

Non-Performing Party

Owner Attitudes

- Reluctant to select on pure qualifications, without pricing
- Leery of agreement without cost or schedule guarantee
- Unwilling to invest up-front time for planning, coaching

Contractor + Designer Attitudes

- Insufficient experience to be comfortable
- Requires attitude and behavioral changes
- Reluctant to put fee at risk
- Few local subconsultants and subcontractors suitable for IPD

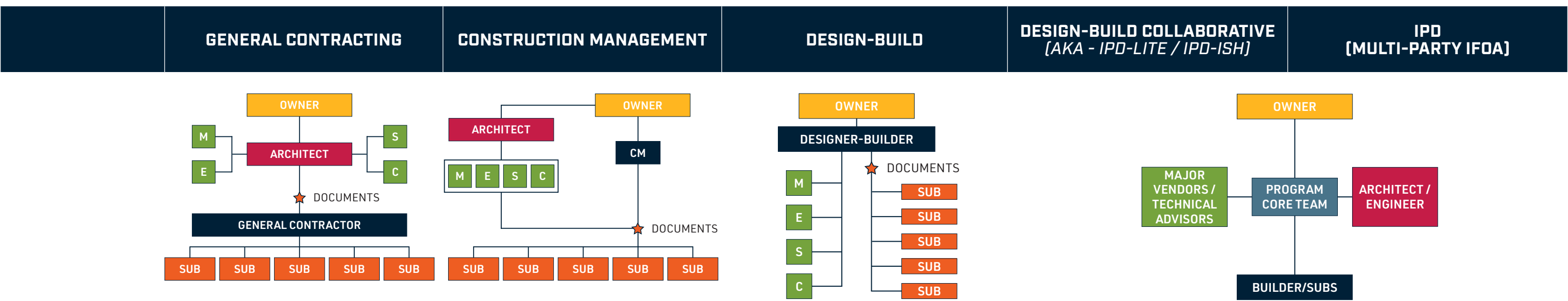


Barton Malow®

BUILDING WITH THE
AMERICAN SPIRIT
**PEOPLE
PROJECTS
COMMUNITIES**



Additional Information



TIMELINE / PROCESS	DESIGN	BID	BUILD	DESIGN / BID	CONSTRUCTORSELECTION	CONSTRUCTORSELECTION
				BUILD	DESIGN / TRADE PARTNERS	DESIGN / TRADE PARTNERS
					BUILD	BUILD
AE CONTRACT HELD BY	OWNER			DESIGN BUILDER	DESIGN BUILDER	
CONSTRUCTION CONTRACT HELD BY	OWNER			OWNER	OWNER	PROGRAM (MULTI PARTY)
PROJECT SAVINGS	GENERAL CONTRACTOR			DESIGN BUILDER	DESIGN BUILD TEAM &/OR OWNER SHARED OPTIONS	
COST RISK	OWNER			OWNER / DESIGN BUILDER	OWNER / DESIGN BUILD TEAM	OWNER / PROGRAM (MULTI PARTY)
COST + TIME CERTAINTY	LUMP SUM / HARD DOLLAR BID Total \$ When Job is Complete. Ongoing Change Orders Add to \$			CM PROVIDE GMP @ END OF DESIGN Total Cost Budgeted Prior to Construction Change Orders Can Add to \$"	QUALIFICATION / VALUE / LUMP SUM Not-to-Exceed Determined Prior to Construction Change Orders Unlikely, Unless Owner Driven"	QUALIFICATION / VALUE / FEE Cost Certainty Determined Prior to Construction Change Orders Unlikely"
EARLY COLLABORATION LEVEL	LOW			LOW - MEDIUM	MEDIUM - HIGH	HIGH

LEAN

Barton Malow works to transform the construction industry through innovation and a culture of continuous improvement, supported by our Lean initiatives. These initiatives aren't just focused internally. To drive real change in the industry, Barton Malow also spearheads Lean education with clients, partners, and subcontractors.

LEAN TOOLS

Big Room/Colocation

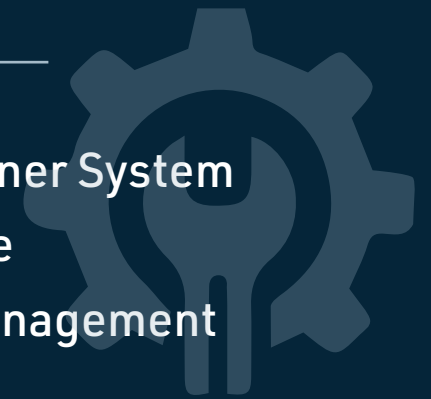
Target Value Delivery

Choosing by Advantages

Last Planner System

6S Jobsite

Visual Management



WHOLE TEAM INTEGRATION OUTCOME



Enhanced Project Success



Heightened Level of Innovation



Culture of Continuous Improvement



Reliable Promising / Commitments



Team Trust



Knowledge Sharing and Leveraging Others Skills and Capabilities

ONE TEAM | ONE PROJECT | ONE GOAL

BARTON MALOW IPD FRAMEWORK

CORE PRINCIPLES

- ① CONTINUOUS IMPROVEMENT
- ② RESPECT FOR PEOPLE

GUIDING PRINCIPLES

3. CUSTOMER VALUE
4. VALUE STREAM
5. REDUCE / ELIMINATE WASTE
6. PREFABRICATE / MODULARIZATION
7. FLOW
8. PULL

LEAN

BIG ROOM /
CO-LOCATION

TARGET VALUE
DELIVERY

CHOOSING BY
ADVANTAGES

LAST PLANNER
SYSTEM

6S JOBSITE

VISUAL MANAGEMENT

WASTE REDUCTION

DELIVERY MODEL

TRUE IPD

D-B

EPC

CM@R

P3

PROJECT SUCCESS

IPD

EARLY INVOLVEMENT

INTEGRATED FORM
OF AGREEMENT

JOINT GOALS /
CONDITIONS OF
SATISFACTION

POOLED RISK &
REWARD

JOINT CONTROL

DISPUTE MITIGATION

COLLABORATION

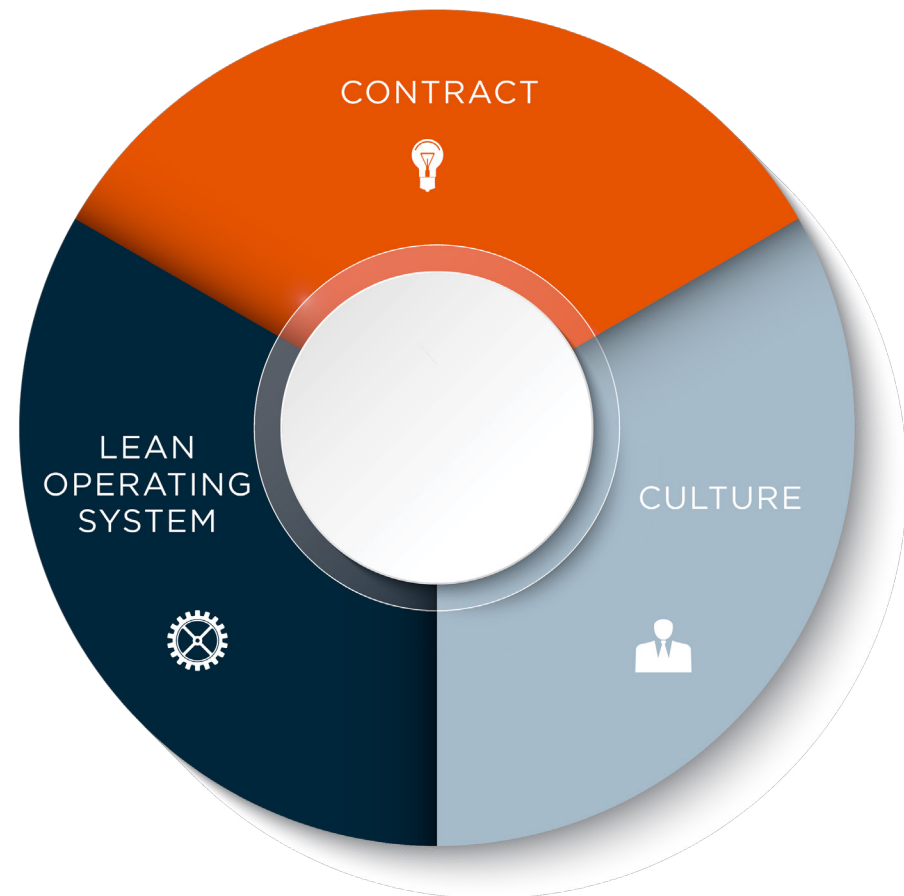
CORE PRINCIPLE

ONE TEAM

FIVE BIG IDEAS

1. COLLABORATE, REALLY COLLABORATE
2. OPTIMIZE THE WHOLE
3. TIGHTLY COUPLE
LEARNING WITH ACTION
4. PROJECTS AS NETWORKS
OF COMMITMENT
5. INCREASE RELATEDNESS

BENEFITS OF IPD



Fee-based open book contract

Early price, schedule, and scope validation

Transparent information sharing among all stakeholders

Performance incentives based on metrics tied to project success

Fabrication moved from jobsite to more efficient shop

Lean practices improve jobsite safety and productivity

Collaborative decision-making to solve challenges

Increased ability to monitor and control costs and quality

Reduced exposure to claims and disputes

On time, on budget, no disputes, satisfied parties