



# **Looking Before You Leap: A Lesson in Cost Estimation**

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# Cost Estimation

- Considerations
- Recommendations
- Solutions

# What did I get myself into?

(consultant/contractor perspective)

1. LPA has limited funds
2. Notice to Proceed (NTP) Received
3. Project Development Begins
4. Crap, it's gonna cost waaaaay more
5. LPA can't afford the Scope
6. Scale Back & Re-Scope
7. Delay
8. Federal Funds Threatened
9. Angry Customer
10. Lost Revenue

# Considerations

- Who completed the estimate?
- When was the estimate completed?
- Who determined the scope of the project?
- Who determined the termini?

# Use it, or Lose it

- Fiscal Constraint
- Programmed Estimate
- Programmed Schedule, Letting Date Set
- Funds for Each Phase must receive FMIS in Funding Year in TIP &/or STIP
- FMIS Months = Begin annually with July and End annually with March/April
- Note: Policies above are still Subject to Change (Expansion or Reduction)



# Estimation vs. Guess-timation

- Plan for the Worst
- Realistic, not Hopeful
- Consider
  - Past Project Costs
  - Recent Item Costs
  - Projected Cost Inflation for Spending Year
  - Specific Project Characteristics



# Usual Suspects

- Longevity
- Capacity
- Safety

# Usual Suspects

## One Side

1. Safety
2. Longevity
3. Capacity

## Other Side

1. Capacity
2. Safety
3. Longevity



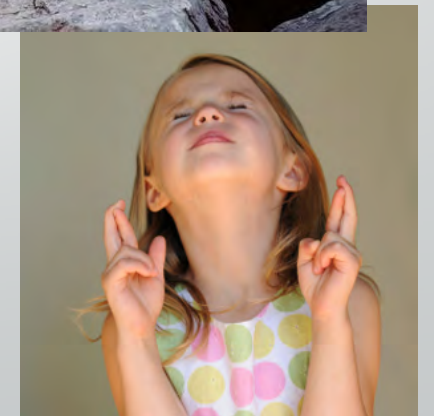
# Cattails & Other Evils

- Cattails (Wetland)
- Historic Districts (NR, Interim Report, Local Designation)
- Indiana Brown Bat
- Bald Eagle
- Floodplains
- Park-Land Conversion
- Right-of-Way Acquisition
- Railroad Properties
- Utilities (any & all)
- Emergency Services (Access)
- School Bus (Access)
- Historic Sites & Elements (NR, Interim Report, Local Designation)
- Caves
- Old Gas Station on the Corner
- ADA Accessibility
- Unhappy Public

# Maybe they won't notice?

- Crossing Your Fingers
- Maybe It will get overlooked
- Doesn't Apply to Us
- Claim Ignorance
- Never Had to Do that Before

**HUH?**





# Recommendations

# Proactive vs. Reactive

- Look Ahead, Think Ahead, Plan Ahead, Design Accordingly
- or**
- Ignore, Design, Fail, Delay
    - ReDesign
    - ReSubmittal
    - Additional Review Periods
    - Potential Loss of Federal Funds
    - Angry Customer

# Due Diligence

1. Gather Existing Information, Initial Review
2. Respond to RFQ
3. NOA & NTP
4. Collect New Information, then Review
5. Study Warranted, then Review Results
6. Design Accordingly

# Reality Check

- Consider All Aspects of a Project Area
- Look for Potential Issues
- Consider Local Uses & Needs
- Ask yourself...
  - “What could delay this project?”
  - “Will the potential delay impact the project timeline?”
  - “How much will the potential delay cost?”
  - “Does the potential delay require additional studies?”
- “Are we qualified to conduct these additional studies in-house?”
- “Will the potential issue impact proposed alignment?”
- “Will the potential issue impact the design?”
- “How complicated will it be to address this potential issue?”
- “Will the potential issue add new costs to my project?”
- “Will the potential issue increase the cost of my design?”

# Problems

- Inadequate Estimates
- Rescoping & Reapprovals
- Revising Completed Work
- Unnecessary Slippage
- Additional Costs
- Jeopardized Funds
- Unhappy People



# Solutions



# Project Eligibility Review Process

- Conducted Prior to *Metropolitan Transportation Plan* (MTP) Update
- 2-Step LPA Submittal Process
- Replaces all MPO-Level “Call for Projects”
- Work in Progress

# Considerations

- Information Required for the Des. # Request Form
- Data Entry of Baseline Project Information by LPA Coordinator
- Outside Project Approvals (TA, CMAQ, HSIP)
- Need for More Accurate Cost Estimates
- Improved Project Scoping & Phasing
- MPO Complete Streets Policy
- Compliance with Future Performance Measures
- Incorporating Red Flag Investigations (RFI) at the MPO Level

# Step One - LPA

1. LPA Sent a Notification Letter Requesting Project Ideas
2. LPA Completes *Project Eligibility Review Form - Step One*
  - General Project Idea Descriptions
  - Specific Project Idea Information (Termini, Corridor/Intersection, Length, Lat-Long)
3. LPA Prioritizes their Project Ideas
4. ERC & Highest Elected Official Signs/Dates Forms
5. LPA Submits Step One Forms

# Step One - MPO

6. MPO Staff Reviews LPA Submissions
7. MPO Staff Scores Projects based upon Community Preparedness (Planning)
8. MPO Staff Develops Detailed Project Descriptions
  - Scoping to Ensure Complete Streets Compliance
  - Phasing to Ensure Realistic Project(s) for Completion
  - Incorporating Other Priorities, Goals, & Performance Standards
9. MPO Staff Develops List of Eligible Projects
10. MPO Staff Lists All Eligible Projects in the Illustrative Section of the TIP
11. MPO Staff Conducts Red Flag Investigations (RFI)

# Red Flag Investigation (RFI)

- Required First Step in NEPA Process
- cursory Review of Available Information
- Not Reviewed by INDOT or IDEM
- Required Inclusion with NEPA Document Submittal

# Step Two - LPA

1. LPA Sent Information Packet for Eligible Projects
  - Cover Letter that includes Detailed Project Description
  - Completed RFI (per INDOT guidelines)
  - Completed Step One Score Sheet
2. LPA Identifies Eligible Projects for Step Two
3. LPA Completes *Project Eligibility Review Form - Step Two*
  - Estimated Total Project Cost by Phase
  - Year Local Match will be Available for Each Phase
  - Estimated Start & Finish Dates for PDP Process Milestones & Stages

# Step Two - LPA

4. ERC & Highest Elected Official Signs/Dates Forms
5. LPA Submits Step Two Packet
  - *Project Eligibility Review Form - Step Two*
  - Stamped & Signed Engineer's Estimate
  - Revised Project Description & Phasing (must include all original components)

# Step Two - MPO

6. MPO Staff Reviews Step Two Submission
7. MPO Staff Scores Projects based upon Readiness & Need
  - ERC Training Status & Other Training Requirements
  - Ability for LPA to Manage Project (not consultant)
  - Travel Model Determinations (ADT, Crashes, Land Use, Development Pressure)
8. MPO Staff Submits Projects for Funding Eligibility (TAP, CMAQ, HSIP)
9. MPO Staff Issues Award Letters



# Benefits

- Projects Funded will have Desired End Results
- Projects Funded will meet Performance Measures
- Project Cost “Creep” will likely Diminish
- Unnecessary Change Orders will be Reduced or Eliminated Altogether
- Easier to Budget MPO Funds
- Eliminates the Need for Multiple “Calls for Projects” by Funding Type
- Creates a List of Vetted Eligible Projects that can be Funded as Necessary or when Additional Funding is made Available

# Questions?

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