FEATURE 119
HPMS UNIVERSE

Roadway Side	Allows Tie	LRS Package	Feature Type	Interlocking	Secured
C/R/L	Yes	No	Length	No	Yes
Responsible Party for Data Collection		District Planning and see characteristics for specific instructions.			

Definition/Background: HPMS Universe Data is collected for the purpose of HPMS and extends beyond the HPMS Sample Limits.

The characteristics in this feature are grouped by purpose to improve the usage of the handbook materials.

Ramps

This information is coded on Ramps.

RAMPFC | RAMP FEDERAL CATEGORY

HPMS	MIRE	Who/What uses this Information	Required For	Offset Direction	Offset Distance
1		FHWA, HPMS	All collector-distributor roads and **interchange** ramps, whether directly or indirectly connected to the mainline facilities with codes 1–7. All other ramps required code 0 for N/A. Effective September 2019.	N/A	N/A

Definition/Background: The federal category of the collector-distributor or ramp, defined as the functional classification of the mainline roadway which it serves. It must be part of an interchange.

How to Gather this Data: Determine the functional classification of the roadways connected by the ramp, and use the higher of the two. For example, if a ramp connects an interstate to a principal arterial—other, use code 1.

Special Situations: Ramps that connect a mainline to a rest area, service plaza, tollbooth, or weigh station should be coded with 0 for N/A.

Codes	Descriptions
0	N/A (code N/A if this is not a grade separated ramp)
1	Interstate
2	Principal Arterial—Other Freeways and Expressways
3	Principal Arterial—Other
4	Minor Arterial
5	Major Collector
6	Minor Collector
7	Local

Every Active/Exclusive collector-distributor and ramp requires a code. By coding N/A for when not applicable it indicates the district has reviewed the ramp for accuracy.

Toll Roads

These are toll characteristic used only for HPMS. Where managed lanes exist, code TOLLTYPE, TOLLCHGS, HOVTYPE, and HOVNUMLN on the associated mainline roadway ID. The milepoint limits for these characteristics should exactly match the milepoints coded for the begin/end point of the managed lane. For more information on Toll Roads, see Feature 122.

TOLLCHGS | TOLL CHARGES

HPMS	MIRE	Who/What uses this Information	Required For	Offset Direction	Offset Distance
15	103	FHWA, HPMS	All functionally classified roadways.	N/A	N/A

Definition/Background: Identifies where a toll is charged in one direction, both directions, or none on a toll facility.

How to Gather this Data: On segments where the begin/end points of a tolled facility are offset from one another, use code 1 to indicate that a toll is paid in one direction only. Code 2 is only valid for the limits where a toll is paid on both the left and right sides of the facility. Identify the type of toll charges that apply to each contiguous segment along a tolled facility. The entire facility must have this characteristic for the entire length.

Contact the local Government traffic operations department for locations.

Codes	Toll Charges	Descriptions
1	Toll paid in one direction only.	Identify the segment that is a contiguous facility that is tolled in one direction only.
2	Toll paid in both directions.	Identify the segment that is a contiguous facility that is tolled in both directions.
3	No Toll charged (Effective Sept 2019).	Identify the segment that allows entry and exit from the main through route without paying a toll.

TOLLNAME | NAME OF TOLL FACILITY (SEE FEATURE 122 | FACILITY CLASSIFICATION)

This characteristic moved to Feature 122. Effective September 2019.

TOLLTYPE | TOLL TYPE

HPMS	MIRE	Who/What uses this Information	Required For	Offset Direction	Offset Distance
16	104	FHWA, HPMS	All functionally classified roadways.	N/A	N/A

Definition/Background: This identifies special lanes where tolls are charged, such as high occupancy toll (HOT) lanes. This may or may not be an HOV facility and has special lanes identified where users would be subject to tolls. HOT lanes are HOV lanes where a fee is charged, sometimes based on occupancy of the vehicle or the type of vehicle, such as buses, vans, or passenger vehicles.

How to Gather this Data: Match the name of the facility to the code provided by FHWA. See below.

Special Situations: Code for the same milepoints as TOLLROAD in Feature 122.

Codes	Descriptions
1	Toll lanes exist – not special
2	HOT lanes exist
3	Other special tolls exist

Managed Lanes

These are coded for the **mainline roadway** that has managed lanes attached to it. The beginning and ending milepoints for each of these characteristics must exactly match the milepoints where the managed lane starts/stops along the mainline roadway ID.

HOVNUMLN | NUMBER OF ASSOCIATED MANAGED LANES (TOTAL SUMMED FOR BOTH DIRECTIONS)

HPMS	MIRE	Who/What uses this Information	Required For	Offset Direction	Offset Distance
9	39	FHWA, HPMS	All functionally classified roadways. Effective September 2019.	N/A	N/A

Definition/Background: A Managed lane with a barrier-separated facility is divided from the general-purpose traffic lanes by a physical barrier, with access to the facility only at designated locations. This type of facility may be used as an exclusive bus way or may consist of a mix of HOV and bus vehicles. Barrier-separated lanes may be concurrent flow with one lane of travel in each direction, or can consist of a single lane as a reversible flow facility. A contraflow facility is a peak direction only facility. Underused off-peak direction capacity is converted to peak direction use during the commute period. Movable pylons or barriers are used to convert the off-peak direction general purpose travel lane for HOV peak direction use. When not used as an HOV lane, pylons may be removed, or barriers placed against the inside freeway median, so the lane can revert to general purpose traffic use.

Shoulder or parking lane(s) are sometimes used as exclusive managed lanes at pre-specified times. Interim HOV facilities are usually intended to be a temporary treatment. They are usually placed within the existing ROW on the inside or outside freeway shoulder, or through the conversion of a general-purpose travel lane and separated from the general-purpose travel lanes by a painted stripe. An interim facility will revert to general purpose traffic use during the off-peak period.

Normal through lane(s) also may be used as exclusive managed lanes during pre-specified times. The requirements for managed lanes are in effect about one-third of the day, between 6:00 and 10:00 in the morning, and 3:00 to 8:00 in the evening, Monday through Friday only. The managed lanes are available to all other passenger vehicles at all other times.

How to Gather this Data: Record the total number of managed lanes in both directions.

Value for HOV Lanes: 1 Byte: X—Record a number from 1 to 9

HOVTYPE | ASSOCIATED MANAGED LANES OPERATION TYPE

HPMS	MIRE	Who/What uses this Information	Required For	Offset Direction	Offset Distance
8	38	FHWA, HPMS	All functionally classified roadways. Effective September 2019.	N/A	N/A

Definition/Background: Type of Managed Lanes in operation, if any. This information may be available from either Managed Lane signing or presence of a large diamond shape pavement marker, such as diamond symbol. They may be toll facilities with various pricing strategies to improve the overall flow of traffic along the facility. Effective September 2019.

How to Gather this Data: Code for both directions to reflect existing managed lanes. If more than one type is present, use the lower code.

Special Situations: Managed lanes may be available for use by all vehicle types or may be exclusive to particular vehicle types (such as "bus only" or "truck only"). Effective September 2019.

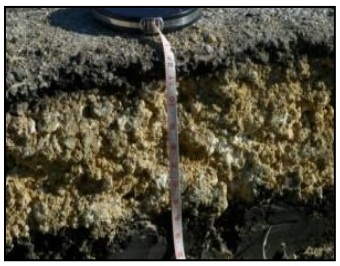
Codes	Descriptions
1	Full-time, exclusive managed lane(s)
2	Part-time, through lanes used as managed lane(s) during specified time periods
3	Part-time, non-through lanes (shoulder, parking, or dedicated managed lanes) exclusive use during specified time periods

Roadway Composition Material (Base and Surface Layers)

We recommend coding data beyond HPMS Samples for all roadway composition characteristics.

BASETHIK | HPMS BASE COURSE THICKNESS

HPMS	MIRE	Who/What uses this Information	Required For	Offset Direction	Offset Distance
60	N/A	FHWA, HPMS	All HPMS samples, but this characteristic may be coded where known to exist beyond the sample limits.	N/A	N/A
Responsible Party for Data Collection (Effective September 2019)	On-system roadways—Populated by TDA Off-system roadways—District Planning				



Definition/Background: The thickness of the base. Base is everything between subgrade and surface course, so report the total thickness of all base layers

How to Gather this Data: In office—Information can be extracted from construction plans or core sample data supplied by District Soil Lab or the city or county pavement office. Enter the base thickness to the nearest inch for the roadway. Collect in the outside lane in the inventory direction.

Value for HPMS Base Course Thickness: 2 Bytes: XX—Record a number from 00 to 40 rounded to the nearest inch

Special Situations: We recommend coding this characteristic for the entire length of the roadway. Leave blank if no data available. If there are several types of base under a roadway, report the total thickness of all base layers.

BASETYPE | HPMS BASE TYPE

HPMS	MIRE	Who/What uses this Information	Required For	Offset Direction	Offset Distance
59		FHWA, HPMS	All HPMS samples, but this characteristic may be coded where known to exist beyond the sample limits	N/A	N/A
Responsible Party for Data Collection (Effective September 2019)	On-system roadways—Populated by TDA Off-system roadways—District Planning				

Definition/Background: This is the type of base. Bases is everything between subgrade and surface course, but use the code that best describes the layer immediately below the surface layer.

How to Gather this Data: Record the type of roadway base material. Construction plans contain information regarding materials used. Can also be obtained from the City or County Pavement Office. Collect in the outside lane in the inventory direction.

Special Situations: We recommend coding this characteristic for the entire length of the roadway. If there are several types of base under a roadway, code the type that best describes the layer immediately below the surface layer. Leave blank if no data available.

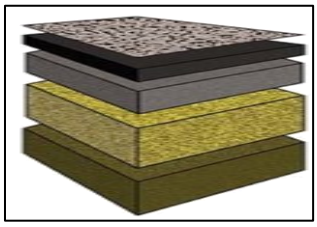
Codes	Descriptions
1	No Base
2	Aggregate
3	Asphalt or Cement Stabilized
5	Hot Mix AC (Bituminous)
6	Lean Concrete
7	Stabilized Open-graded Permeable
8	Fractured PCC

FLEXTHIK | HPMS THICKNESS OF FLEXIBLE PAVEMENTS

HPMS	MIRE	Who/What uses this Information	Required For	Offset Direction	Offset Distance
58		FHWA, HPMS	All HPMS samples, but this characteristic may be coded where known to exist beyond the sample limits.	N/A	N/A

Responsible Party for Data Collection (Effective September 2019)	On-system roadways—Populated by TDA Off-system roadways—District Planning

Definition/Background: The thickness in inches of flexible pavement.



How to Gather this Data (Effective September 2019): In office—Information can be extracted from construction plans or core sample data supplied by District Soil Lab. This also can be obtained from the City/County Pavement Office. Enter the flexible pavement thickness to the nearest inch for the roadway. If SURFTYPE codes are 02, 06, 07 or 08 then code flexible thickness. Collect in the outside lane of the inventory direction.

Special Situations: We recommend coding this characteristic for the entire length of the roadway. Leave blank if no data available. On mill and resurface projects the surface thickness can have an increase or no change to depth contingent on the amount of material removed and added in the process.

Value for HPMS Thickness of Flexible Pavements: 2 Bytes: XX—Record a number from 00 to 30 rounded to the nearest inch

OVRYTHIK | HPMS LAST OVERLAY THICKNESS

HPMS	MIRE	Who/What uses this Information	Required For	Offset Direction	Offset Distance
56		FHWA, HPMS, State Materials Office, MPOs	All HPMS samples, but this characteristic may be coded where known to exist beyond the sample limits.	N/A	N/A

Responsible Party for Data Collection (Effective September 2019)	On-system roadways—Populated by TDA Off-system roadways—District Planning

Definition/Background: The thickness of the most recently applied pavement layer, if the overlay is more than 0.5 inches.

How to Gather this Data (Effective September 2019):

- **On-system roadways**—Extract from construction plans or core sample data supplied by District Soil Lab.
- **Off-system roadways**—Obtain from a city or county pavement office.

Enter the last overlay thickness, to the nearest inch, for the outside lane in the inventory direction.

Special Situations: We recommend coding this characteristic for the entire length of the roadway. Leave blank if no data available.

Value for HPMS Last Overlay Thickness: 2 Bytes: XX—Record a number from 00 to 30 rounded to the nearest inch

RIGDTHIK | THICKNESS OF RIGID PAVEMENT

HPMS	MIRE	Who/What uses this Information	Required For	Offset Direction	Offset Distance
47	N/A	FHWA, HPMS, State Materials Office, MPOs	All HPMS samples, coded where known to exist beyond the sample limits.	N/A	N/A

Responsible Party for Data Collection (Effective September 2019)	On-system roadways—Populated by TDA Off-system roadways—District Planning

Definition/Background: The thickness of rigid (Portland Cement Concrete, PCC) pavement. The thickness should reflect the last improvement on the section. When an improvement is made, consider all new or redesigned base and pavement materials when determining appropriate value.

How to Gather this Data (Effective September 2019):

Out in the field—Collect in the outside lane of the inventory direction.

- **On-system roadways**—Extract from construction plans or core sample data supplied by District Soil Lab.
- **Off-system roadways**—Obtain from a city or county pavement office.

Enter the rigid pavement thickness to the nearest inch for the roadway. If SURFACTP codes are 03, 04, 05, 08, 09, or 10 then code rigid thickness.

Value for Thickness of Rigid Pavement: 2 Bytes: XX—Record a number from 00 to 30 rounded to the nearest inch

Special Situations: We recommend coding this characteristic for the entire length of the roadway. Leave blank if no data available.

SURFACTP | SURFACE TYPE

HPMS	MIRE	Who/What uses this Information	Required For	Offset Direction	Offset Distance
49	24 (FDE),	FHWA, HPMS, State Materials Office, MPOs	All interstate routes, all NHS routes, and all HPMS samples (this characteristic may be coded where known to exist beyond the sample limits).	N/A	N/A

Responsible Party for Data Collection (Effective September 2019)	On-system roadways—Populated by TDA Off-system roadways—District Planning

Definition/Background: The type of pavement on the surface of the roadway.

How to Gather this Data (Effective September 2019):

- **On-system roadways**—Extract from construction plans or core sample data supplied by District Soil Lab.
- **Off-system roadways**—Obtain from a city or county pavement office.

Enter the surface type for the roadway.

Special Situations: We recommend coding this characteristic for the entire length of the roadway, which may extend beyond the sample limits.

Codes	Descriptions
01	Unpaved
02	Conventional Asphalt Concrete (Bituminous)
03	Jointed Plain Concrete Pavement (JPCP)
04	Jointed Reinforced Concrete Pavement (JRCP)
05	Continuously Reinforced Concrete Pavement (CRCP)
06	AC (Bituminous) Overlay or Existing AC (Bituminous) Pavement
07	AC (Bituminous) Overlay over Existing Jointed Concrete Pavement
08	AC (Bituminous) Overlay over Existing CRCP
09	Unbonded Jointed Concrete Overlay on PCC Pavements
10	Bonded PCC Overlay on PCC Pavements
11	Other Surfaces

YRCONST | YEAR OF LAST CONSTRUCTION

HPMS	MIRE	Who/What uses this Information	Required For	Offset Direction	Offset Distance
55	27 (FDE)	FHWA, HPMS, State Materials Office, MPOs	All interstate routes, all NHS routes, and all HPMS samples (this characteristic may be coded where known to exist beyond the sample limits).	N/A	N/A

Responsible Party for Data Collection (Effective September 2019)	On-system roadways—Populated by TDA Off-system roadways—District Planning

Definition/Background: This is the year the section was constructed or reconstructed. Reconstruction is the replacement of the existing pavement structure with an equivalent or increased structure. Although recycled materials may be used in the new pavement structure, reconstruction usually requires the complete removal and replacement of at least the old pavement surface; and often the base. Adding additional through lane(s) is considered new construction. Effective September 2019.

How to Gather this Data: Enter the 4-digit year when the last construction or reconstruction was completed. Retain the coded year until another construction or reconstruction is complete.

Special Situations: If a new pavement surface was placed without first removing the old pavement surface, the resulting pavement should be considered an overlay, even if the existing concrete was rubblized prior to placing the new pavement surface.

Value for Year of Last Construction: 4 Bytes: YYYY—Year of construction or reconstruction

YRIMPT | YEAR OF LAST IMPROVEMENT

HPMS	MIRE	Who/What uses this Information	Required For	Offset Direction	Offset Distance
54	FDE	FHWA, HPMS, State Materials Office, MPOs	All interstate routes, all NHS routes, and all HPMS samples (this characteristic may be coded where known to exist beyond the sample limits).	N/A	N/A
Responsible Party for Data Collection (Effective September 2019)	On-system roadways—Populated by TDA Off-system roadways—District Planning				

Definition/Background: The year of the most recent surface improvement since 1988.

How to Gather this Data: Record only the year in 4-digit form, e.g., 2005. **Only code right side of roadway**.

Information can be found at the District Office. The Districts track new and recent construction reviews for all samples of both on-system and off-system. On-system new construction notices are provided regularly to the Districts by TDA; however, off-system new construction data is the responsibility of the District. This data also may be obtained from the area's local governments or Metropolitan Planning Organizations (MPOs).

If an off-system list of ongoing and completed construction has not been obtained from the local Government, then record the date of inventory as the year of last surface improvement. Code the right outside inventory lane.

Special Situations: Do not record a year of last surface improvement if the last improvement was made prior to 1988 or if the last improvement was the same as the Year of Last Construction (YRCONST).

When a through lane is added for increasing capacity, this is considered construction and not simply an improvement. Therefore, remove from YRIMPT and code under YRCONST. Effective September 2019.

Value for Year of Last Improvement: 4 Bytes: YYYY—4-digit year of last improvement

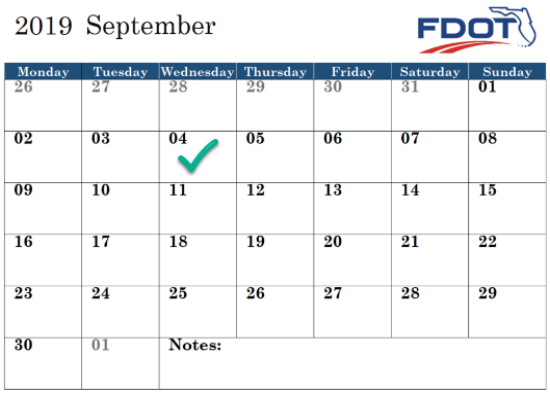
IRIDATE | INTERNATIONAL ROUGHNESS INDEX COLLECTION DATE

HPMS	MIRE	Who/What uses this Information	Required For	Offset Direction	Offset Distance
47	28	FHWA, HPMS	All segments where IRI is reported—rural and urban principal arterials, HPMS samples on rural minor arterials, NHS roadways, or Strategic Intermodal System (SIS) roadways designated as SIS, emerging SIS, SIS connector, or emerging SIS connector.	N/A	N/A
Responsible Party for Data Collection	State Materials Offices provides IRI file to TDA, including IRI date.				

Definition/Background: The month and the year that International Roughness Index (IRI) data being reported was collected.

How to Gather this Data: Value is put into RCI by TDA.

Value for IRI Collection Date: 8 Bytes: MM/DD/YYYY or MMDDYYYY

Leading zeroes must be retained but slashes are optional.

Example: September 04, 2019, may be coded as 09/04/2019 or 09042019