

# CHAPTER 3

---

## R C I F U N D A M E N T A L S





# TABLE OF CONTENTS

---

<b>Chapter 3. RCI Fundamentals</b> .....	<b>3-1</b>
3.1 RCI Mode Types .....	3-2
3.2 Ownership Offices.....	3-2
3.3 Roadway ID .....	3-2
3.3.1 Roadway ID Numbering System.....	3-2
3.3.2 Roadway ID Assignment Process .....	3-6
3.3.3 View/Update/Delete Roadway ID Screen.....	3-12
3.4 Milepoints and Measurements.....	3-19
3.4.1 Unit of Measurement.....	3-19
3.4.2 Value Codes .....	3-20
3.5 Features & Characteristics.....	3-21
3.5.1 Feature Attributes.....	3-21
3.5.2 Characteristics .....	3-26
3.5.3 Inventory Methods .....	3-28
3.5.4 Inventory Types .....	3-28
3.6 Data Collection.....	3-29
3.6.1 Strategic Development and Planning Data Collection Requirements .....	3-29
3.7 HPMS.....	3-30
3.7.1 Purpose of HPMS.....	3-31
3.7.2 HPMS Section Types .....	3-33
3.7.3 HPMS Inventory Types.....	3-33
3.8 Data Governance .....	3-34
3.8.1 General Interest Roadway Data (GIRD) Procedure .....	3-34
3.8.2 Road Numbering and Road Jurisdiction Transfers.....	3-34
3.8.3 Urban Boundaries and Functional Classification .....	3-35
3.8.4 Transportation Data Quality Management .....	3-35
3.8.5 Mileage Reports .....	3-35



## LIST OF TABLES

---

Table 3.1   Roadway ID Examples .....	3-4
---------------------------------------	-----

## LIST OF FIGURES

---

Figure 3.1   Active Exclusive Numbering Examples .....	3-5
Figure 3.2   Flow Diagram for Roadway ID Selection and Review Process .....	3-7
Figure 3.3   Example of Roadway ID List Screen .....	3-9
Figure 3.4   Roadway ID Assignment for Toll Collection Lanes.....	3-11
Figure 3.5   Example of Features and Characteristics .....	3-21
Figure 3.6   Example of Feature 214: Outside Shoulders, Collected by Predominance .....	3-29
Figure 3.7   Example of Feature 215: Median, Collected by Predominance.....	3-30
Figure 3.8   Example of Feature 215: Median, Collected by Predominance.....	3-30
Figure 3.9   Workflow for the Process and Roles Involved in the Preparation of a State’s HPMS Data Submittal.....	3-31
Figure 3.10   Sample View of HPMS Data.....	3-32





## CHAPTER 3. RCI FUNDAMENTALS

# 3

This chapter explains the basic terms used in the Roadway Characteristics Inventory (RCI) database. This basic information will assist the reader in understanding the structure and terms found herein.

Florida's roadways are represented by multiple data segments in RCI. Each segment has data elements that describe the roadway in physical terms. RCI identifies segments of a road with a unique roadway ID where groups of data elements are described by features and characteristics. Most data is stored at the characteristic level.

Florida Department of Transportation (FDOT) conducts inventories of the roadway data elements based on the type of road, its owner, how it functions, and its physical characteristics. There are six distinct inventory processes for different types of roads: Active On the State Highway System (SHS), Active Off the SHS, Active Exclusive On/Off the SHS, Local Roads with FM Projects and Highway Performance Monitoring System (HPMS).

## 3.1 RCI Mode Types

RCI database includes data for the following three modes of travel:

1. Roadway—concrete, asphalt or unpaved roadway
2. Rail Line—crossings, stations, class type, company name
3. Non-motorized Way—trails

## 3.2 Ownership Offices

Data in RCI is collected and maintained by various offices at FDOT. These offices include:

- Transportation Data and Analytics (TDA) Office
- Office of Maintenance
- Traffic Engineering and Operations Office
- Systems Implementation Office
- Freight and Rail Office
- District Planning, Maintenance, and Operations Offices

## 3.3 Roadway ID

The roadway ID number is a unique identifier in RCI. The roadway ID is an eight-digit number assigned to any roadway for which the Department collects and reports roadway information. A roadway ID number comprises three different groups of numbers: county, section, and sub-section.

The county numbers occupy digits 1–2. These are the standard county numbers used by the Department (see Appendix J for listing). The section numbers occupy digits 3–5, and the sub-section numbers occupy digits 6–8. An example roadway ID is 99 010 000 where 99 is the county number, 010 is the section number, and 000 is the sub-section number.

Features and characteristics may run for the entire length or for a specific portion of the roadway ID. The Department uses roadway ID numbers when collecting and reporting roadway information. These numbers can be assigned to state, county, or city roadways (the three jurisdictional bodies in the state of Florida).

### 3.3.1 Roadway ID Numbering System

Roadway IDs are the basis for the RCI system. A roadway ID consists of an 8-digit number, identifying the county or jurisdiction, the type of system, and the type of road. The numbering of the county, section, and sub-sections of the roadway ID is the responsibility of District personnel in coordination with TDA Office staff.



The roadway ID numbering system is detailed below. A MyFloridaLRS package must be submitted through the MyFloridaLRS application to assign or change the roadway ID numbers and reconcile the LRS data with the data in the RCI.

### **County Number**

The first two digits of the roadway ID represent the county or the county jurisdiction where the road is physically located.

### **Section Number**

The next three digits of the roadway ID are the section number, which are assigned in sequential order starting with 001, except for Active Off the SHS roads that are assigned 000. Sections numbers 500 and above are reserved for the old secondary system. Section numbers are assigned using the following scheme:

- 000—Active Off the SHS roads only
- 001-469—Active On the SHS roads
- 470-479—Turnpike facilities
- 480-499—Active On the SHS roads
- 500-699—Old secondary system formerly (may be reused)
- 700-899—Reserved for future use
- 900-969—Local roads with Financial Management (FM) projects (except 929, 931, and 950)
  - 929—Rail Line
  - 931—SUN Trail non-motorized way
  - 950—Non-motorized way (Trails)
- 970-979—Local roads with FM projects (Turnpike)
- 980-998—Work Program Transportation System 16
- 999—Test number

### **Sub-section Number**

The last three digits of the roadway ID are the sub-section number and should be assigned using the following scheme:

- 000—Original mainline alignment (all digits are zero)
- 001, 002 through 009—Realignments (first two digits are zero)
- 101, 102 through 109—One-way pairs (middle digit is zero)
  - 111 through 799—Ramps and access roads (no digits are zeroes, some numbers will not be used, i.e., 120, 130, 140, etc.)
- 100 series through 700—Frontage roads and service roads (last two digits are zero)
  - 800 through 899—GIS routes only (800 series)
  - 900 through 909—Managed Lane
  - 910 through 998—Maintenance yards, tollbooths, service plazas, and other non-roads, e.g., roads to fishing piers, open road tolling (ORT) lanes, etc.
  - 970 through 979—Turnpike local road w/FM projects
  - 999—Test number (except Turnpike)

## Roadway ID Examples

**TABLE 3.1 | ROADWAY ID EXAMPLES**

Roadway ID <sup>1</sup>	Road Type	Numbering System Description
99 000 000	Countywide Roads <sup>2</sup>	All section & sub-section digits are zero
99 000 001	Active Off the SHS	All section digits are zero
99 000 010	Active Off the SHS	All section digits are zero
99 001 000	Active On the SHS	All section digits are not zero
99 010 000	Active On the SHS	All section digits are not zero
99 100 000	Active On the SHS	All section digits are not zero
99 001 001	Realignment	First two sub-section digits are zero
99 001 101	One-way Pair	Middle sub-section digit is zero
99 001 111	Ramp	No sub-section digits are zero
99 001 100	Frontage Road	Last two sub-section digits are zero
99 001 800	GIS Route	800 series sub-section
99 001 900	Managed Lane	900 series sub-section
99 470 000	Turnpike Facility	470 series section
99 500 000	Old Secondary System	500 series section
99 600 000	Old Secondary System	600 series section
99 900 000	Local Roads w/ FM Projects	900 series section (except 929)
99 929 000	SIS Rail Line	929 section
99 970 000	Local Roads w/FM Projects (Turnpike)	970 series section

<sup>1</sup> Spacing in the roadway ID numbers is provided for reading clarity only. In use, there are no spaces.

<sup>2</sup> Use these roadway IDs for the key sheet naming convention. It is imperative that they remain coded as Pending in RCI. Do not remove them from RCI. They are necessary for the key sheet application to work properly.

### Active On the SHS Examples

Examples of typical Active On the SHS roadway IDs are 99002000 and 99040000. Roadway ID 99040000 is newer, because it is higher. When numbering Active On the SHS roads, keep this same convention; for example, if 99003000 is available and 99040000 is the last number, use 99050000 instead.

### Active Off the SHS Examples

For Active Off the SHS roads that do not have a county-city roadway ID, select a number that is not presently listed in the RCI database. This number will begin with the two-digit county number followed by three zeroes, then three additional digits that range between 001 and 999. These numbers are usually given to roads with FM projects and lower functional classification such as locals and collectors. Higher numbers are given to roads of a higher classification. Examples of typical Active Off the SHS numbers are 99000010 or 99000200. Roadway ID 99000010 is older. If 99000006 is available but if the last number is 99000200, then use 99000201. Roadway ID

99650000 is a secondary number that is on the Active Off the SHS. Do not use numbers in the third digit that are five or higher.

### Old Secondary Systems

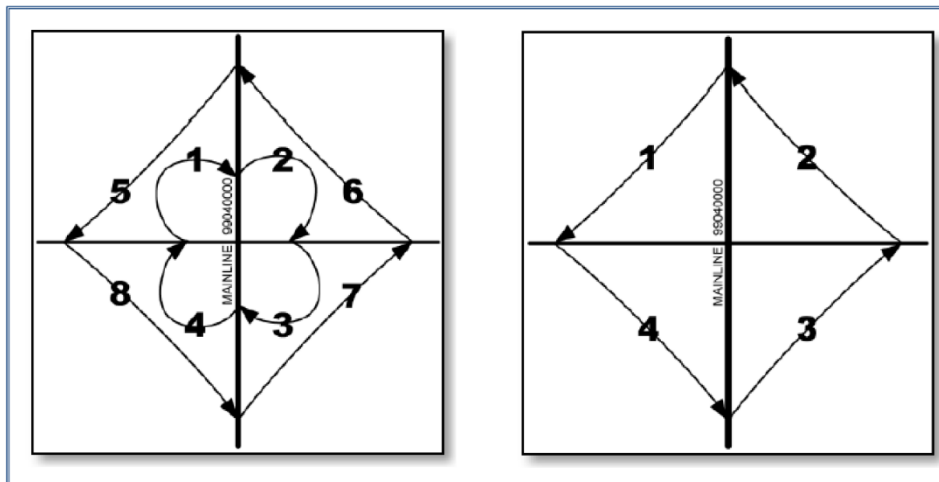
The old secondary system has been abolished. The old secondary roadway ID numbers do not have to be held and can be reused.

### Active Exclusive Examples

This roadway status is assigned to ramps, access roads, and collector-distributor roads that are associated to mainline alignments. Common numbers are 99040111, 99040112, 99040113, and 99040114. These sub-section numbers would be assigned to the mainline 99040000. If 99040000 intersected 99050000 at that interchange, all ramps would be associated with 99040000 because it has the lower number and is higher on the numbering hierarchy or assigned to the number of the construction job. There are exceptions to this rule, so assign ramps based on ownership. Use sub-section numbers 111-799 to denote ramps.

When assigning roadway IDs, consistency is key. Assign ramp numbers clockwise from the mainline inventory direction. Following this pattern results with the even numbers as ON ramps and the odd numbers as OFF ramps.

**FIGURE 3.1 | ACTIVE EXCLUSIVE NUMBERING EXAMPLES**



If an interchange is in two counties (crosses county line), then assign the ramps to the county that the bridge at the interchange is assigned to. For additional details on bridge numbers in this situation, please refer to Feature 258 in Chapter 7 of this handbook.

For pending roadway ID assignments, ensure ramp numbers are consistent with the County/District that the interchange is assigned to. Do not go back and change roadway ID assignments.

### Past Primary and Secondary Road Systems

In years past, the Department had two separate roadway systems identified as primary and secondary.

The primary system is today's Active On the SHS roads. These systems were identified through digits three to five of the roadway ID. The primary system was identified by a series of roadway ID numbers ranging from 000 to 499. The secondary system is the city and county roads that are now Active Off the SHS roads. These roads once received state funding for improvements, but in 1977 the legislature abolished the secondary system. The

secondary system roadway ID numbers ranged from 500 to 999. When Florida's Turnpike System was created, its roads were assigned roadway ID numbers in the 470 range (471, 472, etc.). The last three digits of the roadway ID number were sequential. When a secondary road was added to the SHS, it was given a new Active On the SHS roadway ID number. (The old number remained on the key sheet.)

### County & City Systems

When it became necessary to classify roads by function in accordance with Federal standards, roads other than state primary and secondary had to be assigned roadway IDs. These roads were locally owned and maintained, so a new county and city system-numbering scheme was developed. In this scheme, the first two digits of the roadway ID represented the particular county; the next three were all zeroes and the last three were the sequential number, ranging from 001 to 999.

County-City:

- 15 000 001 (Pinellas County, Sequence 001)
- 48 000 444 (Escambia County, Sequence 444)
- 72 000 099 (Duval County, Sequence 099)

Roadway IDs similar to these were assigned to roads that never had another ID assigned. The numbering system for these types of roads was identified with a roadway ID number review as discussed later in this section.

In another instance, when numerous sub-sections were created, the original roadway ID status was made Pending, and all data was removed and transferred into the sub-sections. The original roadway ID could not be deleted as it was linked to the Work Program Administration/Financial Management (WPA/FM) systems. The history associated with the original roadway ID was therefore misrepresented due to the sub-sectioning. This process is no longer utilized; however, RCI may have some examples lingering in the database.

### 3.3.2 Roadway ID Assignment Process

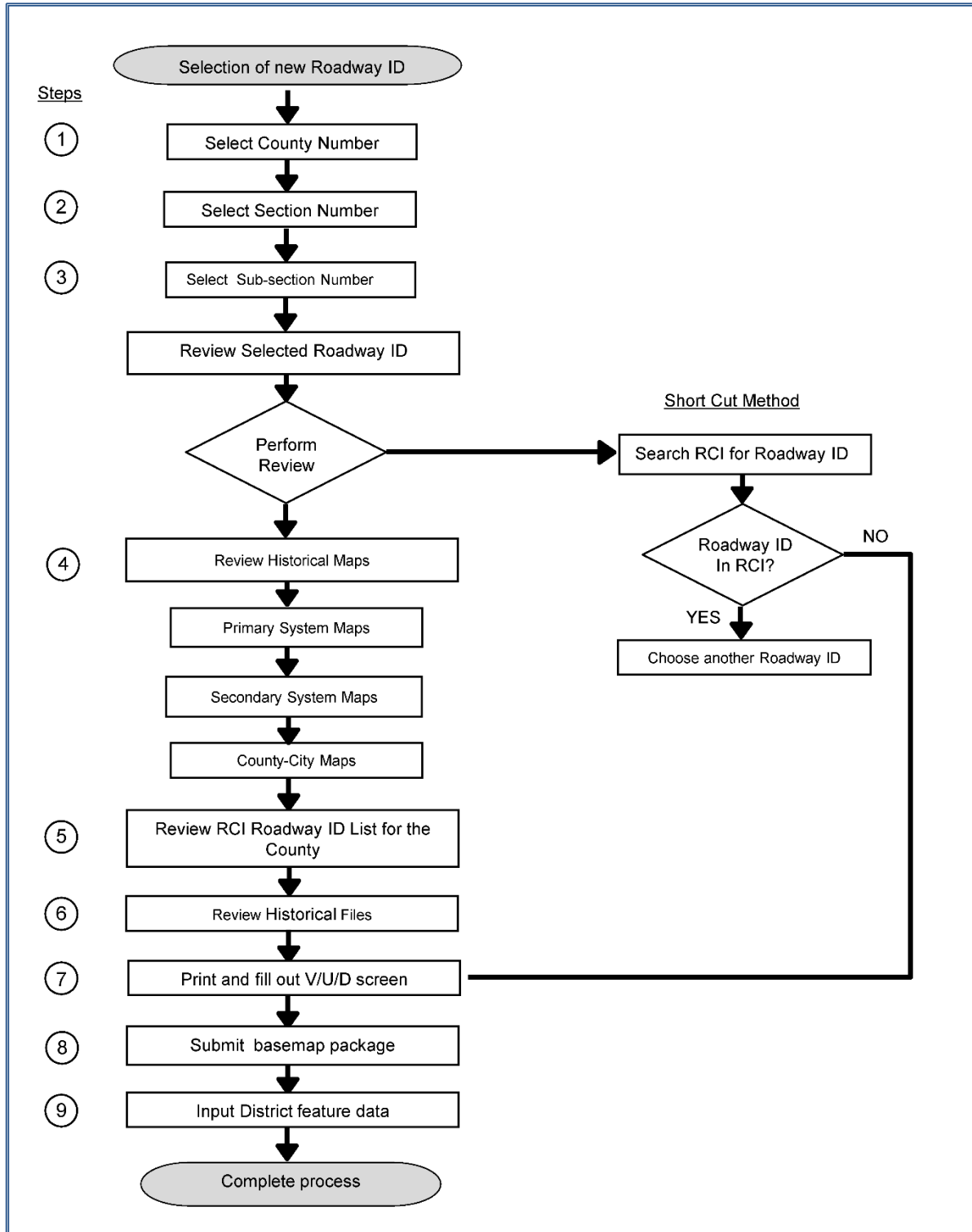
The current numbering scheme was established in 1985 and is a modification of the system used prior to 1985. The existing primary, secondary, and county-city roadway IDs should be preserved.

For roadway IDs being added, the number should not have been previously assigned. This involves performing a roadway ID review and selecting a new roadway ID that is associated within the range of roadway numbers that have similar status.

If possible, use the original construction job number under which the road was built; then assign a number under that construction job.

The assignment of a new roadway ID involves correctly selecting the number and performing a review to ensure that it is not already in use. This section covers these steps, which are also illustrated in the accompanying flow chart in Figure 3.2.

**FIGURE 3.2 | FLOW DIAGRAM FOR ROADWAY ID SELECTION AND REVIEW PROCESS**



## Roadway ID Assignment Process Steps

Steps 1-3 involve selection of the roadway ID; steps 4-6 (and the shortcut method) involve checking the selected roadway ID; and steps 7-9 are the final steps in establishing the roadway ID for further use.

### *Step 1*

County number: Select an appropriate two-digit county number, based on the county or jurisdiction in which the roadway is physically located. If the roadway lies within two counties, determine the county jurisdiction, and use the appropriate two-digit county number, e.g., county line roads.

### *Step 2*

Section number: Select the section number (digits three through five) based on the roadway status. Determine the appropriate numbering schematic according to the roadway ID numbering system.

### *Step 3*

Sub-Section number: Select the sub-section number (digits six through eight) for the next available sequential number.

At this point, continue with the detailed review method or the shortcut method. For the detailed method, follow steps 4-6. The shortcut method is presented on the flow chart and is discussed following step 9.

### *Step 4*

In the District Offices, three sets of maps identify the three different roadway systems. The primary, secondary, and county-city maps show the roadway ID assignment and location. Every District will have a copy of each set of these maps. Historical maps can also be accessed through the Electronic Document Management System (EDMS). When a roadway ID is being researched or verified, start with the primary map. If the road is shown as a solid line, use that number; if not, go back to the primary map and use the dotted primary number. If a number cannot be located on the primary or secondary maps, then go to the county-city map.

Countywide roadway IDs are used for roads that have never been on the SHS or the secondary system. The third, fourth, and fifth digits are usually zeroes.

The zero milepoint is usually denoted at the beginning of the southern/western end of the solid line depicting the roadway unless a straight-line diagram (SLD) shows differently. Where a secondary roadway ID begins as a dotted line then becomes a solid line, the roadway ID would be referenced as noted below.

Ignore changes made to the secondary system roadway ID assignments after 1977. If in doubt whether a change to the secondary system map or other map was made after 1977, look for an SLD produced before 1977. This map should have only countywide numbers, not primary (third digit less than five) or secondary (third digit five or higher) roadway IDs.

It will also be necessary to compare information from these maps with the information found in the RCI database. When a secondary road system was transferred to the state system, a new roadway ID was given to it using the standard numbering conventions as Active On the SHS. Therefore, on the primary and secondary maps, the road would be displayed with two roadway IDs. Parentheses were used to identify the roadway number that it previously occupied or referenced on the other system. It would be displayed above or below the new number. Roads should retain the original roadway ID along with the beginning and ending milepoints. Even with consistent

records, historical research can be difficult. When milepoints are moved and portions of roads deleted from the database, it becomes virtually impossible to track history. If a roadway ID is changed, the Safety Office cannot properly analyze crash histories to determine where improvements are most needed. Similarly, changes to a roadway ID would impact the workflow processes of other offices such as Work Program, Traffic Engineering and Operations Office, and Forecasting and Trends Office.

*Step 5*

Review the countywide roadway ID listing by using the Roadway ID List screen. This will list every roadway ID in each county by roadway status. (See Figure 3.3)

**FIGURE 3.3 | EXAMPLE OF ROADWAY ID LIST SCREEN**

Read Only Mode

Roadway Characteristics Inventory

Help 5/19/2021 12:06PM EST Login

Main Feat/Char Roadway ID Routes Reports History Other

Roadway ID List

Information Selected

County: 33 - LAFAYETTE Overall Status: ACTIVE ON THE SHS

Previous Next

Roadway ID	Overall Description	Local Name	Route Name	City	Net Length
33010000	E W US-27/E W MAIN ST	W US-27, W MAIN ST, E MAIN ST, E US-27		MAYO	31.029
33030000	SR-349	S SR-349			8.724
33040000	SR-51	SR-51, SR-51, S FLETCHER AVE, N FLETCHER AVE		MAYO	22.467

Previous Next

*Step 6*

Historical Files: If the proposed roadway ID is not located on any of the above sources, then review any historical files. Districts should have and keep old historical files and SLDs by roadway ID.

*Step 7*

V/U/D screen: Once the chosen roadway ID number is OK for use, print a blank RCI V/U/D screen and fill in all the required items to create a roadway ID.

*Step 8*

Submit MyFloridaLRS correction package: Submit a MyFloridaLRS correction package to TDA to create the roadway ID in RCI.

*Step 9*

Update district data: After the package has been completed and returned, update District features according to the inventory practices. Ensure that administrative Features 111, 113, 114, 140, and 251, including BEGSECNM and ENDSECNM, are updated immediately.

**Shortcut Method**

The shortcut method is an alternative to the detailed method and involves performing a search of RCI once a new roadway ID number is chosen. In most cases, if the number is not in the RCI database, it may be used. If the number is in use, choose another and perform a second search until a usable number is found. Proper judgment is required for this method—for example, if a roadway has been on the old secondary system, further research may be required.

## Special Cases

Ramps to rest areas, service plazas, weigh stations, and toll collection lanes will all be treated in the same way. Each ramp to these facilities will receive one continuous roadway ID per direction, which will be a sub-section of the mainline.

### *Roadway ID Assignments*

The roadway ID for ramps will have its section and sub-section components assigned according to the highest classification hierarchy of the mainline. Hierarchy of classifications is interstates, U.S. routes, state roads, and local roads, in that order. If two roads within the same hierarchy intersect, the lowest roadway ID will be used.

### *Roadway ID Assignment for Rest Areas*

The current practice is to assign one continuous roadway ID, one roadway ID per rest area. The same practice is used for weigh stations.

### *Roadway ID Assignment for Service Plazas*

Only one continuous roadway ID per direction should be used for the service plaza just as a rest area or weigh station. One continuous roadway ID sub-section of the mainline exiting and returning from the service plaza will be used.

### *Roadway ID Assignment for Toll Collection Lanes*

Across the state, mainline toll plazas are being replaced with high-tech plazas with Open Road Tolling (ORT)—no gates, no tollbooths, and no need to slowdown for drivers with SunPass.

An additional roadway ID will be assigned for toll collection lanes with separated ORT electronic toll collection and conventional toll collection. The different toll collection methods must be located on separate lanes that are off the mainline.

No additional roadway IDs will be assigned where the electronic and conventional toll collection lanes are adjacent on the mainline.

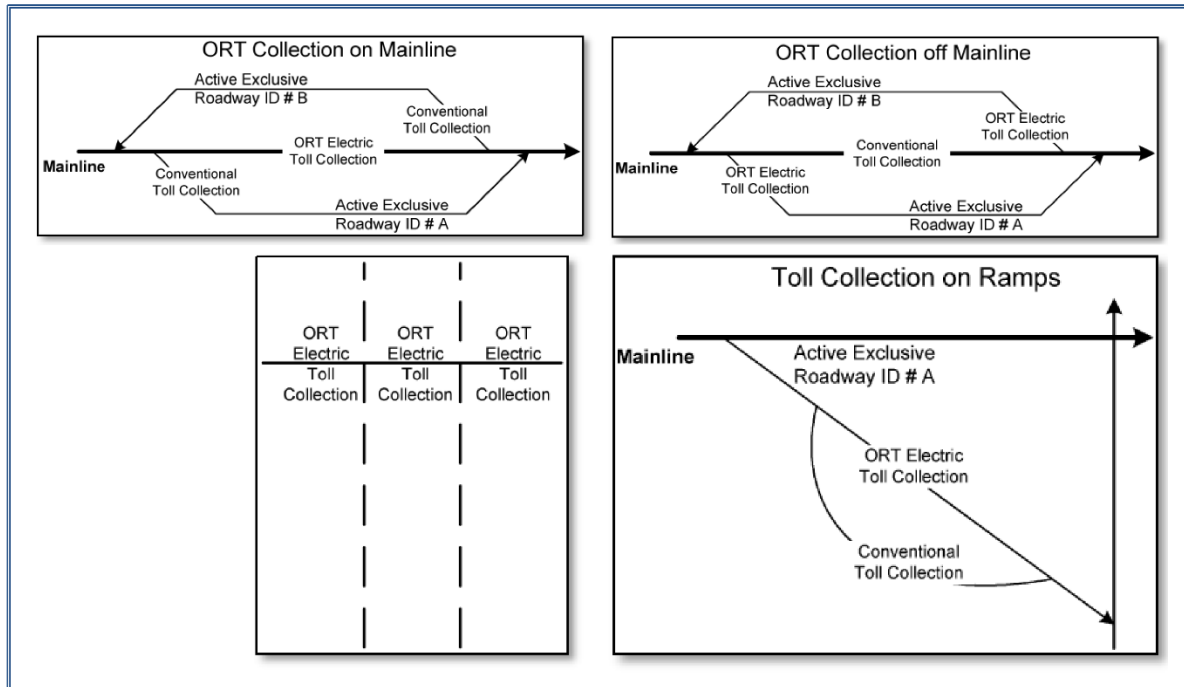
- Toll collection on the mainline with combined electronic and conventional toll collection:
  - Feature 360, collect the milepoint at the midpoint of the toll collection booth.
  - Only one roadway ID will be assigned for a ramp with toll collection lanes with ORT electronic toll collection and separate lanes for conventional toll collection.
- Toll collection on the mainline:
  - Feature 360, collect the milepoint at the midpoint of the electronic toll collection readers.
- Toll Collection off the Mainline:
  - Assign one continuous Active Exclusive roadway ID for the toll collection on each side of the mainline, one for the left side and one for the right side.



- Feature 360, collect the milepoint at the midpoint of the tollbooth.

Sub-section numbers 900-998 are assigned to maintenance yards, tollbooths, and other special-use roads, e.g., roads to fishing piers and open road tolling lanes.

**FIGURE 3.4 | ROADWAY ID ASSIGNMENT FOR TOLL COLLECTION LANES**



### 3.3.3 View/Update/Delete Roadway ID Screen

This screen, often referred to as the V/U/D screen, displays information about roadway IDs.

**Read Only Mode** Help Login

**Roadway Characteristics Inventory** 3/5/2021 8:34AM EST

Main    Feat/Char    Roadway ID    Routes    Reports    History    Other

Find    Feature Data    Route List    Detail

**View/Update/Delete Roadway ID**

Roadway ID:	01000001	Managing District:	DISTRICT 1 - BARTOW
County:	01 - CHARLOTTE	Geographic District:	DISTRICT 1 - BARTOW
Section:	000	General Compass Direction:	EAST
Sub-Section:	001	System:	COUNTY ROADS
Beg. Mile Point:	0.000	State Highway System:	
End. Mile Point:	5.400	Controlling City:	
Gross Length:	5.4	RCI Section Established Date: (MM/DD/YYYY)	11/02/1979
Net Length:	0.000	Stationing Exceptions Exist?	NO
State Owned:	0%	Feature/Characteristics Exist?	YES
Overall Status:	INACTIVE	FM Projects Exist?	NO
Type:	MAINLINE		
Mode Type:	ROADWAY		
Governmental Jurisdiction:	COUNTY		
Overall Description:	ZEMEL ROAD		

           Last Updated By: PL934DC On: 10/12/2005

Beg. MP	End. MP	Feature/Characteristic	Value
0.000	5.400	114 - LOCAL NAME OF FACILITY	ZEMEL ROAD
0.000	5.400	120 - TYPE OF ROAD	0 - NOT DIVIDED
0.000	5.400	140 - SECTION STATUS EXCEPTION	04 - INACTIVE

#### Roadway ID

The eight-digit roadway ID number.

#### County

The county code and county name where the roadway exists.

#### Section

Taken from the roadway ID.

#### Sub-Section

Taken from the roadway ID.

#### Beginning Mile Point (BMP)

The milepoint assigned to the beginning of a roadway ID.

#### Ending Mile Point (EMP)

The milepoint assigned to the ending of a roadway ID.

#### Gross Length

The EMP minus the BMP.

#### Net Length

The sum of roadway segments that are drivable and that have their data carried by a single roadway ID. This excludes portions that are shown in Feature 140 to be pending, inactive, deleted, or GIS route, or that have an exception coded in Feature 141.

## State Owned

The percentage of the roadway length owned by the state. This is automatically calculated by the RCI system. This percentage determines the amount of mileage owned by the state or local entity within the roadway section.

## Overall Status

Indicates the assigned functionality of the entire roadway segment as coded in Feature 140. Statuses are listed below:

- 01: Pending—New construction or road transfers anticipated to be added to the roadway network.
- 02: Active On the SHS—A road segment that is owned and maintained by the Department as part of the SHS.
- 04: Inactive—Indicates a roadway ID will no longer be considered as an operational number. An operational number is a roadway ID being used to actively maintain roadway inventory data in RCI. For active on the SHS roadways, all RCI data currently coded under this number must be retained for an indefinite period. This road may or may not be of any interest later. Inactive roadways are not maintained in the roadway LRS network.
- 05: Deleted—A road segment that has been physically removed. Any data currently in RCI must remain in the database for a minimum of five years after a status change to deleted. Prior to deletion of RCI data, the Safety Office must be notified.
  - Individual portions of a roadway can have a status other than 4-Inactive or 5-Deleted despite the overall status coded that way. Once a roadway ID is given an overall status of 4-Inactive or 5-Deleted its data is effectively hidden from reporting purposes and none of the individual portions should be changed.
- 07: Active Exclusive—A road segment that is maintained by the Department; however, the mileage associated with the length is not added into the overall system mileage. This status is assigned mainly to access roads, piers, ramps, or any other facility not considered as mainline. Do not code more than one status value for active exclusive roadways.
- 09: Active Off the SHS—A road segment that is not part of the SHS. An Active Off the SHS segment is maintained by another entity (county or city), but the Department collects some data for reporting purposes.
- 10: GIS Route—This road type is placed in RCI and the LRS upon the request of the TDA Spatial Data & Analytics division and is used to improve the appearance of maps. An LRS is a geographic representation of roadways maintained in RCI. It uses the 800 series of the sub-section number.
- 12: Active with Combination—A mainline roadway ID with two or more status codes (e.g., both Active On the SHS and Active Off the SHS). When it is necessary to have road segments under a single roadway ID with different status codes, the overall status must be coded as Active with Combination. Submit a MyFloridaLRS Package to have the RCI V/U/D screen changed.
- 16: Local Roads with FM Projects—Local roads with Financial Management (FM) projects are placed in the RCI database as requested by the District Work Program Office. They help identify projects belonging to the Small County Resurfacing Assistance Program (SCRAP), Small County Outreach Program (SCOP),

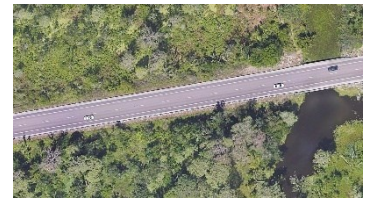
or County Incentive Grant Program (CIGP) and use the 900 series of section numbers. See Section 4.3.5 “Data Collection Process for Local Roads Inventory” for inventory requirements for local roads.

- 17: Active Off Exclusive—An access road, pier, ramp, or similar facility that is not maintained by FDOT and whose mileage is not included in Active Off the SHS reports.
- 81: Pending Trails or Pending non-motorized way.
- 82: Active Trails or Active non-motorized way.
- 83: Combo Trails or Combo non-motorized way.
- 84: Inactive Trails or Inactive non-motorized way.
- 85: Deleted Trails.
- 91: Pending Rail Line: New construction or rail line transfers anticipated to be added.
- 92: Active Rail Line: A rail line that is operational.
- 93 Combo Rail Line: A rail line that has combinations.
- 94: Inactive Rail Line—A SIS rail line that is no longer operational.
- 95: Deleted Rail Line.

### Type (Road Type)

Provides a consistent way to determine road inventory needs. They are not relevant for other purposes, such as highway access or highway design.

- 00: Mainline—Mainlines are a collection of through and other lanes that carry major traffic volumes and are included in the Department's standard mileage reports. These may be on or off the SHS. The status codes for this road type are Active On the SHS, Active Off the SHS, or Combination. Mainlines are included in centerline mileage calculations.
- 01: Ramp—A ramp is a segment of road that has one-way traffic with the primary purpose of allowing traffic to enter or exit a road with full or partial control of access. The status code for this road type is Active Exclusive or Active Off Exclusive.
- 02: Access Road—An access road is a non-mainline facility whose primary function is to provide access to sites that are adjacent to a roadway section such as bus terminals, park and ride lots, and rest areas. Access roads may include: special bus lanes (separate from a mainline facility), limited access truck roads, ramps to truck weigh stations, or turn-arounds. The status code for an access road is Active Exclusive. Access roads are not included in centerline mileage calculations.



- 03: Frontage Road—A frontage road is a mainline facility whose primary function is to provide access to/from adjacent businesses or property. The status code for a frontage road is Active On the SHS or Active Off the SHS. Additionally, frontage roads typically meet the following criteria:

- Separates local traffic from the higher speed through-traffic
- Parallels an arterial facility
- Has access points between the traveled way and frontage road
- Distributes and collects traffic between local streets and freeway interchanges



- 08: Managed Lane—Managed lane refers to a toll lane that is in conjunction with an interstate that allows for variable situations depending on traffic volume and road conditions. An example is the I-95 Express. Another name for a managed lane is HOT (high occupancy toll) lane.



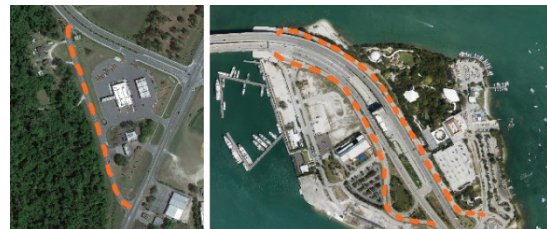
- 10: Pier—A structure elevated above a body of water. Piers in RCI are typically bridges that formerly operated as Active On the SHS roads and are now maintained primarily for recreation, including bicycle and pedestrian use. The status code for this type is Active Exclusive or Active Off Exclusive. Piers are not included in centerline mileage calculations.



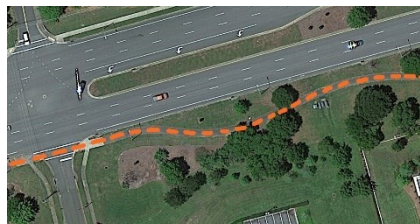
- 11: Collector-Distributor—Collector-distributor roads are limited access roadways provided within a single interchange, or continuously through two or more interchanges on a freeway segment. They provide access to and from the freeway and reduce and control the number of ingress and egress points on the through freeway. They are similar to continuous frontage roads except that access to abutting property is not permitted.



- 20: Service Road—A service road is a mainline facility that typically supports an associated access-controlled facility or arterial and falls within the same right-of-way. Service roads maintain local road continuity or provide access to adjacent properties. The status code for a service road is active on or active off. Service roads include horseshoe underpasses, connector roads at acute three-leg intersections, and other connectors that do not meet the criteria in the frontage road definition.



- 85: Non-Motorized Way—A trail.



- 90: Rail Line: A SIS rail line.



### Mode Type

Indicates the mode of travel.

- Rail Line: A rail line.
- Roadway: A concrete or unpaved roadway.
- Non-motorized Way (Trails): Not a roadway or rail line.

### Government Jurisdiction

Refers to the Government body that is legally responsible for the maintenance of the roadway. If any percentage of a road is state-owned, then it must be reflected as State Highways under System on the RCI V/U/D screen. The following are Federal codes for all 50 states:

01: State Dept. of Transportation*	25: Other Local Toll Authority
02: County*	26: Private Toll
03: Town, Township	60: Federal Agency
04: Municipal*	62: Bureau of Indian Affairs
11: Other State Agency, Non-Toll	64: U.S. Forest Service
12: Other County Agency, Non-Toll	66: National Park Service
13: Other Town, Township, Non-Toll	68: Bureau of Land Management
14: Other Municipal Agency, Non-Toll	70: Military Reservation
15: Other Local Agency, Non-Toll	72: Corps of Engineers
16: Private, Non-Toll	74: Energy Research & Devel. Admin.
21: State Toll Authority* (must have Feature 122 OWNAUTH and TOLLROAD coded)	76: Tennessee Valley Authority
22: County Toll Authority	78: NASA 80—Fish and Wildlife Service
23: Town, Township Toll Authority	85: Non-motorized way*
24: Municipal Toll Authority	90: Rail Line*



\* *The Government bodies based in Florida are County, Municipal, State Dept. of Transportation, State Toll Authority, Rail Line, and Non-motorized way.*

**Overall Description**

The common local name for the road represented by the roadway ID. For e.g., Main St SW. The following guidelines were developed to increase statewide consistency in naming roads.

1. Avoid using milepoint and technical terms, use the U.S. Postal standard street abbreviations instead.
2. Use all 40 characters as much as possible to avoid abbreviating the road name.
3. Use U.S. Postal standard street suffix abbreviations.
4. Use the following abbreviations for directions:

N—North	SE—Southeast
NE—Northeast	SW—Southwest
NW—Northwest	E—East
S—South	W—West

5. Use the following standard format to denote county line (Name Co Line) e.g., Duval CO Line.
6. No certain punctuation or symbols—periods, commas, colons, semi-colons, quotation marks, @, &, |, #, or +.
7. List concurrent routes in the following order:
  - a. Interstate route/U.S. route/state road/local name: use hyphens for all roadways, interstate routes, U.S. routes, state roads, and local names.
8. No roadway IDs or ramp IDs.
9. No milepoints/mileposts.
10. One local name—just use local name (MERCER RD).
11. Multiple local names:
  - a. Use first and last local names (MERCER RD/DEBARY AVE).
  - b. Use the most prominent local road name.
  - c. Use all local names if they fit.
  - d. Or just use the state road number.
12. Local name with U.S. route and/or state road number:
  - a. List the route number(s) first, then the local name(s) e.g., U.S. route/state road/local name.
13. Active with combination sections:

- a. List routes in the order of appearance along the section. E.g., CR-99/SR-99/CR-123.
14. Active exclusives—Identify the facility it is on and its direction:
- a. I-10 W ON RAMP FROM SR-21
  - b. I-10 E OFF RAMP TO SR-21
  - c. TURNPIKE TO SR-408 E

**Managing District**

The District that manages the roadway (District 1, District 2, District 3, District 4, District 5, District 6, District 7, or Turnpike).

**Geographic District**

The District in which the roadway exists. For example, roadway ID 08470001 is managed by Turnpike, but its geographic District is District 7.

**General Compass Direction**

The predominant direction of the roadway.

- |             |             |
|-------------|-------------|
| 1—North     | 5—South     |
| 2—Northeast | 6—Southwest |
| 3—East      | 7—West      |
| 4—Southeast | 8—Northwest |

**System**

Describes the system on which the road resides. If any percentage of a road is State owned, then it must be reflected as State Highways under System on the RCI V/U/D screen.

- |                          |                      |
|--------------------------|----------------------|
| 10—Federal Highways Only | 14—State Park Roads  |
| 11—State Highways        | 15—Private Roads     |
| 12—County Roads          | 85—Non-Motorized Way |
| 13—City Streets          | 90—SIS Rail Line     |

**State Highway System**

A general description for the majority of the road. If any percentage of a road is State owned, then it must be reflected as State Highways under System on the RCI V/U/D screen.

- |              |                        |
|--------------|------------------------|
| 1—Interstate | 3—Primary              |
| 2—Turnpike   | 4—Int./Art. (not used) |



9—None

### Controlling City

Supplies the current place code and city name.

### RCI Section Established Date (MM/DD/YYYY)

The origination date of the roadway ID when it was officially added to the SHS.

### Stationing Exceptions Exist?

If yes, then there are stationing exceptions. If no, there are no exceptions.

### Features/Characteristics Exist?

If yes, then features and characteristics exist. If no, there are none.

### FM Projects Exist?

If yes, then FM projects exist. If no, they do not. If an FM project exists, then the roadway ID cannot be removed from RCI.

## 3.4 Milepoints and Measurements

Milepoints are associated with roadway IDs and represent specific locations or physical points on the road. Milepoints follow the accumulated mileage along the road. Typically, milepoints start at the roadway ID's beginning milepoint (BMP) with a value of 0.000, and accumulate to the ending milepoint (EMP) of the roadway ID. It is preferred that alignment directions proceed generally from south to north or west to east. Milepoints are specified to three decimal places.

A milepoint represents distance from the starting point expressed in miles, to 1/1000 of a mile (3 decimal places). Thus, a milepoint of 0.075 would represent  $5,280 \times 0.075 = 396$  feet, while a milepoint of 1.075 would represent 5,676 feet ( $5,280 + 396$ ) from the starting point.

### 3.4.1 Unit of Measurement

Characteristics are measured in one of the units below.

Acre	Degrees	Hours	Lumen	Sq. Ft
Code	Each	ID No.	Miles	Sq. Yd
Days	U.S. Foot	Inches	Miles/hour	

### 3.4.2 *Value Codes*

Value codes correspond with a characteristic's particular unit of measure. The size of the value field is also given for each characteristic in terms of bytes. Where decimals are permitted, the decimal point does not count as a character space (i.e., 99.9 contains three bytes, 0.9 contains two bytes).

## 3.5 Features & Characteristics

For RCI purposes, a feature is a general grouping of physical attributes of a roadway, identified by a unique three-digit number and name. A characteristic is a more specific element of the feature and is identified by a unique name up to eight alpha characters. Features and characteristics are explained in greater detail in the Chapter 7 of the handbook.

To help understand the relationship between features and characteristics, features can be thought of in the same way as overall type of motor vehicle (sedan, truck, etc.), while characteristics can be thought of as the components of the vehicle (color, number of doors, etc.). As a more precise example, Feature 212 contains two characteristics, Number of Lanes NOLANES and Surface Width SURWIDTH. In the image below, notice that NOLANES is two and SURWIDTH is 24 feet.

**FIGURE 3.5 | EXAMPLE OF FEATURES AND CHARACTERISTICS**



### 3.5.1 Feature Attributes

#### Length Features

Length features are established for a discrete length along a roadway. These features are recorded in the RCI database from a beginning milepoint (BMP) to an ending milepoint (EMP). Length features may contain more than one characteristic.

111: State Road System

118: HPMS

112: Federal System

119: HPMS Universe

113: AASHTO

120: Type Road

114: Local Name

121: Functional Class

115: Special Designation

122: Road Access

116: Freight Network

123: Proposed Designations

124: Urban Class	221: Horizontal Curve
125: Adjacent Land Class (OBSOLETE Effective Date: November 2022)	230: Surface Description
137: Maintenance Area Boundary	232: Surface Layers
138: Roadway Realignment	233: Base
139: New Alignment	245: Roadside Ditches
140: Section Status Exception	258: Structures
141: Stationing Exception	272: Fencing
142: Managed Lanes	273: Cable Barriers
143: Assoc. Station Exception	311: Speed Zone
144: FL Intra. Hwy System (inactive)	313: Parking Restrictions
145: Level of Service	323: School Zones
146: Access Management	330: Traffic Flow Break Station
147: Strategic Intermodal System (SIS)	331: Traffic Flow Breaks
212: Through Lanes	361: Service Plazas
213: Auxiliary Lanes	421: Roadside Ditch Cleaning
214: Outside Shoulders	422: Median Ditch Cleaning
215: Highway Median	451: Striping
216: Bike Lanes & Sidewalk	481: Highway Maintenance Class
217: Sidewalks	801: Trails
219: Inside Shoulders (R/L only)	901: Rail Line Facility
	902: Passenger Rail

**Point Features**

Point features locate specific items that occur at a particular point on the roadway. These features are recorded at a single milepoint in the RCI database. Point features may contain more than one characteristic.

220: Non-Curve Intersection	248: Outfall Ditches
241: Crossdrains & Box Culverts	251: Intersections
243: Off Roadway Areas	252: Interchanges

253: Railroads

326: Traffic Monitoring Sites

257: Crossovers

360: Toll Plazas

312: Turning Restrictions

431: Parks & Rest Areas

320: Milemarker Signs

460: Attenuators

322: Signals

903: Rail Passenger Station Name

### **Total Features**

These features record area volumes along roadways. Total features may contain more than one characteristic.

242: Storm Sewer

413: Landscape Area

256: Turnouts

443: Delineators

271: Guardrail

452: Symbols & Messages

275: Misc. Concrete Structures

453: Crosswalks

341: Lighting

454: Stopbars

411: Roadside Mowing

455: Raised Pavement Markers

412: Weed Control

480: Highway Signs

### **Administrative Features**

Include some items visible in the field and others that must be collected in the District or FDOT TDA through documents or by designations.

111: State Road System

122: Facility Classification

112: Federal System

123: Proposed Designations

113: AASHTO

124: Urban Classification

114: Local Name

125: Adjacent Land Classification (OBSOLETE  
Effective Date: November 2022)

115: Special Designation

137: Maintenance Area Boundary

116: Freight Network

138: Roadway Realignment

118: HPMS

139: New Alignment

119: HPMS Universe

140: Section Status Exception

120: Type Road

141: Stationing Exception

121: Functional Classification

142: Managed Lanes	145: Level of Service
143: Assoc. Station Exception	146: Access Management
144: FL Intra. Hwy System (inactive)	147: Strategic Intermodal System (SIS)

**Automatically Generated Features**

These are automatically generated by the RCI system when the corresponding feature data is entered in RCI.

139: New Alignment	143: Associated Station Exception
--------------------	-----------------------------------

**Secured Features**

Only FDOT TDA personnel can update secured data elements. The District Offices will notify FDOT TDA when changes to secured features are needed using the MyFloridaLRS package process.

112: Federal System	146: Access Management
115: Special Designation	147: Strategic Intermodal System (SIS)
116: Freight Network	801: Trails
124: Functional Classification	901: Rail Line Facility
144: FL Intra. Hwy System (inactive)	902: Passenger Rail
145: Level of Service	903: Rail Passenger Station Name

**Interlocking Features with Interlocking Characteristics**

A feature may have multiple characteristics that share the same beginning and ending milepoint extent. Once the characteristics within the feature interlock, only the BMP and EMP of the interlocking characteristic group need to be changed; the RCI system will automatically change the milepoints for all the characteristics that are interlocked.

Only characteristics within the same feature can be interlocked. Features cannot be interlocked with other features.

Once the characteristics are interlocked within a feature, they cannot be unlocked. In order to do so, the single characteristic or group of characteristics must be deleted then re-added.

116: Freight Network	143: Assoc. Station Exception
118: HPMS	144: FL Intra. Hwy System (inactive)
138: Roadway Realignment	146: Access Management
139: New Alignment	147: Strategic Intermodal System (SIS)
140: Section Status Exception	212: Through Lanes
141: Stationing Exception	213: Auxiliary Lanes

215: Highway Median	311: Speed Zone
216: Bike Lanes & Sidewalk	320: Milemarker Signs
221: Horizontal Curve	326: Traffic Monitoring Sites
233: Base	330: Traffic Flow Break Station
251: Intersections	331: Traffic Flow Breaks
252: Interchanges	360: Toll Plazas
253: Railroads	361: Service Plazas
273: Cable Barriers	801: Trails

### Physical Features

Include components that are quantified or measured. They are collected in the field, and each has specific dimensional accuracy requirements. They may also include characteristics that are not collected in the field.

212: Through Lanes	242: Storm Sewer
213: Auxiliary Lanes	243: Off Roadway Areas
214: Outside Shoulders	245: Roadside Ditches
215: Medians	248: Outfall Ditches
216: Bike Lanes & Pedestrian Sidewalk	251: Intersection
217: Sidewalks	252: Interchanges
219: Inside Shoulders (R/L only)	253: Railroads
220: Non-Curve Intersection Point	256: Turnouts
221: Horizontal Curve	257: Crossovers
230: Surface Description	258: Structures
232: Surface Layers	271: Guardrail
233: Base	272: Fencing
241: Crossdrains	275: Misc. Concrete Structures

### 3.5.2 Characteristics

Characteristics contain the individual unique data elements that give definition to their associated feature. The following are components of a characteristic.

#### Road Side

Used to indicate which side of the roadway the characteristic appears. A roadway is divided if it contains a median separator or a divider located longitudinally along the roadway serving to separate traffic in opposing directions. A roadway is composite if it does not contain a median. If the roadway is divided, the characteristics that are not composite must be entered for both the left side and the right side of the road. All characteristics found to exist either on the physical centerline or to the right of the physical centerline, as determined by direction of increasing milepoints, are recorded as right. All characteristics to the left of the physical centerline are recorded as left (non-inventory side).

- C—Composite (undivided)
- R—Right (inventory side)
- L—Left (non-inventory side)

#### Composite Features

Characteristics in these features are always coded as composite for any type of roadway (divided or undivided).

111: State Road System	125: Adjacent Land Classification (OBSOLETE Effective Date: November 2022)
112: Federal System	138: Roadway Realignment
113: AASHTO	139: New Alignment
114: Local Name	140: Section Status Exception
115: Special Designation	141: Stationing Exception
116: Freight Network	142: Managed Lanes
118: HPMS	143: Assoc. Station Exception
119: HPMS Universe	144: FL Intra. Hwy System (inactive)
120: Type Road	145: Level of Service
121: Functional Classification	146: Access Management
122: Road Access	147: Strategic Intermodal System (SIS)
123: Proposed Designation	215: Medians
124: Urban Classification	251: Intersections



252: Interchanges

330: Traffic Flow Break Station

253: Railroads

331: Traffic Flow Breaks

326: Traffic Monitoring Sites

901: Rail Line Facility

### Composite, Left, or Right Features

Characteristics in these features must be coded as composite for an undivided roadway or appropriately left or right for a divided roadway. This must agree with Feature 120 TYPEROAD, which indicated whether a given roadway segment is divided.

212: Through Lanes

220: Non-Curve Intersection\*

213: Auxiliary Lanes

221: Horizontal Curve\*

214: Outside Shoulders

230: Surface Description

216: Bike Lanes & Sidewalk

232: Surface Layers

219: Inside Shoulders

233: Base

258: Structures\*

360: Toll Plaza

311: Speed Zone

361: Service Plazas

320: Milemarker Signs

*\* May be left, right, or composite on a divided highway.*

### Offset Distance and Direction

The offset distance is the measured distance from the edge of the roadway to the characteristic. The offset direction can be left, right, or both and depends on the direction of travel. To determine whether the offset is left or right, first determine the inventory direction of the roadway. Roadway IDs are assigned milepoints increasing in the inventory direction, usually from west to east and south to north. The inventory direction with increasing milepoints is the right side of the roadway. The inventory direction with decreasing milepoints is the left side of the road. The following codes are used to indicate the offset location of roadway characteristics.

- 1—Right and Left (composite)
- 2—Right (right side)
- 3—Left (left side)

### 3.5.3 *Inventory Methods*

The following inventory methods describe the typical means by which data is collected:

- Automatic: Automatically generated by the computer (no user input required).
- Field: Physically measured at the site.
- None: Data is provided from an external source.
- Office: Collected from administrative sources (plans, maps, classifications, etc.).
- Office/Field: Collected from an administrative source or by physically measuring the characteristic.
- Video/Field: Collected from video log (if current and available) or by measuring in the field.
- Imagery: Collected from aerials, DOQQ's, etc.

### 3.5.4 *Inventory Types*

The Department conducts inventories of roadway data elements based on the type of road, its ownership, function, and physical characteristics. Each of these categories has its own requirements.

- Active On the SHS: Active roadways are all roads on the SHS, defined as the roadway network owned by the State of Florida and maintained by the Department. The term “Active On the SHS” means that the roads are currently being used. The SHS includes interstate routes, numbered U.S. routes, and state roads. The term “Active On the SHS” has also replaced the term “active-on,” which, while occasionally encountered, is no longer used. A more appropriate term is “On-system.”
- Active Off the SHS: Active Off the SHS roadways are owned by counties and cities but are of special interest to the Department. The Active Off the SHS inventory is generally not as detailed as the Active On the SHS inventory; however, some Districts may maintain more information for their Active Off the SHS roads than is required.
- Active Exclusive: Active exclusive roadways are typically ramps or managed lanes that are adjacent and share the roadbed with a mainline. The term “active” means that it is currently being used and the term “exclusive” means that it is not included as part of the Active On the SHS or Active Off the SHS roadway system mileage.
- Local Active Off: Local roads are not owned by the state nor are they on the SHS.
- New Construction/Pending: New construction roadways are roads being added to the SHS.
- Managed Lanes: Managed lanes are tolled roadways that assist with the traffic flow along interstates.

## 3.6 Data Collection

The data collection of features and characteristics in RCI is the responsibility of each owning office. All data is required to meet the minimum quality standards outlined in the handbook or noted in guidance from Central Office.

District data collectors are encouraged to coordinate with TDA Office staff on unique situations which are not covered in this Handbook and provide their recommendations/business requirements.

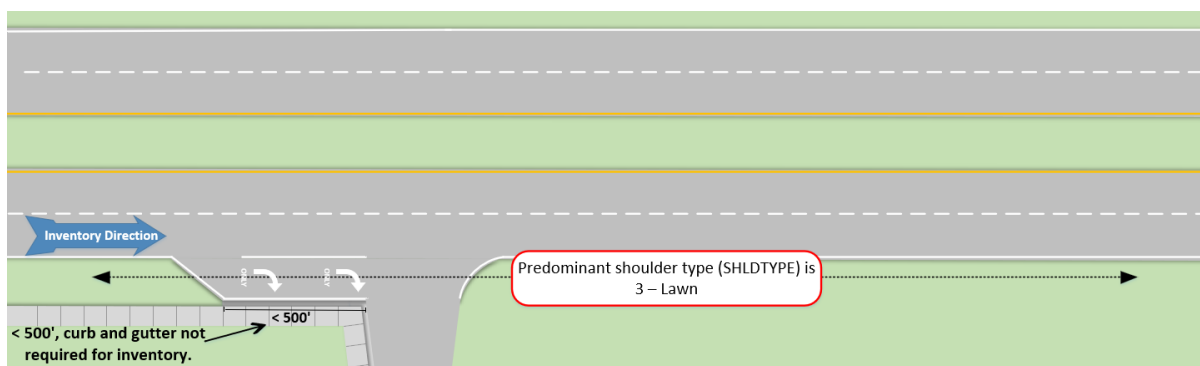
### 3.6.1 Strategic Development and Planning Data Collection Requirements

Strategic Development and Planning data collection requirements shall adhere to a minimum data collection standard in coordination with the FDOT data business needs specified in this handbook. Districts have the discretion to exceed the minimum requirements for data collection, however; data collection methods must be implemented consistently across a given district. All collected data is subject to evaluation through the Central Office quality assurance programs. All statewide and district QA/QC procedures shall be followed to maintain governance, quality, and integrity for accountability purposes. These standards are intended to meet the current FDOT business data user needs for state and Federal reporting, asset management, estimates, safety analysis and performance and condition monitoring. Development of data collection standards is administered through coordination with TDA Office and District data collection teams.

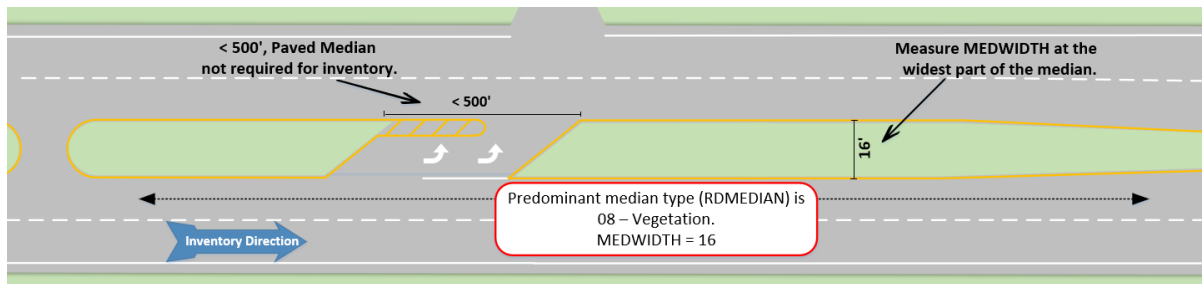
#### Data Collection Tolerance

Inventory shall represent the predominant roadway feature for RCI Features 214: Outside Shoulders, 215: Median, and 219: Inside Shoulders. For these features, any changes that occur at a length of 500 ft or greater must be recorded.

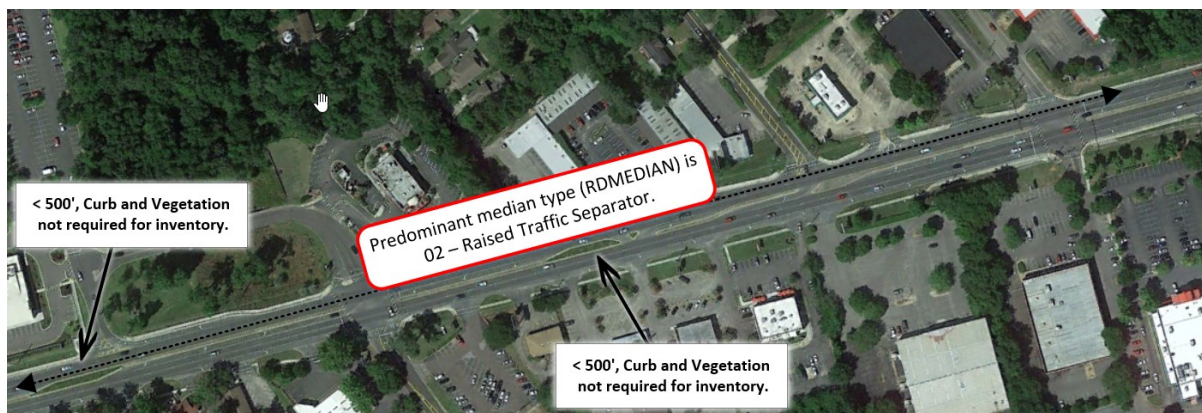
**FIGURE 3.6 | EXAMPLE OF FEATURE 214: OUTSIDE SHOULDERS, COLLECTED BY PREDOMINANCE**



**FIGURE 3.7 | EXAMPLE OF FEATURE 215: MEDIAN, COLLECTED BY PREDOMINANCE**



**FIGURE 3.8 | EXAMPLE OF FEATURE 215: MEDIAN, COLLECTED BY PREDOMINANCE**

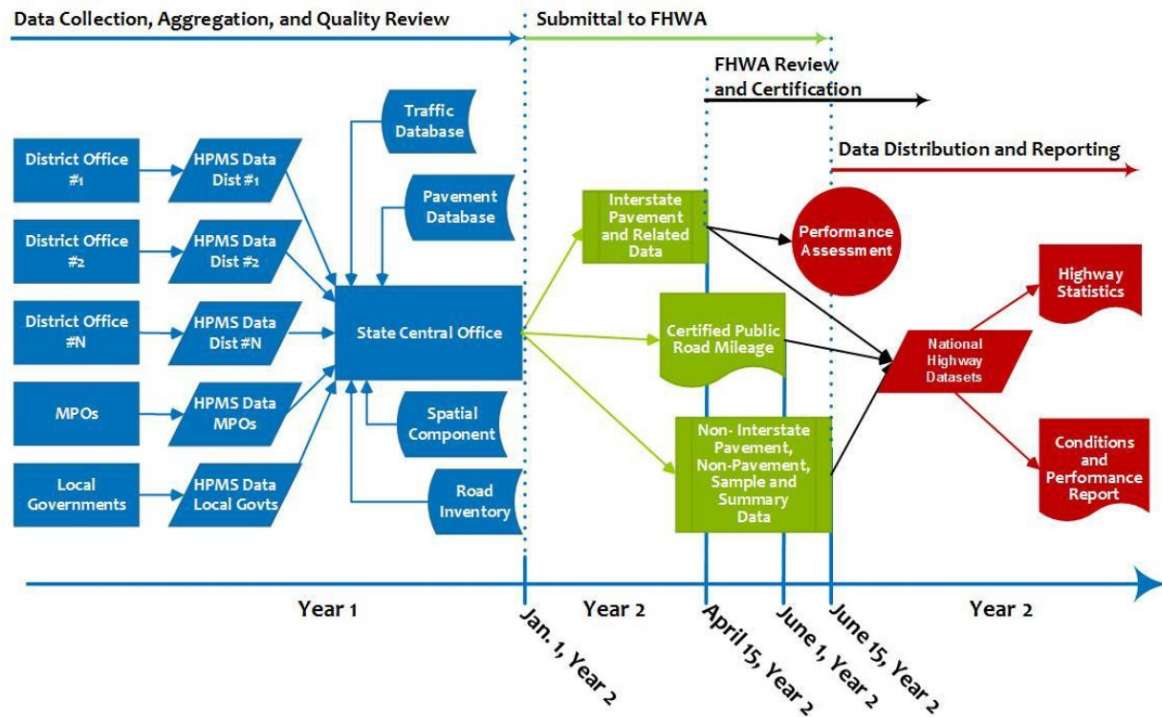


Additionally, data collection requirements for features and characteristics require some characteristics to start/stop at common milepoints. Data shall be collected in a way that does not violate current DART data validations. Appendix A of this handbook identifies the features for which collection by predominance is applicable and the circumstances for which each characteristic is required to be collected.

### 3.7 HPMS

The HPMS is a national level highway transportation system database that includes roadway inventory data to describe public road conditions and performance. It was developed in 1978 to replace numerous uncoordinated annual state data reports as well as biennial special studies conducted by each state to support a 1965 congressional requirement for a report on the Nation’s highway needs. HPMS data is reported annually to the FHWA per the specified requirements in the HPMS Field Manual.

**FIGURE 3.9 | WORKFLOW FOR THE PROCESS AND ROLES INVOLVED IN THE PREPARATION OF A STATE'S HPMS DATA SUBMITTAL**



Source: <https://www.fhwa.dot.gov/policyinformation/hpms/fieldmanual/page01.cfm#toc244584301>.

### 3.7.1 Purpose of HPMS

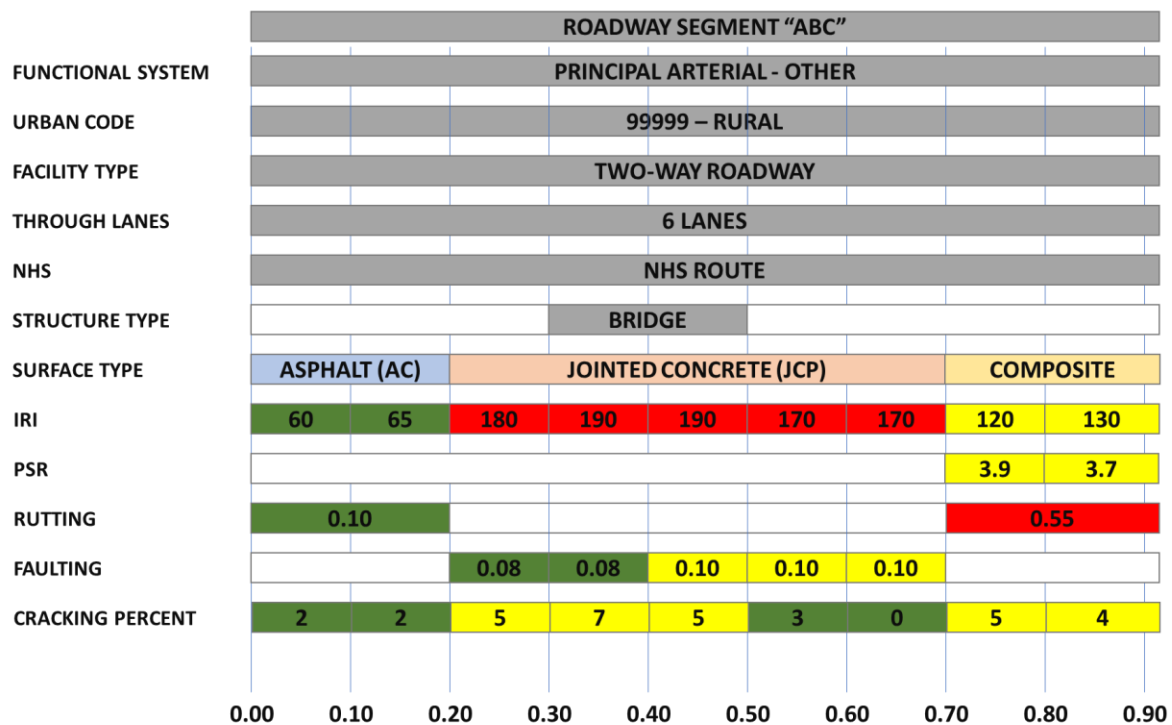
The main purpose of HPMS is to provide data that reflects the extent, condition, performance, use, and operating characteristics of the Nation's highways. The data is the source of a large portion of information published in the Department's annual Mileage reports as well as various FHWA reports and publications.

HPMS data is also used for assessing highway system performance under FHWA's strategic planning process and for apportioning Federal Aid Highway Program Funds. HPMS supports the Estimation of Highway Investment Requirements (biennial report to Congress), FHWA's strategic planning efforts, transportation and air quality planning, development of a National Highway System (NHS), and other uses by a diverse group of partners and stakeholders.

The Department collects HPMS data as part of its RCI activities. Thus, the RCI maintained by the Department fully reflects the requirements of the HPMS. A sampling procedure is used in recording some of the roadway condition data. The data is stored primarily in Feature 118. Feature 119 includes data required for HPMS on more than just samples.

Figure 3.10 illustrates a view of the HPMS data submitted from state departments of transportation (DOT) to FHWA.

FIGURE 3.10 | SAMPLE VIEW OF HPMS DATA



### Transportation Performance Management Requirements

The Moving Ahead for Progress in the 21<sup>st</sup> Century Act (MAP-21) and the Fixing America’s Surface Transportation Act (FAST Act) transformed the Federal-aid highway and transit programs by establishing new performance-based planning requirements for state DOTs, Metropolitan Planning Organizations (MPOs), and providers of public transportation services. Transportation Performance Management (TPM) is a strategic approach that uses system information to make investment and policy decisions to achieve transportation system performance goals.

A major element of TPM is the tracking and calculation of performance measures that Congress instructed U.S. DOT to establish in the seven (7) focus areas of safety, infrastructure condition, congestion reduction, system reliability, freight movement and economic vitality, environmental sustainability, and reducing project delivery delays.

Specific requirements for implementing the performance management provisions of MAP-21 and the FAST Act are codified in the Code of Federal Regulations. HPMS supports TPM safety, pavement condition, and system performance rules. The HPMS data is also used to calculate performance measures for system performance/congestion, and to perform significant progress determinations as applicable.

#### *Pavement Condition Data*

TPM requirements for pavement condition measures have resulted in changes to the collection specifications, comprehensiveness, and submission timelines for some HPMS data items. Complete details on these requirements are found in the FHWA HPMS Field Manual.

## *System Performance Data*

The newest use of HPMS is serving as the repository for the metrics and related data used to calculate the three travel-time-based performance measures:

- Travel Time Reliability.
- Truck Freight Reliability.
- Peak Hour Excessive Delay (PHED).

This Travel Time Metric Data will be calculated by FDOT based on a travel time dataset outside of HPMS and must be submitted annually to HPMS by June 15<sup>th</sup>.

### **3.7.2 HPMS Section Types**

- **Universe Record:** A Universe Record is any section of roadway (Active On the SHS or Active Off the SHS) that is an NHS connector and/or functionally classified above a local road. Universe Record data consist of a complete inventory of length miles by functional system, jurisdiction, geographic location, (rural, small urban, urbanized, and National Ambient Air Quality Standards (NAAQS) non-attainment areas) and other selected characteristics.
- **Full Extent Data:** Full Extent Data refers to a limited set of data items that are reported for an entire roadway system such as the NHS or an entire functional system (e.g., interstate roadways).
- **Sample Panel Data:** Sample Panel Data consists of data items that are reported for a select portion of a given roadway system. The sampled sections are a fixed sample panel of roadway sections that are monitored from year to year and, when expanded, represent the Full Extent of the systems that are sampled. The more detailed information collected for a Sample Panel section is used to represent similar conditions on the associated functional system after expansion.
- **Partial Extent Data:** Partial Extent Data refers to those data items that are reported on a Full Extent basis for some functional systems and on a Sample Panel basis for other functional systems.
- **Statewide Summary Data:** Statewide Summary Data includes information on travel, system length, and vehicle classification by functional system and area type, in addition to land area and population by area type. The area types include rural, small urban, and individual urbanized, non-attainment, and maintenance areas. Pollutant type is also reported as an indicator of air quality in non-attainment areas.
- **Standard Sample:** A Standard Sample is any randomly selected portion of the roadway (Active On the SHS or Active Off the SHS) that is representative of the universe. The data is reported for a continuous length of roadway that is homogeneous with respect to the physical, operational, administrative, and jurisdictional characteristics being reported.

### **3.7.3 HPMS Inventory Types**

There are three HPMS data inventory scenarios. These include:

- Data for the three-year HPMS Standard Sample inventory cycle.

- Annual collection of new standard samples.
- Additional characteristics for off the SHS HPMS standard samples.

## 3.8 Data Governance

### 3.8.1 General Interest Roadway Data (GIRD) Procedure

The General Interest Roadway Data (GIRD) procedure establishes the FDOT Central Office, TDA Office, District Offices and Florida Turnpike Enterprise responsibilities, requirements, standards for data collection, validation and management, quality assurance and control, and basic reporting of general interest roadway data in the RCI database.

This procedure affects the Districts, and Central Office who are responsible for the collection, verification, storage, reporting, and management of transportation data requirements by FDOT and FHWA. Transportation data provides information about FDOT infrastructure assets of state interest. RCI stores transportation data as features and characteristics. The data is organized to support transportation asset management functions that require information on location, ownership, status, classification, extent, quantity, condition, and performance. The data supports FDOT analyses for decision-making, project programming, development of the state and federally mandated reports, and transportation asset reporting requirements.

Additionally, this procedure details how the TDA Office integrates transportation data collected by offices such as:

- Office of Maintenance.
- Traffic Engineering and Operations Office.
- State Materials Office.
- Systems Implementation Office.
- Forecasting and Trends Office.
- Office of Freight, Logistics, and Passenger Operations.
- District Right-of-way Office.

The GIRD procedure can be obtained from the Procedure Document Library (PDL) : [Procedural Document Library \(fdot.gov\)](#)

### 3.8.2 Road Numbering and Road Jurisdiction Transfers

Transportation System Designations and Road Jurisdiction Transfers Procedure, Topic No. 525-020-010 provides the procedural requirements that should be followed for maintaining transportation system designations of roadways and performing changes to roadways based on road jurisdiction transfers. FDOT TDA Office publishes a Transportation System Designations and Road Jurisdiction Transfers Handbook which serves as a supplement to the procedure and provides information on how to meet the procedural requirements. It provides additional guidance on the prerequisites to perform the appropriate actions and obtain approvals from federal, state, or local



entities. The handbook includes sample letters, forms, and background material, including several different scenarios to follow when preparing Transfer Agreements or jurisdiction adjustment actions and supporting documentation.

The Transportation System Designations and Road Jurisdiction Transfers Handbook can be obtained from the TDA website: <https://www.fdot.gov/statistics/tsopubs.shtm>.

### 3.8.3 *Urban Area Boundaries and Functional Classification*

Urban Area Boundary and Functional Classification Procedure, Topic No. 525-020-311 sets forth the procedures and responsibilities for designating urban boundaries and determining federal functional classification designations for all public roads. Urban boundaries define the extent of the geographic area determined to be urban. The functional classification designation depends upon the function of the road and determines the Federal-aid system assignments. Adjustments to the census urban boundary and changes to the functional classification require FHWA approval.

FDOT TDA Office publishes an Urban Area Boundary and Functional Classification Handbook that provides additional guidance, sample letters and forms, and background material in support of the Procedure. This handbook can be obtained from the FDOT TDA Office website: <https://www.fdot.gov/statistics/tsopubs.shtm>.

### 3.8.4 *Transportation Data Quality Management*

The TDA Office is required to monitor and support the seven District Offices, Turnpike Enterprise and Central Office entities that provide transportation program data. The TDA Quality Management program maintains quality assurance methods used to ensure the critical requirements for data collection, maintenance, and reporting are met. The Quality Management team maintains the Quality Assurance Monitoring Plan (QAMP) to clearly identify areas of responsibility for both the TDA Office and the District staff for reliable, organized, and accurate statewide data. The QAMP details the critical requirements for the HPMS, Motorized Short Term Traffic Monitoring Program, Transportation System Designations, Linear Referencing System, Roadway Characteristics Inventory, and other program areas required for state and Federal reporting. Additionally, the team conducts District Quality Evaluation (DQE) reviews and Quality Assurance Reviews (QAR) with assistance from Districts.

Information regarding all Transportation Data Quality Management processes, including DQEs, QARs, and the QAMP can be obtained from FDOT TDA website:

<https://www.fdot.gov/statistics/tsopubs.shtm>.

### 3.8.5 *Mileage Reports*

The highway mileage reports provide information on centerline miles, lane miles and daily vehicle miles traveled (DVMTs). The reports include a statewide summary by county, district, and detailed data on each of the three areas by highway system and functional classification.

The various mileage reports prepared by FDOT TDA Office are:

- **City/County Road Mileage Reports/Certified Public Mileage Report:**
  - *Content of Reports*—The City/County Road Mileage Report contains the centerline miles of roads under the jurisdiction of each city and county in Florida. This number is also broken down into paved

and unpaved mileage. The report is produced in the Spring of each year, with data as of September 30 of the previous year.

- *Purpose of Report*—This mileage data is part of a comprehensive report of mileage, traffic, pavement, and other information that is submitted to the FHWA each year. The data are used to compile national data, including the need for Federal highway funding. They are also used to help determine the share of the national highway funding that Florida will receive.
- *Source of Data*—The data for each local Government is supplied by that Government to FDOT each year. They are required to do so by Chapter 218.322, Florida Statutes. They use FDOT's Form-TM to provide the data.
- **Public Road Mileage and Travel Reports**—These reports are available annually and show Centerline Miles and DVMT.
- **State Highway System Mileage and Travel Report**—FDOT reports on SHS Mileage have traditionally been issued as of June 30 and December 31 of each year, with the most current data available on those dates. The reports are available for SHS, NHS, and SIS.
- **Florida Interchange Report**—This includes interchange numbers and milepost locations for Interstates and most expressways.