|  |
| --- |
| May 2022 |

|  |  |
| --- | --- |
|  | Florida ITS Architecture Support and Maintenance ProjectFinal District 1 Update ReportVersion 1.0 |

|  |
| --- |
|   |
|  |

Document Version Control

|  |  |  |
| --- | --- | --- |
| Author / Action | Submittal Date | Version No. |
| Arobindu Das / Draft Document | January 26, 2022 | 1.0 |
| Cliff Heise / QA/QC Review | February 22, 2022 | 1.0 |
| Arobindu Das / Final Document | April 14, 2022 | 1.0 |
| Cliff Heise / QA/QC Review | May 10, 2022 | 1.0 |
|  |  |  |
|  |  |  |
|  |  |  |

Table of Contents

[1.0 Introduction 4](#_Toc87568945)

[2.0 Description of Changes 4](#_Toc87568946)

List of Tables

[Table 1 ARCHITECTURE Updates 5](#_Toc94729951)

[Table 2 Architecture Maintenance Log (District 1 RITSA) 9](#_Toc94729952)

# Introduction

This Update Report for the Florida District 1 Regional ITS Architecture (RITSA) identifies the revisions incorporated into the architecture. The purpose of this District 1 RITSA Update Report is to document revisions made to the District 1 RITSA to support Stakeholder input received through Architecture Change Requests as part of the Florida Intelligent Transportation Systems (ITS) Architecture Support and Maintenance Project.

The Florida ITS Architecture Support and Maintenance Project included the initial major update of the Statewide ITS Architecture (SITSA) and seven RITSAs. Following the major update phase, periodic updates are executed to maintain the architecture content. The FDOT Architecture Team coordinates with the FDOT Project Manager or designee and each applicable District Transportation Systems Management and Operations (TSM&O) Program Engineer or designee for the RITSAs.

# Description of Changes

Two maintenance log items were addressed in the update. Table 1 provides descriptions for each change request that was implemented in the architecture update. A log reference number is provided for each change to related it to the Architecture Maintenance Log that is provided in Appendix A. Each architecture change that is received is added to the maintenance log for tracking and disposition.

Information about stakeholders, elements, and services is provided to summarize the changes. Some architecture components such as interfaces, roles and responsibilities, functional requirements and standards are numerous and can be reviewed on the architecture website or in the Regional Architecture Development for Intelligent Transportation (RAD-IT) software tool to explore the details of each project.

During the update of the District 1 RITSA, the inclusion of the SunTrax Research, Development and Transportation Technologies Testing Facilities Project in the RITSA was questioned given it does not interface with other District 1 RITSA stakeholder systems. SunTrax is a stand-alone facility, involves a partnership between FDOT and Florida’s Turnpike Enterprise (FTE), and it is operated by FTE. The operational management of FTE and the lack of District 1 external system interfaces make the SunTrax facility’s presence in the District 1 RITSA primarily geographical and not functional. The FTE RITSA is not geographically restricted to a specific district boundary and, due to FTE’s operational responsibilities for the facility, it is more appropriate for SunTrax and the SunTrax Research, Development and Transportation Technologies Testing Facilities Project to be part of the FTE RITSA. The FDOT District 1 RITSA lead and the FTE RITSA lead were consulted and agreed that the SunTrax Research, Development and Transportation Technologies Testing Facilities Project should be removed from the District 1 RITSA and moved to the FTE RITSA. The changes to the District 1 RITSA as a result of the removal of the SunTrax Research, Development and Transportation Technologies Testing Facilities Project are included in Table 1.

Table 1 ARCHITECTURE Updates

| **Change** | **Log Ref #** | **Actions Taken / Changes Implemented** |
| --- | --- | --- |
| Add Project addressing Transit Improvement Needs. The Lakeland Intermodal Center has been and is being studied by FDOT. | 28 | * Added Lakeland Intermodal Center Project.
* Added Lakeland Intermodal Center element.
* Included City of Lakeland ATMS and Field Equipment, Lakeland Citrus Connection Transit Dispatch and Transit Vehicles, Offstreet Parking System, Private Fleet Vehicle Dispatch Systems, Private Travelers Personal Computing Devices, and Vehicles elements.
* Added PT05: Transit Security, PT08: Transit Traveler Information, PT14: Multi-modal Coordination, and TI06: Dynamic Ridesharing and Shared Use Transportation service packages.
* Added information flows to support project and services.
* Added stakeholder roles and responsibilities.
* Added functional requirements.
* Identified applicable standards.
 |
| Two I-4 FRAME Projects are included in the D1 RITSA. Propose to delete the I-4 FRAME (City of Lakeland) Project and keep all elements combined into one I-4 FRAME (FDOT District 1). Additional information flow updates to include showing field devices interfacing with the local agency TMC prior to the FDOT RTMC. The local agency TMCs consist of Winter Haven, Polk County, and City of Lakeland. Additionally, the FDOT D7 RTMC needs to be included as all components on I-4 within the project will be communicated with the D7 SunGuide Center while the local agencies will connect to the STMC in Manatee County via a connection from FDOT D1 Headquarters in Bartow. The D1 SWIFT Center and STMC in Manatee are connected but ultimately the local agency connection will be to the STMC not the SWIFT as shown. | 93 | * Merged the FDOT District 1 I-4 FRAME (Lakeland) project, including all interfaces, into the FDOT District 1 I-4 FRAME project.
* Removed the FDOT I-4 FRAME (Lakeland) project.
* Added the City of Winter Haven Traffic Signal Control System and Traffic Control Equipment elements.
* Connected the City of Winter Haven, Polk County, and City of Lakeland Field Equipment elements to their respective management systems, each of which has a center-to-center interface with the FDOT District 1 Traffic Operations Monitoring Center (Bartow) element.
* Added the FDOT District 7 Tampa Bay SunGuide Center element and its interfaces with the FDOT District 1 Field Equipment and CAV Field Equipment elements.
* Added the Manatee-Sarasota Regional Traffic Management Center element and center-to-center interface with the FDOT District 1 Traffic Operations Monitoring Center (Bartow) element.
* Revised stakeholder roles and responsibilities.
* Revised functional requirements.
* Identified applicable standards.
 |
| Remove SunTrax Research, Development and Transportation Technologies Testing Facilities Project from the District 1 RITSA and move it to the FTE RITSA. |  | * Removed SunTrax Partners stakeholder.
* Removed SunTrax Research, Development and Transportation Technologies Testing Facilities project.
* Removed the following services:
* SU04 Map Management (SunTrax)
* SU08 Security and Credentials Management (SunTrax)
* TI07 In-Vehicle Signage (SunTrax)
* TM01 Infrastructure-Based Traffic Surveillance (SunTrax)
* TM02 Vehicle-Based Traffic Surveillance (SunTrax)
* TM04 Connected Vehicle Traffic Signal System (SunTrax)
* TM10 Electronic Toll Collection (SunTrax)
* VS02 V2V Basic Safety (SunTrax)
* VS03 Situational Awareness (SunTrax)
* VS05 Curve Speed Warning (SunTrax)
* VS12 Pedestrian and Cyclist Safety (SunTrax)
* VS13 Intersection Safety Warning and Collision Avoidance (SunTrax)
* VS14 Cooperative Adaptive Cruise Control (SunTrax)
* VS15 Infrastructure Enhanced Cooperative Adaptive Cruise Control (SunTrax)
* Removed project roles and responsibilities.
 |
| Comment from Draft Stakeholder Review: References to “Obtain traffic images” should be changed to “Monitor traffic images” since we do not record and/or store any traffic images and there shouldn’t be instances of wording contradicting this position. | N/A | * Each instance of “Obtain traffic images” has been changed to ”Monitor traffic images” in the roles and responsibilities of the Polk County Transportation Division stakeholder.
 |

Appendix A: Architecture Maintenance Log (District 1 RITSA)

The maintenance log in Table 2 provides the District 1 RITSA maintenance items considerations for the update.

Table 2 Architecture Maintenance Log (District 1 RITSA)

| **#** | **Date** | **Architecture** | **Source** | **Contact** | **Change** | **Disposition** | **Recommend Maintenance** | **Incorporated** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 28 | 8/11/2020 | D1 RITSA | Polk County Momentum 2045 LRTP plan | Charles Barmby (City of Lakeland) | Add ProjectNeed: Transit Improvement Needs.* Lakeland Intermodal Center as has been and is being studied by FDOT.
 | Charles Barmby provided further insights into this project. It will include buses, rail, bicycles, pedestrians, automobiles, and ride-sharing services, as well as vehicle parking and information services, intersecting at an intermodal center. Primary services will be PT14 Multimodal Coordination, PT08 Transit Traveler Information, and PT05 Transit Security.  | Yes | Yes |
| 93 | 5/13/2021 | D1 RITSA | Change Request Form: FDOT (Raj Ponnaluri email 5/13/2021) | Ronald Chin & Tim Smith / FDOT | Two I-4 FRAME Projects are included the D1 RITSA. Propose to delete the I-4 FRAME (City of Lakeland) Project and keep all elements combined into one I-4 FRAME (FDOT District 1). Additional information flow updates to include showing field devices interfacing with the local agency TMC prior to the FDOT RTMC. The local agency TMCs consist of Winter Haven, Polk County, and City of Lakeland. Additionally, the FDOT D7 RTMC needs to be included as all components on I-4 within the project will be communicated with the D7 SunGuide Center while the local agencies will connect to the STMC in Manatee County via a connection from FDOT D1 Headquarters in Bartow. The D1 SWIFT Center and STMC in Manatee are connected but ultimately the local agency connection will be to the STMC not the SWIFT as shown. | Combine I-4 FRAME projects along with other requested updates. | Yes | Yes |