• Utility Coordination – The Mission
• The Process
• The Challenges
• Open Discussion
Utility Coordination – The Mission

- APWA: ...to provide guidance for the owner/agencies, utilities and contractors in coordinating utility construction during planning, design and construction of public projects to ensure a successful project.
  www.apwa-wa.org

- MassDOT: ...to support MassDOT's goal of reducing project delays by streamlining the utility relocation process. ...coordinates utility relocations during the design phase for all roadway and bridge projects to be constructed by MassDOT....... reimbursing utility owners for the costs of relocation in accordance with MassDOT's policies and directives......is responsible for coordinating with each utility owner that may be impacted by MassDOT's projects. This includes meeting with all utility owners during the early phases of design for each project.
  www.massdot.state.ma.us
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Utility Coordination – The Mission

- The FUCC is a confederation of public and private utilities, public works departments, consulting engineers, contractors, state, city and county governmental agencies who **work together** through coordination, cooperation and communication to **resolve problems** and develop standards for **coexistence** in public rights-of-way. www.fucc.org

- Region Utility and Railroad Engineering Coordinator—**Coordinates** with utility companies and develops utility reimbursement agreements necessary to successfully complete projects within their respective Regions, **oversees** the design and coordination efforts of consultants as defined in the most current version of the UDOT Project Delivery **Network**, and serves as the utility program resource on project delivery teams. www.UDOT.utah.gov
• Before they happen, eliminate problems with facilities and people in which you have no control.

• Inspire Agencies to Meet your Schedule and Your Requirements When Motivation to Do So Is Non-Existant.

• Be the shock absorber for every missed delivery date from Planning, Design through Right of Way negotiation.

• Contact the Utility Company, have them redesign each time a property owner is unhappy with a right of way take and then ask them when are they going to be done.
Utility Coordination – The Process

• Coordination, Cooperation and Communication
  – Practice CCC EARLY and OFTEN throughout the project:
  – Provide Long-Range Construction Schedules
  – Formalize Communication and Coordination Efforts
  – Avoid Conflicts by Designing Around Known Utilities
  – Encourage and Facilitate Cooperative Working Relationships
  – Hold Regular Meetings with Utility Companies in the Planning and Design Phases
  – Become Knowledgeable of Utility Relocation Processes and Challenges
  – Hold Regular Meetings with Utility Companies and Contractors during Construction
  – Encourage Utility companies to Make and Keep Commitments on Work Plans
  – Share Best Practices

www.fhwa.dot.gov/programadmin
Agencies are required to certify proper coordination with utilities prior to construction on Federal-aid projects.

Stretching far back into our Nation’s history, government agencies have permitted public utility facilities to use and occupy the rights-of-way of roads and streets. Accommodating utilities within the right of way provides a more economic and reliable delivery of public service commodities such as water, electricity, communications, and gas. This relationship between utilities and public rights of way benefits the general welfare, safety, and health of our citizens.

Today, as you prepare for the construction phase of a Federal-aid project, there is a good chance impacts to utilities will occur. If you are not prepared for these situations, utility delays can cost the project more money and have a negative impact on the schedule. In order to avoid this problem, State departments of transportation (State DOTs) and local public agencies (LPAs) are required to coordinate their projects with utility owners. We are going to discuss how such coordination can help avoid unnecessary delays or project costs and what you will need to provide to certify that the appropriate coordination has taken place.

All Federal-aid projects require the submittal of a utility certification to confirm the appropriate and adequate coordination has taken place prior to construction. This utility certification is required for all projects, including those that don’t affect any utilities. The utility certification is submitted as a part of the project plans, specifications, and estimates package, otherwise known as a PS&E. The PS&E approval is a major project milestone and must be obtained before any Federal-aid project can be authorized to be advertised for construction.

Utility delays are one of the primary reasons for increased costs and schedule delays during the construction phase of a project. As the number of utilities on a project increases, the complexity for coordinating schedules and work activities also increases. If during the design of your project you recognize the utility relocation will be complex, you should allow extra time for this coordination to take place. Proper and early coordination of utilities will help ensure a better managed project during the construction phase.

Another major consideration is that each year, accidents on construction sites lead to injury or death, reminding us that coordinating our work with the utilities is also important for safety reasons. For example, let’s say a project requires excavation in a location where an underground gas line exists, but the construction plans either don’t show it or don’t show it in the correct location. This situation can be dangerous and is why most agencies across the country have laws that require everyone to locate underground utilities before they dig. What if a crane has to operate in close proximity to an overhead power line? Rather than expecting the contractor to carefully work around those power lines, perhaps taking the necessary steps to temporarily move the line will make the project safer to construct.
Utility Coordination Strategies:

As you are developing your Federal-aid project, here are some valuable strategies that should help you avoid problems and meet the challenges of coordinating with utilities:

- Identify any potential utility facilities within or near the limits of your project and determine if construction activities will affect any of them. Communicate with each of the appropriate utility owners or operators to determine the location of the utility and potential conflicts during construction.
- Coordinate with the utility to determine if there are any special requirements during construction. This may include temporary or permanent relocations, protection of the utility during construction, or identifying specific timeframes when the utility cannot be taken out of service.
- If relocations are required, coordinate with all utilities to determine relocation schedules. If utility relocations will occur during the construction phase, include the details of the arrangements in the bid documents so bidders can consider how it may impact the overall construction schedule and take this into account when submitting their bids.
- Include the location and contact information for all utilities on the construction plans to help your contractor locate utilities and avoid potential conflicts.

One of Three Circumstances Must Be Addressed:

- No utility facilities will be affected by the project. This is appropriate for projects that won’t have an effect on any utility facilities during construction.
- All utility work will be completed prior to the start of construction. This is appropriate when utility work is necessary, and work will be completed prior to the start of construction.
- Arrangements are made to have utility work undertaken during construction. In this circumstance, you must also indicate as part of your certification that appropriate notification will be included in the bid proposal notifying all prospective bidders of any utility work that will occur concurrently with the project construction.

Remember, utility coordination and certification requirements apply to all Federal-aid construction projects. Contact the utilities office from your State DOT if you have questions regarding utility coordination or certification on your Federal-aid project. You can help prevent unnecessary delays, added costs, and unsafe situations during the construction of your Federal-aid project through early coordination with utilities.

After the appropriate utility coordination has occurred, the utility certification for the project must be included when you submit the project PS&E for approval. Authorization to advertise a
Utility Coordination – The Process

• **Planning Phase**
  
  – Contact Utility Companies
    • Identify Major Facilities
    • Identify Estimated Time Frames
    • Estimate Cost Based Upon Types and LF of Relocations – NOT % of Roadway Costs

  – Map Utilities: QL-D
    • General Locations of Utilities

  – Identify Right of Way Footprint
    • Assume Relocations will be Required
    • Invest in a Reasonable Design Effort that will Identify the Proper Footprint if Utilities are to be Relocated.
Utility Coordination – The Process

Design Phase – 30%
- Perform SUE QL-B
- Perform Utility Impact Analysis
  - SHRP2
- Introduce the Project to the Utility Companies
  - Provide the Opportunity to Review Plans and Impact Analysis – 2 to 4 Weeks
  - Conduct a Utility Coordination Meeting
    - Set a Projected Schedule for Each Utility
    - Establish a List Prioritized List of Utility Avoidance Targets
- Conclude the Target Relocations and Distribute to All Utility and DOT Parties.
  - Anticipated Relocation Location
  - Anticipated Duration
  - Anticipated Cost Responsibility
Utility Coordination – Utility Matrix

• Benefits of Using a Utility Coordination Matrix
  – The immediate benefits of the UCM process are simplified and earlier identification of conflicts and solutions as well as effective management of utility conflicts throughout the project development and delivery process. The products provide a comprehensive, coordinated approach to working with utility providers during pre-construction design.
  – Fewer contractor change orders and delay claims;
  – Reduced costs from construction delays;
  – Improved project development procedures based on anticipating and resolving utility conflicts early in the process;
  – Better communication among transportation agencies and utilities; and Reduced impacts on the public from construction-related delays.

Data according to Transportation.org – SHARP2 Tools for the Road Ahead
• **What states are using various types of utility matrices?**
  
  – Georgia DOT uses a utility impact matrix on every project involving utilities and offers programs to train designers in utilities coordination.
  
  – Both Florida DOT and Georgia DOT have developed protocols for Electronic Plan Transfer, and use electronic files and file transfer protocols to communicate highway project status to affected utility companies and to maintain archives.
  
  – Wisconsin has developed a statewide common Transportation Utility Management System (TUMS) for tracking, locating, and managing systems.
  
  – Texas DOT developed a tool showing each activity of the right-of-way acquisition and utility adjustment process with the corresponding responsible parties separated into three categories: TxDOT Right of Way (ROW) Division,
  
  – TxDOT ROW district, and project associates. This tool helps in planning activities and keeps participants updated during the design process. The tool also offers a method and format for recording data.

Data according to Transportation.org – SHARP2 Tools for the Road Ahead
Utility Coordination – The Process

• Design Phase – 60% Design
  • Have Conclusions From the DOT if the Prioritized List of Utility Targets Can be Avoided.
  • Check on the Utility Companies Keeping Progress with Their Design Schedules.
  • Redistribute Electronic Design Files
  • Establish QL-A Target Locations
  • Update Utility Impact Analysis Matrix

• Don’t Fall Asleep!

A construction vehicle lies where it was swallowed by a sinkhole on Saint-Catherine Street in downtown Montreal, August 5, 2013. (Christinne Muschi/Reuters photo)
Utility Coordination – The Process

• **Design Phase – 90% Design**
  - Draft the “Final” Right of Way Footprint
  - Draft Special Provisions
    – Perform Constructability Review for Overlapping Work
  - Update Overall Schedule With the Utility Companies and DOT
  - Update Utility Impact Analysis Matrix

*Light Rail Project to Promote Pedestrian Activity Downtown – Houston - Swamplot*
Utility Coordination – The Process

• Design Phase – Final Design
  • Finalize all Conflicts on Utility Impact Analysis.
    – Every Item Must Have a Resolution.
    – Every Item Must Be Coordinated In the Project Schedule.
  • Finalize Agreements With Utility Companies
  • Finalize Schedule
    – Account for All Parties
  • Finalize Special Provisions
  • Distribute Compiled Relocation Plans to All Agency and Utility Stakeholders for Reference Throughout Construction.

• Are We Done Yet?
Utility Coordination – The Process

- **Utility Construction Phase**
- Follow Up With The Utility Companies on the Status of Their Relocations.
- Resolve Conflicts Among Property Owners, Utility Companies and DOT Revisions.
- Validate that Utility Relocations are Performed Per Plans
Utility Coordination – The Challenges

- Resources
- Changes
- Commitment
Utility Coordination – The Challenges

• Resources
  – Utility
    • Engineering
    • Construction
  – Funding
  – Priorities
    • PSC
    • Profit
    • Storms
    • Life Danger

• Resources
  – DOT
    • Engineering
    • Coordination
  – Funding
  – Qualified Personnel
Changes - DOT

– Design Changes Are Driven By:

• Permitting Review
• Right of Way Acquisition Negotiations
• Utility Preservation
• Community Outcry
• Political Influence
• Schedule Issues
Commitment Issues - DOT

– Commit To:
  • A Final Schedule Early
  • Meeting the Schedule
  • Adjusting the Schedule When Design Revisions Are Made.

Commitment Issues - Utility

– Commit To:
  • The Resources
  • To A Schedule
  • Using Techniques that Will Insure the Facilities Are Placed In the Correct Location
    – Electronic Design
    – Survey of Proposed Facilities

NonprofitHub.org
Utility Coordination – Summary
Utility Coordination – Tips

Use the Tools
- SUE
- Impact Matrix

Keep on Task
- Hold All Parties Accountable to Schedules
- Coordinate Designs with All Parties

Get to The Agreement
- Who is doing what when, who is paying what.

Check Their Work
- Coordinately Correct As-Builts Pay Dividends in Construction

Intageseattle.org
Utility Coordination – Tips
Contact Information

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