

HPMS Annual Data Submittal Review Process

FHWA Highway Information Seminar
National Highway Institute (NHI)
Arlington, VA
October 23, 2012

Data Review Phases

- Certified Mileage Review
- Comprehensive Data Review
 - Level I
 - Level II
 - Traffic Data Review
- FHWA / State DOT Review Coordination
 - Official Memo Assembly/Sign-off



Certified Mileage Review



Certified Mileage Review HPMS Process Perspective

- Due June 1st each year
 - Before June 15th!
- Certified Mileage and HPMS mileage must be in-synch
 - Tolerance: +/- 1 mile



Certified Mileage Process

23 CFR 460 Perspective

Highway Safety Programs require safety funds apportionment based on formula using Population and Public Road Mileage of each state.

Mileage must be certified by the state Governor or his designee and subject to the approval of the Federal Highway Administrator.

Public Road Mileage must be determined at end of each calendar year preceding the year funds are apportioned.



Components for Acceptance of Certified Public Miles?

Letter of Certification of Public Road Mileage

Letter of Designation if Certification letter is not signed by Governor.

Approval of Submitted Certified Public Road Mileage from FHWA Division Office.

Due June 1 each year – Federal Regulation - Before June 15!



Level I Review



Level I Review Objectives

- Complete review within 2 weeks of data submission date
- Determine if there are data submittal issues that require immediate attention
 - Work with the DOT to resolve issues
 - Request resubmittal, if warranted
- Ensure that data submittal is acceptable for Level II and Traffic Data Reviews



Level I Review - Checks

- Previous year's data submittal comments and FHWA memo
- Current year's data submittal comments
- 'Consistency Report'
 - System extent/mileage totals for the following datasets:
 - Annual Average Daily Traffic (AADT)
 - Ownership
 - Through Lanes



HPMS 8.0.1

Consistency Report

Stage: Review

Year: 2011

State: 20 - Kansas

Date: 08/08/2012

F System	Length	Length	Length	Length
	AADT	Through Lanes	Ownership	Control
	(Miles)	(Miles)	(Miles)	(Miles)
1 - Interstate	873.904	873.904	873.904	873.904
2 - PA - Other Freeways and Expressways	186.717	186.717	186.717	186.717
3 - PA - Other	3,876.581	3,876.581	3,876.581	3,876.581
4 - Minor Arterial	5,643.299	5,643.299	5,643.299	5,643.299
5 - Major Collector	24,361.365	24,361.365	24,361.365	24,361.365
6 - Minor Collector	9.417	9.417	9.417	9.417
7 - Local	5.390	5.390	5.390	5.390

Level I Review – Checks (cont'd)

- 'Extent and Travel (Changes) Report'
 - Significant year to year changes in Interstate mileage
 - Abnormal mileage and/or travel trends
 - Inconsistency between system mileage and travel trends
 - Abnormal travel trends by functional system and/or urban area



Extent and Travel Report Urbanized Area Summary

Stage: Submit
 Year: 2011
 State: 41 - Oregon
 Date: 07/18/2012

	Miles			Lane Miles			Vehicle Miles		
	2011	2010	% Change	2011	2010	% Change	2011	2010	% Change
All Areas									
1 - Interstate	729.56	729.81	-0.03%	3,126.08	3,126.50	-0.01%	23,587,329.40	23,983,871.00	-1.65%
2 - PA - Other Freeways and Expressways	57.22	58.87	-2.80%	246.68	249.37	-1.08%	3,616,946.60	3,658,044.60	-1.12%
3 - PA - Other	3,554.94	3,583.47	-0.80%	8,651.16	8,693.80	-0.49%	25,045,048.29	25,354,512.77	-1.22%
4 - Minor Arterial	3,497.97	3,498.48	-0.01%	7,495.25	7,478.21	0.23%	15,815,011.99	15,828,103.38	-0.08%
5 - Major Collector	10,284.65	10,278.17	0.06%	20,634.43	20,617.05	0.08%	11,751,572.86	11,854,264.31	-0.87%
6 - Minor Collector	7,414.13	7,413.25	0.01%	14,828.26	14,826.50	0.01%	1,631,000.00	1,631,000.00	0.00%
7 - Local	33,609.98	33,588.83	0.06%	67,219.96	67,177.66	0.06%	9,987,057.00	10,222,000.00	-2.30%
Total	59,148.5	59,150.9	0.00%	122,201.8	122,169.1	0.03%	91,433,966.1	92,531,796.1	-1.19%
6868 - Bend, OR									
1 - Interstate	0.00	0.00	0.00%	0.00	0.00	0.00%	0.00	0.00	0.00%
2 - PA - Other Freeways and Expressways	0.00	0.00	0.00%	0.00	0.00	0.00%	0.00	0.00	0.00%
3 - PA - Other	27.62	27.62	0.00%	92.69	92.69	0.00%	546,844.00	556,958.80	-1.82%
4 - Minor Arterial	57.49	57.49	0.00%	118.71	118.71	0.00%	450,990.42	456,889.32	-1.29%
5 - Major Collector	52.39	52.46	-0.13%	104.58	104.72	-0.13%	170,008.56	172,587.46	-1.49%
6 - Minor Collector	0.00	0.00	0.00%	0.00	0.00	0.00%	0.00	0.00	0.00%
7 - Local	308.09	303.35	1.56%	616.18	606.70	1.56%	199,642.00	209,000.00	-4.48%
Total	445.6	440.9	1.06%	932.2	922.8	1.01%	1,367,485.0	1,395,435.6	-2.00%
20422 - Corvallis, OR									
1 - Interstate	0.00	0.00	0.00%	0.00	0.00	0.00%	0.00	0.00	0.00%
2 - PA - Other Freeways and Expressways	0.00	0.00	0.00%	0.00	0.00	0.00%	0.00	0.00	0.00%
3 - PA - Other	25.09	25.25	-0.63%	52.10	52.42	-0.61%	297,059.00	298,716.20	-0.55%
4 - Minor Arterial	35.92	36.01	-0.25%	88.91	89.09	-0.20%	280,773.33	284,306.53	-1.24%
5 - Major Collector	47.21	46.95	0.55%	94.85	94.33	0.55%	114,049.74	114,360.56	-0.27%
6 - Minor Collector	0.00	0.00	0.00%	0.00	0.00	0.00%	0.00	0.00	0.00%
7 - Local	206.28	204.83	0.71%	412.56	409.66	0.71%	95,301.00	98,000.00	-2.75%
Total	314.5	313.0	0.47%	648.4	645.5	0.45%	787,183.1	795,383.3	-1.03%

Level I & Review – Checks (cont'd)

- 'Extent and Travel (Changes) Report'
 - Statewide travel trends vs. Traffic Volume Trends (TVT)-based Growth Factor Report (10%-30%)
 - Annual Vehicle Miles Traveled (VMT) trend within +/-2%
 - Annual VMT trend does not exceed +/-5%



**Growth Factor Report
(2009-2011)**

State	Functional Class	% Change Rate			SD	Stations Count		
		2008 To 2009	2009 To 2010	2010 To 2011		2009	2010	2011
OR	Rural - Interstate	0.99	1.38	-1.59	0.43	17	19	22
OR	Rural - OPA	1.60	-0.04	-2.41	0.19	50	53	64
OR	Rural - Minor Art.	0.99	0.83	-0.86	0.29	34	24	27
OR	Rural - Major Coll.	2.17	0.61	-1.73	0.45	7	7	8
OR	Rural - Minor Coll.	0.00	0.00	0.00	0.00	0	0	0
OR	Urban - Interstate	-0.60	0.25	-0.77	0.40	19	13	16
OR	Urban - OFE	-3.97	0.27	-0.86	0.41	1	3	8
OR	Urban - OPA	-0.19	0.23	-1.23	0.28	9	12	21
OR	Urban - Minor Art.	0.00	0.00	0.00	0.00	0	0	0
OR	State wide	0.04	0.44	-1.26	0.20	137	131	166

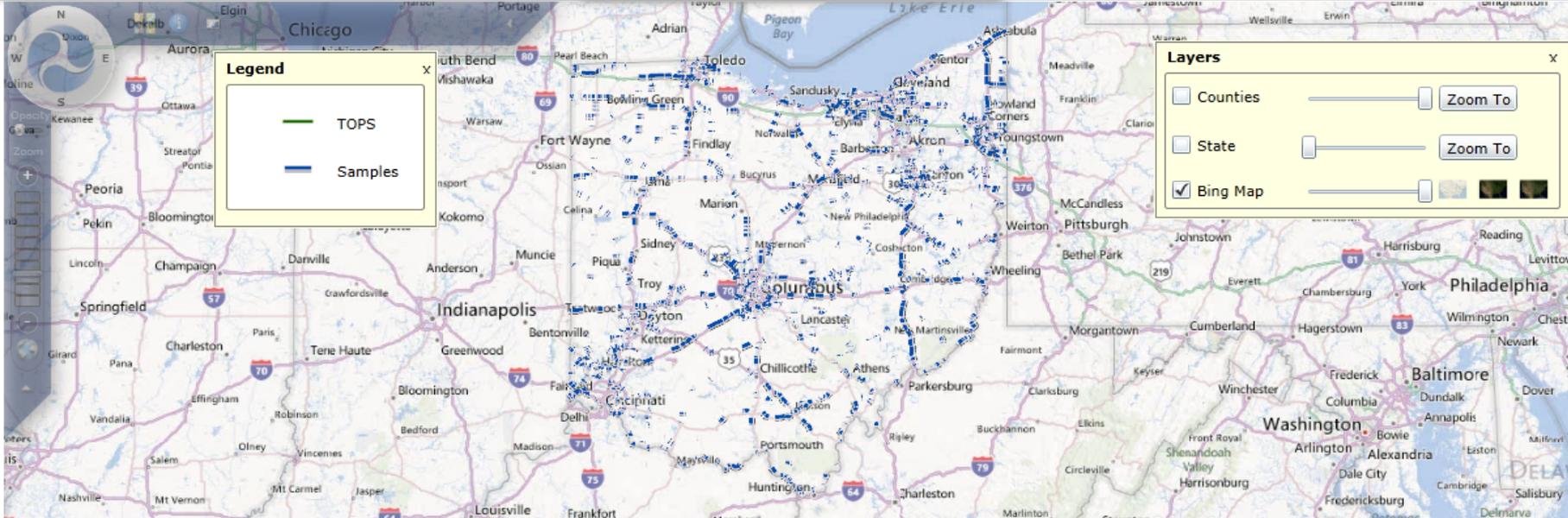
Level I Review – Checks (cont'd)

- Sample Panel
 - Samples are loaded
 - Samples are valid w/ respect to the TOPS
 - Sample Data Coverage



Samples

Year: 2011 State: 39 - Ohio



Sample ID	Route ID	Begin Point	End Point	Volume Group	F System	Urban Code	Facility Type	Through Lanes	AADT	Section Length	Exp
000006003010	CALLCR00006**C	2.992	3.456							0.464	
000011002090	CALLCR00011**C	2.082	3.867	2,000 - 4,999	5 - Major Collector	Lima, OH		2	2	4680	1.785
000011003880	CALLCR00011**C	3.867	4.524	5,000 - 9,999	4 - Minor Arterial	Lima, OH		2	2	7170	0.657
000011006130	CALLCR00011**C	6.099	6.561	5,000 - 9,999	4 - Minor Arterial	Lima, OH		2	2	6280	0.462
000011006820	CALLCR00011**C	6.778	7.229	5,000 - 9,999	5 - Major Collector	Lima, OH		2	2	5580	0.451
000013003950	CALLCR00013**C	3.904	4.078	2,000 - 4,999	5 - Major Collector	Lima, OH		2	2	2260	0.174
00088A000000	CALLCR00088A*C	0.000	0.088	5,000 - 9,999	3 - PA - Other	Small Urban		2	4	9759	0.088
00088A000110	CALLCR00088A*C	0.088	0.371	5,000 - 9,999	3 - PA - Other	Small Urban		2	4	5160	0.283

Total Samples: 4153

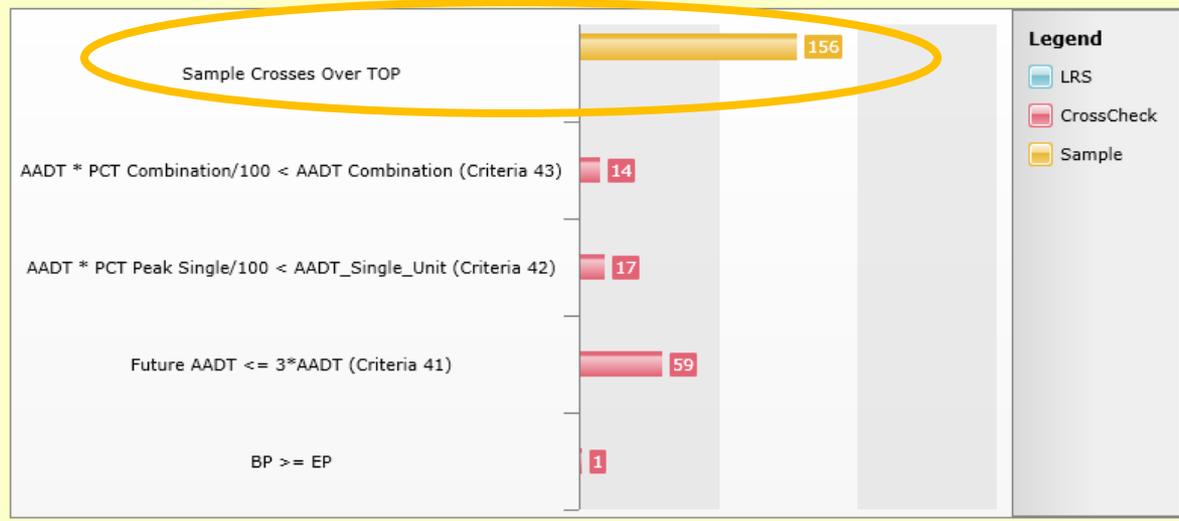
Validation

Year: 2011 State: 39 - Ohio

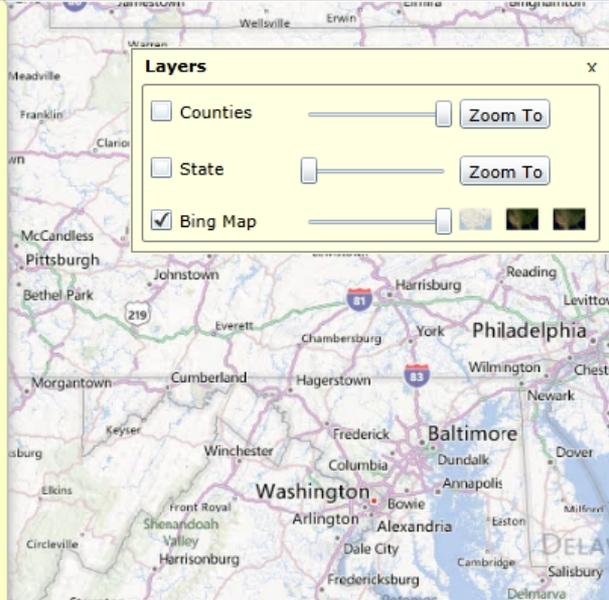
Validation Error Summary Graph



Graph



- Legend
- LRS
 - CrossCheck
 - Sample



								Error Description	Last Modified By		
>	⚠	⊙	Cross Check	CATHCR00033A*C	8.210	8.510	FUTURE_AADT	Future AADT <= 3*AADT (Criteria 41)	Future AADT=4467.000, AADT=1489.000	Hankus, Victoria L	8/...
	⚠	⊙	Cross Check	CATHCR00033A*C	8.510	8.700	FUTURE_AADT	Future AADT <= 3*AADT (Criteria 41)	Future AADT=4467.000, AADT=1489.000	Hankus, Victoria L	8/...
	⚠	⊙	Cross Check	CBELCR00509**C	0	0.080	FUTURE_AADT	Future AADT <= 3*AADT (Criteria 41)	Future AADT=906.000, AADT=302.000	Hankus, Victoria L	8/...
	⚠	⊙	Cross Check	CBUTCR00031**C	6.830	6.930	FUTURE_AADT	Future AADT <= 3*AADT (Criteria 41)	Future AADT=20073.000, AADT=6691.000	Hankus, Victoria L	8/...
	⚠	⊙	Cross Check	CBUTCR00615**C	0	0.120	FUTURE_AADT	Future AADT <= 3*AADT (Criteria 41)	Future AADT=1650.000, AADT=550.000	Hankus, Victoria L	8/...
	⚠	⊙	Cross Check	CBUTCR00701**C	0	0.770	FUTURE_AADT	Future AADT <= 3*AADT (Criteria 41)	Future AADT=16587.000, AADT=5529.000	Hankus, Victoria L	8/...
	⚠	⊙	Cross Check	CCLACR00360**C	1.493	2.373	FUTURE_AADT	Future AADT <= 3*AADT (Criteria 41)	Future AADT=9645.000, AADT=3215.000	Hankus, Victoria L	8/...
	⚠	⊙	Cross Check	CCLACR00360**C	2.373	2.563	FUTURE_AADT	Future AADT <= 3*AADT (Criteria 41)	Future AADT=9645.000, AADT=3215.000	Hankus, Victoria L	8/...

Sample Data Items

Year: 2011 State: 39 - Ohio

Missing Data Items Breakdown Summary

Missing Data Item	# of Samples
Alternative_Route_Name	872
At_Grade_Other	1548
Climate_Zone	3997
Counter_Peak_Lanes	487
Cracking_Length	2462
Cracking_Percent	2344
Curves_A	1785
Curves_B	3863
Curves_C	3910
Curves_D	3954
Curves_E	3971
Curves_F	3994
Faulting	3027
Grades_A	1948
Grades_B	3644
Grades_C	3708
Grades_D	3860
Grades_E	3988
Grades_F	3973
HOV_Lanes	3997

Samples With No Missing Data Items: 0 Samples with Missing Data Items: 3997

Samples Data Items

Samples with Missing Data Item: Clear

End Point	F System	Urban Code	Volume Group	Missing Data Items
3.867	5	49852	3	36
4.524	4	49852	4	34
6.561	4	49852	4	34
7.229	5	49852	4	38
4.078	5	49852	3	35
0.088	3	99998	4	29
0.371	3	99998	4	29
0.926	4	49852	5	34
1.357	5	49852	2	34
0.644	4	49852	4	33
1.352	4	49852	5	34
1.847	4	49852	4	34
0.829	5	49852	4	36
1.488	5	49852	4	36
1.852	5	49852	4	36
2.268	4	49852	3	34
0.844	5	49852	3	36
1.258	5	49852	3	34
2.261	5	49852	3	35
1.089	5	49852	3	33

000168000090 CALLCR00168**C 0.089

Total: 3997

Level II Review



Level II Review Objectives

- Complete review within 4 weeks of completing Level I Review
- Perform Traffic Data Review (in parallel)
- Assemble (Draft) Review Comments
 - Determine if the DOT will be asked or required to address any high priority data issues
- Assemble (Final) Review Comments



Level II Review – Checks

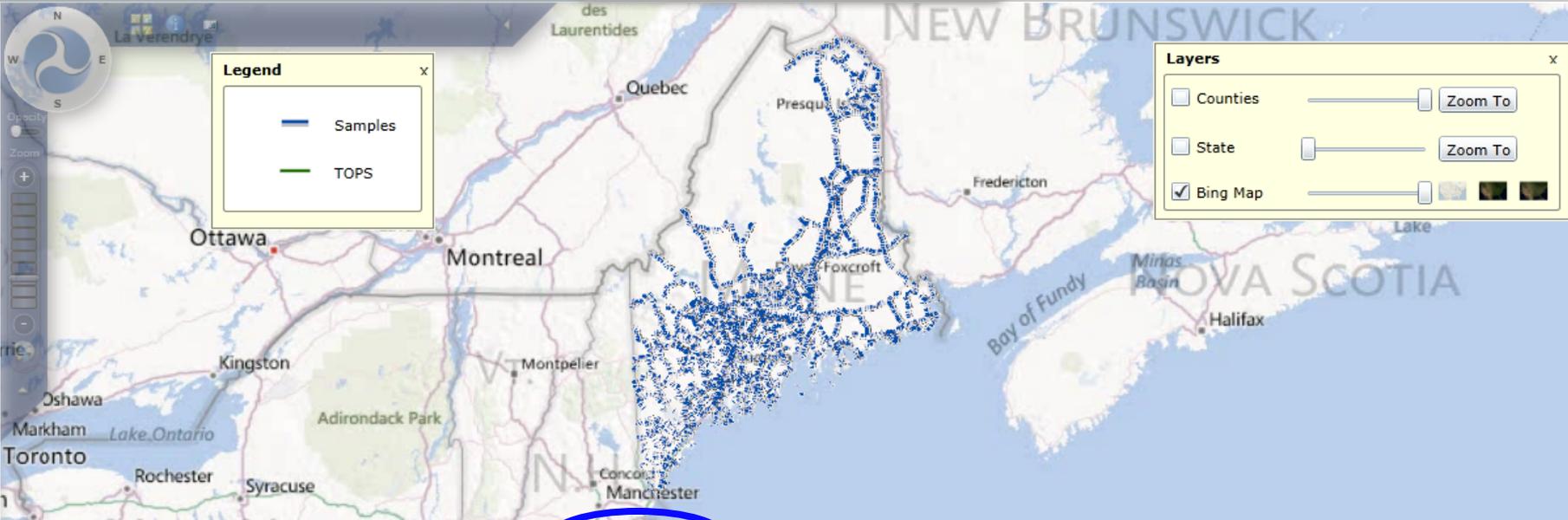
■ Sample Panel

- Expansion Factors have been calculated
- Sample data values have been calculated
- 'Sample Adequacy Report'
 - Un-sampled / Under-sampled Volume Groups
 - Sampling deficiencies across urban areas and/or functional systems



Samples

Year: 2011 State: 23 - Maine



Sample ID	Route ID	Begin Point	End Point	Expansion Factor	Invalid	Peak_Lanes	Counter_Peak_Lanes	Turn_Lanes_R	Turn_Lanes_L	Speed_Limit
000000000001	0001A	0.000	0.210	1.000	Valid	1	1	1	1	35
000000000002	0001A	0.210	0.270	1.000	Valid	2	2	5	5	35
000000000003	0001A	0.270	0.570	1.000	Valid	2	2	5	5	35
000000000004	0001A	0.570	1.160	1.000	Valid	2	2	5	3	35
000000000005	0001A	1.160	1.200	1.000	Valid	2	2	5	5	35
000000000006	0001A	1.200	1.500	1.000	Valid	2	2	5	5	35
000000000007	0001A	1.500	1.540	1.000	Valid	1	1			25
000000000008	0001A	1.540	8.480	1.000	Valid	1	1			25

Total Samples: 3434

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Level II Review – Checks (cont'd)

- 'NHS Extent and Travel Report'
 - Mileage Trends (vs. previous year's data)
 - Total Mileage
 - Interstate Mileage
 - Non-Interstate Mileage



NHS: 1 - Non Connector NHS			
F System	Miles	Lane Miles	Vehicle Miles
1 - Interstate	1,495.30	7,879.10	95,038,877.20
2 - PA - Other Freeways and Expressways	599.69	2,893.11	33,037,059.30
3 - PA - Other	2,044.95	7,347.18	33,918,061.33
4 - Minor Arterial	59.21	217.36	829,034.72
5 - Major Collector	6.44	12.87	12,509.60
6 - Minor Collector	0.00	0.00	0.00
7 - Local	0.98	4.62	5,302.80
Sub-Totals	4,206.56	18,354.24	162,840,844.95

NHS: 2 - Airport			
F System	Miles	Lane Miles	Vehicle Miles
1 - Interstate	0.00	0.00	0.00
2 - PA - Other Freeways and Expressways	0.00	0.00	0.00
3 - PA - Other	44.58	208.76	1,340,788.81
4 - Minor Arterial	21.89	102.85	647,300.40
5 - Major Collector	5.79	17.93	40,467.80
6 - Minor Collector	0.00	0.00	0.00
7 - Local	0.52	1.03	695.25
Sub-Totals	72.78	330.56	2,029,252.26

Level II Review – Checks (cont'd)

- 'IRI on Federal-aid Highways Report'
 - Extent of Principal Arterial System (PAS) reporting
 - Distribution/trends of PAS mileage across FHWA IRI class ranges (i.e., Good/Fair/Poor)
- 'IRI on NHS Report'
 - Distribution/trends of NHS mileage across FHWA IRI class ranges (i.e., Good/Fair/Poor)



HPMS 8.0.1

IRI on Federal Aid Highways

Stage: Review
 Year: 2011
 State: 22 - Louisiana
 Date: 09/17/2012

Length- In Miles				
F System	< 95	95 - 170	> 170	Total
1 - Interstate	409.8	454.8	33.0	897.6
2 - PA - Other Freeways and Expressways	3.2	35.5	13.0	51.6
3 - PA - Other	777.0	841.6	398.2	2,016.9
Sub-Totals	1,190.0 (40.1%)	1,331.8 (44.9%)	444.3 (15.0%)	2,966.1

Travel - In Vehicle Miles				
F System	< 95	95 - 170	> 170	Total
1 - Interstate	14,529,128.7	17,873,491.4	2,261,716.0	34,664,336.1
2 - PA - Other Freeways and Expressways	143,922.0	1,153,141.0	935,958.0	2,233,021.0
3 - PA - Other	7,727,194.9	12,744,238.6	7,671,097.4	28,142,530.8
Sub-Totals	22,400,245.5 (34.4%)	31,770,871.0 (48.8%)	10,868,771.4 (16.7%)	65,039,887.9

HPMS 8.0.1

IRI on NHS

Stage: Review
 Year: 2011
 State: 22 - Louisiana
 Date: 09/17/2012

Length - In Miles				
F System	< 95	95 - 170	> 170	Total
1 - Interstate	409.8	454.8	33.0	897.6
2 - PA - Other Freeways and Expressways	3.2	35.5	13.0	51.6
3 - PA - Other	693.4	589.7	195.4	1,478.5
4 - Minor Arterial	53.1	54.7	30.3	138.1
5 - Major Collector	9.1	12.7	5.2	26.9
6 - Minor Collector	0.0	0.0	0.0	0.0
7 - Local	0.0	0.0	6.2	6.2
Sub-Totals	1,168.5 (45.0%)	1,147.3 (44.1%)	283.1 (10.9%)	2,599.0

Travel - In Vehicle Miles				
F System	< 95	95 - 170	> 170	Total
1 - Interstate	14,529,128.7	17,873,491.4	2,261,716.0	34,664,336.1
2 - PA - Other Freeways and Expressways	143,922.0	1,153,141.0	935,958.0	2,233,021.0
3 - PA - Other	6,352,339.1	8,760,741.1	4,051,568.0	19,164,648.3
4 - Minor Arterial	514,722.0	699,885.5	231,580.9	1,446,188.4
5 - Major Collector	79,181.0	27,915.1	49,553.0	156,649.1
6 - Minor Collector	0.0	0.0	0.0	0.0
7 - Local	0.0	0.0	27,419.5	27,419.5
Sub-Totals	21,619,292.8 (37.5%)	28,515,174.2 (49.4%)	7,557,795.4 (13.1%)	57,692,262.3

Traffic Data Review

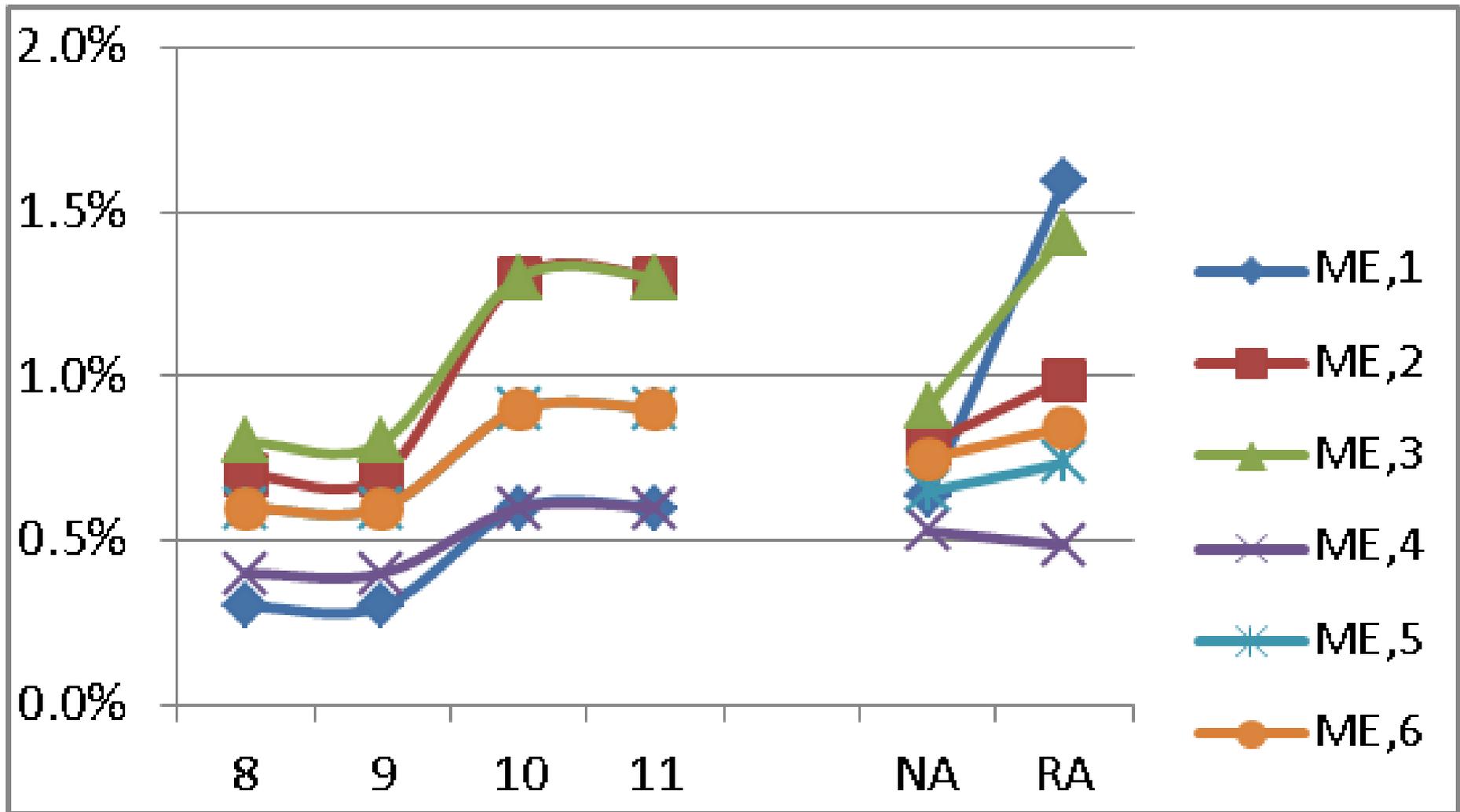


Traffic Data Review

- Spatial and Multiyear Trend Analysis
 - Items reviewed:
 - Vehicle Classification Summary (in State Summary)
 - Travel Data Items:
 - Annual Average Daily Traffic (AADT)
 - K-factor
 - Directional Factor
 - Single-unit and Combination Truck AADT
 - Percent Peak Single-unit and Combination Truck AADT
 - Future AADT



Motorcycle Travel by Functional System 2008-2011



1 Rural Interstate

2 Other Rural Arterial

3 Other Rural

4 Urban Interstate

5 Other Urban Arterial

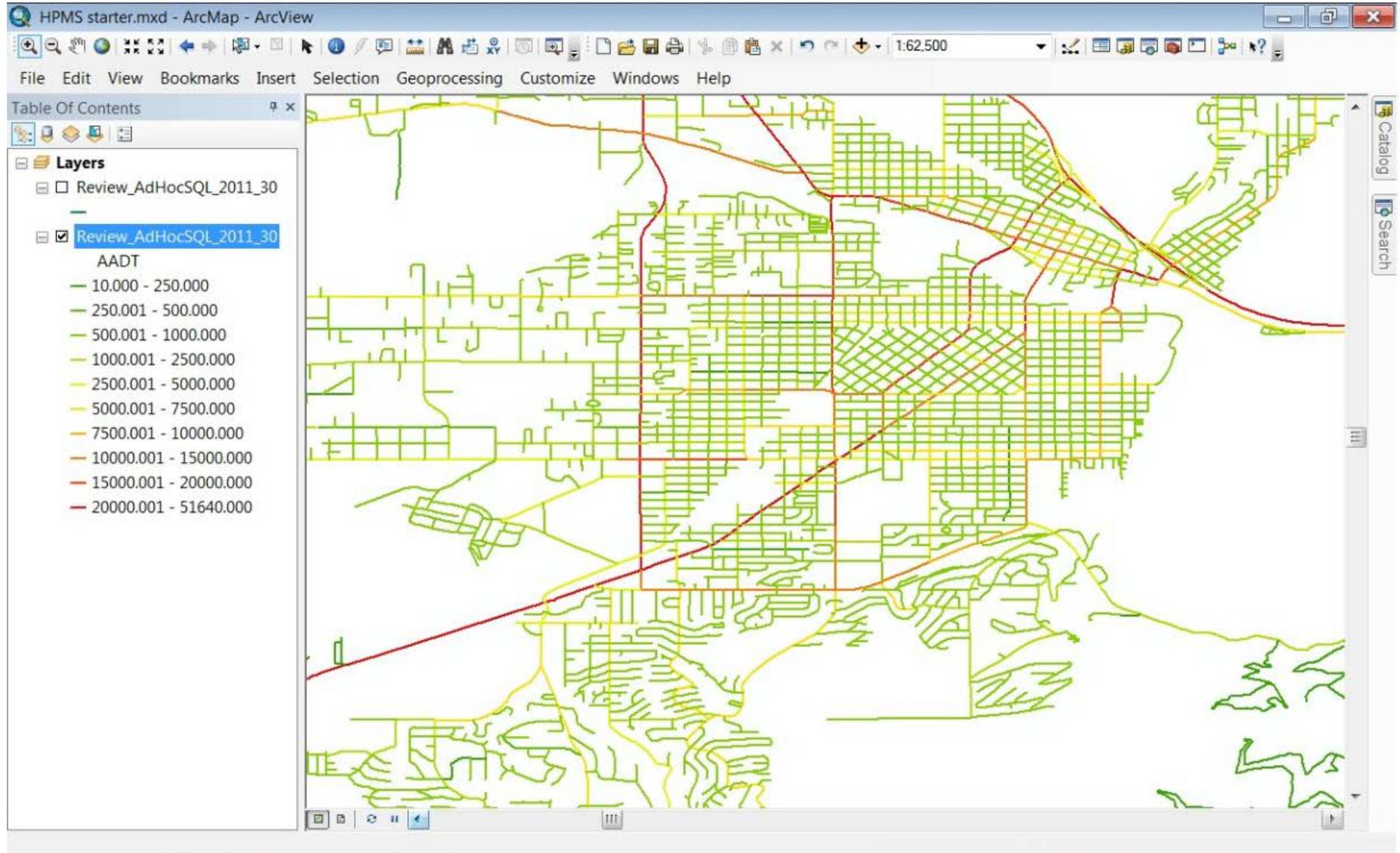
6 Other Urban

NA National Average

RA Regional Average

10=2010

AADT GIS Data Review



FHWA / State DOT Review Coordination



Review Comments (Example)

Montana 2011 HPMS Submission Review Notes

Please initial and date your comments. If they are topic specific– e.g. only relating to Pavement data items, please also make a note to that effect.

JC 7/3/2012 and 8/15/2012:

Extent and Travel Report:

- Travel on the Minor Arterials and Major Collectors has increased between 2010 and 2011 significantly. Some areas, such as Billings where travel is up 100% with no mileage increase.
- Overall travel is up 4% although the TVT Growth Factors data (30% change rate check) is flat (-0.34%).
- Travel is up 11% on Interstate 94 (Oil Boom related?)

Travel increase is due to adding 5,000 counts to the system for the first time, i.e. they had used defaults in the past. Trend should become more stable in the future.

Consistency Report:

Mileage is an exact match for all data items.

Missing Data Items/Data Item Completeness:

- All samples appear to be missing Year Last Construction, Year Last Improvement but data was submitted for these two items so records should be checked for location errors. TOPS may need to be run.
- No Structure Type data submitted. Misunderstood guidance, need to make structure guidance clearer, State thought this was related to samples.
- Sample file seems to be lacking a significant amount of Number Signals, Stop Signs, Pct Green Time data. ??

Submission Memo

September 18, 2012

ACTION: Review of 2011 Montana Highway Performance Monitoring System (HPMS) Data
(Original signed by
David R. Winter, P.E.)

David R. Winter, P.E.
Director, Office of Highway Policy Information

HPPI-20

Mr. Kevin L. McLaury
Division Administrator (HDA-MT)

We have completed our review of Montana's 2010 HPMS data package and wish to thank the State and the Division for their efforts in submitting the HPMS data this year. Attached are specific comments and/or documentation on the Montana 2010 data as discussed with Division and State HPMS staff contacts on August 31, 2012 which we consider a priority for resolution before the State reports the 2012 HPMS data. We would like to let the State know that we will continue to assist them to the extent possible in any remaining transitional issues regarding the new format as well as any future issues that may arise. Please contact us if we can be of assistance in this regard as we look forward to the continued success of the HPMS program.

Your further assistance is needed in resolving any issues that may be remaining from prior years and in jointly developing and following through on a plan for addressing any previously unresolved issues. The State Planning and Research (SPR) work program is also an effective mechanism to address State commitments to data and process improvements and to encourage States to provide quality data that support FHWA's business needs (23 CFR 420.105(b)).

We encourage you to conduct review and technical assistance efforts to maintain a high quality, timely, and credible HPMS data submittal. Keeping us engaged concerning your discussions with the State as you address these and other issues will ensure that we can offer further appropriate and timely technical assistance to both your office and the State. We look forward to your future review efforts to support quality HPMS data. Please remember to send your reviews and all correspondence in electronic format to the Office of Highway Policy Information official mailbox (HPInfoMail).

**Montana
2011 Highway Performance Monitoring System (HPMS)
Data Submittal Review Comments**

Sampling Issues:

We still note a small amount of undersampled volume groups in Montana's 2011 HPMS data for several urban and rural areas around the State. The State explained via the conference call that this issue will be completely addressed in the 2013 submittal. **Per this year's conference call, the State notes that they will address undersampled areas. We encourage Montana to complete their sample adequacy program so that a complete sample panel is reported.**

Mileage and Travel Data:

The State showed a high overall VMT increase on its Minor Arterial and Collector roadways compared to 2010 figures.. The State indicated that they have added a significant amount on new traffic counts especially on lower Functional System Urban and Rural roadways. **The State has indicated that the unusual changes in traffic volume are a onetime occurrence and that their traffic reporting should show reasonable trends in the future.**

Pavement Data:

The State reported an unusual shift in IRI reporting showing a significant amount of roadways classified as Other Principal Arterial falling into the poor rating category. State staff noted during a conference call that Montana has acquired a new Pavement Management System. Shifts in mileage totals for IRI rating categories are likely a result of the implementation of this new system, and State staff have agreed to review HPMS IRI data to identify any potential misrepresentation of pavement characteristics. **We urge the State to verify the validity of its pavement data output and ensure that all pavement items are accurately reported to HPMS.**

Questions and comments on our review of Montana's data should be directed to Justin Clarke at 202-366-9245 or justin.clarke@dot.gov. We look forward to your and the State's continued support of this important program activity.

Timeline of Activities

Date(s)	Activity
June 1 st	Certified Mileage Submission
June 15 th	HPMS Submission
June 30 th	Level I Review Completion
July 15 th -30 th	Level II and Traffic Review Completion
Early-August	Review Notes forwarded to Division Office
Mid-August	Conference Call w/ State/Division Office
Late-August	Memo transmitted to State
Mid-October	National Data Finalized/Analysis and Reporting Commences
October-November	National Report Production
December 15 th	Division Field Review due to FHWA HQ

Discussion Recap

- FHWA HQ has a multi-level review process
 - If clarification of issues is necessary, State typically contacted after Level I Review
- Data comparisons are largely year-to-year
 - Involves intersections and combinations of multiple data elements
- Review typically takes 4-6 weeks from date of submittal



What's Next?

- Pavement Data Review Implementation
 - In conjunction w/ Office of Infrastructure
- HPMS Software Enhancements
 - Additional Comparison Checks
 - Coverage Validations
 - Enhanced Data Review Module



Questions???



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