JOINT FLORIDA
Model Task Force & Transportation
Data and Analytics Workshop

FTO
FORECASTING & TRENDS OFFICE

FDOT TDA
TRANSPORTATION DATA & ANALYTICS

Introduction to the Highway Performance Monitoring System (HPMS)

Eric Brickner – HPMS Coordinator

Class Outline

- HPMS History, Concepts, & Reports
- Federal Authority & Field Manual
- Federal Highway Administration HPMS Training
- HPMS Scorecard
- Florida Statues, Department Procedures, & Evaluations
- HPMS Process
- HPMS Sampling
- RCI Handbook changes and DART validations

History of HPMS

- Originally developed in **1978** to assess the nation's highway system.
- The HPMS system and data elements are **evaluated** approximately every **10 years**.
- The data are used for **allocations** of federal $ for Interstate Maintenance, NHS, and the STP.
- The data are **also used for** EPA, Asset Mgmt., Travel Trends, etc.

HPMS Concepts

- The basic principal of HPMS is that data for a large area (Urban Area, State, or Nation) can be derived by expanding sample information.

- It requires an **unbiased** selection and maintenance of the **sample panel**.

- Samples are not based on district, city or county boundaries.

Federal Authority & Field Manual

❑ Code of Federal Regulations
- Part 23, Sections 420 & 460

❑ HPMS Field Manual (highlights)
- Chapter 4 specifies the data requirements
- Chapter 6 pg 6-3 - Volume Group table
- Chapter 5 Section 5.3 has Traffic Data requirements
- Chapter 5 Section 5.4 has Pavement Data requirements

As of May 2017, the HPMS Field Manual is no longer just guidance, now it's part of the regulation.

National Highway Institute (NHI) HPMS Training

- One-hour Free Web-based training provided by NHI
- https://www.nhi.fhwa.dot.gov/
- 138017 Introduction to Highway Performance Monitoring System
  - Welcome and overview module
  - HPMS Data Model module
  - Data to be Reported module
  - Submittal and Post-Submittal module
  - Module Assessment Exam

FHWA HPMS Scorecard Overview

- Help find Data quality issues (outliers and year to year changes)
- Increase efficiency of FHWA review
- Focus is on 64 sections data items on Federal Aid system
- Not PM2 performance measures, summery data, or ARNOLD

U.S. Department of Transportation

Federal Highway Administration

HPMS SCORECARD

FLORIDA

2018

Generated: November 20, 2019

The HPMS Scorecard is a product of the Office of Highway Policy Information and was developed by FHWA's Data Visualization Center. The Scorecard is a visually oriented statistical review of the HPMS data for any one of the 52 reporting geographies (50 states plus Washington DC and Puerto Rico). The primary purpose of this Scorecard is to provide a consistent and thorough tool for review of the HPMS Data Items (also known as 'Section' or attribute data).

The Scorecard is intended to serve as a visual tool to highlight areas of concern or data irregularities, but is not an exhaustive error finding tool. The Scorecard reflects data from 1) the 'Analysis Year' which is typically the most recent data year and 2) a previous 'Comparison Year', which is required to accommodate many of the Scorecard's temporal calculations. The Scorecard also evaluates the National patterns for the year prior to the Analysis Year. Elements of the Scorecard are 1) statewide data timeliness, quality and completeness summary, 2) information on the interpretation of scorecard elements, 3) pavement and travel items detailed reviews, 4) ramp data details and 5) HPMS Data Item statistical review.

DVC
...tion Center

Score

44.9 out of 50

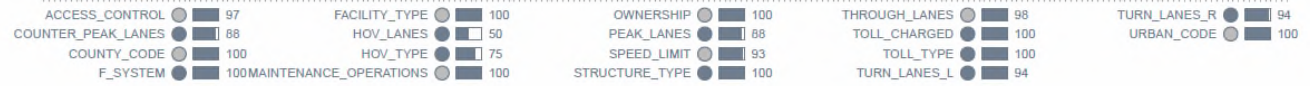|	Timeliness out of 10	Completeness out of 20	Quality out of 20
	10	16.6	18.3

The Score is the sum of points received from timeliness, completeness, and quality.

Data Summary

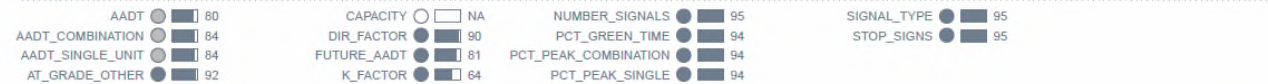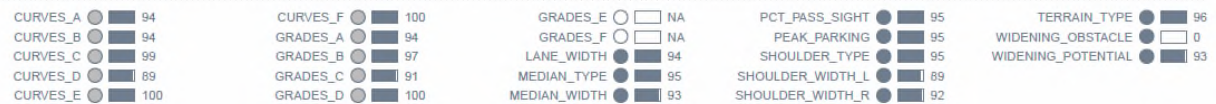|	2018	2017
Number of Data Items	71.00	71.00
Number of Routes	7,194.00	7,193.00
Pct. Unmatched Routes	0.08	0.07
Total Centerline Miles*	27,591.30	27,587.90
Total Lane Miles*	83,913.50	83,635.50

*Does not include non-NHS locals.

inventory

ACCESS_CONTROL	97	FACILITY_TYPE	100	OWNERSHIP	100	THROUGH_LANES	98	TURN_LANES_R	94
COUNTER_PEAK_LANES	88	HOV_LANES	50	PEAK_LANES	88	TOLL_CHARGED	100	URBAN_CODE	100
COUNTY_CODE	100	HOV_TYPE	75	SPEED_LIMIT	93	TOLL_TYPE	100		
F_SYSTEM	100	MAINTENANCE_OPERATIONS	100	STRUCTURE_TYPE	100	TURN_LANES_L	94		

pavement

BASE_THICKNESS	82	FAULTING	61	PSR	2	THICKNESS_FLEXIBLE	66	YEAR_LAST_IMPROV	0
BASE_TYPE	86	IRI	85	RUTTING	81	THICKNESS_RIGID	20		
CRACKING_PERCENT	46	LAST_OVERLAY_THICKNESS	81	SURFACE_TYPE	86	YEAR_LAST_CONSTRUCTION	0		

traffic

AADT	80	CAPACITY	NA	NUMBER_SIGNALS	95	SIGNAL_TYPE	95
AADT_COMBINATION	84	DIR_FACTOR	90	PCT_GREEN_TIME	94	STOP_SIGNS	95
AADT_SINGLE_UNIT	84	FUTURE_AADT	81	PCT_PEAK_COMBINATION	94		
AT_GRADE_OTHER	92	K_FACTOR	64	PCT_PEAK_SINGLE	94		

geometric

CURVES_A	94	CURVES_F	100	GRADES_E	NA	PCT_PASS_SIGHT	95	TERRAIN_TYPE	96
CURVES_B	94	GRADES_A	94	GRADES_F	NA	PEAK_PARKING	95	WIDENING_OBSTACLE	0
CURVES_C	99	GRADES_B	97	LANE_WIDTH	94	SHOULDER_TYPE	95	WIDENING_POTENTIAL	93
CURVES_D	89	GRADES_C	91	MEDIAN_TYPE	95	SHOULDER_WIDTH_L	89		
CURVES_E	100	GRADES_D	93	MEDIAN_WIDTH	93	SHOULDER_WIDTH_R	92		

route

ROUTE_NUMBER	86	ROUTE_QUALIFIER	100	ROUTE_SIGNING	100

special networks

FUTURE_FACILITY	NA	NHS	100	STRAHNET_TYPE	100	TRUCK	100

Key to data item status and completeness: ● Submitted and Complete ◐ Submitted and Incomplete ○ Not Submitted

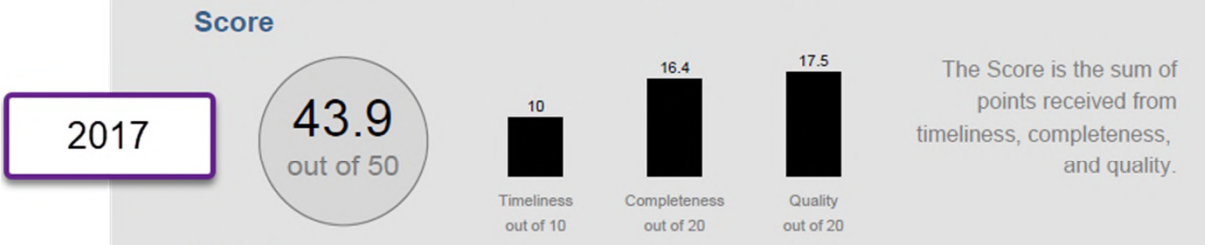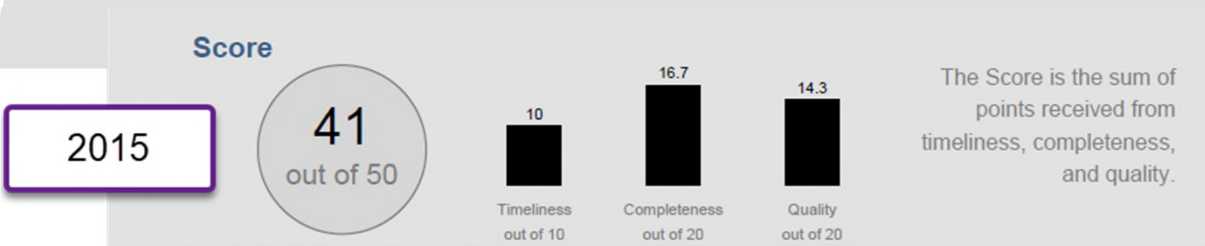Key to data item quality: ■ High ▨ Medium □ Low

FDOT

Score Card Evaluations

- Timeliness (Zero or 10 points)
  - Submitted on or before April 15th (PM2 Interstate) and June 15th

- Completeness (Zero to 20 points)
  - Does the data match the HPMS Field Manual

- Quality (Zero to 20 points)
  - Data Outliers
  - Adjacent Sections
  - Year to Year
  - Data distributions

Score

2015

41
out of 50

Timeliness
out of 10
10

Completeness
out of 20
16.7

Quality
out of 20
14.3

The Score is the sum of points received from timeliness, completeness, and quality.

Data Summary

	2015	2014
Number of Data Items	79.00	79.00
Number of Routes	7,088.00	7,121.00
Number of Sections	14,186.00	13,939.00
Total Center Line Miles*	26,756.00	26,699.98
Total Lane Miles*	60,265.73	60,016.39

Does not include non-NHS locals.

Score

2016

41.1
out of 50

Timeliness
out of 10
10

Completeness
out of 20
16.6

Quality
out of 20
14.5

The Score is the sum of points received from timeliness, completeness, and quality.

Data Summary

	2016	2015
Number of Data Items	79.00	79.00
Number of Routes	7,060.00	7,088.00
Pct. Unmatched Routes	0.16	0.55
Number of Sections	14,147.00	14,186.00
Pct. Unmatched Sections	0.48	0.55
Total Center Line Miles*	26,788.72	26,756.00
Total Lane Miles*	60,042.65	60,265.73

Does not include non-NHS locals.

Score

2017

43.9
out of 50

Timeliness
out of 10
10

Completeness
out of 20
16.4

Quality
out of 20
17.5

The Score is the sum of points received from timeliness, completeness, and quality.

Data Summary

	2017	2016
Number of Data Items	71.00	71.00
Number of Routes	7,193.00	7,215.00
Pct. Unmatched Routes	7.67	7.96
Total Centerline Miles*	27,587.90	27,591.00
Total Lane Miles*	83,635.50	83,339.00

Does not include non-NHS locals.

Score

2018

44.9
out of 50

Timeliness
out of 10
10

Completeness
out of 20
16.6

Quality
out of 20
18.3

The Score is the sum of points received from timeliness, completeness, and quality.

Data Summary

	2018	2017
Number of Data Items	71.00	71.00
Number of Routes	7,194.00	7,193.00
Pct. Unmatched Routes	0.08	0.07
Total Centerline Miles*	27,591.30	27,587.90
Total Lane Miles*	83,913.50	83,635.50

Does not include non-NHS locals.

FDOT

If we leave out Timeliness, we see two things:
1.Nobody is perfect.
2.There is slightly more spread in data quality than in data completeness.

Florida 2015 to 2018
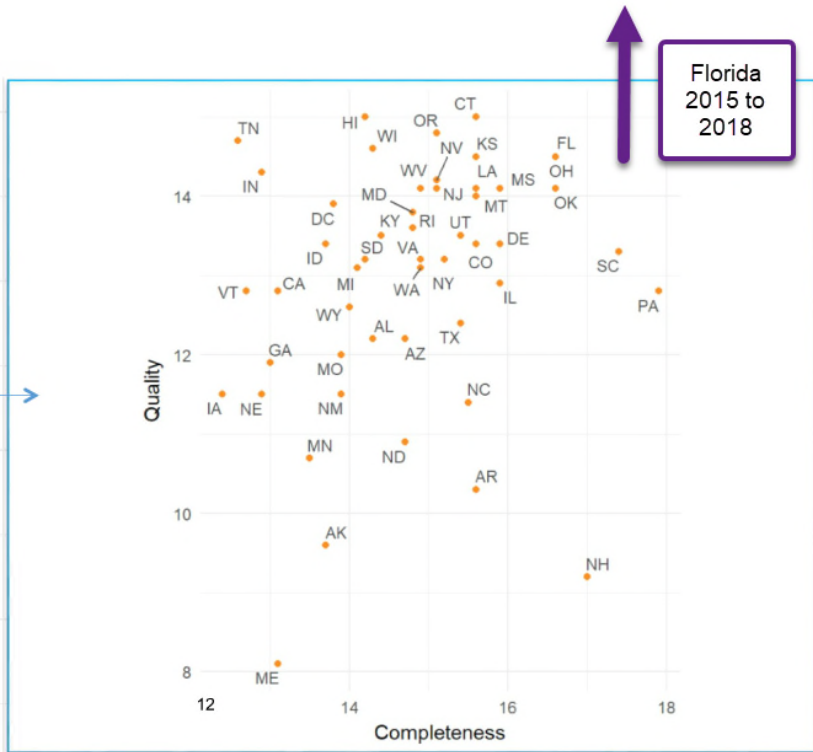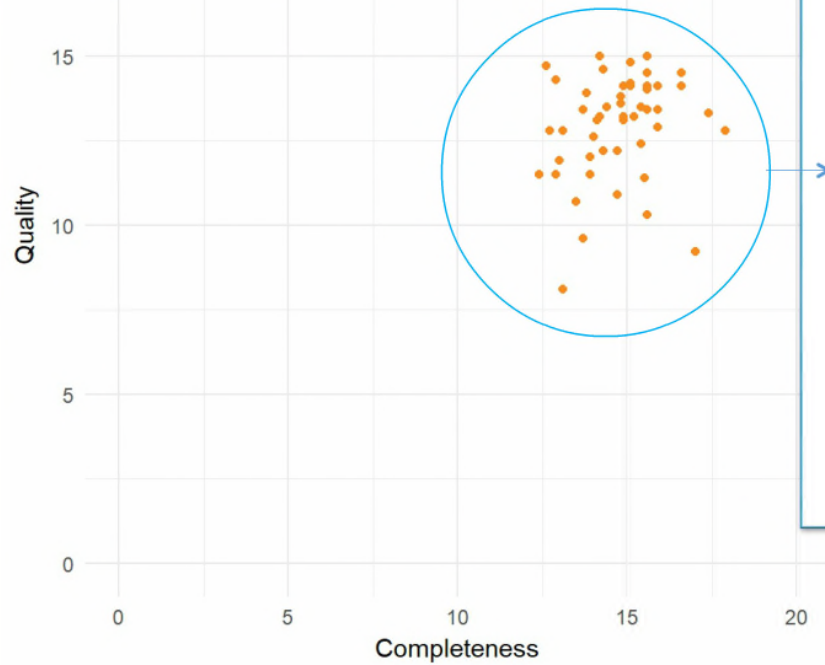
HPMS Reassessment

Every 10 years, or so…

Reassessment Objectives

- Improve HPMS to support customer business needs
- Incorporate efficient and appropriate quality data collection and reporting
- Maximize use of existing, future, and other data sources
- Enhance value of information to providers and customers
- Promote effective use of changing technology

Florida Statutes, Department Procedure, & RCI Handbooks

- Sections 20.23(3)(a), 218.322, & 334.048(3) Florida Statutes (F.S.)
- Sections 334.044 & 335.01(1), Florida Statues (F.S.)
- The **General Interest Roadway Data (GIRD)** – this procedure supports the above statues
- The **RCI Handbooks** – these handbooks support the above procedure

- 2.3.1 **July 31** –Provide the Districts with...
    - (A) Deleted HPMS samples
    - (B) Added HPMS samples including beginning and ending descriptions
- 2.3.2 **December 31** – Extracts HPMS Data from RCI database

- 3.2 – Conduct **3 year** inventory of HPMS Samples (retain documentation for 6 years)

- 3.3.5 – **Within 30 Calendar Days** resolve issues from the date of notification.

- 3.4 – by **November 30** complete the inventory and data entry of new samples

- 3.6 – on **June 30** & **December 20** have clean edits (between December 20 -31 make no changes to RCI except to fix errors as instructed by Central Office)

The HPMS Process

- **Districts**
  - Code data per your schedule
  - Get new samples and add them too
- **Central Office**
  - Get all data 12/31 each year to build database
  - Add other data such as Statewide Model Future year, new IRIs, new AADTs, Total Local Mileages, ARNOLD LRS, PM3 data, etc.
  - Submit to FHWA timely
  - Pick new samples

HPMS 2 1/2 Year Cycle

RCI Closed Dec 20th to prepare for EOY data snapshot

Data Integration Processing Review and Submittal

New Samples

FHWA Submittal and Program Review

FHWA Annual Report

June 15th

Year 1 - Jan 1st Dec 31st Data Collection, LRS Updates, Training, New Samples, Program Updates, DQEs, and Edits

Year 2 - Submittal Interstate Pavement April 15th, Public Mileage June 1st, Full Submittal June 15th, Sample Adaquacy Review, 2 QARs, FHWA Memorandum, FHWA Annual Report Questions

4 QARs

Year 3 - FHWA Annual Report Published, 2 Additional QARs

HPMS Core Components

- Certified Public Mileage
- RCI LRS
- Full Extent Data
- Partial Extent Data
- Sample Panel Data
- Summary Data
- Performance Measures
- All Public Roads LRS (ARNOLD)

HPMS Database

- Data is
  - Crunched
  - Converted
- Then it becomes...
  - The HPMS database
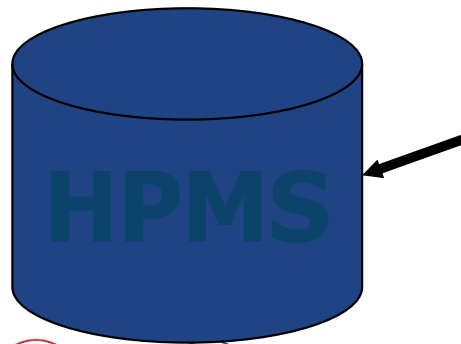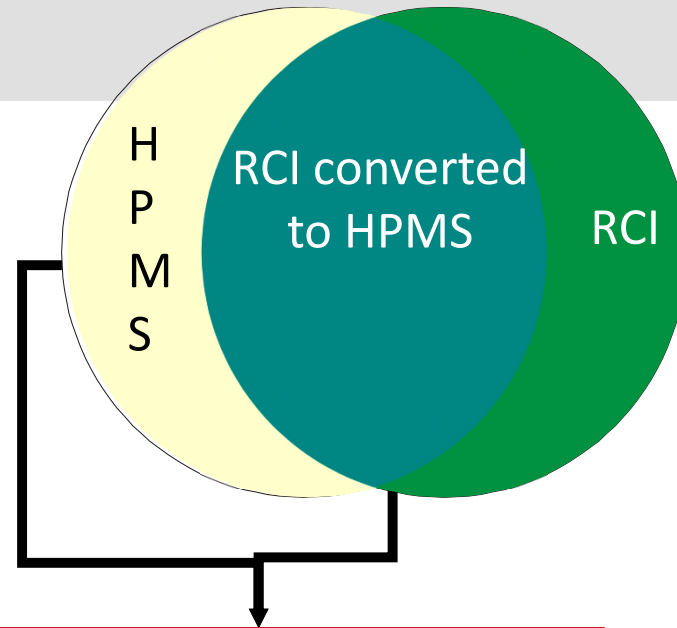
- Data collected on HPMS samples are a source of condition, use and operational information pertaining to the nation's roadways.

- Sample panel data is expanded to represent the Full extent of the roadways in HPMS.

- It's ultimately used for monitoring traffic trends and impacts in performance data over time, and for analysis in support of national budgeting for highway improvements through the Conditions and Performance (C&P) report to Congress.

- The selection and maintenance of adequate up-to-date HPMS Samples is a high priority, annual requirement.

FDOT

Sampling and Sample Adequacy

Figure 6.1 TOPS Development Process

Development of the TOPS for "Route ABC"
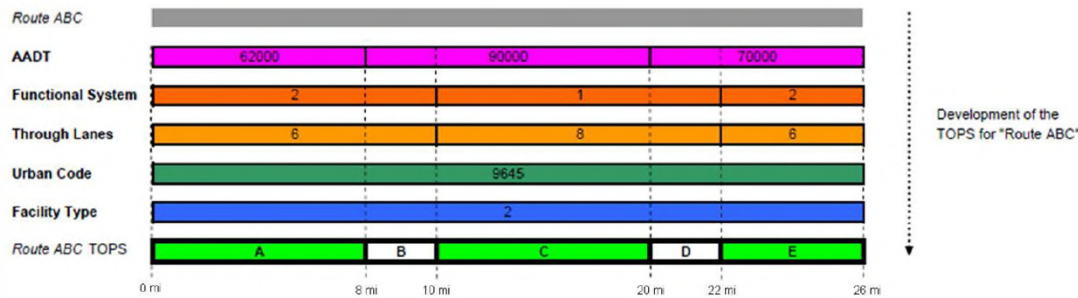
Table 6.1 Volume Group/AADT Ranges

Volume Group	AADT Ranges
1	Under 500
2	500 to 1,999
3	2,000 to 4,999
4	5,000 to 9,999
5	10,000 to 19,999
6	20,000 to 34,999
7	35,000 to 54,999
8	55,000 to 84,999
9	85,000 to 124,999
10	125,000 to 174,999
11	175,000 to 249,999
12	250,000 and more

Figure 6.2 AADT Volume Groups

Table 6.2 Precision Levels

	Interstate	Other Freeways and Expressways	Other Principal Arterial	Minor Arterial	Major Collector	Minor Collector
RURAL	90-5	90-5	90-5	90-10	80-10	–
SMALL URBAN	90-5	90-5	90-5	90-10	80-10	80-10
URBANIZED < 200,000 population	80-10	80-10	80-10	80-10 or 70-15*	80-10 or 70-15*	80-10 or 70-15*
URBANIZED ≥ 200,000 population	90-10	90-10	90-10	90-10	80-10	80-10

*These precision levels will be applied if a State has three or more urbanized areas with a population < 200,000.

AADT Volume Groups

Less variable AADT distribution (lower coefficient of variation)

More variable AADT distribution (higher coefficient of variation)

Each (Sampled) Functional System

-At least 3 samples preferred per volume group
-Some volume groups may be empty

Sample Adequacy Report

HPMS 8.0.1

Stage: Review
Year: 2018
State: 12 - Florida
Date: 06/14/2019

1 - Interstate	Precision Level	Volume Group																							Adequate
		1		2		3		4		5		6		7		8		9		10		11		12		
Bonita Springs, FL	90-10	0	0	0	0	0	0	0	0	0	0	3	1	3	3	3	1	3	5	0	0	0	0	0	0	🔴
Brooksville, FL	80-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	✓
Cape Coral, FL	90-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	3	7	0	0	0	0	0	0	✓
Daytona Beach--Port Orange,	90-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	✓
Deltona, FL	80-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	3	4	0	0	0	0	0	0	✓
Fort Walton Beach--Navarre--	80-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	✓
Gainesville, FL	80-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	4	3	1	0	0	0	0	0	0	🔴
Homosassa Springs--Beverly	80-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	✓
Jacksonville, FL	90-10	0	0	0	0	0	0	0	0	0	0	4	2	4	11	4	7	3	10	0	0	0	0	0	0	🔴
Kissimmee, FL	90-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	✓
Lady Lake--The Villages, FL	80-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	✓
Lakeland, FL	90-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	6	3	2	0	0	0	0	0	0	🔴
Leesburg--Eustis--Tavares,	80-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	✓
Miami, FL	90-10	0	0	0	0	0	0	2	2	0	0	3	3	1	1	4	7	3	7	3	5	3	15	3	6	✓
North Port--Port Charlotte, FL	80-10	0	0	0	0	0	0	0	0	0	0	0	0	3	1	3	6	0	0	0	0	0	0	0	0	🔴
Ocala, FL	80-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	9	0	0	0	0	0	0	0	0	✓
Orlando, FL	90-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	3	3	4	12	3	6	0	0	🔴
Palm Bay--Melbourne, FL	90-10	0	0	0	0	0	0	0	0	0	0	3	4	3	3	3	4	0	0	0	0	0	0	0	0	✓
Palm Coast--Daytona Beach--	90-10	0	0	0	0	0	0	0	0	0	0	3	3	3	7	3	9	3	1	0	0	0	0	0	0	🔴
Panama City, FL	80-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	✓
Pensacola, FL--AL	90-10	0	0	0	0	0	0	0	0	0	0	3	2	5	6	5	8	0	0	0	0	0	0	0	0	🔴
Port St. Lucie, FL	90-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	7	1	0	0	0	0	0	0	0	🔴
St. Augustine, FL	80-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	✓
Sarasota--Bradenton, FL	90-10	0	0	0	0	0	0	0	0	2	2	0	0	3	3	3	4	3	7	3	2	0	0	0	0	🔴

Report Generated On - 06/14/2019 6:13:19 PM   Legend: ▨ Required Number   ▨ Existing Number   Page 1 of 12

Sample Adequacy

HPMS 8.0.1

Sample Adequacy Report

1 - Interstate	Precision Level	Volume Group																		
		1		2		3		4		5		6		7		8		9		10
Bonita Springs, FL	90-10	0	0	0	0	0	0	0	0	0	0	3	1	3	3	3	1	3	5	0	0
Brooksville, FL	80-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cape Coral, FL	90-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	3	7	0	0
Daytona Beach--Port Orange,	90-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Zephyrhills, FL	80-10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Small Urban	90-5	0	0	0	0	0	0	0	0	0	0	9	8	3	5	3	2	7	4	3	5
Rural	90-5	0	0	0	0	0	0	0	0	3	8	18	28	8	13	13	14	7	11	0	0

Individually sampled Urban Sizes 3, 4, & 5

Sampled as one Urban Sizes 2

Sampled as one Urban Sizes 1
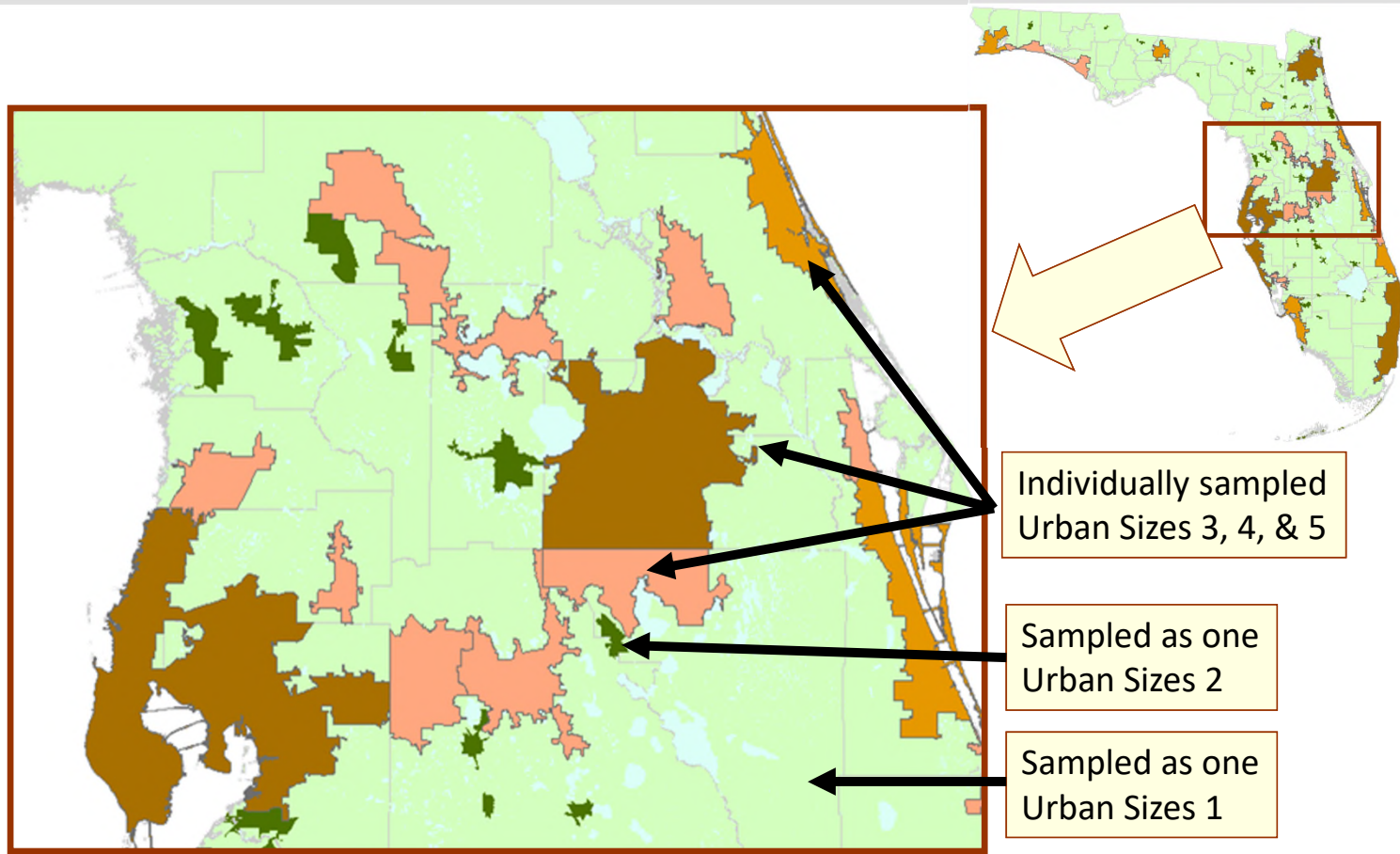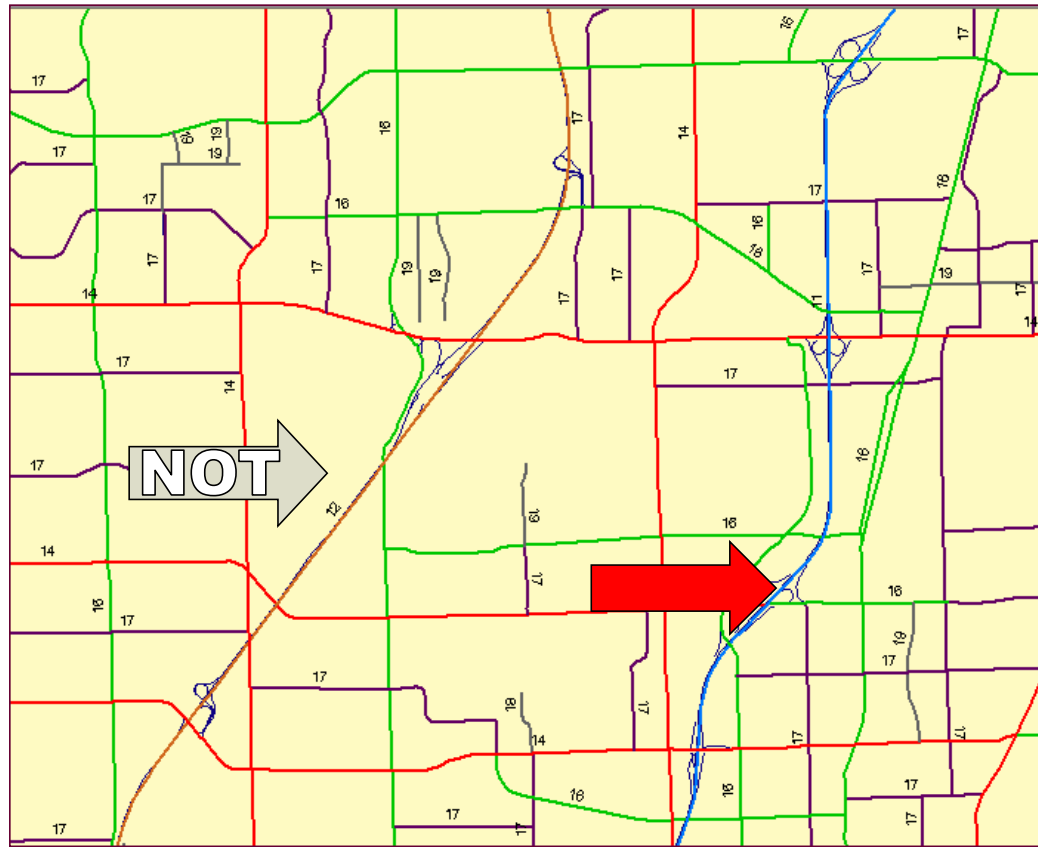
Interstate example

Selecting Samples – Traffic Volume Groups
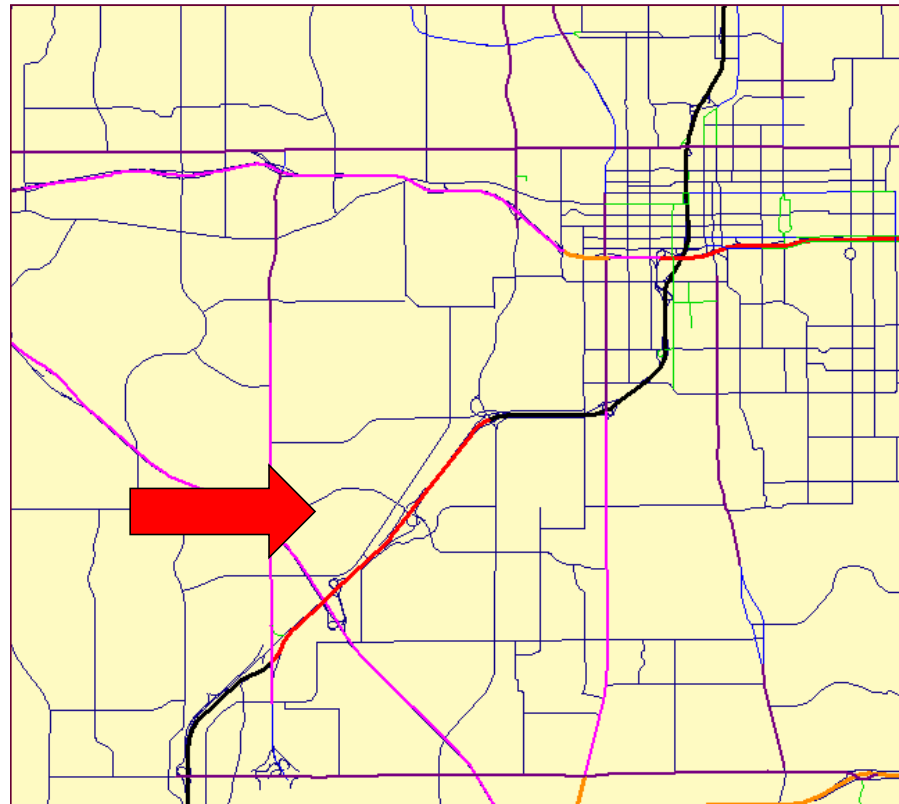
Interstate example
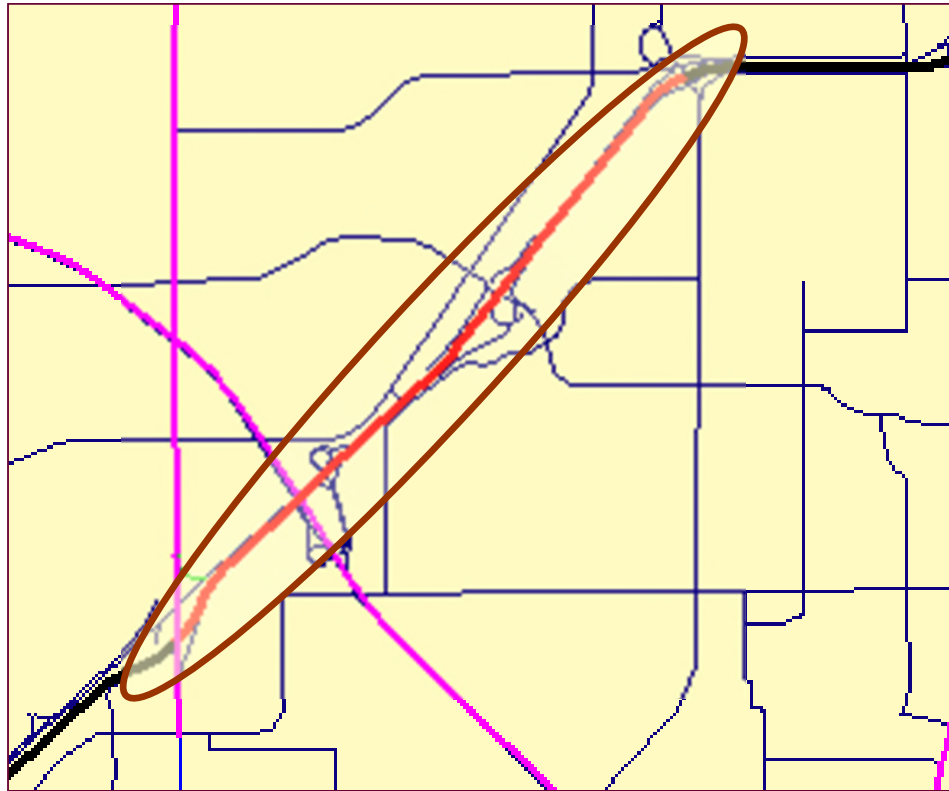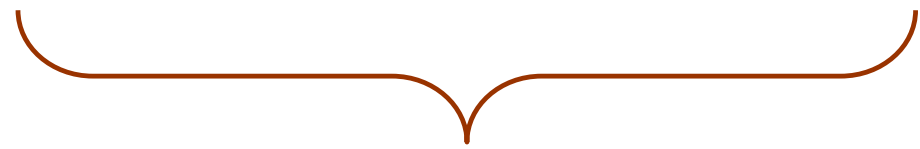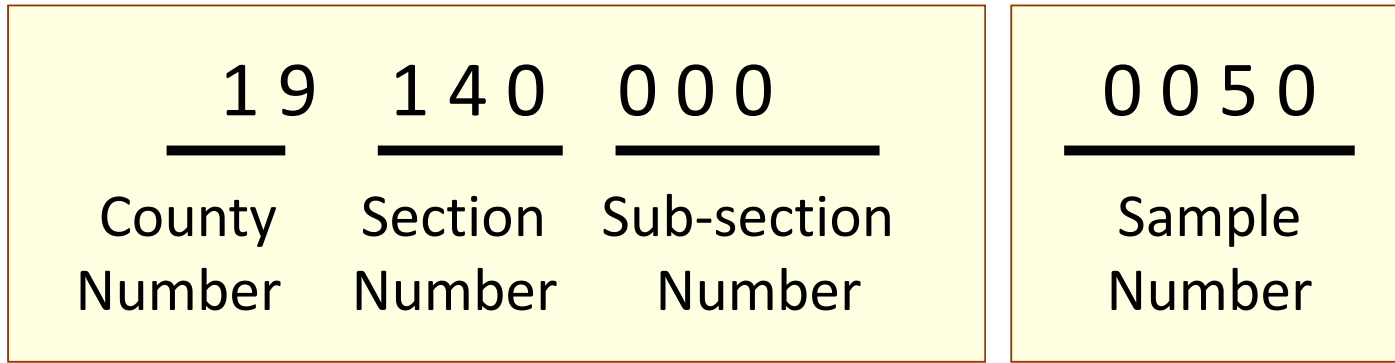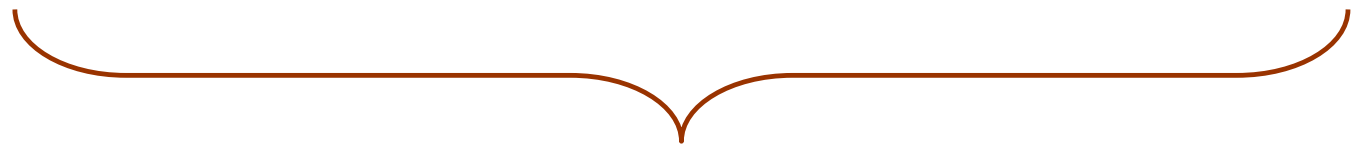
Roadway ID's come and go but ……

the

HPMS ID NUMBER

NEVER EVER CHANGES

- Why
- When

- Where
- How

Splitting Samples

Existing sample section (A-B) with 4 lanes = 2.6 mi.
Urban/rural change = 1.0 mi.
New universe section (C-B)
Remaining sample now = 1.6 mi. (A-C)
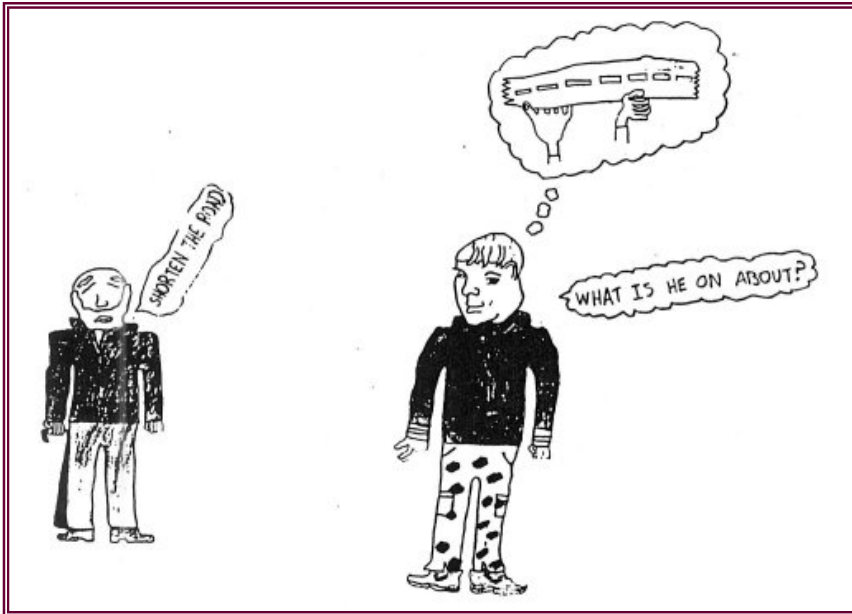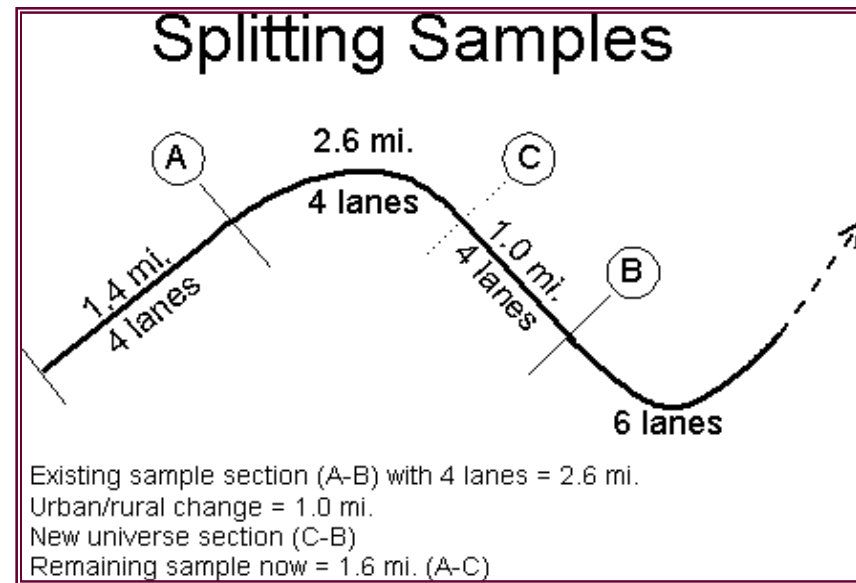
Coded Values

Listing of Coded Values for the HPMS Section

Wednesday, July 11, 2012
1:44:05 PM

County: 73　　　　HPMSIDNO: 550900010050　　Roadway_ID: 55090001　　BEGIN_POINT: 0.321
*Local Name: W PENSACOLA ST　　　　　　　　END_POINT: 0.538
LENGTH: 0.217

F_SYSTEM:	3	STRAHNET_TYPE:		THROUGH_LANES:	2
URBAN_CODE:	86464	FACILITY_TYPE:	1	IRI:	300
NHS:		TRUCK:		PSR:	3.5
FUTURE_FACILITY:		*TOLL_CHARGED:		*HOV_TYPE:	
*ROUTE_NUMBER:	N/A	*TOLL_TYPE:		*HOV_LANES:	
*ROUTE_SIGNING:	10	*TOLLNAME:			
*ROUTE_QUALIFIER:	1	VOLUME_GROUP:	3		
*OWNERSHIP:	4	AADT:	4900		

*SURFACE_TYPE:	2	*SHOULDER_TYPE:	5	AADT_SINGLE_UNIT:	162
RUTTING:	0.4	*SHLD_WIDTH_R:	10	PCT_PEAK_SINGLE:	0.6
FAULTING:		*SHLD_WIDTH_L:		AADT_COMBO:	66
CRACKING_PCT:	3	*PEAK_PARKING:	1	PCT_PEAK_COMBO:	0.2
CRACKING_LENGTH:	0	WIDENING_OBST:	AC	K_FACTOR:	11
*YR_LAST_IMPT:	1998	WIDENING_FEAS:	0	DIR_FACTOR:	100
*YR_LAST_CONST:	1982	Length Curve Class:		*PEAK_LANES:	2
OVERLAY_THICK:	1	A: 0.217 C: E:		*COUNTER_PEAK:	
THICKNESS_RIGID:		B: D: F:		*TURN_LANES_R:	5
THICKNESS_FLEX:	1	HORIZONTAL_ALIGN:		*TURN_LANES_L:	5
*BASE_TYPE:	2	*TERRAIN_TYPE:		*SIGNAL_TYPE:	2
BASE_THICKNESS:	8	VERTICAL_ALIGN:		PCT_GREEN_TIME:	70
*LANE_WIDTH:	10	Length Grade Class:		NUMBER_SIGNALS:	1
*ACCESS_CONTROL:	3	A: 0.217 C: E:		STOP_SIGNS:	0
*MEDIAN_TYPE:	1	B: D: F:		AT_GRADE_OTHER:	1
*MEDIAN_WIDTH:		PCT_PASS_SIGHT:		FUTURE_AADT:	3956
		*SPEED_LIMIT:	30	FUTURE_AADT_YR:	2031

* Predominate Value

FDOT

Coded Values

HPMS

Coding Requirements

- RCI Features & Characteristics are used in HPMS Universe & Sample Data

- This includes more than just Feature 118 and 119

- RCI Coding Rules have the highest priority
  - Example: HPMS Samples have a predominant shoulder type and width for each sample, however, RCI has actual values and programmatically they are changed for HPMS.

- Always code data to the latest published RCI Handbook standards

HPMS Features

- Feature 118 – This is specific to HPMS Samples Only
- Feature 119 – This is specific to HPMS but is coded everywhere the data exists.

- All Characteristics should be coded to the same mile points as coded for the HPMSIDNO.
- The Characteristics in this Feature coded only for the HPMS Samples.

Feature 118 HPMS Characteristics

- ASTGROTHR
- ATGRSIG
- ATGRSTOP
- CURCLASx
- GRACLASx
- HPMSIDNO
- LOADTDEV
- PEAKLANE

- SIGPREV
- TERRAIN
- TURNLANL
- TURNLANR
- TYPEOP
- WIDOST(A-G,X)
- WIDPOTNL

Feature 119 – HPMS Universe

- HOVNUMLN
- HOVTYPE
- TOLLCHGS
- TOLLTYPE
- RAMPFC

- BASETHIK
- BASETYPE
- SURFACTP
- FLEXTHIK
- OVRYTHIK
- RIGDTHIK
- YRIMPT
- YRCONST

Other RCI Characteristics used in HPMS

- Feature 111 – STROADNO & STRDNUM2
- Feature 112 – FAHWSYS, NHSDATE, SPECSYS, & STGHWNWK
- Feature 113 – USROUTE & USROUTE2
- Feature 114 – LOCALNAM
- Feature 120 – RTESGNCD & TYPEROAD
- Feature 121 – FUNCLASS
- Feature 122 – RDACCESS, TOLLROAD, & TOLLNAME
- Feature 124 – MPOAREA, URBAREA, & URBSIZE
- Feature 140 – STATEXPT

Other RCI Characteristics Cont.

- Feature 212 – NOLANES & SURWIDTH
- Feature 214 – SHLDTYPE, SHLDTYPx, SLDWIDTH, & SHLDWTHx
- Feature 215 – MDBARTYP, MEDWIDTH, & RDMEDIAN
- Feature 219 – ISLDTYPE, ISLDTYPx, ISLDWDTH, & ISLDWTHx
- Feature 230 – PAVECOND
- Feature 251 – BEGSECNM, ENDSECNM, INTSDIRx, & INTSRTPx
- Feature 258 – BOXCULNO, BRIDGENO, & TUNNELNO
- Feature 311 - MAXSPEED

Managed Lanes

- For FDOT reporting Managed Lanes add to Lane Miles and VMT, but not Centerline (Mainline) Mileage.

- HPMS Managed Lanes Impact VMT, Though Lanes, Peak Lanes, Toll Lanes, Truck AADTs, % Peak Truck, Medians, & Future AADTs.

- Feature 142 – CMLBMP, CMLEMP, CMLRDWY, LMLBMP, LMLEMP, LMLRDWY, MAINBMP, MAINEMP, MAINRDWY, RMLBMP, RMLEMP, & RMLDRWY

Traffic Characteristic Inventory (TCI)

- Traffic Data is added to the HPMS submittal in April or May each year after the End of Year processing is complete.
- Data is pulled from TCI based on RCI Data.
- Feature 326 – TRFSTNO & TRSTATYP
- Feature 330 – FLWBRKID & TRFBRKCD
- Feature 331 – AADTDATE, AADTTYPE, AVGDFACT, AVGKFACT, AVDTFACT, & SECTADT

RCI Handbook Changes

- Interim update released in November 2019
- Reformatted all the Feature 118 and 119 handbook pages and included new examples for many characteristics.
- SIT1500 – Sight Distance was changed from most restrictive direction to inventory side and is now based on pavement striping.
- WIDPOTNL & WIDOBST_ – Widening Potential and Obstacles guidance was reworked.
- RAMPFC – Ramp Federal Code a Zero was added for active exclusives not part of an interchange.

RCI Handbook Changes Continued

- HOVNUMLN & HOVTYPE – Federal Highway changed the description of HOV to include all types of Managed Lane.

- TOLLNAME was moved to from Feature 119 to 122 and some new Toll Name values were added.

- ATGRTYPE, HORALADQ, VRTALADQ, WIDEFAS were obsoleted.

HPMS Field Manual Errata – December 2019

- Received 1/31/2020
- Most of the changes were related to the pavement distress data
- Some metadata updates related to traffic
- Updated guidance to pick up crosswalk-controlled traffic lights at intersections
- Collect data to the last published RCI Handbook guidance.

DART Validation Edits and Changes

- The edits included in the DART application are used to validate data quality and completeness.

- Main 1 and Main 2 are the most important. Errors on Main 1 can prevent RCI or HPMS edits from showing additional validation issues.

- New edit for Urban Size and Area on Grade Separated Interchange Ramps is under development.

- Coding RAMPFC=0 for non-interchange ramps supports the changes.

DART Validation Edits and Changes Continued

- The RCI handbook updates November 2019 obsoleted HORALADQ and VRTALADQ

- Results in false error messages on HPE01 – Sample Sections

- HPMS rural Sample should have HORALADQ & VRTALADQ

- New logic and messages under development

- HORALADQ and VRTALADQ are obsolete. Please remove by 06/30/2020.

Questions?

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