Project Delivery Trends and Practical Advice for Public Infrastructure Projects

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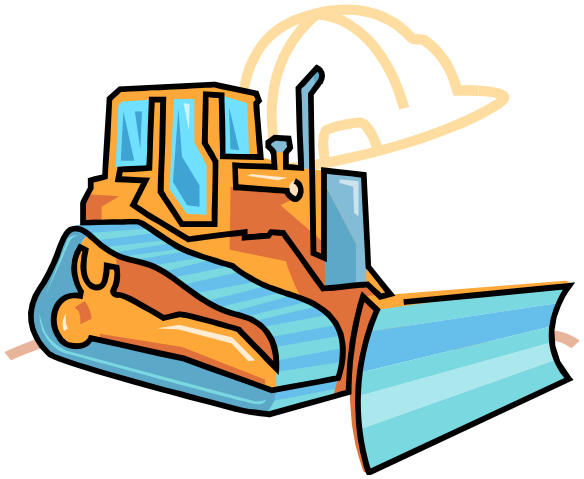
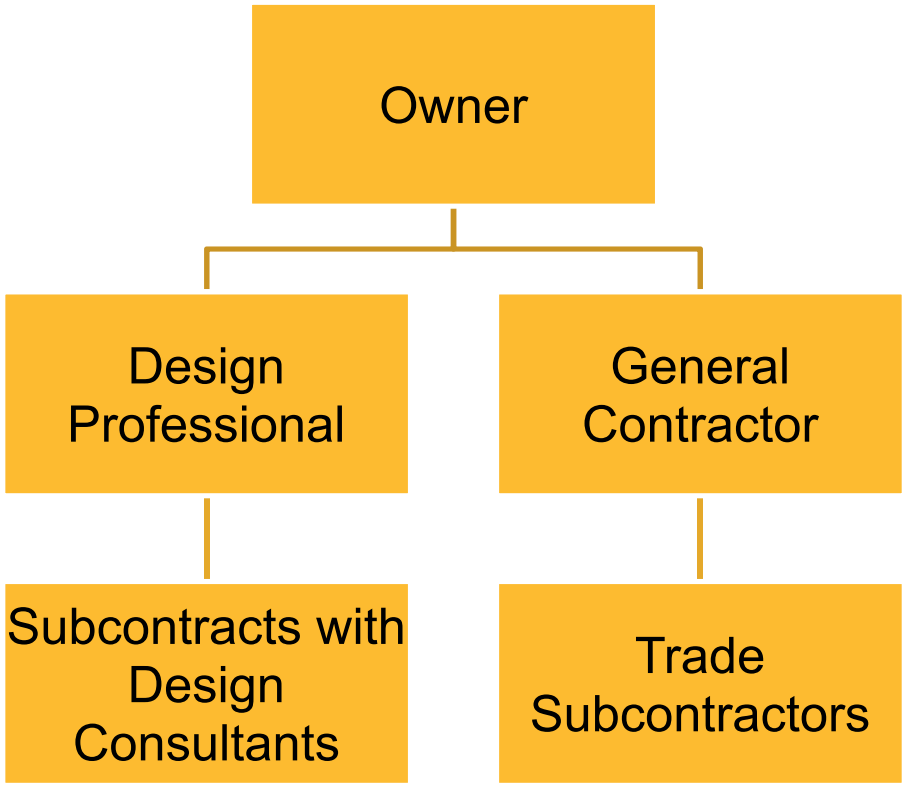
Trends in Project Delivery Methods
Public Infrastructure Projects

Design-Bid-Build



- Traditional method used in public and private projects
- Checks and balances between the project participants
- Risk is minimized through the Owner's firm control of both **design** and **construction** phases

Design-Bid-Build



- Owner retains responsibility for overall project management
- Contracts are executed directly with the **owner**
- Design is **complete** before the contractor is selected
- Contractor is selected through competitive bid process

Design-Build

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Benefits of Design-Build

- Design-Build = single point of responsibility
- Early knowledge of firm costs
- Collaboration between contractor and designer creates opportunity for innovation
- Reduced risk of claims against the Owner
- Team approach: "we" v. "me"
- Proven track record for cost and time savings

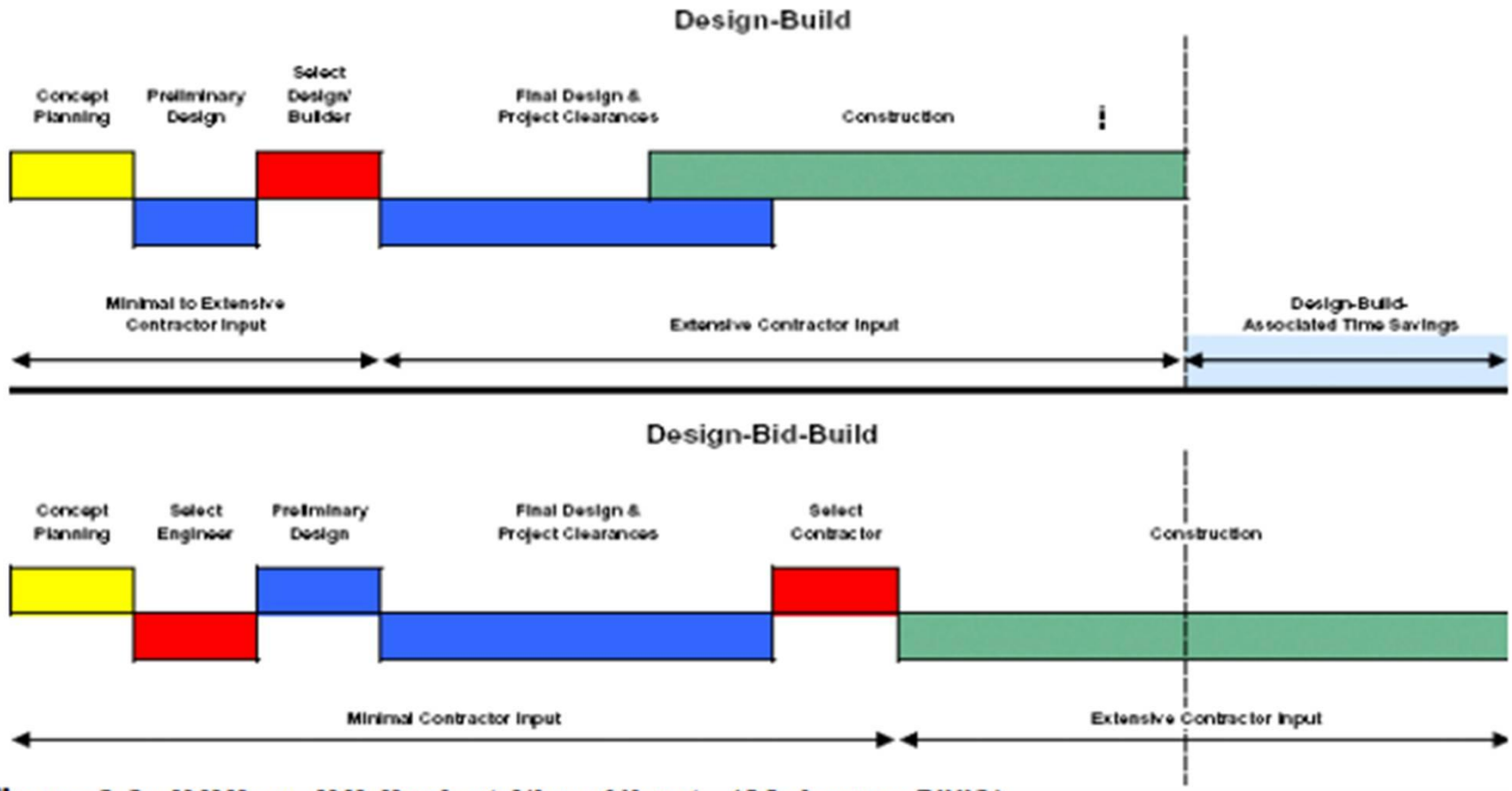


Figure 1.1: DBB vs. DB Project Flow Chart. (Molenaar 2001)

COMPARISON OF PROJECT DELIVERY METHODS

METRIC	DESIGN-BUILD VS. DESIGN-BID-BUILD	DESIGN-BUILD vs. CM@R
UNIT COST	6.1% lower	4.5% lower
CONSTRUCTION SPEED	12% faster	7% faster
DELIVERY SPEED	33.5% faster	23.5% faster
COST GROWTH	5.2% less	12.6% less
SCHEDULE GROWTH	11.4% less	2.2% less

Source: Construction Industry Institute (CII)/Penn State research comprising 351 projects ranging from 5,000 to 2.5 million square feet. The study includes varied project types and sectors.

Problems with Design-Build

- Unfamiliar process
- Communicating owner's needs in design-build is different
- Barriers in procurement and licensing laws
- Lack of checks and balances
- Right-of-way / utility relocation can present unique challenges to transportation projects

Best Value v. Low Bid

04-153.01 - Hardin County - CID 15-9001
KY251 / KY434 Design Build
November 13th, 2015

DBT:	Scotty's / AEI
Schedule (15 Pts)	11
Capacity (5 Pts)	4
Innovation/Project Mngmnt (30 Pts)	30
Total Technical Score (TB):	45
Weighted Technical Score:	50.0
Price Proposal (PB):	$25,546,010
Weighted Price Proposal Score:	48.9
Overall Score (SB):	98.9

DBT:	Hall / Michael Baker
Schedule (15 Points)	14
Capacity (5 Points)	4
Innovation/Project Mngmnt (30 Pts)	23
Total Technical Score (TB):	41
Weighted Technical Score:	45.6
Price Proposal (PB):	$25,000,000
Weighted Price Proposal Score:	50.0
Overall Score (SB):	95.6

Apparent Best Value DBT: Scotty's / AEI

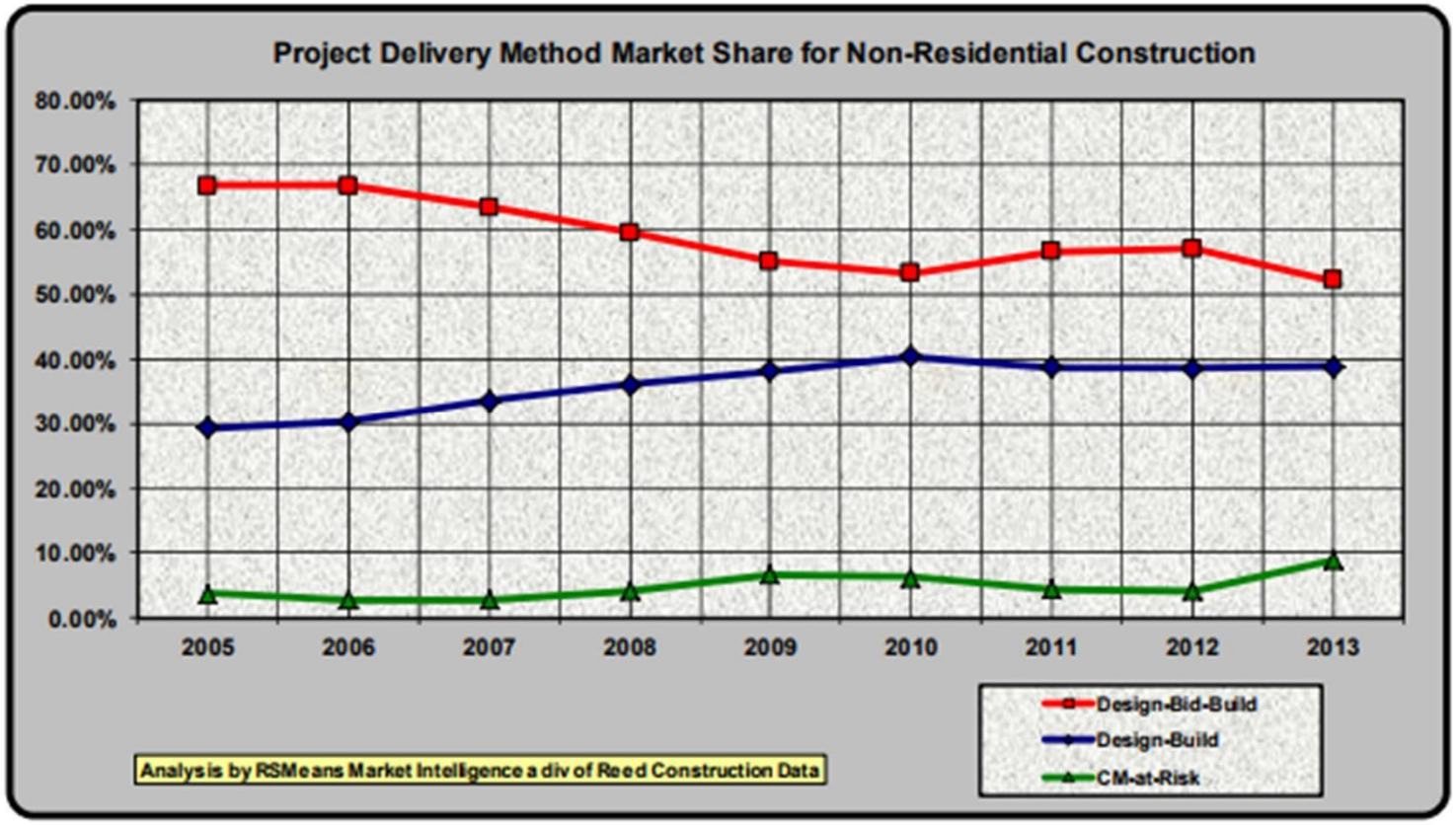
SB = DBT's Overall Score
PB = DBT's Price Proposal
PL = Lowest Price Proposal (all DBTs)
TB = DBT's Technical Proposal Score
TH = Highest Technical Proposal (all DBTs)

Per RFP Section 17.4 (Revised in Addendum #1):
SB = 100 [0.50 (TB/TH) + 0.50 (PL/PB)]

CO Entered Values

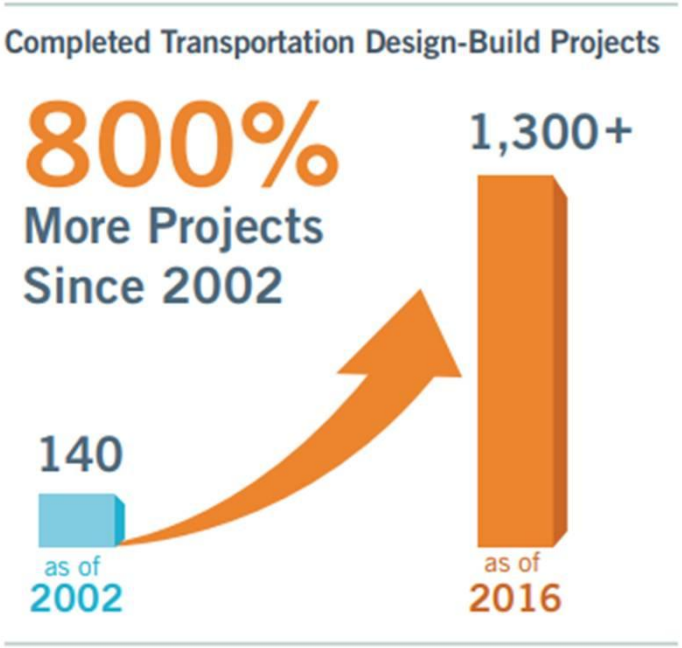
Scoring Committee Entered Values

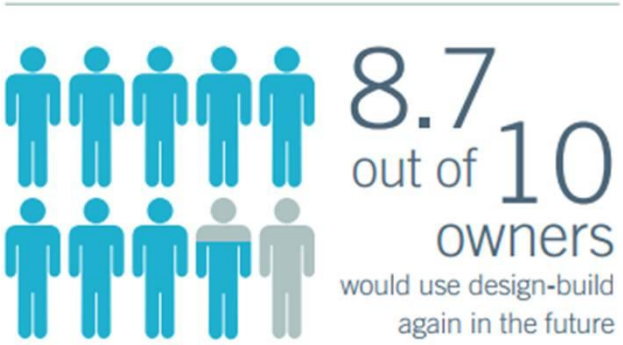
Design-Build On the Rise

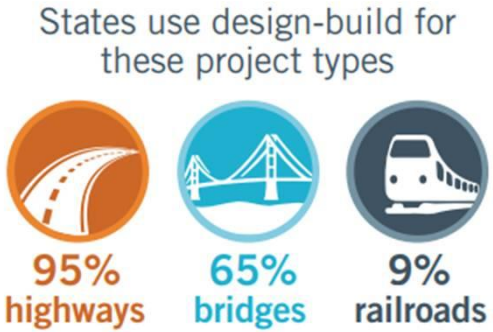


SOURCE: Design-Build Project delivery Market Share and Market Size Report, May 2014

Design-Build in Transportation







SOURCE: Design-Build Today: A Survey of State Dot's, DBIA 2016, available at http://www.dbia.org/resource-center/Pages/Research.aspx

Kentucky Transportation Cabinet

- 2006 General Assembly authorized up to 10 design/build pilot projects in 2007 and 2008

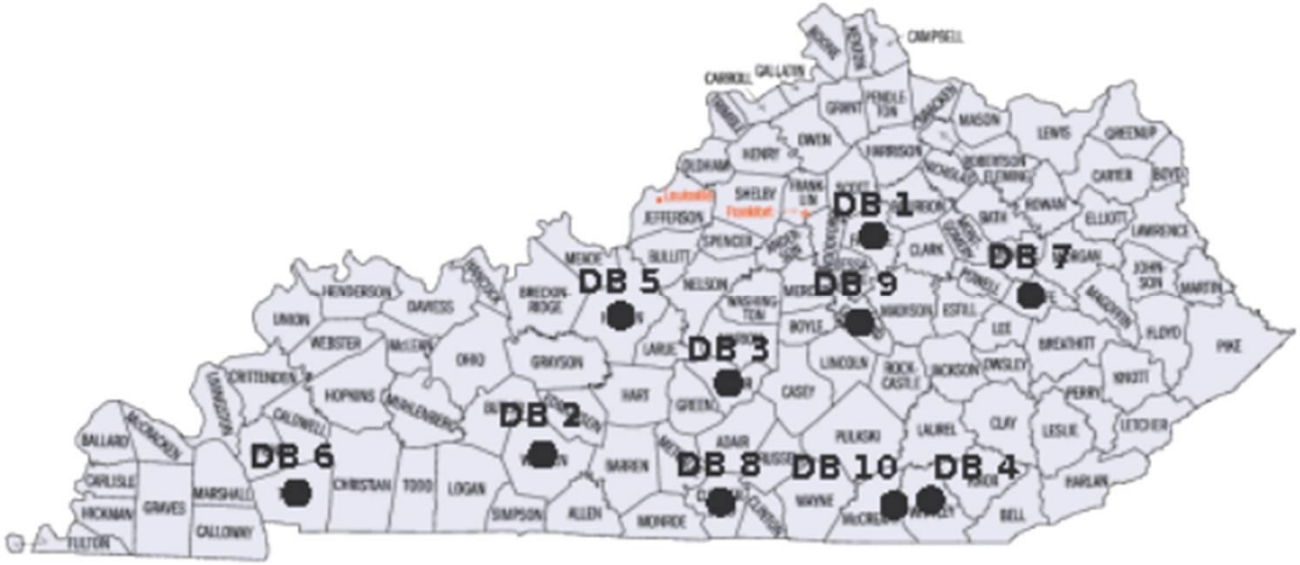


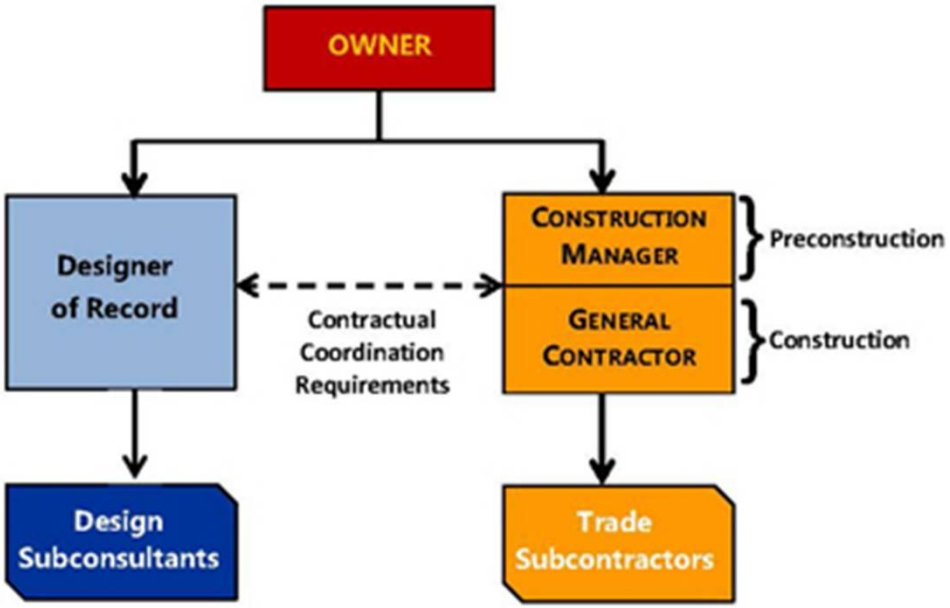
Figure 3.1: Design-Build Project Location Map

SOURCE: A Case Study Analysis of the Kentucky Transportation Cabinet's Design/Build Pilot Projects, Kentucky Transportation Center, Paul Goodrum et al. (2011)

Kentucky Transportation Cabinet

- 2011 Ky. Transportation Center Case Study recommended continued use of design-build
- Score card developed for project selection
- 5 additional KYTC design-build projects in the last 5 years.

Construction Manager / General Contractor



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CM/GC

- **Step 1**: CM works with project team during design phase to identify risks, improve constructability, and develop cost estimates and construction schedules.
- **Step 2**: CM bids or negotiates price for construction phase and then contracts directly with various subcontractors to perform the work

Benefits of Construction Management

- Early involvement of constructor
- Early knowledge of costs
- Time savings
- Better suited to complex projects

CM/GC in Transportation

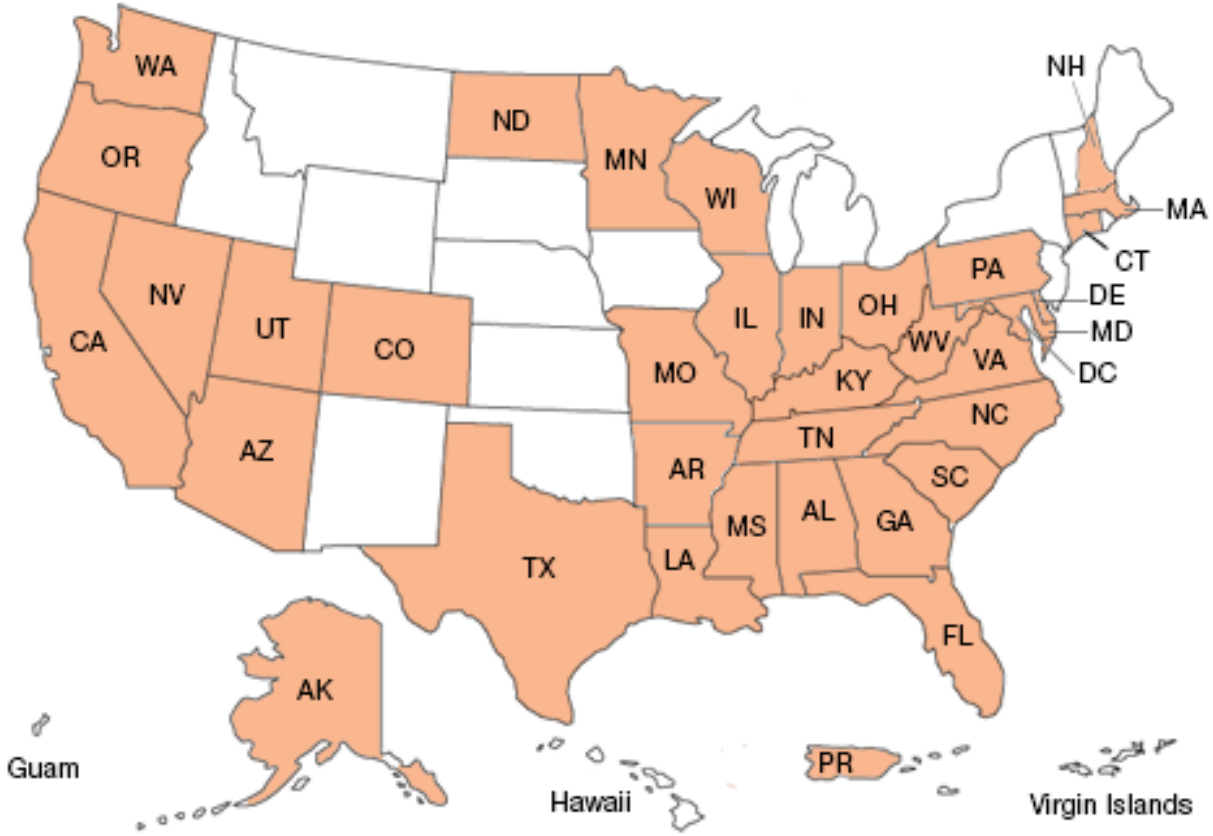
- FHWA allows CM/GC for federally funded transportation projects if allowed by state law.
- Currently, 12 states have legislation specifically authorizing CM/GC for transportation projects.
- KRS 45A.030 was amended in 2015 to allow for CM/GC.
  - CM/GC selection based on qualifications and price
  - CM/GC must competitively bid subcontracts by public notice and award each subcontract to the lowest responsive and responsible bidder.
  - Final contract cost and completion date established by change order after all subcontracts are in place.

Public Private Partnerships (P3)

Background

- What is a P3?
  - Agreement between government and private entity
- How do P3s work?
  - Private entity assumes financial, technical, and operational risk for projects
  - Private entity receives revenues from the project, which often come through tolls, user fees, or leases.
- What are the benefits of using P3s?
  - Alternative method of financing
  - Sharing of resources/expertise

States with Statutes authorizing P3's for transportation infrastructure as of January 2018



SOURCE: https://www.fhwa.dot.gov/ipd/p3/legislation/

P3 CHARACTERISTICS

- Cooperation between the public and private sectors on different aspects of project;
- Long-term relationship between public and private partners;
- Project funding that comes partially or entirely from the private sector;
- Public focus on defining the objectives and goals of the project and monitoring compliance with these objectives;
- Private focus on the design, completion, implementation, and funding of the project;
- Transfer of risks traditionally placed on the public sector to the private partner

P3 PROCESS FOR KENTUCKY TRANSPORTATION PROJECTS

- KY Public Transportation Infrastructure Authority
- Project Criteria
  - Interstate – FHWA Major Projects (≥ $500 million)
  - Non-interstate - ≥ $100 million
- Project sources: Bi-State Authority, Project Authority, KPTIA

TRANSPORTATION P3 PROCUREMENT PROCESS PER KRS 175B.020

- Best value selection process
- KRS 176.080 bonding requirements
- KRS 176.140 prequalification requirements
- KYTC professionals/engineers evaluate
- One on one interviews
- Stipends offered when appropriate
- General Assembly ratification required for all P3 agreements

KY TRANSPORTATION UNSOLICITED PROPOSAL PROCESS

- STEP 1:
  - Cover letter / sealed envelope
  - 3 page executive summary
  - Redacted copy if proposal includes proprietary information
  - Statement from financial expert
  - $400 filing fee
- STEP 2:
  - KPTIA rejects or approves proposal for further evaluation

KY TRANSPORTATION UNSOLICITED PROPOSAL PROCESS

- STEP 3: Negotiate agreement for next phase review
  - Proposer pays all costs of evaluation
  - Estimate of cost and payment schedule
  - Costs non-refundable regardless of outcome
  - Provision for state to pay agreed amount to use any design, idea or IP in proposal
- STEP 4:
  - KPTIA/KYTC review to determine if proposal is in the best interest of Commonwealth

KY TRANSPORTATION UNSOLICITED PROPOSAL PROCESS

- STEP 5:
  - Competitive procurement process initiated for P3


TOLLS
NEW AT 6PM
ON YOUR SIDE
CAPITOL HILL NEWS ON BRENT SPENCE BRIDGE
THE #1 INFRASTRUCTURE EMERGENCY IN THE U.S
ON YOUR SIDE
wcpo.com
6:00
54°

What is the future for P3 in Kentucky?

Whoever Thought That A Lawyer Could Be Practical ? ! ! ?

"I take a very practical view of raising children. I put a sign in each of their rooms: 'Checkout Time is 18 Years'"

- Erma Bombeck
Journalist

Project Communications Matter

- Daily Logs/Reports
- Communication Log
  - –Owner
  - –Engineer
  - –Subcontractor
  - –Others
- Meeting Minutes
- Monthly Updates
- Schedule Updates

Daily Report Suggestions

- Nouns and verbs; keep adjectives and adverbs to a minimum if not eliminated altogether.
- Just the facts: who, what, when, where
- Use informative language, not descriptive language: “nice day” vs. no precipitation, 80 degrees.
- “Delayed 4 hours” vs. “significant delay”.
- Attach photograph where a photo will describe better than words

Meeting Minutes Suggestions

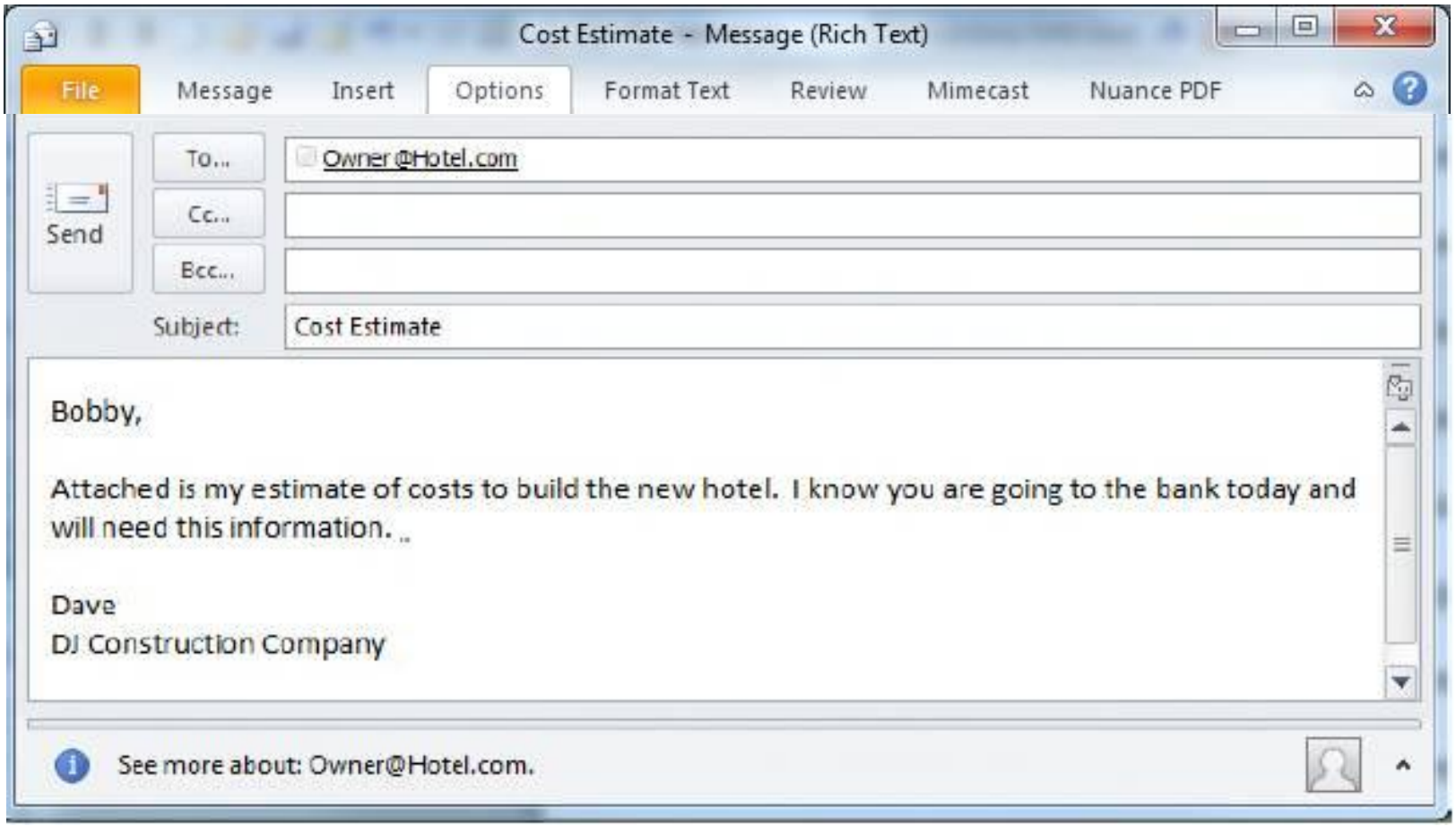
- Just Facts.
- Memorialize key understandings reached.
- If differences exist, document & state your company's position.
- Where "notice" is given at meetings, ensure that is recorded.
- Give opportunity for correction, input to minutes—with a time limit.
- If you receive minutes with inaccurate information, provide timely correction in writing.
- Timely preparation and submission.

Actual Case

- Facts:
  - Hotel Construction Project.
  - AIA Cost plus contract with NO GMP .
  - Contractor's estimated it would cost $4 million.
  - Actual cost was $6 million.
  - Owner made claim for cost overrun.

  Outcome??

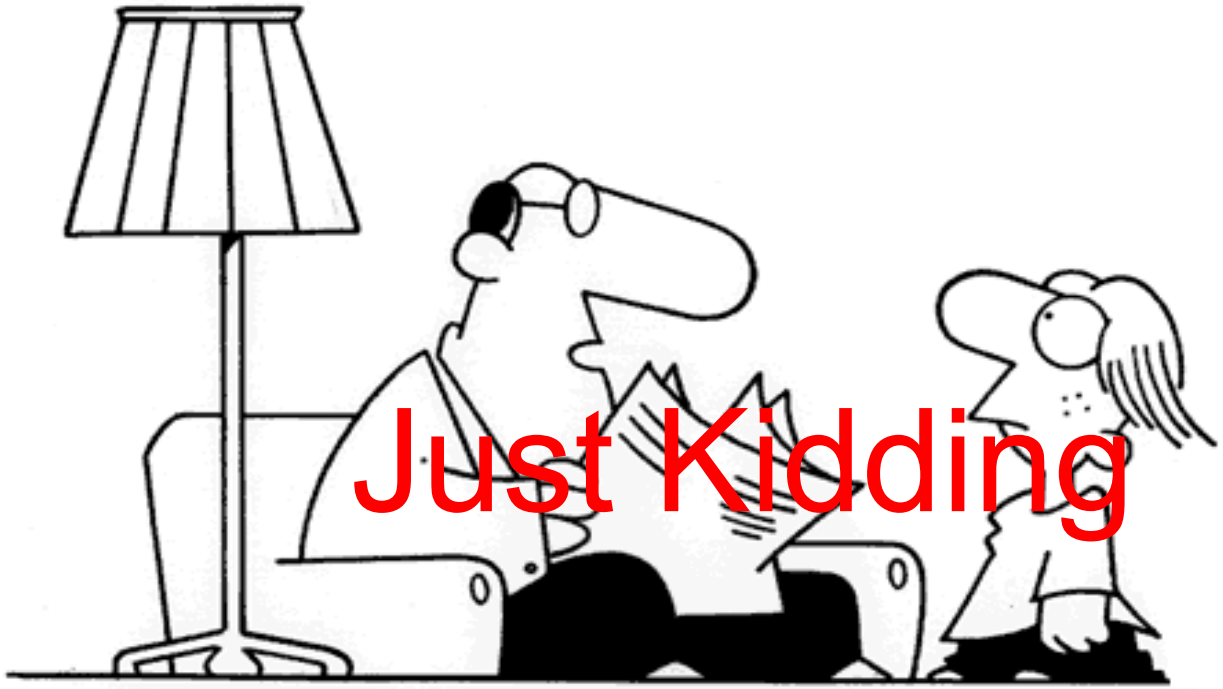
SMOKING GUN EMAIL



Arbitration Result

- Arbitrator awarded cost overrun to Owner.
  - Negligent Misrepresentation
    - Material information negligently communicated
    - Knew Owner was relying on estimate to make business decision
    - Reasonable reliance
    - Damages

LESSON LEARNED



"Remember son, if at first you don't succeed, make it look like someone else's fault then sue them."

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