UTILITY COORDINATION
ON MEGA PROJECTS

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PURPOSE

Discuss how Utility Coordination was accomplished on the $2.6B Ohio River Bridges project with two different states, Kentucky and Indiana, involving nearly twenty utility companies.
AGENDA

- Partnership with Utility Companies
- NHI Three “C”s
- Recommendations and Successes
- Traditional Project Delivery: Design-Bid-Build
- Non-Traditional Project Delivery: Design Build or P3
- Mega Project - Louisville-Southern Indiana Ohio River Bridges Project
- Utility Coordination: Two States / Two Alternative Delivery Approaches
  - KYTC - Downtown Crossing – Design Build Team (DBT)
  - INDOT - East End Crossing – Public-Private Partnership (P3)
- Differences and Similarities
- Best Practices
- Lessons Learned
- Q/A
PARTNERSHIP IS OUR BRIDGE TO SUCCESS
NATIONAL HIGHWAY INSTITUTE’S THREE “C” EFFORT

- Saves time and money
- Leads to better projects
- Makes the boss, customers, and taxpayers happy
RECOMMENDATIONS

Early and frequent coordination, cooperation and communication, such as:

1. Discuss Long Range Schedules
2. Conduct Meetings during Planning and Design
3. Invest in SUE – Quality B (mark in field) – D(vacuum excavate)
   • FHWA study $4.62 saved for every dollar spent on SUE
   • Saves the rate payer / taxpayer
4. Consider Lead Times for materials (steel poles, fiber optic cables, etc.)
5. Evaluate Utility Right of way needs
6. Consider concurrent work with contractor
7. Invite Utility Reps to pre-construction meetings

Per FHWA video “CCC: Making the Effort Works: Reducing Utility Delays During Construction” Sept 2010
PARTNERSHIP SUCCESSES

- Examples of Utility Partnership initiatives by DOT’s
  - Virginia - Pays for preliminary utility engineering
  - Virginia - Joint Use trenches
  - Virginia - Contractor responsible for utility construction
  - Georgia - Acquires right of way for utility relocations
  - Florida - Pays for selective clearing
  - Florida – Conducts quarterly Joint meetings

Per FHWA video “CCC: Making the Effort Works: Reducing Utility Delays During Construction” Sept 2010
TRADITIONAL PROJECT DELIVERY

Design
Utilities
Construction
NON-TRADITIONAL PROJECT DELIVERY - DESIGN BUILD / P3

- Design and NEPA
  - Design Phase
  - R/W & Utilities Authorized
- Procurement Phase
- Design-Build Phase
- Construction
LOUISVILLE-SOUTHERN INDIANA OHIO RIVER BRIDGES PROJECT

- Mega Project Overview
  - One Project / Two Bridges
  - $1.3B Downtown Crossing – KYTC
  - $1.3B East End Crossing - INDOT

- Two States / Two Utility Coordination Approaches
  - Kentucky Transportation Cabinet
  - Indiana Department of Transportation
PROJECT OVERVIEW

East End Crossing
INDOT

Downtown Crossing
KYTC
TWO STATES / TWO APPROACHES

- Downtown Bridge -
  - KY Utility Companies – 11
  - IN Utility Companies - 12
  - KYTC utility coordination in both states
  - Level of Involvement – Arms Length / Risk transferred to DBT

- East End Bridge -
  - KY Utility Companies - 6
  - IN Utility Companies - 9
  - INDOT utility coordination in both states
  - Level of Involvement – At the table / Shared risk with P3 Developer
KYTC UTILITY COORDINATION
DOWNTOWN CROSSING

- Preliminary engineering with some utility companies
- Utility information provided in RFP
- Kick-Off Meeting to meet the Bidders
  - Follow up by the bidders without KYTC involved
- All Utility Costs and Risk on DBT
  - No relocations in advance
  - All Utility relocations coordinated by Design Build Team
  - All utilities reimbursed
- KYTC representative role to observe and report status, coordinate with INDOT permits, advise KYTC and confirm pay items correspond with progress,
KYTC UTILITY COORDINATION (POST CONTRACT)

- All Utility Relocations Reimbursable by DBT
- Agreements by the DBT. Some utilities allowed DBT to Design and Construct the relocation.
  - Section 1 - 33 Areas of Conflict / relocations
  - Section 3 – 48 areas of conflict / relocations
- Monthly Joint Utility Meetings
- KYTC involved if permit needed in KY (only 1)
- INDOT approved work plan and issued permit for every utility relocation in Indiana
LG&E Transmission Towers 138Kv

KYTC Preliminary Design
- Rebuild two towers and raise lines
- $2M Cost

DBT Proposed Design
- Avoided vertical conflict
- $0 Utility Cost
DOWNTOWN CROSSING
TWIN 24” FORCE MAINS

- MSD Twin 24” twin force main sewers ~2,000 lf each
  - Conflict in Phase 1 work
  - MSD estimate – one year from start of design to finish construction
  - Preliminary Engineering – Design by KYTC
  - Plans provided in RFP Documents
  - Construction by DBT
    - Tie-In 5 day operation
    - Completed in < 3 months
DOWNTOWN CROSSING
HISTORIC HOUSE MOVES

Historic House Moves - Five

Downtown Jeffersonville, Indiana

INDOT
Conflict during construction

DBT – work around / near

LGE – concerned / vibration from pile driving

Damage Occurred
DOWNTOWN CROSSING BRIDGE 5 FOOTER

Damage Occurred

DBT pay to re-build manhole

Worth the risk?
INDOT UTILITY COORDINATION
EAST END CROSSING

- Preliminary engineering with all utility companies
- Utility information and *Draft Utility Plans* provided in RFP
- Kick-Off Meeting with the Proposers
  - Follow up by the Proposers *with* INDOT involvement required.
- Shared Costs and Risk with P3Developer
  - Some Utility relocations in advance (Type 1)
  - Remaining Utility Coordination by P3 Developer (Ty 2 & 3)
  - All Utilities reimbursed
- INDOT representative role to attend meetings, observe, advise as needed, report status, ensure relocation plan meets UAP, coordinate approval of work plan / permit by INDOT
INDOT UTILITY COORDINATION

- Type 1 Agreements between INDOT and Utility
  - In advance of the construction
  - 17 Type 1 Agreements
    - Section 4 – 19 Relocations
    - Section 6 – 6 Relocations
  - $3.5 M Estimated / $3.05 Actual

- MOU between INDOT and Utility for work with P3
  - Declare Type 2 or Type 3
  - Utility Specifications (Design and Construction)
  - Reimbursement by P3
INDOT UTILITY COORDINATION
(POST CONTRACT)

• Agreements by P3 Developer
  • Type 2 – Developer performs the adjustment
    • Section 4 – 6 Type 2 Relocations
    • Section 6 – 14 Type 2 Relocations
  • Type 3 – Utility performs the adjustment
    • Section 4 – 5 Type 3 Relocations
    • Section 6 – 7 Type 3 Relocations

• Monthly Joint Meetings

• KYTC involved if permit needed in KY (5 permits)

• INDOT approved work plan and issued permit for every utility relocation in Indiana
EAST END CROSSING
AERIAL TO UNDERGROUND

Type 1 Agreement

Electric poles with AT&T and Cable

Place aerial facilities underground to accommodate bridge construction
EAST END CROSSING
AERIAL TO UNDERGROUND

Type 1 Agreement
INDOT reimbursed all utilities

Joint Trench

Work completed before NTP
AT&T Remote Terminal and Equipment Cabinets
• 18-24 month process
• $1M estimate

Shared Responsibility
Type 1 – design and set the cabinet

Type 3 – install fiber, splice & cut over services
EAST END CROSSING
WATER COMPANY SLUDGE LAGOON

Preliminary Engineering Report in RFP
- 3 Options
- Estimates
- $2M - $3M

Type 2
Risk on P3
EAST END CROSSING
WATER COMPANY SLUDGE LAGOON

2yr Negotiation

Design changes
• pier spacing

Agreement
• Construct piers in back slope
• Monitor impact
• 5 year liability
• Pay $850K for future project

• 7” settlement at top of bank
DIFFERENCES AND SIMILARITIES

• Differences
  • DOT Level of Involvement
  • Advance Relocations vs. No Advance Relocations
  • Draft Utility Relocation Plans in RFP vs. No Utility Plans in RFP

• Similarities
  • Utility Kick off meeting with Bidders
  • Utility Coordination transferred to DBT/P3 Developer
  • Required a Dedicated Utility Coordinator
  • Retained Consultant Utility Coordinator as DOT representative
  • Utility Relocations - 100% reimbursements
  • Agreements between DBT and Utility
FOCUS GROUP DISCUSSION

Ohio River Bridges Project

- Document Best Practices and Lessons Learned from Utility Coordination

KYTC commissioned U of K Transportation Center research

- Determine best practices and methods for future Design-Build
- Decision made to conduct Focus Group with Utility Companies on ORB.
- Incorporate Best Practices and Lessons Learned in Research
- Provide results to both KYTC and INDOT
BEST PRACTICES

- Communication, Coordination, Cooperation
- Utility as a Partner / Stakeholder
- Preliminary Utility Engineering by DOT prior to RFP
- Advance Relocations where feasible
- Utility Coordination by P3/DBT post contract
- Required P3 / DBT to dedicate a Utility Coordinator
- Monthly Joint Utility Meetings
- State Utility Coordinator remain involved post contract
- Payment to the Utility by P3/DBT easier & faster than with DOT
LESSONS LEARNED

- Agreement by State DOT preferred
  - Legal Review by Utility
  - Buy America Issues

- MOU for Type 2 and 3 not effective

- Kick Off Meeting probably not needed

- Plans not 100% complete thus risk of re-work

- Indirect Conflicts during construction may not be considered
  - Excavating or pile driving near underground facilities

- Reimbursement did not influence AT&T time to relocate

- Delay in receiving As-built plans
SUMMARY

Best Approach to Utility Coordination depends on your Project

- **INDOT Approach**:
  - rural setting
  - Some utilities could be relocated in advance
  - Willing to share risk with contractor

- **KYDOT Approach**:
  - urban setting
  - Utilities not to be relocated in advance
  - Prefer to transfer all utility risk to contractor
QUESTIONS

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