Highway Performance Monitoring System
Field Manual Supplemental Guidance

Travel Time Metric Data Reporting Requirements & Specifications

U.S. Department of Transportation
Federal Highway Administration

Office of Highway Policy Information

February 2018

Document Revision Log

<table>
<tr><th>Date</th><th>Page/Revision Description</th><th>Original Text</th><th>Revised Text</th></tr>
<tr><td>May 19, 2020</td><td>Pages 17 through 19 in Table 1 (“Travel Time Metric Specifications Dataset”) – valid value includes zero for all travel time percentiles.</td><td>Under “Valid Values” Header for all travel time percentiles (TT_AMP50PCT, TT_AMP80PCT, TT_MIDD50PCT, TT_MIDD80PCT, TT_PMP50PCT, TT_PMP80PCT, TT_WE50PCT, TT_WE80PCT, TTT_AMP50PCT, TTT_AMP95PCT, TTT_MIDD50PCT, TTT_MIDD95PCT, TTT_PMP50PCT, TTT_PMP95PCT, TTT_OVN50PCT, TTT_OVN95PCT, TTT_WE50PCT, TTT_WE95PCT), read as following:

A positive non-negative, non-zero number (in units of seconds rounded to the nearest integer); must be >= 0</td><td>Under “Valid Values” Header for all travel time percentiles are revised as following:
<table>
<tr><th>Constraint</th><th>Field Name</th><th>Extent</th><th>Data Type</th><th>Description</th><th>Valid Values</th></tr>
<tr><td>…</td><td>TT_AMP50PCT
TT_AMP80PCT
TT_MIDD50PCT
TT_MIDD80PCT
TT_PMP50PCT
TT_PMP80PCT
TT_WE50PCT
TT_WE80PCT
TTT_AMP50PCT
TTT_AMP95PCT
TTT_MIDD50PCT
TTT_MIDD95PCT
TTT_PMP50PCT
TTT_PMP95PCT
TTT_OVN50PCT
TTT_OVN95PCT
TTT_WE50PCT
TTT_WE95PCT</td><td>NHS</td><td>Numeric(5)</td><td>….</td><td>A positive non-negative~~, non-zero~~ number (in units of seconds rounded to the nearest integer); must be >= 0</td></tr>
</table></td></tr>
</table>

Date	**Page/Revision Description**	**Original Text**	**Revised Text**
February 21, 2018	Page 19 in Table 1 ("Travel Time Metric Specifications Dataset") – Day range for TTTR_OVN metric revised to be consistent with 23 CFR 490.611(a)(1)(iv)	Description for TTTR_OVN read as following: *TTTR metric for "Overnight." "Overnight" is between the hours of 8:00 p.m. and 6:00 a.m. for everyday (Saturday through Sunday) from January 1st through December 31st of the same calendar year.*	Description of TTTR_OVN is revised as following: *TTTR metric for "Overnight." "Overnight" is between the hours of 8:00 p.m. and 6:00 a.m. for everyday (~~Saturday through Sunday~~ **Sunday through Saturday**) from January 1st through December 31st of the same calendar year.*
February 21, 2018	Page 21 – Corrected spelling error for "Directionality" in the delimited data field header row	Under "Dataset Header Row", it read : *…Segment_Length|Directiolity |DIR_AADT…*	The dataset header row is revised as following : *…Segment_Length| ~~Directiolity~~ **Directionality** |DIR_AADT…*
April 16, 2018	Page 16 in Table 1 ("Travel Time Metric Specifications Dataset") – Segment_Length	Description for Segment_Length read as following: *Reporting segment length from Travel time data set*	Description for Segment_Length is revised as following: *Reporting segment length from Travel time data set.* ***Only report the length on the NHS.***

<table>
<tr><th>Date</th><th>Page/Revision Description</th><th>Original Text</th><th>Revised Text</th></tr>
<tr><td>April 16, 2018</td><td>Pages 17 through 20 in Table 1 (“Travel Time Metric Specifications Dataset”) – Data field size increased from Numeric(4) to Numeric(5) and valid value includes zero for all travel time percentiles.</td><td>Under “Data Type” Header for all travel time percentiles (TT_AMP50PCT, TT_AMP80PCT, TT_MIDD50PCT, TT_MIDD80PCT, TT_PMP50PCT, TT_PMP80PCT, TT_WE50PCT, TT_WE80PCT, TTT_AMP50PCT, TTT_AMP95PCT, TTT_MIDD50PCT, TTT_MIDD95PCT, TTT_PMP50PCT, TTT_PMP95PCT, TTT_OVN50PCT, TTT_OVN95PCT, TTT_WE50PCT, TTT_WE95PCT), read as following:

Numeric(4)

Also under “Valid Values” Header for all travel time percentiles read as following:

A positive non-negative, non-zero number (in units of seconds rounded to the nearest integer); must be > 0</td><td>Under “Data Type” and “Valid Values” Headers for all travel time percentiles are revised as following:

<table>
<tr><th>Constraint</th><th>Field Name</th><th>Extent</th><th>Data Type</th><th>Description</th><th>Valid Values</th></tr>
<tr><td>…</td><td>TT_AMP50PCT
TT_AMP80PCT
TT_MIDD50PCT
TT_MIDD80PCT
TT_PMP50PCT
TT_PMP80PCT
TT_WE50PCT
TT_WE80PCT
TTT_AMP50PCT
TTT_AMP95PCT
TTT_MIDD50PCT
TTT_MIDD95PCT
TTT_PMP50PCT
TTT_PMP95PCT
TTT_OVN50PCT
TTT_OVN95PCT
TTT_WE50PCT
TTT_WE95PCT</td><td>NHS</td><td><s>Numeric(4)</s>
Numeric(5)</td><td>….</td><td>A positive non-negative, non-zero number (in units of seconds rounded to the nearest integer); must be <s>> 0</s> >= 0</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>Date</th><th>Page/Revision Description</th><th>Original Text</th><th>Revised Text</th></tr>
<tr><td>April 16, 2018</td><td>Page 19 in Table 1 (“Travel Time Metric Specifications Dataset”) – Day range for TTTR_OVN metric revised to be consistent with 23 CFR 490.611(a)(1)(iv)</td><td>Description for TTTR_OVN read as following:

TTTR metric for “Overnight.” “Overnight” is between the hours of 8:00 p.m. and 6:00 a.m. for everyday (Saturday through Sunday) from January 1st through December 31st of the same calendar year.</td><td>Description of TTTR_OVN is revised as following:

TTTR metric for “Overnight.” “Overnight” is between the hours of 8:00 p.m. and 6:00 a.m. for everyday (<s>Saturday through Sunday</s> Sunday through Saturday) from January 1st through December 31st of the same calendar year.</td></tr>
<tr><td>April 16, 2018</td><td>Page 20 in Table 1 (“Travel Time Metric Specifications Dataset”) – Added a row for Data Field “Comments”</td><td></td><td>A new row in Table 1 for “Comments” inserted as following:
<table>
<tr><th>Constraint</th><th>Field Name</th><th>Extent</th><th>Data Type</th><th>Description</th><th>Valid Values</th></tr>
<tr><td></td><td>Comments</td><td>NHS</td><td>VarChar(100)</td><td>Comment for state use</td><td>Variable text up to 100 characters.</td></tr>
</table></td></tr>
<tr><td>April 16, 2018</td><td>Page 21 – Added “Comments” in the delimited data field header row</td><td>Under “Dataset Header Row”, it read :

…|PHED|OCC_FAC|METRIC_SOURCE/</td><td>The dataset header row is revised as following:

…|PHED|OCC_FAC|METRIC_SOURCE/Comments</td></tr>
</table>

<table>
<tr><th>Date</th><th>Page/Revision Description</th><th>Original Text</th><th>Revised Text</th></tr>
<tr><td>April 25, 2018</td><td>Page 10 – revised number of decimals for average vehicle occupancy factor to conformed to 23 CFR 490.511(e)(2).</td><td>Under Occupancy Factor (OCC_FAC) *Optional Metric, it read:

Average vehicle occupancy associated with a reporting segment is to be reported as a positive non-negative, non-zero number (rounded to the nearest hundredth). (I.e., >= 1.00)</td><td>Text for Occupancy Factor (OCC_FAC) *Optional Metric was revised to:

Average vehicle occupancy associated with a reporting segment is to be reported as a positive non-negative, non-zero number (rounded to the nearest <s>hundredth</s> tenth, as required in 23 CFR 490.511(e)(2)). (I.e., <s>>= 1.00</s> >= 1.0)</td></tr>
<tr><td>April 25, 2018</td><td>Page 20 – revised number of decimals for average vehicle occupancy factor to conformed to 23 CFR 490.511(e)(2).</td><td>Under Data Type, it read:
Decimal(3,2)

Under Valid Values, it read:
A positive non-negative, non-zero number (rounded to the nearest hundredth); must be >= 1.00.

Required only if a State DOT does not elect to use the most recently available data tables published by FHWA for Travel Time Reliability measures.</td><td>
<table>
<tr><th>Constraint</th><th>Field Name</th><th>Extent</th><th>Data Type</th><th>Description</th><th>Valid Values</th></tr>
<tr><td></td><td>*OCC_FAC</td><td>NHS</td><td><s>Decimal(3,2)</s> Decimal(3,1)</td><td>Average vehicle occupancy factor</td><td>A positive non-negative, non-zero number (rounded to the nearest <s>hundredth</s> tenth); must be <s>>= 1.00</s> >= 1.0.

Required only if a State DOT does not elect to use the most recently available data tables published by FHWA for Travel Time Reliability measures.</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>Date</th><th>Page/Revision Description</th><th>Original Text</th><th>Revised Text</th></tr>
<tr><td>January 3, 2019</td><td>Page 15 in Table 1 (“Travel Time Metric Specifications Dataset”) – Added negative one as one of the valid values for NHS</td><td></td><td>
<table>
<tr><th>Constraint</th><th>Field Name</th><th>Extent</th><th>Data Type</th><th>Description</th><th>Valid Values</th></tr>
<tr><td></td><td>NHS</td><td>NHS</td><td>Numeric(1)</td><td>FHWA-approved NHS. See Chapter 4 of the HPMS Field Manual for additional information.</td><td>1 - Non Connector NHS
2 - Major Airport
3 - Major Port Facility
4 - Major Amtrak Station
5 - Major Rail/Truck Terminal
6 - Major Inter City Bus Terminal
7 – Major Public Transportation or Multi-Modal Passenger Terminal
8 - Major Pipeline Terminal
9 - Major Ferry Terminal
-1 – the entire length of a reporting segment is not on mainline NHS or the entire length of a reporting segment overlaps with other reporting segment(s).</td></tr>
</table>
</td></tr>
</table>

Date	Page/Revision Description	Original Text	Revised Text
April 30, 2019	Page 9 – provide clarification of PHED Metric	Under *Peak Hour Excessive Delay (PHED)*, it read: *Peak Hour Excessive Delay (PHED)* *The Total Peak Hour Excessive Delay (PHED) metric is calculated to the nearest one hundredth of a person-hour per 23 CFR 490.711(e).*	**Total** Peak Hour Excessive Delay **Metric** (PHED) The Total Peak Hour Excessive Delay **Metric** (PHED) ~~**metric**~~ is calculated to the nearest one hundredth of a person-hour per 23 CFR 490.711(e).

Table of Contents

Sections Page

1.1 BACKGROUND

This document serves as supplemental guidance to the 2016 Highway Performance Monitoring System (HPMS) Field Manual[1] and advises State DOTs as to how they must process and report travel time-related performance metric data as required by the third regulation[2, 3] on the National Performance Management Measures. More specifically, this document provides information on how to submit annual performance metric and related data via the HPMS that comports with the reporting requirements and specifications of 23 CFR 490.511(e), 490.611(b), and 490.711(f).

1.2 HPMS OVERVIEW

The HPMS is the official Federal government source of data on the extent, condition, performance, use, and operating characteristics of the nation's highways, and is used for assessing and reporting highway system performance under FHWA's strategic planning process. The HPMS data also form the basis of the analyses that support the biennial *Conditions and Performance (C&P) Report to Congress,* and are the source for a substantial portion of the information published in the annual *Highway Statistics* publication and in other FHWA publications including information that is reported to the media. The HPMS data are widely used throughout the transportation community, including other governmental entities, business and industry, institutions of higher learning for transportation research purposes, and the general public. The FHWA will use various HPMS data elements to: (1) determine the extent[4] of performance measures and targets for State DOTs and MPOs, (2) calculate[5] the performance management measures, and (3) determine[6] whether State DOTs have made significant progress toward achieving the performance targets.

[1] HPMS Field Manual (December 2016) https://www.fhwa.dot.gov/policyinformation/hpms/fieldmanual/
[2] Final Rule on "National Performance Management Measures; Assessing Performance of the National Highway System, Freight Movement on the Interstate System, and Congestion Mitigation and Air Quality Improvement Program": Docket No. FHWA–2013–0054, RIN 2125–AF54, Federal Register - Vol. 82, No. 11, Pg. 5970 - January 18, 2017: https://www.gpo.gov/fdsys/pkg/FR-2017-01-18/pdf/2017-00681.pdf.
[3] May 20, 2017 effective date of the final rule (82 FR 14438): https://www.gpo.gov/fdsys/pkg/FR-2017-03-21/pdf/2017-05518.pdf
[4] 23 CFR 490.103(b) and (d), 23 CFR 490.105(d), 23 CFR 490.105(e)(8), and 23 CFR 490.105(f)(5)
[5] 23 CFR 490.109(d)
[6] 23 CFR 490.109(e)

1.3 HPMS SUBMISSION DEADLINES AND DATA REPORTING REQUIREMENTS

As defined in 23 CFR 490.101, a *travel time data set* is either the National Performance Management Research Data Set (NPMRDS) or an FHWA-approved equivalent data set. This data set is used for deriving metric values to be submitted to HPMS.[7] A *travel time segment* is a contiguous stretch of the NHS for which average travel time data are summarized in the travel time data set (either in NPMRDS or equivalent data set[8]). A *reporting segment* is the length of roadway that the State DOT and MPOs define for metric calculation and metric value reporting to HPMS, and is comprised of one or more travel time segments.

Beginning in 2018, the State DOTs are required to submit travel time-related metric data and the data necessary for measure computation for reporting segments on NHS into HPMS by June 15th of each year[9] as depicted in Figure 1 (below):

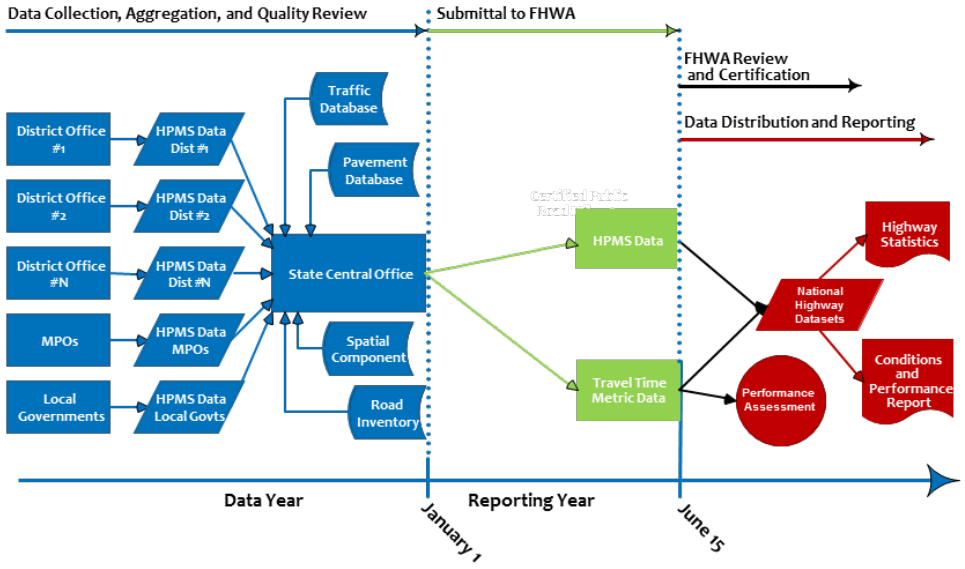
- Level of Travel Time Reliability (LOTTR) metrics, corresponding 80th and 50th percentile travel times, directional Average Annual Daily Traffic (DIR_AADT), and vehicle occupancy factor[10] for each of the reporting segments on NHS, as required in 23 CFR 490.511(e).

- Truck Travel Time Reliability (TTTR) metrics, corresponding 95th and 50th percentile truck travel times for each of the reporting segments on Interstate System, as required in 23 CFR 490.611(b).

- Total Peak Hour Excessive Delay (PHED) metric data, as required in 23 CFR 490.711(f), for each of the reporting segments on NHS in urbanized areas with a population over one million (starting in 2022, a population over 200,000) that is, in all or part, designated as nonattainment or maintenance areas for ozone (O_3), carbon monoxide (CO), or particulate matter (PM_{10} and $PM_{2.5}$) National Ambient Air Quality Standards (NAAQS), as provided in 23 CFR 490.703.

[7] 23 CFR 490.511(e), 490.611(b), and 490.711(f)
[8] 23 CFR 490.103(e)(5)
[9] 23 CFR 490.511(e), 490.611(b), and 490.711(f)
[10] 23 CFR 490.511(e)(2) – Only if a State DOT does not elect to use the most recently available data tables published by FHWA.

Figure 1 Conceptual State HPMS Processing Cycle



1.4 DATA REPORTING SPECIFICATIONS

Table 1 (below) describes the Travel Time Metric Specifications dataset, which must be developed and submitted by the State DOTs and consists of data for all National Highway System (NHS) roadways (both Interstate and non-Interstate roadways).[11] More specifically, this dataset describes roadway-section specific (i.e., reporting segment-level) travel time metrics. These reporting segments must be identified by HPMS-specific Route ID and milepoint-based location reference information or, if using the NPMRDS, by NPMRDS Traffic Message Channel (TMC).[12]

1.5 TRAVEL TIME METRIC AND RELATED DATA SPECIFICATIONS

Directional Annual Average Daily Traffic (DIR_AADT)

Annual Average Daily Traffic (AADT) for a given direction of travel reported as a positive non-negative, non-zero number (in units of an average number of vehicles rounded to the nearest integer[13]); must be > 0.

AM Peak Level of Travel Time Reliability (LOTTR_AMP)

Level of travel time reliability (LOTTR) metric for a reporting segment for "AM Peak." "AM Peak" is between the hours of 6:00 a.m. and 10:00 a.m. for every weekday (Monday through Friday) from January 1st through December 31st of the same calendar year, as described in 23 CFR 490.511(b)(1)(i). As described in 23 CFR 490.511(b)(3), the reported value for **AM Peak Level of Travel Time Reliability (LOTTR_AMP)** for a reporting segment is the **AM Peak 80th Percentile Travel Time (TT_AMP80PCT)** for that reporting segment divided by the **AM Peak 50th Percentile Travel Time (TT_AMP50PCT)** for that reporting segment, rounded to the nearest hundredth. For computing **LOTTR_AMP** metric, the travel time values **TT_AMP50PCT** and **TT_AMP80PCT** should not be rounded. However, reported TT_**AMP50PCT** and **TT_AMP80PCT** values must be in units of seconds rounded to the nearest integer, as required in 23 CFR 490.511(e)(2).

AM Peak 50th Percentile Travel Time (TT_AMP50PCT)

As described in 23 CFR 490.511(b)(2), the normal (50th percentile) travel time for a reporting segment, determined from the travel time data set (NPMRDS or equivalent data set[14]), represents the travel time in which 50 percent of the times are shorter in duration and 50 percent are longer in duration during the "AM Peak" for the entire calendar year. TT_AMP50PCT values must be reported in units of seconds rounded to the nearest integer, as required in 23 CFR 490.511(e)(2).

AM Peak 80th Percentile Travel Time (TT_AMP80PCT)

As described in 23 CFR 490.511(b)(2), the 80th percentile travel time for a reporting segment, determined from the travel time data set (NPMRDS or equivalent data set), represents the travel time in

[11] 23 CFR 490.103(e) and (f)
[12] 23 CFR 490.511(e), 490.611(b), and 490.711(f)
[13] Precision level for Directional Annual Average Daily Traffic value is consistent with other Annual Average Daily Travel Traffic related in the HPMS Field Manual (e.g., "Annual Average Daily Traffic" (Data Item 21), "Single-Unit Truck and Bus AADT" (Data Item 22), "Combination Truck AADT" (Data Item 24), and "Future AADT" (Data Item 28)).
[14] 23 CFR 490.103(e)

which 80 percent of the times are shorter in duration and 20 percent are longer in duration during the "AM Peak" for the entire calendar year. TT_AMP80PCT values must be reported in units of seconds rounded to the nearest integer, as required in 23 CFR 490.511(e)(2).

Midday Level of Travel Time Reliability (LOTTR_MIDD)

Level of travel time reliability metric for a reporting segment for "Midday." "Midday" is between the hours of 10:00 a.m. and 4:00 p.m. for every weekday (Monday through Friday) from January 1st through December 31st of the same calendar year, as described in 23 CFR 490.511(b)(1)(ii). As described in 23 CFR 490.511(b)(3), the reported value for **Midday Level of Travel Time Reliability (LOTTR_MIDD)** for a reporting segment is the **Midday 80th Percentile Travel Time (TT_MIDD80PCT)** for that reporting segment divided by the **Midday 50th Percentile Travel Time (TT_MIDD50PCT)** for that reporting segment and rounded to the nearest hundredth. For computing LOTTR_MIDD metric, the travel time values **TT_MIDD50PCT** and **TT_MIDD80PCT** should not be rounded. However, reported TT**_AMP50PCT** and **TT_AMP80PCT** values must be in units of seconds rounded to the nearest integer, as required in 23 CFR 490.511(e)(2).

Midday 50th Percentile Travel Time (TT_MIDD50PCT)

As described in 23 CFR 490.511(b)(2), the normal (50th percentile) travel time for a reporting segment, determined from the travel time data set (NPMRDS or equivalent data set), represents the travel time in which 50 percent of the times are shorter in duration and 50 percent are longer in duration during the "Midday" for the entire calendar year. TT_MIDD50PCT values must be reported in units of seconds rounded to the nearest integer, as required in 23 CFR 490.511(e)(2).

Midday 80th Percentile Travel Time (TT_MIDD80PCT)

As described in 23 CFR 490.511(b)(2), the 80th percentile travel time for a reporting segment, determined from the travel time data set (NPMRDS or equivalent data set), represents the travel time in which 80 percent of the times are shorter in duration and 20 percent are longer in duration during the "Midday" for the entire calendar year. TT_MIDD80PCT values must be reported in units of seconds rounded to the nearest integer, as required in 23 CFR 490.511(e)(2).

PM Peak Level of Travel Time Reliability (LOTTR_PMP)

Level of travel time reliability metric for a reporting segment for "PM Peak." "PM Peak" is between the hours of 4:00 p.m. and 8:00 p.m. for every weekday (Monday through Friday) from January 1st through December 31st of the same calendar year, as described in 23 CFR 490.511(b)(1)(iii). As described in 23 CFR 490.511(b)(3), the reported value for **PM Peak Level of Travel Time Reliability (LOTTR_PMP)** for a reporting segment is the **PM Peak 80th Percentile Travel Time (TT_PMP80PCT)** for that reporting segment divided by the **PM Peak 50th Percentile Travel Time (TT_PMP50PCT)** for that reporting segment and rounded to the nearest hundredth. For computing **LOTTR_PMP** metric, the travel time values **TT_PMP50PCT** and **TT_PMP80PCT** should not be rounded. However, reported TT**_AMP50PCT** and **TT_AMP80PCT** values must be in units of seconds rounded to the nearest integer, as required in 23 CFR 490.511(e)(2).

PM Peak 50th Percentile Travel Time (TT_PMP50PCT)

As described in 23 CFR 490.511(b)(2), the normal (50th percentile) travel time for a reporting segment, determined from the travel time data set (NPMRDS or equivalent data set), represents the travel time in which 50 percent of the times are shorter in duration and 50 percent are longer in duration during the "PM Peak" for the entire calendar year. TT_PMP50PCT values must be reported in units of seconds rounded to the nearest integer, as required in 23 CFR 490.511(e)(2).

PM Peak 80th Percentile Travel Time (TT_PMP80PCT)

As described in 23 CFR 490.511(b)(2), the 80th percentile travel time for a reporting segment, determined from the travel time dataset (NPMRDS or equivalent data set), represents the travel time in which 80 percent of the times are shorter in duration and 20 percent are longer in duration during the "PM Peak" for the entire calendar year. TT_PMP80PCT values must be reported in units of seconds rounded to the nearest integer, as required in 23 CFR 490.511(e)(2).

Weekend Level of Travel Time Reliability (LOTTR_WE)

Level of travel time reliability metric for a reporting segment for "Weekend." "Weekend" is between the hours of 6:00 a.m. and 8:00 p.m. for every weekend day (Saturday and Sunday) from January 1st through December 31st of the same calendar year, as described in 23 CFR 490.511(b)(1)(iv). As described in 23 CFR 490.511(b)(3), the reported value for **Weekend Level of Travel Time Reliability (LOTTR_WE)** for a reporting segment is the **Weekend 80th Percentile Travel Time (TT_WE80PCT)** for that reporting segment divided by the **Weekend 50th Percentile Travel Time (TT_WE50PCT)** for that reporting segment and rounded to the nearest hundredth. For computing **LOTTR_WE** metric, the travel time values **TT_WE50PCT** and **TT_WE80PCT** should not be rounded. However, reported TT**_WE50PCT** and **TT_WE80PCT** values must be in units of seconds rounded to the nearest integer, as required in 23 CFR 490.511(e)(2). **Weekend 50th Percentile Travel Time (TT_WE50PCT)**

As described in 23 CFR 490.511(b)(2), the normal (50th percentile) travel time for a reporting segment, determined from the travel time data set (NPMRDS or equivalent data set), represents the travel time in which 50 percent of the times are shorter in duration and 50 percent are longer in duration during the "Weekend" for the entire calendar year. TT_WE50PCT values must be reported in units of seconds rounded to the nearest integer, as required in 23 CFR 490.511(e)(2).

Weekend 80th Percentile Travel Time (TT_WE80PCT)

As described in 23 CFR 490.511(b)(2), the 80th percentile travel time for a reporting segment, determined from the travel time data set (NPMRDS or equivalent data set), represents the travel time in which 80 percent of the times are shorter in duration and 20 percent are longer in duration during the "Weekend" for the entire calendar year. TT_WE80PCT values must be reported in units of seconds rounded to the nearest integer, as required in 23 CFR 490.511(e)(2).

AM Peak Truck Travel Time Reliability (TTTR_AMP)

Truck travel time reliability (TTTR) metric for a reporting segment for "AM Peak." "AM Peak" is between the hours of 6:00 a.m. and 10:00 a.m. for every weekday (Monday through Friday) from January 1st through December 31st of the same calendar year, as described in 23 CFR 490.611(a)(1)(i). As described in 23 CFR 490.611(a)(3), the reported value for **AM Peak Truck Travel Time Reliability (TTTR_AMP)** for a

reporting segment the **AM Peak 95th Percentile Truck Travel Time (TTT_AMP95PCT)** for that reporting segment divided by the **AM Peak 50th Percentile Truck Travel Time (TTT_AMP50PCT)** for that reporting segment and rounded to the nearest hundredth. For computing **TTTR_AMP** metric, the travel time values **TTT_AMP50PCT** and **TTT_AMP95PCT** should not be rounded. However, reported TTT**_AMP50PCT** and **TTT_AMP95PCT** values must be in units of seconds rounded to the nearest integer, as required in 23 CFR 490.611(b)(2).

AM Peak 50th Percentile Truck Travel Time (TTT_AMP50PCT)

As described in 23 CFR 490.611(a)(2), the normal (50th percentile) truck travel time for a reporting segment, determined from the travel time data set (NPMRDS or equivalent data set), represents the truck travel time in which 50 percent of the times in the are shorter in duration and 50 percent are longer in duration during the "AM Peak" for the entire calendar year. TTT_AMP50PCT values must be reported in units of seconds rounded to the nearest integer, as required in 23 CFR 490.611(b)(2).

AM Peak 95th Percentile Truck Travel Time (TTT_AMP95PCT)

As described in 23 CFR 490.611(a)(2), the 95th percentile truck travel time for a reporting segment, determined from the travel time data set (NPMRDS or equivalent data set), represents the truck travel time in which 95 percent of the times are shorter in duration and 5 percent are longer in duration during the "AM Peak" for the entire calendar year. TTT_AMP95PCT values must be reported in units of seconds rounded to the nearest integer, as required in 23 CFR 490.611(b)(2).

Midday Truck Travel Time Reliability (TTTR_MIDD)

Truck travel time reliability metric for a reporting segment for "Midday." "Midday" is between the hours of 10:00 a.m. and 4:00 p.m. for every weekday (Monday through Friday) from January 1st through December 31st of the same calendar year, as described in 23 CFR 490.611(a)(1)(ii). As described in 23 CFR 490.611(a)(3), the reported value for **Midday Truck Travel Time Reliability (TTTR_MIDD)** for a reporting segment is the **Midday 95th Percentile Truck Travel Time (TTT_MIDD95PCT)** for that reporting segment divided by the **Midday 50th Percentile Truck Travel Time (TTT_MIDD50PCT)** for that reporting segment and rounded to the nearest hundredth. For computing **TTTR_MIDD** metric, the travel time values **TTT_MIDD50PCT** and **TTT_MIDD95PCT** should not be rounded. However, reported TTT**_MIDD50PCT** and **TTT_MIDD95PCT** values must be in units of seconds rounded to the nearest integer, as required in 23 CFR 490.611(b)(2).

Midday 50th Percentile Truck Travel Time (TTT_MIDD50PCT)

As described in 23 CFR 490.611(a)(2), the normal (50th percentile) truck travel time for a reporting segment, determined from the travel time dataset (NPMRDS or equivalent data set), represents the truck travel time in which 50 percent of the times are shorter in duration and 50 percent are longer in duration during the "Midday" for the entire calendar year. TTT_MIDD50PCT values must be reported in units of seconds rounded to the nearest integer, as required in 23 CFR 490.611(b)(2).

Midday 95th Percentile Truck Travel Time (TTT_MIDD95PCT)

As described in 23 CFR 490.611(a)(2), the 95th percentile truck travel time for a reporting segment, determined from the travel time dataset (NPMRDS or equivalent data set), represents the truck travel time in which 95 percent of the times are shorter in duration and 5 percent are longer in duration during

the "Midday" for the entire calendar year. TTT_MIDD95PCT values must be reported in units of seconds rounded to the nearest integer, as required in 23 CFR 490.611(b)(2).

PM Peak Truck Travel Time Reliability (TTTR_PMP)

Truck travel time reliability metric for a reporting segment for "PM Peak." "PM Peak" is between the hours of 4:00 p.m. and 8:00 p.m. for every weekday (Monday through Friday) from January 1st through December 31st of the same calendar year, as described in 23 CFR 490.611(a)(1)(iii). As described in 23 CFR 490.611(a)(3), the reported value for **PM Peak Truck Travel Time Reliability (TTTR_PMP)** for a reporting segment is the **PM Peak 95th Percentile Truck Travel Time (TTT_PMP95PCT)** for that reporting segment divided by the **PM Peak 50th Percentile Truck Travel Time (TTT_PMP50PCT)** for that reporting segment and rounded to the nearest hundredth. For computing **TTTR_PMP** metric, the travel time values **TTT_PMP50PCT** and **TTT_PMP95PCT** should not be rounded. However, reported TTT**_PMP50PCT** and **TTT_PMP95PCT** values must be in units of seconds rounded to the nearest integer, as required in 23 CFR 490.611(b)(2).

PM Peak 50th Percentile Truck Travel Time (TTT_PMP50PCT)

As described in 23 CFR 490.611(a)(2), the normal (50th percentile) truck travel time for a reporting segment, determined from the travel time data set (NPMRDS or equivalent data set), represents the truck travel time in which 50 percent of the times are shorter in duration and 50 percent are longer in duration during the "Midday" for the entire calendar year. TTT_PMP50PCT values must be reported in units of seconds rounded to the nearest integer, as required in 23 CFR 490.611(b)(2).

PM Peak 95th Percentile Truck Travel Time (TTT_PMP95PCT)

As described in 23 CFR 490.611(a)(2), the 95th percentile truck travel time for a reporting segment, determined from the travel time dataset (NPMRDS or equivalent data set), represents the truck travel time in which 95 percent of the times are shorter in duration and 5 percent are longer in duration during the "Midday" for the entire calendar year. TTT_PMP95PCT values must be reported in units of seconds rounded to the nearest integer, as required in 23 CFR 490.611(b)(2).

Overnight Truck Travel Time Reliability (TTTR_OVN)

Truck travel time reliability metric for a reporting segment for "Overnight." "Overnight" is between the hours of 8:00 p.m. and 6:00 a.m. for everyday (Sunday through Saturday) from January 1st through December 31st of the same calendar year, as described in 23 CFR 490.611(a)(1)(iv). As described in 23 CFR 490.611(a)(3), the reported value for **Overnight Truck Travel Time Reliability (TTTR_OVN)** for a reporting segment is the **Overnight 95th Percentile Truck Travel Time (TTT_OVN95PCT)** for that reporting segment divided by the **Overnight 50th Percentile Truck Travel Time (TTT_OVN50PCT)** for that reporting segment and rounded to the nearest hundredth. For computing **TTTR_OVN** metric, the travel time values **TTT_OVN50PCT** and **TTT_OVN95PCT** should not be rounded. However, reported TTT**_OVN50PCT** and **TTT_OVN95PCT** values must be in units of seconds rounded to the nearest integer, as required in 23 CFR 490.611(b)(2).

Overnight 50th Percentile Truck Travel Time (TTT_OVN50PCT)

As described in 23 CFR 490.611(a)(2), the normal (50th percentile) truck travel time for a reporting segment, determined from the travel time dataset (NPMRDS or equivalent data set), represents the truck travel time in which 50 percent of the times are shorter in duration and 50 percent are longer in duration during the "Overnight" for the entire calendar year. TTT_OVN50PCT values must be reported in units of seconds rounded to the nearest integer, as required in 23 CFR 490.611(b)(2).

Overnight 95th Percentile Truck Travel Time (TTT_OVN95PCT)

As described in 23 CFR 490.611(a)(2), the 95th percentile truck travel time for a reporting segment, determined from the travel time dataset (NPMRDS or equivalent data set), represents the truck travel time in which 95 percent of the times are shorter in duration and 5 percent are longer in duration during the "Overnight" for the entire calendar year. TTT_OVN95PCT values must be reported in units of seconds rounded to the nearest integer, as required in 23 CFR 490.611(b)(2).

Weekend Truck Travel Time Reliability (TTTR_WE)

Truck travel time reliability metric for a reporting segment for "Weekend." "Weekend" is between the hours of 6:00 a.m. and 8:00 p.m. for every weekend day (Saturday and Sunday) from January 1st through December 31st of the same calendar year, as described in 23 CFR 490.611(a)(1)(v). As described in 23 CFR 490.611(a)(3), the reported value for **Weekend Truck Travel Time Reliability (TTTR_WE)** for a reporting segment is the **Weekend 95th Percentile Truck Travel Time (TTT_WE95PCT)** for that reporting segment divided by the **Weekend 50th Percentile Truck Travel Time (TTT_WE50PCT)** for that reporting segment and rounded to the nearest hundredth. For computing **TTTR_WE** metric, the travel time values **TTT_WE50PCT** and **TTT_ TTT_WE95PCT** should not be rounded. However, reported TTT**_WE50PCT** and **TTT_WE95PCT** values must be in units of seconds rounded to the nearest integer, as required in 23 CFR 490.611(b)(2).

Weekend 50th Percentile Truck Travel Time (TTT_WE50PCT)

As described in 23 CFR 490.611(a)(2), the normal (50th percentile) truck travel time for a reporting segment, determined from the travel time dataset (NPMRDS or equivalent data set), represents the truck travel time in which 50 percent of the times are shorter in duration and 50 percent are longer in duration during the "Weekend" for the entire calendar year. TTT_WE50PCT values must be reported in units of seconds rounded to the nearest integer, as required in 23 CFR 490.611(b)(2).

Weekend 95th Percentile Truck Travel Time (TTT_WE95PCT)

As described in 23 CFR 490.611(a)(2), the 95th percentile truck travel time for a reporting segment, determined from the travel time data set (NPMRDS or equivalent data set), represents the truck travel time in which 95 percent of the times are shorter in duration and 5 percent are longer in duration during the "Weekend" for the entire calendar year. TTT_WE95PCT values must be reported in units of seconds rounded to the nearest integer, as required in 23 CFR 490.611(b)(2).

Total Peak Hour Excessive Delay Metric (PHED)

The Total Peak Hour Excessive Delay Metric (PHED) is calculated to the nearest one hundredth of a person-hour per 23 CFR 490.711(e). A State DOT is required to report PHED metric values if mainline highways on the NHS that cross any part of an urbanized area with a population more than 1 million (a

population greater then 200,000, starting with HPMS reporting in 2022) within its State geographic boundary and that urbanized area contains any part of nonattainment or maintenance areas for any one of criteria pollutants (O_3, CO, PM_{10} or $PM_{2.5}$) listed under the National Ambient Air Quality Standards (NAAQS), as specified in 23 CFR 490.105(e)(8) and 490.703. PHED values must be reported in units of person-hours to the nearest thousandths, as required in 23 CFR 490.711(e) and (f).

Occupancy Factor (OCC_FAC) **Optional Metric*

Average vehicle occupancy associated with a reporting segment is to be reported as a positive non-negative, non-zero number (rounded to the nearest tenth, as required in 23 CFR 490.511(e)(2)). (I.e., >= 1.0)

Travel Time Metric Data Source (METRIC_SOURCE)

The Travel time data set used for reported metrics for the reporting segments is to be identified as either NPMRDS dataset or equivalent dataset[15].

[15] 23 CFR 490.103(e)

Table 1 Travel Time Metric Specifications Dataset

Reporting Extent Requirements: National Highway System (NHS) (both Interstate and non-Interstate) mainline reporting segments for both the Inventory and Non-inventory directions of travel.

Constraint	Field Name	Extent	Data Type	Description	Valid Values
PK (Primary Key)	Year_Record	NHS	Numeric(4)	Calendar year for which the data are being reported. See Chapter 4 of the *HPMS Field Manual* for additional information.	The four digits of the year the data represents.
PK	State_Code	NHS	Numeric(2)	State FIPS (Federal Information Processing Standard) code. See Chapter 4 of the *HPMS Field Manual* for additional information.	Up to two digits for the FIPS code. See Appendix C of the *HPMS Field Manual* for a complete list of eligible codes.
PK	Travel_Time_Code	NHS	VarChar(50)	Unique identifier for a given reporting segment.	Alpha-numeric code used to identify the reporting segment location on a given route. For reporting segments from travel time segments in NPMRDS, code 9-digit alpha-numeric Traffic Message Channel Code. For a reporting segment consists of contiguous multiple travel time segments in NPMRDS, code concatenated alpha-numeric Traffic Message Channel Codes for the travel time segments (separated by underscore "_"). For reporting segments determined from "equivalent" data set, code the State generated alphanumeric unique identifier.

Constraint	Field Name	Extent	Data Type	Description	Valid Values
	F_System	NHS	Numeric(1)	FHWA-approved functional classification system. See Chapter 4 of the *HPMS Field Manual* for additional information.	1 - Interstate 2 - Principal Arterial – Other Freeways and Expressways 3 - Principal Arterial – Other 4 - Minor Arterial 5 - Major Collector 6 - Minor Collector 7 - Local For reporting segments determined from NPMRDS and where HPMS Data Item 71 (Travel_Time_Code) has not been reported (see Section 1.6 for additional info), report F_System value from NPMRDS. For reporting segments determined from NPMRDS and where HPMS Data Item 71 (Travel_Time_Code) has been reported (see Section 1.6 for additional info), report F-System value derived from F_System (HPMS Data Item 1) for the same data year as the Year_Record reported in this table. For reporting segments determined from "equivalent" data set, code appropriate F_System value. If multiple travel time segments with differing Functional System codes/values are associated with a single reporting segment, the highest functional order (i.e., minimum code/value) must be assigned.

Constraint	Field Name	Extent	Data Type	Description	Valid Values
	Urban_Code	NHS	Numeric(5)	Census urban area code. See Chapter 4 of the *HPMS Field Manual* for additional information.	Up to five digits for the Census urban code. See Appendix I of the *HPMS Field Manual* for a complete list of eligible codes. For reporting segments determined from NPMRDS and where HPMS Data Item 71 (Travel_Time_Code) has not been reported (see Section 1.6 for additional info), report Urban_Code value from NPMRDS. For reporting segments determined from NPMRDS and where HPMS Data Item 71 (Travel_Time_Code) has been reported (see Section 1.6 for additional info), report Urban_Code value derived from Urban_Code (HPMS Data Item 2) for the same data year as the Year_Record reported in this table. For reporting segments determined from "equivalent" data set, code appropriate Urban_Code value. If multiple travel time segments with differing Urban Code values are associated with a single reporting segment, the length-based predominant Urban Code value must be assigned.

Constraint	Field Name	Extent	Data Type	Description	Valid Values
	Facility_Type	NHS	Numeric(1)	Operational characteristic of the roadway. See Chapter 4 of the *HPMS Field Manual* for additional information.	1 - One-Way Roadway 2 - Two-Way Roadway 6 - Non-Inventory Direction For reporting segments from determined from NPMRDS and where HPMS Data Item 71 (Travel_Time_Code) has not been reported (see Section 1.6 for additional info), report Facility_Type value from NPMRDS. For reporting segments determined from NPMRDS and where HPMS Data Item 71 (Travel_Time_Code) has been reported (see Section 1.6 for additional info), report Facility_Type value derived from Facility_Type (HPMS Data Item 3) for the same data year as the Year_Record reported in this table. For reporting segments determined from "equivalent" data set, code appropriate Facility_Type value. If multiple travel time segments with differing Facility Type codes/values are associated with a single reporting segment, the length-based predominant Facility Type code must be assigned.

Constraint	Field Name	Extent	Data Type	Description	Valid Values
	NHS	NHS	Numeric(1)	FHWA-approved NHS. See Chapter 4 of the *HPMS Field Manual* for additional information.	1 - Non Connector NHS 2 - Major Airport 3 - Major Port Facility 4 - Major Amtrak Station 5 - Major Rail/Truck Terminal 6 - Major Inter City Bus Terminal 7 – Major Public Transportation or Multi-Modal Passenger Terminal 8 - Major Pipeline Terminal 9 - Major Ferry Terminal -1 – the entire length of a reporting segment is not on mainline NHS or the entire length of a reporting segment overlaps with other reporting segment(s). For reporting segments from the travel time segments in NPMRDS without Item 71 (Travel Time Code), report NHS value from NPMRDS. For reporting segments determined from NPMRDS and where HPMS Data Item 71 (Travel_Time_Code) has been reported (see Section 1.6 for additional info), report NHS value derived from NHS (HPMS Data Item 64) for the same data year as the Year_Record reported in this table. For reporting segments determined from "equivalent" data set, code appropriate value. If multiple travel time segments with differing NHS codes/values are associated with a single reporting segment, the length-based predominant NHS code must be assigned.

Constraint	Field Name	Extent	Data Type	Description	Valid Values
	Segment_Length	NHS	Decimal(8,3)	Reporting segment length from Travel time data set Only report the length on the NHS.	Decimal value rounded to the nearest thousandth of a mile.
	Directionality	NHS	Numeric(1)	Direction of travel associated with the reporting segment from Travel time data set	1 – Northbound 2 – Southbound 3 – Eastbound 4 – Westbound 5 - Other
	DIR_AADT	NHS	Numeric(6)	Annual Average Daily Traffic (for a given direction of travel) on a reporting segment	A positive non-negative, non-zero number (in units of seconds rounded to the nearest integer); must be > 0 For reporting segments determined from NPMRDS and where HPMS Data Item 71 (Travel_Time_Code) has not been reported (see Section 1.6 for additional info), DIR_AADT may be derived from AADT contained in the NPMRDS. For reporting segments where HPMS Data Item 71 (Travel_Time_Code) has been reported (see Section 1.6 for additional info), DIR_AADT value must be derived from AADT (HPMS Data Item 21) for the same data year as the Year_Record reported in this table. If directional AADT changes within a reporting segment, a length-based weighted average of directional AADT must be computed and reported.

Constraint	Field Name	Extent	Data Type	Description	Valid Values
	LOTTR_AMP	NHS	Decimal(4,2)	Level of travel time reliability (LOTTR) metric for "AM Peak." "AM Peak" is between the hours of 6:00 a.m. and 10:00 a.m. for every weekday (Monday through Friday) from January 1st through December 31st of the same calendar year.	A positive non-negative, non-zero number (rounded to the nearest hundredth); must be >= 1.00
	TT_AMP50PCT	NHS	Numeric(5)	50th percentile travel time for "AM Peak"	A positive non-negative number (in units of seconds rounded to the nearest integer); must be >= 0
	TT_AMP80PCT	NHS	Numeric(4)	80th percentile travel time for "AM Peak"	A positive non-negative number (in units of seconds rounded to the nearest integer); must be >= 0
	LOTTR_MIDD	NHS	Decimal(4,2)	LOTTR metric for "Midday." "Midday" is between the hours of 10:00 a.m. and 4:00 p.m. for every weekday (Monday through Friday) from January 1st through December 31st of the same calendar year.	A positive non-negative, non-zero number (rounded to the nearest hundredth); must be >= 1.00
	TT_MIDD50PCT	NHS	Numeric(5)	50th percentile travel time for "Midday"	A positive non-negative number (in units of seconds rounded to the nearest integer); must be >= 0
	TT_MIDD80PCT	NHS	Numeric(5)	80th percentile travel time for "Midday"	A positive non-negative number (in units of seconds rounded to the nearest integer); must be >= 0
	LOTTR_PMP	NHS	Decimal(4,2)	LOTTR metric for "PM Peak." "PM Peak" is between the hours of 4:00 p.m. and 8:00 p.m. for every weekday (Monday through Friday) from January 1st through December 31st of the same calendar year.	A positive non-negative, non-zero number (rounded to the nearest hundredth); must be >= 1.00

Constraint	Field Name	Extent	Data Type	Description	Valid Values
	TT_PMP50PCT	NHS	Numeric(5)	50th percentile travel time for "PM Peak"	A positive non-negative number (in units of seconds rounded to the nearest integer); must be >= 0
	TT_PMP80PCT	NHS	Numeric(5)	80th percentile travel time for "PM Peak"	A positive non-negative number (in units of seconds rounded to the nearest integer); must be >= 0
	LOTTR_WE	NHS	Decimal(4,2)	LOTTR metric for "Weekend." "Weekend" is between the hours of 6:00 a.m. and 8:00 p.m. for every weekend day (Saturday and Sunday) from January 1st through December 31st of the same calendar year.	A positive non-negative, non-zero number (rounded to the nearest hundredth); must be >= 1.00
	TT_WE50PCT	NHS	Numeric(5)	50 percentile travel time for "Weekend"	A positive non-negative number (in units of seconds rounded to the nearest integer); must be >= 0
	TT_WE80PCT	NHS	Numeric(5)	80 percentile travel time for "Weekend"	A positive non-negative number (in units of seconds rounded to the nearest integer); must be >= 0
	TTTR_AMP	Interstate System	Decimal(4,2)	Truck Travel Time Reliability (TTTR) metric for "AM Peak."	A positive non-negative, non-zero number (rounded to the nearest hundredth); must be >= 1.00
	TTT_AMP50PCT	Interstate System	Numeric(5)	50th percentile truck travel time for "AM Peak"	A positive non-negative number (in units of seconds rounded to the nearest integer); must be >= 0
	TTT_AMP95PCT	Interstate System	Numeric(5)	95th percentile truck travel time for "AM Peak"	A positive non-negative number (in units of seconds rounded to the nearest integer); must be >= 0
	TTTR_MIDD	Interstate System	Decimal(4,2)	TTTR metric for "Midday."	A positive non-negative, non-zero number (rounded to the nearest hundredth); must be >= 1.00
	TTT_MIDD50PCT	Interstate System	Numeric(5)	50th percentile truck travel time for "Midday"	A positive non-negative number (in units of seconds rounded to the nearest integer); must be >= 0

Constraint	Field Name	Extent	Data Type	Description	Valid Values
	TTT_MIDD95PCT	Interstate System	Numeric(5)	95th percentile truck travel time for "Midday"	A positive non-negative number (in units of seconds rounded to the nearest integer); must be >= 0
	TTTR_PMP	Interstate System	Decimal(4,2)	Truck Travel Time Reliability (TTTR) metric for "PM Peak."	A positive non-negative, non-zero number (rounded to the nearest hundredth); must be >= 1.00
	TTT_PMP50PCT	Interstate System	Numeric(5)	50th percentile truck travel time for "PM Peak"	A positive non-negative number (in units of seconds rounded to the nearest integer); must be >= 0
	TTT_PMP95PCT	Interstate System	Numeric(5)	95th percentile truck travel time for "PM Peak"	A positive non-negative number (in units of seconds rounded to the nearest integer); must be >= 0
	TTTR_OVN	Interstate System	Decimal(4,2)	TTTR metric for "Overnight." "Overnight" is between the hours of 8:00 p.m. and 6:00 a.m. for everyday (Sunday through Saturday) from January 1st through December 31st of the same calendar year.	A positive non-negative, non-zero number (rounded to the nearest hundredth); must be >= 1.00
	TTT_OVN50PCT	Interstate System	Numeric(5)	50th percentile truck travel time for "Overnight"	A positive non-negative number (in units of seconds rounded to the nearest integer); must be >= 0
	TTT_OVN95PCT	Interstate System	Numeric(5)	95th percentile truck travel time for "Overnight"	A positive non-negative number (in units of seconds rounded to the nearest integer); must be >= 0
	TTTR_WE	Interstate System	Decimal(4,2)	TTTR metric for "Weekend."	A positive non-negative, non-zero number (rounded to the nearest hundredth); must be >= 1.00
	TTT_WE50PCT	Interstate System	Numeric(5)	50th percentile truck travel time for "Weekend"	A positive non-negative number (in units of seconds rounded to the nearest integer); must be >= 0
	TTT_WE95PCT	Interstate System	Numeric(5)	95th percentile truck travel time for "Weekend"	A positive non-negative number (in units of seconds rounded to the nearest integer); must be >= 0

Constraint	Field Name	Extent	Data Type	Description	Valid Values
	PHED	NHS in applicable urbanized areas[16]	Decimal(13,3)	Total peak hour excessive delay (PHED) metric	A positive non-negative, non-zero number (in units of person-hours, rounded to the nearest thousandths)
	**OCC_FAC*	*NHS*	*Decimal(3,1)*	*Average vehicle occupancy factor*	A positive non-negative, non-zero number (rounded to the nearest tenth); must be >= 1.0. Required only if a State DOT does not elect to use the most recently available data tables published by FHWA for Travel Time Reliability measures.
	METRIC_SOURCE	NHS	Numeric(1)	Travel time metric data source	1 – NPRMRDS 2 – "Equivalent" Travel Time Data Set
	Comments	NHS	VarChar(100)	Comment for state use	Variable text up to 100 characters.

[16] Mainline highways on the NHS that cross any part of an urbanized area with a population more than 1 million (a population greater then 200,000, starting with HPMS reporting in 2022) within its State geographic boundary and that urbanized area contains any part of nonattainment or maintenance areas for any one of criteria pollutants (O_3, CO, PM_{10} or $PM_{2.5}$) listed under the National Ambient Air Quality Standards (NAAQS), as specified in 23 CFR 490.105(e)(8) and 490.703.

Example records: The following example shows a potential arrangement of records for a reporting segment with functionally classified as an Interstate (Functional System = '1'), located in the New Orleans urban area (Urban Code = '62677') in the State of Louisiana (State Code = '22'), based on the file structure described in Table 1. This file is to be developed by the States and submitted to FHWA, via the HPMS software, in a Character Separated Value (CSV) file format as shown below. Furthermore, this data can either be submitted as one aggregate CSV file containing all records for all reporting segments, or submitted as a series of individual CSV files. Upon submittal, this data will be validated and the associated results will be provided to the States for immediate resolution to the extent possible. Upon finalization, this dataset will be stored in HPMS database.

Dataset Header Row (Row text shall not be wrapped):

> Year_Record|State_Code|Travel_Time_Code|F_System|Urban_Code|Facility_Type|NHS|Segment_Length|Directionality|DIR_AADT|LOTTR_AMP|TT_AMP50PCT|TT_AMP80PCT|LOTTR_MIDD|TT_MIDD50PCT|TT_MIDD80PCT|LOTTR_PMP|TT_PMP50PCT|TT_PMP80PCT|LOTTR_WE|TT_WE50PCT|TT_WE80PCT|TTTR_AMP|TTT_AMP50PCT|TTT_AMP95PCT|TTTR_MIDD|TTT_MIDD50PCT|TTT_MIDD95PCT|TTTR_PMP|TTT_PMP50PCT|TTT_PMP95PCT|TTTR_WE|TTT_WE50PCT|TTT_WE95PCT|TTTR_OVN|TTT_OVN50PCT|TTT_OVN95PCT|PHED|OCC_FAC|METRIC_SOURCE|Comments

Example Record for a reporting segment (Row text shall not be wrapped):

> *2017|22|113N04098|1|62677|2|1|1.517|2|17500|1.04|94|98|1.08|97|105|1.09|102|112|1.05|92|97|1.18|97|114|1.33|99|132|2.23|104|232|1.2|96|115|1.19|95|113|34048.525||1|*

Example Record for a reporting segment (Row text shall not be wrapped):

> *2017|22|450_14_1_010|1|62677|2|1|1.517|2|17500|1.04|94|98|1.08|97|105|1.09|102|112|1.05|92|97|1.18|97|114|1.33|99|132|2.23|104|232|1.2|96|115|1.19|95|113|34048.525|1.73|2|*

1.6 HPMS SECTIONS DATASET REQUIREMENT

For Sections dataset purposes, the States shall submit corresponding records containing information that pertains to the reporting segments reported in Table 1 (Travel Time Metric Specifications dataset).

See Chapter 4, Sec. 4.2 ('Sections Data Reporting Requirements') in the *HPMS Field Manual* for additional information on the Sections dataset.

NOTE: The States shall use the database-specific data item name shown in **bold** to populate Field 6 in their Sections datasets.

Item 71: Travel_Time_Code (Travel Time Reporting Segment)

Description: State-generated unique identifier for a reporting segment.

Use: For travel time-based measures for Transportation Performance Management (TPM) purposes.

Extent: National Highway System (NHS) roadways.

		1	2	3	4	5	6	7
Functional System	**NHS**	**IH**	**OFE**	**OPA**	**MiA**	**MaC**	**MiC**	**Local**
Rural	FE**	FE**						
Urban	FE**	FE**						

FE** = Full Extent where ever data item is applicable

Coding Requirements for Fields 8, 9, and 10:	
Value_Numeric:	No entry required. Available for State Use.
Value_Text:	Enter an alpha-numeric code (at most 50 characters) used to identify the reporting segment location on a given route.
Value_Date:	No entry required. Available for State Use.

Guidance: As required in 23 CFR 490.511(e)(1), 490.611(b)(1), and 490.711(f), if a State DOT elects to use, in part or in whole, the equivalent data set for Table 1 (Travel Time Metric Specifications dataset), the State DOT shall submit Data Item 71 - Travel_Time_Code (Travel Time Reporting Segment) for all corresponding reporting segments in Table 1, and F_System, Urban_Code, Facility_Type, NHS, Segment_Length, DIR_AADT values in Table 1 must be derived from the HPMS Data Items for the same data year as the Year_Record reported in this data item.

If a State DOT elects to use NPMRDS for all records in Table 1, submitting Data Item 71 - Travel_Time_Code for the corresponding reporting segments in Table 1 is optional, as provided in 23 CFR 490.511(e)(1), 490.611(b)(1), and 490.711(f). If Data Item 71 is submitted for NPMRDS travel time segments, then F_System, Urban_Code, Facility_Type, NHS, Segment_Length, DIR_AADT values in Table

1 must be derived from the HPMS Data Items for the same data year as the Year_Record reported in this data item.

This Data Item shall be coded independently for both the inventory and non-inventory directions of travel on a given roadway section regardless of whether the roadway section is divided (see Figure 2) or undivided (See Figure 3).

'Sections' Dataset Header Row (Row text shall not be wrapped):

> Year_Record|State_Code|Route_ID|Begin_Point|End_Point|Data_Item|Section_Length|Value_Numeric|Value_Text|Value_Date|Comments

Example Record:

> *2017|22|450_14_1_010|0|2.558|Travel_Time_Code|2.558||113N04098||*

Figure 2 Divided Highway Section Reporting Segment Image

Source: ESRI ArcGIS / National Performance Management Research Dataset

Figure 3 Undivided Highway Section Reporting Segments Image

Source: ESRI ArcGIS / National Performance Management Research Dataset