A U S T I N   R E G I O N A L   I T S
A R C H I T E C T U R E   U P D A T E
W O R K S H O P   M I N U T E S

MEETING DATE: March 30, 2015,

MEETING TIME: 9:30 AM – 12:00 PM

MEETING LOCATION: Combined Transportation, Emergency, and Communications Center (CTECC), Austin, TX

ATTENDEES:

- Curtis Beaty, Texas A&M Transportation Institute (TTI)
- Brian Burk, Texas Department of Transportation (TxDOT)
- David Carey, City of Austin
- Katheryn Cromwell, Capital Area Metropolitan Planning Organization (MPO)
- Alesia Gamboa, TxDOT
- Jianming Ma, TxDOT

- Alex Power, TxDOT
- Erica Ramirez, TxDOT
- Stephen Ratke, Federal Highway Administration (FHWA)
- Robert Turner, City of Austin
- Daryl Weinberg, Capital Metro
- Chad Wood, City of Round Rock
- Tom Fowler, Kimley-Horn
- Terrance Hill, Kimley-Horn

SUBJECT: Austin Region ITS Architecture Update – Use and Maintenance and Turbo Training Workshop

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Introductions and Workshop Overview

The workshop began with Tom Fowler of Kimley-Horn welcoming everyone and thanking the stakeholders for their participation in the update of the Austin Regional Intelligent Transportation System (ITS) Architecture. Attendees were asked to introduce themselves and identify the agency or organization they represent.

The workshop was divided into two distinct sessions that were presented by Tom Fowler and Terrance Hill of Kimley-Horn. Session one consisted of Tom reviewing how to use the Regional ITS Architecture for demonstrating conformity and performing a systems engineering analysis in addition to the how the Regional ITS Architecture will be maintained. At the completion of a short break, Terrance conducted the second session, which included an overview of the Turbo Architecture software and a demonstration of key reports and diagrams that can be generated from Turbo. Below is a more detailed description of the two sessions of the workshop.

Use and Maintenance Presentation Overview

Tom began by providing those in attendance with a brief update on the progress of the development of the Austin Regional ITS Architecture, which included key dates, regional boundaries, and deliverables. He informed everyone that the deployment plan and the revised draft of the architecture were being finalized and should be made available to stakeholders soon.

Tom reviewed the National ITS architecture website, which provides the basic outline for the key components of a regional ITS architecture. The National ITS Architecture attempts to standardize

those components in relation to planning for, integrating, and defining ITS. Tom also gave a brief overview of the website that was developed specifically for the Austin Regional ITS Architecture. The website contains various sections including project documents, important resources, contact information, the interactive architecture, and use and maintenance of the architecture. Tom gave an in-depth tour of the interactive architecture for attendees showing the following main sections and how to obtain the appropriate information from the website:

- Stakeholders – List of all key agencies in the Austin Region
- Inventory – List of all ITS related elements that are associated with each stakeholder
- Services – List of all ITS service packages identified in the Austin Region
- Operation Concepts – List of roles and responsibilities of each stakeholder
- Requirements – List of functional areas for each element and their associated functional requirements
- Interfaces – List of interactions between and among elements
- Standards – List of ITS standards that are associated with selected data flows between elements
- Agreements – List of current and needed agreements related to ITS operation

The Regional ITS Architecture can also be used in the development of a systems engineering analysis for a specific project. Systems engineering is an interdisciplinary approach to enable the realization of successful systems. It focuses on defining customer needs and required functionality early in the development cycle, documenting requirements, then proceeding with design synthesis and system validation while considering the complete problem. Using a systems engineering approach is required by the USDOT for ITS projects. The process includes demonstrating conformance to the Regional ITS Architecture.

Additionally, Tom noted that the U.S. Department of Transportation requires that all federally funded ITS projects conform to a regional ITS architecture. Agencies can show a project's conformance by identifying the ITS components of the project, evaluating the applicable ITS service packages, and documenting functional requirements, and ITS standards. If a project does not conform, then an Regional ITS Architecture Maintenance Form that was developed for the Austin Region should be completed and submitted to CAMPO or TxDOT for inclusion in the next complete update of the Regional ITS Architecture. The maintenance form is available on the project website under the Maintenance tab. The website is located at www.AustinITSArchitecture.com.

Finally, Tom reviewed the maintenance process for the Regional ITS Architecture. Stakeholders agreed that modifications to the Regional ITS Architecture should be conducted on an as-needed basis and the Regional ITS Architecture should be reviewed either annually or in conjunction with the update of the Regional Transportation Plan (RTP) to determine the need for a complete update. CAMPO will be responsible for the Regional ITS Architecture in the six counties within their boundaries and the TxDOT Austin District will be responsible for the five remaining counties outside of CAMPO's boundaries but within the Austin District boundaries.

Turbo Presentation Overview

After the break, attendees that were interested in learning more about the Turbo Architecture software remained. Terrance Hill began with a brief introduction to Turbo Architecture, which is a tool for documenting a regional ITS architecture in a manner that is consistent with the National ITS Architecture. It should be noted that Turbo is not the Regional ITS Architecture, but a database that helps to standardize certain information within the Regional ITS Architecture. It

was developed by FHWA and is based on a Microsoft Access database. The current version is 7.0, which supports version 7.0 of the National ITS Architecture.

Terrance then discussed in detail the ten (10) tabs within Turbo Architecture that allow users to enter in specific information. The tabs correspond to the eight (8) main sections listed above, but also include the following two (2) tabs:

- Start – Includes overall architecture information such as geographic boundaries, timeframe, and scope of the architecture.
- Planning – List of needs that ITS can address in the Austin Region

Stakeholders were also shown how to make minor updates or perform minor tasks in Turbo, which include changing element names and definitions, flow and element status, and filtering. The filter tool allows users to quickly identify the flows or interconnects that are contained within the interfaces tab. Terrance then demonstrated how to make advance changes, which include performing a build to increase or decrease the number of flows within the interfaces tab and creating user defined flows that are not in the National ITS Architecture.

Attendees were shown how to generate flow and interconnect diagrams directly from Turbo. Diagrams can also be filtered to only show connections between certain elements, individual service packages, or context diagrams. A context diagram depicts an individual element and all of the defined connections with other elements. It should be noted that diagrams generated from Turbo Architecture are not customizable beyond what's defined in the National ITS Architecture. However, the diagrams shown in the Appendix of the Austin Regional ITS Architecture were created with a different software.

Finally, Terrance presented on how to generate useful reports from Turbo Architecture. Those reports can be saved as either a PDF file or an editable text file. The primary reports that can be generated include inventory, roles and responsibilities, standards, functional requirements and interfaces. Additionally, reports that check certain aspects of the architecture for inconsistencies can be created. These reports display potential errors that exist in the architecture such as elements that have no stakeholders, discontinued flows, and existing flows that lead to planned elements.

A printed brochure was also made available for attendees that could be used as a reference document for those that wished to explore Turbo on their own. Everyone was encouraged to contact Terrance or Tom if they wanted more detail on the use of the Turbo Architecture software.

Stakeholder Comments

The following includes specific comments voiced by stakeholders during the workshop:
- The status for the City of Round Rock DMS should be planned instead of existing
- Consider adding a section on the Austin ITS Architecture website that contains a list of planned and existing agreements along with a link to existing agreements if a copy was obtained
- Post a version of the ITS Architecture Maintenance Form on the website that can be edited by users

Concluding Comments and Next Steps

Tom Fowler thanked everyone for their participation and reiterated that stakeholders will receive a copy of the draft of the Austin Regional ITS Deployment Plan in addition to the revised draft of the Austin Regional ITS Architecture in the coming week. Stakeholders were encouraged to review both documents when they are distributed, and provide comments or contact any of the project team members if they had any additional questions. Once all documents have been reviewed and comments incorporated, final documents, meeting minutes and presentations, and the Turbo database will be made available to all stakeholders through and updated project website. Contact information is included below in addition to the project website:

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