MEMORANDUM

To: **Advanced Technology Task Force**
From: Claire Bozic
Date: May 12, 2014
Re: ITS Architecture Update Strategy

Background

The last update of the ITS Architecture V.2 was approved in 2008. The accompanying maintenance plan suggested that with sufficient training, CMAP staff could maintain the ITS Architecture Turbo Database in-house. Since that time, CMAP staff has participated in a number of Turbo Architecture training opportunities.   In 2013, CMAP and ATTF agreed that the architecture should be updated and CMAP elected to undertake this in-house.

Information Collection

Information is being collected through stakeholder interviews which took place in person in the spring of 2013, and is being continued by conference call in the spring of 2014.

Spring 2013 in-person meetings:

County Highway/ Transportation Departments	Statewide Agencies	Transit Operators	Municipalities
Cook 2-14-2013 DuPage 1-30-2013 Kane 1-30-2013 Lake 2-11-2013 Will 4-11-2013 McHenry– none	Illinois Tollway 1-28-2013 IDOT: ITS Office 1-11-2014 CVO 2-4-2013 District 1 1-16-2013	CTA 2-13-2013 Pace 2-11-2013 Metra 2-19-2013, 3-5-2013 RTA 1-31-2013	City of Chicago 1-17-2013 City of Naperville 1-30-2013

Spring 2014 calls:

County Highway/ Transportation Departments	Statewide Agencies	Transit Operators	Municipalities
Cook 5-14-2014 DuPage 5-1-2014 Kane 4-24-2014 Lake 4-30-2014 Will 5-5-2014 McHenry	Illinois Tollway 5-2-2014 IDOT: ITS Office 5-5-2014 CVO 4-24-2014 District 1 5-5-2014	CTA Pace 5-6-2014 Metra 5-6-2014 RTA	City of Chicago 4-30-2014 City of Naperville

Documents Produced for 2007/08 Update/Planned Update Status

The following documents were produced for the last architecture update. This section describes how they will be treated for this update. Drafts of the documents will be developed for a July meeting of ATTF, and with ATTF approval targeted for September.

Regional ITS Architecture V.2 Outreach Plan describes the outreach process undertaken to gather stakeholder input for the architecture update.

- The information will be included in a summary document, listed below, instead of a separate report.

Regional ITS Architecture V.2 Document Review describes the documents reviewed to update the ITS architecture and the recommended changes resulting from the document review.

- For this update, information collection was undertaken through stakeholder interviews, and no document reviews were suggested. This document will not be produced for V.3

Regional ITS Architecture V.2 Maintenance Plan explains how the architecture will be maintained.

- The maintenance plan needs revision to reflect the actual procedure as it has evolved. This will be revised for the July ATTF meeting.

Regional ITS Architecture V.2 Documentation presents the region's updated ITS Architecture.

- A Turbo Architecture utility can generate this, which is generally a document version of the web-based presentation with some additional background. The web-based presentation will take the place of this document. This document will not be produced for V.3.

Regional ITS Architecture V.2 web-based presentation of the region's ITS Architecture.

- This presentation will be updated with the new information provided by stakeholders.

(New) V.3 Update Summary Document will describe the process used to update the architecture along with highlights from the ITS Architecture. The document will address the items in the regional ITS Architecture Checklist shown on the next page.

Schedule

The MPO Policy Committee must approve the ITS Architecture and meets next on October 8th, jointly with the CMAP Board. This meeting will focus on adoption of the update of to GO TO 2040 and is not a good time to present the revised ITS Architecture. Following the October meeting, the next meeting of the MPO Policy Committee is January 8, 2015. Based on this, the following schedule for approval is proposed.

Committee	Target Approval Meeting Dates
Advanced Technology Task Force	September
Transportation Committee	November 14, 2014
CMAP Board	December 10, 2014
MPO Policy Committee	January 8, 2015

Regional ITS Architecture Assessment Checklist (V3.0, 5/07)
This checklist represents elements of a regional ITS architecture, and includes the requirements of the FHWA Rule and FTA Policy on ITS Architecture and Standards Conformity. The checklist is a tool for assessing the completeness of and identifying improvements to the regional ITS architecture. "Regional ITS Architecture Guidance" Document, version 2.0 contains information on all the elements shown below, and should be used as a reference document for this checklist. (FHWA-HOP-06-112; EDL #14317,
http://www.ops.fhwa.dot.gov/publications/regitsarchguide/index.htm)

1. Architecture Scope and Region Description
- Is the region defined geographically? Have boundaries been established such as counties, municipal boundaries, metropolitan areas, statewide, etc.?
- Has a timeframe for the architecture been defined? (For example, 5 or 10 years into the future, or the TIP/STIP or other Capital Plan planning period)?
- Has the range of services included in the regional architecture been defined? Does it seem appropriate given the circumstances?
- Are adjacent/overlapping ITS architectures identified?

2. Stakeholder Identification
- Are the stakeholders identified in sufficient detail to understand who the players are including agency/department name and jurisdiction?
- Is the range of stakeholders commensurate with the defined scope of the regional architecture?
- Were the key stakeholders involved in the architecture development process?
- Was a champion established, either individual or group, to lead the development of the architecture?

3. System Inventory
- Has a system inventory been defined that includes a list of applicable regional system elements along with descriptions and assigned stakeholders?
- Have the National ITS Architecture subsystems and terminators been correctly linked to regional elements?
- Does the inventory take into account adjacent regional ITS architectures such as neighboring districts or states.
- (Optional) Does the inventory appropriately map regionally unique elements to user-defined entities that are described in sufficient detail to understand their function?

4. Needs and Services
- Are transportation needs for the region defined and described? (This could be by reference to another document, e.g. Strategic Plan.)
- Are transportation services, derived from the needs, defined and described?
- Are the services adequately represented in the regional architecture? (i.e. Are services(market packages) identified and linked to inventory elements?)

5. Operational Concept
- Has an architecture operational concept been described in sufficient detail to understand the roles and responsibilities of the primary stakeholders in the region in the delivery of ITS services?
- Are the roles and responsibilities of the operational concept appropriately reflected in the architecture?

6. Functional Requirements
- Have high-level functions been defined for each regionally significant element in the architecture?
- Are the requirements unambiguously stated in terms of shall statements or similar language such that the required functions of each system can be easily understood?

7. Interfaces/Information Flows
- Are information flows defined between elements with descriptions of the information exchanged and their deployment status (existing, planned, etc.)?
- Does the architecture include appropriate linkages to elements outside the region or to elements from overlapping or adjacent regional architectures?
- Does the architecture address the significant integration opportunities implied by the inventory, needs/services, and the operational concept?
- (Optional) Does the architecture consider regionally unique interfaces (defined via user-defined flows) and are they described in sufficient detail to understand their purpose?

8. Project Sequencing
- Have projects been defined to include the agencies involved, timeframe, and how each is tied to the regional architecture?
- Have the relationships to the regional architecture and the interdependencies between projects been defined?
- Has an initial sequencing of currently defined projects been established?
- (Optional) Have opportunities to coordinate implementation schedules with other transportation improvements been investigated?

9. Agreements
- Have existing interagency agreements in the region been identified/considered by the regional architecture?
- Have future agreements been identified to implement the regional architecture and support project interoperability?

10. Standards Identification
- Has a plan been documented for how ITS standards will be considered, selected, and/or applied across the region?
- Has a listing of ITS standards been generated and tailored that are applicable to the region and projects coming out of the regional ITS architecture?
- Are these standards associated with specific interfaces (information flows or interconnects)?

- Do the important/relevant ITS standards appear to be identified?
- 11. Using the Regional ITS Architecture Criteria/Question   Yes/No/Partly Comments
- Is the architecture output presented in a way that is understandable to a variety of audiences, including the public and decision-makers?
- Is there a detailed description for incorporating and using the regional ITS architecture in the regional and/or statewide planning process?
- Has a regional stakeholder organization or committee been identified to monitor and manage the use of the architecture in the planning process?
- Is the relationship between the regional ITS architecture and the project implementation process well defined?

12. Maintenance Plan
- Is there a specific documented plan for maintaining the architecture, including how changes are evaluated, who is involved, what configuration control processes are in place, and when/how often updates are made?
- Have the various reasons for updating the architecture been addressed (project updates, new requirements or initiatives, etc.)?
- Is there a plan for communicating changes in the architecture to stakeholders?
- Have the responsibilities of the various stakeholders or groups been well defined with respect to architecture maintenance?
- Is configuration control being used for the architecture outputs (e.g. version numbering schemes, naming conventions, date/time stamps, etc.)?

Source: http://www.ops.fhwa.dot.gov/its_arch_imp/checklist.htm