



SAN DIEGO COMMUNITY COLLEGE DISTRICT



IPD via Design Build in the San Diego Community College District



Southern California Owners Group
July 27, 2011

OWNER'S PERSPECTIVE: San Diego Community College District

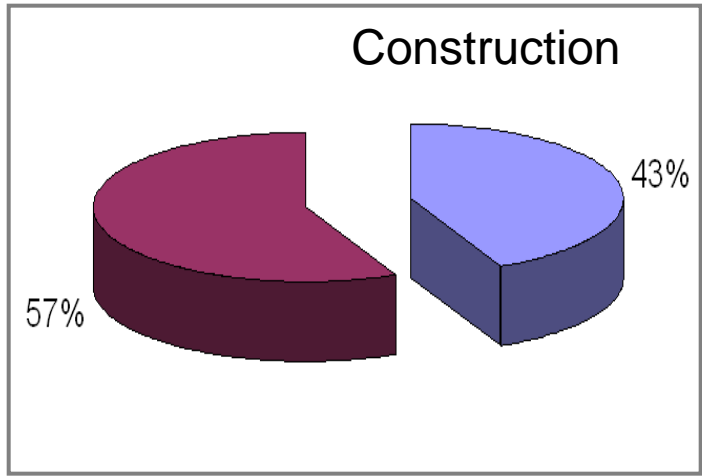
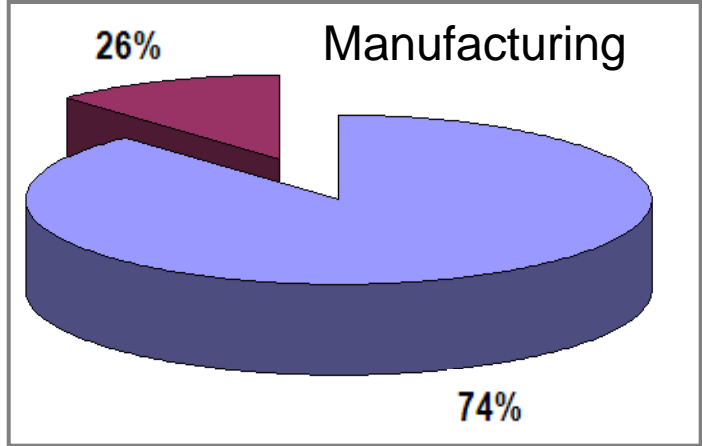
- **Three Colleges - City, Mesa and Miramar**
- **Six Continuing Education Campuses**
- **Students - 159,892 in Academic Year 2009 - 2010**
- **Employees - 4,900**
- **District Square Footage - 2,218,031**
- **\$1.555 billion construction bond program**



OWNER'S PERSPECTIVE: What Can I Get for My Money?

- **Reduce Waste/Inefficiency**
- **Construction Lags Behind Other Industries**
 - Redesign
 - Rework
 - Claims/Litigation
 - Improper Sequencing of Work
 - Delayed Submittals and Approvals

Source: Construction Industry Institute



OWNER'S PERSPECTIVE: Design Build California Community Colleges

- **As of January 1, 2008, Community Colleges can use design build under SB614.**
 - Must be at least \$2.5M in value
 - Requires project-specific Board resolution
- **Need to evaluate the project based on five minimum criteria.**
 - Price (10%)
 - Technical Experience (10%)
 - Life cycle cost over 15 years (10%)
 - Skilled Labor Force (10%)
 - Safety Record (10%)



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OWNER'S PERSPECTIVE: Integrated Project Delivery (IPD)



THE AMERICAN INSTITUTE OF ARCHITECTS

PRACTICING ARCHITECTURE | EDUCATION | CONTRACT DOCUMENTS

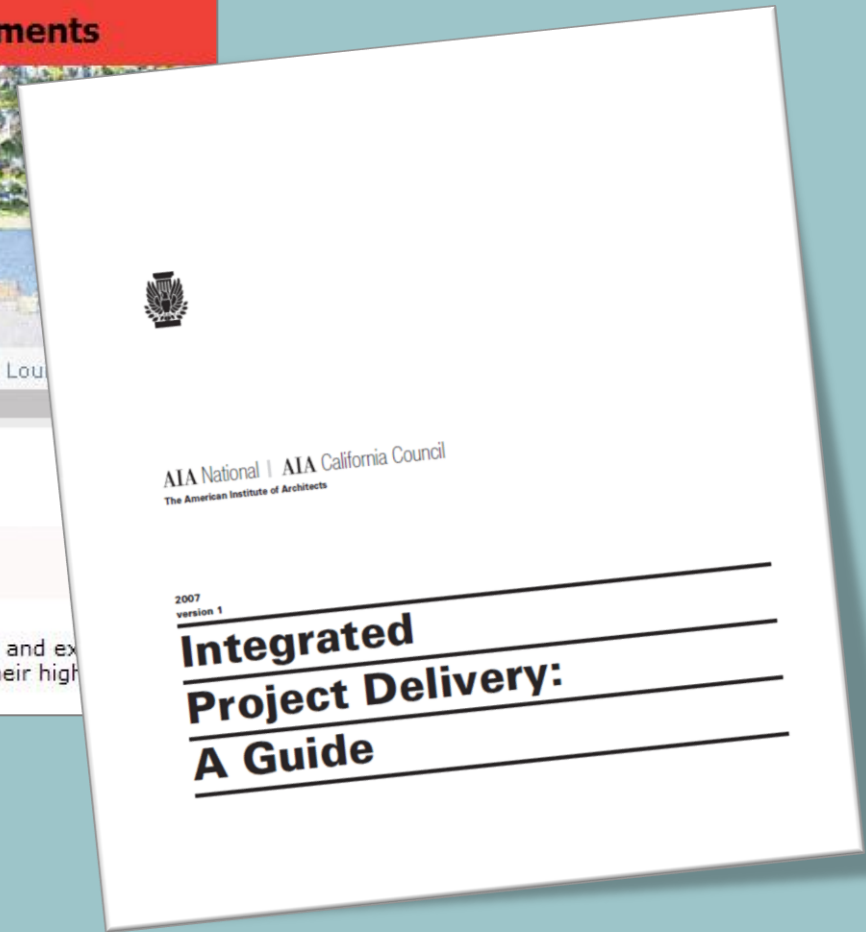
Contract Documents

Village of Park DuValle, Louisiana

Home > Contract Documents

Integrated Project Delivery: A Guide

Integrated Project Delivery (IPD) leverages early contributions of knowledge and expertise, allowing all team members to better realize their high potential by expanding the value they provide throughout the project lifecycle.



<http://www.aia.org/ipdg>

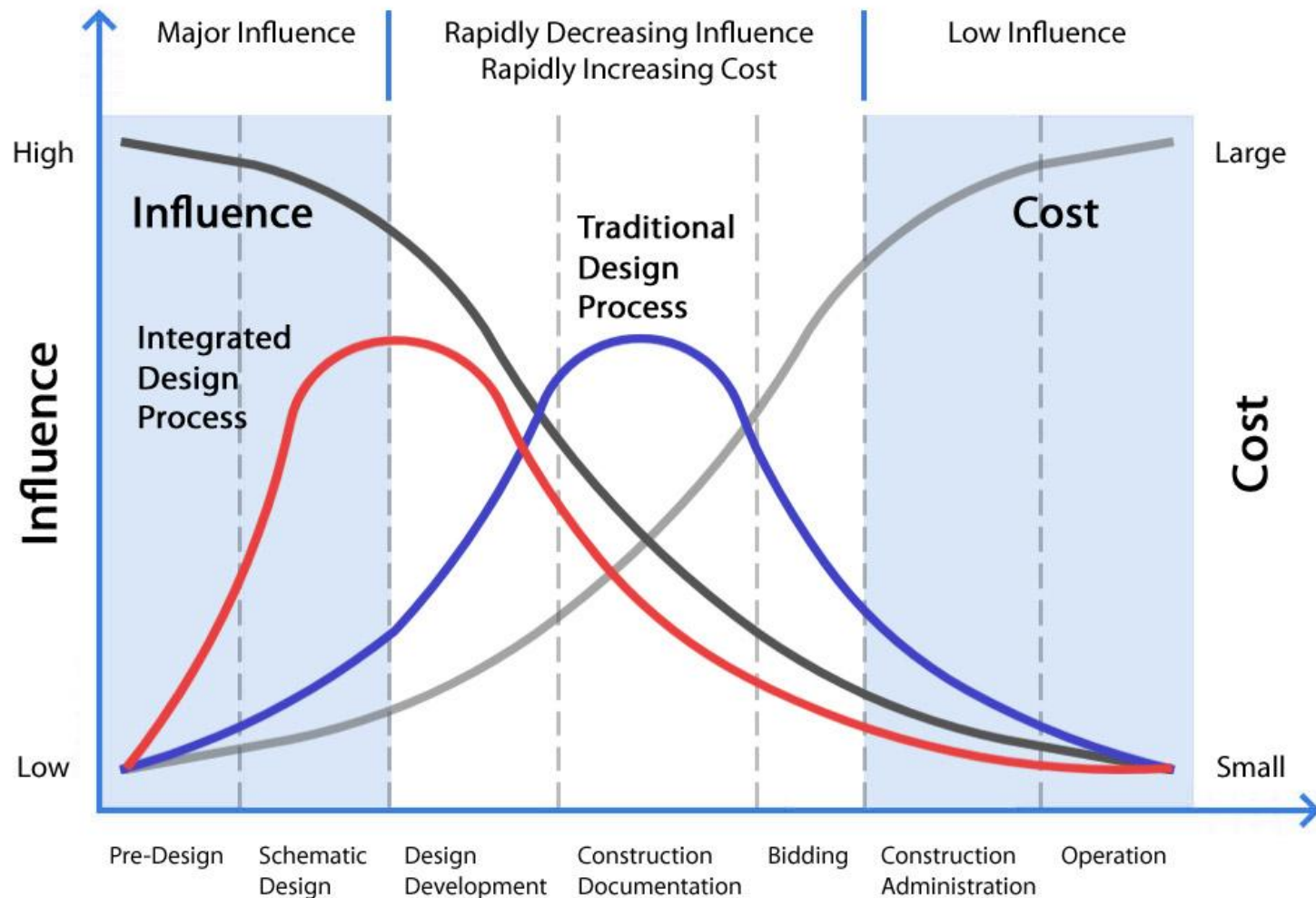


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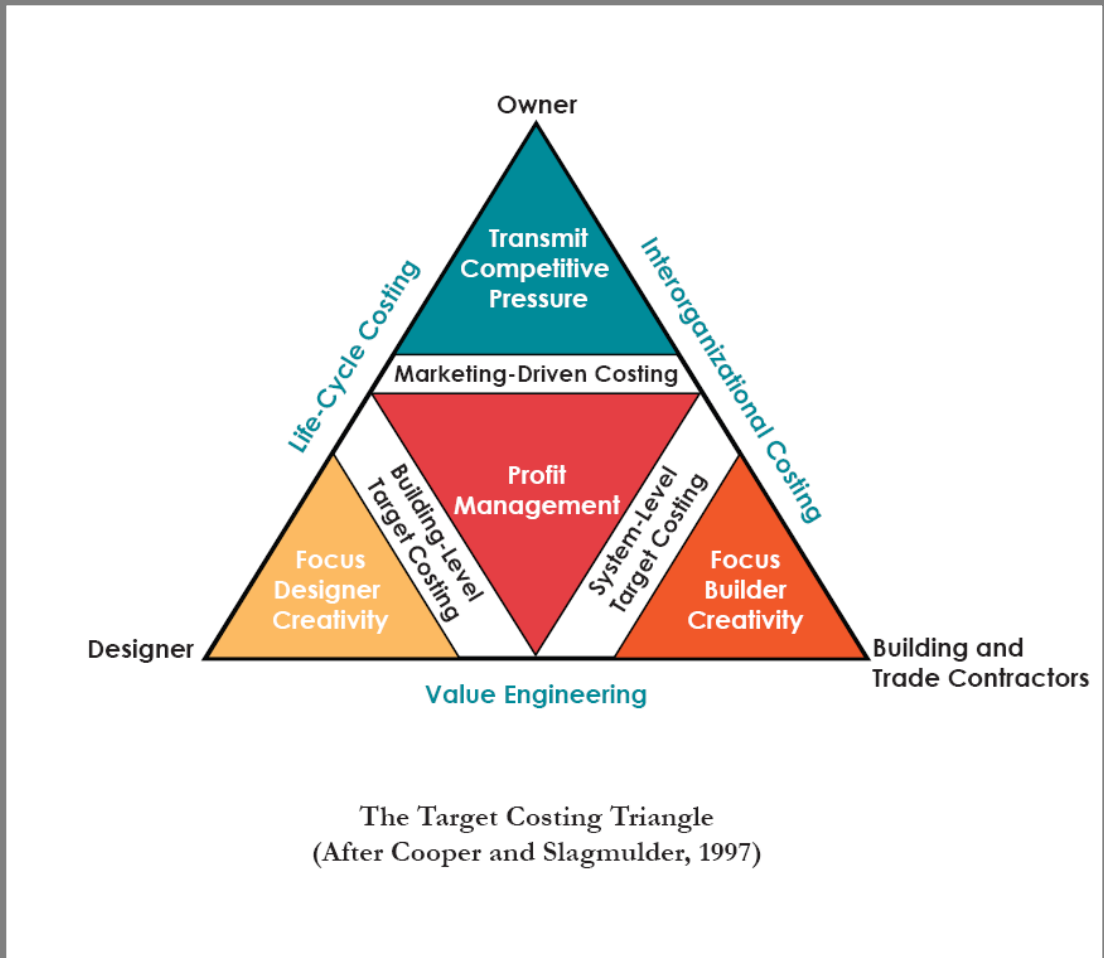
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OWNER'S PERSPECTIVE: IPD – Why Do It?

An integrated design process allows decisions to be made early when the opportunity for change is maximized and the cost of changes are minimized.

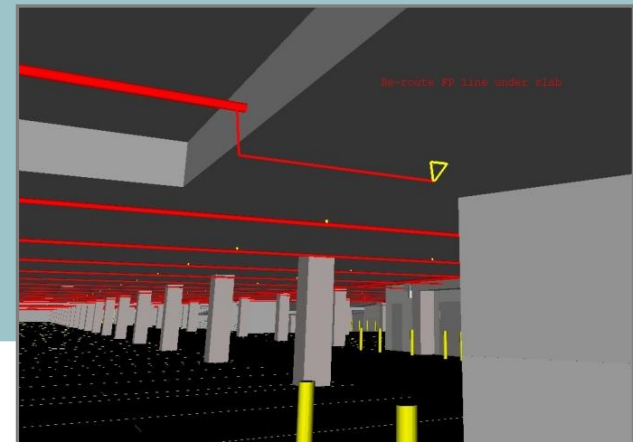
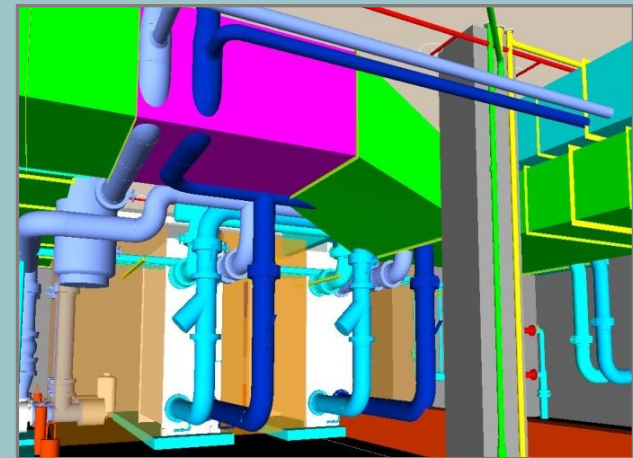
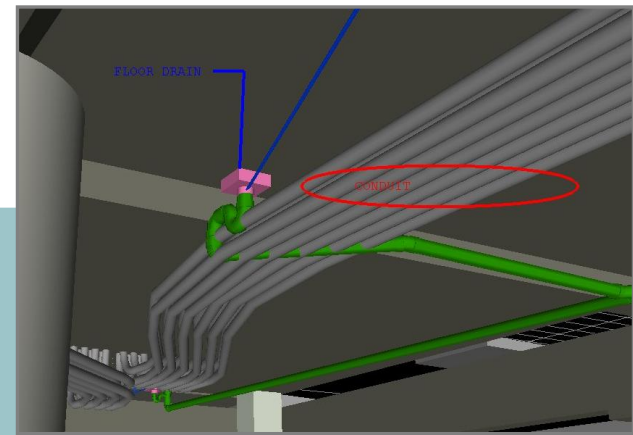


OWNER'S PERSPECTIVE: Target Costing



OWNER'S PERSPECTIVE: BIM! BIM! BIM!

- Build it in model space before you build it in real space.
- Reduce conflicts using Revit and NavisWorks clash detection.
- Energy efficiency evaluation.
- Walk the end user through the space.
- With schedule integration, a 4-D model can be developed.
- With cost estimates, a 5-D model can be developed.



OWNER'S PERSPECTIVE: Design Build with Elements of Lean

- **Elements of Integrated Project Delivery**
- **Building Information Modeling**
- **List/prequalify all major trade contractors**
- **List/prequalify all major engineering consultants**
- **Target Budgeting**
- **SBE participation**



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OWNER'S PERSPECTIVE: Design Build Proposal Evaluation Factors

- **Price (20%) – 200 points total**
- **Non-Price Factors (80%) – 800 points total**
 - Technical Expertise (200 points)
 - Life Cycle Costs (100 points)
 - Skilled Labor Force Availability (100 points)
 - Commitment to Diversity (100 points)
 - Safety Record (100 points)
 - Design Excellence (200 points)



OWNER'S PERSPECTIVE: Design Build Proposal Evaluation Factors

▪ **Technical Expertise (200 points)**

- General Firm Information
- Firm Experience
- Team Member Experience
- Firm & Team References



▪ **Life Cycle Costs (100 points)**

- First cost, estimated life, annual maintenance cost, operation cost and projected replacement timeline for:
 - Mechanical systems
 - Electrical systems
 - Vertical transportation

- **Energy consumption based on 40 year project life escalated at current CPI.**



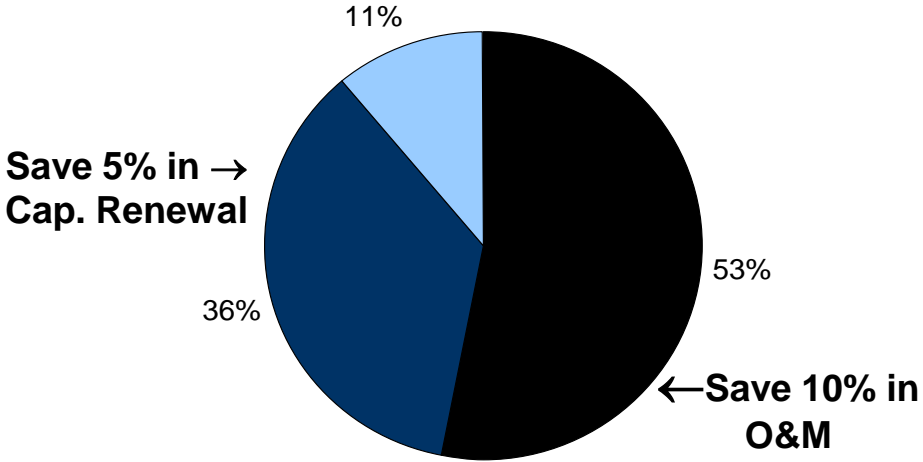
OWNER'S PERSPECTIVE: Total Cost of Ownership Example

- **50 year design life**
- **100,000 square foot classroom building**
- **Design and construction cost - \$30 million**
- **Capital Renewal: 2 percent of current replacement value (APPA benchmark)**
- **O&M Budget \$5.69/square foot**
- **Inflation: 3 percent**



OWNER'S PERSPECTIVE: Savings in O&M Capital Renewal

Total Cost of Ownership



		Savings	
		<u>Total</u>	<u>NPV</u>
D&C:	\$30M		
Cap.R:	\$101M	\$ 5M	\$1.1M
O&M:	\$149M	\$15M	\$3.4M
Total:	\$280M	\$20M	\$4.4M

