

Ohio DOT Speed Data Collection

Presented by: Dave Gardner – Ohio DOT



**FHWA Speed Data Workshop
June 21, 2010, Seattle, WA**

Program Overview

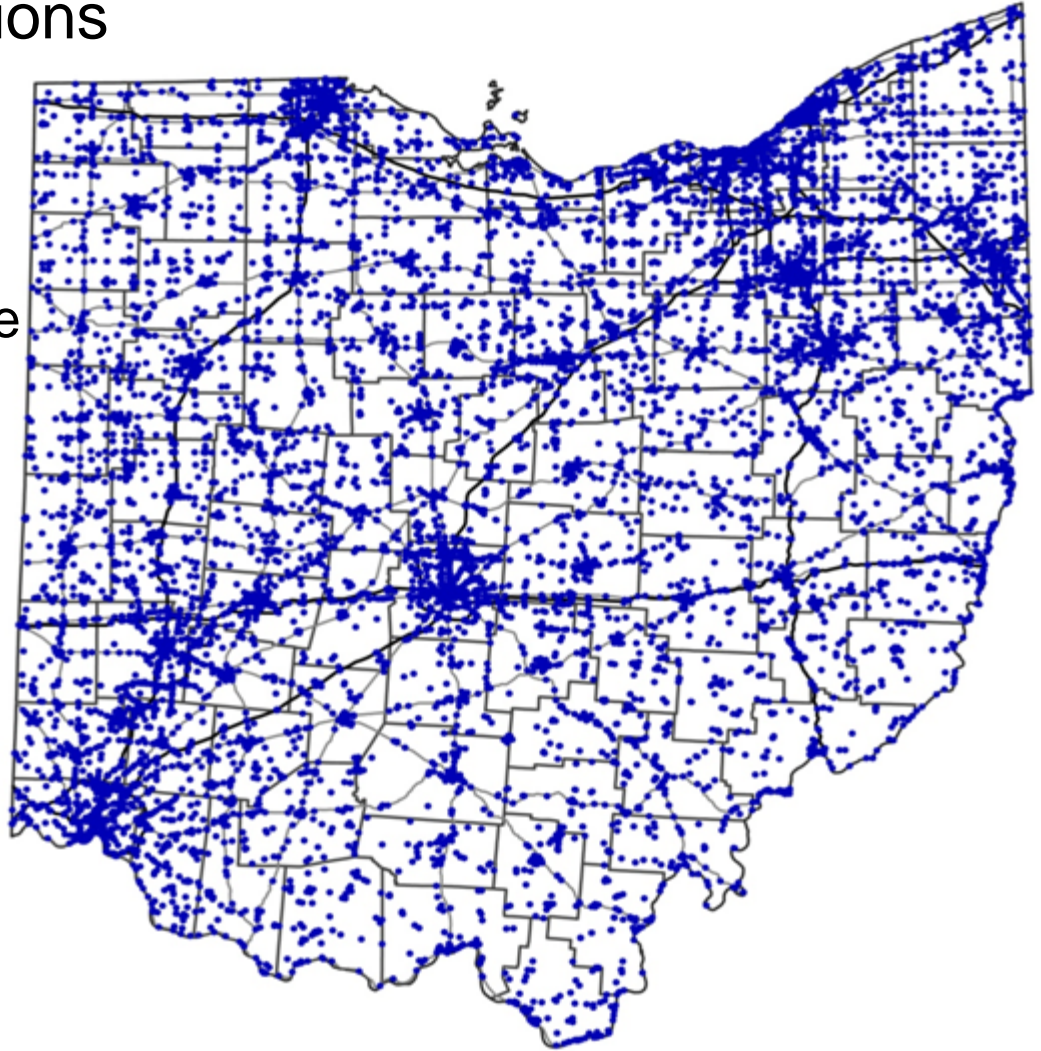
- Short Term Count Locations

- 13,500 State System

- Volume and Axle Class
- 3 year cycle
- Includes HPMS Sample Sections

- 3,000 Collector and Above

- Non MPO
- Volume and Axle Class
- Speed Collected with Class (10%)
- 6 year cycle



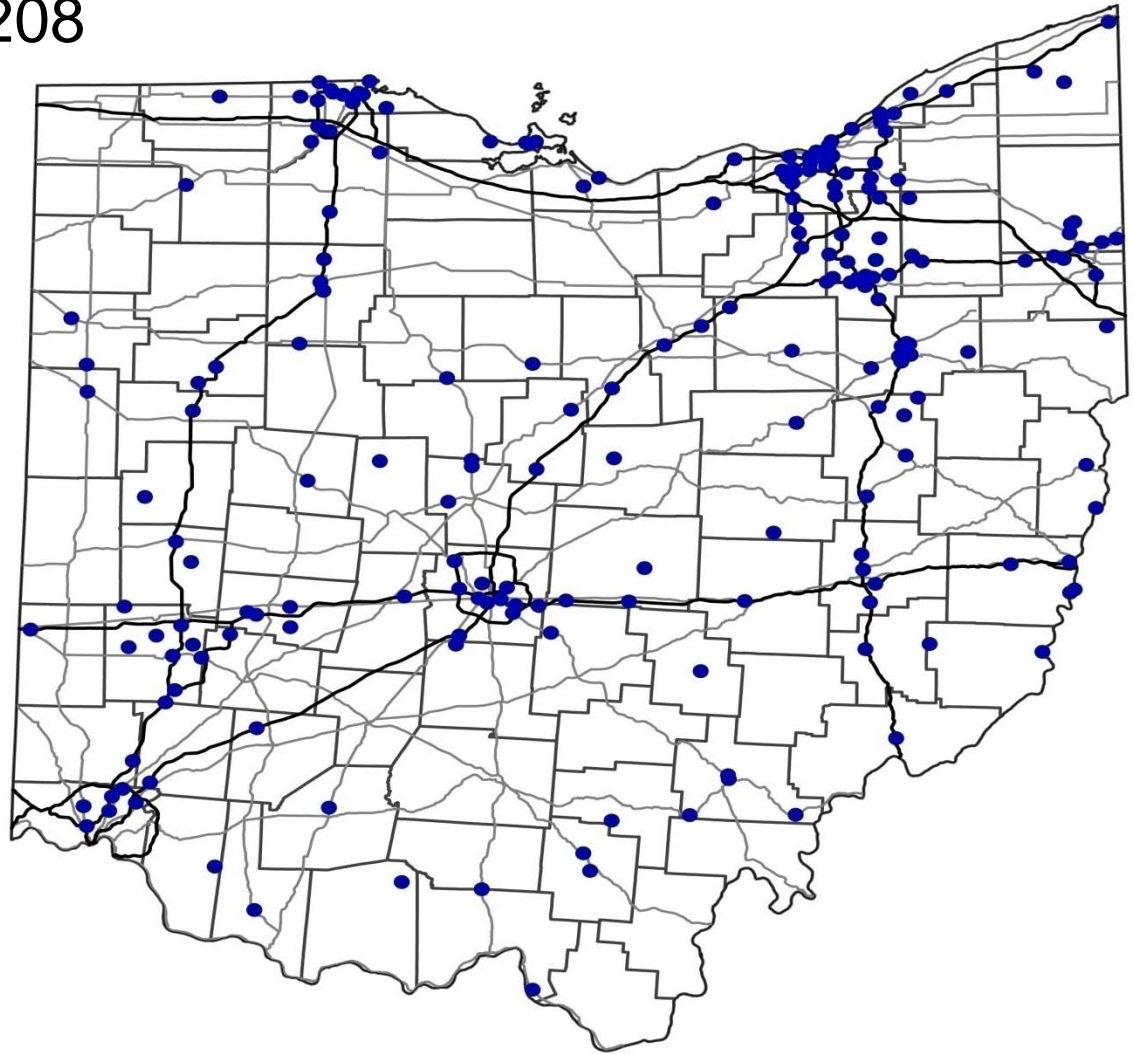
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Program Overview

- Permanent Sites – 208

Total

- Volume – 31
- Length Class – 57
- Axle Class – 89
- WIM – 31



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Speed Data Collection

- Permanent Sites
 - Hourly
 - By Lane
 - 11 bins/5 MPH Increments
 - 1) 0.0 – 40.0, 2) 40.1-45.0, 3).....11) 85.1 and above.
 - “D” Card from Counter



Speed Data Collection - Permanent

Attachment E
 ODOT Speed Classifications Format
 April 1999

60 MINUTE ODOT SPEED CLASSIFICATION FORMAT (1/1) Revised 03/11/98

Item	Columns	Width	Field Type	Description	Known Values	TMG Page
1	1 - 1	1	A	Record type	D	
2	2 - 3	2	N	FIPS state code	39	A-2-1
3	4 - 9	6	A	Station number		6-2-3
4	10 - 10	1	N	Direction of travel	0 1 3 5 7 9	A-2-3
5	11 - 11	1	N	Lane of travel	0,1,...9	6-2-3
6	12 - 13	2	N	Year of data		6-2-3
7	14 - 15	2	N	Month of data	01 12	A-3-1
8	16 - 17	2	N	Day of data	01 31	6-3-2
9	18 - 19	2	N	Hour of data	xx=00 01 23	A-4-1
10	20 - 24	5	N	Total volume for time interval		6-4-3
11	25 - 29	5	N	Speed 1 count for time interval		
12	30 - 34	5	N	Speed 2 count for time interval		
13	35 - 39	5	N	Speed 3 count for time interval		
14	40 - 44	5	N	Speed 4 count for time interval		
15	45 - 49	5	N	Speed 5 count for time interval		
16	50 - 54	5	N	Speed 6 count for time interval		
17	55 - 59	5	N	Speed 7 count for time interval		
18	60 - 64	5	N	Speed 8 count for time interval		
19	65 - 69	5	N	Speed 9 count for time interval		
20	70 - 74	5	N	Speed 10 count for time interval		
21	75 - 79	5	N	Speed 11 count for time interval		
22	80 - 84	5	N	Speed 12 count for time interval		
23	85 - 89	5	N	Speed 13 count for time interval		
24	90 - 94	5	N	Speed 14 count for time interval		
25	95 - 99	5	N	Speed 15 count for time interval		
26	100 - 100	1	A	Footnotes	0 1	A-3-2
27	101 - 102	2	N	Time interval (min)	60	
28	103 - 104	2	N	Record number	01	
29	105 - 108	4	N	Start time for record (hhmm)	xx01	
30	109 - 112	4	N	End time for record (hhmm)	vv00 (vv=xx+1)	
31	113 - 114	2	N	Functional classification	Blank	A-2-4
32	115 - 115	1	N	Day of the week	1,7	6-3-2
33	116 - 116	1	A	Interdiction	Blank	
34	117 - 119	3	A	County	Blank	
35	120 - 123	4	A	Route	Blank	
36	124 - 124	1	A	Route suffix	Blank	
37	125 - 130	6	N	Looppoint (Implied decimal xxx.xxx)	Blank	
38	131 - 131	1	A	Loopoint suffix	Blank	
39	132 - 132	1	A	Speed Category	A, B, C	

Note:
 File naming convention: yystannmm
 yy=last two digits of year that data was collected in (zero-filled) (Item 6)
 stann=six character station number (zero-filled) (Item 3)
 r="D" for speed classification count record type (Item 1)
 mm=time interval for file data (zero-filled) (Item 27)
 Station number identification field should be right-justified and zero-filled.
 Direction of travel codes 0, 1, 3, 5, 7, and 9 are used at ODOT.
 All numeric fields should be right-justified.
 Total volume and speed count fields should be filled with leading blanks. All other numeric fields should be zero-filled.
 Total volume and speed count fields with missing or inapplicable data should be filled with blanks.

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Speed Data Collection

- Coverage Counts
 - Local Count Contract Only
 - Hourly
 - By Lane
 - 15 bins/5 MPH Increments
 - 1) 0.0 – 15.0, 2) 15.1-20.0, 3).....15) 80.1 and above.
 - “D” Card from Counter



Speed Data Collection - Coverage

D-Card 60-Minute

The 60-minute D-Card file format contains 1 record/line per lane, for each hour of a given day meaning a 4-lance site will have 96 records/lines. The file naming convention for a 60-minute D-Card is:

Daily File: D[xxxxxx][mm][dd].[yy] Example: D0007800430.04
 Monthly File: D[xxxxxx][mm][xx].[yy] Example: D00078004xx.04

In both filename formats **D** represents the data type, xxxxxx represents the 6-digit station number, mm represents the 2-digit month, and yy represents a 2-digit year. The dd in the daily represents the 2-digit day while xx in the monthly is used as placeholder.

The record layout within the file is detailed in the table below.

Item	Columns	Width	Alpha/Numeric	Description
01	1 - 1	1	A	D
02	2 - 3	2	N	39
03	4 - 9	6	A	Station Number
04	10 - 10	1	N	Dir.
05	11 - 11	1	N	Lane
06	12 - 13	2	N	YY
07	14 - 15	2	N	MM
08	16 - 17	2	N	DD
09	18 - 19	2	N	HH
10	20 - 24	5	N	Total vol
11	25 - 29	5	N	Speed Bin 1
12	30 - 34	5	N	Speed Bin 2
13	35 - 39	5	N	Speed Bin 3
14	40 - 44	5	N	Speed Bin 4
15	45 - 49	5	N	Speed Bin 5
16	50 - 54	5	N	Speed Bin 6
17	55 - 59	5	N	Speed Bin 7
18	60 - 64	5	N	Speed Bin 8
19	65 - 69	5	N	Speed Bin 9
20	70 - 74	5	N	Speed Bin 10
21	75 - 79	5	N	Speed Bin 11
22	80 - 84	5	N	Speed Bin 12
23	85 - 89	5	N	Speed Bin 13
24	90 - 94	5	N	Speed Bin 14
25	95 - 99	5	N	Speed Bin 15
26	100 - 100	1	N	Footnotes
27	101 - 102	2	N	Time Interval (min)
28	103 - 104	2	N	Record number
29	105 - 108	4	N	Start time (hhmm)
30	109 - 112	4	N	End time (hhmm)



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Speed Data Collection Meeting the Standard

- Equipment
 - Current equipment allows us to collect in various increments and binning schemes
 - Memory could be an issue.
 - ODOT working towards new equipment purchase.
 - All counters will have per vehicle record capability.
 - Currently evaluating ability to handle PVR data (communication needs, counter memory needs, data storage needs, etc.) on a system wide basis.



Speed Data Collection Meeting the Standard

- Data Processing/Storage
 - Current in-house system limits us to 60 min. intervals.
 - System works well, moving to another package isn't realistic.
 - IT is our biggest challenge.
 - To make any changes...Get in line!!
 - Must compete against other Departmental priorities.



Customers

- Safety
 - Safe Commute Program
 - State Highway Patrol
- Operations
 - Work Zone Safety
- Modeling and Forecasting
 - Model Validation



Needs

- Data Quality Standards
- IT Support to help modify format and store data – Internal



Data Quality – Reality!



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Thank You

Questions??

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