U.S. Department of Transportation
Federal Highway Administration

PM2 Pavement Metric Data Dictionary

This document provides description of data fields in the "PM2 Pavement Metric Data" provided in the Highway Performance Monitoring System (HPMS) Software.

- March 2020: Added 2 new data fields (**Missing_Invalid_Or_Unresolved_IRI** and **Segment_Rate_IRI**)

Field Name	Description
Year_Record	Inventory/Data Year
State_Code	Two digit FIPS (Federal Information Processing Standard) numeric state code
Non_Interstate_NHS	**0**: Mainline Interstate (single carriage) meeting the following criteria: **F_System** = 1 AND **Facility_Type** IN (1,2)) AND **NHS** IN (1,2,3,4,5,6,7,8,9)) AND **Urban_Code** > 0 **0**: Mainline Interstate (dual carriage) meeting the following criteria: **F_System** = 1 AND **Facility_Type** IN (1,2,6)) AND **NHS** IN (1,2,3,4,5,6,7,8,9)) AND **Urban_Code** > 0
	1: Mainline Non-Interstate NHS meeting the following criteria: **F_System** IN (2,3,4,5,6,7) AND **Facility_Type** IN (1,2)) AND **NHS** IN (1,2,3,4,5,6,7,8,9)) AND **Urban_Code** > 0
	2: Not meeting the criteria for values 0 and 1
Route_ID	Route_ID for a segment
Begin_Point	Begin_Point for a segment
End_Point	End_Point for a segment
F_System	Value_Numeric for F_System Data Item section that contains the segment
Facility_Type	Value_Numeric for Facility_Type Data Item section that contains the segment
Through_Lanes	Value_Numeric for Through_Lanes Data Item section that contains the segment
Dir_Through_Lanes	Value_Numeric for Dir_Through_Lanes Data Item section that contains the segment
Lanes_To_Compute_LaneMiles	**Through_Lanes** value: for single carriage Interstate
	Dir_Through_Lanes value: for dual carriage Interstate
	Through_Lanes value: for non- Interstate NHS
Urban_Code	Value_Numeric for Urban_Code Data Item section that contains the segment
NHS	Value_Numeric for NHS Data Item section that contains the segment
Structure_Type	Value_Numeric for Structure_Type Data Item section that contains the segment
Surface_Type	Value_Numeric for Surface_Type Data Item section that contains the segment

Field Name	Description
IRI	Value_Numeric for IRI Data Item section that contains the segment
IRI_D	Value_Date for IRI Data Item section that contains the segment
IRI_T	Value_Text for IRI Data Item section that contains the segment
PSR	Value_Numeric for PSR Data Item section that contains the segment
PSR_D	Value_Date for PSR Data Item section that contains the segment
PSR_T	Value_Text for PSR Data Item section that contains the segment
Rutting	Value_Numeric for Rutting Data Item section that contains the segment
Rutting_D	Value_Date for Rutting Data Item section that contains the segment
Rutting_T	Value_Text for Rutting Data Item section that contains the segment
Faulting	Value_Numeric for Faulting Data Item section that contains the segment
Faulting_D	Value_Date for Faulting Data Item section that contains the segment
Faulting_T	Value_Text for Faulting Data Item section that contains the segment
Cracking_Percent	Value_Numeric for Cracking_Percent Data Item section that contains the segment
Cracking_Percent_D	Value_Date for Cracking_Percent Data Item section that contains the segment
Cracking_Percent_T	Value_Text for Cracking_Percent Data Item section that contains the segment
Dir_Through_Lanes_UN	**1**: Unresolved **Dir_Through_Lanes** **0 OR NULL**: Resolved **Dir_Through_Lanes**
Through_Lanes_UN	**1**: Unresolved **Through_Lanes** **0 OR NULL**: Resolved **Through_Lanes**
Structure_Type_UN	**1**: Unresolved **Structure_Type** **0 OR NULL**: Resolved **Structure_Type**
Surface_Type_UN	**1**: Unresolved **Surface_Type** **0 OR NULL**: Resolved **Surface_Type**
IRI_UN	**1**: Unresolved **IRI** **0 OR NULL**: Resolved **IRI**
PSR_UN	**1**: Unresolved **PSR** **0 OR NULL**: Resolved **PSR**
Rutting_UN	**1**: Unresolved **Rutting** **0 OR NULL**: Resolved **Rutting**
Faulting_UN	**1**: Unresolved **Faulting** **0 OR NULL**: Resolved **Faulting**
Cracking_Percent_UN	**1**: Unresolved **Cracking_Percent** **0 OR NULL**: Resolved **Cracking_Percent**
F_System_Begin_Point	Begin_Point for F_System Data Item section that contains the segment
F_System_End_Point	End_Point for F_System Data Item section that contains the segment
Facility_Type_Begin_Point	Begin_Point for Facility_Type Data Item section that contains the segment
Facility_Type_End_Point	End_Point for Facility_Type Data Item section that contains the segment
Through_Lanes_Begin_Point	Begin_Point for Through_Lanes Data Item section that contains the segment
Through_Lanes_End_Point	End_Point for Through_Lanes Data Item section that contains the segment
Dir_Through_Lanes_Begin_Point	Begin_Point for Dir_Through_Lanes Data Item section that contains the segment
Dir_Through_Lanes_End_Point	End_Point for Dir_Through_Lanes Data Item section that contains the segment

Field Name	Description
Urban_Code_Begin_Point	Begin_Point for Urban_Code Data Item section that contains the segment
Urban_Code_End_Point	End_Point for Urban_Code Data Item section that contains the segment
Structure_Type_Begin_Point	Begin_Point for Structure_Type Data Item section that contains the segment
Structure_Type_End_Point	End_Point for Structure_Type Data Item section that contains the segment
Surface_Type_Begin_Point	Begin_Point for Surface_Type Data Item section that contains the segment
Surface_Type_End_Point	End_Point for Surface_Type Data Item section that contains the segment
IRI_Begin_Point	Begin_Point for IRI Data Item section that contains the segment
IRI_End_Point	End_Point for IRI Data Item section that contains the segment
PSR_Begin_Point	Begin_Point for PSR Data Item section that contains the segment
PSR_End_Point	End_Point for PSR Data Item section that contains the segment
Rutting_Begin_Point	Begin_Point for Rutting Data Item section that contains the segment
Rutting_End_Point	End_Point for Rutting Data Item section that contains the segment
Faulting_Begin_Point	Begin_Point for Faulting Data Item section that contains the segment
Faulting_End_Point	End_Point for Faulting Data Item section that contains the segment
Cracking_Percent_Begin_Point	Begin_Point for Cracking_Percent Data Item section that contains the segment
Cracking_Percent_End_Point	End_Point for Cracking_Percent Data Item section that contains the segment
Last_Modified_By	UPACS user that last created or modified this record, this will be the state HPMS coordinator who submitted the data to FHWA unless the record was modified (locked, unlocked or marked as unresolved or resolved) by FHWA staff in the review process
Last_Modified_On	The submission date to HPMS unless the record was modified (locked, unlocked or marked as unresolved or resolved) by FHWA staff in the review process. If the record is locked, unlocked or marked as unresolved or resolved, this will be the time stamp for that action.
F_System_Locked	**1**: Locked **F_System** (**F_System** cannot be updated) **0 OR NULL**: Unlocked **F_System** (**F_System** can be updated through resubmittal of F_System Data Item in Sections)
Facility_Type_Locked	**1**: Locked **Facility_Type** (**Facility_Type** cannot be updated) **0 OR NULL**: Unlocked **Facility_Type** (**Facility_Type** can be updated through resubmittal of Facility_Type Data Item in Sections)
Through_Lanes_Locked	**1**: Locked **Through_Lanes** (**Through_Lanes** cannot be updated) **0 OR NULL**: Unlocked **Through_Lanes** (**Through_Lanes** can be updated through resubmittal of Through_Lanes Data Item in Sections)
Dir_Through_Lanes_Locked	**1**: Locked **Dir_Through_Lanes** (**Dir_Through_Lanes** cannot be updated) **0 OR NULL**: Unlocked **Dir_Through_Lanes** (**Dir_Through_Lanes** can be updated through resubmittal of Dir_Through_Lanes Data Item in Sections)
Urban_Code_Locked	**1**: Locked **Urban_Code** (**Urban_Code** cannot be updated) **0 OR NULL**: Unlocked **Urban_Code** (**Urban_Code** can be updated through resubmittal of Urban_Code Data Item in Sections)

Field Name	Description
Structure_Type_Locked	**1**: Locked **Structure_Type** (**Structure_Type** cannot be updated) **0 OR NULL**: Unlocked **Structure_Type** (**Structure_Type** can be updated through resubmittal of Structure_Type Item in Sections)
Surface_Type_Locked	**1**: Locked **Surface_Type** (**Surface_Type** cannot be updated) **0 OR NULL**: Unlocked **Surface_Type** (**Surface_Type** can be updated through resubmittal of Surface_Type Data Item in Sections)
IRI_Locked	**1**: Locked **IRI** (**IRI** cannot be updated) **0 OR NULL**: Unlocked **IRI** (**IRI** can be updated through resubmittal of IRI Data Item in Sections)
PSR_Locked	**1**: Locked **PSR** (**PSR** cannot be updated) **0 OR NULL**: Unlocked **PSR** (**PSR** can be updated through resubmittal of PSR Data Item in Sections)
Rutting_Locked	**1**: Locked **Rutting** (**Rutting** cannot be updated) **0 OR NULL**: Unlocked **Rutting** (**Rutting** can be updated through resubmittal of Rutting Data Item in Sections)
Faulting_Locked	**1**: Locked **Faulting** (**Faulting** cannot be updated) **0 OR NULL**: Unlocked **Faulting** (**Faulting** can be updated through resubmittal of Faulting Data Item in Sections)
Cracking_Percent_Locked	**1**: Locked **Cracking_Percent** (**Cracking_Percent** cannot be updated) **0 OR NULL**: Unlocked **Cracking_Percent** (**Cracking_Percent** can be updated through resubmittal of Cracking_Percent Data Item in Sections)
Segment_Length	Calculated value: **End_Point - Begin_Point**
Lane_Miles	Calculated value: **Segment_Length X Lanes_To_Compute_LaneMiles**
IRI_SL	**1**: IRI segment that violated section length requirement (**IRI_End_Point - IRI_Begin_Point > 0.11**) **0 OR NULL**: IRI segment that met section length requirement (**IRI_End_Point - IRI_Begin_Point ≤ 0.11**)
PSR_SL	**1**: PSR segment that violated section length requirement (**PSR_End_Point - PSR_Begin_Point > 0.11**) **0 OR NULL**: PSR segment that met section length requirement (**PSR_End_Point – PSR_Begin_Point ≤ 0.11**)

Field Name	Description
Rutting_SL	**1**: Rutting segment that violated section length requirement (**Rutting_End_Point - Rutting_Begin_Point > 0.11**) **0 OR NULL**: Rutting segment that met section length requirement (**Rutting_End_Point – Rutting_Begin_Point ≤ 0.11**)
Faulting_SL	**1**: Faulting segment that violated section length requirement (**Faulting_End_Point - Faulting_Begin_Point > 0.11**) **0 OR NULL**: Faulting segment that met section length requirement (**Faulting_End_Point – Faulting_Begin_Point ≤ 0.11**)
Cracking_Percent_SL	**1**: Cracking_Percent segment that violated section length requirement (**Cracking_Percent_End_Point - Cracking_Percent_Begin_Point > 0.11**) **0 OR NULL**: Rutting segment that met section length requirement (**Cracking_Percent_End_Point – Cracking_Percent_Begin_Point ≤ 0.11**)
Rutting_SC	**1**: Rutting segment that violated spatial coincidence requirement (alignment with IRI Section) (**Rutting_Begin_Point ≠ IRI_Begin_Point**) OR (**Rutting_End_Point ≠ IRI_End_Point**) **0 OR NULL**: Rutting segment that met spatial coincidence requirement (**Rutting_Begin_Point = IRI_Begin_Point**) AND (**Rutting_End_Point = IRI_End_Point**)
Faulting_SC	**1**: Faulting segment that violated spatial coincidence requirement (alignment with IRI Section) (**Faulting_Begin_Point ≠ IRI_Begin_Point**) OR (**Faulting_End_Point ≠ IRI_End_Point**) **0 OR NULL**: Faulting segment that met spatial coincidence requirement (**Faulting_Begin_Point = IRI_Begin_Point**) AND (**Faulting_End_Point = IRI_End_Point**)
Cracking_Percent_SC	**1**: Cracking_Percent segment that violated spatial coincidence requirement (alignment with IRI Section) (**Cracking_Percent_Begin_Point ≠ IRI_Begin_Point**) OR (**Cracking_Percent_End_Point ≠ IRI_End_Point**) **0 OR NULL**: Cracking_Percent segment that met spatial coincidence requirement (**Cracking_Percent_Begin_Point = IRI_Begin_Point**) AND (**Cracking_Percent_End_Point = IRI_End_Point**)
Bridge	**1**: segment is classified as a bridge, meeting the following criteria: **Structure_Type** = 1 AND (**Structure_Type_UN** = 0 OR NULL) **0 OR NULL**: segment is not a bridge

Field Name	Description
Unpaved_Or_Other	**1**: segment is classified as an unpaved or other surface type, meeting the following criteria: (**Surface_Type** = 1 OR 11) AND (**Surface_Type_UN** = 0 OR NULL) **0 OR NULL**: segment is not an unpaved or other surface type
Missing_Invalid_Or_Unresolved	**1**: segment is classified as a Missing, Invalid, or Unresolved Data[1] **0 OR NULL**: segment is not a Missing, Invalid, or Unresolved Data
Segment_Rate	Overall condition rating[2] of a segment **1**: segment is classified as in Good overall condition **2**: segment is classified as in Fair overall condition **3**: segment is classified as in Poor overall condition
Missing_Invalid_Or_Unresolved_IRI	**1**: segment is classified as a Missing, Invalid, or Unresolved Data based on IRI[3] for the records with **Non_Interstate_NHS** = 1 **0 OR NULL**: segment is not a Missing, Invalid, or Unresolved Data based on IRI for the records with **Non_Interstate_NHS** = 1
Segment_Rate_IRI	Overall condition rating based on IRI[4] for the records with **Non_Interstate_NHS** = 1 **1**: segment is classified as in Good overall condition based on IRI **2**: segment is classified as in Fair overall condition based on IRI **3**: segment is classified as in Poor overall condition based on IRI

[1] Section 2.4.3 of the "FHWA Computation Procedure for the Pavement Condition Measures" (FHWA-HIF-18-022): https://www.fhwa.dot.gov/tpm/guidance/hif18022.pdf

[2] Section 2.4.4 of the "FHWA Computation Procedure for the Pavement Condition Measures" (FHWA-HIF-18-022): https://www.fhwa.dot.gov/tpm/guidance/hif18022.pdf

[3] Table C1 in Appendix C of the "FHWA Computation Procedure for the Pavement Condition Measures" (FHWA-HIF-18-022): https://www.fhwa.dot.gov/tpm/guidance/hif18022.pdf

[4] Table C2 in Appendix C of the "FHWA Computation Procedure for the Pavement Condition Measures" (FHWA-HIF-18-022): https://www.fhwa.dot.gov/tpm/guidance/hif18022.pdf