Top-down Construction Cost Estimating Meeting Minutes – 12/08/2014

Meeting purpose: Kick-off meeting
Type of Meeting: Conference Call
Facilitator: Kris Christensen (MDT) / Dr Gransberg (ISU)
Note Taker(s): Phil and Brendon
Attendees:
ISU: Dr Doug Gransberg, Dr David Jeong, Phil Barutha, Brendon Gardner
MDT: Lesly Tribelhorn (Helena), Kris Christensen (Helena), Robert Antonick (Helena), Michael Grover (Helena), Jim Skinner (Helena), Bill Squires (Helena), Benjamin Nunnallee (Missoula), Christie McOmber (Great Falls MT)
FHWA: Chris Riley (FHWA)
Apologies: Nil
Duration: 60 minutes (11am – 12pm)

1. Contract highlight review (led by Kris):
   - Once contract agreed if there are any further changes in scope, time, key personnel or cost then Kris is to be informed by email. Any publications require 2 weeks for MDT to review the information prior to release. There might be some confidential information that cannot be shared.
   - Iowa State to take all meeting notes and distribute following the meeting. Action items to be tracked by line item and response given for all deliverables.
   - There is a payment holdback until the project is complete.
   - Communication Protocol: Kris is the main MDT point of contact for the project. Anyone from the ISU team can contact MDT but inform Kris. I.e. ISU team can email Bob and Lesly directly but cc in Kris.
   - Contract start and end date: Today is the start date and March 31st 2017 is the end date for all deliverables.
   - Quarterly reports to be completed by ISU. Format on MDT website. Due dates are Jan 31st 2015, April 30th 2015, July 31st 2015, October 31st 2015, Jan 31st 2015 and April 30th 2015.
   - Technical panel at MDT will review deliverables to ensure that MDT receives the product they want and can use.
   - ISU offered to tie in Helena visits to talk at any conferences if desired by MDT.

2. Review of research plan (led by Dr Gransberg):
   - Task 1
     - ISU to determine which cost estimating relationships (CERs) are predictive and reliable.
     - ISU will come up with around six high level predictors. The list of data on the research plan will not necessarily all be used. Other reliable cost predictors may be found.
     - ISU need to identify the unique pricing information to the state of Montana. I.e Western/Eastern or Rural/Urban.
     - Objective of the top down estimating tool is to be able to assign a preliminary estimate as soon as the project number is issued. As the project progresses this estimate is updated. MDT can replace the top down with bottom up estimate at the 3rd level down, shown in Figure 4 on the Research Plan.

   - Task 2
     - ISU to understand the data available and what the MDT unique aspects are. Recognize that we cannot have a single model over the whole state. Need to look at the divides in relation to the data split.
     - Structured interviews to understand differences in estimating principles and understand the flow of data. For example an issue uncovered in the past was that certain pay items had the quantities inflated to account for material volatility. Adjustments may be required to deal with issues.
     - ISU to develop first basic cost model. This will likely be with one district first and probably Great falls or Missoula.

   - Task 3
     - ISU student to be located in Montana. Student to go where data physically needs to be collected and to gain a physical understanding behind the projects. Phil and Brendon will be trying to understand market specific information.
     - Dr Gransberg and Dr Jeong will travel to check the model to ensure that this phase is complete and we are able to proceed. This is anticipated to be late August.

   - Task 4
     - Furnish levels of confidence for estimating with range.
     - ISU to test model with a couple of large projects (note: MDT definition of large and not Federal Highway).
     - Validate the model by using 25% of the data put aside earlier.

   - Task 5
     - ISU to present with results. Possibly could setup some type of workshop. Once we reach this point then ISU foresee a team effort with MDT to work with task 5.
     - Anticipate a period of undertaking parallel estimates. If the models are consistently low or high then adjustments can be made.

- Task 6 & 7:
    - ISU to focus on technology transfer, training and manual implementation.

3. Obtaining sample data (request by ISU):
    - ISU requested sample data and contact points for the data prior to Christmas break. Electronic version of the pay items would be a good start. Kris to send a couple of names of contact points and sample data.

    Action: Kris to send ISU some sample data and contact points prior to 12/19/14

4. Demonstration on the MDT website (led by MDT staff):
    - Procedures and guideline locations shown on website.
    - To find awarded historic bid tabs in pdf format: Doing business > Contracting and Bidding > Bid Letting and Awarded Contracts.
    - ISU mentioned that Excel format is best for all our data if possible.
    - Cost Estimate Spreadsheet: Doing Business > Design consulting > Tools & Resources > Cost Estimating > Cost Estimate Spreadsheet. This shows the bid items that are currently being used. This is available for ISU use and shows the average bid prices. Average bid prices are updated quarterly by Mike at MDT.
    - Preliminary Estimating Tool (PET): Doing Business > Design consulting > Tools & Resources > Cost Estimating > Preliminary Estimating Tool (PET). This is used by Designers to get preliminary estimate by inputting quantities and using average bid data. MDT mentioned that Pet Tool is currently the main preliminary estimating tool. Pet tool is locked on the website with a password. ISU confirmed that this would be very useful in understanding expression of scope of work.

    Action: Kris to send ISU unlocked PET tool prior to 12/19/14

5. Other discussion:
    - Format of end model: ISU offered to follow existing format of spreadsheets. MDT can think about desires for delivered format. MDT indicated it is not a necessity to follow the current formats.
    - ISU request project coding (Dr Jeong): Can MDT share project coding or classification system. ISU interested in how classification is completed for the different types of projects. MDT confirmed they could share this information.
        - Contingency query (Dr Gransberg): does MDT have a limited amount of contingency to be put onto a project? No - In risk management spreadsheet there are some tools with recommended contingency ranges. Also MDT does not have a limitation on mobilization/demobilization percentages. Typically this is around 10% but can go as high as 25%.

    Action: Kris to send Dr Jeong project classification / coding system prior to 12/19/14

End meeting. Time: 12pm.