Project Delivery in Perspective

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• Unity of Intent
Unity of Intent

Master-Builders

- Filippo Brunelleschi
  - 1377-1446
  - Father of Architectural Functionalism
- Sir Christopher Wren
  - 1632-1723
  - Architect-Builder
- James Eads
  - 1820-1887
  - Engineer-Builder
Unity of Intent

Principal-Agent Problem
Segregation of Intent

Byproduct of Industrial Revolution

• Changes
  ▪ Mechanization
  ▪ Equipment utilization
  ▪ Heightened productivity
  ▪ Increased specialization

• Led to:
  ▪ Standards more prevalent
  ▪ Clear distinction between designers and builders
  ▪ Professional organizations
Segregation of Intent

Byproduct of Industrial Revolution

1834 Institute of British Architects

1852 American Society of Civil Engineers

1857 American Institute of Architects
• Unity of Intent
• Procurement/Contracting Flexibility
Procurement Constraints

United States

1893

Act for Separate Procurement of Architectural Services

Allowed the Secretary of Treasury, which at the time controlled funding for construction of federal buildings, to separately procure the services of architects to prepare plans and specifications.

1916

Act for Federal Aid to State Highway Departments for Rural Post Roads

Offered 50% reimbursement by federal government of construction costs upon completion of rural post road projects as long as the projects followed federal guidelines. A key stipulation was the advance federal approval of a complete set of plans and specifications.

1926

Public Buildings Act

Required prior preparation of plans and specifications by federal employees of the Treasury Department before federal building construction could begin.

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## Procurement Constraints

*United States*

<table>
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<tr>
<th>Year</th>
<th>Event</th>
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| 1935 | Miller Act  
Required a contractor on a federal project exceeding $100,000 to post a performance bond and a labor & material payment bond. |
| 1947 | Armed Services Procurement Act  
Allowed substantial flexibility for the procurement of design services but required prior advertising for all supplies and services – including construction of public works and buildings – *through specifications and invitations for bids to encourage competition.* |
| 1949 | Federal Property & Administrative Services Act  
Created the General Services Administration (GSA) and transferred to GSA all of the functions of the Bureau of Federal Supply, the Commissioner of Public Buildings, and the Public Road Administration. Procurement requirements were identical to the Armed Services Procurement Act. |

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Brooks Act

Created a comprehensive selection process for architects and engineers based upon their experience, qualifications, and abilities to perform the design tasks being advertised. *Statutorily made design-bid-build the only delivery system possible for federal projects.*
• Unity of Intent
• Procurement/Contracting Flexibility
• Long Time Horizon
Long Time Horizon

Cooperation

• Axelrod, R. (1984)
  ▪ For cooperation
    • Durability of relationship more important than trust
    • Increases need to expand the shadow of the future
Long Time Horizon

Transaction Cost Economics

- Williamson, O. (1975 & 1979)
  - Lengthy principal-agent relationships
    - Incomplete contracts
    - Opportunistic behavior

Renegotiation and/or Hold-up
Cathedrals are incredible testaments to human endeavor. It is not only their grandeur or splendor, but the thought that they often took more than fifty years to build. Those who designed them, those who first worked on them, knew for certain that they would never see them finished. They knew only that they were creating something glorious which would stand for centuries, long after their own names had been forgotten.....

We may not need any more cathedrals but we do need cathedral thinkers, people who can think beyond their own lifetimes.

- Charles Handy
• Unity of Intent
• Procurement/Contracting Flexibility
• Long Time Horizon
• Stakeholder Relationships
Stakeholder Relationships

A Seat at the Table

• Freeman, R. E. (1984)
  – Strategy & Stakeholders
    • “Principle of Who or What Really Counts”
• Unity of Intent
• Procurement/Contracting Flexibility
• Long Time Horizon
• Stakeholder Relationships
• Task/Production Efficiency
Task/Production Efficiency

Lean Production Management

- Lean Construction
  - “Physics” of construction
  - Best-suited for complex, uncertain, and/or time-constrained projects
  - Maximize value and minimize waste
Project Delivery Today
Project Delivery In Perspective

Case, Historical, Theoretical Findings

- Unity of Intent
  - Alignment and integration
- Procurement/Contracting Flexibility
  - Open system
- Long Time Horizon
  - Cooperation w/ challenges
- Stakeholder Relationships
  - Bring right people together
- Task/Production Efficiency
  - Create value

IDDS or IPD Tenets

- Integrated Leadership
- Contractual & Legal Framework
- Project-Focused
- Engagement of Right Participants at Right Time
- Integrated Work Processes and Systems
- Collaboration Technology

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The inspiring vision of IPD is that of a seamless project team, not portioned by economic self interest of contractual silos of responsibility, but a collection of companies with a mutual responsibility to help one another meet an owner’s goals.

-Chuck Thomsen