

HPMS: Software Demo and Program Status

**RPUG
Stateline, NV
September 27, 2011**

Agenda

- Brief demo of HPMS 8.0 software (pavement)
- HPMS Pavement data status
- Current issues re: HPMS pavement-related data

HPMS 8.0 Software

- Controlled access via UPACS (User Profile Access Control System)
- Limited to HPMS community
- Quick Start Guide
- Initial release (submittal capability, basic reports/tools/outputs)
- Ongoing development...

HPMS Data Model (Geospatial)

- State's own geospatial network
- Streamlines data submittal process
 - FHWA receives independent State geo-coded data items directly
- Intended to improve data quality, minimize reporting burden, and enhance analytic capabilities
- Expands possible uses of HPMS data
 - Easier link to other data files and routable networks (FAF, NBI, Safety data, etc.)

HPMS 8.0

Software Tour

HPMS Pavement Data Status

■ Revised *HPMS Field Manual*

- Completed (minor updates pending)

■ HPMS Training

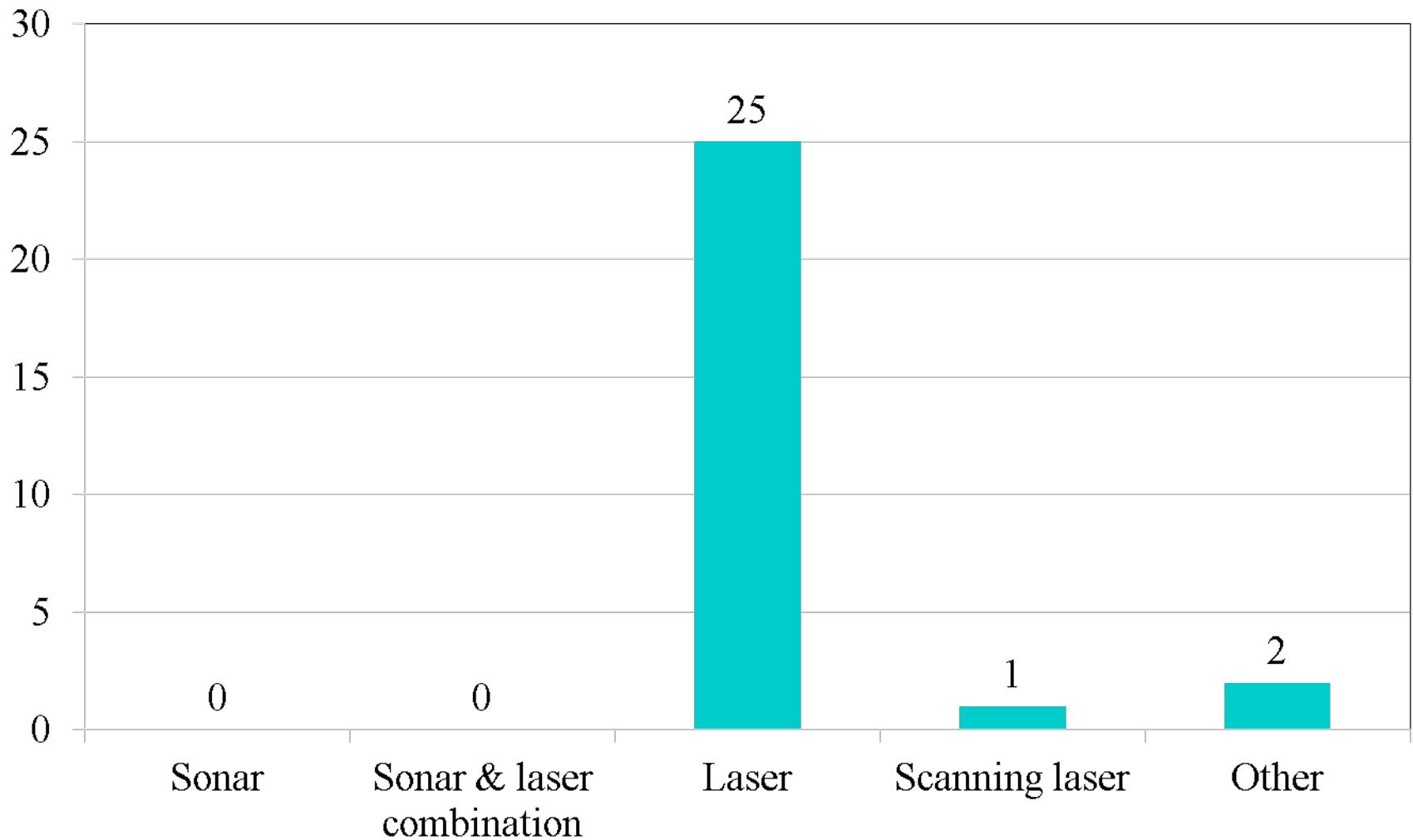
- Course development completed

■ 15 States submitted new format for 2009 (optional)

■ ~35 States submitted 2010 data, so far... – Fewer submitted pavement metadata

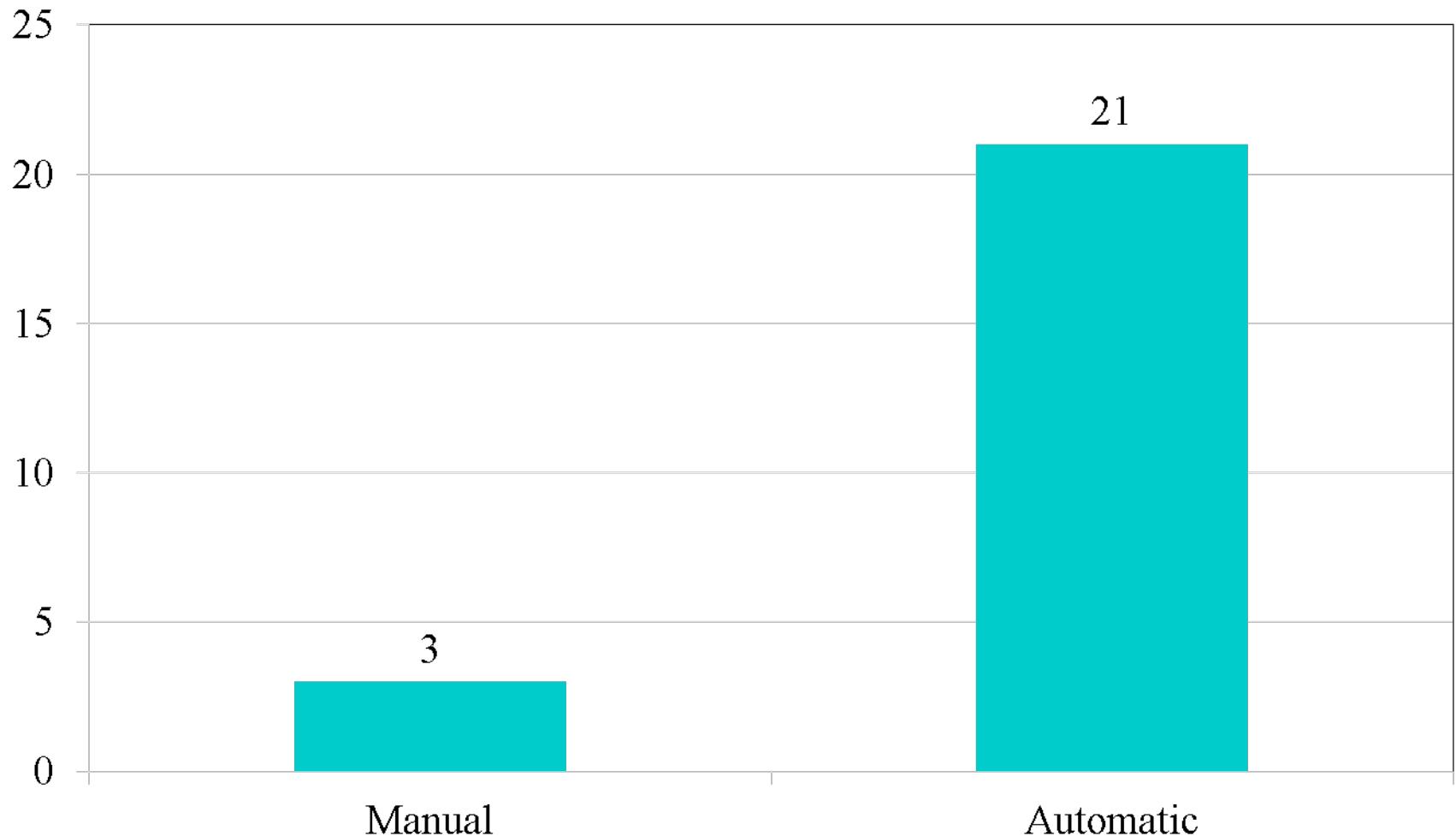
IRI_Equip_Type

Interstate

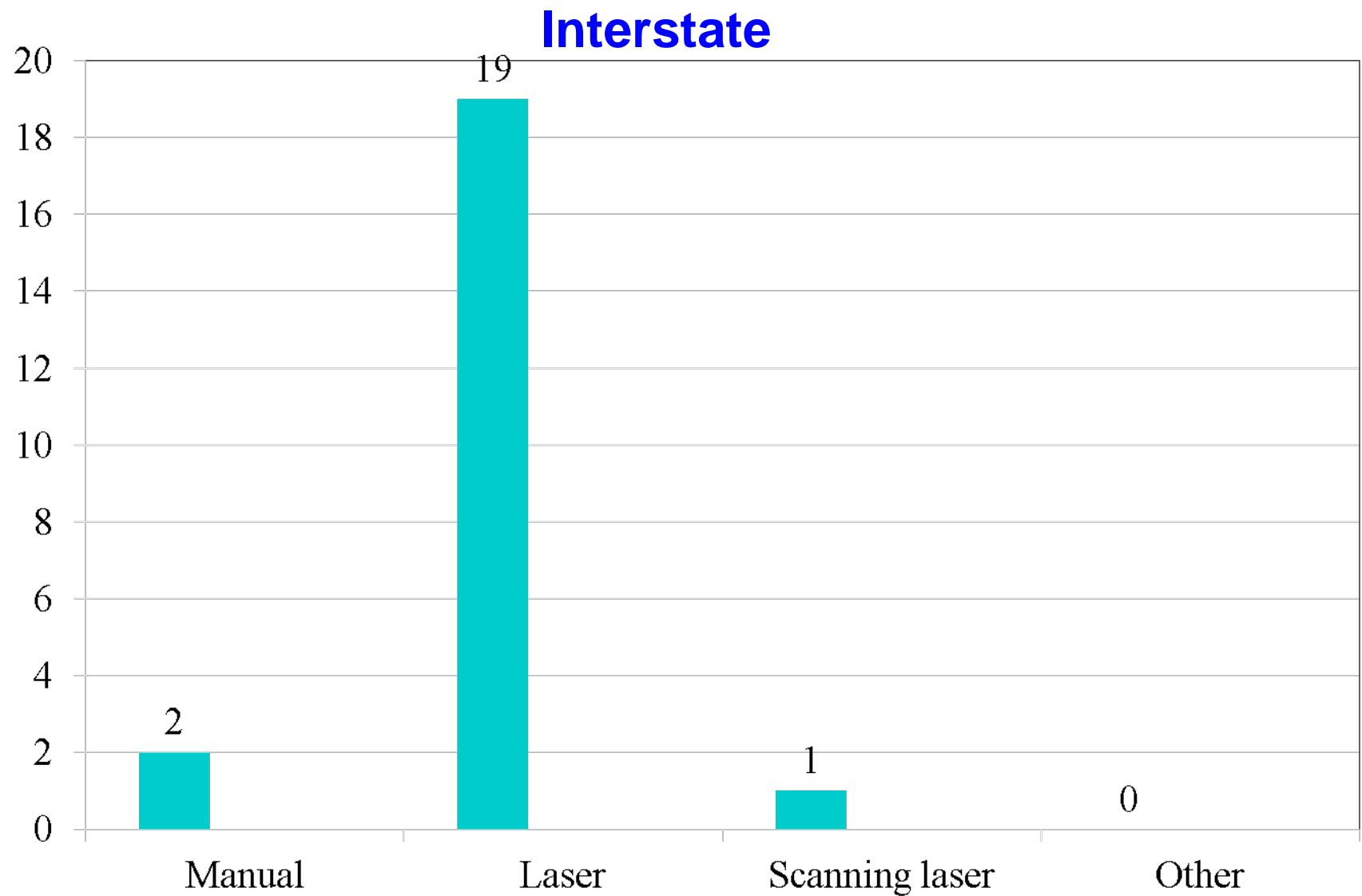


Faulting_Method

Interstate

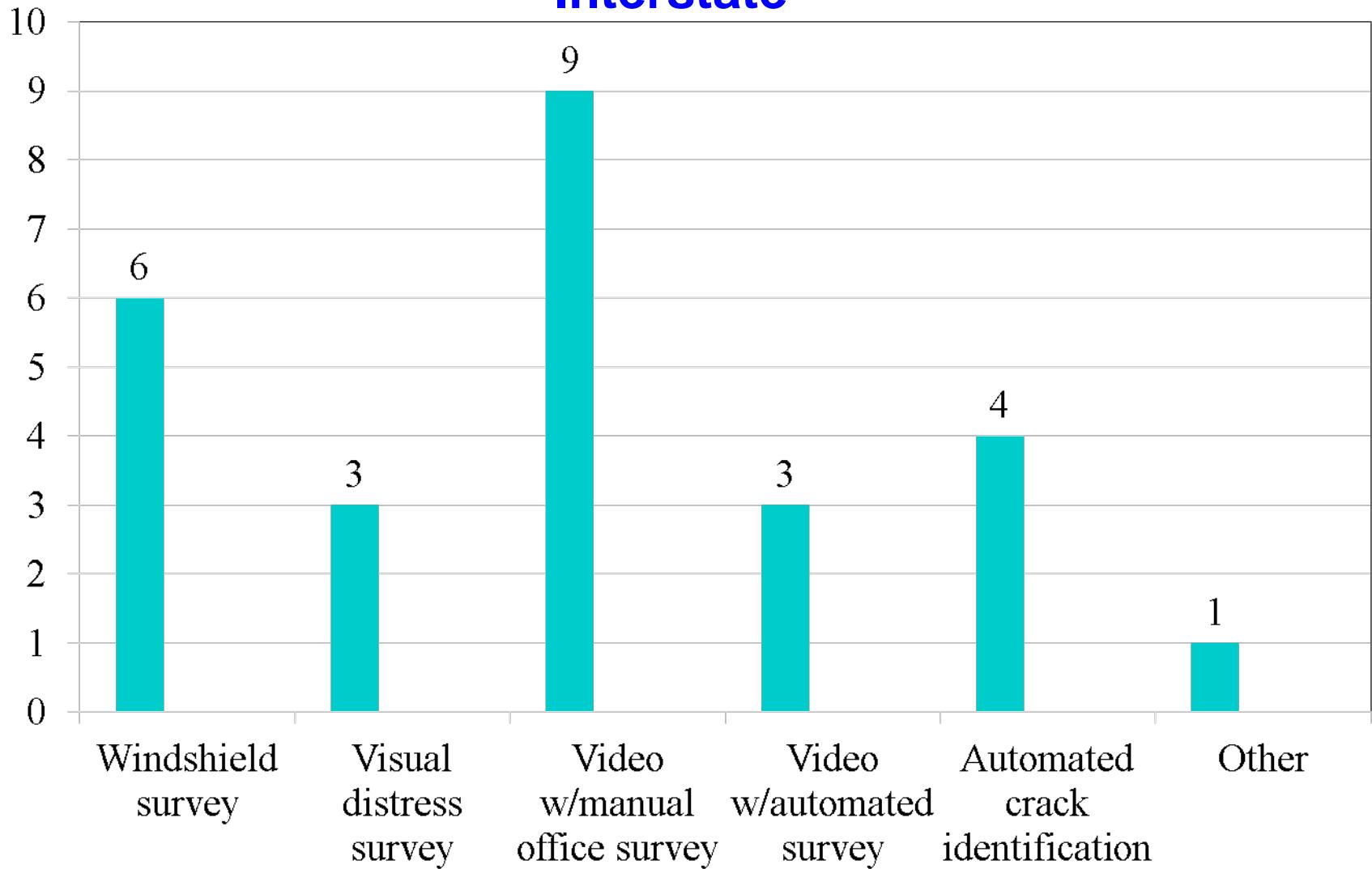


Faulting_Equipment_Type



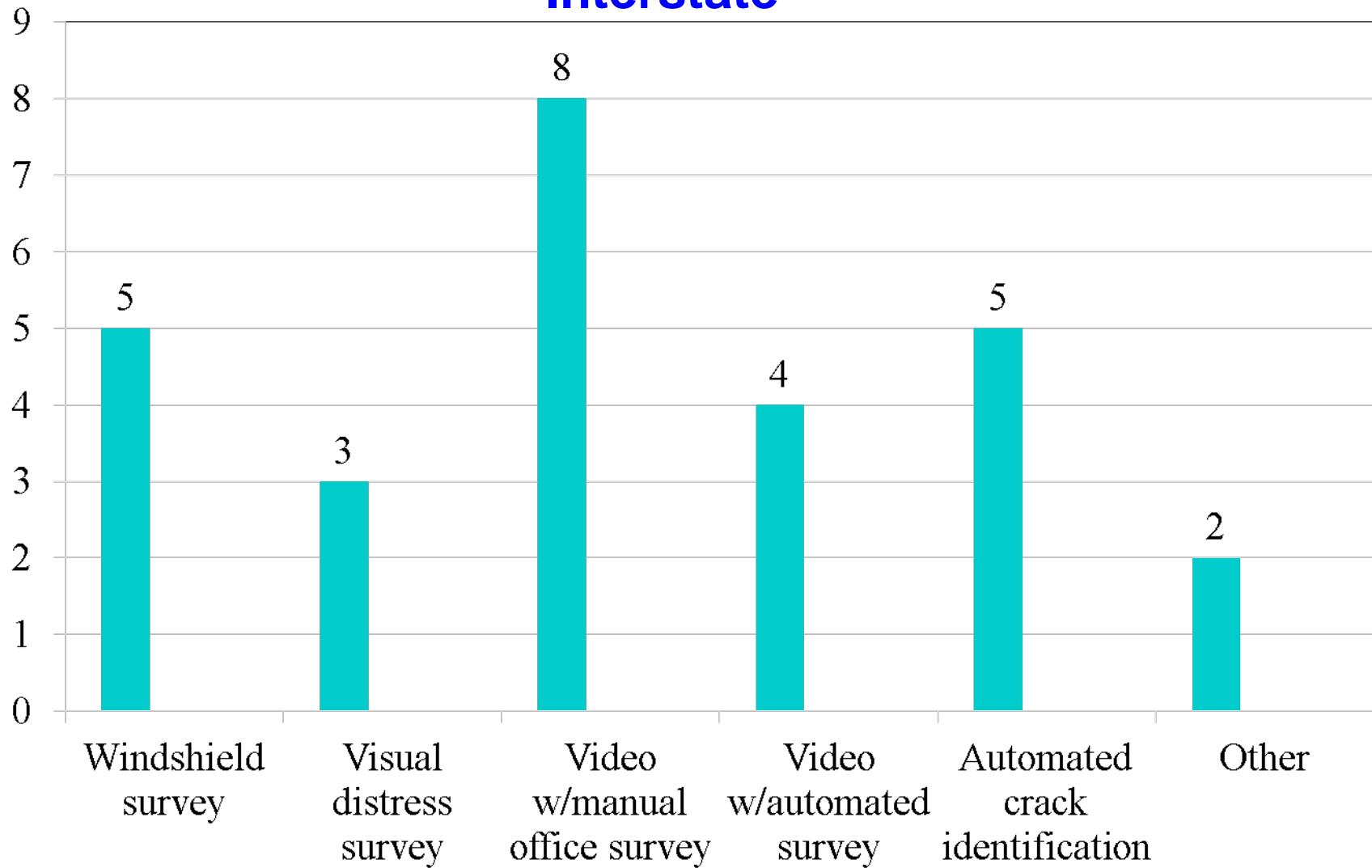
Cracking_Percent_Equip

Interstate



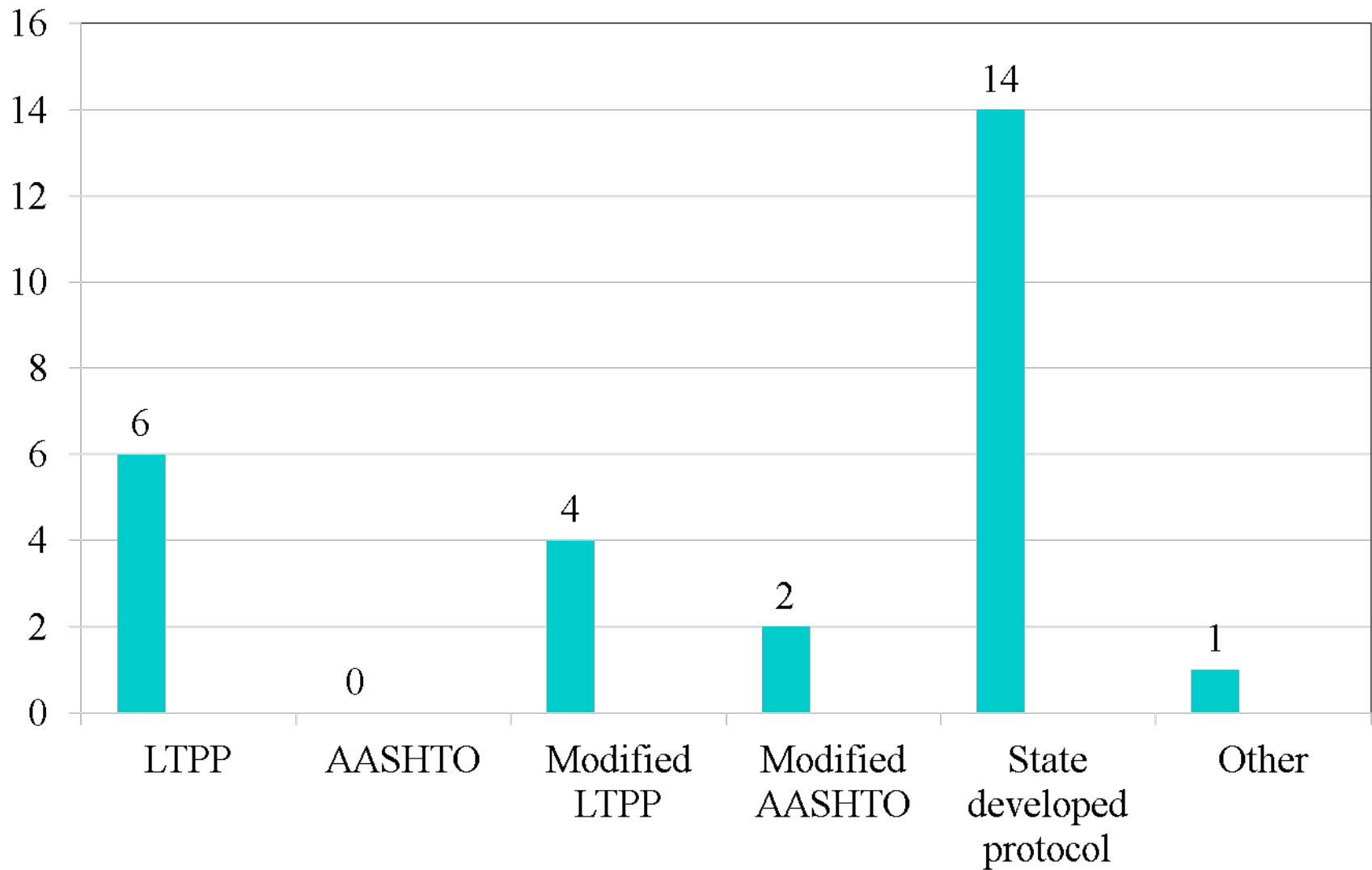
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Interstate



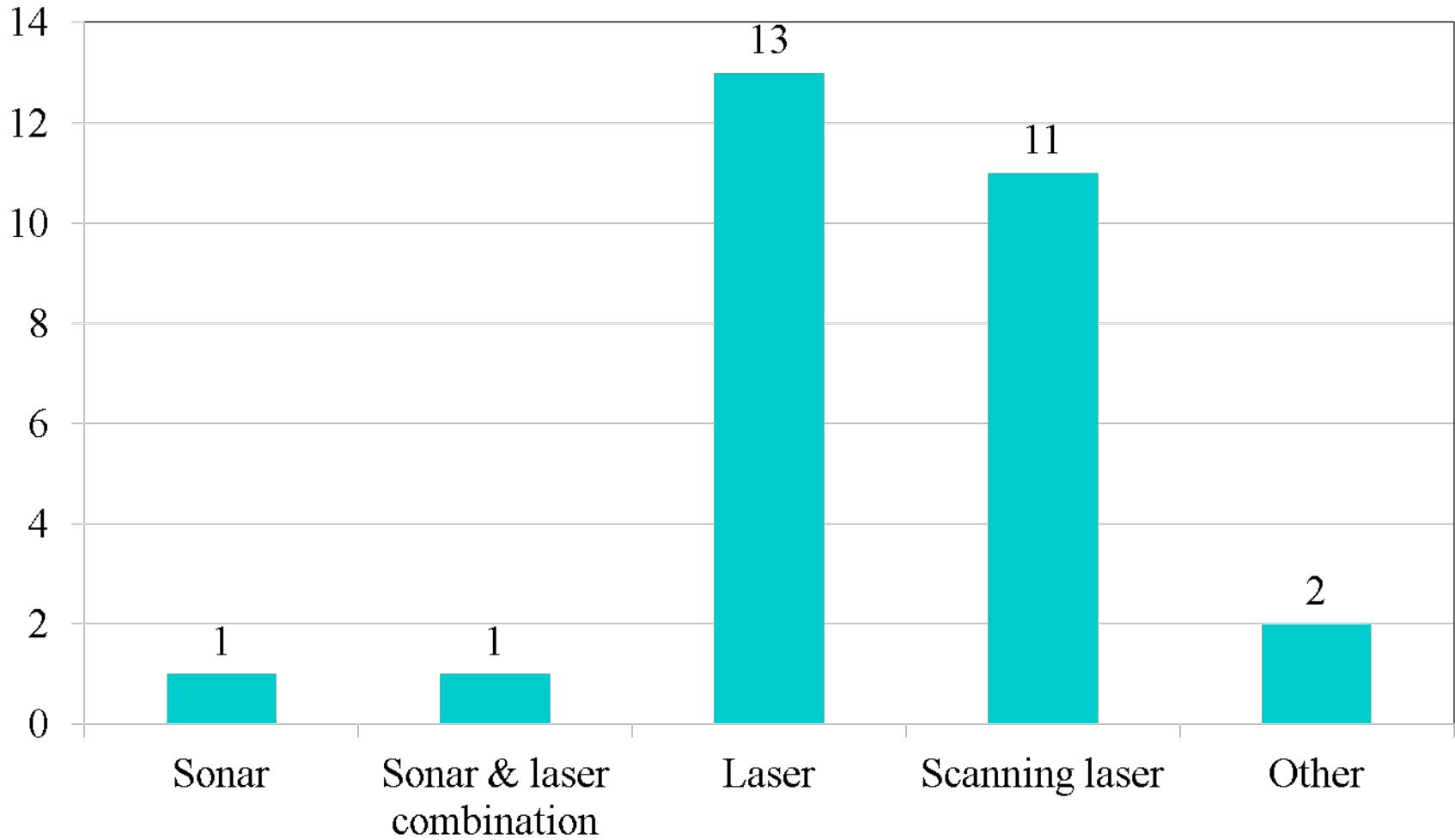
Cracking_Method

Interstate



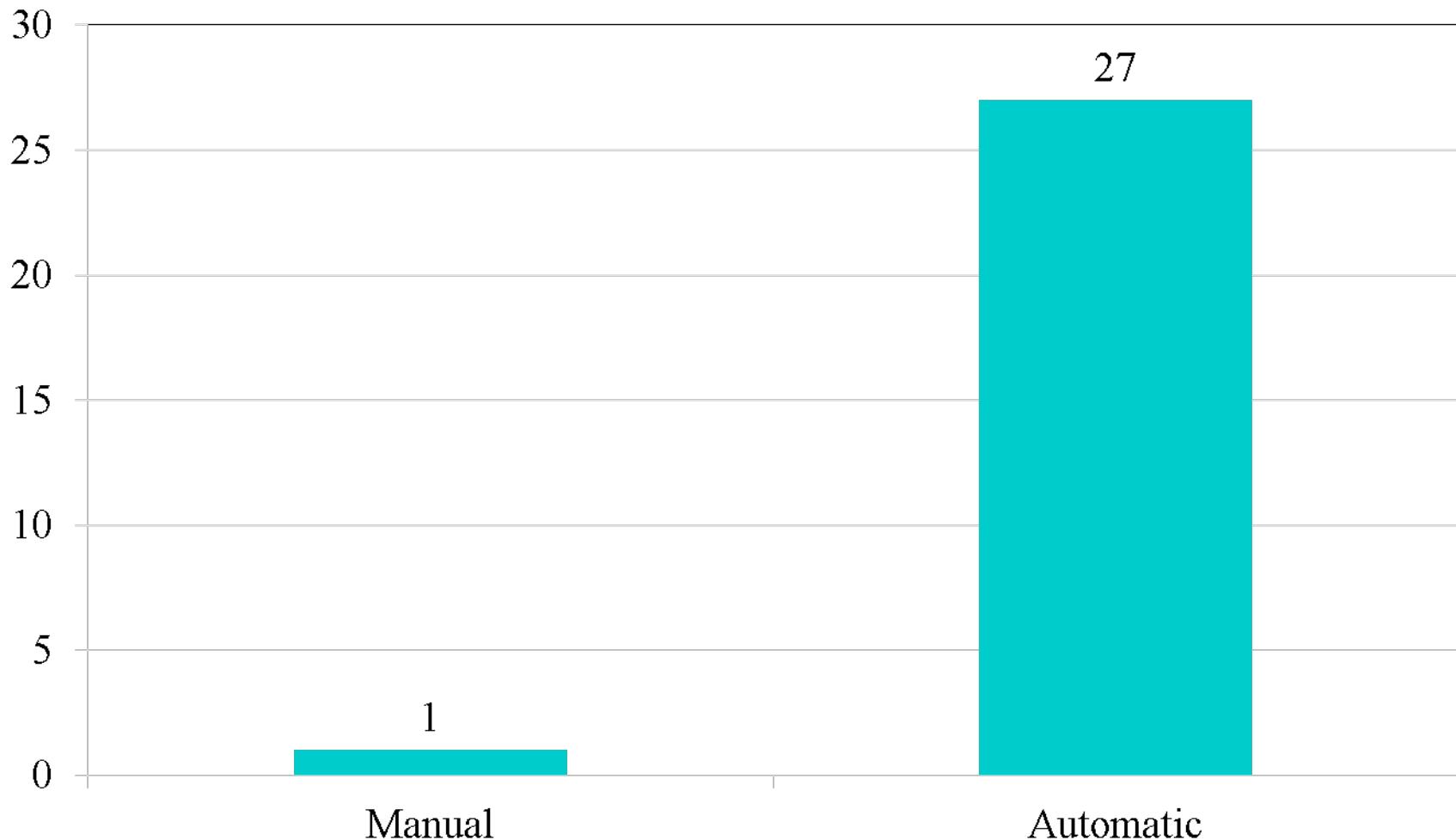
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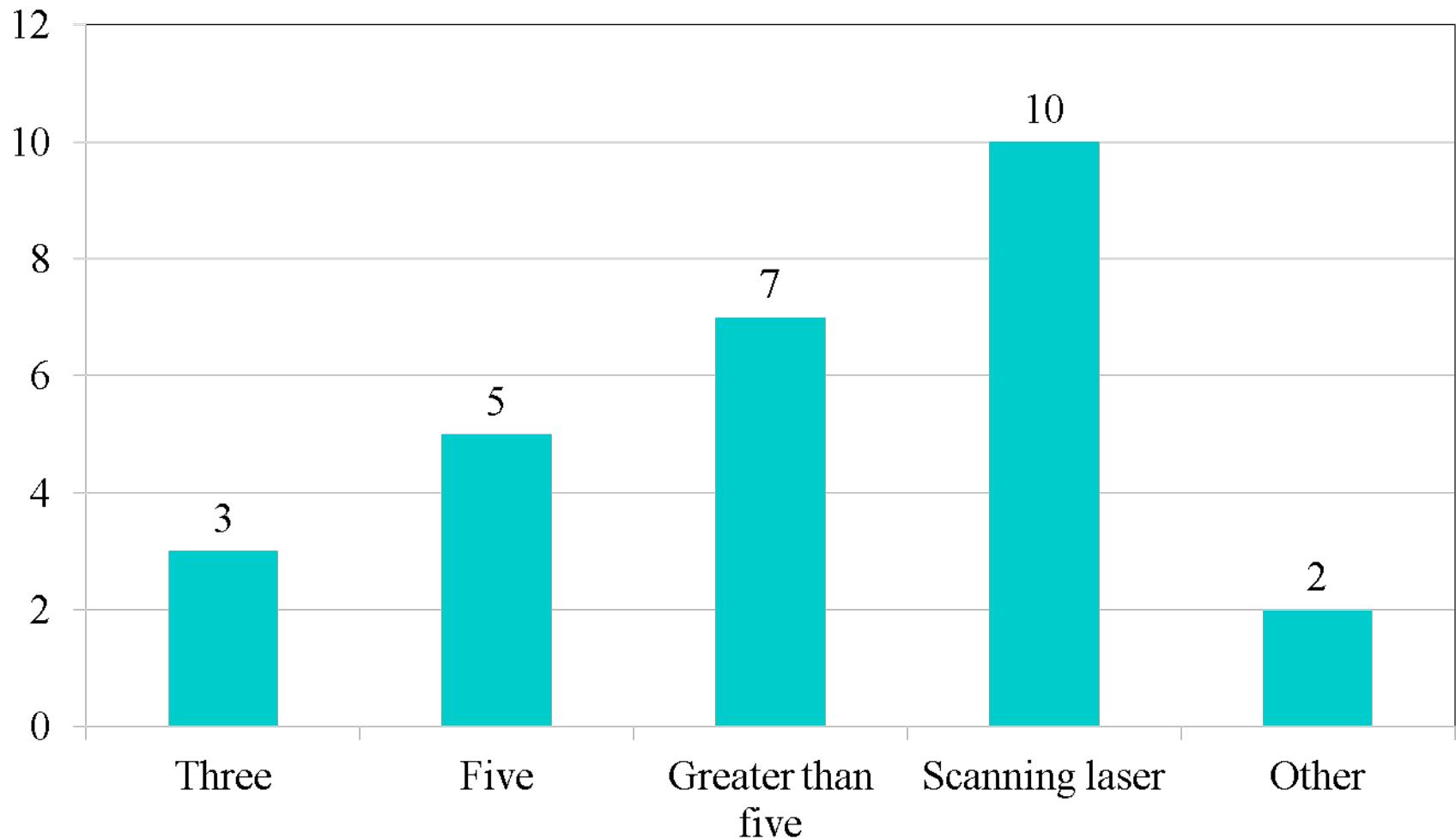
Rutting_Method

Interstate



Rutting_Num_Sensors

Interstate



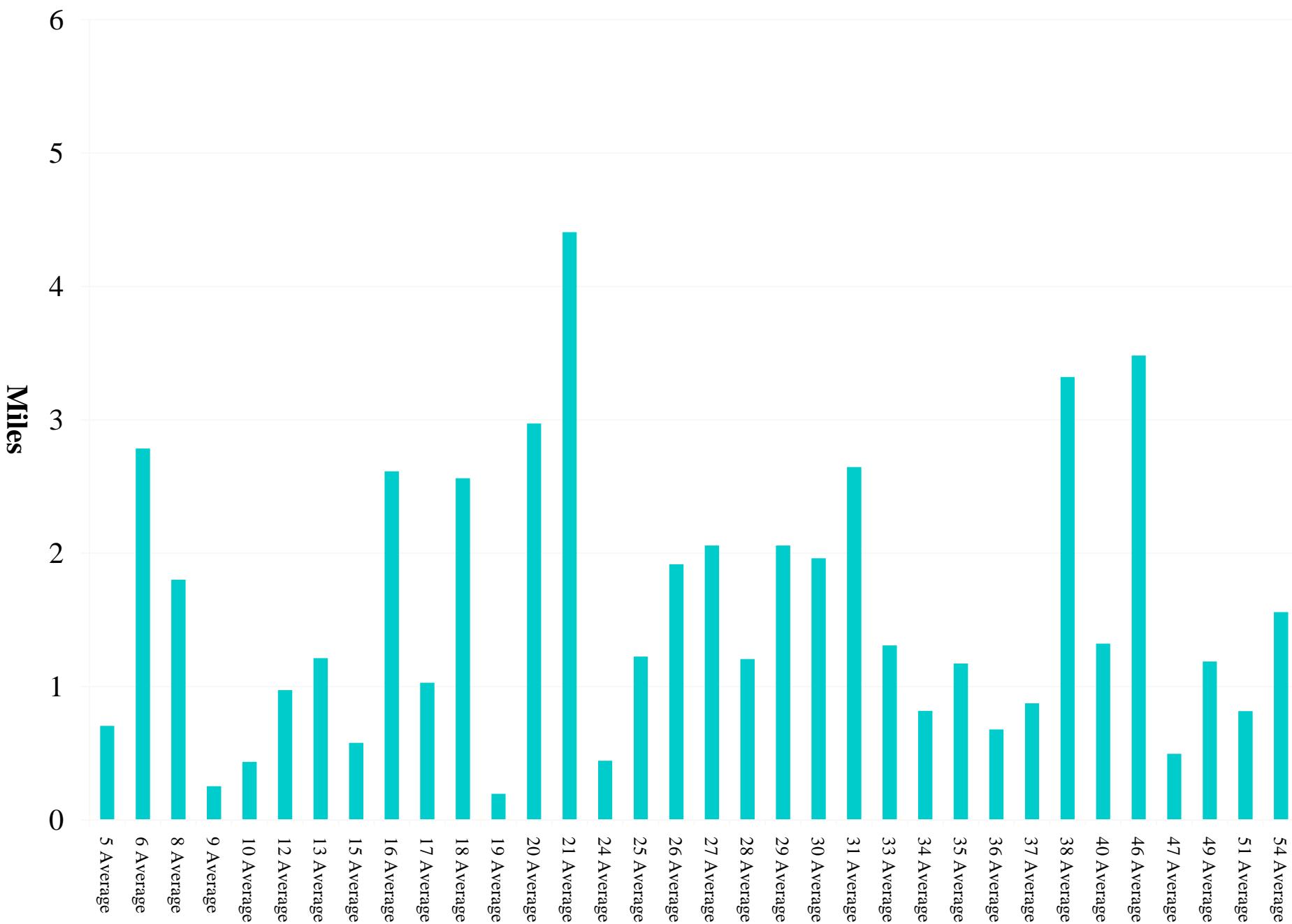
Current Issues

- Complete reporting in the new format
- Change in FHWA National Highway System (NHS) IRI performance measure
- FHWA Pavement Monitoring Guide
- FY 2012 NCHRP project proposed: HPMS pavement reporting (20-24 (82))

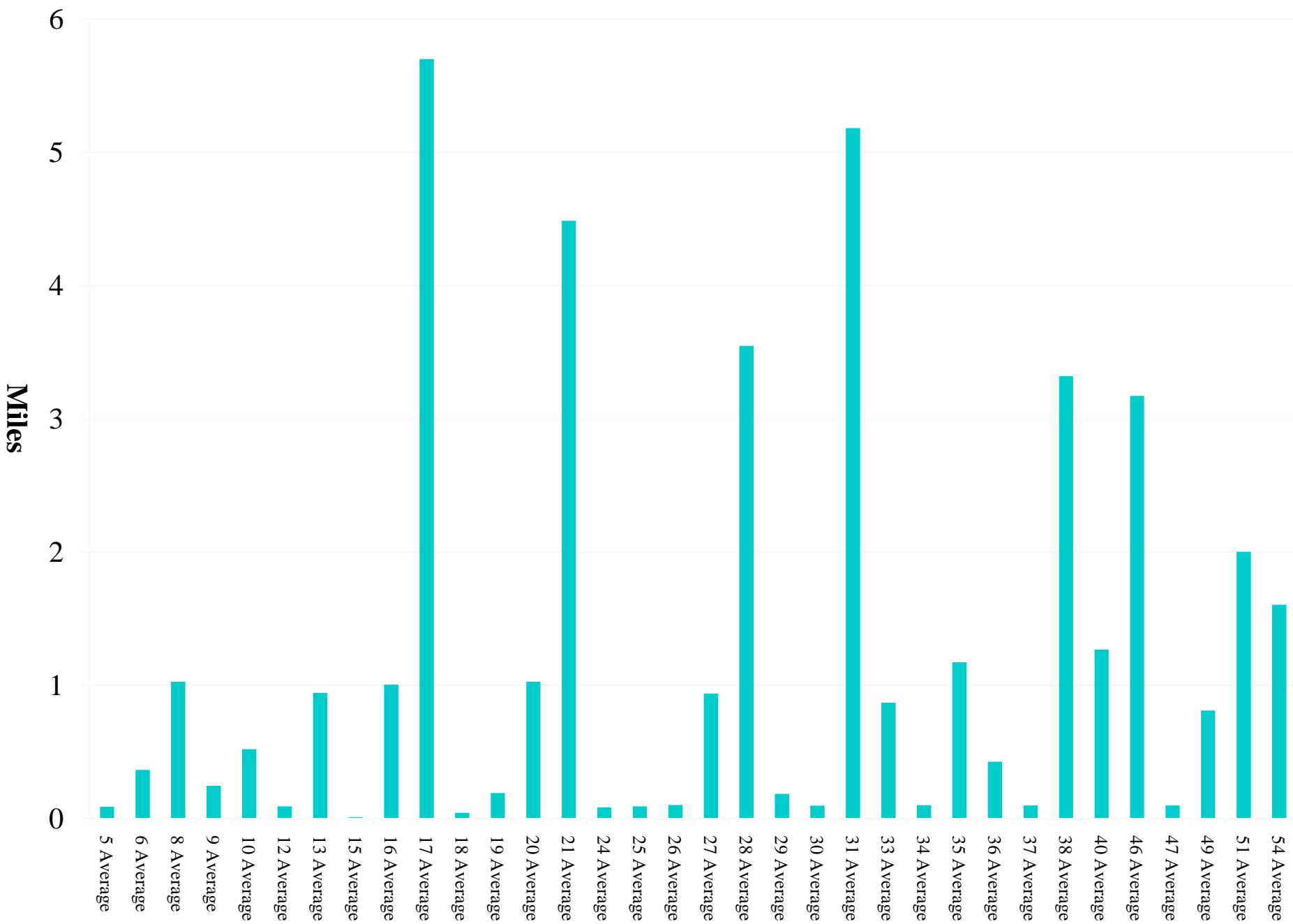
Issue: HPMS IRI Section Length Reporting

- Change in HPMS-reported IRI section lengths
 - Affects agency performance indicator %'s
 - Most States reporting shorter IRI sections
 - Reduced variability? Closer match to State PMS's?
- Should standard reporting length (0.1 mi)/narrow range be recommended?

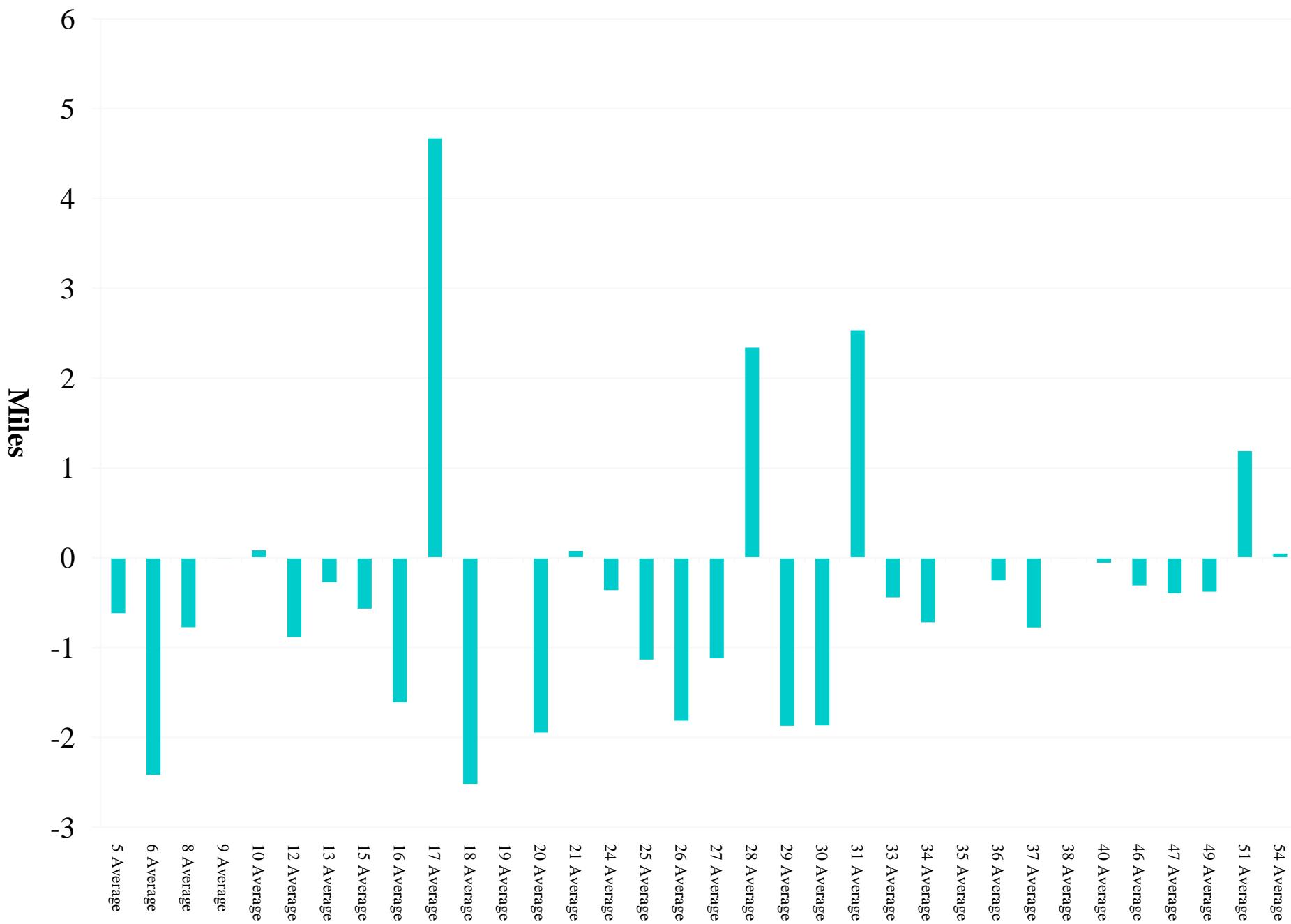
2008 Avg. IRI Section Length (Int.)



2010 Avg. IRI Section Length (Int.)

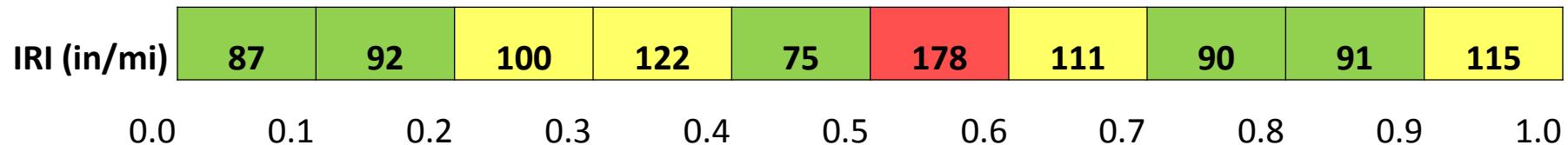


Difference 2008 & 2010 Avg. IRI Section Length (Int.)

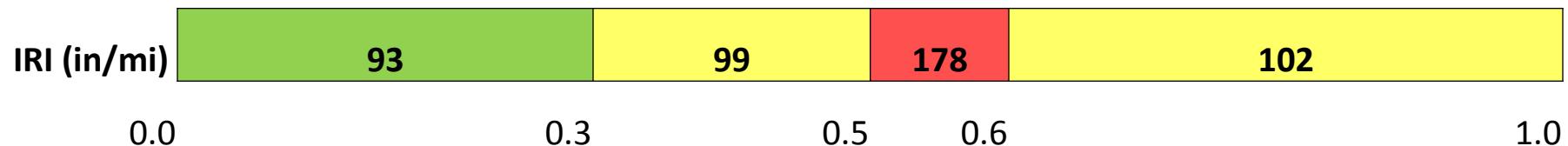


Example:

%IRI<95: 50.0



%IRI<95: 30.0



Pavement Monitoring Guide

- Development contract currently underway (18 months total)
- Literature review (HPMS and State practices)
- Identify/develop protocols and relate to existing ones (LTPP, AASHTO, etc.)
- Engage stakeholders and providers for buy-in
- Prepare draft then final Pavement Monitoring Guide

NCHRP 20-24 (82)

- “Increasing Confidence in the Highway Performance Monitoring System for Pavement Reporting”
- Identify steps to increase confidence for:
 - State performance comparisons
 - State performance trends (Federal tracking)
- Need for a universally accepted data source (HPMS) for States and FHWA

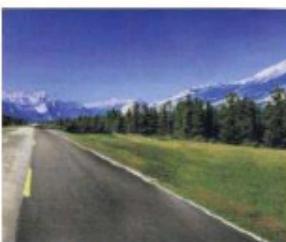
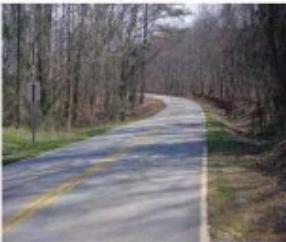
Conclusion

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FHWA (HPPI-20)
Phone (202) 366-5059
email: robert.rozycki@dot.gov



Home

Year: 2010 State: 11 - District of Columbia



https://fhwapap03.fhwa.dot.gov/hpms8p/#/State

Convert Select

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HPMS v8 - Home U.S. Department of Transportation Federal Highway Administration

Highway Performance Monitoring System v8.0

Submittal Review National

DATA EDITORS DATA VALIDATION SAMPLE MANAGEMENT CALCULATION REPORTS & ANALYSIS SUBMIT DATA ADMIN EXIT

Import Export Routes Sections Statewide Summary County Summary Urban Summary NAAQS Summary Estimates Metadata

Year: 2010 State: 11 - District of Columbia

DEPARTMENT OF TRANSPORTATION
UNITED STATES OF AMERICA

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HPMS v8 - Spatial Intersector

U.S. Department of Transportation Federal Highway Administration

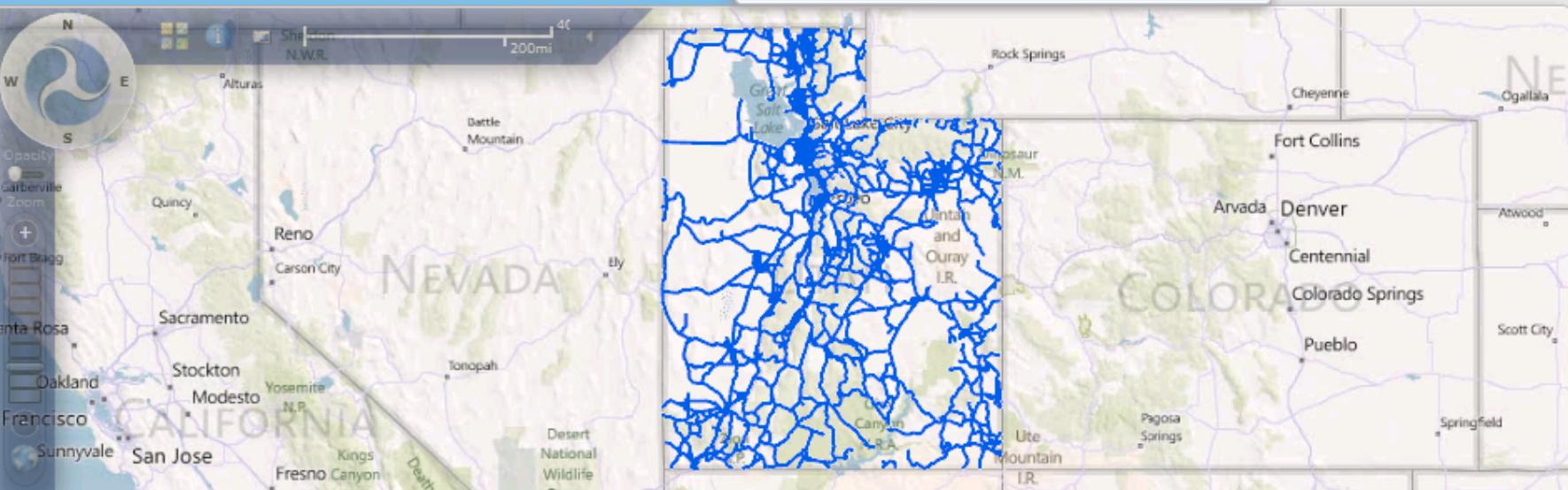
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Routes

Year: 2010 State: 49 - Utah



Route ID	Comments	Last Modified By	Last Modified
0007NR00103		Dransfield, Roger N	6/22/2011 1:
0006PR24302		Dransfield, Roger N	6/22/2011 1:
0006PR24301		Dransfield, Roger N	6/22/2011 1:
0006PR24106		Dransfield, Roger N	6/22/2011 1:
0006PR24105		Dransfield, Roger N	6/22/2011 1:

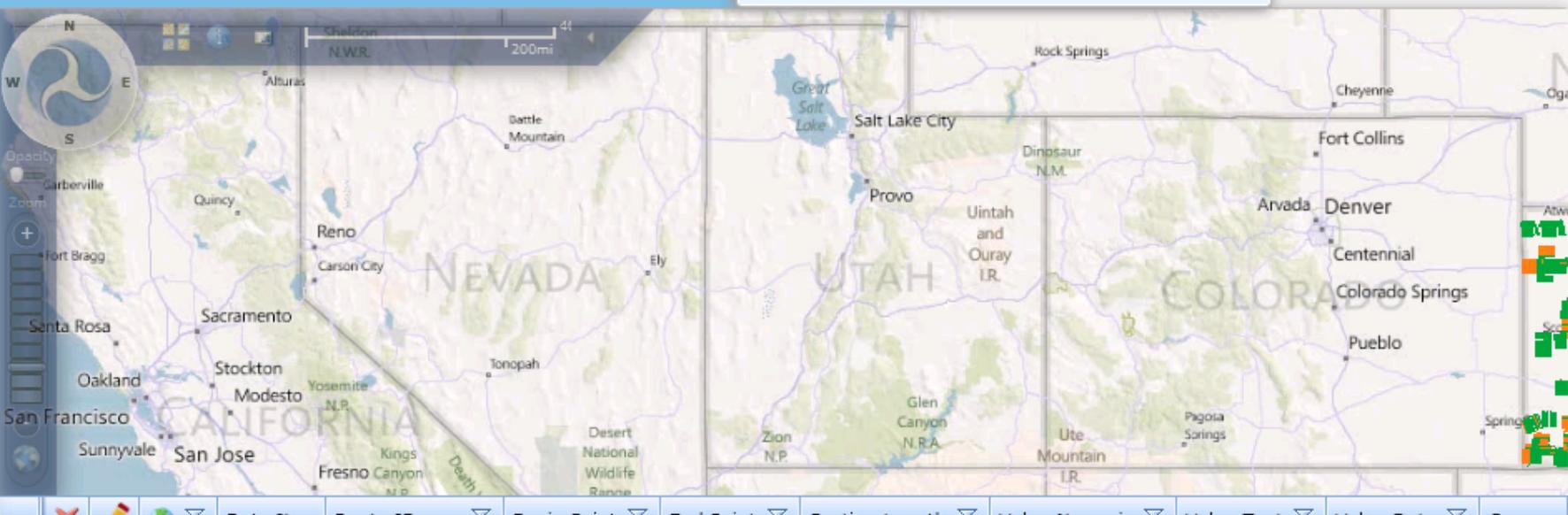
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HPMS v8 - Sections - IRI U.S. Department of Transportation Federal Highway Administration Highway Performance Monitoring System v8.0 Submittal Review National

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Sections - IRI

Year: 2010 State: 49 - Utah



Pick Data Item



Add



Copy



Create Geoms.



Data Item Route ID

Begin Point

End Point

Section Length

Value Numeric

Value Text

Value Date

Comment

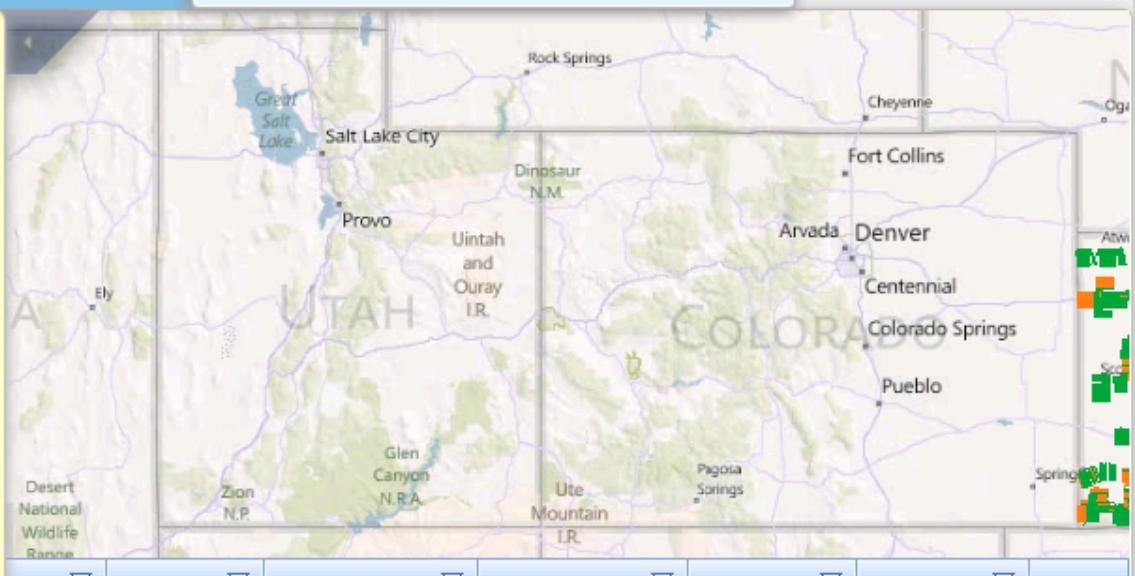
Sections - IRI

Year: 2010 State: 49 - Utah

Select Data Item

Filter:

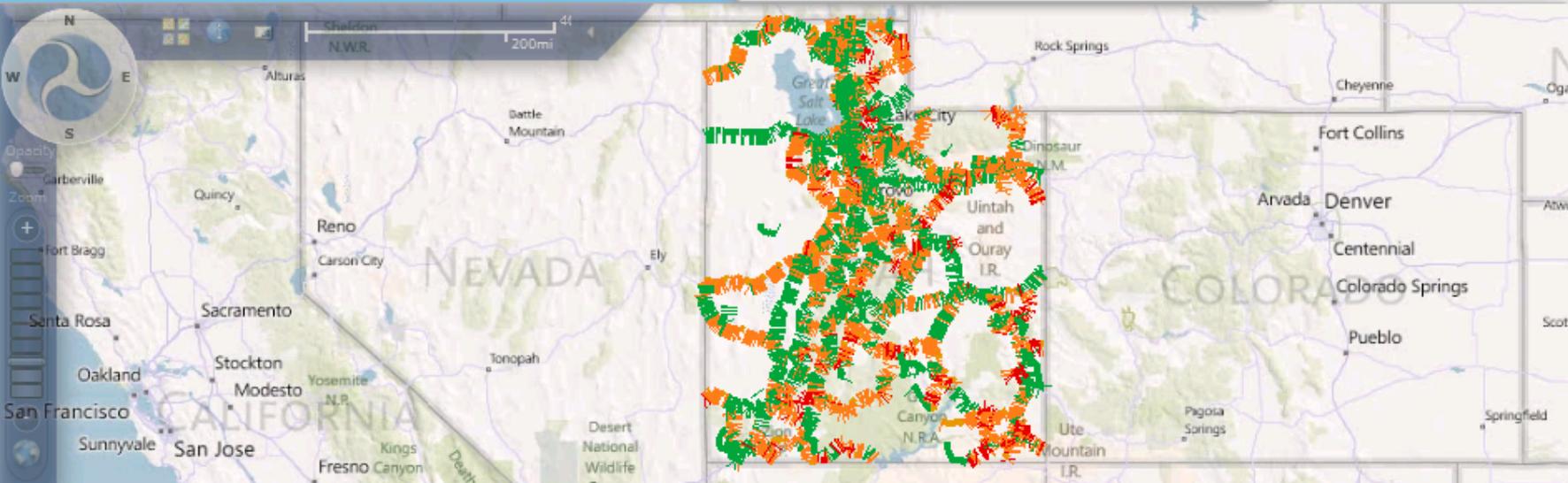
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- GRADES_B
- GRADES_C
- GRADES_D
- GRADES_E
- GRADES_F
- HOV_LANES
- HOV_TYPE
- IRI**
- K_FACTOR
- LANE_WIDTH
- LAST_OVERLAY_THICKNESS
- MEDIAN_TYPE
- MEDIAN_WIDTH

Display Selected**Cancel**

Point	End Point	Section Length	Value Numeric	Value Text	Value Date	Commerce
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Sections - IRI

Year: 2010 State: 49 - Utah



Pick Data Item



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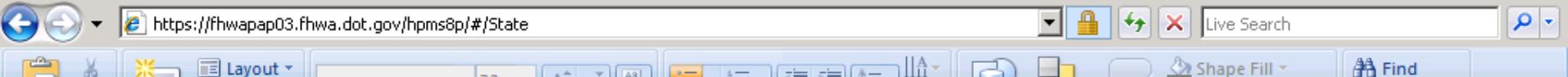


Copy



Create Geoms.

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				IRI	0006P	1.000	2.000	1.000	141.000			
				IRI	0006P	2.000	3.000	1.000	141.800			
				IRI	0006P	3.000	4.000	1.000	118.100			
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Submittal

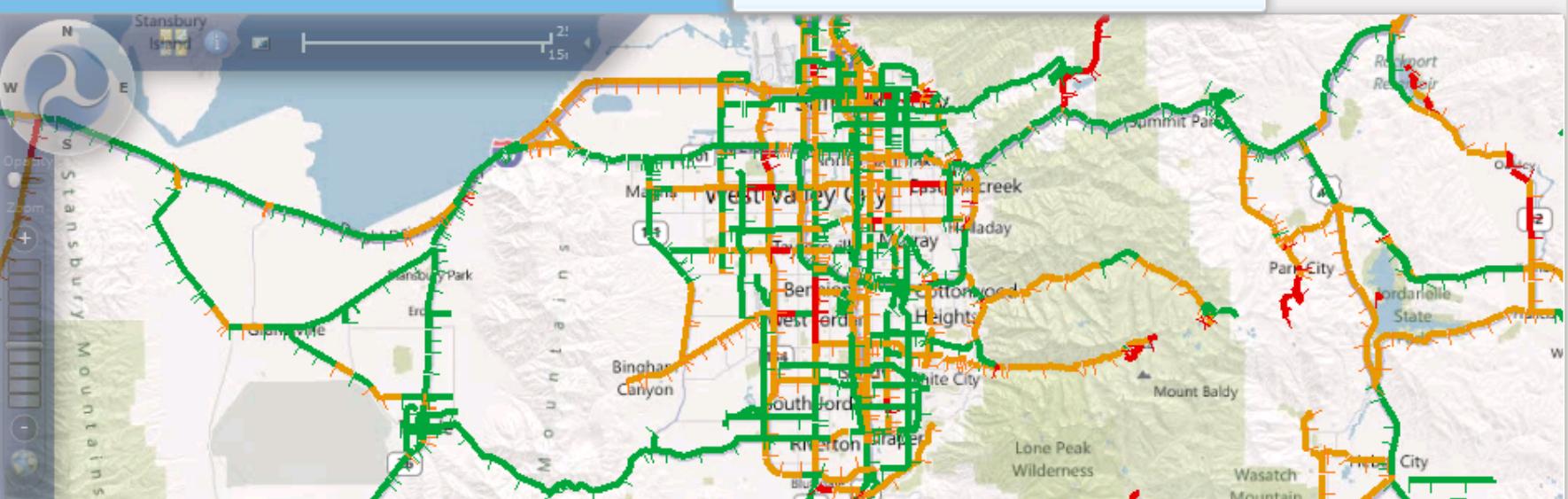
Review

National

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Sections - IRI

Year: 2010 State: 49 - Utah



Pick Data Item



Add



Copy



Create Geoms.

				Data Item	Route ID	Begin Point	End Point	Section Length	Value Numeric	Value Text	Value Date	Comments
>				IRI	0006P	0	1.000	1.000	1.000	144.400		
				IRI	0006P		1.000	2.000	1.000	141.000		
				IRI	0006P		2.000	3.000	1.000	141.800		
				IRI	0006P		3.000	4.000	1.000	118.100		
				IRI	0006P		4.000	5.000	1.000	119.300		

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HPMS v8 - Sections - IRI

U.S. Department of Transportation Federal Highway Administration

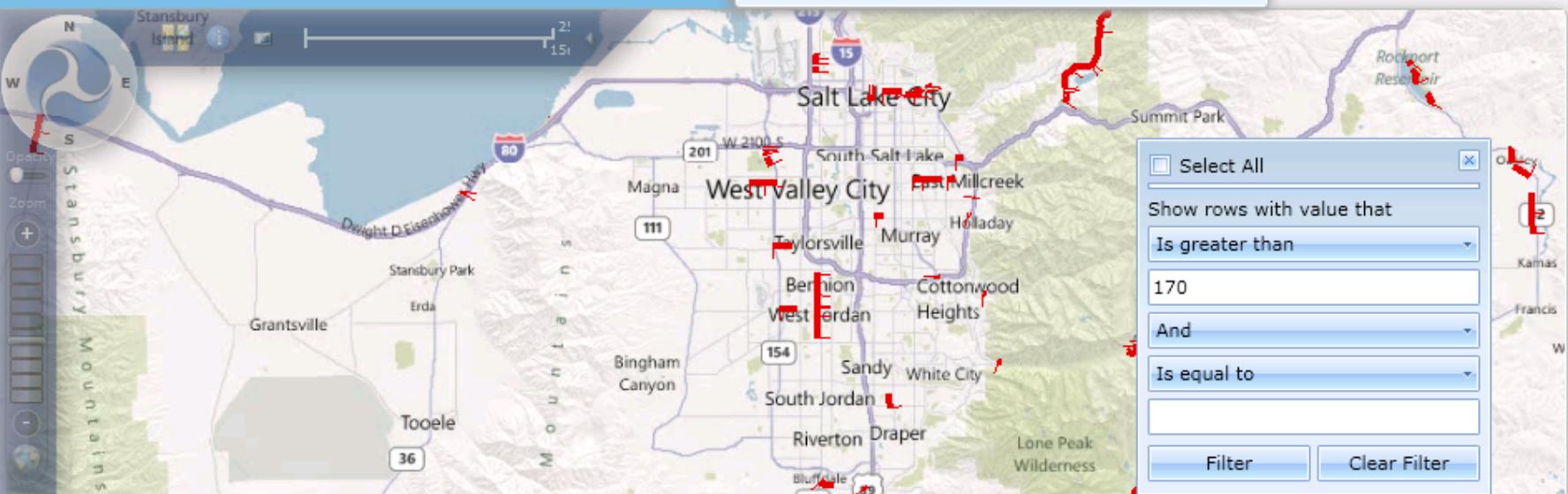
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DATA EDITORS DATA VALIDATION SAMPLE MANAGEMENT CALCULATION REPORTS & ANALYSIS SUBMIT DATA ADMIN EXIT

Sections - IRI

Year: 2010 State: 49 - Utah



Select All

Show rows with value that

Is greater than 170

And

Is equal to

Filter Clear Filter

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>				IRI	0006P	173.900	173.984	0.084	225.774			
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				IRI	0009P	16.000	16.066	0.066	175.000			
				IRI	0009P	30.773	32.610	1.837	187.662			
				IRI	0009P	49.000	50.000	1.000	176.800			

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DATA EDITORS DATA VALIDATION SAMPLE MANAGEMENT CALCULATION REPORTS & ANALYSIS SUBMIT DATA ADMIN EXIT

Home Reports 2010 State: 49 - Utah Spatial Intersector

DEPARTMENT OF TRANSPORTATION
UNITED STATES OF AMERICA

Spatial Intersector

Year: 2010 State: 49 - Utah

Last updated: 10:08:13 AM

Create
Query

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Spatial Intersector
Intersection Selection Window

Year: 2010 Status: 49 Utah



Load Query



Save Query



Clear Query

Build Intersecting Criteria

Instructions: Specify Data Item filter clauses using T-SQL notation. You may type it in manually or click on the 'Add' hyperlink to aid you. Click 'Get Results' to retrieve intersecting values.

Data Items

- AADT
- F_SYSTEM
- FACILITY_TYPE
- IRI
- THROUGH_LANES
- URBAN_CODE

[Add Intersection Layer](#)

Filter

	Filter	Clear

[Get Results](#)[Cancel](#)



Intersection Selection Window

Year: 2010 Status: 49 Utah



Load Query



Save Query



Clear Query

Build Intersecting Criteria

Instructions: Specify Data Item filter clauses using T-SQL notation. You may type it in manually or click on the 'Add' hyperlink to aid you. Click 'Get Results' to retrieve intersecting values.

Data Items

- AADT
- F_SYSTEM
- FACILITY_TYPE
- IRI

Filter

- Value_Numeric > 50000
- Value_Numeric IN (1)
- Value_Numeric IN (1, 2)
- Value_Numeric > 95

Filter Clear
Filter Clear
Filter Clear
Filter Clear

[Add Intersection Layer](#)[Get Results](#)[Cancel](#)

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HPMS v8 - Spatial Intersector

Highway Performance Monitoring System v8.0

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Spatial Intersector

Year: 2010 State: 49 - Utah

Last updated: 10:14:10 AM



Create Query

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Intersections_2010_49_9800.csv - Microsoft Excel												
Home Insert Page Layout Formulas Data Review View Acrobat												
Paste Calibri 11 A A General \$ % , .00 .00 Conditional Formatting Format as Table Cell Styles Insert Delete Format Cells Sort & Filter Find & Select												
A1	f.x	Year_Record	State_Code	Route_ID	Begin_Point	End_Point	AADT	F_SYSTEM	FACILITY_TYPE	IRI		
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16		2010	49	0015P	297.000	297.940	197080.000	1.000	2.000	117.500		
17		2010	49	0015P	297.940	298.000	228927.000	1.000	2.000	117.500		
18		2010	49	0015P	298.000	298.110	228927.000	1.000	2.000	130.455		
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23		2010	49	0015P	300.330	300.510	198300.000	1.000	2.000	112.833		
24		2010	49	0015P	300.510	301.350	198300.000	1.000	2.000	101.952		
25		2010	49	0015P	301.670	302.000	202685.000	1.000	2.000	105.364		
26		2010	49	0015P	302.000	303.000	202685.000	1.000	2.000	97.200		

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HPMS v8 - Export Jobs Highway Performance Monitoring System v8.0 Submittal Review National

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Export Jobs

Year: 2010 State: 49 - Utah

Last updated: 10:20:08 AM



Export

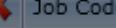
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Export

Last updated: 10:20:38



Export



Job Code



HPMS Data Export

1

2

3

4

Select Editor

Apply Filters

Output Options

Preview

Select Type

Export Spatial Data



Routes



Sections



Validation



TOPS

Export Tabular Data



State & Pavement



Vehicle



County



Urban



NAAQS



Estimates



Metadata



Sections



Sample

Sample
TOPSSample
Details

Validation

Cancel

Next

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<https://fhwaapps.fhwa.dot.gov/upacsp>