Flint Hills ITS Architecture Maintenance Plan

December 2025

Architecture Version 2.0

Flint Hills MPO

Adopted January XX, 2026

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1.0 Introduction

The Flint Hills Regional Intelligent Transportation Systems (ITS) Architecture has been created as a consensus view of what ITS systems the stakeholders within the architecture boundary already have in place and what systems they plan to implement in the future. By its nature, the architecture is not a static set of outputs. The Architecture should be modified as plans and priorities change, ITS projects are implemented, and the ITS needs and services evolve in the region. There are many actions that may cause a need to update the architecture, including:

- **Changes in Project Definition**. When actually defined, a project may add, subtract, or modify elements, interfaces, or information flows of the ITS Architecture. Because the architecture is meant to describe not only ITS planned, but also the current ITS implementations, it should be updated to correctly reflect the deployed projects.
- **Changes due to Project Addition/Deletion.** Occasionally a project will be added, deleted or modified during the planning process. When this occurs, the aspects of the ITS Architecture associated with the project should be added, deleted or modified.
- **Changes in Project Status.** As projects are deployed, the status of the architecture elements, services and flows that are part of the projects will have to be changed from planned to existing. Elements, services and flows should be considered to exist when they are substantially complete.
- **Changes in Project Priority.** Due to funding constraints, technological changes or other considerations, a project planned may be delayed or accelerated. Such changes should be reflected in the ITS Architecture.
- **Changes in Regional Needs.** Transportation planning is done to address regional transportation needs. Over time these needs change and the corresponding aspects of the ITS Architecture that addresses these needs should be updated.
- **Changes in Participating Stakeholders.** Stakeholder involvement can also change over time. The ITS Architecture should be updated to reflect the participating stakeholder roles in the statewide view of ITS elements, interfaces, and information flows.
- **Changes in Other Architectures.** The ITS Architecture includes not only elements and interfaces within the architecture boundary, but also interfaces to elements in adjacent and other areas in Kansas. Changes in the Statewide ITS Architecture may necessitate changes in the Flint Hills Regional ITS Architecture to maintain consistency. A Regional ITS Architecture may overlap with the Statewide ITS Architecture, and a change in one architecture may necessitate a change in the other.
- **Changes in ARC-IT.** The Architecture Reference for Cooperative and Intelligent Transportation (ARC-IT) will be expanded and evolved from time to time to include new user services or refine existing services. These changes should be considered as the ITS Architecture is updated. Updates to ARC-IT and RAD-IT can be found on the ARC-IT homepage at https://www.arc-it.net/index.html.

The following sections define the key aspects of the process for the maintenance of the Flint Hills Regional ITS Architecture:

- Who is responsible for architecture maintenance?
- What will be maintained?
- How are changes identified?
- How often are changes made?
- Change review, implementation and release process

2.0 Who is Responsible for Architecture Maintenance?

The primary responsibility for managing the maintenance activities of the ITS Architecture will lie with the Flint Hills Metropolitan Planning Organization (FHMPO). Regional stakeholders will provide recommendations to the MPO for making changes to the ITS Architecture*. Such stakeholders include, but are not limited to, traffic, transit, and emergency management agencies at the city, county, and state levels; academia and research institutions; and Fort Riley. The FHMPO should coordinate the architecture update and maintenance activities with stakeholders and be the point of contact, including collecting, reviewing, and summarizing change requests, tracking change requests, distributing documentation, and hosting meetings as needed. The FHMPO, with the assistance of regional partners and/or consultant support, will revise the ITS architecture and notify stakeholders of the changes.

** The 2015 version of this ITS Architecture Maintenance Plan advised the creation of a separate ITS Committee, but this was removed from the 2025 plan due to staff turnover and lack of local availability/commitment for an ITS Committee. FHMPO instead coordinates directly with stakeholders to update the regional architecture.*

3.0 What Will Be Maintained?

The following should be reviewed and updated at regular intervals:

- Description of the region
- Participating agencies and other stakeholders, including key contact information
- Inventory of existing and planned ITS systems in the region
- Operational concept that identifies the roles and responsibilities of participating agencies and stakeholders in the operation and implementation of the systems
- Agreements for operations and interoperability
- System functional requirements
- Interface requirements and information exchanges with planned and existing systems and subsystems
- Applicable ITS standards supporting regional and national interoperability
- Sequence of projects for implementation

There are several different components that make up the ITS Architecture. Some may require more frequent updates than others, but the entire architecture will need periodic review to ensure that it is consistent with the regional goals. The current version (version 2.0) of the Flint Hills Regional ITS Architecture shall be the baseline architecture upon which future revisions are conducted as necessary.

The Flint Hills Regional ITS Architecture was created based on ARC-IT Version 9.3 using RAD-IT Software Version 9.3. The Architecture was documented and stored in the following forms:

- Flint Hills Regional ITS Architecture Report
- RAD-IT Architecture Report for the Flint Hills Regional ITS Architecture
- Flint Hills Regional ITS Architecture Website
- Electronic RAD-IT database

The RAD-IT architecture database can generate a set of outputs including various reports, tables, diagrams, and the architecture webpages. Such outputs include interconnect and architecture flow diagrams, inventory lists, stakeholders lists, service package lists, functional requirements, and other diagrams and reports. A generic ITS architecture report can also be generated directly from RAD-IT. At a minimum, the architecture should be maintained through updates in the database using RAD-IT.

4.0 How Are Changes Identified?

Changes to the ITS Architecture may be identified by utilizing a combination of two channels; stakeholders submit a request to the MPO and the FHMPO actively soliciting changes from each stakeholder on an annual basis.

Stakeholders should contact the FHMPO with any changes to the ITS Architecture. The FHMPO will perform an initial assessment of the proposed change for the impact to the ITS Architecture and/or the affected documentation. If the proposed change has an impact on other stakeholders, the FHMPO will contact the affected parties to discuss the proposed modification.

The second channel for making changes to the Architecture is for the FHMPO to distribute a survey to stakeholders to actively solicit the need for updating the architecture. To view the survey sent to stakeholders in April/May 2025, see Figure 1 on the following page.

Figure 1: Survey distributed to stakeholders during the 2025 Architecture Update.

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Here are the projects listed as Planned, In-Progress, or Identified as Need for your agency. They have been copied directly from FHMPO's 2020 ITS plan.

If the project's timeframe or status has changed, or if there are any dates or description items that need updated, please make those changes in the chart below. Please also add any new ITS-related projects your agency has identified since the previous report in 2020. Once you've made the changes or confirmed that no changes are needed, please email the updated information along to Abigail Danner at adanner@flinthillsmpo.org.

Project Title	Description	Timeframe	Status

Project Status Descriptions

- Completed: Project is now implemented (please include completion date in parentheses).
- In-Progress: Project is currently being implemented, or steps are being taken to implement the project.
- Planned: Project is included in budget (or CIP) and is likely to be implemented in the near-term.
- Identified as Need: No funding has been identified, nor has the project undergone significant planning for implementation.

Project Implementation Timeframes

- Short Term: 0-4 years
- Medium Term: 5-7 years
- Long Term: 8 years and beyond

Thank you.

5.0 What Will Be Maintained?

A comprehensive, formal update of the ITS Architecture Baseline should be performed concurrently with (or within six months prior to) updating the FHMPO's Metropolitan Transportation Plan to ensure the architecture continues to accurately represent regional goals. The regional goals for FHMPO's current Metropolitan Transportation Plan, *Connect 2050*, are listed as follows:

- Safety: Provide a safe and secure multi-modal transportation system.
- Mobility: Maintain system performance and enhance modal choice for the efficient movement of people, goods, and freight.
- Preservation: Invest in the preservation and maintenance of our existing transportation infrastructure and assets.
- Prosperity: Create an affordable, sustainable, and integrated transportation system for all users.
- Resilience: Promote a transportation system that adapts to change, recovers from disruption, and enhances environmental sustainability.

Between major updates of the Architecture, minor or informal modifications may be made at the discretion of the FHMPO and stakeholders, following the process in 4.0 above.

In addition, this Maintenance Plan should also be reviewed and evaluated periodically for required changes to the maintenance process. The actual maintenance process and procedures may differ from those anticipated during the initial development.

6.0 What Will Be Maintained?

The general steps in the change management process are described below:

1. Stakeholders identify changes, notify the FHMPO of changes or complete the annual survey, and submit it to the FHMPO.
2. The FHMPO, in coordination with the appropriate stakeholders affected by the proposed changes, evaluates the changes and determines any potential impact on the Architecture and/or associated documentation. If necessary, FHMPO will offer comments and/or ask for additional information on the proposed changes.
3. The appropriate portions of the architecture baseline are updated by the FHMPO.
4. Once the ITS Architecture is modified, the FHMPO publishes the updated architecture documentation, database, and website.
5. The FHMPO notifies all stakeholders of the architecture update and provides information on how to obtain the latest version of the Architecture.

7.0 Training and Resources

Before beginning the architecture maintenance and update process, it is encouraged that FHMPO staff become familiarized with ARC-IT, RAD-IT, and the necessary steps and procedures for updating the Architecture. A consultant team can also be hired to assist the FHMPO in updating and maintaining the Architecture.

A list of useful resources is provided below. The list includes introductory training courses and documents related to ARC-IT and RAD-IT.

1. **The ARC-IT reference architecture website** at https://www.arc-it.net/index.html.

2. **Architecture and Standards Use**. This page provides high-level information on how to use ARC-IT and RAD-IT: https://www.arc-it.net/html/archuse/archuse.html.

3. **Key Concepts of ARC-IT.** This document introduces key concepts in ARC-IT, the reference architecture used to develop an individual regional architecture. The document can be found at https://www.arc-it.net/documents/keyconcepts/keyconcepts.pdf.

4. **RAD-IT Web-Based Training.** This online training course contains 17 modules of content and is interactive. This course provides information on how to use the RAD-IT software. The course and description can be found on https://www.arc-it.net/html/resources/raditwebtraining.html.