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|  | Florida ITS Architecture Support and Maintenance ProjectDistrict 1 Conversion Report(ARC-IT Version 9.3) |

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# Introduction

This Architecture Conversion Report records the Florida District 1 Regional 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 1 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 9.3 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.

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# Architecture Conversion Results

The District 1 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

Table 1 below provides conversion results for architecture inventory elements impacted by the conversion process. The table information shows the element impacted, the results of the element conversion, the analysis disposition which may indicate a revision to the conversion results depending on the architecture content, and the notes of the conversion implementation. The changes identified in the table as “added” reflect that an additional mapping has been made to the specific element. For the majority of the elements identified, the vehicle subsystem mapping was added to reflect the general vehicle functionality adjustments in ARC-IT Version 9.3 and to properly align with the selected services involving the element.

Table 1. Conversion Analysis of Inventory Elements

| **Element Name** | **Change** | **Old Mapping** | **New Mapping** | **Old Kind** | **New Kind** |
| --- | --- | --- | --- | --- | --- |
| Cape Coral Minibus Vehicles | Added |  | Vehicle |  | Subsystem |
| Charlotte County Transit Vehicles | Added |  | Vehicle |  | Subsystem |
| Collier Area Paratransit Vehicles | Added |  | Vehicle |  | Subsystem |
| Collier Area Transit Fixed Route Vehicles | Added |  | Vehicle |  | Subsystem |
| County and City PWD Vehicles | Added |  | Vehicle |  | Subsystem |
| County Fire EMS/Rescue Vehicles | Added |  | Vehicle |  | Subsystem |
| County Sheriffs Vehicles | Added |  | Vehicle |  | Subsystem |
| E-Pass Tag | Added |  | Personal |  | Subsystem |
| FDOT District 1 I-4 and I-275 Road Ranger Service Patrol Vehicles | Added |  | Vehicle |  | Subsystem |
| FDOT District 1 Maintenance Vehicles | Added |  | Vehicle |  | Subsystem |
| Florida Highway Patrol Vehicles | Added |  | Vehicle |  | Subsystem |
| Lakeland Citrus Connection Transit Vehicles | Added |  | Vehicle |  | Subsystem |
| LeeTran Paratransit Vehicles | Added |  | Vehicle |  | Subsystem |
| LeeWay Tag | Added |  | Vehicle |  | Subsystem |
| Local Fire/EMS Vehicles | Added |  | Vehicle |  | Subsystem |
| Local Police Vehicles | Added |  | Vehicle |  | Subsystem |
| Manatee County MCAT Fixed Route Transit Vehicles | Added |  | Vehicle |  | Subsystem |
| Manatee County MCAT Paratransit Vehicles | Added |  | Vehicle |  | Subsystem |
| Polk County Transit Vehicles | Added |  | Vehicle |  | Subsystem |
| Private Travelers Personal Computing Devices | Added |  | Personal |  | Subsystem |
| Private/Public Ambulance Vehicles | Added |  | Vehicle |  | Subsystem |
| Sarasota County SCAT Fixed Route Transit Vehicles | Added |  | Vehicle |  | Subsystem |
| Sarasota County SCAT Paratransit Vehicles | Added |  | Vehicle |  | Subsystem |
| School Buses | Added |  | Vehicle |  | Subsystem |
| SunPass Tag | Added |  | Personal |  | Subsystem |
| Winter Haven Area Transit Vehicles | Added |  | Vehicle |  | Subsystem |

## Architecture Information Flows

Table 2 below 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 2. Conversion Analysis of INFORMATION FLOWs

| **Regional** | **Architecture** | **Change** | **Source Element** | **Destination Element** | **Old Flow** | **New Flow** |
| --- | --- | --- | --- | --- | --- | --- |
| In Region | Southwest Florida Regional ITS Architecture - FDOT D1 | Replaced | FDOT District 1 CAV Field Equipment | FDOT District 1 Field Equipment | local priority request coordination | right-of-way request coordination |
| In Region | Southwest Florida Regional ITS Architecture - FDOT D1 | Replaced | FDOT District 1 Field Equipment | FDOT District 1 CAV Field Equipment | local priority request coordination | right-of-way request coordination |
| In Region | Southwest Florida Regional ITS Architecture - FDOT D1 | Replaced | Lee County and Cities Field Equipment | Lee County CAV Field Equipment | local priority request coordination | right-of-way request coordination |
| In Region | Southwest Florida Regional ITS Architecture - FDOT D1 | Replaced | Lee County CAV Field Equipment | Lee County and Cities Field Equipment | local priority request coordination | right-of-way request coordination |
| In Region | Southwest Florida Regional ITS Architecture - FDOT D1 | Replaced | Manatee County CAV Field Equipment | Manatee County Field Equipment | local priority request coordination | right-of-way request coordination |
| In Region | Southwest Florida Regional ITS Architecture - FDOT D1 | Replaced | Manatee County Field Equipment | Manatee County CAV Field Equipment | local priority request coordination | right-of-way request coordination |
| In Region | Southwest Florida Regional ITS Architecture - FDOT D1 | Replaced | Polk County CAV Field Equipment | Polk County Traffic Control Equipment | local priority request coordination | right-of-way request coordination |
| In Region | Southwest Florida Regional ITS Architecture - FDOT D1 | Replaced | Polk County Traffic Control Equipment | Polk County CAV Field Equipment | local priority request coordination | right-of-way request coordination |
| In Region | Southwest Florida Regional ITS Architecture - FDOT D1 | Replaced | Sarasota County CAV Field Equipment | Sarasota County Field Equipment | local priority request coordination | right-of-way request coordination |
| In Region | Southwest Florida Regional ITS Architecture - FDOT D1 | Replaced | Sarasota County Field Equipment | Sarasota County CAV Field Equipment | local priority request coordination | right-of-way request coordination |
| Project | FDOT District 1 Connected Vehicle Deployment in Manatee County | Replaced | Manatee County CAV Field Equipment | Manatee County Field Equipment | local priority request coordination | right-of-way request coordination |
| Project | FDOT District 1 Connected Vehicle Deployment in Manatee County | Replaced | Manatee County Field Equipment | Manatee County CAV Field Equipment | local priority request coordination | right-of-way request coordination |
| Project | FDOT District 1 I-4 FRAME | Replaced | FDOT District 1 CAV Field Equipment | FDOT District 1 Field Equipment | local priority request coordination | right-of-way request coordination |
| Project | FDOT District 1 I-4 FRAME | Replaced | FDOT District 1 Field Equipment | FDOT District 1 CAV Field Equipment | local priority request coordination | right-of-way request coordination |
| Project | FDOT District 1 I-4 FRAME | Replaced | Polk County CAV Field Equipment | Polk County Traffic Control Equipment | local priority request coordination | right-of-way request coordination |
| Project | FDOT District 1 I-4 FRAME | Replaced | Polk County Traffic Control Equipment | Polk County CAV Field Equipment | local priority request coordination | right-of-way request coordination |
| Project | FDOT District 1 US-41 FRAME in Lee County | Replaced | Lee County and Cities Field Equipment | Lee County CAV Field Equipment | local priority request coordination | right-of-way request coordination |
| Project | FDOT District 1 US-41 FRAME in Lee County | Replaced | Lee County CAV Field Equipment | Lee County and Cities Field Equipment | local priority request coordination | right-of-way request coordination |

## Architecture Functional Requirements

Table 3 below 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 3. Conversion Analysis of Functional Requirements

| **Element Name** | **Change** | **Old Functional Object** | **Old Num** | **Old Req** | **Old Source** | **New Functional Object** | **New Num** | **New Req** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Charlotte 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. |
| Charlotte County/Punta Gorda Advanced Traffic Management System | 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. |
| City of Bradenton 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. |
| City of Bradenton Traffic Control 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. |
| City of Bradenton Traffic Control Equipment | Modified | Roadway Signal Control | 18 | The field element shall report current maintenance and construction vehicle priority status to the center. | ARC-IT | Roadway Signal Control | 14 | The field element shall report current maintenance and construction vehicle priority status to the center. |
| City of Bradenton Traffic Control Equipment | Modified | Roadway Signal Control | 19 | The field element shall receive requests for maintenance and construction vehicle signal priority. | ARC-IT | Roadway Signal Control | 13 | The field element shall receive requests for maintenance and construction vehicle signal priority. |
| City of Lakeland Advanced Traffic Management System | 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. |
| City of Lakeland Advanced Traffic Management 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. |
| City of Lakeland 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. |
| City of Naples Advanced Traffic Management System | 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. |
| City of Naples Traffic Control 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. |
| City of Punta Gorda Traffic Signal Control System | 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. |
| City of Sarasota 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. |
| City of Winter Haven Traffic Control 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. |
| City of Winter Haven Traffic Signal Control System | 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. |
| Collier Area Paratransit Vehicles | Modified | Transit Vehicle Passenger Counting | 2 | The passenger counts shall be related to location to support association of passenger counts with routes, route segments, or bus stops. | ARC-IT | Transit Vehicle Passenger Counting | 2 | The passenger counts shall be related to location to support association of passenger counts with routes, route segments, or transit stations/stops. |
| Collier Area Transit Fixed Route Vehicles | 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. |
| Collier Area Transit Kiosks | Modified | Traveler Fare Management | 6 | The public interface for travelers shall determine the routing based on the traveler's destination and the location of the closest transit stop from which a route request is being made. | ARC-IT | Traveler Fare Management | 6 | The public interface for travelers shall determine the routing based on the traveler's destination and the location of the closest transit station/stop from which a route request is being made. |
| Collier County Advanced Traffic Management System | Modified | ITS Data Subscription Management | 9 | Te ITS Object shall receive published data from a data subscription service. | ARC-IT | ITS Data Subscription Management | 9 | The ITS Object shall receive published data from a data subscription service. |
| Collier County Advanced Traffic Management System | 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. |
| Commercial Vehicle | Modified | Vehicle Control Automation | 16 | The vehicle shall be capable of performing control actions based upon information received from other vehicles regarding their status approaching the intersection the vehicle is approaching. | ARC-IT | Vehicle Control Automation | 16 | The vehicle shall be capable of performing control actions based upon information received from other vehicles regarding their status. This includes intersection-related status, maneuver coordination, and other status information received from vehicles in the vicinity. |
| Commercial Vehicle | Modified | Vehicle Control Warning | 5 | The vehicle shall provide warnings to the driver based on information received from other vehicles regarding potentially hazardous road conditions or road hazards. | ARC-IT | Vehicle Control Warning | 5 | The vehicle shall provide warnings to the driver based on information received from other vehicles regarding potentially hazardous road conditions, road hazards, or pending/in-progress vehicle maneuvers. |
| County and Local Traffic Control Systems | 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. |
| County Fire EMS/Rescue Vehicles | Modified | EV On-Board En Route Support | 9 | The emergency vehicle shall send the vehicle’s location, speed and direction to other vehicles in the area. | ARC-IT | EV On-Board En Route Support | 9 | The emergency vehicle shall send the vehicle's location, speed and direction to a third party provider for distribution to vehicles in the vicinity. |
| County Sheriffs Vehicles | Modified | EV On-Board En Route Support | 9 | The emergency vehicle shall send the vehicle’s location, speed and direction to other vehicles in the area. | ARC-IT | EV On-Board En Route Support | 9 | The emergency vehicle shall send the vehicle's location, speed and direction to a third party provider for distribution to vehicles in the vicinity. |
| FDOT District 1 CAV 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. |
| FDOT District 1 CAV Field Equipment | Modified | Roadway Signal Control | 18 | The field element shall report current maintenance and construction vehicle priority status to the center. | ARC-IT | Roadway Signal Control | 14 | The field element shall report current maintenance and construction vehicle priority status to the center. |
| FDOT District 1 CAV Field Equipment | Modified | Roadway Signal Control | 19 | The field element shall receive requests for maintenance and construction vehicle signal priority. | ARC-IT | Roadway Signal Control | 13 | The field element shall receive requests for maintenance and construction vehicle signal priority. |
| FDOT District 1 CAV Field 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. |
| FDOT District 1 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. |
| FDOT District 1 I-4 and I-275 Road Ranger Service Patrol Vehicles | Modified | EV On-Board En Route Support | 9 | The emergency vehicle shall send the vehicle’s location, speed and direction to other vehicles in the area. | ARC-IT | EV On-Board En Route Support | 9 | The emergency vehicle shall send the vehicle's location, speed and direction to a third party provider for distribution to vehicles in the vicinity. |
| Florida Highway Patrol Vehicles | Modified | EV On-Board En Route Support | 9 | The emergency vehicle shall send the vehicle’s location, speed and direction to other vehicles in the area. | ARC-IT | EV On-Board En Route Support | 9 | The emergency vehicle shall send the vehicle's location, speed and direction to a third party provider for distribution to vehicles in the vicinity. |
| Highlands County Traffic Signal Control System | 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. |
| Lakeland Citrus Connection Transit Vehicles | 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. |
| Lee County and Cities 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. |
| Lee County and Cities Field Equipment | Modified | RSE Intersection Management | 4 | The field element shall receive signal prioity 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. |
| Lee County-Wide Advanced Traffic Management System | 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. |
| Lee County-Wide Advanced Traffic Management 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. |
| LeeTran Fixed Route Transit Vehicles | 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. |
| Local Fire/EMS Vehicles | Modified | EV On-Board En Route Support | 9 | The emergency vehicle shall send the vehicle’s location, speed and direction to other vehicles in the area. | ARC-IT | EV On-Board En Route Support | 9 | The emergency vehicle shall send the vehicle's location, speed and direction to a third party provider for distribution to vehicles in the vicinity. |
| Local Police Vehicles | Modified | EV On-Board En Route Support | 9 | The emergency vehicle shall send the vehicle’s location, speed and direction to other vehicles in the area. | ARC-IT | EV On-Board En Route Support | 9 | The emergency vehicle shall send the vehicle's location, speed and direction to a third party provider for distribution to vehicles in the vicinity. |
| Manatee 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. |
| Manatee County Field Equipment | Modified | RSE Intersection Management | 4 | The field element shall receive signal prioity 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. |
| Manatee County MCAT Fixed Route Transit Vehicles | 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. |
| Manatee County MCAT Fixed Route Transit Vehicles | Modified | Transit Vehicle Passenger Counting | 2 | The passenger counts shall be related to location to support association of passenger counts with routes, route segments, or bus stops. | ARC-IT | Transit Vehicle Passenger Counting | 2 | The passenger counts shall be related to location to support association of passenger counts with routes, route segments, or transit stations/stops. |
| Manatee 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. |
| Manatee-Sarasota Regional Traffic Management Center | 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. |
| Manatee-Sarasota Regional 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. |
| Polk County TMC | 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. |
| Polk 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. |
| Polk County Traffic Control 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. |
| Private/Public Ambulance Vehicles | Modified | EV On-Board En Route Support | 9 | The emergency vehicle shall send the vehicle’s location, speed and direction to other vehicles in the area. | ARC-IT | EV On-Board En Route Support | 9 | The emergency vehicle shall send the vehicle's location, speed and direction to a third party provider for distribution to vehicles in the vicinity. |
| Sarasota 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. |
| Sarasota County Field Equipment | Modified | RSE Intersection Management | 4 | The field element shall receive signal prioity 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. |
| Sarasota County SCAT Fixed Route Transit Vehicles | 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. |
| Sarasota County SCAT Fixed Route Transit Vehicles | Modified | Transit Vehicle Passenger Counting | 2 | The passenger counts shall be related to location to support association of passenger counts with routes, route segments, or bus stops. | ARC-IT | Transit Vehicle Passenger Counting | 2 | The passenger counts shall be related to location to support association of passenger counts with routes, route segments, or transit stations/stops. |
| Sarasota County TMC | 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. |
| Sarasota 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. |
| Transit Kiosks | Modified | Traveler Fare Management | 6 | The public interface for travelers shall determine the routing based on the traveler's destination and the location of the closest transit stop from which a route request is being made. | ARC-IT | Traveler Fare Management | 6 | The public interface for travelers shall determine the routing based on the traveler's destination and the location of the closest transit station/stop from which a route request is being made. |
| Vehicles | Modified | Vehicle Control Automation | 16 | The vehicle shall be capable of performing control actions based upon information received from other vehicles regarding their status approaching the intersection the vehicle is approaching. | ARC-IT | Vehicle Control Automation | 16 | The vehicle shall be capable of performing control actions based upon information received from other vehicles regarding their status. This includes intersection-related status, maneuver coordination, and other status information received from vehicles in the vicinity. |
| Vehicles | Modified | Vehicle Control Warning | 5 | The vehicle shall provide warnings to the driver based on information received from other vehicles regarding potentially hazardous road conditions or road hazards. | ARC-IT | Vehicle Control Warning | 5 | The vehicle shall provide warnings to the driver based on information received from other vehicles regarding potentially hazardous road conditions, road hazards, or pending/in-progress vehicle maneuvers. |
| 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. |