

West Virginia

HPMS



Highway Performance Monitoring System

About the Highway Performance Monitoring System

- The HPMS is a national level highway information system that includes data on the extent, condition, performance, use and operating characteristics of the Nation's highways i.e., all public roads.
- Purpose: To support a data driven decision process with FHWA, the DOT and the Congress that is used extensively in the analysis of highway system condition, performance and investment needs that make up the biennial Condition and Performance Reports to Congress.



2004 Status of the Nation's
Highways, Bridges, and Transit:

Conditions & Performance



U.S. Department
of Transportation
Federal Highway
Administration
Federal Transit
Administration

REPORT TO CONGRESS

- HPMS was originally developed in 1978 by the Federal Highway Administration as a continuing database to replace the special biennial condition studies that had been conducted by the states since 1965.
- HPMS has been modified several times since its inception to reflect changes in newer technologies and to streamline reporting.
- HPMS is currently in a reassessment phase with new requirements beginning in 2010 to submit data via a minimum GIS roadway network layer for all federal aid roads.



HPMS Mileage must equal State's Certified Mileage

2008 WV Public Certified Mileage

Public Mileage – State	34,726
Federal Mileage	835
Municipal Mileage	<u>2,891</u>
	38,452 Miles



Total Certified Miles

38,452

10,419 (GIS Miles required in 2010) – Federal Aid - 27%

28,033 – Non Federal Aid - 73%

The HPMS Database is broken down into Three Parts



1. Summary Data

Includes information on land area, population, travel, system length and vehicles classification by functional system and area type such as rural, small urban and urbanized areas.

2. Universe Data

Refers to the 46 data items reported for the entire public road system either as individual lengths or grouped length sections.

3. Standard Samples

Consists of up to an additional 52 data items for sampled sections. These sample data provide detailed information which is expanded and used as the basis for evaluating change over time and provides the basic input to the HPMS simulation models Analytical Process (AP) and Highway Economic Requirements System (HERS).

HPMS Data Items

Universe (All Records)

Year of Data	Number of Lanes
State Code	IRI
Reporting Units	PSR
Fed Co Code	HOV Operations
Section ID	Elec Surveillance
Is Standard Sample	Metered Entrance Ramps
Is Donut Sample	Variable Message Signs
LRS	Highway Advisory Radio
LRS Begin	Surveillance Cameras
LRS End	Incident Det Tech
Rural/Urban	Free Cell Phone
Urb Area Samp Tech	Ser Patrol or Towing Serv
Urbanized Area Code	Hardware to In-Veh Sign
Non-attainment Area Code	
Functional System	
FS (Software Calc)	
National Highway System	
Planned Unbuilt Facility	
Interstate Route Number	
Route Signing	
Route Signing Qualifier	
Signed Route Number	
Gov Ownership	
Special Systems	
Type of Facility	
Desig Truck Route	
Toll	
Section Length	
Donut Volume Group	
Standard Sample Vol Group	
AADT	

Additional for Standard Samples Only

Sample Identifier	% Passing Sight Dist
Donut Exp Factor	Weight Design Speed
Standard Samp Exp Fac	Speed Limit
Surface Type	% Peak Single Unit Trk
SN or D	% Avg Daily Sing Unit Trk
Climate Zone	%Peak Comb Trucks
Year of Surf Improv	% Avg. Daily Comb Truck
Lane Width	K-Factor
Access Control	Directional Factor
Median Type	Number of Peak Lanes
Median Width	Left Turn Lane/Bay
Shoulder Type	Right Turn Lane/Bay
Right Sho Width	Prevail Type Signal
Left Sho Width	Peak % Green Time
Peak Parking	At Grade Intersec Signals
Widen Feasibility	At Grade Intersec Stop Signs
Curve Class A	At Grade Intersec Other
Curve Class B	Peak Capacity
Curve Class C	Volume/Service Flow Ratio
Curve Class D	Future AADT
Curve Class E	Year of Future AADT
Curve Class F	
Horiz Alignment	
Type of Terrain	
Vert Align Adequacy	
Grade Class A	
Grade Class B	
Grade Class C	
Grade Class D	
Grade Class E	
Grade Class F	



STANDARD SAMPLE MANAGEMENT



Samples are randomly selected in accordance with FHWA guidelines by national functional classification and volume group. Currently we have 1,304 Standard Samples equating to 1,281 miles. We are currently under-sampled by about 15% but are adding new samples at the rate of 100 annually. We expect to reach an optimum level in the near future. Sampling requirements are changing with the reassessment so that also will have an impact for the better or worse.

When Average Daily Traffic (ADT) changes, Standard Samples migrate into different volume group categories. Therefore, a Standard Sample Management Program is necessary to keep the required Standard Sample Panel properly balanced.

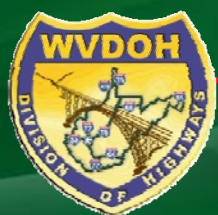
Standard Sample data is partly collected by a hands on field review utilizing the FHWA Field User's manual guidelines. Other administrative type data items are gathered in the office or obtained from other specialized sections such as Traffic Analysis or Pavement Management.

FINAL SUBMISSION

Data is imported into the FHWA HPMS Software for final processing and entering of Summary Data. Many validations and error corrections take place at this point.

Submittal is due by June 15 of each calendar year for the previous year ending December 31.

Once the submittal is complete, the in-house Annual HPMS Profile documenting details of the given year's statistics and general comments is prepared.



*Current Use of
GIS Tools to Enhance the HPMS Program*



*Standard Sample Maps Created by
Michelle Frame*

*Transportation Engineering Technician
Highway Data Services Unit*

DEMO

*For those of you still awake,
thanks for listening and have a
great day.*



Quote for the Day.....

“Thanks to the Interstate Highway System, it is now possible to travel across the country from coast to coast without seeing anything.” - Charles Kuralt