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|  | Florida ITS Architecture Support and Maintenance Project  District 2 Conversion Report  (ARC-IT Version 9.3)  (ARC-IT Version 9.3) |

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# Introduction

This Architecture Conversion Report records the Florida District 2 Regional Intelligent Transportation System (ITS) ITS Architecture (RITSA) update from its reference in the Architecture Reference for Cooperative and Intelligent Transportation (ARC-IT) Version 9.2 to ARC-IT Version 9.3. There were no updates to the District 2 RITSA, so this report addresses notable results from the conversion process.

# Description of Changes

The architecture conversion process uses the Regional Architecture Development for Intelligent Transportation (RAD-IT) software Version 9.2 to convert the architecture to be compatible with ARC-IT Version 9.3. The process includes the following steps to accomplish the conversion.

* Architecture conversion: Conversion features in RAD-IT Version 9.3 convert the architecture database schema to be compatible with RAD-IT Version 9.3 and aligned to reference ARC-IT Version 9.3 content.
* Conversion analysis: Conversion information is produced by RAD-IT for the architecture conversion noting the changes made. The conversion information notes the schema and content changes, such as service splits or consolidations, element divisions, and information flow adjustments. Analysis is required for each converted item to assess the appropriateness of each change for the architecture.
* Architecture content update: The intent of the conversion process was to maintain the alignment of the converted Architecture content to the greatest extent possible with the pre-conversion Architecture content. Element physical object mapping changes, service package changes, information flow additions and adjustments, and the evolution of the standards mappings in ARC-IT Version 9.2 required changes to be made to the Architecture content. Unless it was necessary, no additional changes beyond those required to align the pre-conversion and converted architecture content were made. During the course of the Annual Architecture Maintenance Update, ARC-IT Version 9.2 features that could be considered as additional information to the Architecture will be assessed.
* Architecture website posting: The converted architecture will be posted to the Florida ITS Architecture website.

# Architecture Conversion Results

The District 2 RITSA was converted to be compatible with ARC-IT Version 9.3. The following sections highlight the changes made to the architecture as a result of the conversion process.

## Architecture Inventory Elements

No architecture inventory elements were impacted by the conversion process.

## Architecture Information Flows

Table 1 provides conversion results for architecture information flows impacted by the conversion process. The table information shows the architecture, source and destination elements, the old flow name, and the results of the flow conversion. As the table notes, the information flow changes resulting from conversion addressed flow renaming.

Table 1. Conversion Analysis of INFORMATION FLOWs

| **Regional** | **Architecture** | **Change** | **Source Element** | **Destination Element** | **Old Flow** | **New Flow** |
| --- | --- | --- | --- | --- | --- | --- |
| In Region | FDOT District 2 - Northeast Florida Regional ITS Architecture | Replaced | Alachua County Field Equipment | City of Gainesville Field Equipment | local priority request coordination | right-of-way request coordination |
| In Region | FDOT District 2 - Northeast Florida Regional ITS Architecture | Replaced | Alachua County Field Equipment | FDOT District 2 Field Equipment | local priority request coordination | right-of-way request coordination |
| In Region | FDOT District 2 - Northeast Florida Regional ITS Architecture | Replaced | Alachua County Field Equipment | University of Florida Field Equipment | local priority request coordination | right-of-way request coordination |
| In Region | FDOT District 2 - Northeast Florida Regional ITS Architecture | Replaced | City of Gainesville Field Equipment | Alachua County Field Equipment | local priority request coordination | right-of-way request coordination |
| In Region | FDOT District 2 - Northeast Florida Regional ITS Architecture | Replaced | City of Gainesville Field Equipment | University of Florida Field Equipment | local priority request coordination | right-of-way request coordination |
| In Region | FDOT District 2 - Northeast Florida Regional ITS Architecture | Replaced | FDOT District 2 Field Equipment | Alachua County Field Equipment | local priority request coordination | right-of-way request coordination |
| In Region | FDOT District 2 - Northeast Florida Regional ITS Architecture | Replaced | FDOT District 2 Field Equipment | University of Florida Field Equipment | local priority request coordination | right-of-way request coordination |
| In Region | FDOT District 2 - Northeast Florida Regional ITS Architecture | Replaced | University of Florida Field Equipment | Alachua County Field Equipment | local priority request coordination | right-of-way request coordination |
| In Region | FDOT District 2 - Northeast Florida Regional ITS Architecture | Replaced | University of Florida Field Equipment | City of Gainesville Field Equipment | local priority request coordination | right-of-way request coordination |
| In Region | FDOT District 2 - Northeast Florida Regional ITS Architecture | Replaced | University of Florida Field Equipment | FDOT District 2 Field Equipment | local priority request coordination | right-of-way request coordination |

## Architecture Functional Requirements

Table 2 provides conversion results for architecture functional requirements impacted by the conversion process. The table information shows the element impacted, the type of change made, the old functional object, number, and requirement, along with the new functional object, number, and requirement to display the change made.

Table 2. Conversion Analysis of Functional Requriements

| **Element Name** | **Change** | **Old Functional Object** | **Old Num** | **Old Req** | **Old Source** | **New Functional Object** | **New Num** | **New Req** | **New Source** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| City of Gainesville CAV Roadside Equipment | Modified | RSE Intersection Management | 4 | The field element shall receive signal priority requests from commercial vehicles and forward to the traffic signal controller. | ARC-IT | RSE Intersection Management | 4 | The field element shall receive signal priority requests from commercial vehicles and forward to the traffic signal controller. | ARC-IT |
| City of Gainesville Field Equipment | Modified | Roadway Signal Control | 15 | The field element shall receive requests for emergency vehicle signal preemption. | ARC-IT | Roadway Signal Control | 17 | The field element shall receive requests for signal preemption. | ARC-IT |
| City of Jacksonville Field Equipment | Modified | Roadway Signal Control | 15 | The field element shall receive requests for emergency vehicle signal preemption. | ARC-IT | Roadway Signal Control | 17 | The field element shall receive requests for signal preemption. | ARC-IT |
| City of Jacksonville Traffic Management Center | Modified | TMC Signal Control | 10 | The center shall adjust signal timing in respond to a signal prioritization, signal preemption, pedestrian call, multi-modal crossing activation, or other requests for right-of-way. | ARC-IT | TMC Signal Control | 10 | The center shall adjust signal timing in response to a signal prioritization, signal preemption, pedestrian call, multi-modal crossing activation, or other requests for right-of-way. | ARC-IT |
| Clay County Field Equipment | Modified | Roadway Signal Control | 15 | The field element shall receive requests for emergency vehicle signal preemption. | ARC-IT | Roadway Signal Control | 17 | The field element shall receive requests for signal preemption. | ARC-IT |
| Clay County Signal Control System | Modified | TMC Signal Control | 10 | The center shall adjust signal timing in respond to a signal prioritization, signal preemption, pedestrian call, multi-modal crossing activation, or other requests for right-of-way. | ARC-IT | TMC Signal Control | 10 | The center shall adjust signal timing in response to a signal prioritization, signal preemption, pedestrian call, multi-modal crossing activation, or other requests for right-of-way. | ARC-IT |
| FDOT District 2 RTMC | Modified | TMC Advanced Rail Crossing Management | 6 | The center shall implement control plans to coordinate signalized intersections around highway-rail intersections (HRI), under control of center personnel, based on data from sensors and surveillance monitoring traffic conditions, incidents, equipment faults, pedestrian crossings, etc. | ARC-IT | TMC Advanced Rail Crossing Management | 6 | The center shall support control plans to coordinate signalized intersections around highway-rail intersections (HRI), under control of center personnel, based on data from sensors and surveillance monitoring traffic conditions, incidents, equipment faults, pedestrian crossings, etc. | ARC-IT |
| Gainesville Smart Traffic TMC | Modified | TMC Signal Control | 10 | The center shall adjust signal timing in respond to a signal prioritization, signal preemption, pedestrian call, multi-modal crossing activation, or other requests for right-of-way. | ARC-IT | TMC Signal Control | 10 | The center shall adjust signal timing in response to a signal prioritization, signal preemption, pedestrian call, multi-modal crossing activation, or other requests for right-of-way. | ARC-IT |
| Jacksonville RTC | Modified | Transit Center Information Services | 10 | The center shall provide route and stop information to travelers, including those who are visually impaired, based on their trip requests. | ARC-IT | Transit Center Information Services | 10 | The center shall provide route and station/stop information to travelers, including those who are visually impaired, based on their trip requests. | ARC-IT |
| Jacksonville Transit Fixed-Route Systems | Modified | Transit Center Information Services | 10 | The center shall provide route and stop information to travelers, including those who are visually impaired, based on their trip requests. | ARC-IT | Transit Center Information Services | 10 | The center shall provide route and station/stop information to travelers, including those who are visually impaired, based on their trip requests. | ARC-IT |
| JTA U2C EAV | Modified | Transit Vehicle On-Board Information Services | 2 | The transit vehicle shall broadcast advisories about the imminent arrival of the transit vehicle at the next stop via an on-board automated annunciation system. | ARC-IT | Transit Vehicle On-Board Information Services | 2 | The transit vehicle shall broadcast advisories about the imminent arrival of the transit vehicle at the next station/stop via an on-board automated annunciation system. | ARC-IT |
| Private Travelers Personal Computing Devices | Modified | Personal Pedestrian Safety | 4 | The personal traveler interface shall provide to a transit vehicle the traveler's intent to board the transit vehicle including the transit stop at which the traveler would like to board. | ARC-IT | Personal Pedestrian Safety | 4 | The personal traveler interface shall provide to a transit vehicle the traveler's intent to board the transit vehicle including the transit station/stop at which the traveler would like to board. | ARC-IT |
| St. Johns County TMC | Modified | TMC Signal Control | 10 | The center shall adjust signal timing in respond to a signal prioritization, signal preemption, pedestrian call, multi-modal crossing activation, or other requests for right-of-way. | ARC-IT | TMC Signal Control | 10 | The center shall adjust signal timing in response to a signal prioritization, signal preemption, pedestrian call, multi-modal crossing activation, or other requests for right-of-way. | ARC-IT |
| Vehicles | Modified | Vehicle Traveler Information Reception | 1 | The vehicle shall receive traveler information including traffic and road conditions, incident information, maintenance and construction information, event information, transit information, parking information, and weather information. | ARC-IT | Vehicle Traveler Information Reception | 1 | The vehicle shall receive traveler information including traffic and road conditions, incident information, maintenance and construction information, event information, transit information, parking information, border crossing information, and weather information. | ARC-IT |