

Scope of Services

Lexington Area Intelligent Transportation Systems (ITS) Architecture Update

This scope of services was developed from AECOM (the Consultant Team) response to RFP #36-2019 submitted on September 3, 2019. The scope is to update the Regional ITS Architecture (Architecture) for the Lexington Area Metropolitan Planning Organization's (LFUCG/LAMPO) two-county area (Fayette and Jessamine Counties). This project is to update and replace the previous Architecture completed in 2015.

Task 1. Project Management

This task includes the Project Management activities consisting of project oversight, schedule and budget tracking, invoicing and project meetings.

❖ Project Kickoff

The Consultant Team will hold a project kickoff meeting to discuss the following agenda:

- Project goals, objectives and expectations
- Project schedule of activities
- Schedule of recurring project meetings/teleconferences
- Identification of the participating agencies and stakeholders
 - The current list of stakeholders will be updated. During the project kickoff meeting with the LFUCG/LAMPO, the project team will review the previously identified ITS stakeholders and attempt to include other transportation related groups, agencies and individuals who might provide useful information for the development of an updated Architecture.
- Identification of Project Champions
 - Project champions, those to assist in moving the Architecture and ITS projects forward, will emerge from the stakeholder list. The key will be to identify these leaders and garner their acceptance as a vital piece as a project champion.

❖ Monthly Meetings

The Consultant Team will support and facilitate monthly meetings or teleconferences with LFUCG/LAMPO throughout the duration of the project. The Consultant Team will also meet and interact with other key LFUCG/LAMPO personnel and project stakeholders as directed by LFUCG/LAMPO and will be responsible for all meeting documentation.

❖ Project Administration

This project will require coordination between the client, stakeholders and consultant team resources. Additionally, this task will include administrative functions related to project accounting project documentation, i.e. meeting minutes, monthly invoicing and progress reports, and general oversight monitoring the schedule and expenditures over the course of the project.

Task 2. Data Collection

The Consultant Team will collect information necessary to identify and/or develop the following items:

- ❖ Description of the region;
The Consultant Team will update a description of the region to be mutually agreed upon with the LFUCG/LAMPO for inclusion in the Architecture. The study area will be limited to the two-county MPO area and will include the KYTC interstate ITS facilities on I-64 and I-75 just outside of the Fayette County line in Franklin, Scott, Clark and Madison Counties. There are dynamic message boards, cameras, and/or ARWIS outside the periphery of Fayette County on the interstate system that would have value when integrated into this plan.
- ❖ Changes in relevant ITS architectures (e.g., National and Statewide)
The Consultant Team will review the current editions of the statewide and national ITS architectures to provide compatibility between the updated Architecture and these higher level ITS architecture documents.
- ❖ Existing ITS Infrastructure Inventory
The Consultant Team will work with the LFUCG/LAMPO and regional stakeholders to review the current ITS inventory. This includes identifying new technologies and systems that have been deployed or planned since the 2015 Architecture update. The Consultant Team will document the ITS inventory and confirm the information accuracy with the stakeholders.
- ❖ Changes in regional needs
In order to continually optimize the regional transportation network, the local ITS needs have grown. The Consultant Team through our interviews and assessments with stakeholders and ITS operators will identify and document recent regional needs as well as project short-term future needs.
- ❖ Changes in the range and scope of ITS services considered
Both the KYTC and LAMPO/LFUCG have future plans for enhancing their respective ITS networks. These changes range from typical upgrades to the integration of new technologies and the expanded uses of the Traffic Management and Traffic Operations Centers.

Task 3. Stakeholder Involvement

The Consultant Team will work closely with LFUCG/LAMPO to organize the stakeholder meetings and perform the following:

- Recommending a schedule of meetings
- Coordinating with LFUCG/LAMPO District Public Affairs Managers for stakeholder outreach to encourage participation in the meetings
- Planning and coordinating stakeholder meetings
- Preparing agendas, handouts, presentations, and other materials necessary to support the meetings

- Attending and facilitating all meetings
- Preparing minutes of each ITS meeting and distributing them to all meeting participants

Two rounds of stakeholder meetings will be conducted. The focus of the first meeting will be to provide a policy-level overview of the project, summarize the purpose and objectives of the local level stakeholder meetings, and promote support for ITS projects. The stakeholder meeting will focus on education of stakeholders and identification of champions, as well as gathering additional information necessary for the development/refinement of the Architecture. This meeting will occur early in the project.

The second stakeholder meeting will present the final draft of the Architecture, answer questions, and obtain feedback for the final version.

Task 4. ITS Architecture Plan

The Consultant Team will develop a regional architecture based on the latest version of the Kentucky Statewide and Version 8.3 of the National ITS Reference Architectures (Architecture Reference for Coordinated and Intelligent Transportation or ARC-IT) using Version 8.3 of the architecture development software (Regional Architecture Development for Intelligent Transportation or RAD-IT). The Architecture will include the following components to satisfy the minimum FHWA criteria:

- Identifying existing and planned ITS systems
- Identifying user needs and services.
- Defining an operational concept that describes the roles and responsibilities of participating agencies and stakeholders who are responsible with the operation and implementation of the ITS systems.
- Identifying service packages needed to provide the required services for existing and planned ITS systems.
- Identifying physical objects and functional objects that describe the required functionality for the systems.
- Identifying interface requirements and information exchanged.
- Identifying ITS standards that are applicable to systems and information flows included in the architecture.
- Recommending ITS projects for implementation in the region.
- Defining a sequence for project implementation based on the specific needs of the area and the readiness of each project, as well as taking into account funding, project interdependency, planning level costs and benefits, and specific technology maturity.
- Identifying existing and new agreements required for implementation and operations of the ITS systems.

The Consultant Team will use the 2015 Architecture Plan as a base and update the information within the plan. An initial draft architecture plan and architecture website will be submitted to LFUCG/LAMPO for internal review prior to the second stakeholder meetings. The architecture website will be generated using the RAD-IT software. The Consultant Team will make revisions based on the feedback and provide a final draft plan and website prior to the second stakeholder meetings. Upon receipt of

additional feedback from the stakeholder meetings, the Consultant Team will make appropriate revisions and submit the final plan, architecture website files, and RAD-IT database to LFUCG/LAMPO for approval.

The Consultant Team will provide the architecture website files to LFUCG/LAMPO to allow for replacing the current ITS Architecture Website on the LAMPO web server. The Consultant Team will answer questions and recommend solutions to help the LFUCG/LAMPO IT staff or webmaster transfer the updated Architecture website to the LAMPO server where the web pages for the 2015 Architecture reside.

Task 5. Maintenance Plan

This task will assure the long-term viability and usability of the Architecture. An architecture maintenance plan guides updates to an ITS architecture so that it continues to accurately reflect the existing and future ITS capabilities of the region. The maintenance plan specifies the procedures and responsible parties for maintaining and updating the architecture and provide a timeframe for periodic review. A change management process is established as part of the maintenance plan to track and record future changes made on the architecture.

The Consultant Team will enhance the architecture maintenance plan developed in 2015 based on experience and feedback from LFUCG/LAMPO and stakeholders. The Consultant Team will discuss with LFUCG/LAMPO on: (1) the experience of using the current maintenance process and (2) thoughts on the current procedure and potential enhancements. Based on the inputs and our evaluation, the Consultant Team will provide LFUCG/LAMPO a list of potential enhancements and recommendations for revising and streamlining the architecture maintenance process. The Consultant Team will then develop an enhanced version of the architecture maintenance plan accordingly.

The Maintenance Plan will be incorporated as a section in the Architecture Plan.

Task 6. Management and Key Stakeholder Presentations

The Consultant Team will prepare and make a round of presentations of the updated Lexington Area ITS Architecture, Implementation Strategy, and Maintenance Plan to: (1) LFUCG/LAMPO and KYTC officials and (2) key stakeholders identified by LFUCG/LAMPO.

Deliverable Products

The deliverables for the project are:

- A Non-Technical Executive Summary: This document presents high-level summarized information of the updated Architecture, key findings and recommendations. This document is intended for non-technical audience. This document will be delivered in MS-Word and PDF formats.
- An Architecture Plan: This document will be an updated version of the Architecture Report developed in 2015 to reflect changes and updates to the Architecture. This document will follow the same layout and structure of the 2015 Plan. This document will include an appendix of detailed architecture outputs generated using RAD-IT Version 8.3. This document will be

delivered in MS-Word and PDF formats.

- RAD-IT Database (compatible with RAD-IT Version 8.3) of the updated Architecture.
- An Architecture Website: The website and associated web pages, graphics and other files will be electronically delivered to LFUCG/LAMPO.
- Additional electronic files will include presentation files and presentation graphics, meeting agendas, meeting minutes, and meeting photos.

All project deliverables will be delivered electronically.

Schedule

The six-month project schedule has been developed assuming a notice to proceed being received by November 1, 2019.

Tasks	2019				2020																			
	Nov				Dec				Jan				Feb				Mar				Apr			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1 Project Management	[Solid blue bar]																							
Kickoff Meeting	[Light blue bar]																							
Monthly Meetings				[Light blue bar]				[Light blue bar]				[Light blue bar]				[Light blue bar]					[Light blue bar]			
2 Data Collection	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]
3 Stakeholder Involvement				[Solid blue bar]	[Solid blue bar]	[Solid blue bar]	[Solid blue bar]	[Solid blue bar]	[Solid blue bar]	[Solid blue bar]	[Solid blue bar]	[Solid blue bar]	[Solid blue bar]	[Solid blue bar]	[Solid blue bar]	[Solid blue bar]	[Solid blue bar]	[Solid blue bar]	[Solid blue bar]	[Solid blue bar]	[Solid blue bar]	[Solid blue bar]	[Solid blue bar]	[Solid blue bar]
Stakeholder Meeting #1				[Light blue bar]	[Light blue bar]																			
Stakeholder Meeting #2																					[Light blue bar]	[Light blue bar]		
4 ITS Architecture Plan				[Solid blue bar]	[Solid blue bar]	[Solid blue bar]	[Solid blue bar]	[Solid blue bar]	[Solid blue bar]	[Solid blue bar]	[Solid blue bar]	[Solid blue bar]	[Solid blue bar]	[Solid blue bar]	[Solid blue bar]	[Solid blue bar]	[Solid blue bar]	[Solid blue bar]	[Solid blue bar]	[Solid blue bar]	[Solid blue bar]	[Solid blue bar]	[Solid blue bar]	[Solid blue bar]
RAD-IT Architecture Development					[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]
Draft Architecture Plan and Website											[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]
Final Architecture Plan and Website																					[Light blue bar]	[Light blue bar]	[Light blue bar]	[Light blue bar]
5 Maintenance Plan																					[Solid blue bar]	[Solid blue bar]	[Solid blue bar]	[Solid blue bar]
6 Management and Key Stakeholder Presentations																							[Solid blue bar]	[Solid blue bar]

Staffing Hours

Labor hours by task and labor category are presented below.

Task	Description	Staff Hours						Total
		Project Manager	Project Principal / Senior Advisor	QA/QC	Senior Engineer/ Planner	Mid-Level Staff	General Support	
1	Project Management	20	3	2	10	10	8	53
2	Data Collection	8	0	1	10	20	20	59
3	Stakeholder Involvement	30	1	1	53	53	30	168
4	ITS Architecture Plan	20	1	2	40	80	60	203
5	Maintenance Plan	2	0	1	4	8	8	23
6	Management and Key Stakeholder Presentations	8	1	1	6	10	6	32
	TOTAL PERSON HOURS	88	6	8	123	181	132	538

Fee

The fee for the services shall be for the lump sum/fixed fee amount of \$75,000.00. Invoices will be prepared monthly on a percentage completion basis and sent to the LAMPO/LFUCG project manager.