CHAPTER 4

DATA COLLECTION PROCESS

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CHAPTER 4. DATA COLLECTION PROCESS

4

This chapter describes the general methods used to conduct an inventory for the following seven roadway inventory types:

1. New Construction/Pending.
2. Active On the State Highway System (SHS).
3. Active Exclusive.
4. Active Off the SHS.
5. Local Roads.
6. Managed Lanes.
7. Highway Performance Monitoring System (HPMS) Samples.

4.1 Introduction

This chapter describes the general methods used to conduct an inventory for seven roadway inventory types. Appendix A provides data collection matrices to facilitate tracking the required features and characteristics; these matrices display the collected data elements according to functional classification and road ownership.

The data collection processes constitute three basic activities:

1. Pre-Inventory—Perform analysis to prepare for field data collection.
2. Field Inventory—Perform field data collection and validation of data.
3. Post-Inventory—Code/update data in Roadway Characteristics Inventory (RCI), run Data Analysis and Reporting for Transportation (DART) validation edits, coordinate with District offices, generate and distribute Straight Line Diagrams (SLD), update Roadway Inventory Tracking Application (RITA), and provide necessary notifications.

4.2 The Data Collection Process

This section presents a detailed explanation of the data collection process for RCI, including Highway Performance Monitoring System (HPMS) samples.

4.2.1 Pre-Inventory Data Collection

Steps 1 through 4 of the pre-inventory data collection process are conducted in the office, while steps 5 through 7 are conducted in the field.

Step 1: Generate an Inventory Schedule

The first step of the data collection process is generating an inventory schedule. The District designee generates the five-year RCI and three-year HPMS sample inventory schedule from RITA based on the inventory type.

Table 4.1 provides the inventory schedule and its fields.

TABLE 4.1 | INVENTORY SCHEDULE

Roadway ID	RCI Update			SLD		Field Inventory Date	Under Construction?	Comments
	Date	Deadline	Previous	Update Date	Dist. Date			

Step 2: Develop a Detailed Plan for Data Collection

Using the inventory schedule generated from RITA and the geographic location of the roadways, the Districts should develop a detailed and efficient plan for data collection. Factors to consider while developing the plan include geographic location, the deadline for the data inventory, information on construction projects,

potential special requests from agencies, and special events that impact travel and traffic (such as spring break, holidays, and travel restrictions).

Step 3: Collect and Review Existing/Historical Data

Prior to the field visit for data collection, data collectors should gather and review any existing and historical information on the roadways. This includes the following tasks:

- Review the current SLD and County Section Key Sheet insets (if applicable) for the roadway ID, beginning milepoints (BMP) and ending milepoints (EMP) of the roadway, inventory date, revision date (if applicable), county information, and features and characteristics.
- Research and evaluate any roadway that begins or ends at an interchange prior to the inventory to ascertain the alignment of the roadway.
- Generate and review the features and characteristics sort report from the RCI database for additional detailed information pertaining to the roadway.
- Check data for obsolete characteristic codes; only current, valid codes should be used upon re-inventory. See Appendix B for a list of obsolete codes.
- Review the LRS alignment in combination with aerial images for location accuracy of the roadway.
- Reference secondary sources such as Video Logs, Google Street View, or other street level imagery to support primary sources of field inventory data collection to create the most up-to-date information of field conditions for RCI, SLDs, and LRS alignments.
- Review the right-of-way maps for additional information such as extents or ownership information.
- Contact District Construction Office, county/city Public Works Department, and other regional agencies to determine if any of the roadways are under construction or planned for construction within the planned inventory cycle. Request construction/as built plans for recently completed projects from the relevant department/agency.
- Contact the Office of Maintenance for the bridge report to verify the bridge number, crossing facility, and bridge length and width.
- Contact the District Maintenance regarding guard rails, and any maintenance items. Coordinate the inventory schedule with the maintenance office.
- Contact Traffic Engineering and Operations for speed studies, speed limits, and any other traffic operations items. Coordinate the inventory schedule with the traffic engineering and operations offices.

Step 4: Verify Administrative Data

As a next step, the data collectors should verify the administrative features and characteristics for the roadway with the latest available documentation. Contact the appropriate owning office for each feature as specified in Chapter 7 of this handbook to coordinate data updates or verification. Table 4.2 lists these features and characteristics:

TABLE 4.2 | LIST OF ADMINISTRATIVE FEATURES AND CHARACTERISTICS

Feature	Characteristic(s)
111	STROADNO, STRDNUM2
112	FAHWYSYS, OLDFASYS, SPECSYS, STGHWNWK, TRAVLWAY
113	USROUTE, USROUTE2
114	LOCALNAM
115	SCENEHWY, SCENEDTE, SCENEEXT
116	NHFN, NHFNCON
119	BASETHIK, BASETYPE, FLEXTHIK, HOVNUMLN, HOVTYPE, OVRYTHIK, RAMPFC, RIGIDTHIK, TOLLCHGS, TOLLTYPE, YRCONST, YRIMPT
121	FUNCLASS
122	RDACCESS, TOLLROAD, OWNAUTH, TOLLNAME
124	HWYLOCAL, PLACECD, URBAREA, URBSIZE
137	CCNUMBER
139	OALIGNID, OALNBGPT, OALNENPT (all are automatically generated)
140	OSDATE, STATEXPT
143	BEGSECPT, ENDSECPT, RDWYID (all are automatically generated)
147	SISFCTPx, SISMPIDx
330	FLWBRKID, TRFBRKCD
331	AADTDATE, AADTTYPE, AVGDFACT, AVGKFACT, AVGTFACT, SECTADT

Step 5: Complete Equipment and Document Checklist

An equipment and document checklist will ensure that the data collectors gathered all the required items before the field inventory. Use the template provided in the Appendix C.

Step 6: Complete Vehicle Safety Inspection Checklist

A vehicle inspection and safety check will ensure that the vehicle is operable before leaving the parking lot. Perform and fill out all necessary vehicle inspections listed in the vehicle log book. Use one of the Vehicle Safety Inspection Sheet Examples from the Appendix C.

Step 7: Calibrate the Distance Measuring Instruments

Distance Measuring Instruments (DMI) are vehicle-installed, electronic instruments that measure distances with a specified accuracy. These devices record distances for logging points along a given route. The precision requirement and calibration procedures of DMIs are listed below.

- The DMI should be precise to within five feet or 0.001 mile per mile.
- Maintain the calibration using the following procedures:

- Check the calibration of the DMI at the start of each field inventory day. An accurate DMI is extremely important.

- Check the tire pressure before the start of each field inventory day to ensure the accuracy of the DMI. Changes to the tire pressure can affect the accuracy of the DMI. Several factors—pulling off the road onto shoulders, jumping the curbs and medians, running over nails, and weather conditions—can affect tire pressure. All four tires must be set at the same pressure.

- The Global Positioning System (GPS) DMIs are calibrated automatically and do not require field calibration. However, before proceeding with the inventory, the field team should acquire the best possible GPS satellite reception. GPS DMIs receivers must be placed on the top exterior of the vehicle and follow all the manufacturer instructions.

4.2.2 Field Inventory Data Collection

Step 1: Collect Required Data in the Field

The field team should be clearly visible to perform safe field data collection and will undertake the following steps during the inventory process:

1. Locate an area near the beginning of the roadway ID to pull the vehicle safely off the road (other than sidewalks or bike lanes).

2. Check vehicle safety and warning devices for proper placement and operation.

3. Ensure the field inventory sheets/SLDs and writing instruments/equipment are readily available. Vehicle strobe lights should be turned on. Class 2 safety vests must always be worn.

4. Drive the entire length of roadway. When inventorying a roadway, FDOT recommends a precursory drive-through. This provides the field team with familiarity of the roadway, notes any current construction in progress, the flow/speed of traffic, and the main operational use. This information helps determine the route will be safe to drive at the necessary slow speeds to collect the data or if an attenuator truck should accompany the data collection effort for safety.

5. Drive at a constant slow speed to make sure that the data is inventoried accurately. Maintain a safe speed to collect the necessary data and keep the flow of traffic moving.

6. Whenever possible, the field team should collect data while driving in the outside lane (not the shoulder, sidewalks, and/or bike lanes). Obey all traffic rules and regulations.

7. Be consistent with reference points (door lock, vehicle mirror) and always use the same reference point throughout the inventory.

8. Collect and record point feature information from intersections, traffic counters, and structures including traffic counter numbers, street names, bridge numbers, and railroad crossing numbers.

9. Refer to strategic development and planning data collection requirements outlined in Section 3.6.1 of the handbook.

10. The maximum allowable milepoint deviation inside an urban boundary is 0.010 mile (+/- 53 feet).

    Effective January 2016, all roadways are to be inventoried using the tolerance of 0.01 mile (+/- 53 feet). By January 2021, all RCI milepoints should be in compliance with this change (as discussed in the Dec 2015 TTF meeting.)

If multiple changes occur within 0.010 miles of each other, record them at the same milepoint.

Unique Situations

County Lines

- When a roadway ID section begins at a county line, the beginning milepoint should be zero. When a roadway ID section is built backward from a county line, allow for sufficient mileage to accommodate lengthening as the road is backed down to zero.
- Information on the county line locations may be obtained from the individual counties.
- Many times, a county line corresponds to a monument/marker, a fence line, or a tree line.
- When a county line follows a river, the roadway ID will begin or end at the bridge joint regardless of the surveyed county line. The bridge number will identify its associated county. If the bridge belongs to the county being inventoried, then the bridge is part of the inventoried roadway ID.

District Boundaries

- Abutting roadway IDs between District boundaries should use the same physical point location for the BMPs and EMPs. Coordinate with bordering Districts to ensure that there are no overlaps or gaps in the statewide roadway network.

State Boundaries

- Abutting roadway IDs between state boundaries should use the same physical point location for the BMPs and EMPs. Coordinate with bordering state to ensure that there are no overlaps or gaps in the roadway network.

Interchanges

- The beginning and ending milepoints of abutting roadway IDs at an interchange would be at the distant gore point of the farthest ramp.

Steps for Locating Difficult Inventory Items

- Place a mark on the road to show features that are difficult to see on the left-side inventory. These include culverts, angled intersections, and facility crossings. Use temporary orange construction paint to assist with the inventory to help ensure accuracy of the recorded milepoints.
- Mark the BMPs and EMPs of a roadway facility crossing with a temporary paint dot at the bottom of barrier walls.
- If a railroad crossing has a bridge deck, mark the BMP of the crossing with a paint dot at the bottom of the barrier wall in conjunction with the bridge deck. Calculate the EMP by offsetting the BMP by 0.002 miles. These two points are so close together that measuring them is difficult.
- If a bridge is skewed, mark the left bridge BMP and EMP. When there are two bridges for the segment and the left and right bridges are offset from one another, mark with a dot on the top of the inventory direction bridge.

- Mark the BMP and EMP of a river facility crossing with a dot at the bottom of the barrier wall in conjunction with a dot on the bridge deck.
- If a ramp is difficult to see, mark it on the inventory right shoulder.
- On angled roadways, mark where the centerline of the crossing street intersects the centerline of the inventory street.

4.2.3 Post-Inventory Data Collection

After the field collection process is complete, the team should obtain data that could not be collected in the field from construction plans. Use the latest construction plans available by contacting the District Construction Office for final plans.

Step 1: Gather Data from Construction Plans

The latest construction plans can be used to gather data that could not be collected in the field. The construction plans can be used to gather data for Feature 220: Non-curve Intersection and Feature 221: Horizontal Curve. If plans are not available, the team should contact the District Design Office for assistance in obtaining the curve data for the roadway.

All the existing and historical documents collected as a part of the pre-inventory process and the field inventory sheet(s) and marked-up SLDs from the field inventory process shall be provided to the District's RCI database input team.

Step 2: Convert Construction Stations to Milepoint Measurements

The team should complete the station to milepoint spreadsheet tying construction plans to inventoried milepoints. The milepoints should be expressed in three decimals, rounding the extraneous decimals.

The construction plans are drafted using "stations." Station numbers record measurements, with distances listed as "XX + XX.XX," with the digits to the left of the plus sign representing one-hundred-foot intervals (for example, "9" or "09" would represent 900 feet), and the digits to the right representing feet. For example, a "station" of 9 + 10.50 would represent 900 feet plus 10.50 feet, or a total distance of 910.50 feet. Convert the construction plan stationing to feet (9 + 10.5 = 910.5 ft), then either divide the result by 5280 ft/mi or multiply by 0.000189 mi/ft to convert the result to a milepoint.

Step 3: Reconcile Milepoint Differences using Appropriate Tolerances

Before updating the RCI database, the team should reconcile the field-collected milepoints against the currently recorded milepoints to see if they are within tolerance. If the measurement of any physical feature milepoint differs from the record in an amount greater than the applicable standard or historical record, additional measurement may be necessary.

Tolerances

If the difference between field collected data and RCI recorded data is within the tolerance, as prescribed below, no change to the RCI data is required.

- Tolerance for milepoint of feature changes—0.010 mile or 53 feet.

- Tolerance for ending mile point—0.010 mile or 53 feet.
- Tolerances for all Features and Characteristics—Refer to Chapter 7 of this handbook.

Step 4: Submit MyFloridaLRS Package

If the ending milepoint falls outside of the appropriate tolerances, determine whether the roadway ID should be shortened or lengthened. Submit a MyFloridaLRS Package to TDA Office, as described in the MyFloridaLRS Package Process (refer to Chapter 6).

Step 5: Enter RCI Data

The team then updates or enters the RCI data starting with Feature 251 (Intersections), followed by administrative features and physical/geometric features.

Notify the District Maintenance and State Safety Office of RCI data updates or deletions to Features 251, 326, 330, and 331 when updates occur to roadway sections in RCI. Notify all other applicable owning offices to ensure that all feature and characteristic data is updated as roadway sections are modified.

Step 6: Run the DART Edit Reports

After completing the data entry, the team should run the DART Edit reports (refer to Chapter 9) to make sure that there are no consistency errors (e.g., overlaps in milepoints, missing information, conflicting data). If errors are present, the team should correct and rerun the edits

It should be noted that the RCI DART Edit reports do not verify any field measured dimensional accuracy.

Step 7: Produce and Distribute SLD

After the RCI data has been entered, an SLD should be prepared using the SLD Diagrammer at: https://fdotewp2.dot.state.fl.us/StraightLineDiagrammer/welcome.aspx Upload the file using the SLO application at: https://tdaappsprod.dot.state.fl.us/prv/slo/Search.aspx

Upon completion, download the DXF and PDF files. Import the DXF file into MicroStation or Adobe Illustrator to enhance the SLD. Update the SLD Inventory Blocks as indicated in Table 4.3.

TABLE 4.3 | UPDATE SLD INVENTORY BLOCK

SLD INVENTORY	5 YR INV	SLD REV	Interim Revisions			
			BMP	EMP	INV	SLD REV
DATE	08/18/2012	12/12/2013	5.384	6.985	04/17/13	04/25/2013
BY	AHJ	CFS	AFE	AFE	AFE	AFE

Step 8: Produce County Key Sheet

Use the County Key Sheet application to produce the required county key sheet(s), if applicable. Upload the file using the SLO application at: https://tdaappsprod.dot.state.fl.us/prv/slo/Search.aspx.

Step 9: Update RITA

After the edits have been run and all errors have been reconciled, update the five-year RCI and/or three-year HPMS tracking database (RITA). This update should include the date of the actual field inventory and the data entry.

Step 10: Notify Required Offices

Notify the designated District Offices and TDA Office of the new SLD and Key Sheet(s), if applicable.

4.3 Data Collection Process by Roadway Inventory Type

Table 4.4 | Data Collection Process for Roadway Inventory Types summarizes the various steps involved in the data collection process for roadway inventory types. This section also provides detailed instructions for each roadway inventory type.

TABLE 4.4 | DATA COLLECTION PROCESS FOR ROADWAY INVENTORY TYPES

Steps	New Construction/ Pending Roadways	Active On the SHS	Active Exclusive	Active Off the SHS	Local Roads	Managed Lanes	HPMS Samples
Pre-Inventory							
Step 1: Generate an Inventory Schedule	●	●	●	●	●	●	●
Step 2: Develop a Detailed Plan for Data Collection	●	●	●	●	●	●	●
Step 3: Collect and Review Existing/Historical Data	●	●	●	●	●	●	●
Step 4: Verify Administrative Data	●	●	●	●	●	●	●
Step 5: Complete Equipment and Document Checklist	●	●	●	●	●	●	●
Step 6: Complete Vehicle Safety Inspection Checklist	●	●	●	●	●	●	●
Step 7: Calibrate the Distance Measuring Instruments	●	●	●	●	●	●	●
Field Inventory							
Step 1: Collect Required Data in the Field	●	●	●	●	●	●	●
Post-Inventory							
Step 1: Gather data from Construction Plans	●	●	●	●	●	●	
Step 2: Convert Construction Stations to Milepoints	●	●	●	●	●	●	
Step 3: Reconcile Milepoint Differences using Tolerances	●	●	●	●	●	●	
Step 4: Submit MyFloridaLRS Package	●	●[1]	●[1]	●[1]	●[1]	●	
Step 5: Enter RCI Data	●	●	●	●	●	●	●
Step 6: Run the DART Edit Reports	●	●	●	●	●	●	●
Step 7: Produce and Distribute SLD		●					
Step 8: Produce County Key Sheet		●					
Step 9: Update RITA	●	●	●	●	●[2]	●	●
Step 10: Notify Required Offices	●	●	●	●	●	●	

[1] *Indicates this step is required only if applicable.*

[2] *Local Roads with FM Projects are not currently tracked in RITA. Local Roads that have an overall status of 09-ACTIVE OFF THE SHS and have a functional classification of 09-RURAL LOCAL or 19-URBAN LOCAL, and have either a SIS designation, a bridge, or a railroad crossing are tracked in RITA.*

4.3.1 Data Collection Process for New Construction/Pending Roadway Inventory

Data Collection Steps

Pre-Inventory

- Step 1: Generate an Inventory Schedule.
- Step 2: Develop a Detailed Plan for Data Collection.
- Step 3: Collect and Review Existing/Historical Data.
- Step 4: Verify Administrative Data.
- Step 5: Complete Equipment and Document Checklist.
- Step 6: Complete Vehicle Safety Inspection Checklist.
- Step 7: Calibrate the Distance Measuring Instruments.

Field Inventory

- Step 1: Collect Required Data in the Field.

Post-Inventory

- Step 1: Gather data from Construction Plans.
- Step 2: Convert Construction Stations to Milepoints.
- Step 3: Reconcile Milepoint Differences using Tolerances.
- Step 4: Submit MyFloridaLRS Package.
- Step 5: Enter RCI Data.
- Step 6: Run the DART Edit Reports.
- Step 7: N/A
- Step 8: N/A
- Step 9: Update RITA.
- Step 10: Notify Required Offices—TDA Office.

Pending Roadways (not in Database)

An impending construction/realignment requires a collection of administrative data to facilitate the creation of a roadway ID number in RCI. Pending roadways are not required and are not included in the LRS. Only existing routes are displayed on official maps.

Once the District Secretary approves the SHS mileage addition or deletion, the District will update the remaining features and characteristics described in the General Interest Roadway Data (GIRD) Procedure Topic No. 525-020-310 and the Transportation System Designations and Road Jurisdiction Transfers Procedure Topic No. 525-020-010.

New Road Construction (not in Database)

When a new roadway is to be constructed and no other roadways are involved, the District shall submit an MyFloridaLRS Package to create the new RCI V/U/D screen with a new roadway ID provided by the District Office. When construction of the new road is complete, the District shall conduct a complete field inventory of the features for the road segment being added. The updated limit description and milepoint information will be used on the addition to the SHS form. These administrative features will be added to the RCI database within 15 calendar days after the field inventory is completed. The remaining information will be added according to the time given in GIRD Procedure Topic No. 525-020-310.

Realignments (not in Database)

When a realignment occurs, even if the old portion of the road is physically removed, the District shall conduct a complete inventory for the road segment being added and update the limit description and milepoint information documenting the actions taken, including the District Secretary signature form. These administrative features will be added to the RCI database within 15 calendar days. The remaining information will be added according to the timeframe given in GIRD Procedure Topic No. 525-020-310.

Existing HPMS Samples in realignments need to be reviewed by the TDA HPMS Coordinator.

TABLE 4.5 | ADMINISTRATIVE FEATURES AND CHARACTERISTICS REQUIRED FOR NEW CONSTRUCTION AND REALIGNMENTS

Feature	Characteristic(s)
111	STROADNO, STRDNUM2
112	FAHWYSYS, TRAVLWAY (if NHS)
113	USROUTE, USROUTE2
114	LOCALNAM
121	FUNCLASS
122	OWNAUTH, RDACCESS, TOLLROAD
124	HWYLOCAL, PLACECD, URBAREA, URBSIZE
140	STATEXPT
147	SISFCTPx, SISMPIDx
251	BEGSECNM, ENDSECNM, INTSDIRx, INTSRTPx

4.3.2 Data Collection Process for Active On the SHS Inventory

Data Collection Steps

Pre-Inventory

- Step 1: Generate an Inventory Schedule.
- Step 2: Develop a Detailed Plan for Data Collection.
- Step 3: Collect and Review Existing/Historical Data.
- Step 4: Verify Administrative Data.
- Step 5: Complete Equipment and Document Checklist.
- Step 6: Complete Vehicle Safety Inspection Checklist.
- Step 7: Calibrate the Distance Measuring Instruments.

Field Inventory

- Step 1: Collect Required Data in the Field.

Post-Inventory

- Step 1: Gather data from Construction Plans.
- Step 2: Convert Construction Stations to Milepoints.
- Step 3: Reconcile Milepoint Differences using Tolerances.
- Step 4: Submit MyFloridaLRS Package (if applicable).
- Step 5: Enter RCI Data.
- Step 6: Run the DART Edit Reports.
- Step 7: Produce and Distribute SLD.
- Step 8: Produce County Key Sheet.
- Step 9: Update RITA.
- Step 10: Notify Required Offices—TDA Office.

Requirements

The Districts can collect RCI information for roadways with the Active On status on the SHS by using the Active On the SHS inventory process. Statewide uniformity relies on guidelines that determine the beginning and ending points of a roadway as outlined in this handbook. When a new state road is built, the District will assign a roadway ID in coordination with the TDA Office.

The GIRD procedure requires each District to inventory every roadway within its region every five years and each HPMS Sample within the District every three years. Districts may choose to perform inventory more than required amount. When a roadway has been under construction and the District receives a final acceptance notification from Central Office or the District Construction Office, the District must perform a re-inventory of a roadway, add or update the RCI database, create and distribute an SLD, create or update a County Section Key Sheet, update RITA, and notify the TDA Office within 90 calendar days of notification as outlined in the GIRD procedure. Performing a re-inventory of a roadway for new construction provides FDOT users with information that reflects the current field conditions of the roadway.

4.3.3 Data Collection Process for Active Exclusive Inventory

Data Collection Steps

Pre-Inventory

- Step 1: Generate an Inventory Schedule.
- Step 2: Develop a Detailed Plan for Data Collection.
- Step 3: Collect and Review Existing/Historical Data.
- Step 4: Verify Administrative Data.
- Step 5: Complete Equipment and Document Checklist.
- Step 6: Complete Vehicle Safety Inspection Checklist.
- Step 7: Calibrate the Distance Measuring Instruments.

Field Inventory

- Step 1: Collect Required Data in the Field.

Post-Inventory

- Step 1: Gather data from Construction Plans.
- Step 2: Convert Construction Stations to Milepoints.
- Step 3: Reconcile Milepoint Differences using Tolerances.
- Step 4: Submit MyFloridaLRS Package (if applicable).
- Step 5: Enter RCI Data.
- Step 6: Run the DART Edit Reports.
- Step 7: N/A
- Step 8: N/A
- Step 9: Update RITA.

- Step 10: Notify Required Offices—TDA Office.

Requirements

The Active Exclusive inventory collects information about access roads, collector-distributors, ramps, and other non-mainline roadways. The GIRD requires a five-year inventory cycle for all Active Exclusive facilities associated with state-maintained facilities. Refer to the data collection matrices in Appendix A for details of the characteristics required by urban/rural classification and type of roadway.

State Road, U.S. Route, and Interstate Numbers on Active Exclusive Roadways

To facilitate route sequencing in RCI and allow GIS and other map sequencing, Districts should include Features 111 and 113 where available. Therefore, to complete a route sequence, Districts should code the associated route numbers in the proper route segment order as it appears geographically along the mainline. This route sequence design aligns frontage roads, ramps, and other similar roadways parallel with the associated mainline. It also allows one-way sub-sections to be placed in parallel with the other appropriate one-way portion of the mainline. By using the milepoint linkages from data based on RCI features, the entire sequencing is automated, and the only manual sequencing is the arrangement of the mainline counties in proper order. This is most critical with roadways entering a county more than once, such as I-10 through Washington and Holmes counties. This method also provides for ramps intersecting ramps, like many of the major directional (non-loop) interchanges. Note that there are many ramps to frontage roads that have ramps to the local highway system. This design provides for the automated designation of reversal sections.

The same coding methodology applies to Active Exclusive roadways located at the interchange of two interstates, such as I-10 and I-75. The feature coding for the Active Exclusive ramps reflects the road number from the mainline with an identical section number (3rd, 4th, and 5th digits) of the eight-digit roadway ID number. An example of this would be ramp 29180067, where Features 111 and 113 will use I-75/SR 93 from the mainline I-75/SR 93 (29180000) and not I-10/SR 8 from the mainline 29170000.

4.3.4 Data Collection Process for Active Off the SHS Inventory

Data Collection Steps

Pre-Inventory

- Step 1: Generate an Inventory Schedule.
- Step 2: Develop a Detailed Plan for Data Collection.
- Step 3: Collect and Review Existing/Historical Data.
- Step 4: Verify Administrative Data.
- Step 5: Complete Equipment and Document Checklist.
- Step 6: Complete Vehicle Safety Inspection Checklist.
- Step 7: Calibrate the Distance Measuring Instruments.

Field Inventory

- Step 1: Collect Required Data in the Field.

Post-Inventory

- Step 1: Gather data from Construction Plans.
- Step 2: Convert Construction Stations to Milepoints.
- Step 3: Reconcile Milepoint Differences using Tolerances.
- Step 4: Submit MyFloridaLRS Package (if applicable).
- Step 5: Enter RCI Data.
- Step 6: Run the DART Edit Reports.
- Step 7: N/A
- Step 8: N/A
- Step 9: Update RITA.
- Step 10: Notify Required Offices—TDA Office.

Requirements

In addition to the roadways on the SHS, the RCI database represents roadways categorized as Active Off the SHS. The District's planning or maintenance offices maintain these roadways identified in GIRD according to their functional classification. Active Off the SHS roadways are important for the planning and programming of roadways that provide connectivity for roadways designated on the National Highway System (NHS), the Strategic Intermodal System (SIS), Scenic Highways, Freight networks, multimodal connections, or connections to bridges that the Department has interest in. Active Off the SHS roadways are also reported to Federal Highway Administration (FHWA) through the HPMS data submission and are used by the Department for safety and performance analysis. The District collects the RCI information for these city or county roads using the Active Off the SHS inventory process.

Districts should realign off-system roadways using the current realignment process, but Districts should consider certain off-system realignments for the alternate off-system realignment process outlined in Section 5.2.1 of this handbook.

The GIRD procedure requires each District to re-inventory every roadway ID every five years. The inventory matrices in Appendix A list the data required for Active Off the SHS (and Active On the SHS) roadways. These matrices explicitly identify all the required RCI features and characteristics by either their federal functional classification (e.g., SIS, NHS, etc.) or level of interest.

TDA Office does not require the production or maintenance of straight-line diagrams (SLDs) for Active Off the SHS roadways. However, the SLD software can produce SLDs for Active Off the SHS roadways if the District chooses to produce them. Old SLDs may exist for roadways that were once on the SHS and, if available, should be retained for historical purposes.

Data Collection for Roadways Functionally Classified as Minor Collector and Above

Roadways functionally classified as minor collectors or higher which are also considered Active off the SHS are required to be included in the RCI, LRS, and part of the District's five-year off-system inventory cycle. These roadways are collected in RCI as part of the adjusted Urban Boundary and Functional Classification update process following every decennial Census for FHWA HPMS reporting purposes. Roadways that are functionally classified or modified between the decennial Census periods can be added to RCI and the District's inventory cycle. Refer to the Active Off the SHS RCI inventory matrix in Appendix A of this handbook for the required features and characteristics for all roadways functionally classified as rural minor collector and above.

4.3.5 Data Collection Process for Local Roads Inventory

Data Collection Steps

Pre-Inventory

- Step 1: Generate an Inventory Schedule.
- Step 2: Develop a Detailed Plan for Data Collection.
- Step 3: Collect and Review Existing/Historical Data.
- Step 4: Verify Administrative Data.
- Step 5: Complete Equipment and Document Checklist.
- Step 6: Complete Vehicle Safety Inspection Checklist.
- Step 7: Calibrate the Distance Measuring Instruments.

Field Inventory

- Step 1: Collect Required Data in the Field.

Post-Inventory

- Step 1: Gather data from Construction Plans.
- Step 2: Convert Construction Stations to Milepoints.
- Step 3: Reconcile Milepoint Differences using Tolerances.
- Step 4: Submit MyFloridaLRS Package (if applicable).
- Step 5: Enter RCI Data.
- Step 6: Run the DART Edit Reports.
- Step 7: N/A
- Step 8: N/A

- Step 9: Update RITA.
- Step 10: Notify Required Offices—TDA Office.

Requirements

To improve the management of local roads and provide Districts with choices in their own local road network, the TDA Office has developed criteria to follow when processing local roads for RCI. Local Roads of state and District interest identify the types of situations and designations which would require an inventory of local roads to establish and maintain in RCI. If the RCI includes either of these types of roads and they do not have a status that excludes field inventory (such as Local Financial Management (FM) projects), they must be part of the District's five-year off-system inventory cycle.

Local Roads of State Interest

Field alignment and data verification is required for local roads of state interest and must be inventoried using conventionally accepted methods unless the road status excludes field inventory. Local roads of state interest include those that are:

- Designated as NHS.
- Designated as SIS.
- Designated as Scenic Highways.
- Contain bridge structures and/or railroad crossings.
- Roadways for which Federal Aid Primary (FAP) data exists in Feature 112.

Local Roads of State Interest with NHS or SIS Designation

Local roads with NHS or SIS designations shall be part of the District's five-year off-system inventory cycle. These roadways will be placed in the RCI database with the field-verified length and created in the LRS with all the applicable data noted in the local roads RCI inventory matrix located in the Appendix A of this handbook.

Local Roads with Bridge Structures and/or Railroad Crossings

Local roads with bridge structures and/or railroad crossings should be part of the District's five-year off-system inventory cycle. Districts should place the entire alignment in the LRS and in the RCI database with the field-verified length and all the applicable data noted in the Local Roads RCI inventory matrix located in the Appendix A of this handbook.

Districts should add only the shortest roadway ID length necessary to represent the extent of these roadways to the LRS. However, when it is possible to establish a link to an active roadway ID, a longer length may be necessary. Districts should use discretion to minimize the number of dangling roadway segments, arcs, or isolated alignments on maps generated using the LRS shapefiles.

Adding alignments to RCI and/or the LRS requires Districts to submit a MyFloridaLRS Package and to coordinate and receive approval from TDA Office.

Local Roads of District Interest

Local roads of District interest are local roads that a District requests to include in the RCI database and LRS (e.g., park roads, minor evacuation routes, and roadways of MPO interest). The data collection and inventory requirements for local roads of District interest can be conducted through research of office resource material (e.g., aerial photographs, LRS, SLDs, or related documentation).

Local Roads with FM Projects (Work Program Transportation System 16)

Local roads with FM projects that are part of the state funded programs including Small County Road Assistance Program (SCRAP), Small County Outreach Program (SCOP), County Incentive Grant Program (CIGP), or Transportation Regional Incentive Program (TRIP) must be part of the District's five-year off-system inventory cycle. Assigning roadway IDs to these alignments helps the Department maintain accurate FM data. Roadway IDs will be assigned for FM projects on roadways off the SHS and the Federal Aid System (coined "off/off" roadways) based on collaboration between the District RCI Staff and the District Work Program Office. Initial data collection and verification for these local roads may be done using aerial photographs or other methods. After adding these alignments to the RCI database, the length and all applicable data must be field verified within 30 days. Refer to the Local Roads RCI inventory matrix located in the Appendix A of this handbook for required data.

Please refer to the Work Program Instructions using the following link for more information: https://www.fdot.gov/workprogram/development/wp-instructions.shtm. According to the Work Program Instructions:

- All active and future roadway projects are required to have unique roadway ID numbers. Sidewalks, signs, landscaping, and/or signal projects off the roadway do not require roadway ID numbers.
- The Districts are not required to provide roadway IDs for railroads crossing closure/signal upgrade projects.
- For off the SHS/off Federal Aid System projects, roadway ID numbers are required if a project exists. Once these roadway IDs are created, they should be retained in the database.
- The District will use Code 16—local roads with FM projects for the overall status on the RCI V/U/D screen and in Feature 140—Section Status Exception on these roadways.
- The TDA Office will set up a series of roadway ID numbers with a section number in the 900 series for off the SHS projects. Each distinct project (with a financial item identifier) will have its own subsection number. The approach is like the countywide approach but allows local roads to be uniquely identified and mapped.
- Example: Instead of 10 projects of off-system or local roads having a countywide roadway ID of 55-000-000, each of these roadways would be assigned a roadway ID ranging from 55-900-001 through 55-900-010. This approach allows each to have its own roadway ID in RCI.

A minimum set of data provided by the District Work Program Office will be used to establish FM project information in the RCI database:

- Beginning and ending milepoint information tied to logical termini using the standard RCI convention (i.e., physical points that are easily identified in the field).
- Local name, location map, length, and/or limits of the FM project.

- Number of lanes according to the information provided by the Work Program Office or other requesting office. A default value of two 10-foot lanes will be assigned if information is not available.

- All other applicable data will be collected as noted in the Local Roads RCI inventory matrix located in the Appendix A of this handbook. Local road alignments will be added to the LRS based on collaboration between the District's RCI staff and the District Work Program Office.

- Adding alignments to the RCI and/or the LRS requires a MyFloridaLRS Package, coordination, and approval from the TDA Office.

Local Roads Maintained in RCI and the LRS

The District must use RCI and other available resources to record data for local roads of state or district interest.

RCI and LRS will maintain local roads data. The District will remove any roadway where the entire limit of the roadway ID has an overall status of deleted or inactive from the LRS, since only existing routes are displayed, but the roadway ID must be retained in RCI if there is data coded.

FDOT recommends that the District maintain a hardcopy file of the roadway ID history in its office for future reference. The TDA Office does not recommend deleting any data in RCI. When the overall status in the RCI V/U/D screen is changed to deleted or inactive, all coded data in RCI will not be included in any reports.

Do not remove the roadway IDs from RCI, nor change the overall status to deleted or inactive on roadways that have existing FAP data coded in Feature 112.

4.3.6 Data Collection Process for Managed Lanes Inventory

Data Collection Steps

Pre-Inventory

- Step 1: Generate an Inventory Schedule.

- Step 2: Develop a Detailed Plan for Data Collection.

- Step 3: Collect and Review Existing/Historical Data.

- Step 4: Verify Administrative Data.

- Step 5: Complete Equipment and Document Checklist.

- Step 6: Complete Vehicle Safety Inspection Checklist.

- Step 7: Calibrate the Distance Measuring Instruments.

Field Inventory

- Step 1: Collect Required Data in the Field.

Post-Inventory

- Step 1: Gather data from Construction Plans.

- Step 2: Convert Construction Stations to Milepoints.
- Step 3: Reconcile Milepoint Differences using Tolerances.
- Step 4: Submit MyFloridaLRS Package (if applicable).
- Step 5: Enter RCI Data.
- Step 6: Run the DART Edit Reports.
- Step 7: N/A
- Step 8: N/A
- Step 9: Update RITA.
- Step 10: Notify Required Offices—TDA Office.

Requirements

The Managed Lanes inventory collects information about three types of managed lanes. Refer to Section 5.1.4 of this handbook to determine if the managed lane is a Case A, Case B, or Case C. Chapter 7 of this handbook contains specifics about characteristics and codes.

Check for any HPMS Samples on the mainline where the managed lanes exist. Adding managed lanes to a roadway can impact any existing HPMS samples. Work with the TDA HPMS Coordinator to review existing HPMS Samples.

4.3.7 Data Collection Process for HPMS Samples

New HPMS Samples are added by the TDA HPMS Coordinator each year to address sample adequacy issues. HPMS Samples' begin and end points can be adjusted to begin or end at physical locations and any adjustments to sample lengths should be sent to the Central Office HPMS team for approval.

Data Collection Steps

Pre-Inventory

- Step 1: Generate an Inventory Schedule and run the HPMS Field Inventory Sheet (currently on mainframe).
- Step 2: Develop a Detailed Plan for Data Collection.
- Step 3: Collect and Review Existing/Historical Data.
- Step 4: Verify Administrative Data.
- Step 5: Complete Equipment and Document Checklist.
- Step 6: Complete Vehicle Safety Inspection Checklist.
- Step 7: Calibrate the Distance Measuring Instruments.

Field Inventory

- Step 1: Collect Required Data in the Field.

Post-Inventory

- Step 1: Enter HPMS Data under RCI Features 118 and 119. Refer to Chapter 7 for specific coding requirements for these features.
- Step 2: Update RITA.