Highway Performance Monitoring System

Field Manual Errata Sheet

U.S. Department of Transportation
Federal Highway Administration

Office of Highway Policy Information

November 2020

Version 1.3

Revision Tracker

Version	Issue Date	Summary of Changes
1.0	February 2018	PM2 and Non-PM2 rule-related technical corrections (e.g., reporting requirement edits, data collection/reporting guidance clarifications, etc.)
1.1	November 2018	Non-PM2 rule-related technical corrections (e.g., data model revisions, data collection/reporting guidance clarifications, image updates, appendices revisions, etc.)
1.2	December 2019	Non-PM2 rule-related technical corrections (e.g., data collection/reporting guidance clarifications, appendices revisions, etc.)
1.3	November 2020	Non-PM2 rule-related technical corrections (e.g., data collection/reporting guidance clarifications, appendices revisions, etc.)

Notes:

1. The FHWA intends to address these revisions via a future rulemaking action. This list of known revisions is provided solely for the information of HPMS Field Manual users and does not constitute official changes to the HPMS Field Manual at this time.

2. New and revised data collection requirements (see Errata key below) shall be implemented beginning in 2021. If this is not feasible, data collection shall be prioritized and performed promptly (beyond 2021) to align with these requirements.

Errata Key:

Deletions shown in **bold red ~~strikethrough~~**
Additions shown in **bold blue**
Rows shown *italicized and highlighted* denote November 2020 updates

Page	Discussion	Original Text	Revised Text
1-3	**Table 1.1: Minimum Data Reporting for Selected HPMS Products** - Footnotes	1/ Data for Lane-Miles on Rural Minor Collector, and Local roads are calculated using Summary miles times 2. Since the States are not required to report the number of through lanes on these systems, except for NHS sections, FHWA uses a multiplier of 2 for the number of lanes, to be consistent across all States. 2/ Data reported for Total VMT on Rural Minor Collector and Local roads are provided at a summary level of detail. States are not required to report section level AADT on these systems, except for NHS sections.	**Total Daily VMT 3/** **Total Daily Truck VMT 3/** 1/ Data for Lane-Miles on Rural Minor Collector, and Local roads are calculated using Summary miles times 2. Since the States are not required to report the number of through lanes on these systems, except for NHS sections, FHWA uses a multiplier of 2 for the number of lanes, to be consistent across all States. 2/ Data reported for Total VMT on Rural Minor Collector and Local roads are provided at a summary level of detail. States are not required to report section level AADT on these systems, except for NHS sections. **3/ These "data products" are converted to annual VMT for end-product reporting purposes.**

Page	Discussion	Original Text	Revised Text
1.5	**'Section 1.5: Reporting Requirements -** 1st paragraph	For example, Interstate pavement data and related data elements collected from January 1st 2016 through December 31st 2016 must be submitted (to FHWA) by April 15th 2017.	For example, Interstate pavement data and related data elements collected from January 1st ~~2016~~**2018** through December 31st ~~2016~~**2018** must be submitted (to FHWA) by April 15th ~~2017~~**2019**.
1-6	**Section 1.5: HPMS Submission Deadlines** - 2nd paragraph	The tiered HPMS submission process is depicted in Figure 1.1. Submission deadlines begin with Interstate pavement and other related data items on April 15th (HPMS Submission 1), followed by the Certified Mileage on June 1st. Non-Interstate pavement, non-pavement, sample, and summary data are due to be submitted on June 15th (HPMS Submission 2). Moreover, the following pavement condition-related data must be reported by April 15 of the year following the data inventory year: Sections data for Functional System (Data Item 1 in Section 4.2), Urban Code (Data Item 2 in Section 4.2), Facility Type (Data Item 3 in Section 4.2), Structure Type (Data Item 4 in Section 4.2), Through Lanes (Data Item 7 in	The tiered HPMS submission process is depicted in Figure 1.1. Submission deadlines begin with Interstate pavement and other related data items on April 15th (HPMS Submission 1), followed by the Certified Mileage on June 1st. Non-Interstate pavement, non-pavement, sample, and summary data are due to be submitted on June 15th (HPMS Submission 2). Moreover, the following pavement condition-related data must be reported by April 15 of the year following the data inventory year: Sections data for Functional System (Data Item 1 in Section 4.2), Urban Code (Data Item 2 in Section 4.2), Facility Type (Data Item 3 in Section 4.2), Structure Type (Data Item 4 in Section 4.2), Through Lanes (Data Item 7 in Section 4.2), IRI (Data Item 47 in Section 4.2), Surface Type (Data Item

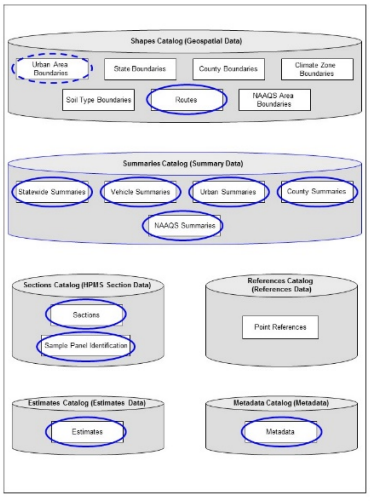
Page	Discussion	Original Text	Revised Text
		Section 4.2), IRI (Data Item 47 in Section 4.2), Surface Type (Data Item 49 in Section 4.2), Rutting (Data Item 50 in Section 4.2), Faulting (Data Item 51 in Section 4.2), Cracking Percent (Data Item 52 in Section 4.2), NHS (National Highway System) (Data Item 64 in Section 4.2) and a dual-carriageway, LRS-enabled, geospatial Routes dataset (Section 3.3). See Chapter 4, Sec. 4.3 and 4.4 for details on data item-specific collection and reporting requirements.	49 in Section 4.2), Rutting (Data Item 50 in Section 4.2), Faulting (Data Item 51 in Section 4.2), Cracking Percent (Data Item 52 in Section 4.2)~~,~~ **and** NHS (National Highway System) (Data Item 64 in Section 4.2)~~ and a dual-carriageway, LRS-enabled, geospatial Routes dataset (Section 3.3)~~. See Chapter 4, Sec. 4.3 and 4.4 for details on data item-specific collection and reporting requirements.
2-2	**'Table 2.1: Data Items to be Reported** - Data Item 1: Functional System	1 | Functional System | FE + R | |	1 | Functional System | **FE + R*** | |

Page	Discussion	Original Text	Revised Text
2-2	**'Table 2.1: Data Items to be Reported** - Data Item 3: Facility Type	3 | Facility Type | FE + R | |	3 | Facility Type | **FE + R*** | |
2-2	**'Table 2.1: Data Items to be Reported** - Data Item 14: Speed Limit	14 | Speed Limit | | SP	14 | Speed Limit | **FE*** ** | SP*
2-2	**'Table 2.1: Data Items to be Reported** - Data Item 20: Alternate Route Name	20 | Alternate Route Name | FE |	20 | **Alternative** Route Name | FE* |
2-3	**'Table 2.1: Data Items to be Reported** - Data Item 47: International Roughness Index (IRI)	47 | International Roughness Index (IRI) | FE* | SP*	47 | International Roughness Index (IRI) | FE*** | SP*
2-4	**'Table 2.1: Data Items to be Reported** - Data Item 68: Maintenance and Operations	68 | Maintenance and Operations | FE |	68 | Maintenance and Operations | FE** |

Page	Discussion	Original Text	Revised Text
2-4	**Table 2.1: Data Items to be Reported** - Data Item 63: County Code	63 | County Code | FE |	63 | County Code | FE* |
2-4	***Table 2.1: Data Items to be Reported*** *- Footnotes*	*FE = Full Extent for all functional systems (including State and non-State roadways)* *FE* = Full Extent for some functional systems, (see Chap. 4, Sec. 4.4 for more details)* *FE** = Full Extent wherever data item is applicable, (see Chap. 4, Sec. 4.4 for more details)* *FE*** = Full Extent for all NHS roadways (including State and non-State roadways)* *FE***# = (Optional) Full Extent for NHS roadways (including State and non-State roadways)* *FE****# = (Optional) Full Extent for Interstate roadways (including State and non-State roadways)* *FE + R = Full Extent including ramps located within grade-separated interchanges* *SP = All Sample Panel Sections (as defined by HPMS)* *SP* = Some Sample Panel Sections (see Chap. 4, Sec. 4.4 for more details)*	*FE = Full Extent for **either** all ~~**functional**~~ **Federal-aid** systems, **or all public roads** (including State and non-State roadways)* *FE* = Full Extent for some ~~**functional**~~ **Federal-aid** systems, (see Chap. 4, Sec. 4.4 for more details)* *FE** = Full Extent **for either all Federal-aid systems, or all public roads** wherever data item is applicable, (see Chap. 4, Sec. 4.4 for more details)* *FE*** = Full Extent for all NHS roadways (including State and non-State roadways)* *FE***# = (Optional) Full Extent for NHS roadways (including State and non-State roadways)* *FE****# = (Optional) Full Extent for Interstate roadways (including State and non-State roadways)* *FE + R = Full Extent **for all Federal-aid systems,** including ramps located within grade-separated interchanges* ***FE + R* = Full Extent for all public roads, including ramps located within grade-separated interchanges*** *SP = ~~**All**~~ Sample Panel Sections (as defined by HPMS) **on all Federal-aid systems*** *SP* = ~~**Some**~~ Sample Panel Sections **on some Federal-aid systems** (see Chap. 4, Sec. 4.4 for more details)*

Page	Discussion	Original Text	Revised Text
2-5	**Summary Data** - Discussion	The following summaries are to be reported as five individual datasets, which will be stored as tables within FHWA's database: 1 - Statewide Summaries 2 - Vehicle Summaries 3 - Urban Summaries 4 - County Summaries 5 - NAAQS Summaries	The following summaries are to be reported as ~~five~~**four** individual datasets, which will be stored as tables within FHWA's database: 1 - Statewide Summaries 2 - Vehicle Summaries 3 - Urban Summaries 4 - County Summaries ~~**5 - NAAQS Summaries**~~
2-6	**NAAQS Summaries** - Discussion	This summary includes system length and travel data for rural minor collectors and rural/urban locals summarized by non-attainment and maintenance areas, and pollutant type. HPMS uses the Environmental Protection Agency (EPA) defined non-attainment or maintenance area for identification purposes.	~~**This summary includes system length and travel data for rural minor collectors and rural/urban locals summarized by non-attainment and maintenance areas, and pollutant type. HPMS uses the Environmental Protection Agency (EPA) defined non-attainment or maintenance area for identification purposes.**~~

Page	Discussion	Original Text	Revised Text
3-1	**Overview** - Discussion	This data model is organized conceptually into a group of six catalogs. Each catalog groups the various datasets by type and/or function. The types of data can be categorized as: (1) geospatial data, representing various highway systems, geographic boundaries etc., (2) roadway attribute data that can be linked to a related GIS dataset, which allows the attribute data to be represented spatially via linear referencing or (3) metadata, which provides additional global information about the data. Figure 3.1 illustrates the structure of the HPMS data model. The HPMS attribute data that are submitted by the States are grouped within the Sections Catalog. The Sections dataset that is identified in this catalog stores all of the records for each data item as they are reported by the States. The Sample Panel Identification dataset stores the limits for each State's sample panel as identified by the States. The Data Item field in the Sections dataset specifies the type of record (e.g. AADT, Lane Width, etc.), with the corresponding data stored in the Value (Numeric, Text, or Date) fields. These records act independently of one another, as they indicate the properties of the attribute they portray. Furthermore, the records in both the Sections and Sample Panel Identification datasets are linked to each State's geospatial network (i.e. LRS network) via its attribute table, which is identified as the Routes dataset that is identified in	This data model is organized conceptually into a group of ~~six~~**five** catalogs. Each catalog groups the various datasets by type and/or function. The types of data can be categorized as: (1) geospatial data, representing various highway systems, geographic boundaries etc., (2) roadway attribute data that can be linked to a related GIS dataset, which allows the attribute data to be represented spatially via linear referencing or (3) metadata, which provides additional global information about the data. Figure 3.1 illustrates the structure of the HPMS data model. The HPMS attribute data that are submitted by the States are grouped within the Sections Catalog. The Sections dataset that is identified in this catalog stores all of the records for each data item as they are reported by the States. The Sample Panel Identification dataset stores the limits for each State's sample panel as identified by the States. The Data Item field in the Sections dataset specifies the type of record (e.g. AADT, Lane Width, etc.), with the corresponding data stored in the Value (Numeric, Text, or Date) fields. These records act independently of one another, as they indicate the properties of the attribute they portray. Furthermore, the records in both the Sections and Sample Panel Identification datasets are linked to each State's geospatial network (i.e. LRS network) via its attribute table, which is identified as the Routes dataset that is identified in the model's Shapes Catalog. Data associated with the lower functional systems (i.e. minor collectors in rural areas and local roads in all areas) are

Page	Discussion	Original Text	Revised Text
		the model's Shapes Catalog. Data associated with the lower functional systems (i.e. minor collectors in rural areas and local roads in all areas) are summarized and reported in the datasets identified in the Summaries Catalog. The level of data for these functional systems is commensurate with the Federal need for analyzing and reporting these data. The Estimates Catalog contains a dataset of pavement attributes that will be used as input to FHWA's pavement models. The Metadata Catalog contains data that describe the methods and tools that are used for the collection and reporting of traffic, pavement, and ramp data. The References Catalog identifies the geospatial data which will ultimately be maintained by FHWA or other non-State entities. The data in these datasets are available for use by the States throughout the year for reference.	summarized and reported in the datasets identified in the Summaries Catalog. The level of data for these functional systems is commensurate with the Federal need for analyzing and reporting these data. The Estimates Catalog contains a dataset of pavement attributes that will be used as input to FHWA's pavement models. The Metadata Catalog contains data that describe the methods and tools that are used for the collection and reporting of traffic, pavement, and ramp data. ~~**The References Catalog identifies the geospatial data which will ultimately be maintained by FHWA or other non-State entities.**~~ The data in these datasets are available for use by the States throughout the year for reference.
3-2	**Figure 3.1 HPMS Data Model Structure** - Image		**Removed the 'NAAQS Summaries' object from the 'NAAQS Area Boundaries', and 'Summaries Catalog' portions of the image; removed the 'References Catalog' from the image.**

Page	Discussion	Original Text	Revised Text
3-3	**Geospatial Component** - Discussion	Furthermore, the geospatial component of the data model involves the use of a LRS, which links the HPMS attribute data to a series of shape files. Both the geospatial and attribute data contain three referencing elements that are used to perform the linkage for linear features: (1) A unique Route ID, (2) a beginning milepoint, and (3) an ending milepoint. Point features use a route milepoint in place of a beginning and ending milepoint for referencing purposes. Data Items are identified in the Point References datasets of the model's References Catalog and are linked to and spatially referenced in the same manner. For general guidance on the development of a State wide LRS, see the FHWA publication, All Public Roads Geospatial Representation Study.	Furthermore, the geospatial component of the data model involves the use of a LRS, which links the HPMS attribute data to a series of shape files. Both the geospatial and attribute data contain three referencing elements that are used to perform the linkage for linear features: (1) A unique Route ID, (2) a beginning milepoint, and (3) an ending milepoint. ~~**Point features use a route milepoint in place of a beginning and ending milepoint for referencing purposes. Data Items are identified in the Point References datasets of the model's References Catalog and are linked to and spatially referenced in the same manner.**~~ For general guidance on the development of a State wide LRS, see the FHWA publication, All Public Roads Geospatial Representation Study.
3-5	**Shapes Catalog -** Image	N/A	**Deleted [NAAQS Area Boundaries] Object from Shapes Catalog image**
3-7	**Table 3.5 Routes** Footnotes	Extent – All public roads including Federal-aid highways, and ramps located within grade-separated interchanges (including NHS routes). This roadway network is termed 'All Roads Network' or ARNOLD.	Extent – All public roads including Federal-aid highways, and ramps located within grade-separated interchanges (including NHS routes). This roadway network is termed **the** 'All Roads Network **of Linear Referenced Data**' or ARNOLD.

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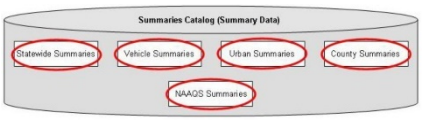
3-9	**Table 3.7 NAAQS Area Boundaries** - Discussion & Table	Table 3.7 describes the polygon shapes dataset representing the EPA-defined non-attainment and maintenance areas for each State. This dataset will be maintained by FHWA. The definition of a Maintenance Area is any geographic region of the Unites States previously designated as non-attainment pursuant to the Clean Air Act (CAA) Amendments of 1990 and subsequently re-designated to attainment subject to the requirement to develop a maintenance plan under Section 175A of the CAA, as amended. The national HPMS database is used for tracking travel for air quality assurance purposes in non-attainment and maintenance areas as required by EPA under the 1990 CAA (Section 187) and the Transportation Conformity Rule, 40 CFR parts 51 and 93. More specifically, the database is used primarily for establishing regional transportation-related emissions for transportation conformity purposes. Estimated travel based on these data is used for the calibration and validation of base-year network travel models when required for non-attainment or maintenance areas. [NAAQS AREA BOUNDARIES TABLE]	~~Table 3.7 describes the polygon shapes dataset representing the EPA-defined non-attainment and maintenance areas for each State. This dataset will be maintained by FHWA.~~ ~~The definition of a Maintenance Area is any geographic region of the Unites States previously designated as non-attainment pursuant to the Clean Air Act (CAA) Amendments of 1990 and subsequently re-designated to attainment subject to the requirement to develop a maintenance plan under Section 175A of the CAA, as amended. The national HPMS database is used for tracking travel for air quality assurance purposes in non-attainment and maintenance areas as required by EPA under the 1990 CAA (Section 187) and the Transportation Conformity Rule, 40 CFR parts 51 and 93. More specifically, the database is used primarily for establishing regional transportation-related emissions for transportation conformity purposes. Estimated travel based on these data is used for the calibration and validation of base-year network travel models when required for non-attainment or maintenance areas.~~ ~~[NAAQS AREA BOUNDARIES TABLE]~~
3-11	**Table 3.8 Sections** Description	Table 3.8 describes the State reported HPMS Section dataset representing all Federal-aid highways and other applicable sections. The specific requirements for the information to be reported in the Data Item field are defined in detail in Chapter 4. See Table	Table 3.8 describes the State reported HPMS Section dataset representing all Federal-aid highways and ~~other applicable sections.~~ **in a few cases, all public roads**. The specific requirements for the information to be reported in the Data Item field are defined in detail in Chapter 4. See

Page	Discussion	Original Text	Revised Text
		4.2 for a full list of the required HPMS Data Items and related reporting requirements.	Table 4.2 for a full list of the required HPMS Data Items and related reporting requirements.
3-11	**Table 3.8 Sections** Footnotes	Extent: All Federal-aid highways and ramps located within grade separated interchanges and applicable items on other sections where a toll facility exists; optional for other sections.	Extent: All Federal-aid highways and ramps located within grade separated interchanges ~~and applicable items on other sections where a toll facility exists~~ **for most data items**; **all public roads for certain data items**~~; optional for other sections~~.
3-13	**Summaries Catalog -** Image		**Removed the 'NAAQS Summaries' object from the 'Summaries Catalog' portion of the image.**
3-13	**Summaries Catalog -** Discussion	This catalog is comprised of the following five datasets: • Statewide Summaries • Vehicle Summaries • Urban Area Summaries • County Summaries • NAAQS Summaries	This catalog is comprised of the following ~~five~~**four** datasets: • Statewide Summaries • Vehicle Summaries • Urban Area Summaries • County Summaries ~~• NAAQS Summaries~~
3-14	**Table 3.10 Statewide Summaries** Description	Table 3.10 describes the dataset which contains demographic and system length estimates for all Urban and Rural public roads, functionally classified as minor collector in rural areas or local in any area, summarized by State. In addition, this dataset contains daily vehicle-miles traveled (VMT) estimates for all public roads located in Small Urban areas, functionally classified as minor collector or local. This includes NHS roads located on these functional systems.	Table 3.10 describes the dataset which contains demographic and system length estimates for all ~~Urban and Rural~~ public roads, functionally classified as minor collector in rural areas or local in any area, summarized by State. In addition, this dataset contains daily vehicle-miles traveled (VMT) estimates for all public roads located in Small Urban areas, **and roads** functionally classified as **rural** minor collector or local. This includes NHS roadways located on these functional systems.
3-14	***Table 3.10 Statewide***	*Rural Population (> 5,000)*	*Rural Population (~~>~~ < 5,000)*

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	Summaries – Table		
3-14	**Table 3.10 Statewide Summaries** Footnotes	Extent: All public roads functionally classified as Rural Minor Collector/Local and Small Urban Local. Any NHS routes or toll roads on these functional systems should be included.	Extent: All public roads functionally classified as Rural Minor Collector~~/~~ **or** Local ~~and Small Urban Local~~. Any NHS routes or toll roads on these functional systems should be included.
3-18	**Table 3.14 NAAQS Summaries** - Discussion, Table, & Footnotes	Table 3.14 describes the dataset which contains system length and travel data for all roads functionally classified as minor collector in rural areas or local in any area summarized by EPA Non-Attainment or Maintenance Area, and the relative pollutant standard. *[NAAQS Summary Table]* Extent: All public roads functionally classified as minor collector in rural areas or local in any area. Any NHS routes or toll roads on these functional systems should be included. Reporting cycle: Review annually; update as needed. Collection requirements: Travel and system length data for each pollutant standard within the applicable NAAQS area within the State.	~~Table 3.14 describes the dataset which contains system length and travel data for all roads functionally classified as minor collector in rural areas or local in any area summarized by EPA Non-Attainment or Maintenance Area, and the relative pollutant standard.~~ ~~*[NAAQS Summary Table]*~~ ~~Extent: All public roads functionally classified as minor collector in rural areas or local in any area. Any NHS routes or toll roads on these functional systems should be included.~~ ~~Reporting cycle: Review annually; update as needed.~~ ~~Collection requirements: Travel and system length data for each pollutant standard within the applicable NAAQS area within the State.~~
3-19	**References Catalog** - Discussion	The References Catalog identifies the reference data that will be maintained by FHWA or other Non-State DOT entities at some point in the future. This catalog identifies the Point References dataset, which contains data for grade-separated interchanges that are located on the Federal-aid system, excluding roads functionally classified as minor collector in rural areas or local in any area.	~~The References Catalog identifies the reference data that will be maintained by FHWA or other Non-State DOT entities at some point in the future. This catalog identifies the Point References dataset, which contains data for grade-separated interchanges that are located on the Federal-aid system, excluding roads functionally classified as minor collector in rural areas or local in any area.~~

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		[References Catalog Image]	~~*[References Catalog Image]*~~
3-20	**Table 3.15 Point References** - Discussion, & Table	Table 3.15 describes the dataset which contains data for grade-separated interchanges that are located on the Federal-aid system, excluding roads functionally classified as minor collector in rural areas or local in any area. Currently, this dataset only contains the location and type of grade-separated interchanges. This dataset will be populated by FHWA for the States that do not currently have these data. *[Point References Table]*	~~Table 3.15 describes the dataset which contains data for grade-separated interchanges that are located on the Federal-aid system, excluding roads functionally classified as minor collector in rural areas or local in any area. Currently, this dataset only contains the location and type of grade-separated interchanges. This dataset will be populated by FHWA for the States that do not currently have these data.~~ ~~*[Point References Table]*~~
3-22	**Table 3.16 Estimates** Discussion	Table 3.16 describes the dataset which contains statewide estimates to be used as default inputs for FHWA's pavement deterioration models. Table 3.18 contains a list of the valid entries for the Estimate Type Field and their associated values.	Table 3.16 describes the dataset which contains statewide estimates to be used as default inputs for FHWA's pavement deterioration models. Table ~~3.18~~**3.17** contains a list of the valid entries for the Estimate Type Field and their associated values.
3-22	**Table 3.18 Estimates** Estimate Type - Valid Values	A detailed list of the estimate types is provided in Table 3.18 below.	A detailed list of the estimate types is provided in Table ~~3.18~~ **3.17** below.
3-22	**Table 3.18 Estimates** Value Numeric - Valid Values	Must be numeric as specified (in Table 3.18) under the Value Numeric descriptions.	Must be numeric as specified (in Table 3.~~18~~ **3.17**) under the Value Numeric descriptions.
3-26	**Table 3.18 Metadata** Discussion	Table 3.18 describes the dataset which contains data that captures and explains variability in the collection and reporting of traffic and pavement data in HPMS. Table 3.20 lists the valid entries for the	Table 3.18 describes the dataset which contains data that captures and explains variability in the collection and reporting of traffic and pavement data in HPMS. Table ~~3.20~~**3.19** lists the

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		Metadata Type Field and their associated values.	valid entries for the Metadata Type Field and their associated values.
3-26	**Table 3.18 Metadata** Metadata Type - Valid Values	A detailed list of the metadata types is provided in Table 3.20 below. Multiple metadata types are permitted per data item.	A detailed list of the metadata types is provided in Table ~~**3.20**~~ **3.19** below. Multiple metadata types are permitted per data item.
3-26	**Table 3.18 Metadata** Value Numeric - Valid Values	Must be numeric as specified (in Table 3.20) under the Value Numeric descriptions.	Must be numeric as specified (in Table ~~**3.20**~~ **3.19**) under the Value Numeric descriptions.
3-27	**Table 3.19 Metadata Types and Valid Values** - AADT_24 / Description	Number of permanent and portable counter locations that were counted for a duration of 24 hours or more	Number of ~~**permanent and**~~ portable counter locations that were counted for a duration of 24 hours ~~**or more**~~ **to 47 hours**
3-27	**Table 3.19 Metadata Types and Valid Values** - Class_24 / Description	Number of permanent and portable classification count locations that were counted for a duration of 24 hours or more	Number of ~~**permanent and**~~ portable classification count locations that were counted for a duration of 24 hours ~~**or more**~~ **to 47 hours**
3-27	**Table 3.19 Metadata Types and Valid Values** - Class_48 / Description	Number of permanent and portable classification count locations that were counted for a duration of 48 hours or more	Number of ~~**permanent and**~~ portable classification count locations that were counted for a duration of 48 hours or more
3-27	**Table 3.19 Metadata Types and Valid Values** - AADT_48 / Description	Number of permanent and portable counter locations that were counted for a duration of 24 hours or more	Number of ~~**permanent and**~~ portable counter locations that were counted for a duration of 24 hours or more

Page	Discussion	Original Text	Revised Text
4-10	**Table 4.2 Data Items, Related Submission Deadlines and Required Reporting Formats** - Data Item 1: Functional System	1 | Functional System | FE + R | | April 15th# | I&NI	1 | Functional System | **FE + R*** | | April 15th# | I&NI
4-10	**Table 4.2 Data Items, Related Submission Deadlines and Required Reporting Formats** - Data Item 3: Facility Type	3 | Facility Type | FE + R | | | April 15th# | I&NI |	3 | Facility Type | **FE + R*** | | April 15th# | I&NI
4-10	**Table 4.2 Data Items, Related Submission Deadlines and Required Reporting Formats** – Data Item 7: Through Lanes	7 | Through Lanes | FE + R | April 15# | I or I&NI*	7 | Through Lanes | FE + R | April 15# | I ~~or I&NI*~~
4-10	**Table 4.2: Data Items to be Reported** - Data Item 14: Speed Limit	14 | Speed Limit | FE* | SP	14 | Speed Limit | **FE***** | SP*

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4-10	**Table 4.2: Data Items to be Reported** - Data Item 20: Alternate Route Name	20 | Alternate Route Name | FE |	20 | **Alternative** Route Name | FE* |
4-10	***Table 4.2: Data Items to be Reported*** *- Data Item 22: Single-Unit Truck and Bus AADT*	*22* | *Single Unit Truck and Bus AADT* | *FE** | *SP**	*22* | *Single-Unit Truck and Bus AADT* | *FE** | *SP**
4-12	**Table 4.2: Data Items to be Reported** - Data Item 63: County Code	63 | County Code | FE |	63 | County Code | FE* |
4-12	**Table 4.2: Data Items to be Reported** - Data Item 68: Maintenance and Operations	68 | Maintenance and Operations | FE |	68 | Maintenance and Operations | FE** |
4-12	***Table 4.2: Data Items to be Reported*** *- Footnotes*	*FE = Full Extent for all functional systems (including State and non-State roadways)* *FE* = Full Extent for some functional systems, (see Chap. 4, Sec. 4.4 for more details)* *FE** = Full Extent wherever data item is applicable, (see Chap. 4, Sec. 4.4 for more details)* *FE*** = Full Extent for all NHS roadways (including State and non-State roadways)* *FE***# = (Optional) Full Extent for NHS roadways (including State and non-State roadways)* *FE****# = (Optional) Full Extent for Interstate roadways (including State and non-State roadways)* *FE + R = Full Extent including ramps located within grade-separated interchanges* *SP = All Sample Panel Sections (as defined by HPMS)*	*FE = Full Extent for **either** all ~~functional~~ **Federal-aid** systems, **or all public roads** (including State and non-State roadways)* *FE* = Full Extent for some ~~functional~~ **Federal-aid** systems, (see Chap. 4, Sec. 4.4 for more details)* *FE** = Full Extent for **either all Federal-aid systems, or all public roads** wherever data item is applicable, (see Chap. 4, Sec. 4.4 for more details)* *FE*** = Full Extent for all NHS roadways (including State and non-State roadways)* *FE***# = (Optional) Full Extent for NHS roadways (including State and non-State roadways)* *FE****# = (Optional) Full Extent for Interstate roadways (including State and non-State roadways)* *FE + R = Full Extent **for all Federal-aid systems**, including ramps located*

Page	Discussion	Original Text	Revised Text
		SP = Some Sample Panel Sections (see Chap. 4, Sec. 4.4 for more details)*	*within grade-separated interchanges* ***FE + R* = Full Extent for all public roads, including ramps located within grade-separated interchanges*** *SP = ~~**All**~~ Sample Panel Sections (as defined by HPMS)* ***on all Federal-aid systems*** *SP* = ~~**Some**~~ Sample Panel Sections* ***on some Federal-aid systems*** *(see Chap. 4, Sec. 4.4 for more details)* ****NOTE: The extent requirement specifications in Sec. 4.4 will be updated, for the applicable data items, to reflect the revisions noted above.***
4-16	**Item 1: Functional System** - Extent Grid	Grid/table indicates that this data item is required to be reported on a **FE+R** basis	Grid/table should indicate that this data item is required to be reported on a **FE+R*** basis
4-17	**Item 2: Urban Code** - Extent	All Public highways including ramps located within grade-separated interchanges as identified in 23 U.S.C. 101.a(27).	All ~~**Public**~~ **Federal-aid** highways including ramps located within grade-separated interchanges ~~**as identified in 23 U.S.C. 101.a(27)**~~.

<table>
<tr><th>Page</th><th>Discussion</th><th>Original Text</th><th>Revised Text</th></tr>
<tr><td>4-17</td><td>Item 2: Urban Code - Extent Grid</td><td><table><tr><th>FS</th><th>6 - MiC</th><th>7 - Local</th></tr><tr><td>Rural</td><td>FE + R</td><td>FE + R</td></tr><tr><td>Urban</td><td>FE + R</td><td>FE + R</td></tr></table></td><td><table><tr><th>FS</th><th>6 - MiC</th><th>7 - Local</th></tr><tr><td>Rural</td><td><s>FE + R</s></td><td><s>FE + R</s></td></tr><tr><td>Urban</td><td>FE + R</td><td><s>FE + R</s></td></tr></table></td></tr>
<tr><td>4-18</td><td>Item 3: Facility Type - Extent Grid</td><td>Grid/table indicates that this data item is required to be reported on a FE+R basis</td><td>Grid/table should indicate that this data item is required to be reported on a FE+R* basis</td></tr>
<tr><td>4-28</td><td>Item 6: Ownership - Coding Options</td><td>31 | State Toll Road |</td><td>31 | State Toll <s>Road</s>Authority |</td></tr>
<tr><td>4-30</td><td>Item 7: Through Lanes - Guidance</td><td>For LRS purposes, this Data Item can be reported independently for both directions of travel associated with divided highway sections, for which dual carriageway GIS network representation is required per guidance in Chapter 3, Section 3.3 and Table 3.5.</td><td><s>For LRS purposes, this Data Item can be reported independently for both directions of travel associated with divided highway sections, for which dual carriageway GIS network representation is required per guidance in Chapter 3, Section 3.3 and Table 3.5.</s></td></tr>
</table>

Page	Discussion	Original Text	Revised Text
4-42	**Figure 4.29: Multiple Turn Lanes (Code '2') Example** - Image	**Figure 4.29: Multiple Turn Lanes (Code '2') Example** 	**Image removed.**
4-44	**Item 14: Speed Limit** - Guidance	If the speed limit changes within the limits of a section, the State shall determine and report the predominant speed limit. Baseline speed limit data for the National Highway System (NHS) will be provided by FHWA. The State shall validate or update this information annually as needed.	If the speed limit changes within the limits of a section, the State shall determine and report the predominant speed limit. Baseline speed limit data for the National Highway System (NHS) will be provided by FHWA. The State shall validate or update this information annually as needed. **For sections where minimum and maximum posted speed limits (PSLs) are present, this data item shall be coded in accordance with the maximum PSLs.** **For sections where dynamically controlled (e.g., gantry-controlled) speed limits are present, code the PSL. If the speed limit for these sections during the peak period is lower than the PSL, code the lower value (i.e., peak period speed limit).**

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<tr><th>Page</th><th>Discussion</th><th>Original Text</th><th>Revised Text</th></tr>
<tr><td>4-48</td><td>Item 18: Route Signing – Coding Requirements</td><td>
<table>
<tr><th>Code</th><th>Descriptio</th></tr>
<tr><td>6</td><td>County</td></tr>
<tr><td>7</td><td>Township</td></tr>
<tr><td>8</td><td>Municipal</td></tr>
<tr><td>9</td><td>Parkway Marker or Forest Ro</td></tr>
<tr><td>10</td><td>None of the Above</td></tr>
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<tr><td>6</td><td>County</td></tr>
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<tr><td>8</td><td>Municipal</td></tr>
<tr><td>9</td><td>Parkway Marker or Forest Route</td></tr>
<tr><td>10</td><td><s>None of the Above</s> Other</td></tr>
</table>
</td></tr>
<tr><td>4-49</td><td>Item 19: Route_Qualifier – Coding Requirements</td><td>
<table>
<tr><th>Code</th><th>Descriptio</th></tr>
<tr><td>6</td><td>Loop</td></tr>
<tr><td>7</td><td>Proposed</td></tr>
<tr><td>8</td><td>Temporary</td></tr>
<tr><td>9</td><td>Truck Route</td></tr>
<tr><td>10</td><td>None of the Above</td></tr>
</table>
</td><td>
<table>
<tr><th>Code</th><th>Description</th></tr>
<tr><td>6</td><td>Loop</td></tr>
<tr><td>7</td><td>Proposed</td></tr>
<tr><td>8</td><td>Temporary</td></tr>
<tr><td>9</td><td>Truck Route</td></tr>
<tr><td>10</td><td><s>None of the Above</s> Other</td></tr>
</table>
</td></tr>
<tr><td>4-52</td><td>Item 21: AADT - Guidance</td><td>If average weekday, average weekly, or average monthly traffic is calculated or available, it shall be adjusted to represent the annual average daily traffic (AADT). AADT is an average daily value that represents all days of the reporting year.</td><td>If average weekday, average weekly, or average monthly traffic is calculated or available, it shall be adjusted to represent the annual average daily traffic (AADT). AADT is an average daily value that represents all days of the <s>reporting</s> data/inventory year.</td></tr>
</table>

Page	Discussion	Original Text	Revised Text
4-53	**Item 22: Single-Unit Truck and Bus AADT** - Guidance	- For two-way facilities, provide the bidirectional Single-unit Truck and Bus AADT; for one-way roadways, and ramps, provide the directional Single-unit Truck and Bus AADT. - This value shall be representative of all single-unit truck and bus activity based on vehicle classification count data from both the State's and other agency's traffic monitoring programs over all days of the week and all seasons of the year. Actual vehicle classification counts shall be adjusted to represent average conditions as recommended in the *Traffic Monitoring Guide (TMG)*. Single-unit trucks and buses are defined as vehicle classes 4 through 7 (buses through four-or-more axle, single-unit trucks). - AADT values shall be updated annually to represent current year data. Section specific measured values are requested based on traffic counts taken on a minimum three-year cycle. If these data are not available, values derived from classification station data on the same route, or on a similar route with similar traffic characteristics in the same area can be used. - Specific guidance for the frequency and size of vehicle classification data collection programs, factor development, age of data, and other applications is contained in the *Traffic Monitoring Guide*.	- For two-way facilities, provide the bidirectional **combined** Single-unit Truck and Bus AADT; for one-way roadways, and ramps, provide the directional **combined** Single-unit Truck and Bus AADT. This value shall be representative of all combination truck activity based on vehicle classification data from traffic monitoring programs over all days of the week and all seasons of the year. ~~Actual~~ **Short-term** vehicle classification counts shall be adjusted to represent average **daily** conditions as recommended in the *Traffic Monitoring Guide (TMG).* Single-unit trucks and buses are defined as vehicle classes 4 through 7 (buses through four-or-more axle, single-unit trucks). - **Historical** AADT values shall be ~~updated~~ **adjusted** annually **(during non-collection years)** to represent current year data. - **Sample** ~~Section~~**section**-specific measured values ~~are requested~~**shall be** based on traffic counts taken on a minimum three-year cycle **and a duration minimum of 48 hours**. If these data are not available, values derived from classification station data on the same route, or on a similar route with similar traffic characteristics in the same area can be used. -Specific guidance for the frequency and size of vehicle classification data collection programs, factor development, age of data, and other applications is contained in the *Traffic Monitoring Guide*.

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4-56 & 57	**Item 24: Combination Truck AADT** - Guidance	- For two-way facilities, provide the bidirectional Combination Truck AADT; for one-way roadways, and ramps, provide the directional Combination Truck AADT. - This value shall be representative of all combination truck activity based on vehicle classification data from traffic monitoring programs over all days of the week and all seasons of the year. Actual vehicle classification counts shall be adjusted to represent average conditions as recommended in the *Traffic Monitoring Guide (TMG)*. Combination trucks are defined as vehicle classes 8 through 13 (four-or-less axle, single-trailer trucks through seven-or-more axle, multi-trailer trucks). - AADT values shall be updated annually to represent current year data. - Section specific measured values are requested based on traffic counts taken on a three-year cycle, at a minimum. If these data are not available, use values derived from classification station data on the same route or on a similar route with similar traffic characteristics in the same area. Specific guidance for the frequency and size of vehicle classification data collection programs, factor development, age of data, and other applications is contained in the *Traffic Monitoring Guide*.	- For two-way facilities, provide the bidirectional Combination Truck AADT; for one-way roadways, and ramps, provide the directional Combination Truck AADT. - This value shall be representative of all combination truck activity based on vehicle classification data from traffic monitoring programs over all days of the week and all seasons of the year. ~~Actual~~ **Short-term** vehicle classification counts shall be adjusted to represent average **daily** conditions as recommended in the *Traffic Monitoring Guide (TMG).* Combination trucks are defined as vehicle classes 8 through 13 (four-or-less axle, single-trailer trucks through seven-or-more axle, multi-trailer trucks). **- Historical** AADT values shall be ~~updated~~ **adjusted** annually **(during non-collection years)** to represent current year data. **- Sample** ~~Section~~ **section**-specific measured values ~~are requested~~ **shall be** based on traffic counts taken on a three-year cycle, at a minimum **and a duration minimum of 48 hours**. If these data are not available, use values derived from classification station data on the same route or on a similar route with similar traffic characteristics in the same area. Specific guidance for the frequency and size of vehicle classification data collection programs, factor development, age of data, and other applications is contained in the *Traffic Monitoring Guide.*

Page	Discussion	Original Text	Revised Text
4-64	**Item 30: Percent Green Time** - Guidance	Additional Guidance: Code this Data Item for all sections where right and left turn data (Data Items 12 and 13) are coded. For uncoordinated traffic actuated signals only, data can be collected when monitoring green time. Consider the surrounding environment and determine if the inventory direction of the signal would actually carry the peak flow for the intersection. Based on this approach, the value received may be an estimate depending upon the operation of the traffic signal during the peak hour. Furthermore, if the traffic signal is fully actuated, or the approach of interest is actuated, estimate the percent of green time based on the maximum green time available for that phase of operation versus the maximum cycle length. This would provide the "worst case" scenario since the volume on the actuated approach typically varies cycle by cycle. Where peak capacity for a section is governed by a particular intersection that is on the section, this Data Item shall be coded based on the percent green time at that location; otherwise code this Data Item for the predominate intersection. For traffic actuated traffic signals, use the results of a field check of several (three complete cycles) peak period light cycles to determine a "typical" green time. Ignore separate green-arrow time for turning movements.	Additional Guidance: Code this Data Item for all sections where right and left turn data (Data Items 12 and 13) are coded. For uncoordinated traffic actuated signals only, data can be collected when monitoring green time. Consider the surrounding environment and determine if the inventory direction of the signal would actually carry the peak flow for the intersection. Based on this approach, the value received may be an estimate depending upon the operation of the traffic signal during the peak hour. Furthermore, if the traffic signal is fully actuated, or the approach of interest is actuated, estimate the percent of green time based on the maximum green time available for that phase of operation versus the maximum cycle length. This would provide the "worst case" scenario since the volume on the actuated approach typically varies cycle by cycle. Where peak capacity for a section is governed by a particular intersection that is on the section, this Data Item shall be coded based on the percent green time at that location; otherwise code this Data Item for the predominate intersection. For traffic actuated traffic signals, use the results of a field check of several (three complete cycles) peak period light cycles to determine a "typical" green time. Ignore separate green-arrow time for turning movements. **If this data is not available for the signalized intersections associated with a given sample section, percent green time data from other signalized**

Page	Discussion	Original Text	Revised Text
			intersections located on the same route, or on a similar route with similar traffic characteristics in the immediate vicinity can be used for reporting purposes.

Page	Discussion	Original Text	Revised Text
4-65	**Item 31: Number of Signalized Intersections** - Guidance	Only signals which cycle through a complete sequence of signalization (i.e., red, yellow (amber), and green) for all or a portion of the day shall be counted as a signal. Access points to large traffic generators (e.g., shopping centers, malls, large work sites, office parks, apartment complexes, etc.) shall be counted as intersections if the access point is controlled by a traffic signal. Special treatment is required when a Sample Panel section begins and/or ends with a traffic control device (i.e., Data Items 31, 32, and 33). This is accomplished by doing the following as illustrated in Figure 4.42: • Choose a statewide direction for inventory purposes (e.g., South to North, West to East, etc.); • Choose a statewide rule to either always count the beginning at-grade intersection only or the ending at-grade intersection only, but never both. For divided roadways, continuous cross streets are to be counted as a single intersection. If the cross street is not continuous and is separated by at least 50 feet, then it shall be counted as two intersections. Roundabouts (see Figure 4.20) shall be coded under Data Item 33 (At-Grade/Other) intersections. The sum of Data Items 31, 32, and 33 shall be equal to the total number of intersections on the	Only signals which cycle through a complete sequence of signalization (i.e., red, yellow (amber), and green) for all or a portion of the day shall be counted as a signal. Access points to large traffic generators (e.g., shopping centers, malls, large work sites, office parks, apartment complexes, etc.) shall be counted as intersections if the access point is controlled by a traffic signal. Special treatment is required when a Sample Panel section begins and/or ends with a traffic control device (i.e., Data Items 31, 32, and 33). This is accomplished by doing the following as illustrated in Figure 4.42: • Choose a statewide direction for inventory purposes (e.g., South to North, West to East, etc.); • Choose a statewide rule to either always count the beginning at-grade intersection only or the ending at-grade intersection only, but never both. For divided roadways, continuous cross streets are to be counted as a single intersection. If the cross street is not continuous and is separated by at least 50 feet, then it shall be counted as two intersections. Roundabouts (see Figure 4.20) shall be coded under Data Item 33 (At-Grade/Other) intersections. The sum of Data Items 31, 32, and 33 shall be equal to the total number of intersections on the section. **At-grade crossings where pedestrian-activated signals are present shall not**

Page	Discussion	Original Text	Revised Text
		section.	**be included in the count for this data item, unless a cross-street is present.**

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4-67	**Item 32: Number of Stop Sign-Controlled Intersections** - Guidance	A continuously operating (i.e. all day), flashing red signal shall be counted as a stop sign. Stop signs on intersecting roads shall not be included in the total count. Access points to large traffic generators (e.g., shopping centers, malls, large work sites, office parks, apartment complexes, etc.) shall be counted as intersections if the access point is controlled by a stop sign. Special treatment is required when a Sample Panel section begins and/or ends with a traffic control device (i.e., Data Items 31, 32, and 33). This is accomplished by doing the following as illustrated in Figure 4.44: • Choose a statewide direction for inventory purposes (e.g., South to North, West to East, etc.). • Choose a statewide rule to either always count the beginning at-grade intersection only or the ending at-grade intersection only, but never both. For divided roadways, continuous cross streets are to be counted as a single intersection. If the cross street is not continuous and is separated by at least 50 feet, then it shall be counted as two intersections. Roundabouts (see Figure 4.20) shall be coded under Data Item 33 (At-Grade/Other) intersections. The sum of Data Items 31, 32, and	A continuously operating (i.e. all day), flashing red signal shall be counted as a stop sign. Stop signs on intersecting roads shall not be included in the total count. Access points to large traffic generators (e.g., shopping centers, malls, large work sites, office parks, apartment complexes, etc.) shall be counted as intersections if the access point is controlled by a stop sign. Special treatment is required when a Sample Panel section begins and/or ends with a traffic control device (i.e., Data Items 31, 32, and 33). This is accomplished by doing the following as illustrated in Figure 4.44: • Choose a statewide direction for inventory purposes (e.g., South to North, West to East, etc.). • Choose a statewide rule to either always count the beginning at-grade intersection only or the ending at-grade intersection only, but never both. For divided roadways, continuous cross streets are to be counted as a single intersection. If the cross street is not continuous and is separated by at least 50 feet, then it shall be counted as two intersections. Roundabouts (see Figure 4.20) shall be coded under Data Item 33 (At-Grade/Other) intersections. The sum of Data Items 31, 32, and 33 shall be equal to the total number of intersections on the section. **At-grade crossings where pedestrian-**

Page	Discussion	Original Text	Revised Text
		33 shall be equal to the total number of intersections on the section.	**activated signals are present shall not be included in the count for this data item, unless a cross-street is present.**

Page	Discussion	Original Text	Revised Text
4-67	***Figure 4.43 Title***	*Figure 4.43 Stop Sign Controlled Intersection*	*Figure 4.43* ***Stop-Sign*** *Controlled Intersection*

Page	Discussion	Original Text	Revised Text
4-69	**Item 33: Number of Intersections, Type - Other** - Guidance	Intersections with either no traffic control devices, or specialized traffic control devices existing in the inventory direction, shall be included in the count for this data item. Continuously operating (i.e. all day) flashing yellow signals and roundabouts (see Figure 4.20) shall be considered as an "at-grade/other" type of traffic control devices. Access points to large traffic generators (e.g., shopping centers, malls, large work sites, office parks, apartment complexes, schools, etc.) shall be included in the evaluation for this Data Item. Special treatment is required when a Sample Panel section begins and/or ends with a traffic control device (i.e., Data Items 31, 32, and 33). This is accomplished by doing the following as illustrated in Figure 4.46: • Choose a statewide direction for inventory purposes (e.g., South to North, West to East, etc.); • Choose a statewide rule to either always count the beginning curb only or the ending curb only, but never both. For divided roadways, continuous cross streets are to be counted as a single intersection. If the cross street is not continuous and is separated by at least 50 feet, then it shall be counted as two intersections. The sum of Data Items 31, 32, and	Intersections with either no traffic control devices, or specialized traffic control devices existing in the inventory direction, shall be included in the count for this data item. Continuously operating (i.e. all day) flashing yellow signals and roundabouts (see Figure 4.20) shall be considered as an "at-grade/other" type of traffic control devices. Access points to large traffic generators (e.g., shopping centers, malls, large work sites, office parks, apartment complexes, schools, etc.) shall be included in the evaluation for this Data Item. Special treatment is required when a Sample Panel section begins and/or ends with a traffic control device (i.e., Data Items 31, 32, and 33). This is accomplished by doing the following as illustrated in Figure 4.46: • Choose a statewide direction for inventory purposes (e.g., South to North, West to East, etc.); • Choose a statewide rule to either always count the beginning curb only or the ending curb only, but never both. For divided roadways, continuous cross streets are to be counted as a single intersection. If the cross street is not continuous and is separated by at least 50 feet, then it shall be counted as two intersections. The sum of Data Items 31, 32, and 33 shall be equal to the total number of intersections on the section. **At-grade crossings where pedestrian-**

Page	Discussion	Original Text	Revised Text
		33 shall be equal to the total number of intersections on the section.	**activated signals are present shall not be included in the count for this data item, unless a cross-street is present.**
4-72	**Item 35: Median Type** - Coding Requirements for Fields 8, 9, and 10 Footnote	These definitions are summarized from AASHTO Policy on Geometric Design of Highways and Streets 2004. * Codes 5, 6, and 7 are optional.	~~**These definitions are summarized from AASHTO Policy on Geometric Design of Highways and Streets 2004.**~~ ~~*** Codes 5, 6, and 7 are optional.**~~

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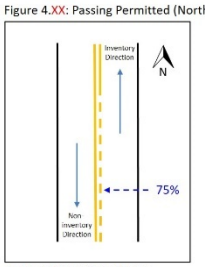
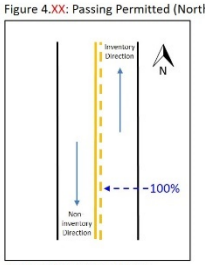
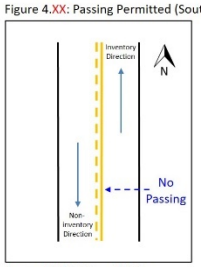
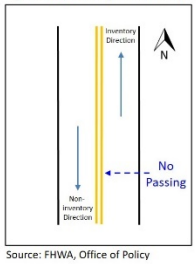
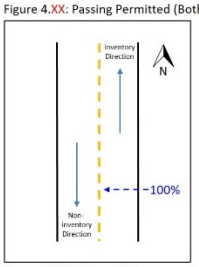
4-77	**Item 38: Right Shoulder Width** - Coding Requirements for Fields 8, 9, and 10	Value_Numeric: Enter the width of the right shoulder to the nearest whole foot.	Value_Numeric: Enter the width of the right shoulder to the nearest whole foot. **Zero (0) values shall only be reported for sections where shoulders do not exist.**
4-80	**Item 39: Left Shoulder Width** - Coding Requirements for Fields 8, 9, and 10	Value_Numeric: Enter the width of the left shoulder to the nearest whole foot.	Value_Numeric: Enter the width of the left shoulder to the nearest whole foot. **Zero (0) values shall only be reported for sections where shoulders do not exist.**
4-84	**Item 42: Widening Potential** - Coding Requirements for Fields 8, 9, and 10	Value_Numeric: Code the number of lanes (0-9) for which it is feasible to widen the existing road, in both directions. Code a '9,' if it is possible to add nine or more lanes.	Value_Numeric: Code the number of lanes (0-9) for which it is feasible to widen the existing road, in both directions. Code a '9,' if it is possible to add nine or more lanes **to the entire cross-section (i.e., sample section).**
4-90	**Item 46: Percent Passing Sight Distance** - Guidance	This data item shall be reported for sample sections where passing is permitted in the inventory direction. When there is a discernable directional difference in permitted passing per the roadway striping, code for the more restrictive direction (i.e., the direction that produces the lower value).	This data item shall be **coded**~~**reported for sample sections where**~~ **based on the extent to which** passing is permitted in the inventory direction. ~~**When there is a discernable directional difference in permitted passing per the roadway striping, code for the more restrictive direction (i.e., the direction that produces the lower value).**~~
4-90	**Item 46: Percent Passing Sight Distance** - Guidance	N/A	Inserted new image: **"Figure 4.XX: Passing Permitted (Northbound)"**  Figure 4.XX: Passing Permitted (Northbound) Source: FHWA, Office of Policy In Figure 4.XX (above), passing is permitted in the northbound (inventory) direction for 75% of the sample's extent. Thus, Percent Passing Sight Distance (Data Item 46) for this sample shall be coded 75%.

Page	Discussion	Original Text	Revised Text
4-90	**Item 46: Percent Passing Sight Distance** - Guidance	N/A	Inserted new image: **"Figure 4.XX: Passing Permitted (Northbound)"** Figure 4.XX: Passing Permitted (Northbound)  Source: FHWA, Office of Policy In Figure 4.XX (above), passing is permitted in the northbound (inventory) direction for 100% of the sample's extent. Thus, Percent Passing Sight Distance (Data Item 46) for this sample shall be coded 100%.
4-90	**Item 46: Percent Passing Sight Distance** - Guidance	N/A	Inserted new image: **"Figure 4.XX: Passing Permitted (Southbound)"** Figure 4.XX: Passing Permitted (Southbound)  Source: FHWA, Office of Policy In Figure 4.XX (above), passing is permitted in the southbound (non-inventory) direction of the sample's extent, and prohibited in the northbound (inventory) direction of the sample's extent. Thus, Percent Passing Sight Distance (Data Item 46) for this sample shall be coded 0%.
4-90	**Item 46: Percent Passing Sight Distance** - Guidance	N/A	Inserted new image: **"Figure 4.XX: Passing Permitted (Both Directions)"** Figure 4.XX: Passing Prohibited (Both Directions)  Source: FHWA, Office of Policy In Figure 4.XX (above), passing is prohibited in both the southbound (non-inventory) direction of the sample's extent, and prohibited in the northbound (inventory) direction of the sample's extent. Thus, Percent Passing Sight Distance (Data Item 46) for this sample shall be coded 0%.
4-90	**Item 46: Percent Passing Sight Distance** - Guidance	N/A	Inserted new image: **"Figure 4.XX: Passing Prohibited (Both Directions)"**

Page	Discussion	Original Text	Revised Text
			Figure 4.XX: Passing Permitted (Both Directions)  Source: FHWA, Office of Policy In Figure 4.XX (above), passing is permitted in both the northbound (inventory) direction and southbound (non-inventory) direction of the sample's extent. Thus, Percent Passing Sight Distance (Data Item 46) for this sample shall be coded 100%.
4-91	**Item 47: IRI (International Roughness Index)** - Coding Requirements for Fields 8, 9, and 10	Value_Text: No entry required if the Value_Numeric field has been populated with a newly measured value for a NHS section. If the Value_Numeric has not been populated with a newly measured value, then one of the following codes shall be provided:	Value_Text: ~~**No entry required**~~**This field should not be populated** if the Value_Numeric field has been populated with a newly measured value for a NHS section. If the Value_Numeric **field** has not been populated with a newly measured value, then one of the following codes shall be provided, **only when applicable, to indicate why a newly measured value could not be collected**:
4-91	**Item 47: IRI (International Roughness Index)** - Coding Requirements for Fields 8, 9, and 10 - Value Text:	Code | Description A | Construction – Roadway was under construction B | Closure – Roadway was closed to traffic C | Disaster – Roadway was located in an area declared as a disaster zone D | Deterioration – Roadway is too deteriorated to measure and is already designated as "Poor"	Code | Description A | Construction – Roadway was under construction **(i.e., not open to traffic due to capital improvement activities)** B | Closure – Roadway was closed to traffic **(i.e., not open to traffic, and not under construction, impassable due to earthquake damage, etc.)** C | Disaster – Roadway was located in an area declared as a disaster zone **(e.g., not open to traffic due to being flooded)** D | Deterioration – Roadway ~~**is**~~**was** too deteriorated to measure~~ **and is already designated as "Poor"**~~ E | Other – Section added to NHS post-data collection

Page	Discussion	Original Text	Revised Text
4-91	**Item 47: IRI (International Roughness Index)** - Coding Requirements for Fields 8, 9, and 10	Value Date: Report the month and year in MM/YYYY format, excluding leading zeroes) for when the data was collected. A default date may be used if the exact date of collection is unknown.	Value Date: Report the month and year (in MM/YYYY format, excluding leading zeroes) for when the data was collected. A default date may be used if the exact date of collection is unknown. **This field should not be populated when the Value Numeric Field has not been populated.**
4-92	**Item 47: IRI (International Roughness Index)** - Guidance	- For the sections on the Interstate System, measured IRI shall be: o continuously collected in a manner that will allow for reporting in nominally uniform section lengths of 0.1 mile (528 feet); shorter sections are permitted only at the beginning of a route, end of a route, at bridges, or other locations where a section length of 0.1 mile is not achievable; the maximum length of a section shall not exceed 0.11 mile in length; and	- For the sections on the Interstate System, measured IRI shall be: o continuously collected in a manner that will allow for reporting in nominally uniform section lengths of 0.1 mile (528 feet); shorter sections are permitted only at the beginning of a route, end of a route, at bridges, or other locations where a section length of 0.1 mile is not achievable **(e.g., locations where a change in Surface Type occurs)**; the maximum length of a section shall not exceed 0.11 mile in length; and
4-92	**Item 47: IRI (International Roughness Index)** - Guidance	- For the sections on the non-Interstate System NHS, measured IRI shall be: o continuously collected in a manner that will allow for reporting in nominally uniform section lengths of 0.1 mile (528 feet); shorter sections are permitted only at the beginning of a route, end of a route, at bridges, or other locations where a section length of 0.1 mile is not achievable; the maximum length of a section shall not exceed 0.11 mile in length; and	- For the sections on the non-Interstate System NHS, measured IRI shall be: o continuously collected in a manner that will allow for reporting in nominally uniform section lengths of 0.1 mile (528 feet); shorter sections are permitted only at the beginning of a route, end of a route, at bridges, or other locations where a section length of 0.1 mile is not achievable **(e.g., locations where a change in Surface Type occurs)**; the maximum length of a section shall not exceed 0.11 mile in length; and

Page	Discussion	Original Text	Revised Text
4-93	**Item 48: PSR (Present Serviceability Rating)** - Extent	NHS, urban minor arterial, major collector, and minor collector Sample Panel sections and rural major collector Sample Panel sections where IRI is not reported.	NHS, **and non-NHS** urban minor arterial, major collector, and minor collector ~~**Sample Panel sections,**~~ and rural major collector Sample Panel sections where IRI is not reported **(i.e., either IRI or PSR must be reported for sample sections)**.
4-93	**Item 48: PSR (Present Serviceability Rating)** - Coding Requirements for Fields 8, 9, and 10	Value Date: No entry required. Available for State use.	Value Date: **Report the month and year (in MM/YYYY format, excluding leading zeroes) for when the data was collected. A default date may be used if the exact date of collection is unknown.**
4-94	**Item 48: PSR** - Guidance	For the non-NHS sections (i.e., Sample Panel sections located on non-Principal Arterial System (PAS) roadways), PSR can be reported in lieu of IRI. If reported, measured PSR values shall be:	For the non-NHS sections (i.e., ~~**Sample Panel sections located on non-Principal Arterial System (PAS) roadways**~~ **where sample section reporting is required**), PSR can be reported in lieu of IRI. If reported, measured PSR values shall be:
4-94	**Item 48: PSR** - Guidance	o reported for milepoint limits (i.e., sections) that are consistent with those reported for Data Item 47 (IRI); and	~~**o reported for milepoint limits (i.e., sections) that are consistent with those reported for Data Item 47 (IRI); and**~~
4-97	**Item 49: Surface Type** - Guidance	Code 1, Unpaved, on the NHS should be verified since they are very rare except in a couple of States.	Code 1, Unpaved, on the NHS should be verified since these sections are very rare except in a couple of States. **Roadway sections where subgrade/subbase of a pavement is exposed and roadway sections that are currently being rehabilitated/reconstructed shall not be coded as "Unpaved".**
4-97	**Item 49: Surface Type** - Guidance	Additional information can be found in Section 5.4	~~**Additional information can be found in Section 5.4**~~

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4.99	**Item 50: Rutting** - Coding Requirements for Fields 8, 9, and 10 - Value Text:	Value_Text: No entry required if the Value_Numeric field has been populated with a newly measured value for a NHS section. If the Value_Numeric has not been populated with a newly measured value, then one of the following codes shall be provided:	Value_Text: ~~**No entry required**~~**This field should not be populated** if the Value_Numeric field has been populated with a newly measured value for a NHS section. If the Value_Numeric **field** has not been populated with a newly measured value, then one of the following codes shall be provided, **only when applicable, to indicate why a newly measured value could not be collected**:
4-99	**Item 50: Rutting** - Coding Requirements for Fields 8, 9, and 10 - Value Text:	Code | Description A | Construction – Roadway was under construction B | Closure – Roadway was closed to traffic C | Disaster – Roadway was located in an area declared as a disaster zone D | Deterioration – Roadway is too deteriorated to measure and is already designated as "Poor"	Code | Description A | Construction – Roadway was under construction **(i.e., not open to traffic due to capital improvement activities)** B | Closure – Roadway was closed to traffic **(i.e., not open to traffic, and not under construction, impassable due to earthquake damage, etc.)** C | Disaster – Roadway was located in an area declared as a disaster zone **(e.g., not open to traffic due to being flooded)** D | Deterioration – Roadway ~~**is**~~**was** too deteriorated to measure~~ **and is already designated as "Poor"**~~ E | Other – Section added to NHS post-data collection
4-99	**Item 50: Rutting** - Coding Requirements for Fields 8, 9, and 10	Value Date: Report the month and year in MM/YYYY format, excluding leading zeroes) for when the data was collected. A default date may be used if the exact date of collection is unknown.	Value Date: Report the month and year (in MM/YYYY format, excluding leading zeroes) for when the data was collected. A default date may be used if the exact date of collection is unknown. **This field should not be populated when the Value Numeric Field has not been populated.**

Page	Discussion	Original Text	Revised Text
4-100	**Item 50: Rutting** - Guidance	- For the sections on the Interstate System, measured IRI shall be: o continuously collected in a manner that will allow for reporting in nominally uniform section lengths of 0.1 mile (528 feet); shorter sections are permitted only at the beginning of a route, end of a route, at bridges, or other locations where a section length of 0.1 mile is not achievable; the maximum length of a section shall not exceed 0.11 mile in length; and	- For the sections on the Interstate System, measured IRI shall be: o continuously collected in a manner that will allow for reporting in nominally uniform section lengths of 0.1 mile (528 feet); shorter sections are permitted only at the beginning of a route, end of a route, at bridges, or other locations where a section length of 0.1 mile is not achievable **(e.g., locations where a change in Surface Type occurs)**; the maximum length of a section shall not exceed 0.11 mile in length; and
4-100	**Item 50: Rutting** - Guidance	- For the sections on the non-Interstate System NHS, measured IRI shall be: o continuously collected in a manner that will allow for reporting in nominally uniform section lengths of 0.1 mile (528 feet); shorter sections are permitted only at the beginning of a route, end of a route, at bridges, or other locations where a section length of 0.1 mile is not achievable; the maximum length of a section shall not exceed 0.11 mile in length; and	- For the sections on the non-Interstate System NHS, measured IRI shall be: o continuously collected in a manner that will allow for reporting in nominally uniform section lengths of 0.1 mile (528 feet); shorter sections are permitted only at the beginning of a route, end of a route, at bridges, or other locations where a section length of 0.1 mile is not achievable **(e.g., locations where a change in Surface Type occurs)**; the maximum length of a section shall not exceed 0.11 mile in length; and

Page	Discussion	Original Text	Revised Text
4-101	**Item 50: Rutting** - Guidance	N/A	**For the non-NHS sections (i.e., where sample section reporting is required), measured rutting values shall be:** ~~**- collected for the full extent of the mainline highway;**~~ **- in the rightmost through lane or one consistent lane for all data if the rightmost through lane carries traffic that is not representative of the remainder of the lanes or is not accessible due to closure, excessive congestion, or other events impacting access;** **- continuously collected in a manner that will allow for reporting in nominally uniform section lengths of 0.1 mile (528 feet); shorter sections are permitted only at the beginning of a route, end of a route, at bridges, or other locations where a section length of 0.1 mile is not achievable (e.g., locations where a change in Surface Type occurs); the maximum length of a section shall not exceed 0.11 mile in length; and** **- on a biennial frequency (note: data collection shall be performed during a given 2-year duration and must conclude by December 31st of that 2-year duration for reporting purposes).**
4-102	**Item 51: Faulting** - Description	Faulting is defined as a vertical misalignment of pavement joints in Portland Cement Concrete Pavements (Jointed Concrete Pavement). Jointed Concrete Pavements is defined as pavements where the top-most surface is constructed of Portland cement concrete with joints (Item 49 codes '3', '4', '9', '10', and '11'). It may be constructed of either reinforced or unreinforced (plain) concrete.	Faulting is defined as a vertical misalignment of pavement joints in Portland Cement Concrete Pavements (Jointed Concrete Pavement). Jointed Concrete Pavements is defined as pavements where the top-most surface is constructed of Portland cement concrete with joints (Item 49 codes '3', '4', '9', **and** '10'~~**, and '11'**~~). It may be constructed of either reinforced or unreinforced (plain) concrete.

Page	Discussion	Original Text	Revised Text
4-103	**Item 51: Faulting** - Coding Requirements for Fields 8, 9, and 10 - Value Text:	Value_Text: No entry required if the Value_Numeric field has been populated with a newly measured value for a NHS section. If the Value_Numeric has not been populated with a newly measured value, then one of the following codes shall be provided:	Value_Text: ~~**No entry required**~~**This field should not be populated** if the Value_Numeric field has been populated with a newly measured value for a NHS section. If the Value_Numeric **field** has not been populated with a newly measured value, then one of the following codes shall be provided, **only when applicable, to indicate why a newly measured value could not be collected**:
4-103	**Item 51: Faulting** - Coding Requirements for Fields 8, 9, and 10 - Value Text:	Code | Description A | Construction – Roadway was under construction B | Closure – Roadway was closed to traffic C | Disaster – Roadway was located in an area declared as a disaster zone D | Deterioration – Roadway is too deteriorated to measure and is already designated as "Poor"	Code | Description A | Construction – Roadway was under construction **(i.e., not open to traffic due to capital improvement activities)** B | Closure – Roadway was closed to traffic **(i.e., not open to traffic, and not under construction, impassable due to earthquake damage, etc.)** C | Disaster – Roadway was located in an area declared as a disaster zone **(e.g., not open to traffic due to being flooded)** D | Deterioration – Roadway ~~**is**~~**was** too deteriorated to measure~~ **and is already designated as "Poor"**~~ E | Other – Section added to NHS post-data collection
4-103	**Item 51: Faulting** - Coding Requirements for Fields 8, 9, and 10	Value Date: Report the month and year in MM/YYYY format, excluding leading zeroes) for when the data was collected. A default date may be used if the exact date of collection is unknown.	Value Date: Report the month and year (in MM/YYYY format, excluding leading zeroes) for when the data was collected. A default date may be used if the exact date of collection is unknown. **This field should not be populated when the Value Numeric Field has not been populated.**

Page	Discussion	Original Text	Revised Text
4-104	**Item 51: Faulting** - Guidance	- For the sections on the Interstate System, measured IRI shall be: o continuously collected in a manner that will allow for reporting in nominally uniform section lengths of 0.1 mile (528 feet); shorter sections are permitted only at the beginning of a route, end of a route, at bridges, or other locations where a section length of 0.1 mile is not achievable; the maximum length of a section shall not exceed 0.11 mile in length; and	- For the sections on the Interstate System, measured IRI shall be: o continuously collected in a manner that will allow for reporting in nominally uniform section lengths of 0.1 mile (528 feet); shorter sections are permitted only at the beginning of a route, end of a route, at bridges, or other locations where a section length of 0.1 mile is not achievable **(e.g., locations where a change in Surface Type occurs)**; the maximum length of a section shall not exceed 0.11 mile in length; and
4-104	**Item 51: Faulting** - Guidance	- For the sections on the non-Interstate System NHS, measured IRI shall be: o continuously collected in a manner that will allow for reporting in nominally uniform section lengths of 0.1 mile (528 feet); shorter sections are permitted only at the beginning of a route, end of a route, at bridges, or other locations where a section length of 0.1 mile is not achievable; the maximum length of a section shall not exceed 0.11 mile in length; and	- For the sections on the non-Interstate System NHS, measured IRI shall be: o continuously collected in a manner that will allow for reporting in nominally uniform section lengths of 0.1 mile (528 feet); shorter sections are permitted only at the beginning of a route, end of a route, at bridges, or other locations where a section length of 0.1 mile is not achievable **(e.g., locations where a change in Surface Type occurs)**; the maximum length of a section shall not exceed 0.11 mile in length; and

Page	Discussion	Original Text	Revised Text
4-104	**Item 51: Faulting** - Guidance	N/A	**For the non-NHS sections (i.e., where sample section reporting is required), measured faulting values shall be:** **~~- collected for the full extent of the mainline highway;~~** **- in the rightmost through lane or one consistent lane for all data if the rightmost through lane carries traffic that is not representative of the remainder of the lanes or is not accessible due to closure, excessive congestion, or other events impacting access;** **- continuously collected in a manner that will allow for reporting in nominally uniform section lengths of 0.1 mile (528 feet); shorter sections are permitted only at the beginning of a route, end of a route, at bridges, or other locations where a section length of 0.1 mile is not achievable (e.g., locations where a change in Surface Type occurs); the maximum length of a section shall not exceed 0.11 mile in length; and** **- on a biennial frequency (note: data collection shall be performed during a given 2-year duration and must conclude by December 31st of that 2-year duration for reporting purposes).**
4-106	**Item 52: Cracking Percent** - Description	For Asphalt pavements (Item 49 codes '2', '6', '7', and '8'), Cracking Percent is the percentage of the total area exhibiting visible fatigue type cracking for all severity levels in the wheelpath in each section.	For Asphalt pavements (Item 49 codes '2', '6', '7', and '8'), Cracking Percent is the percentage of the total area exhibiting visible fatigue type cracking **(both longitudinal and/or pattern)** for all severity levels in the wheelpath in each section **(see Figure 4.78 for an illustration of these cracking scenarios)**.

Page	Discussion	Original Text	Revised Text
4-106	**Item 52: Cracking Percent** - Description	For Jointed Concrete Pavements (Item 49 codes '3', '4', '9', '10', and '11'), Cracking Percent is the percentage of slabs within the section that exhibit transverse cracking. Partial slabs shall contribute to the section that contains the majority of the slab length.	For Jointed Concrete Pavements (Item 49 codes '3', '4', '9', **and** '10'~~**, and '11'**~~), Cracking Percent is the percentage of slabs within the section that exhibit transverse cracking. Partial slabs shall contribute to the section that contains the majority of the slab length.
4-107	**Item 52: Cracking Percent** - Coding Requirements for Fields 8, 9, and 10	Value Numeric: Report the percent of total section area for asphalt pavement and CRCP and percent of slabs for Jointed Concrete Pavements to the nearest 1%. Zero (0) values shall only be reported for roadway sections where cracks are not present.	Value Numeric: Report the percent of total section area for asphalt pavement and Continuously Reinforced Concrete Pavement (CRCP), and percent slabs of Jointed Concrete Pavements to the nearest 1%. Zero (0) values shall be reported **either** for roadways sections where cracks are not present**, or roadway sections where recorded values are less than 0.5%.**
4-107	**Item 52: Cracking Percent** - Coding Requirements for Fields 8, 9, and 10 - Value Text:	Value_Text: No entry required if the Value_Numeric field has been populated with a newly measured value for a NHS section. If the Value_Numeric has not been populated with a newly measured value, then one of the following codes shall be provided:	Value_Text: ~~**No entry required**~~**This field should not be populated** if the Value_Numeric field has been populated with a newly measured value for a NHS section. If the Value_Numeric **field** has not been populated with a newly measured value, then one of the following codes shall be provided, **only when applicable, to indicate why a newly measured value could not be collected**:
4-107	**Item 52: Cracking Percent** - Coding Requirements for Fields 8, 9, and 10 - Value Text:	Code | Description A | Construction – Roadway was under construction B | Closure – Roadway was closed to traffic C | Disaster – Roadway was located in an area declared as a disaster zone D | Deterioration – Roadway is too deteriorated to measure and is already designated as "Poor"	Code | Description A | Construction – Roadway was under construction **(i.e., not open to traffic due to capital improvement activities)** B | Closure – Roadway was closed to traffic **(i.e., not open to traffic, and not under construction, impassable due to earthquake damage, etc.)** C | Disaster – Roadway was located in an area declared as a disaster zone **(e.g., not open to traffic due to being flooded)** D | Deterioration – Roadway ~~**is**~~**was** too

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			deteriorated to measure ~~**and is already designated as "Poor"**~~ E | Other – Section added to NHS post-data collection
4-107	**Item 52: Cracking Percent** - Coding Requirements for Fields 8, 9, and 10	Value Date: Report the month and year in MM/YYYY format, excluding leading zeroes) for when the data was collected. A default date may be used if the exact date of collection is unknown.	Value Date: Report the month and year (in MM/YYYY format, excluding leading zeroes) for when the data was collected. A default date may be used if the exact date of collection is unknown. **This field should not be populated when the Value Numeric Field has not been populated.**
4-109	**Item 52: Cracking Percent** - Guidance	- For the sections on the Interstate System, measured IRI shall be: o continuously collected in a manner that will allow for reporting in nominally uniform section lengths of 0.1 mile (528 feet); shorter sections are permitted only at the beginning of a route, end of a route, at bridges, or other locations where a section length of 0.1 mile is not achievable; the maximum length of a section shall not exceed 0.11 mile in length; and	- For the sections on the Interstate System, measured IRI shall be: o continuously collected in a manner that will allow for reporting in nominally uniform section lengths of 0.1 mile (528 feet); shorter sections are permitted only at the beginning of a route, end of a route, at bridges, or other locations where a section length of 0.1 mile is not achievable **(e.g., locations where a change in Surface Type occurs)**; the maximum length of a section shall not exceed 0.11 mile in length; and
4-109	**Item 52: Cracking Percent** - Guidance	- For the sections on the non-Interstate System NHS, measured IRI shall be: o continuously collected in a manner that will allow for reporting in nominally uniform section lengths of 0.1 mile (528 feet); shorter sections are permitted only at the beginning of a route, end of a route, at bridges, or other locations where a section length of 0.1 mile is not achievable; the maximum length	- For the sections on the non-Interstate System NHS, measured IRI shall be: o continuously collected in a manner that will allow for reporting in nominally uniform section lengths of 0.1 mile (528 feet); shorter sections are permitted only at the beginning of a route, end of a route, at bridges, or other locations where a section length of 0.1 mile is not achievable **(e.g., locations where a change in Surface Type occurs)**; the maximum length of

Page	Discussion	Original Text	Revised Text
		of a section shall not exceed 0.11 mile in length; and	a section shall not exceed 0.11 mile in length; and
4-109	**Item 52: Cracking Percent** - Guidance	N/A	**For the non-NHS sections (i.e., where sample section reporting is required), measured cracking percent values shall be:** **~~- collected for the full extent of the mainline highway;~~** **- in the rightmost through lane or one consistent lane for all data if the rightmost through lane carries traffic that is not representative of the remainder of the lanes or is not accessible due to closure, excessive congestion, or other events impacting access;** **- continuously collected in a manner that will allow for reporting in nominally uniform section lengths of 0.1 mile (528 feet); shorter sections are permitted only at the beginning of a route, end of a route, at bridges, or other locations where a section length of 0.1 mile is not achievable (e.g., locations where a change in Surface Type occurs); the maximum length of a section shall not exceed 0.11 mile in length; and** **- on a biennial frequency (note: data collection shall be performed during a given 2-year duration and must conclude by December 31st of that 2-year duration for reporting purposes).**

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4-116	**Item 54: Year of Improvement** - Guidance	Reporting shall be consistent with IRI inventory direction and lane. 0.5 inch or more of compacted pavement material must be put in place for it to be considered a surface improvement. Completion date is the actual date the construction ended or the date when the project was opened to traffic. Retain the coded improvement year until another improvement affecting the surface is completed.	Reporting shall be consistent with IRI inventory direction and lane. 0.5 inch or more of compacted pavement material must be put in place for it to be considered a surface improvement. Completion date is the actual date the construction ended or the date when the project was opened to traffic. Retain the coded improvement year until another improvement affecting the surface is completed. **This data item shall be coded for resurfacing treatments of at least 0.5 inch that impact the wheelpath/traveled way.** **For scenarios where only certain lanes have been resurfaced (e.g., 2 out of 3 lanes), this data item should be coded in cases where one of those lanes is the right-most outer lane (or lanes).**
4-117	**Item 55: Year of Last Construction** - Guidance	If a new pavement surface were placed without first removing the old pavement surface, the resulting pavement should be considered an overlay (surface improvement, not construction), even if the existing pavement was rubblized prior to placing the new pavement surface.	If a new pavement surface were placed without first removing the old pavement surface, the resulting pavement should be considered an overlay (surface improvement, not construction)~~, even if the existing pavement was rubblized prior to placing the new pavement surface~~.
4-118	**Item 55: Last Overlay Thickness** - Guidance	An overlay is more than 0.5 inch.	~~An overlay is more than 0.5 inch.~~ **For HPMS purposes, an overlay must consist of at least 0.5 inch of compacted material.**
4-124	**Item 63: County Code** - Extent	All Public highways as Identified in 23 U.S.C 101.a(27).	All ~~Public~~ **Federal-aid** highways ~~as Identified in 23 U.S.C 101.a(27)~~.

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<tr><td>4-124</td><td>Item 63: County Code - Extent Grid</td><td><table><tr><th>FS</th><th>6 - MiC</th><th>7 - Local</th></tr><tr><td>Rural</td><td>FE</td><td>FE</td></tr><tr><td>Urban</td><td>FE</td><td>FE</td></tr></table></td><td><table><tr><th>FS</th><th>6 - MiC</th><th>7 - Local</th></tr><tr><td>Rural</td><td><s>FE</s></td><td><s>FE</s></td></tr><tr><td>Urban</td><td>FE</td><td><s>FE</s></td></tr></table></td></tr>
<tr><td>5-8</td><td>Vehicle Classification - Guidance</td><td>Data reported in HPMS shall represent data for the reporting year. Prior year classification counts shall be adjusted with annual adjustment factors to represent current year data and to accurately develop percent trucks and truck travel trends.</td><td>Data reported in HPMS shall represent data for the <s>reporting</s> data/inventory year. Prior year classification counts shall be adjusted with annual adjustment factors to represent current year data and to accurately develop percent trucks and truck travel trends.</td></tr>
<tr><td>D</td><td>Appendix D - Toll Facility Listing</td><td>< Multiple Ferry Facility Listings ></td><td>< Removed Ferry Facilities ></td></tr>
<tr><td>D-1</td><td>Appendix D - Toll Facility Listing</td><td>Alaska | 1008 | Motor Vessel Susitna |
Alaska | 1009 | Hover Craft Suna X |
Alaska | 1015 | Motor Vessel Taku |</td><td><s>Alaska | 1008 | Motor Vessel Susitna |</s>
<s>Alaska | 1009 | Hover Craft Suna X |</s>
<s>Alaska | 1015 | Motor Vessel Taku |</s></td></tr>
<tr><td>D-2</td><td>Appendix D - Toll Facility Listing</td><td>N/A</td><td>Colorado | 358 | I-70 Eastbound Mountain Express Lane | *
Colorado | 359 | I-25 North to 120th Avenue |</td></tr>
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D-3	**Appendix D** - Toll Facility Listing	Georgia | 67 | Georgia 400 Extension |	**Florida | 361 | Wekiva Parkway | *** **Florida | 362 | Orchard Pond | *** **Florida | 363 | Poinciana Parkway | *** ~~**Georgia | 67 | Georgia 400 Extension |**~~ **Georgia | 360 | I-85 Express Lanes, I-285 to Old Peachtree Rd | ***
D-4	**Appendix D** - Toll Facility Listing	Illinois | 69 | Wabash Memorial Bridge | Illinois | 304 | St. Francisville Bridge – Old Wabash Cannonball Railroad Bridge | Indiana | 68 | New Harmony Bridge | Indiana | 69 | Wabash Memorial Bridge |	~~**Illinois | 69 | Wabash Memorial Bridge |**~~ **Illinois | 364 | Elgin O'Hare Expressway | *** ~~**Illinois | 304 | St. Francisville Bridge – Old Wabash Cannonball Railroad Bridge |**~~ ~~**Indiana | 68 | New Harmony Bridge |**~~ ~~**Indiana | 69 | Wabash Memorial Bridge |**~~ **Kentucky | 346 | Lincoln & Kennedy Bridges – D'town Crossing | *** **Kentucky | 347 | Lewis and Clark Bridge | ***
D-4	**Appendix D** - Toll Facility Listing	Iowa | 71 | Fort Madison Bridge | Iowa | 80 | Bellevue Bridge | Iowa | 81 | Decatur Bridge | Iowa | 82 | Plattsmouth Bridge |	Iowa | 71 | Fort Madison Bridge | Iowa | 80 | Bellevue Bridge | ~~**Iowa | 81 | Decatur Bridge |**~~ Iowa | 82 | Plattsmouth Bridge |
D-5	**Appendix D** - Toll Facility Listing	N/A	**Louisiana | 1127 | Belle Chase Ferry | *** **Louisiana | 1128 | Pointe-a-LA-Hache Ferry | *** **Maine | 1129 | Captain E. Frank Thompson | ***

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D-6	**Appendix D** - Toll Facility Listing	Minnesota | 111 | 12th/15th Avenue, N Bridge Minnesota | 113 | MNPass Missouri | 114 | Lake of the Ozark Com Bridge Nebraska | 80 | Bellevue Bridge Nebraska | 82 | Plattsmouth Bridge Nevada | 115 | Valley of Fire Road New Hampshire | 117 | Blue Star Turnpikes New Hampshire | 118 | F. E. Everett Turnpike Minnesota | 112 | International Falls Bridge Minnesota | 113 | MNPass Missouri | 114 | Lake of the Ozark Com Bridge Nebraska | 80 | Bellevue Bridge Nebraska | 81 | Decatur Bridge Nebraska | 82 | Plattsmouth Bridge Nevada | 115 | Valley of Fire Road New Hampshire | 116 | Cheshire Bridge New Hampshire | 117 | Blue Star Turnpikes New Hampshire | 118 | F. E. Everett Turnpike New Hampshire | 119 | Henry Bourque Highway (Route 3)	~~Minnesota | 111 | 12th/15th Avenue, N Bridge~~ Minnesota | 113 | MNPass Missouri | 114 | Lake of the Ozark Com Bridge Nebraska | 80 | Bellevue Bridge Nebraska | 82 | Plattsmouth Bridge Nevada | 115 | Valley of Fire Road New Hampshire | 117 | Blue Star Turnpikes New Hampshire | 118 | F. E. Everett Turnpike Minnesota | 112 | International Falls Bridge Minnesota | 113 | MNPass Missouri | 114 | Lake of the Ozark Com Bridge Nebraska | 80 | Bellevue Bridge ~~Nebraska | 81 | Decatur Bridge~~ Nebraska | 82 | Plattsmouth Bridge Nevada | 115 | Valley of Fire Road ~~New Hampshire | 116 | Cheshire Bridge~~ New Hampshire | 117 | Blue Star Turnpikes New Hampshire | 118 | F. E. Everett Turnpike ~~New Hampshire | 119 | Henry Bourque Highway (Route 3)~~
D-10	**Appendix D** - Toll Facility Listing	Pennsylvania | 209 | Pennsylvania Turnpike Eastern Extension | Pennsylvania | 211 | Pennsylvania Turnpike Western Extension | Pennsylvania | 213 | Mosey Wood Toll Road | Pennsylvania | 1088 | Fredericktown |	~~Pennsylvania | 209 | Pennsylvania Turnpike Eastern Extension |~~ ~~Pennsylvania | 211 | Pennsylvania Turnpike Western Extension |~~ ~~Pennsylvania | 213 | Mosey Wood Toll Road |~~ **Pennsylvania | 367 | I-95 Extension… | *** ~~Pennsylvania | 1088 | Fredericktown |~~

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D-10	**Appendix D** - Toll Facility Listing	Pennsylvania | 215 | Beaver Valley Expressway Pennsylvania | 216 | Monavalley Expressway Pennsylvania | 217| Mon-Fayette Expressway	Pennsylvania | 215 | Beaver Valley Expressway ~~Pennsylvania | 216 | Monavalley Expressway~~ Pennsylvania | 217| Mon-Fayette Expressway
D-11	**Appendix D** - Toll Facility Listing	Rhode Island | 333 | Saknonnet River Bridge… | Tennessee | 1094 | Helms | Texas | 227 | Brownsville & Matamoros Express Bridge&M Bridge | Texas | 230 | Weslaco-Progreso International Bridge | Texas | 232 | McAllen-Hidalgo-Reynosa International Bridge | Texas | 235 | Juarez-Lincoln International Bridge | Texas | 236 | Laredo International Bridge (Convent St.) … | Texas | 238 | Laredo-Columbia Solidarity Bridge | Texas | 242 | Presidio Bridge |	~~Rhode Island | 333 | Saknonnet River Bridge… |~~ ~~Tennessee | 1094 | Helms |~~ **Texas | 305 | Lewisville Lake Bridge | *** Texas | 227 | B**rownsville & Matamoros Express Bridge**~~&M Bridge~~ | Texas | 230 | ~~Weslaco -~~Progreso International Bridge | Texas | 232 | McAllen-Hidalgo~~-Reynosa~~ **International** Bridge | Texas | 235 | Juarez-Lincoln International Bridge | Texas | 236 | ~~Laredo International Bridge (Convent St.)~~**Gateway to the Americas …** | Texas | 238 | ~~Laredo -~~Columbia Solidarity Bridge | ~~Texas | 242 | Presidio Bridge |~~

Page	Discussion	Original Text	Revised Text
D-12	**Appendix D** - Toll Facility Listing	Texas | 246 | Katy I-10 QuickRide and U.S. 290Managed Lanes | Texas | 248 | Sam Houston Tollway - East | Texas | 249 | Sam Houston Tollway - West | Texas | 250 | Sam Houston Tollway – SW Belt | Texas | 251 | Sam Houston Tollway – SE Belt | Texas | 256 | US 183-A | Texas | 257 | Fort Bend Parkway Extension | Texas | 258 | SH 45 N | Texas | 261 |Toll Loop 49 | Texas | 264 | Central Texas Turnpike | Texas | 266 | Harris County Beltway 8 | Texas | 305 | Lewisville Lake Bridge | Texas | 306 | Donna International Bridge | Texas | 307 | I-635 LBJ Managed Lanes, Dallas/Ft. Worth | Texas | 308 | NTE – (I-820/SH-183 Managed Lanes – Ft. Worth)North Tarrant Express | Texas | 319 | Anzalduas International Bridge | Texas | 330 | Tomillo-Guadalupe International Bridge | Texas | 322 | Sam Houston Tollway - NE | Texas | 324 | SH99 (Grand Parkway) – Segment I-2 | Texas | 325 | SH99 (Grand Parkway) – Segment E | Texas | 326 | SH99 (Grand Parkway) – Segments F-1, F-2, and G |	**Texas | 306 | Donna International Bridge | *** Texas | 246 | Katy ~~I-10 QuickRide and U.S. 290~~**Managed Lanes** | Texas | 248 | Sam Houston Tollway ~~- East~~ | ~~Texas | 249 | Sam Houston Tollway - West |~~ ~~Texas | 250 | Sam Houston Tollway – SW Belt |~~ ~~Texas | 251 | Sam Houston Tollway – SE Belt |~~ Texas | 256 | ~~US~~ 183-A | Texas | 257 | Fort Bend Parkway ~~Extension~~ | Texas | 258 | SH 45 **N** | Texas | 261 |Toll ~~Loop~~ 49 | ~~Texas | 264 | Central Texas Turnpike |~~ ~~Texas | 266 | Harris County Beltway 8 |~~ ~~Texas | 305 | Lewisville Lake Bridge |~~ ~~Texas | 306 | Donna International Bridge |~~ Texas | 307 | ~~I-635~~ LBJ Managed Lanes~~, Dallas/Ft. Worth~~ | Texas | 308 | ~~NTE – (I-820/SH-183 Managed Lanes – Ft. Worth)~~**North Tarrant Express** | Texas | 319 | Anzalduas International **Bridge** | Texas | 330 | Tomillo-Guadalupe **International Bridge** | ~~Texas | 322 | Sam Houston Tollway - NE |~~ ~~Texas | 324 | SH99 (Grand Parkway) – Segment I-2 |~~ ~~Texas | 325 | SH99 (Grand Parkway) – Segment E |~~ ~~Texas | 326 | SH99 (Grand Parkway) – Segments F-1, F-2, and G |~~

Page	Discussion	Original Text	Revised Text
D-12	**Appendix D** - Toll Facility Listing	Texas|252|Hardy Toll Road Texas|253|Westpark Tollway Texas|254|President George Bush Turnpike Texas|255|Camino Colombia Texas|256|US 183-A Texas|257|Fort Bend Parkway Extension Texas|258|SH 45 Texas|259|SH 45 SE Texas|260|SH 130 Texas|261|Loop 49 Texas|262|Sam Rayburn Tollway Texas|263|Loop 1 Texas|264|Central Texas Turnpike Texas|266|Harris County Beltway 8 Texas|305|Lewisville Lake Bridge Texas|306|Donna International Bridge Texas|307|I-635 LBJ Managed Lanes, Dallas/Ft. Worth Texas|308|NTE - (I-820/SH 183 Managed Lanes - Ft. Worth) Texas|319|Anzalduas International Texas|320|Tornillo-Guadalupe Texas|321|Chisholm Trail Parkway Texas|322|Sam Huston Tollway-NE Texas|323|DFW Connector Texas|324|SH99 (Grand Parkway) - Segment I-2 Texas|325|SH99 (Grand Parkway) - Segment E Texas|326|SH99 (Grand Parkway) - Segments F-1, F-2, and G Texas|327|SH 130 Seg 5/6 Texas|328|Loop 375 (Cesar Chavez Managed Lanes) Texas|329|Tom Landry Expressway (I-30) Texas|330|SH 550 Texas|331|Manor Expressway - Phase 1 Texas|332|Manor Expressway -	Texas|252|Hardy Toll Road **(Harris County)** Texas|253|Westpark Tollway (Harris County) **Texas|374|Westpark Tollway (Fort Bend County)** Texas|254|President George Bush Turnpike Texas|255|Camino Colombia Texas|256|183-A Texas|257|Fort Bend Parkway **(Harris County)** **Texas|375|Fort Bend Parkway (Fort Bend County)** Texas|258|SH 45 N Texas|259|SH 45 SE Texas|260|SH 130 Texas|261|Toll 49 Texas|262|Sam Rayburn Tollway Texas|263|Loop 1 Texas|264|Central Texas Turnpike Texas|266|Harris County Beltway 8 Texas|305|Lewisville Lake Bridge Texas|306|Donna International Bridge Texas|307|**LBJ TEXpress Lanes** Texas|308|**TEXpress Lanes** Texas|319|Anzalduas International Bridge Texas|320|Tornillo-Guadalupe International Bridge Texas|321|Chisholm Trail Parkway Texas|323|DFW Connector Texas|324|SH99 (Grand Parkway) Texas 327 SH 130 Seg 5/6 Texas 328 ~~**Loop 375 (Cesar Chavez Managed Lanes)**~~ Texas 329 ~~**Tom Landry Expressway**~~ (I-30) **TEXpress Lanes** Texas 330 **I-169**/SH 550 Texas 331 Manor Expressway Texas 341 I-45 North (**North Freeway HOV/HOT Lane**) Texas 342 I-45 South (Gulf Freeway) HOV/HOT Lane Texas 343 **I-69**/US 59 (Southwest Freeway) HOV/HOT lane

Page	Discussion	Original Text	Revised Text
		Phase 2 Texas|341|IH 45 North (North Freeway) HOV/HOT Lane Texas|342|IH 45 South (Gulf Freeway) HOV/HOT Lane Texas|343|US 59 (Southwest Freeway) HOV/HOT lane Texas|344|US 59 (Eastex Freeway) HOV/HOT lane Texas|345|US 290 (Northwest Freeway) HOV/HOT lane Texas|1095|Los Ebanos Ferry Utah|267|Express Lanes (Salt Lake City) Utah|268|Adams Avenue Parkway Utah|1096|Charles Hall Vermont|116|Cheshire Bridge Vermont|269|Equinox Sky Line Drive Vermont|270|Mt. Mansfield Toll Road Vermont|271|Burke Mountain Toll Road Virgin Islands|1116|Trans Services - St. John Virginia|91|Harry W. Nice Memorial Bridge||	Texas 344 **I-69**/US 59 (Eastex Freeway) HOV/HOT lane Texas 345 US 290 (Northwest Freeway) HOV/HOT lane Texas 348 SH 249 Tomball Tollway ~~**Texas 349 SH 242 Direct Connector**~~ ~~**Texas 350 SH 249 Direct Connector**~~ Texas 351 IH-30 Tom Landry Freeway: Phase 1 opened 2016. Located in Grand Prarie in Dallas County. IH-30 from w SH 161. Texas|352|**LBJ TEXpress Lanes** Texas|353|SH 71 Eexpress. Opened Feb 28, 2017. Located in Austin along SH 71from Ross Rd. to Spirit of TX.Dr. Texas|354|35Express. Expected to open summer 2017. Dallas at I-635 along I-35E to Denton stoppping at US 380. Texas|355|Mopac Express **Texas|369|SH 45 SW** **Texas|370|360 Tollway** **Texas|371|SH 114 TEXpress Lanes** **Texas|372|SH183 TEXpress Lanes** **Texas|373|Loop 12 TEXpress Lanes** Utah|267|Express Lanes (Salt Lake City) Utah|268|Adams Avenue Parkway Vermont|269|Equinox Sky Line Drive Vermont|270|Mt. Mansfield Toll Road Vermont|271|Burke Mountain Toll Road Virginia|91|Harry W. Nice Memorial Bridge

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D-13	**Appendix D** - Toll Facility Listing	Texas | 331 | Manor Expressway – Phase 1 | Texas | 332 | Manor Expressway – Phase 2 | Texas | 341 | IH 45 North (North Freeway) OV/HOT Lane (Gulf Freeway) | * Vermont | 116 | Cheshire Bridge |	Texas | 331 | Manor Expressway~~ – Phase 1 |~~ ~~Texas | 332 | Manor Expressway – Phase 2 |~~ Texas | 341 | IH 45 North~~ (North Freeway) OV/HOT Lane~~ (Gulf Freeway) | * **Texas | 348 | SH 249 Tomball Tollway | *** **Texas | 349 | SH 242 Direct Connector | *** **Texas | 350 | SH249 Direct Connector | *** **Texas | 351 | IH-30 Tom Landry Freeway: Phase 1 | *** **Texas | 352 | LBJ East | *** **Texas | 353 | SH 71 Express | *** **Texas | 354 | 35 Express | *** **Texas | 355 | Mopac Express | *** ~~Vermont | 116 | Cheshire Bridge |~~
G-2	Field **Format** Specifications	Route_ID Character(60) Pct_Peak_Single Numeric(2,0) Pct_Peak_Combination Numeric(2,0) Rutting Numeric(3,1) Faulting Numeric(3,1) Cracking_Percent Numeric(3,1)	Route_ID Character~~(60)~~**(120)** Pct_Peak_Single Numeric~~(2,0)~~**(2,3)** Pct_Peak_Combination Numeric~~(2,0)~~**(2,3)** Rutting Numeric~~(2,0)~~**(3,2)** Faulting Numeric~~(3,1)~~**(3,2)** Cracking_Percent Numeric~~(3,1)~~**(3)**

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G-2	**Appendix G**		Deleted this appendix in its entirety.