

Bureau of Planning and Research

HIGHWAY PERFORMANCE MONITORING SYSTEM'S QUALITY REVIEW



2025



Pennsylvania
Department of Transportation

www.pa.gov/pennDOT

10/27/2025

TABLE OF CONTENTS

TABLE OF CONTENTS1

CONTACTS.....1

INTRODUCTION.....2

EXECUTIVE SUMMARY3

2025 HPMS DATA REVIEWS4

DATA ITEMS6

REVIEW ANALYSIS.....7

AGENCY SUMMARY8

PENNDOT DISTRICT OFFICE SUMMARY9

DATA ITEM ERROR SUMMARY.....10

CONCLUSIONS & RECOMMENDATIONS11

PROPOSED 2026 ACTION ITEMS12



Cover Photo: US-209, Carbon County.

CONTACTS

Joe Piper – 717.214.8687
Section Manager

Mike Ballinger – 717.214.8688
East HPMS Coordinator

John Moloney – 717.787.2187
West HPMS Coordinator



Pennsylvania
Department of Transportation

www.pa.gov/pennndot

INTRODUCTION

The Highway Performance Monitoring System (HPMS) is an annual data reporting program created by the Federal Highway Administration (FHWA) to meet their need to provide information to the Congress for development and analysis of national policy and programs relating to highways.

In Pennsylvania, HPMS serves as the primary source of highway information utilized in the allocation of highway maintenance funds, revenue enhancement initiatives and PennDOT's annual report of mileage and travel statistics. HPMS data is used to access the state's minimum pavement condition level for the interstate system on an annual basis and for determining significant progress towards pavement condition targets. HPMS data are also used to fulfill requests for information received from consulting firms, PennDOT District Offices, Metropolitan Planning Organizations (MPOs), and national organizations, as well as the public.

Each year, an annual quality review of Pennsylvania's HPMS is conducted. The review is performed by the Bureau of Planning and Research's (BPR) HPMS staff and consists of HPMS field views of randomly selected sample sections in several counties. The purpose of this review is:

1. To ascertain the current state of HPMS data quality and ensure that any errors found are corrected.
2. To determine if any common problem areas exist and identify subsequent training needs.
3. To determine if any organizational or procedural changes to the HPMS program are warranted.
4. To ensure that communications regarding HPMS are maintained between PennDOT, MPOs and PennDOT District Offices.

The HPMS program continues to deliver a high level of timely and accurate data for the purpose of allocating national and state highway funds, project planning and programming, assessing air quality conformity, and travel monitoring.

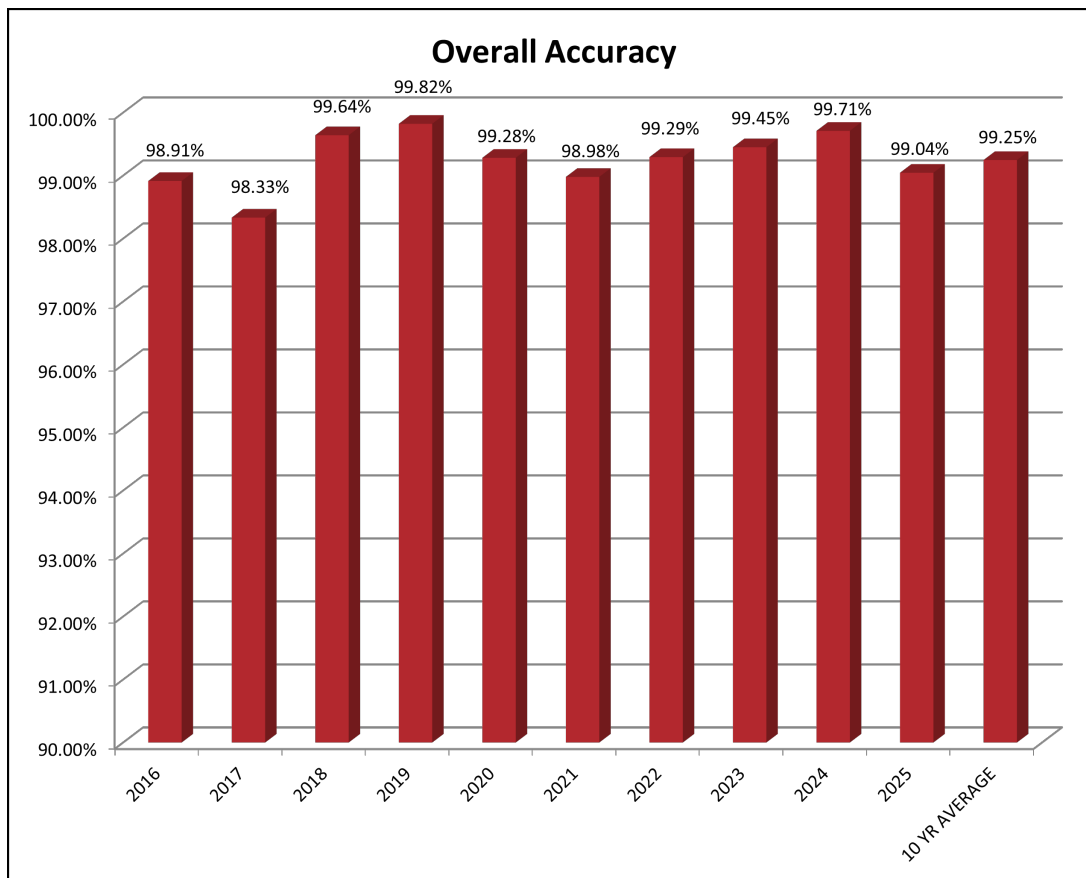
The following pages contain the results of this year's review.

EXECUTIVE SUMMARY

In September, and October 2025, BPR's HPMS staff conducted its annual quality review of Pennsylvania's HPMS. The quality reviews were conducted with the appropriate MPO or PennDOT District Office HPMS representative present with both HPMS Coordinators from Central Office, resulting in improved communication between our HPMS staff and our data providers. The review included HPMS field views of sample sections on which HPMS data are provided by:

- Adams County Planning Commission
- Berks County Planning Commission
- Blair County Planning Commission
- Cambria County Planning Commission
- Delaware Valley Regional Planning Commission
- Franklin County Planning Commission
- Luzerne County Planning Commission
- Lycoming County Planning Commission
- Northeastern Pennsylvania Alliance
- SEDA - Council of Governments
- PennDOT District Office 3-0
- PennDOT District Office 4-0
- PennDOT District Office 6-0
- PennDOT District Office 8-0
- PennDOT District Office 9-0

All fifteen (15) of the data providers reviewed this year recorded an accuracy rate of 98% or greater. The average overall accuracy rates of the data providers reviewed for the last ten years appear in the chart below.



2025 HPMS DATA REVIEWS

Organization	Participants	Counties Reviewed	Date
SEDA - Council of Governments	Steve Herman Kristin McLaughlin Sam Saxe John Moloney Mike Ballinger	Union	September 3
Lycoming County Planning Commission	Ed Feigles Emily Mrochko John Moloney Mike Ballinger	Lycoming	September 4
PennDOT District Office 4-0	Jon Viola John Moloney Mike Ballinger	Luzerne	September 9
Luzerne County Planning Commission	Dan Reese Robert Manzella Colleen Connolly John Moloney Mike Ballinger	Luzerne	September 10
Northeastern Pennsylvania Alliance	Daniel Yelito Jonathan Shaw John Moloney Mike Ballinger	Carbon	September 11
Franklin County Planning Commission	Colleen Tidd Matthew Romero John Moloney Mike Ballinger	Franklin	September 16
Delaware Valley Regional Planning Commission	Brian Bottiglieri John Moloney Mike Ballinger	Philadelphia	September 18
Cambria County Planning Commission	Jacob Zerby John Moloney Mike Ballinger	Cambria	September 22
Blair County Planning Commission	Wes Burkett John Moloney Mike Ballinger	Blair	September 23
PennDOT District Office 9-0	Warren Dell John Moloney Mike Ballinger	Fulton	September 24
Berks County Planning Commission	Devon Hain Amanda Timochenko John Moloney Mike Ballinger	Berks	September 29

PennDOT District Office 3-0	Kevin Schreffler Adam Kinley John Moloney Mike Ballinger	Columbia	September 30
PennDOT District Office 8-0	Andrew Walak John Moloney Mike Ballinger	Lebanon	October 7
Adams County Planning Commission	Charles Kumpas John Moloney Mike Ballinger	Adams	October 9
PennDOT District Office 6-0	Gregory Vallette SM Mashuqul Alam John Moloney Mike Ballinger	Philadelphia	October 15

DATA ITEMS

Each review consisted of field verifying data that could be measured through field observations in accordance with the Federal Highway Administration's HPMS Field Manual. The field verifiable data items included in this assessment are listed below. Those items shown in **bold type** are data items collected by the MPOs and PennDOT District Offices exclusively for the HPMS program. All other items reside in the Roadway Management System (RMS) and are controlled by the PennDOT Central Office staff and District Offices' RMS staff. MPOs must notify the PennDOT Central Office staff of inaccuracies found in the RMS data items. The PennDOT Central Office and District Office staff are responsible for correcting the errors.

Data Item	Description
3	Facility Type
4	Structure ID
5	Access Control
7	Through Lanes
8	HOV Type
9	HOV Lanes
10	Peak Lanes
11	Counter Peak Lanes
12	Right Turn Lanes
13	Left Turn Lanes
14	Speed Limit
17	Route Number
18	Route Signing
19	Route Qualifier
20	Road Name
29	Signal Type
30	Percent Green Time
31	Signalized Intersections
32	Stop Sign Controlled Intersections
33	At-Grade Other Intersections
34	Lane Width
35	Median Type
36	Median Width
37	Shoulder Type
38	Right Shoulder Width
39	Left Shoulder Width
40	Peak Parking
42	Widening Potential
44	Terrain Type
46	Percent Passing Sight Distance

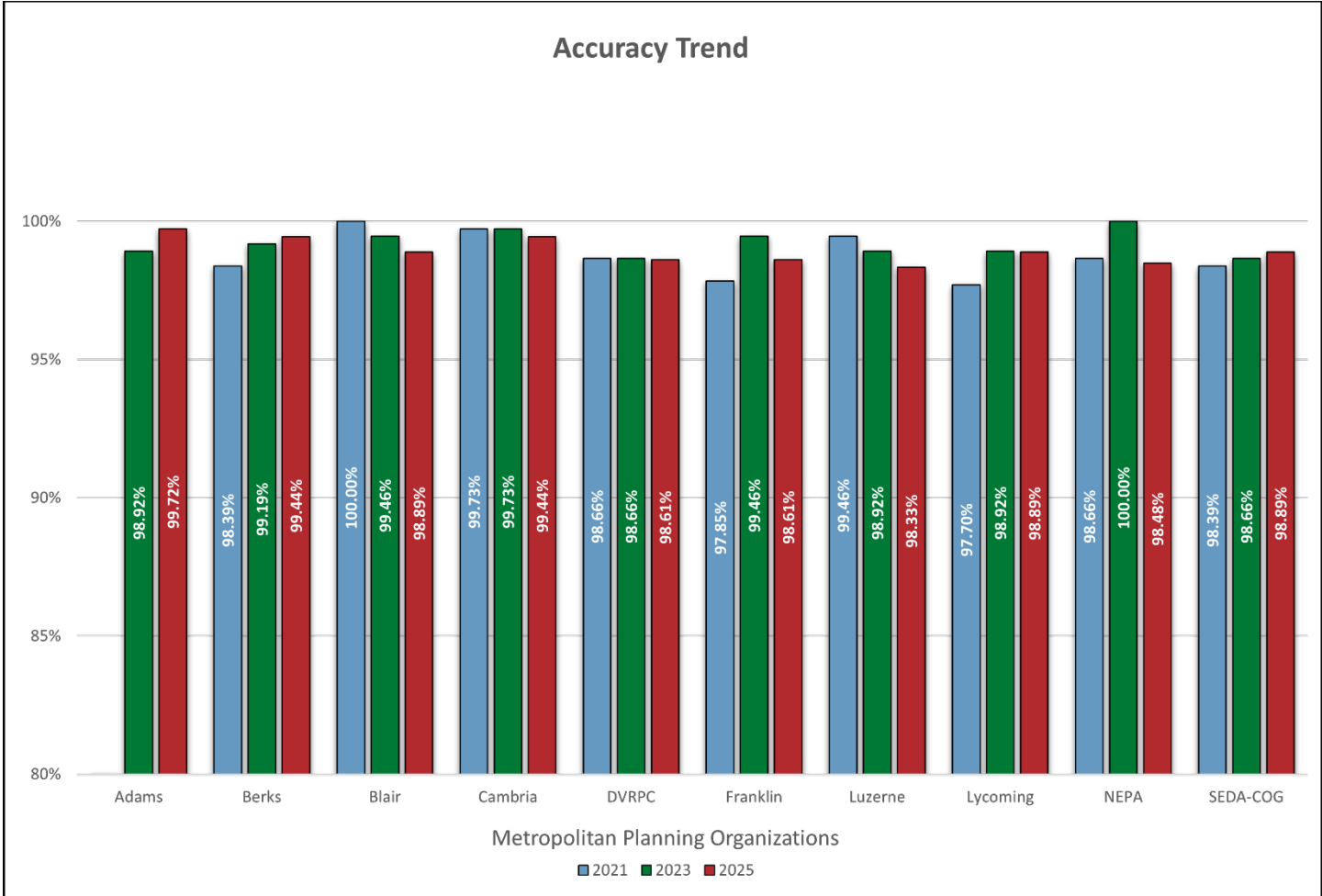
REVIEW ANALYSIS

The following table quantifies the findings of this year's quality reviews. The table indicates, by data source, the number of errors found for each field verifiable data item for each of the agencies reviewed the total number of errors for each agency, and the percent of error for each agency. The overall accuracy rate for each agency is also included in this table. Percent of error was calculated by dividing the total number of errors by the number of segments reviewed in each agency multiplied by the number of data items reviewed per data source.

2025 QUALITY REVIEW SUMMARY																
AGENCY CODING ERRORS PER ITEM REVIEWED																
Data Items Reviewed	Adams MPO	Berks MPO	Blair MPO	Cambria MPO	DVRPC MPO	Franklin MPO	Luzerne MPO	Lycoming MPO	NEPA MPO	SEDA-COG MPO	District 3-0	District 4-0	District 6-0	District 8-0	District 9-0	TOTAL
3 - Facility Type	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
4 - Structure ID	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 - Access Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 - Through Lanes	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	2
8 - HOV Type	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 - HOV Lanes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10 - Peak Lanes	0	0	0	0	0	1	0	0	0	0	0	2	0	0	0	3
11 - Counter Peak Lanes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 - Right Turn Lanes	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	3
13 - Left Turn Lanes	0	1	3	1	2	0	2	2	2	0	0	0	0	0	0	13
14 - Speed Limit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17 - Route Number	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 - Route Signing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 - Route Qualifier	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 - Road Name	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29 - Signal Type	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
30 - Percent Green Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 - Signalized Intersections	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
32 - Stop Sign Controlled Intersections	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	2
33 - At-Grade Other Intersections	0	0	1	1	0	2	2	0	1	0	0	0	0	0	0	7
34 - Lane Width	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35 - Median Type	1	0	0	0	0	0	0	0	1	3	1	1	1	2	4	14
36 - Median Width	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3
37 - Shoulder Type	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38 - Right Shoulder Width	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 - Left Shoulder Width	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40 - Peak Parking	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42 - Widening Potential	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3
44 - Terrain Type	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46 - Percent Passing Sight Distance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Errors	1	2	4	2	5	5	6	4	5	4	1	4	1	2	7	53
Error Rate	0.28%	0.56%	1.11%	0.56%	1.39%	1.39%	1.67%	1.11%	1.52%	1.11%	0.28%	1.11%	0.28%	0.56%	1.94%	0.99%
Local Fed. Aid Seg. Reviewed	4	3	3	5	6	5	7	7	4	5	0	0	0	0	0	49
State Segments Reviewed	8	9	9	7	6	7	5	5	7	7	12	12	12	12	12	130
Total Segments Reviewed	12	12	12	12	12	12	12	12	11	12	12	12	12	12	12	179
Overall Accuracy Rate	99.72%	99.44%	98.89%	99.44%	98.61%	98.61%	98.33%	98.89%	98.48%	98.89%	99.72%	98.89%	99.72%	99.44%	98.06%	99.01%

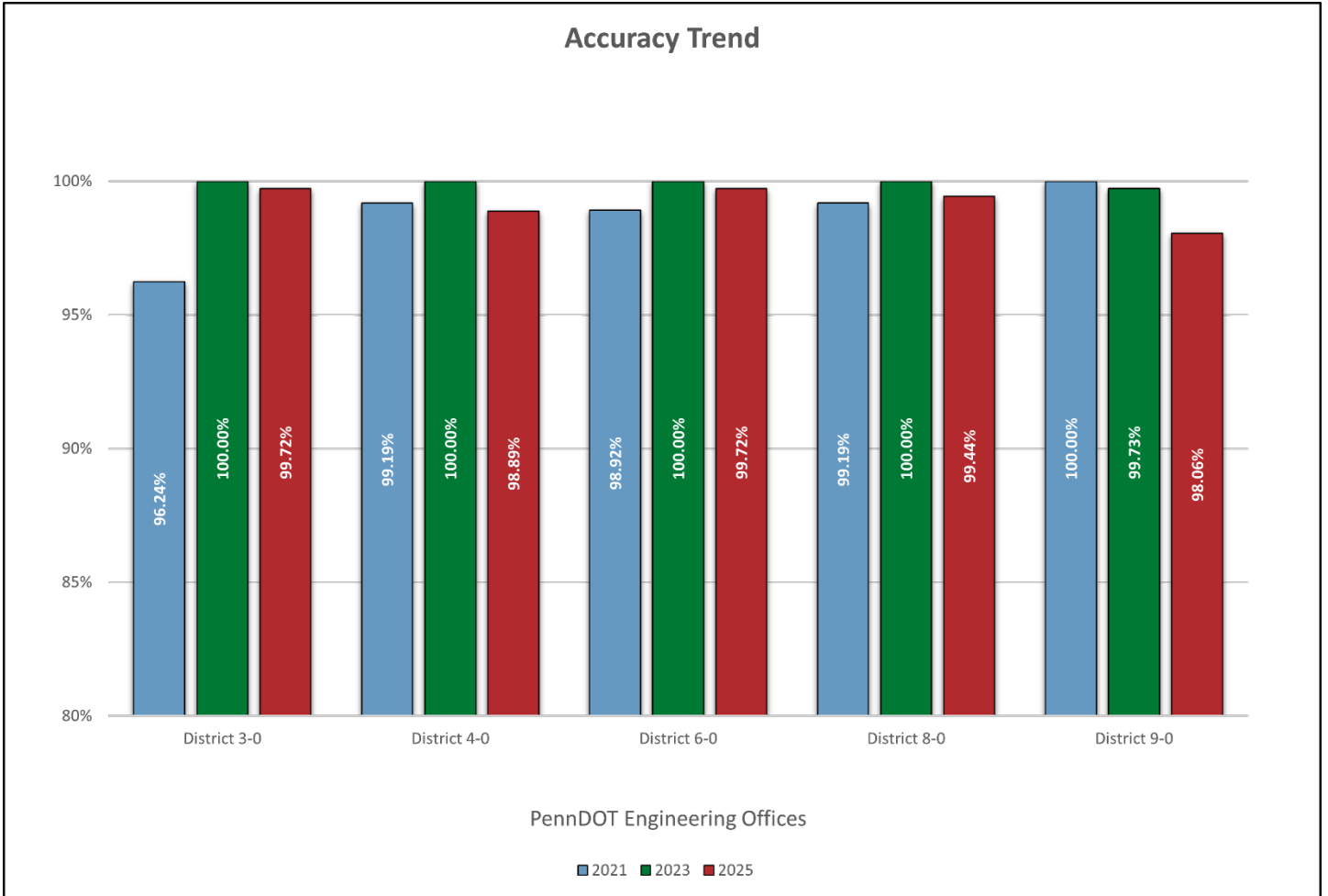
AGENCY SUMMARY

The following chart shows the accuracy trend for each Metropolitan Planning Organization (MPO) over the past three reviews.



PENNDOT DISTRICT OFFICE SUMMARY

The following chart shows the accuracy trend for each PennDOT District Office over the past three reviews.

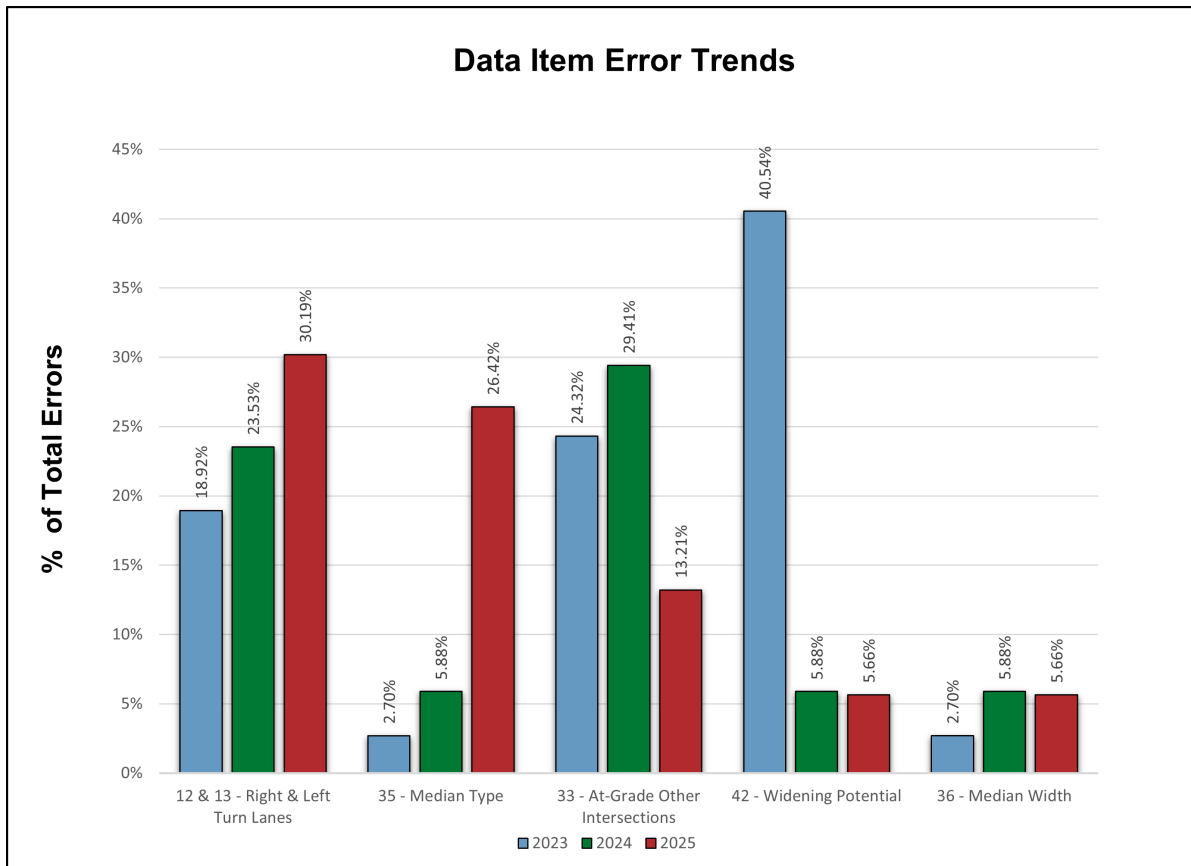


DATA ITEM ERROR SUMMARY

The following chart shows the five highest reported errors in 2025. Of the data items reviewed, Right and Left Turn Lanes with a reported error rate of 30.19%, Median Type with a reported error rate of 26.42%, At-Grade Other Intersections with a reported error rate of 13.21% and Widening Potential and Median Width each with a reported error rate of 5.66%. Of the five highest reported errors in 2025, three of the items were consistently one of the top errors reported over the past three reviews.

Right and Left Turn Lane errors are often caused by the signage and striping issues. Median Type errors are a result of miscalculating the predominate Median Type length. At-Grade Other Intersection errors often could be attributed to changing segment lengths over the years. Widening Potential is a very subjective data item and Median Width errors are due to confusion with determining the predominate width.

The BPR provides a web link to the FHWA’s HPMS Field Manual (December 2016) and a link to PennDOT’s HPMS Data Collection Guide (August 2025) to all PennDOT District Offices and MPOs to assist them with collecting HPMS data. Both the FHWA HPMS Field Manual and the PennDOT HPMS Data Collection Guide include photos and graphic representations of the various situations encountered in the field and explain the data items in detail.



CONCLUSIONS & RECOMMENDATIONS

HPMS Field Program

Through the review of the field findings, the following conclusions and recommendations can be made:

Adams County Office of Planning & Development: The quality of the data is outstanding. Keep up the great work.

Berks County Planning Agency: The quality of the data is outstanding. Keep up the great work.

Blair County Planning Commission: The quality of the data is outstanding. Keep up the great work.

Cambria County Planning Commission: The quality of the data is outstanding. Keep up the great work.

Delaware Valley Regional Planning Commission: The quality of the data is outstanding. Keep up the great work.

Franklin County Planning Commission: The quality of the data is outstanding. Keep up the great work.

Luzerne County Planning Commission: The quality of the data is outstanding. Keep up the great work.

Lycoming County Planning Commission: The quality of the data is outstanding. Keep up the great work.

Northeastern Pennsylvania Alliance: The quality of the data is outstanding. Keep up the great work.

SEDA - Council of Governments: The quality of the data is outstanding. Keep up the great work.

PennDOT District Office 3-0: The quality of the data is outstanding. Keep up the great work.

PennDOT District Office 4-0: The quality of the data is outstanding. Keep up the great work.

PennDOT District Office 6-0: The quality of the data is outstanding. Keep up the great work.

PennDOT District Office 8-0: The quality of the data is outstanding. Keep up the great work.

PennDOT District Office 9-0: The quality of the data is outstanding. Keep up the great work.

It should be noted that each quality review is held with the appropriate agency's HPMS staff present, therefore, each quality review also serves as onsite training for our HPMS partners. Data reporting inadequacies are addressed immediately as conditions are found during the field view. Additional training is provided by the Bureau of Planning and Research on request.

PROPOSED 2026 ACTION ITEMS

HPMS Training: A virtual statewide HPMS workshop was held in July 2025. The virtual format style was well received by the agencies as seventy-two (72) participants attended the workshop. These types of meetings and workshops are an effective way to provide attendees with new information and discuss HPMS data coding problems.

2026 Action Item: A statewide virtual HPMS workshop will be scheduled again in 2026. The primary focus of this conference will be any data items that are consistently troublesome during the quality reviews. Any changes and updates from FHWA pertaining to HPMS data items will also be discussed.

Quality Reviews: The HPMS Quality Review serves as a measuring tool for assessing the quality of the HPMS data submitted to the FHWA and reported in the Department's highway statistics report. It is used to ensure continuity and consistency of the field observations regardless of who is doing the review, the location of the review and the time of the review. The HPMS Quality Assurance field reviews include the participation of our data providers.

2026 Action Item: Sixteen Quality Reviews will be conducted in 2026. Each review will be conducted by the Transportation Planning Division's HPMS staff and the appropriate PennDOT District Office or MPO representative. The following Agencies and PennDOT District Offices will be scheduled for a review in 2026:

- Centre County Planning Agency
- Erie County Department of Planning
- Lackawanna County Department of Planning and Economic Development
- Lancaster County Planning Commission
- Lebanon County Planning Department
- Lehigh Valley Planning Commission
- Mercer County Regional Planning Commission
- Tri-County Regional Planning Commission
- Southwestern Pennsylvania Commission
- York County Planning Commission
- PennDOT District Office 1-0
- PennDOT District Office 2-0
- PennDOT District Office 5-0
- PennDOT District Office 10-0
- PennDOT District Office 11-0
- PennDOT District Office 12-0

Use of PennDOT SharePoint website: In 2025, the HPMS yearly sample packets were posted to the PennDOT SharePoint website as well as through the HPMS Mobile application, for distribution to the MPO's and PennDOT District Offices.

2026 Action Item: HPMS yearly sample packets will be distributed through the HPMS Mobile application as well as SharePoint for the 2026 data collection season. The MPO's and PennDOT District Offices will be notified via email when the 2026 packets are completed. While HPMS Mobile

provides all the HPMS samples for the partners to access, PennDOT will continue to place PDF versions of the HPMS sample sheets on SharePoint for those who wish to print for field use. Also, posted on SharePoint, will be technical manuals and information pertinent to data collection and coding.

HPMS Mobile: For the 2025 data collection season, no application enhancements were made. Central Office continues to provide support for any issues that are reported by the planning partner and district users. Any enhancement recommendations made throughout the collection season with the HPMS Mobile application will be reviewed and implemented if feasible.

2026 Action Item: Review of the login and use of the HPMS Mobile application will occur during the HPMS workshop as a refresher and for any new users. Use of the HPMS Mobile application will remain the mandatory method for collecting/submitting sample reviews to Central Office.



U.S. Department of Transportation
Federal Highway Administration



Pennsylvania
Department of Transportation

www.pa.gov/penndot