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Final Report

**ASSESSING AND UPDATING INDOT'S TRAFFIC
MONITORING SYSTEM FOR HIGHWAYS**

VOLUME II: APPENDICES B7 AND C

**Samuel Labi
Jon D. Fricker**

September 1998

**Indiana
Department
of Transportation**

**Purdue
University**

FINAL REPORT
(Volume 2: Appendices B7 and C)

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INDOT'S TRAFFIC MONITORING SYSTEM FOR HIGHWAYS

FHWA/IN/JTRP-98/12

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AC.1 Sample of Precision Analysis, Traffic volume ATRs

Count type and Year: Traffic Volumes, 1995

Level of confidence = 95%

Grouping Criterion: **F**- ATRs in bunched groups based on area and functional classes

Group 1 (ATRs on Rural Interstates and Other Principal Arterials) Excluded stations:

County	Route	Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Huntington	I-69	1100	1.144	1.136	0.997	0.946	0.973	0.933	0.922	1.23	0.937	0.956	0.957	0.972
Clay	I-70	2100	1.174	1.17	1.058	0.992	0.981	0.923	0.912	0.908	0.963	0.964	0.976	1.064
Ripley	I-74	3100	1.215	1.178	1.164	1.054	1.118	1.058	1.129	1.026	0.905	0.803	*0.5841	1.319
Jackson	I-65	3110	1.095	1.175	0.957	0.915	0.944	1.025	0.891	0.919	1.018	1.075	0.937	1.145
Dubois	I-64	3120	1.132	1.097	1.049	0.955	1.145	1.174	0.793	1.075	0.877	0.929	*0.4745	0.934
Jasper	I-65	4110	1.226	*1.316	1.031	0.959	0.981	0.911	0.879	0.85	0.934	0.983	1.021	1.095
Laporte	I-94	4130	1.32	1.404	1.162	1.053	0.954	0.865	0.767	0.777	0.902	0.973	1.063	1.182
Grant	I-69	4140	1.13	1.136	1.045	0.95	1.029	0.924	0.933	0.887	0.941	0.96	0.981	1.087
Dekalb	I-69	4150	1.076	1.075	1.111	1.024	0.946	0.981	0.871	0.842	0.958	0.994	1.044	1.1
Hancock	I-70	5110	1.082	1.139	0.988	0.939	0.94	0.906	0.921	1.12	0.956	0.977	1.007	1.099
Tippecanoe	US-231	2230	1.079	1.056	1.008	*1.839	0.946	0.921	0.911	0.893	0.895	0.918	0.953	1.029
Dearborn	US-50	3210	0.79	0.786	0.782	1.592	1.254	1.011	0.823	0.923	0.749	1.031	0.888	*21.40
Ripley	US-421	3220	1.093	*1.711	1.018	0.932	0.94	0.846	0.825	1.217	0.901	0.947	0.953	1.051
Vanderburg	US-41	3240	1.062	1.04	1.044	1.003	1.069	0.953	0.977	1.003	0.971	0.959	0.961	0.978
Porter	US-41	4240	1.119	1.171	1.05	1.04	0.953	0.96	0.944	0.918	0.935	0.96	0.91	1.118
Marshall	US-31	4260	1.133	1.127	0.989	0.983	1.072	0.853	1.074	1.06	0.848	0.899	0.951	1.059
Miami	US-24	4270	1.099	1.158	1.007	1.034	0.885	0.862	0.937	1.106	1.01	0.959	0.993	1.036
Adams	US-27	4280	1.091	1.091	1.131	0.908	0.945	0.963	0.939	0.905	0.888	1.144	1.036	1.053
Benton	US-41	5240	1.199	1.255	1.034	1.018	1.03	0.968	0.874	0.843	1.21	0.842	1.011	0.925
Monroe	SR-37	5250	*0.2093	1.053	0.909	0.85	0.834	0.816	0.833	0.855	0.812	0.787	0.852	0.952
Posey	SR-62	6250	1.005	1.005	0.982	1.05	0.957	0.989	1.084	0.999	0.994	0.951	0.984	1.026
Spencer	SR-66	6270	1.242	1.288	1.056	0.988	0.783	0.849	0.796	1.106	0.942	1.005	1.08	1.117
Daviess	US-50	6280	1.112	1.109	0.989	0.991	1.002	0.974	1.09	0.963	0.903	0.919	0.966	1.035
Ripley	US-50	6290	1.146	1.241	1.045	1	0.963	0.856	0.908	0.936	0.896	0.975	1.05	1.113
Mean			1.12	1.131	1.025	1.008	0.985	0.938	0.918	0.973	0.931	0.955	0.981	1.065
Std. Dev.			0.1	0.119	0.08	0.138	0.098	0.081	0.097	0.121	0.085	0.076	0.057	0.087
# of stations, n			23	22	24	23	24	24	24	24	24	24	22	23
t statistic for n, d			2.074	2.08	2.069	2.074	2.069	2.069	2.069	2.069	2.069	2.069	2.08	2.074
CV			8.923	10.49	7.769	13.66	9.973	8.604	10.57	12.46	9.079	7.963	5.787	8.181
Precision			3.859	4.652	3.281	5.907	4.212	3.634	4.462	5.263	3.834	3.363	2.566	3.538

Average Precision Interval = 95+ 4.048

Adequacy Analysis for Traffic Volume ATRs

Table AC.2(a) Adequacy Analysis for Traffic Volume ATRs, Criterion A

1995 data

Level of Confidence: 95%, Precision threshold: +/- 10%

Grouping Criterion: A - Grouping based strictly on results of cluster analysis, unspecified number of clusters

Iteration	Statistic	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
	Coeff. of variation (from prec. analysis), CV	0.8886	0.257	6.7434	0.2642	5.5187	4.4837
0	Existing number of ATR sites, n	10	30	4	27	4	2
0	t-statistic for existing nr. of sites, T	2.262	2.045	3.182	2.056	3.182	12.706
0	Existing precision* ¹	0.6356	0.0959	10.728	0.1045	8.7802	40.283
			5				
1	Assumed number of ATR sites, n	3	3	5	3	3	3
1	t-statistic for assumed nr. of sites, T	4.303	4.303	2.776	4.303	4.303	4.303
1	precision* ¹	2.20758	0.6384	8.3716	0.6563	13.710	11.139
			7				
2	Assumed number of ATR sites, n	2	2		2		4
2	t-statistic for assumed nr. of sites, T	12.706	12.706		12.706		3.182
2	precision* ¹	7.98363	2.3090				7.1335
			2				
3	Assumed number of ATR sites, n						
3	t-statistic for assumed nr. of sites, T						
3	precision* ¹						
	Minimum nr. of ATR sites needed, x	2	2	5	2	4	4
	Nr. of sites used for analysis						
	Actual Nr. of sites, y* ³	10	30	4	27	4	2
	Number of new sites needed, z = x - y			1			2
	Number of excess sites*², z = y - x						

*1: Precision Interval, $PI = T * CV/n^{0.5}$ where $T = t_{1-d/2, n-1}$, read off from statistical tables

d = significance level

and n = number of observations (stations) in seasonal group under consideration

*2: Represents maximum number of sites that could be deleted for any reason, or maximum number of sites that could be in an inoperational state at any particular time such that precision threshold would not be exceeded.

*3: Actual Nr. of sites = Nr. of sites used for analysis + Nr. of sites excluded from analysis due to questionable or missing data

Table 8.1.2 (b1) Adequacy Analysis for Traffic Volume ATRs, Criterion B1

1995data				
Level of Confidence: 95%, Precision threshold: +/- 10%				
Grouping Criterion: B1- ATRs in groups based strictly on results of cluster analysis, specified number of clusters = 3				
Iteration#	Statistic	Group 1	Group 2	Group 3
	Coeff. of variation (from prec. analysis), CV	0.2298	0.257	2.8346
0	Existing number of ATR sites, n	37	30	10
0	t-statistic for existing number of sites, T	2.035	2.045	2.262
0	Existing precision* ¹	0.07688	0.095955	2.02761
1	Assumed number of ATR sites, n	3	3	3
1	t-statistic for assumed number of sites, T	4.303	4.303	4.303
1	precision* ¹	0.570901	0.638475	7.042105
2	Assumed number of ATR sites, n	2	2	2
2	t-statistic for assumed number of sites, T	12.706	12.706	12.706
2	precision* ¹	2.064638	2.309016	25.46746
3	Assumed number of ATR sites, n			
3	t-statistic for assumed number of sites, T			
3	precision* ¹			
	Minimum number of ATR sites needed, x	2	2	3
	Nr. of sites used for analysis	37	30	10
	Number of new sites needed, z = x - y	0	0	0
	Number of excess sites* ² , z = y - x	35	28	7
*1: Precision Interval, $PI = T * CV/n^{0.5}$				
where $T = t_{1-d/2, n-1}$, read off from statistical tables				
d = significance level				
and n = number of observations (stations) in seasonal group under consideration				
*2: Represents maximum number of sites that could be deleted for any reason, or maximum number of sites that could be in an in-operational state at any particular time without affecting statistical validity of data.				
*3: Actual Nr. of sites = Nr. of sites used for analysis + Nr. of sites excluded from analysis due to questionable or missing data				

Table AC.2(b2): Adequacy Analysis for Traffic Volume ATRs, Criterion B2

Year:1995					
Level of Confidence: 95%, Precision threshold: + - 10%					
Grouping Criterion: B2- ATRs in groups based strictly on results of cluster analysis, specified number of clusters = 4					
Iteration #	Statistic	Group 1	Group 2	Group 3	Group 4
	Coeff. of variation (from prec. analysis), CV	0.2298	0.257	3.3912	6.7434
0	Existing number of ATR sites, n	37	30	6	4
0	t-statistic for existing number of sites, T	2.035	2.045	2.571	3.182
0	Existing precision* ¹	0.07688	0.095955	3.559425	10.72875
1	Assumed number of ATR sites, n	3	3	4	5
1	t-statistic for assumed number of sites, T	4.303	4.303	3.182	2.776
1	precision* ¹	0.570901	0.638475	5.395399	8.371695
2	Assumed number of ATR sites, n	2	2	3	
2	t-statistic for assumed number of sites, T	12.706	12.706	4.303	
2	precision* ¹	2.064638	2.309016	8.424888	
3	Assumed number of ATR sites, n			2	
3	t-statistic for assumed number of sites, T			12.706	
3	precision* ¹			30.46823	
	Minimum number of ATR sites needed, x	2	2	3	5
	Nr. of sites used for analysis				
	Actual Nr. of sites, y* ³	37	30	6	4
	Number of new sites needed, z = x - y	0	0	0	1
	Number of excess sites* ² , z = y - x				
*1: Precision Interval, $PI = T * CV/n^{0.5}$					
where $T = t_{1-d/2, n-1}$, read off from statistical tables					
d = significance level					
and n = number of observations (stations) in seasonal group under consideration					
*2: Represents maximum number of sites that could be deleted for any reason, or maximum number of sites that could be in an in-operational state at any particular time without affecting statistical validity of data.					
*3: Actual Nr. of sites = Nr. of sites used for analysis + Nr. of sites excluded from analysis due to questionable or missing data					

Table AC.2 (b3)
Adequacy Analysis for Traffic Volume ATRs, Criterion B3

1995 data

Level of Confidence: 95%, Precision threshold: +/- 10%

Grouping Criterion: B3- ATRs in groups based strictly on results of cluster analysis,
specified number of clusters = 5

Iteration	Statistic	Group 1	Group 2	Group 3	Group 4	Group 5
	Coeff. of variation (from prec. analysis), CV	0.8886	0.2642	0.257	3.3912	6.7434
0	Existing number of ATR sites, n	10	27	30	6	4
0	t-statistic for existing nr. of sites, T	2.262	2.056	2.045	2.571	3.182
0	Existing precision* ¹	0.63562	0.10454	0.09595	3.55943	10.7287
1	Assumed number of ATR sites, n	3	3	3	4	5
1	t-statistic for assumed nr. of sites, T	4.303	4.303	4.303	3.182	2.776
1	precision* ¹	2.20758	0.65636	0.63847	5.3954	8.37169
2	Assumed number of ATR sites, n	2	2	2	3	
2	t-statistic for assumed nr. of sites, T	12.706	12.706	12.706	4.303	
2	precision* ¹	7.98363	2.3737	2.30902	8.42489	
3	Assumed number of ATR sites, n				2	
3	t-statistic for assumed nr. of sites, T				12.706	
3	precision* ¹				30.4682	
	Minimum number of ATR sites needed, x	2	2	2	3	5
	Nr. of sites used for analysis					
	Actual Nr. of sites, y* ³	10	27	30	6	4
	Nr. of new sites needed, z = x - y	0	0	0	0	1
	Nr. of excess sites* ² , z = y - x					

*1: Precision Interval, $PI = T * CV/n^{0.5}$

where $T = t_{1-d/2, n-1}$, read off from statistical tables

d = significance level

and n = number of observations (stations) in seasonal group under consideration

*2: Represents maximum number of sites that could be deleted for any reason, or maximum number of sites that could be in an in-operational state at any particular time without affecting statistical validity of data.

*3: Actual Nr. of sites = Nr. of sites used for analysis + Nr. of sites excluded from analysis due to questionable or missing data

Table AC.2 (b4)
Adequacy Analysis for Traffic Volume ATRs, Criterion B4

1995 data

Level of Confidence: 95%, Precision threshold: +/- 10%

Grouping Criterion: **B4** - ATRs in groups based strictly on results of cluster analysis,
specified number of clusters = 6

Iteration	Statistic	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
	Coeff. of variation (from prec. analysis), CV	0.8886	0.257	6.7434	0.2642	5.5187	4.4837
0	Existing number of ATR sites, n	10	30	4	27	4	2
0	t-statistic for existing nr. of sites, T	2.262	2.045	3.182	2.056	3.182	12.706
0	Existing precision* ¹	0.6356	0.096	10.729	0.1045	8.7803	40.284
1	Assumed number of ATR sites, n	3	3	5	4	3	3
1	t-statistic for assumed nr. of sites, T	4.303	4.303	2.776	3.182	4.303	4.303
1	precision* ¹	2.2076	0.6385	8.3717	0.4203	13.71	11.139
2	Assumed number of ATR sites, n	2	2		3		4
2	t-statistic for assumed nr. of sites, T	12.706	12.706		4.303		3.182
2	precision* ¹	7.9836	2.309		0.6564		7.1336
3	Assumed number of ATR sites, n				2		
3	t-statistic for assumed nr. of sites, T				12.706		
3	precision* ¹				2.3737		
	Minimum number of ATR sites needed, x	2	2	5	2	4	4
	Nr. of sites used for analysis	10	30	4	27	4	2
	Nr. of new sites needed, z = x - y			1		0	2
	Nr. of excess sites*², z = y - x	8	28		25		

*1: Precision Interval, $PI = T * CV/n^{0.5}$

where $T = t_{1-d/2, n-1}$, read off from statistical tables

d = significance level

and n = number of observations (stations) in seasonal group under consideration

*2: Represents maximum number of sites that could be deleted for any reason, or maximum

number of sites that could be in an in-operational state at any particular time without affecting statistical validity of data.

Table AC.2 (c)
Adequacy Analysis for Traffic Volume ATRs, Criterion C

1995 data

Level of Confidence: 95%, Precision threshold: +/- 10%

Grouping Criterion: C- ATRs in bunched groups based on area and functional classes
i.e., "current" Indot grouping

Iteration	Statistic	Group 1 Urban Int., FW& EW	Group 2 Urban PA, MA,C, & L	Group 3 Rural Int.	Group 4 Rural PA, & MA	Group 5 Rural MC & Locals
	Coeff. of variation, CV	7.532	16.39	7.854	10.6	0.753
0	Existing number of ATR sites, n	14	17	10	21	15
0	t-statistic for existing nr. of sites, T	2.16	2.12	2.262	2.086	2.131
0	Existing precision* ¹	4.348105	8.427337	5.61802	4.82514	0.41431
1	Assumed number of ATR sites, n	12	14	9	16	8
1	t-statistic for assumed nr. of sites, T	2.179	2.16	2.306	2.131	2.365
1	precision* ¹	4.737802	9.461689	6.03710	5.64715	0.62962
2	Assumed number of ATR sites, n	7	13	6	8	3
2	t-statistic for assumed nr. of sites, T	2.447	2.179	2.571	2.365	4.303
2	precision* ¹	6.966189	9.905229	8.24360	8.86323	1.87070
3	Assumed number of ATR sites, n	5	12	5	7	2
3	t-statistic for assumed nr. of sites, T	2.776	2.201	2.776	2.447	12.706
3	precision* ¹	9.350714	10.41378	9.75046	9.80371	6.76532
4	Assumed number of ATR sites, n	4		4	6	
4	t-statistic for assumed nr. of sites, T	3.182		3.182	2.571	
4	precision* ¹	11.98341		12.4957	11.1258	
	Minimum nr. of ATR sites needed, x	5	13	5	7	2
	Existing number of sites, y	14	17	10	21	15
	Number of new sites needed, z = x -y					
	Nr.of old sites that could be deleted* ² ,					
	=	9	4	5	14	13

*1: Precision Interval, $PI = T * CV/n^{0.5}$

where $T = t_{1-d/2, n-1}$, read off from statistical tables

d = significance level

and n = number of observations (stations) in seasonal group under consideration

*2: Represents maximum number of sites that could be deleted for any reason, or maximum

number of sites that could be in an inoperational state at any particular time without affecting

statistical validity of data.

*3: Actual Nr. of sites = Nr. of sites used for analysis + Nr. of sites excluded from analysis due to questionable or missing data

Table AC.2 (d)
Adequacy Analysis for Traffic Volume ATRs, Criterion D

1995 data, Level of Confidence: 95%, Precision threshold: +/- 10%

Grouping Criterion: D- ATRs in loose groups based on aerial and functional classes, .ie., HPMS classes

Iteration	Statistic	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8	Group 9
#		R-I	R-OPA	R-MA	R-C,L	U-I	U-F,E	U-PA	U-MA	U-C,L
	Coefficient of variation (from prec. analysis), CV	7.847	10.01	10.58	8.725	5.196	12.26	11.48	11.55	9.99
0	Existing nr. of ATR sites, n	10	14	7	15	10	3	11	4	2
0	t-statistic, T	2.262	2.16	2.447	2.145	2.262	4.303	2.228	3.182	12.70
0	Existing precision*1	5.613	5.7786	9.785	4.832	3.716	30.45	7.711	18.37	89.75
1	Assumed nr. of ATR sites	7	11	6	11	6	8	9	7	4
1	t-statistic, T	2.447	2.228	2.571	2.228	2.571	2.365	2.306	2.447	3.182
1	precision*1	7.257	6.7243	11.10	5.861	5.453	10.25	8.824	10.68	15.89
2	Assumed nr. of ATR sites,	5	8		8	4	9	8	8	5
2	t-statistic, T	2.776	2.365		2.365	3.182	2.306	2.365	2.365	2.776
2	precision*1	9.741	8.3699		7.295	8.266	9.423	9.599	9.657	12.40
3	Assumed nr. of ATR sites	4	7		6	3		7		6
3	t-statistic, T	3.182	2.447		2.571	4.303		2.447		2.571
3	precision*1	12.48	9.2580		9.157	12.90		10.61		10.48
		46	4		82	86		8		6
4	Assumed nr. of ATR sites		6		5					7
4	t-statistic, T		2.571		2.776					2.447
4	precision*1		10.506		10.83					9.239
			6		18					5
	Minimum nr. of ATR sites needed, x	5	7	7	6	4	9	8	7	6
	Nr. of sites used for analysis	10	14	7	15	10	3	11	4	2
	Actual number of sites, y	17	16	9	15	12	3	12	4	2
	Nr. of new sites needed						6		3	
	Nr. of excess sites*2									
	=	12	9	2	9	8		4		4

*1: Precision Interval, $PI = T * CV/n^{0.5}$ where $T = t_{1-d/2, n-1}$, read off from statistical tables
d = significance level, and n = number of observations (stations) in seasonal group under consideration

*2: Represents maximum number of sites that could be deleted for any reason, or maximum number of sites that could be allowed to be in an in-operational state at any particular time without affecting statistical validity of data.

Table AC.2 (f)
Adequacy Analysis for Traffic Volume ATRs, Criterion F

1995 data

Level of Confidence: 95%, Precision threshold: +/- 10%

Grouping Criterion: F- ATRs in bunched groups based on area and functional classes

Iteration #	Statistic	Group 1 Rural I., OPA	Group 2 Rural Other	Group 3 Urban I., OFE, OP A	Group 4 Urban Other
	Coeff. of variation (from prec. analysis), CV	9.4546	9.8859	10.043	11.027
0	Existing number of ATR sites, n	24	22	25	6
0	t-statistic for existing number of sites, T	2.069	2.08	2.064	2.571
0	Existing precision* ¹	3.992988	4.383976	4.14575	11.57401
1	Assumed number of ATR sites, n	12	7	9	7
1	t-statistic for assumed number of sites, T	2.179	2.447	2.306	2.447
1	precision* ¹	5.947162	9.143262	7.719719	10.19864
2	Assumed number of ATR sites, n	6	6	7	8
2	t-statistic for assumed number of sites, T	2.571	2.571	2.447	2.365
2	precision* ¹	9.923608	10.3763	9.28856	9.220268
3	Assumed number of ATR sites, n	5		6	
3	t-statistic for assumed number of sites, T	2.776		2.571	
3	precision* ¹	11.73755		10.5412	
	Minimum nr. of ATR sites needed, x	6	7	7	8
	Nr. of sites used for analysis	24	22	25	6
	Actual Nr. of sites, y* ³				
	Nr. of new sites needed, z = x - y				2
	Number of excess sites*², z = y - x	18	15	18	

*1: Precision Interval, $PI = T * CV/n^{0.5}$

where $T = t_{1-d/2, n-1}$, read off from statistical tables

d = significance level

and n = number of observations (stations) in seasonal group under consideration

*2: Represents maximum number of sites that could be deleted for any reason, or maximum number of sites that could be in an inoperational state at any particular time

*3: Actual Nr. of sites = Nr. of sites used for analysis + Nr. of sites excluded from analysis due to questionable or missing data

Table AC.2 (g)
Adequacy Analysis for Traffic Volume ATRs, Criterion G

1995 data

Level of Confidence: 95%, Precision threshold: +/- 10%

Grouping Criterion: **G**- ATRs in groups based on functional classes only

Iteration	Statistic	Group 1 Int., & OFE	Group 2 OPA	Group 3 Min. Art'ls	Group 4 Coll & Locals
	Coeff. of variation (from prec. analysis),	8.0444	11.173	11.141	9.4263
0	Existing number of ATR sites, n	24	25	10	17
0	t-statistic for existing number of sites, T	2.069	2.064	2.262	2.12
0	Existing precision* ¹	3.397414	4.612214	7.969238	4.846773
1	Assumed number of ATR sites, n	6	8	9	7
1	t-statistic for assumed nr. of sites, T	2.571	2.365	2.306	2.447
1	precision* ¹	8.443453	9.342346	8.563715	8.718188
2	Assumed number of ATR sites, n	5	7	8	6
2	t-statistic for assumed nr. of sites, T	2.776	2.447	2.365	2.571
2	precision* ¹	9.986841	10.33367	9.315589	9.893904
3	Assumed number of ATR sites, n	4		7	5
3	t-statistic for assumed nr. of sites, T	3.182		2.447	2.776
3	precision* ¹	12.79864		10.30408	11.70242
	Minimum number of ATR sites needed, x	5	8	8	6
	Nr. of sites used for analysis	24	25	10	17
	Actual Nr. of sites, y* ³				
	Number of new sites needed, z = x - y				
	Number of excess sites*²,				

$$z = y - x$$

*1: Precision Interval, $PI = T * CV/n^{0.5}$

where $T = t_{1-d/2, n-1}$, read off from statistical tables

d = significance level

and n = number of observations (stations) in seasonal group under consideration

*2: Represents maximum number of sites that could be deleted for any reason, or maximum number of sites that could be in an inoperational state at any particular time such that precision threshold would not be exceeded.

*3: Actual Nr. of sites = Nr. of sites used for analysis + Nr. of sites excluded from analysis due to questionable or missing data

Table AC.2 (h)
Adequacy Analysis for Traffic Volume ATRs, Criterion H

1995 data

Level of Confidence: 95%, Precision threshold: +/- 10%

Grouping Criterion: H- ATRs in groups based on regional and functional classes

Iteration #	Statistic	Group 1 Northern I, Fw &Ew	Group 2 Northern Other	Group 3 Southern I, Fw &Ew	Group 4 Southern Other
	Coeff. of variation (from prec. analysis),	8.536	6.462	8.087	13.14
0	Existing number of ATR sites, n	13	10	26	27
0	t-statistic for existing number of sites, T	2.179	2.262	2.06	2.056
0	Existing precision* ¹	5.158696	4.622315	3.267142	5.199201
1	Assumed number of ATR sites, n	6	5	7	10
1	t-statistic for assumed nr. of sites, T	2.571	2.776	2.447	2.262
1	precision* ¹	8.95944	8.022346	7.479497	9.399137
2	Assumed number of ATR sites, n	5	4	6	9
2	t-statistic for assumed nr. of sites, T	2.776	3.182	2.571	2.306
2	precision* ¹	10.59714	10.28104	8.488167	10.10028
3	Assumed number of ATR sites, n			5	
3	t-statistic for assumed nr. of sites, T			2.776	
3	precision* ¹			10.03973	
	Minimum nr. of ATR sites needed, x	6	5	6	10
	Nr. of sites used for analysis	13	10	26	27
	Actual Nr. of sites, y* ³				
	Number of new sites needed, z = x - y				
	Number of excess sites*², z = y - x	7	5	19	17

*1: Precision Interval, $PI = T * CV/n^{0.5}$

where $T = t_{1-d/2, n-1}$, read off from statistical tables

d = significance level

and n = number of observations (stations) in seasonal group under consideration

*2: Represents maximum number of sites that could be deleted for any reason, or maximum number of sites that could be in an in-operational state at any particular time such that precision threshold would not be exceeded.

*3: Actual Nr. of sites = Nr. of sites used for analysis + Nr. of sites excluded from analysis due to questionable or missing data

Table AC.2 (i)
Adequacy Analysis for Traffic Volume ATRs, Criterion I

1995 data

Level of Confidence: 95%, Precision threshold: +/- 10%

Grouping Criterion: I- ATRs in groups based on regional and functional classes

Iteration #	Statistic	Group 1 Peripheral Interstates	Group 2 Non-Per. Other	Group 3 Peripheral Other	Group 4 Non-Per. Other
	Coeff. of variation (from prec. analysis),	7.5549	8.2411	10.116	10.694
0	Existing number of ATR sites, n	10	13	23	29
0	t-statistic for existing number of sites, T	2.262	2.179	2.074	2.045
0	Existing precision* ¹	5.404074	4.980475	4.374754	4.06101
1	Assumed number of ATR sites, n	6	6	7	10
1	t-statistic for assumed number of sites, T	2.571	2.571	2.447	2.262
1	precision* ¹	7.929671	8.649911	9.356077	7.64949
2	Assumed number of ATR sites, n	5	5	6	7
2	t-statistic for assumed number of sites, T	2.776	2.776	2.571	2.447
2	precision* ¹	9.379143	10.23104	10.61782	9.89065
3	Assumed number of ATR sites, n	4			6
3	t-statistic for assumed number of sites, T	2.776			2.571
3	precision* ¹	10.4862			11.2244
	Minimum nr. of ATR sites needed, x	5	6	7	7
	Nr. of sites used for analysis	10	13	23	29
	Actual Nr. of sites, y* ³				
	Number of new sites needed, z = x - y				
	Number of excess sites*², z- y - x	5	7	16	22

*1: Precision Interval, $PI = T * CV/n^{0.5}$

where $T = t_{1-d/2, n-1}$, read off from statistical tables

d = significance level

and n = number of observations (stations) in seasonal group under consideration

*2: Represents maximum number of sites that could be deleted for any reason, or maximum number of sites that could be in an in-operational state at any particular time

such that precision threshold would not be exceeded.

*3: Actual Nr. of sites = Nr. of sites used for analysis + Nr. of sites excluded from analysis due to questionable or missing data

Table AC.2 (j)
Adequacy Analysis for Traffic Volume ATRs, Criterion J

1995 data

Level of Confidence: 95%, Precision threshold: +/- 10%

Grouping Criterion: J- ATRs in groups based on regional location only

Iteration	Statistic	Group 1 North- western	Group 2 North- eastern	Group 3 South- western	Group 4 South- eastern	Group 5 Central
	Coeff. of variation (from prec. analysis), CV	8.7022	6.2011	12.998	9.8004	8.2894
0	Existing number of ATR sites, n	17	14	23	12	10
0	t-statistic for existing nr. of sites, T	2.12	2.16	2.074	2.201	2.262
0	Existing precision* ¹	4.474458	3.579798	5.621101	6.226919	5.929468
1	Assumed number of ATR sites, n	8	7	9	10	8
1	t-statistic for assumed nr. of sites, T	2.365	2.447	2.306	2.262	2.365
1	precision* ¹	7.276377	5.735268	9.991129	7.010297	6.931213
2	Assumed number of ATR sites, n	6	5	8	8	6
2	t-statistic for assumed nr. of sites, T	2.571	2.776	2.365	2.365	2.571
2	precision* ¹	9.133884	7.698448	10.86833	8.194641	8.700607
3	Assumed number of ATR sites, n	5	4		7	5
3	t-statistic for assumed nr. of sites, T	2.776	3.182		2.447	2.776
3	precision* ¹	10.80348	9.86595		9.064185	10.291
4	Assumed number of ATR sites, n		3		6	
4	t-statistic for assumed nr. of sites, T		4.303		2.571	
4	precision* ¹		15.40563		10.28656	
	Minimum nr. of ATR sites needed, x	6	4	9	7	6
	Nr. of sites used for analysis	17	14	23	12	10
	Actual Nr. of sites, y* ³					
	Number of new sites needed, z = x - y					
	Number of excess sites*², z = y - x					

*1: Precision Interval, $PI = T * CV/n^{0.5}$

where $T = t_{1-d/2, n-1}$, read off from statistical tables

d = significance level

and n = number of observations (stations) in seasonal group under consideration

*2: Represents maximum number of sites that could be deleted for any reason, or maximum number of sites that could be in an in-operational state at any particular time without affecting statistical validity of data.

*3: Actual Nr. of sites = Nr. of sites used for analysis + Nr. of sites excluded from analysis due to questionable or missing data

Table AC.2 (k): COMPOSITION OF CLUSTERS FORMED, Criterion A

Description of data

Year: 1995

Count type: Traffic Volume

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Description of clustering procedure

Clustering method used: Ward's Minimum Variance

Clustering variable used: AADT/MADT

Number of clusters specified: unspecified

Cluster # ^{*1}	Observation	ATR station ID	Characteristics of ATR station (Area, functional class, region, peripheral class)			
# 1 (10)	10	Hancock 5110	Rural	Interstate	Central	Non-peripheral
	38	Randolph 2330	Rural	Collector	Northeast	Peripheral
	17	Miami 4270	Rural	OPA	Northeast	Non-peripheral
	1	Hun'ton 1100	Rural	Interstate	Northeast	Non-peripheral
	39	M'gomery 2340	Rural	Collector	Northwest	Non-peripheral
	42	Clark 3320	Rural	Collector	Southeast	Peripheral
	31	Hamilton 5260	Rural	MA	Central	Non-peripheral
	68	Van'burg 3510	Urban	OPA	Southwest	Non-peripheral
	73	Monroe 2910	Urban	MA	Southwest	Non-peripheral
# 4 (27)	29	Dubois 3200	Rural	MA	Southwest	Non-peripheral
	21	Posey 6250	Rural	OPA	Southeast	Peripheral
	14	Van'burg 3240	Rural	OPA	Southwest	Peripheral
	64	Madison 2500	Urban	OPA	Northeast	Non-peripheral
	43	Pike 3330	Rural	Collector	Southwest	Non-peripheral
	46	Van'burg 6260	Rural	Collector	Southwest	Peripheral
	51	Clark 3410	Urban	Interstate	Southeast	Peripheral
	56	Van'burg 6130	Urban	Interstate	Southwest	Peripheral
	72	Delaware 2530	Urban	MA	Northeast	Non-peripheral
	28	Rush 2320	Rural	MA	Southeast	Non-peripheral
	60	Monroe 2540	Urban	Freeway	Southwest	Non-peripheral
	49	Marion 2420	Urban	Interstate	Central	Non-peripheral
	70	Jeff'son 3540	Urban	OPA	Southeast	Peripheral
	76	Allen 1510	Urban	Collector	Northeast	Peripheral
	16	Marshall 4260	Rural	OPA	Northwest	Non-peripheral
	23	Daviess 6280	Rural	OPA	Southwest	Non-Peripheral
	48	Allen 1420	Urban	Interstate	Northeast	Peripheral
	50	Floyd 3400	Urban	Interstate	Southeast	Peripheral
	5	Dubois 3120	Rural	Interstate	Northwest	Non-peripheral
	40	Knox 3300	Rural	Collector	Southwest	Peripheral
	67	Floyd 3500	Urban	OPA	Southeast	Peripheral
	45	Delaware 5270	Rural	Collector	Northeast	Non-peripheral
	52	Vigo 5440	Urban	Interstate	Southwest	Peripheral
	63	Allen 1530	Urban	OPA	Northeast	Peripheral
	58	St. Joseph 1430	Urban	Freeway	Northwest	Peripheral
	74	Monroe 2940	Urban	MA	Southwest	Non-peripheral
	62	Kosciusko 1520	Urban	OPA	Northeast	Non-peripheral
	77	Monroe 2920	Urban	Collector	Southwest	Non-peripheral

*1: Number of ATR stations are shown in parenthesis

Table AC.2 (k): COMPOSITION OF CLUSTERS FORMED, Criterion A, cont'd

Description of data

Year: 1995

Count type: Traffic Volume

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Description of clustering procedure

Clustering method used: Ward's Minimum Variance

Clustering variable used: AADT/MADT

Number of clusters specified: unspecified

Cluster # *1	Observation	ATR station ID	Characteristics of ATR station (Area, functional class, region, peripheral class)			
# 2 (30)	7	Laporte 4130	Rural	Interstate	Northwest	Peripheral
	22	Spencer 6270	Rural	OPA	Southwest	Peripheral
	13	Ripley 3220	Rural	OPA	Southeast	Non-peripheral
	4	Jackson 3110	Rural	Interstate	Southeast	Non-peripheral
	54	Marion 5470	Urban	Interstate	Central	Non-peripheral
	25	Elkhart 1220	Rural	MA	Northeast	Peripheral
	33	Adams 1310	Rural	Collector	Southwest	Non-peripheral
	71	Hamilton 5550	Urban	OPA	Central	Non-peripheral
	47	Lake 1400	Lake	Interstate	Northwest	Peripheral
	19	Benton 5240	Rural	OPA	Northwest	Non-peripheral
	61	Porter 1500	Urban	OPA	Northwest	Peripheral
	59	Marion 2410	Urban	Freeway	Central	Non-peripheral
	20	Monroe 5250	Rural	OPA	Southwest	Non-peripheral
	2	Clay 2100	Rural	Interstate	Southwest	Non-peripheral
	32	Cass 1300	Rural	Collector	Northwest	Non-peripheral
	37	Hancock 2310	Rural	Collector	Central	Non-peripheral
	27	Carroll 2210	Rural	MA	Northwest	Non-peripheral
	6	Jasper 4110	Rural	Interstate	Northwest	Non-peripheral
	9	Dekalb 4150	Rural	Interstate	Northeast	Peripheral
	8	Grant 4140	Rural	Interstate	Northeast	Peripheral
	24	Ripley 6290	Rural	OPA	Southeast	Non-peripheral
	15	Porter 4240	Rural	OPA	Northwest	Peripheral
	34	Wells 1320	Rural	Collector	Northeast	Non-peripheral
	53	Marion 5460	Urban	Interstate	Central	Non-peripheral
	55	Marion 5480	Urban	Interstate	Central	Non-peripheral
	57	Clark 6420	Urban	Interstate	Southeast	Peripheral
	26	Morgan 2200	Rural	MA	Central	Non-peripheral
	18	Adams 4280	Rural	OPA	Northeast	Peripheral
	41	Crawford 3310	Rural	Collector	Southwest	Non-peripheral
	35	Elkhart 1330	Rural	Collector	Northeast	Peripheral
# 5 (4)	3	Ripley 3100	Rural	Interstate	Southeast	Non-peripheral
	44	Gibson 3340	Rural	Collector	Southwest	Peripheral
	36	Clay 2300	Rural	Collector	Southwest	Non-peripheral
	69	V'burg 3520	Urban	OPA	Southwest	Peripheral
# 6 (2)	30	Laporte 4250	Rural	MA	Northwest	Peripheral
	66	Monroe 2930	Urban	OPA	Southwest	Non-peripheral
# 3 (4)	11	T'canoe 2230	Rural	OPA	Northwest	Non-peripheral
	75	Dubois 3530	Urban	MA	Southwest	Non-peripheral
	65	T'canoe 2510	Urban	OPA	Northwest	Non-peripheral
	12	Dearborn 3210	Rural	Interstate	Southeast	Non-peripheral

Table AC.2 (I): COMPOSITION OF CLUSTERS FORMED, Criterion B1

Description of data

Year: 1995

Count type: Traffic Volume

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Description of clustering procedure

Clustering method used: Ward's Minimum Variance

Clustering variable used: AADT/MADT

Number of clusters specified: 3

Cluster # ^{*1}	Observation	ATR station ID	Characteristics of ATR station (Area, functional class, region, peripheral class)		
# 1 (37)	10	Hancock 5110	Rural	Interstate	Central Non-peripheral
	38	Randolph 2330	Rural	Collector	Northeast Peripheral
	17	Miami 4270	Rural	OPA	Northeast Non-peripheral
	1	Hun'ton 1100	Rural	Interstate	Northeast Non-peripheral
	39	M'gomery 2340	Rural	Collector	Northwest Non-peripheral
	42	Clark 3320	Rural	Collector	Southeast Peripheral
	31	Hamilton 5260	Rural	MA	Central Non-peripheral
	68	Van'burg 3510	Urban	OPA	Southwest Non-peripheral
	73	Monroe 2910	Urban	MA	Southwest Non-peripheral
	29	Dubois 3200	Rural	MA	Southwest Non-peripheral
	21	Posey 6250	Rural	OPA	Southeast Peripheral
	14	Van'burg 3240	Rural	OPA	Southwest Peripheral
	64	Madison 2500	Urban	OPA	Northeast Non-peripheral
	43	Pike 3330	Rural	Collector	Southwest Non-peripheral
	46	Van'burg 6260	Rural	Collector	Southwest Peripheral
	51	Clark 3410	Urban	Interstate	Southeast Peripheral
	56	Van'burg 6130	Urban	Interstate	Southwest Peripheral
	72	Delaware 2530	Urban	MA	Northeast Non-peripheral
	28	Rush 2320	Rural	MA	Southeast Non-peripheral
	60	Monroe 2540	Urban	Freeway	Southwest Non-peripheral
	49	Marion 2420	Urban	Interstate	Central Non-peripheral
	70	Jeff'son 3540	Urban	OPA	Southeast Peripheral
	76	Allen 1510	Urban	Collector	Northeast Peripheral
	16	Marshall 4260	Rural	OPA	Northwest Non-peripheral
	23	Daviess 6280	Rural	OPA	Southwest Non-Peripheral
	48	Allen 1420	Urban	Interstate	Northeast Peripheral
	50	Floyd 3400	Urban	Interstate	Southeast Peripheral
	5	Dubois 3120	Rural	Interstate	Northwest Non-peripheral
	40	Knox 3300	Rural	Collector	Southwest Peripheral
	67	Floyd 3500	Urban	OPA	Southeast Peripheral
	45	Delaware 5270	Rural	Collector	Northeast Non-peripheral
	52	Vigo 5440	Urban	Interstate	Southwest Peripheral
	63	Allen 1530	Urban	OPA	Northeast Peripheral
	58	St. Joseph 1430	Urban	Freeway	Northwest Peripheral
	74	Monroe 2940	Urban	MA	Southwest Non-peripheral
	62	Kosciusko 1520	Urban	OPA	Northeast Non-peripheral
	77	Monroe 2920	Urban	Collector	Southwest Non-peripheral

*1: Number of ATR stations are shown in parenthesis

Table AC.2 (m): COMPOSITION OF CLUSTERS FORMED, Criterion B1, cont'd

Description of data

Year: 1995

Count type: Traffic Volume

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Description of clustering procedure

Clustering method used: Ward's Minimum Variance

Clustering variable used: AADT/MADT

Number of clusters specified: 3

Cluster # *1	Observation	ATR station ID	Characteristics of ATR station (Area, functional class, region, peripheral class)			
# 2 (30)	7	Laporte 4130	Rural	Interstate	Northwest	Peripheral
	22	Spencer 6270	Rural	OPA	Southwest	Peripheral
	13	Ripley 3220	Rural	OPA	Southeast	Non-peripheral
	4	Jackson 3110	Rural	Interstate	Southeast	Non-peripheral
	54	Marion 5470	Urban	Interstate	Central	Non-peripheral
	25	Elkhart 1220	Rural	MA	Northeast	Peripheral
	33	Adams 1310	Rural	Collector	Southwest	Non-peripheral
	71	Hamilton 5550	Urban	OPA	Central	Non-peripheral
	47	Lake 1400	Lake	Interstate	Northwest	Peripheral
	19	Benton 5240	Rural	OPA	Northwest	Non-peripheral
	61	Porter 1500	Urban	OPA	Northwest	Peripheral
	59	Marion 2410	Urban	Freeway	Central	Non-peripheral
	20	Monroe 5250	Rural	OPA	Southwest	Non-peripheral
	2	Clay 2100	Rural	Interstate	Southwest	Non-peripheral
	32	Cass 1300	Rural	Collector	Northwest	Non-peripheral
	37	Hancock 2310	Rural	Collector	Central	Non-peripheral
	27	Carroll 2210	Rural	MA	Northwest	Non-peripheral
	6	Jasper 4110	Rural	Interstate	Northwest	Non-peripheral
	9	Dekalb 4150	Rural	Interstate	Northeast	Peripheral
	8	Grant 4140	Rural	Interstate	Northeast	Peripheral
	24	Ripley 6290	Rural	OPA	Southeast	Non-peripheral
	15	Porter 4240	Rural	OPA	Northwest	Peripheral
	34	Wells 1320	Rural	Collector	Northeast	Non-peripheral
	53	Marion 5460	Urban	Interstate	Central	Non-peripheral
	55	Marion 5480	Urban	Interstate	Central	Non-peripheral
	57	Clark 6420	Urban	Interstate	Southeast	Peripheral
	26	Morgan 2200	Rural	MA	Central	Non-peripheral
	18	Adams 4280	Rural	OPA	Northeast	Peripheral
	41	Crawford 3310	Rural	Collector	Southwest	Non-peripheral
	35	Elkhart 1330	Rural	Collector	Northeast	Peripheral
# 3 (10)	3	Ripley 3100	Rural	Interstate	Southeast	Non-peripheral
	44	Gibson 3340	Rural	Collector	Southwest	Peripheral
	36	Clay 2300	Rural	Collector	Southwest	Non-peripheral
	69	V'burg 3520	Urban	OPA	Southwest	Peripheral
	30	Laporte 4250	Rural	MA	Northwest	Peripheral
	66	Monroe 2930	Urban	OPA	Southwest	Non-peripheral
	11	T'canoe 2230	Rural	OPA	Northwest	Non-peripheral
	75	Dubois 3530	Urban	MA	Southwest	Non-peripheral
	65	T'canoe 2510	Urban	OPA	Northwest	Non-peripheral
	12	Dearborn 3210	Rural	Interstate	Southeast	Non-peripheral

Table AC.2 (n): COMPOSITION OF CLUSTERS FORMED, Criterion B2

Description of data

Year: 1995

Count type: **Traffic Volume**Page 1 of 2Description of clustering procedure

Clustering method used: Ward's Minimum Variance

Clustering variable used: AADT/MADT

Number of clusters specified: 4

Cluster # *1	Observation	ATR station ID	Characteristics of ATR station (Area, functional class, region, peripheral class)		
# 1 (37)	10	Hancock 5110	Rural	Interstate	Central Non-peripheral
	38	Randolph 2330	Rural	Collector	Northeast Peripheral
	17	Miami 4270	Rural	OPA	Northeast Non-peripheral
	1	Hun'ton 1100	Rural	Interstate	Northeast Non-peripheral
	39	M'gomery 2340	Rural	Collector	Northwest Non-peripheral
	42	Clark 3320	Rural	Collector	Southeast Peripheral
	31	Hamilton 5260	Rural	MA	Central Non-peripheral
	68	Van'burg 3510	Urban	OPA	Southwest Non-peripheral
	73	Monroe 2910	Urban	MA	Southwest Non-peripheral
	29	Dubois 3200	Rural	MA	Southwest Non-peripheral
	21	Posey 6250	Rural	OPA	Southeast Peripheral
	14	Van'burg 3240	Rural	OPA	Southwest Peripheral
	64	Madison 2500	Urban	OPA	Northeast Non-peripheral
	43	Pike 3330	Rural	Collector	Southwest Non-peripheral
	46	Van'burg 6260	Rural	Collector	Southwest Peripheral
	51	Clark 3410	Urban	Interstate	Southeast Peripheral
	56	Van'burg 6130	Urban	Interstate	Southwest Peripheral
	72	Delaware 2530	Urban	MA	Northeast Non-peripheral
	28	Rush 2320	Rural	MA	Southeast Non-peripheral
	60	Monroe 2540	Urban	Freeway	Southwest Non-peripheral
	49	Marion 2420	Urban	Interstate	Central Non-peripheral
	70	Jeff'son 3540	Urban	OPA	Southeast Peripheral
	76	Allen 1510	Urban	Collector	Northeast Peripheral
	16	Marshall 4260	Rural	OPA	Northwest Non-peripheral
	23	Daviess 6280	Rural	OPA	Southwest Non-Peripheral
	48	Allen 1420	Urban	Interstate	Northeast Peripheral
	50	Floyd 3400	Urban	Interstate	Southeast Peripheral
	5	Dubois 3120	Rural	Interstate	Northwest Non-peripheral
	40	Knox 3300	Rural	Collector	Southwest Peripheral
	67	Floyd 3500	Urban	OPA	Southeast Peripheral
	45	Delaware 5270	Rural	Collector	Northeast Non-peripheral
	52	Vigo 5440	Urban	Interstate	Southwest Peripheral
	63	Allen 1530	Urban	OPA	Northeast Peripheral
	58	St. Joseph 1430	Urban	Freeway	Northwest Peripheral
	74	Monroe 2940	Urban	MA	Southwest Non-peripheral
	62	Kosciusko 1520	Urban	OPA	Northeast Non-peripheral
	77	Monroe 2920	Urban	Collector	Southwest Non-peripheral

Table AC.2(o): COMPOSITION OF CLUSTERS FORMED, Criterion B2, cont'd

Description of data

Year: 1995

Count type: Traffic Volume

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Description of clustering procedure

Clustering method used: Ward's Minimum Variance

Clustering variable used: AADT/MADT

Number of clusters specified: 4

Cluster # ^{*1}	Observation	ATR station ID	Characteristics of ATR station (Area, functional class, region, peripheral class)			
# 2 (30)	7	Laporte 4130	Rural	Interstate	Northwest	Peripheral
	22	Spencer 6270	Rural	OPA	Southwest	Peripheral
	13	Ripley 3220	Rural	OPA	Southeast	Non-peripheral
	4	Jackson 3110	Rural	Interstate	Southeast	Non-peripheral
	54	Marion 5470	Urban	Interstate	Central	Non-peripheral
	25	Elkhart 1220	Rural	MA	Northeast	Peripheral
	33	Adams 1310	Rural	Collector	Southwest	Non-peripheral
	71	Hamilton 5550	Urban	OPA	Central	Non-peripheral
	47	Lake 1400	Lake	Interstate	Northwest	Peripheral
	19	Benton 5240	Rural	OPA	Northwest	Non-peripheral
	61	Porter 1500	Urban	OPA	Northwest	Peripheral
	59	Marion 2410	Urban	Freeway	Central	Non-peripheral
	20	Monroe 5250	Rural	OPA	Southwest	Non-peripheral
	2	Clay 2100	Rural	Interstate	Southwest	Non-peripheral
	32	Cass 1300	Rural	Collector	Northwest	Non-peripheral
	37	Hancock 2310	Rural	Collector	Central	Non-peripheral
	27	Carroll 2210	Rural	MA	Northwest	Non-peripheral
	6	Jasper 4110	Rural	Interstate	Northwest	Non-peripheral
	9	Dekalb 4150	Rural	Interstate	Northeast	Peripheral
	8	Grant 4140	Rural	Interstate	Northeast	Peripheral
	24	Ripley 6290	Rural	OPA	Southeast	Non-peripheral
	15	Porter 4240	Rural	OPA	Northwest	Peripheral
	34	Wells 1320	Rural	Collector	Northeast	Non-peripheral
	53	Marion 5460	Urban	Interstate	Central	Non-peripheral
	55	Marion 5480	Urban	Interstate	Central	Non-peripheral
	57	Clark 6420	Urban	Interstate	Southeast	Peripheral
	26	Morgan 2200	Rural	MA	Central	Non-peripheral
	18	Adams 4280	Rural	OPA	Northeast	Peripheral
	41	Crawford 3310	Rural	Collector	Southwest	Non-peripheral
	35	Elkhart 1330	Rural	Collector	Northeast	Peripheral
	3	Ripley 3100	Rural	Interstate	Southeast	Non-peripheral
# 3 (6)	44	Gibson 3340	Rural	Collector	Southwest	Peripheral
	36	Clay 2300	Rural	Collector	Southwest	Non-peripheral
	69	V'burg 3520	Urban	OPA	Southwest	Peripheral
	30	Laporte 4250	Rural	MA	Northwest	Peripheral
	66	Monroe 2930	Urban	OPA	Southwest	Non-peripheral
	11	T'canoe 2230	Rural	OPA	Northwest	Non-peripheral
# 4 (4)	75	Dubois 3530	Urban	MA	Southwest	Non-peripheral
	65	T'canoe 2510	Urban	OPA	Northwest	Non-peripheral
	12	Dearborn 3210	Rural	Interstate	Southeast	Non-peripheral

*1: Number of ATR stations are shown in parenthesis

Table AC.2(p): COMPOSITION OF CLUSTERS FORMED, Criterion B3

Description of data

Year: 1995

Count type: **Traffic Volume**Page 1 of 2Description of clustering procedure

Clustering method used: Ward's Minimum Variance

Clustering variable used: AADT/MADT

Number of clusters specified: **5**

Cluster # ^{*1}	Observation	ATR station ID	Characteristics of ATR station (Area, functional class, region, peripheral class)			
# 1 (10)	10	Hancock 5110	Rural	Interstate	Central	Non-peripheral
	38	Randolph 2330	Rural	Collector	Northeast	Peripheral
	17	Miami 4270	Rural	OPA	Northeast	Non-peripheral
	1	Hun'ton 1100	Rural	Interstate	Northeast	Non-peripheral
	39	M'gomery 2340	Rural	Collector	Northwest	Non-peripheral
	42	Clark 3320	Rural	Collector	Southeast	Peripheral
	31	Hamilton 5260	Rural	MA	Central	Non-peripheral
	68	Van'burg 3510	Urban	OPA	Southwest	Non-peripheral
	73	Monroe 2910	Urban	MA	Southwest	Non-peripheral
# 4 (27)	29	Dubois 3200	Rural	MA	Southwest	Non-peripheral
	21	Posey 6250	Rural	OPA	Southeast	Peripheral
	14	Van'burg 3240	Rural	OPA	Southwest	Peripheral
	64	Madison 2500	Urban	OPA	Northeast	Non-peripheral
	43	Pike 3330	Rural	Collector	Southwest	Non-peripheral
	46	Van'burg 6260	Rural	Collector	Southwest	Peripheral
	51	Clark 3410	Urban	Interstate	Southeast	Peripheral
	56	Van'burg 6130	Urban	Interstate	Southwest	Peripheral
	72	Delaware 2530	Urban	MA	Northeast	Non-peripheral
	28	Rush 2320	Rural	MA	Southeast	Non-peripheral
	60	Monroe 2540	Urban	Freeway	Southwest	Non-peripheral
	49	Marion 2420	Urban	Interstate	Central	Non-peripheral
	70	Jeff'son 3540	Urban	OPA	Southeast	Peripheral
	76	Allen 1510	Urban	Collector	Northeast	Peripheral
	16	Marshall 4260	Rural	OPA	Northwest	Non-peripheral
	23	Daviess 6280	Rural	OPA	Southwest	Non-Peripheral
	48	Allen 1420	Urban	Interstate	Northeast	Peripheral
	50	Floyd 3400	Urban	Interstate	Southeast	Peripheral
	5	Dubois 3120	Rural	Interstate	Northwest	Non-peripheral
	40	Knox 3300	Rural	Collector	Southwest	Peripheral
	67	Floyd 3500	Urban	OPA	Southeast	Peripheral
	45	Delaware 5270	Rural	Collector	Northeast	Non-peripheral
	52	Vigo 5440	Urban	Interstate	Southwest	Peripheral
	63	Allen 1530	Urban	OPA	Northeast	Peripheral
	58	St. Joseph 1430	Urban	Freeway	Northwest	Peripheral
	74	Monroe 2940	Urban	MA	Southwest	Non-peripheral
	62	Kosciusko 1520	Urban	OPA	Northeast	Non-peripheral
	77	Monroe 2920	Urban	Collector	Southwest	Non-peripheral

*1: Number of ATR stations are shown in parenthesis

Table AC(q): COMPOSITION OF CLUSTERS FORMED, Criterion B3, continued

Description of data

Year: 1995

Count type: Traffic Volume

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Description of clustering procedure

Clustering method used: Ward's Minimum Variance

Clustering variable used: AADT/MADT

Number of clusters specified: 5

Cluster # *1	Observation	ATR station ID	Characteristics of ATR station (Area, functional class, region, peripheral class)			
# 2 (30)	7	Laporte 4130	Rural	Interstate	Northwest	Peripheral
	22	Spencer 6270	Rural	OPA	Southwest	Peripheral
	13	Ripley 3220	Rural	OPA	Southeast	Non-peripheral
	4	Jackson 3110	Rural	Interstate	Southeast	Non-peripheral
	54	Marion 5470	Urban	Interstate	Central	Non-peripheral
	25	Elkhart 1220	Rural	MA	Northeast	Peripheral
	33	Adams 1310	Rural	Collector	Southwest	Non-peripheral
	71	Hamilton 5550	Urban	OPA	Central	Non-peripheral
	47	Lake 1400	Lake	Interstate	Northwest	Peripheral
	19	Benton 5240	Rural	OPA	Northwest	Non-peripheral
	61	Porter 1500	Urban	OPA	Northwest	Peripheral
	59	Marion 2410	Urban	Freeway	Central	Non-peripheral
	20	Monroe 5250	Rural	OPA	Southwest	Non-peripheral
	2	Clay 2100	Rural	Interstate	Southwest	Non-peripheral
	32	Cass 1300	Rural	Collector	Northwest	Non-peripheral
	37	Hancock 2310	Rural	Collector	Central	Non-peripheral
	27	Carroll 2210	Rural	MA	Northwest	Non-peripheral
	6	Jasper 4110	Rural	Interstate	Northwest	Non-peripheral
	9	Dekalb 4150	Rural	Interstate	Northeast	Peripheral
	8	Grant 4140	Rural	Interstate	Northeast	Peripheral
	24	Ripley 6290	Rural	OPA	Southeast	Non-peripheral
	15	Porter 4240	Rural	OPA	Northwest	Peripheral
	34	Wells 1320	Rural	Collector	Northeast	Non-peripheral
	53	Marion 5460	Urban	Interstate	Central	Non-peripheral
	55	Marion 5480	Urban	Interstate	Central	Non-peripheral
	57	Clark 6420	Urban	Interstate	Southeast	Peripheral
	26	Morgan 2200	Rural	MA	Central	Non-peripheral
	18	Adams 4280	Rural	OPA	Northeast	Peripheral
	41	Crawford 3310	Rural	Collector	Southwest	Non-peripheral
	35	Elkhart 1330	Rural	Collector	Northeast	Peripheral
	3	Ripley 3100	Rural	Interstate	Southeast	Non-peripheral
# 3 (6)	44	Gibson 3340	Rural	Collector	Southwest	Peripheral
	36	Clay 2300	Rural	Collector	Southwest	Non-peripheral
	69	V'burg 3520	Urban	OPA	Southwest	Peripheral
	30	Laporte 4250	Rural	MA	Northwest	Peripheral
	66	Monroe 2930	Urban	OPA	Southwest	Non-peripheral
# 5 (4)	11	T'canoe 2230	Rural	OPA	Northwest	Non-peripheral
	75	Dubois 3530	Urban	MA	Southwest	Non-peripheral
	65	T'canoe 2510	Urban	OPA	Northwest	Non-peripheral
	12	Dearborn 3210	Rural	Interstate	Southeast	Non-peripheral

*1: Number of ATR stations are shown in parenthesis

Table AC(r): COMPOSITION OF CLUSTERS FORMED, Criterion B4

Description of data

Year: 1995

Count type: Traffic Volume

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Description of clustering procedure

Clustering method used: Ward's Minimum Variance

Clustering variable used: AADT/MADT

Number of clusters specified: 6

Cluster # ^{*1}	Observation	ATR station ID	Characteristics of ATR station (Area, functional class, region, peripheral class)			
# 1 (10)	10	Hancock 5110	Rural	Interstate	Central	Non-peripheral
	38	Randolph 2330	Rural	Collector	Northeast	Peripheral
	17	Miami 4270	Rural	OPA	Northeast	Non-peripheral
	1	Hun'ton 1100	Rural	Interstate	Northeast	Non-peripheral
	39	M'gomery 2340	Rural	Collector	Northwest	Non-peripheral
	42	Clark 3320	Rural	Collector	Southeast	Peripheral
	31	Hamilton 5260	Rural	MA	Central	Non-peripheral
	68	Van'burg 3510	Urban	OPA	Southwest	Non-peripheral
	73	Monroe 2910	Urban	MA	Southwest	Non-peripheral
# 4 (27)	29	Dubois 3200	Rural	MA	Southwest	Non-peripheral
	21	Posey 6250	Rural	OPA	Southeast	Peripheral
	14	Van'burg 3240	Rural	OPA	Southwest	Peripheral
	64	Madison 2500	Urban	OPA	Northeast	Non-peripheral
	43	Pike 3330	Rural	Collector	Southwest	Non-peripheral
	46	Van'burg 6260	Rural	Collector	Southwest	Peripheral
	51	Clark 3410	Urban	Interstate	Southeast	Peripheral
	56	Van'burg 6130	Urban	Interstate	Southwest	Peripheral
	72	Delaware 2530	Urban	MA	Northeast	Non-peripheral
	28	Rush 2320	Rural	MA	Southeast	Non-peripheral
	60	Monroe 2540	Urban	Freeway	Southwest	Non-peripheral
	49	Marion 2420	Urban	Interstate	Central	Non-peripheral
	70	Jeff'son 3540	Urban	OPA	Southeast	Peripheral
	76	Allen 1510	Urban	Collector	Northeast	Peripheral
	16	Marshall 4260	Rural	OPA	Northwest	Non-peripheral
	23	Daviess 6280	Rural	OPA	Southwest	Non-Peripheral
	48	Allen 1420	Urban	Interstate	Northeast	Peripheral
	50	Floyd 3400	Urban	Interstate	Southeast	Peripheral
	5	Dubois 3120	Rural	Interstate	Northwest	Non-peripheral
	40	Knox 3300	Rural	Collector	Southwest	Peripheral
	67	Floyd 3500	Urban	OPA	Southeast	Peripheral
	45	Delaware 5270	Rural	Collector	Northeast	Non-peripheral
	52	Vigo 5440	Urban	Interstate	Southwest	Peripheral
	63	Allen 1530	Urban	OPA	Northeast	Peripheral
	58	St. Joseph 1430	Urban	Freeway	Northwest	Peripheral
	74	Monroe 2940	Urban	MA	Southwest	Non-peripheral
	62	Kosciusko 1520	Urban	OPA	Northeast	Non-peripheral
	77	Monroe 2920	Urban	Collector	Southwest	Non-peripheral

*1: Number of ATR stations are shown in parenthesis

Table AC.2(r): COMPOSITION OF CLUSTERS FORMED, Criterion B4, cont'd

Description of data

Year: 1995

Count type: Traffic Volume

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Description of clustering procedure

Clustering method used: Ward's Minimum Variance

Clustering variable used: AADT/MADT

Number of clusters specified: 6

Cluster # *	Observation	ATR station ID	Characteristics of ATR station (Area, functional class, region, peripheral class)			
# 2 (30)	7	Laporte 4130	Rural	Interstate	Northwest	Peripheral
	22	Spencer 6270	Rural	OPA	Southwest	Peripheral
	13	Ripley 3220	Rural	OPA	Southeast	Non-peripheral
	4	Jackson 3110	Rural	Interstate	Southeast	Non-peripheral
	54	Marion 5470	Urban	Interstate	Central	Non-peripheral
	25	Elkhart 1220	Rural	MA	Northeast	Peripheral
	33	Adams 1310	Rural	Collector	Southwest	Non-peripheral
	71	Hamilton 5550	Urban	OPA	Central	Non-peripheral
	47	Lake 1400	Lake	Interstate	Northwest	Peripheral
	19	Benton 5240	Rural	OPA	Northwest	Non-peripheral
	61	Porter 1500	Urban	OPA	Northwest	Peripheral
	59	Marion 2410	Urban	Freeway	Central	Non-peripheral
	20	Monroe 5250	Rural	OPA	Southwest	Non-peripheral
	2	Clay 2100	Rural	Interstate	Southwest	Non-peripheral
	32	Cass 1300	Rural	Collector	Northwest	Non-peripheral
	37	Hancock 2310	Rural	Collector	Central	Non-peripheral
	27	Carroll 2210	Rural	MA	Northwest	Non-peripheral
	6	Jasper 4110	Rural	Interstate	Northwest	Non-peripheral
	9	Dekalb 4150	Rural	Interstate	Northeast	Peripheral
	8	Grant 4140	Rural	Interstate	Northeast	Peripheral
	24	Ripley 6290	Rural	OPA	Southeast	Non-peripheral
	15	Porter 4240	Rural	OPA	Northwest	Peripheral
	34	Wells 1320	Rural	Collector	Northeast	Non-peripheral
	53	Marion 5460	Urban	Interstate	Central	Non-peripheral
	55	Marion 5480	Urban	Interstate	Central	Non-peripheral
	57	Clark 6420	Urban	Interstate	Southeast	Peripheral
	26	Morgan 2200	Rural	MA	Central	Non-peripheral
	18	Adams 4280	Rural	OPA	Northeast	Peripheral
	41	Crawford 3310	Rural	Collector	Southwest	Non-peripheral
	35	Elkhart 1330	Rural	Collector	Northeast	Peripheral
# 5 (4)	3	Ripley 3100	Rural	Interstate	Southeast	Non-peripheral
	44	Gibson 3340	Rural	Collector	Southwest	Peripheral
	36	Clay 2300	Rural	Collector	Southwest	Non-peripheral
# 6 (2)	69	V'burg 3520	Urban	OPA	Southwest	Peripheral
	30	Laporte 4250	Rural	MA	Northwest	Peripheral
	66	Monroe 2930	Urban	OPA	Southwest	Non-peripheral
# 3 (4)	11	T'canoe 2230	Rural	OPA	Northwest	Non-peripheral
	75	Dubois 3530	Urban	MA	Southwest	Non-peripheral
	65	T'canoe 2510	Urban	OPA	Northwest	Non-peripheral
	12	Dearborn 3210	Rural	Interstate	Southeast	Non-peripheral

*1: Number of ATR stations are shown in parenthesis

Table AC.2(t): COMPOSITION OF CLUSTERS FORMED, Criterion A

Description of data

Year: 1995

Count type: Traffic Volume

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Description of clustering procedure

Clustering method used: Ward's Minimum Variance

Clustering variable used: AADT/MADT

Number of clusters specified: unspecified

Cluster # ^{*1}	Observation	ATR station ID	Characteristics of ATR station (Area, functional class, region, peripheral class)			
# 1 (10)	10	Hancock 5110	Rural	Interstate	Central	Non-peripheral
	38	Randolph 2330	Rural	Collector	Northeast	Peripheral
	17	Miami 4270	Rural	OPA	Northeast	Non-peripheral
	1	Hun'ton 1100	Rural	Interstate	Northeast	Non-peripheral
	39	M'gomery 2340	Rural	Collector	Northwest	Non-peripheral
	42	Clark 3320	Rural	Collector	Southeast	Peripheral
	31	Hamilton 5260	Rural	MA	Central	Non-peripheral
	68	Van'burg 3510	Urban	OPA	Southwest	Non-peripheral
	73	Monroe 2910	Urban	MA	Southwest	Non-peripheral
# 4 (27)	29	Dubois 3200	Rural	MA	Southwest	Non-peripheral
	21	Posey 6250	Rural	OPA	Southeast	Peripheral
	14	Van'burg 3240	Rural	OPA	Southwest	Peripheral
	64	Madison 2500	Urban	OPA	Northeast	Non-peripheral
	43	Pike 3330	Rural	Collector	Southwest	Non-peripheral
	46	Van'burg 6260	Rural	Collector	Southwest	Peripheral
	51	Clark 3410	Urban	Interstate	Southeast	Peripheral
	56	Van'burg 6130	Urban	Interstate	Southwest	Peripheral
	72	Delaware 2530	Urban	MA	Northeast	Non-peripheral
	28	Rush 2320	Rural	MA	Southeast	Non-peripheral
	60	Monroe 2540	Urban	Freeway	Southwest	Non-peripheral
	49	Marion 2420	Urban	Interstate	Central	Non-peripheral
	70	Jeff'son 3540	Urban	OPA	Southeast	Peripheral
	76	Allen 1510	Urban	Collector	Northeast	Peripheral
	16	Marshall 4260	Rural	OPA	Northwest	Non-peripheral
	23	Daviess 6280	Rural	OPA	Southwest	Non-Peripheral
	48	Allen 1420	Urban	Interstate	Northeast	Peripheral
	50	Floyd 3400	Urban	Interstate	Southeast	Peripheral
	5	Dubois 3120	Rural	Interstate	Northwest	Non-peripheral
	40	Knox 3300	Rural	Collector	Southwest	Peripheral
	67	Floyd 3500	Urban	OPA	Southeast	Peripheral
	45	Delaware 5270	Rural	Collector	Northeast	Non-peripheral
	52	Vigo 5440	Urban	Interstate	Southwest	Peripheral
	63	Allen 1530	Urban	OPA	Northeast	Peripheral
	58	St. Joseph 1430	Urban	Freeway	Northwest	Peripheral
	74	Monroe 2940	Urban	MA	Southwest	Non-peripheral
	62	Kosciusko 1520	Urban	OPA	Northeast	Non-peripheral
	77	Monroe 2920	Urban	Collector	Southwest	Non-peripheral

*1: Number of ATR stations are shown in parenthesis

Appendices for Vehicle Classification ATRs

Precision Analysis
Adequacy Analysis
Results of Cluster Procedure

Appendices for vehicle classification ATRs

Table AC.3: Sample of Precision Analysis, Vehicle Classification data

Count type and Year: Vehicle Classification, 1995 data						
Level of confidence : 99%						
Grouping Criterion: I - ATRs in groups based on peripheral and functional classes						
Group 1 (ATRs on Peripheral Interstates)						
Excluded stations: Spencer 6150, Floyd 6160, Dearborn 6170						
County	Route	Station	Jan	Feb	Mar	Apr
Gibson	I-64	6140	1.0155	1.0073	0.9972	0.9993
Vermillion	I-74	5130	0.7736	0.8119	1.2406	1.5905
Dekalb	I-69	4150	1.2011	1.2331	0.9289	0.9447
Vigo	I-70	5440	0.7656	0.8005	1.2256	1.5765
Clark	I-65	6420	1.0119	1.0361	1.0058	0.9893
Laporte	I-94	4130	0.8448	0.8997	1.1293	1.2008
Vand' burg	I-164	6130	1.0134	1.0009	1.0583	0.9921
Lake	I-80/94	4440	0.8536	0.9014	1.1431	1.201
Mean			0.934938	0.961363	1.0911	1.186775
Std. Dev.			0.150645	0.14077	0.112174	0.263471
# of stations, n			8	8	8	8
t statistic for n, d			3.499	3.499	3.499	3.499
CV			16.11287	14.64279	10.28086	22.20062
Precision			19.93296	18.11435	12.71828	27.46402
Ave. Precision =				19.5574		
Ave. Precision Interval = 99% +/-			19.5574	Average CV (%) =		15.80929

Adequacy Analysis for Vehicle Classification ATRs

Table AC.4(a)
Adequacy Analysis for Vehicle Classification ATRs, Criterion A

Year: 1995 data

Level of Confidence: 99%, Precision threshold: +/- 10%

Grouping Criterion: A- ATRs in groups based strictly on results of cluster analysis
unspecified number of clusters

Iteration	Statistic	Group 1	Group 2	Group 3	Group 4
	Coeff. of variation (from prec. analysis), CV	0.7769	5.6072	5.4071	1.1847
0	Number of ATR sites used for analysis, n	7	9	8	6
0	t-statistic for number of sites, T	3.707	3.355	3.499	4.032
0	Existing precision* ¹	1.088526	6.270719	6.689033	1.950084
1	Assumed number of ATR sites, n	3	7	6	3
1	t-statistic for assumed number of sites, T	9.935	3.707	4.032	9.935
1	precision* ¹	4.456279	7.856328	8.900395	6.795409
2	Assumed number of ATR sites, n	2	6	5	2
2	t-statistic for assumed number of sites, T	63.657	4.032	4.604	63.657
2	precision* ¹	34.97005	9.229771	11.13306	53.32607
3	Assumed number of ATR sites, n		5		
3	t-statistic for assumed number of sites, T		4.604		
3	precision* ¹		11.54506		
	Minimum number of ATR sites needed	3	6	6	3
	Adjusted minimum number of new sites needed* ⁴ , x	4	8	8	4
	Existing number of ATR sites, n	7	9	8	6
	Number of new sites needed, z = x - n				
	Number of excess sites* ² , z' = n - x	3	1	0	2

*1: Precision Interval, $PI = T * CV/n^{0.5}$

where $T = t_{1-d/2, n-1}$, read off from statistical tables

d = significance level

and n = number of observations (stations) in seasonal group under consideration

*2: Represents maximum number of sites that could be deleted for any reason, or maximum number of sites that could be in an in operational state at any particular time such that precision threshold would not be exceeded.

Table AC.4 (b1)
Adequacy Analysis for Vehicle Classification ATRs, Criterion B1

Year: 1995 data

Level of Confidence: 99%, Precision threshold: +/- 10%

Grouping Criterion: **B1**- ATRs in groups based strictly on results of cluster analysis,
with specified number of clusters = 3

Iteration	Statistic	Group 1	Group 2	Group 3
	Coeff. of variation (from prec. analysis), CV	6.5825	5.6702	5.4071
0	Existing number of ATR sites, n	13	9	8
0	t-statistic for number of sites, T	3.055	3.355	3.499
0	Existing precision* ¹	5.577382	6.341174	6.689033
1	Assumed number of ATR sites, n	10	7	6
1	t-statistic for assumed nber of sites, T	3.25	3.707	4.032
1	precision* ¹	6.7651	7.944598	8.900395
2	Assumed number of ATR sites, n	7	6	5
2	t-statistic for assumed number of sites, T	3.707	4.032	4.604
2	precision* ¹	9.222835	9.333473	11.13306
3	Assumed number of ATR sites, n	6	5	
3	t-statistic for assumed number of sites, T	4.032	4.604	
3	precision* ¹	10.83517	11.67478	
	Minimum number of ATR sites needed	7	6	6
	Adjusted minimum number of new sites needed* ⁴ , x	9	8	8
	Existing number of ATR sites, n	13	9	8
	Number of new sites needed, z = x - n			
	Number of excess sites* ² , z' = n - x	4	1	0

*1: Precision Interval, $PI = T * CV/n^{0.5}$

where $T = t_{1-d/2, n-1}$, read off from statistical tables

d = significance level

and n = number of observations (stations) in seasonal group under consideration

*2: Represents maximum number of sites that could be deleted for any reason, or maximum number of sites that could be in an in-operational state at any particular time such that precision threshold would not be exceeded.

Table AC.2 (b2)
Adequacy Analysis for Vehicle Classification ATRs, Criterion B2

Year: 1995 data

Level of Confidence: 99%, Precision threshold: +/- 10%

Grouping Criterion: **B2**- ATRs in groups based strictly on results of cluster analysis
unspecified number of clusters

Iteration	Statistic	Group 1	Group 2	Group 3	Group 4
	Coeff. of variation (from prec. analysis), CV	0.7769	5.6702	5.4071	1.1847
0	Existing number of ATR sites, n	7	9	8	6
0	t-statistic for number of sites, T	3.707	3.355	3.499	4.032
0	Existing precision* ¹	1.088526	6.341174	6.689033	1.950084
1	Assumed number of ATR sites, n	3	7	6	3
1	t-statistic for assumed number of sites, T	9.935	3.707	4.032	9.935
1	precision* ¹	4.456279	7.944598	8.900395	6.795409
2	Assumed number of ATR sites, n	2	6	5	2
2	t-statistic for assumed number of sites, T	63.657	4.032	4.604	63.657
2	precision* ¹	34.97005	9.333473	11.13306	53.32607
3	Assumed number of ATR sites, n		5		
3	t-statistic for assumed number of sites, T		4.604		
3	precision* ¹		11.67478		
	Minimum number of ATR sites needed	3	6	6	3
	Adjusted minimum number of new sites needed* ⁴ , x	4	8	8	4
	Existing number of ATR sites, n	7	9	8	6
	Number of new sites needed, z = x - n				
	Number of excess sites* ² , z' = n - x	3	1	0	2

*1: Precision Interval, $PI = T * CV/n^{0.5}$

where $T = t_{1-d/2, n-1}$, read off from statistical tables

d = significance level

and n = number of observations (stations) in seasonal group under consideration

*2: Represents maximum number of sites that could be deleted for any reason, or maximum number of sites that could be in an inoperational state at any particular time such that precision threshold would not be exceeded.

Table AC.4 (b3)
Adequacy Analysis for Vehicle Classification ATRs, Criterion B3

Year: 1995 data

Level of Confidence: 99%, Precision threshold: +/- 10%

Grouping Criterion: **B3**- ATRs in groups based strictly on results of cluster analysis
unspecified number of clusters

Iteration	Statistic	Group 1	Group 2	Group 3	Group 4	Group 5
	Coeff. of variation (from prec. analysis), CV	0.7769	5.6702	1.9869	n.a.	1.1847
0	Existing number of ATR sites, n	7	9	7	1	6
0	t-statistic for number of sites, T	3.707	3.355	3.707	n.a.	4.032
0	Existing precision* ¹	1.088526	6.34117	2.78387		1.95008
1	Assumed number of ATR sites, n	3	7	4		3
1	t-statistic for assumed number of sites, T	9.935	3.707	5.841		9.935
1	precision* ¹	4.456279	7.9446	5.80274		6.79541
2	Assumed number of ATR sites, n	2	6	3		2
2	t-statistic for assumed number of sites, T	63.657	4.032	9.935		63.657
2	precision* ¹	34.97005	9.33347	11.3968		53.3261
3	Assumed number of ATR sites, n		5			
3	t-statistic for assumed number of sites, T		4.604			
3	precision* ¹		11.6748			
Minimum number of ATR sites needed		3	6	4	n.a.	3
Adjusted minimum number of new sites needed* ⁴ , x		4	8	5	n.a.	4
Existing number of ATR sites, n		7	9	7	1	6
Number of new sites needed, $z = x - n$						
Number of excess sites* ² , $z' = n - x$		3	1	2	n.a.	2

*1: Precision Interval, $PI = T * CV/n^{0.5}$

where $T = t_{1-\alpha/2, n-1}$, read off from statistical tables

d = significance level

and n = number of observations (stations) in seasonal group under consideration

*2: Represents maximum number of sites that could be deleted for any reason, or maximum number of sites that could be in an in-operational state at any particular time such that precision threshold would not be exceeded.

Table AC.4 (b4)
Adequacy Analysis for Vehicle Classification ATRs, Criterion B4

Year: 1995 data

Level of Confidence: 99%, Precision threshold: +/- 10%

Grouping Criterion: **B4**- ATRs in groups based strictly on results of cluster analysis,
with specified number of clusters = 6

Iteration #	Statistic	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
	Coeff. of variation (from prec. analysis), CV	0.7769	5.6702	1.6794	n.a.	1.1847	2.2166
0	Existing number of ATR sites, n	7	9	4	1	6	3
0	t-statistic for number of sites, T	3.707	3.355	5.841	n.a.	4.032	9.925
0	Existing precision* ¹	1.08853	6.34117	4.9046		1.9500	12.701
1	Assumed number of ATR sites, n	3	7	3		3	4
1	t-statistic for assumed number of sites, T	9.935	3.707	9.935		9.935	5.841
1	precision* ¹	4.45628	7.9446	9.633		6.7954	6.4735
2	Assumed number of ATR sites, n	2	6	2		2	
2	t-statistic for assumed number of sites, T	63.657	4.032	63.657		63.657	
2	precision* ¹	34.9701	9.33347	75.593		53.326	
3	Assumed number of ATR sites, n		5				
3	t-statistic for assumed number of sites, T		4.604				
3	precision* ¹		11.6748				
	Minimum number of ATR sites needed	3	6	3	n.a.	3	3
	Adjusted minimum number of new sites needed* ⁴ , x	4	8	4	n.a.	5	4
	Existing number of ATR sites, n	7	9	4	1	6	3
	Number of new sites needed, z = x - n						1
	Number of excess sites* ² , z' = n - x	3	1	0	n.a.	1	

*1: Precision Interval, $PI = T * CV/n^{0.5}$

where $T = t_{1-d/2, n-1}$, read off from statistical tables

d = significance level

and n = number of observations (stations) in seasonal group under consideration

*2: Represents maximum number of sites that could be deleted for any reason, or maximum number of sites that could be in an in-operational state at any particular time such that precision threshold would not be exceeded.

Table AC.4 (c)

Adequacy Analysis for Vehicle Classification ATRs, Criterion C

Year: 1995 data

Level of Confidence: 99%, Precision threshold: +/- 10%

Grouping Criterion: C - ATRs in groups based on area and functional classes

i.e., current INDOT grouping for traffic volumes

Iteration #	Statistic	Group 1	Group 2	Group 3	Group 4	Group 5
		Urban Int., FW& EW	Urban PA, MA,C, & L	Rural Int.	Rural PA, & MA	Rural MC & Locals
	Coeff. of variation,CV	7.6318	n.a.	17.4322	21.3158	19.1889
0	Nr. of ATR sites used for analysis, n	7	1	8	12	2
0	t-statistic for existing nr. of sites, T	3.707	n.a.	3.499	3.106	63.657
0	Existing precision* ¹	10.693	n.a.	21.5651	19.1123	863.736
1	Assumed number of ATR sites, n	8		20	23	10
1	t-statistic for assumed nr. of sites, T	3.499		2.861	2.819	3.355
1	precision* ¹	9.44117		11.1521	12.5295	20.3584
2	Assumed number of ATR sites, n			23	29	28
2	t-statistic for assumed nr. of sites, T			2.819	2.771	2.771
2	precision* ¹			10.2467	10.9683	10.0486
3	Assumed number of ATR sites, n			24	30	29
3	t-statistic for assumed nr. of sites, T			2.807	2.756	2.763
3	precision* ¹			9.98824	9.9761	9.84537
	Minimum number of ATR sites needed	8	n.a.	24	30	29
	Adjusted minimum number of new sites needed* ⁴ , x	11		32	40	39
	Number of excluded ATR sites, m	0	0	4	0	0
	Existing number of ATR sites, y= n+m	7	1	12	12	2
	Number of new sites needed, z = x - y	4	2*⁵	20	28	37
	Number of excess sites* ² , z = y - x					

*1: Precision Interval, $PI = T * CV/n^{0.5}$ where $T = t_{1-d/2, n-1}$, read off from statistical tables

d = significance level

and n = number of observations (stations) in seasonal group under consideration

*2: Represents maximum number of sites that could be deleted for any reason, or maximum number of sites that could be in an in-operational state at any particular time such that precision threshold would not be exceeded.

*3: Actual Nr. of sites = Nr. of sites used for analysis + Nr. of sites excluded from analysis due to questionable or missing data

*4: Adjustment for downtime

*5: A tentative minimum of 2 new ATRs is recommended for groups with less than 2 existing ATRs

Int.- Interstate, PA- other principal arterial, MA- minor arterial, MC- minor collector, L- local
FW&EW- freeways and expressways

Table AC.4 (e)
Adequacy Analysis for Vehicle Classification ATRs, Criterion E

Year: 1995 data

Level of Confidence: 99%, Precision threshold: +/- 10%

Grouping Criterion :E- ATRs in groups, based on aerial, regional, functional, and peripheral classes

Iteration	Statistic Coeff. of variation, CV	Group 1 NP ATRs ex. NRI	Group 2 P ATRs ex. NRI	Group 3 NRI
		18.1006	18.8162	18.5088
0	Nr. of ATR sites used for analysis, n	17	9	4
0	t-statistic for existing number of sites, T	2.921	3.355	5.841
0	Existing precision* ¹	12.82331	21.04278	54.05495
1	Assumed number of ATR sites, n	22	25	22
1	t-statistic for assumed nr. of sites, T	2.831	2.797	2.831
1	precision* ¹	10.925	10.52578	11.17138
2	Assumed number of ATR sites, n	25	26	25
2	t-statistic for assumed nr. of sites, T	2.797	2.787	2.797
2	precision* ¹	10.12548	10.28448	10.35382
3	Assumed number of ATR sites, n	26	27	26
3	t-statistic for assumed nr. of sites, T	2.787	2.779	2.787
3	precision* ¹	9.893348	10.06326	10.11646
4	Assumed number of ATR sites, n		28	27
4	t-statistic for assumed nr. of sites, T		2.771	2.779
4	precision* ¹		9.853475	9.898854
Minimum number of ATR sites needed		26	28	27
Adjusted minimum nr. of new sites needed* ⁴ , x		35	37	36
Existing number of sites* ³ , y		17	9	4
Number of additional sites needed, z = x - y		18	28	32
Number of excess sites* ² , z = y - x				

*1: Precision Interval, $PI = T * CV/n^{0.5}$

where $T = t_{1-\alpha/2, n-1}$, read off from statistical tables

d = significance level

and n = number of observations (stations) in seasonal group under consideration

*2: Represents maximum number of sites that could be deleted for any reason, or maximum number of sites that could be in an in-operational state at any particular time such that precision threshold would not be exceeded.

*3: Actual Nr. of sites = Nr. of sites used for analysis + Nr. of sites excluded from analysis due to questionable or missing data

*4: Adjustment for downtime

*5; P-peripheral, NP- non-peripheral, NRI- northern rural interstates, ex- with exception of ...

Table AC.4 (f)

Adequacy Analysis for Vehicle Classification ATRs, Criterion F

Year: 1995 data

Level of Confidence: 99%, Precision threshold: +/- 10%

Grouping Criterion: F- ATRs in bunched groups based on aerial and functional classes

Iteration	Statistic	Group 1 Rural I., OPA	Group 2 Rural Other	Group 3 Urban I., OFE, OPA	Group 4 Urban Other
	Coeff. of variation, CV	16.5507	19.3174	16.458	n.a.
0	Number of ATR sites used for analysis, n	9	14	6	1
0	t-statistic for number of sites, T	3.355	3.012	4.032	
0	Existing precision* ¹	18.5092	15.55033	27.09081	n.a.
1	Assumed number of ATR sites, n	15	27	13	
1	t-statistic for assumed number of sites, T	2.977	2.779	3.055	
1	precision* ¹	12.72183	10.33131	13.94494	
2	Assumed number of ATR sites, n	21	28	21	
2	t-statistic for assumed number of sites, T	2.845	2.771	2.845	
2	precision* ¹	10.27517	10.11594	10.21762	
3	Assumed number of ATR sites, n	22	29	22	
3	t-statistic for assumed number of sites, T	2.831	2.763	2.831	
3	precision* ¹	9.989526	9.911299	9.933575	
	Minimum number of ATR sites needed	22	29	22	n.a.
	Adjusted minimum number of new sites needed* ⁴ , x	29	38	29	
	Number of excluded ATR sites, m	4	0	0	0
	Existing number of ATR sites, y= n+m	13	14	6	1
	Number of new sites needed, z = x - y	16	24	23	2*⁵

*1: Precision Interval, $PI = T * CV/n^{0.5}$ where $T = t_{1-d/2, n-1}$, read off from statistical tables

d = significance level

and n = number of observations (stations) in seasonal group under consideration

*2: Represents maximum number of sites that could be deleted for any reason, or maximum number of sites that could be in an in-operational state at any particular time such that precision threshold would not be exceeded.

*3: Actual Nr. of sites = Nr. of sites used for analysis + Nr. of sites excluded from analysis due to questionable or missing data

*4: Adjustment for downtime

*5: A tentative minimum of 2 new ATRs is recommended for groups with less than 2 existing ATRs

*6: Int.- Interstate, PA- other principal arterial, MA- minor arterial, MC- minor collector, L- local
FW&EW- freeways and expressways

Table AC.4 (g)
Adequacy Analysis for Vehicle Classification ATRs, Criterion G

Year: 1995 data

Level of Confidence: 99%, Precision threshold: +/- 10%

Grouping Criterion: **G**- ATRs in groups based on functional classes only

Iteration	Statistic	Group 1 Int.	Group 2 OPA & OFE	Group 3 Min. Art'ls	Group 4 Coll's & Locals
	Coeff. of variation CV	14.4292	21.2351	8.2249	19.1908
0	Number of ATR sites used for analysis, n	15	11	2	2
0	t-statistic for existing number of sites, T	2.977	3.169	63.657	63.657
0	Existing precision*1	11.09112	20.28991	370.2216	863.822
1	Assumed number of ATR sites, n	17	29	7	27
1	t-statistic for assumed number of sites, T	2.921	2.763	3.707	2.779
1	precision*1	10.22232	10.89522	11.52403	10.2636
2	Assumed number of ATR sites, n	18	30	8	28
2	t-statistic for assumed number of sites, T	2.898	2.756	3.499	2.771
2	precision*1	9.856084	10.68496	10.17489	10.04964
3	Assumed number of ATR sites, n			9	29
3	t-statistic for assumed number of sites, T			3.355	2.756
3	precision*1			9.19818	9.821398
	Minimum number of ATR sites needed	18	>30	9	29
	Adjusted minimum number of new sites needed*4, x	29	>40	12	39
	Number of excluded ATR sites, m	4	0	0	0
	Existing number of ATR sites, y= n+m	19	11	2	2
	Number of new sites needed, z = x - y	10	>31	10	37

*1: Precision Interval, $PI = T * CV/n^{0.5}$

where $T = t_{1-\alpha/2, n-1}$, read off from statistical tables

d = significance level

and n = number of observations (stations) in seasonal group under consideration

*2: Represents maximum number of sites that could be deleted for any reason, or maximum number of sites that could be in an in-operational state at any particular time such that precision threshold would not be exceeded.

*3: Actual Nr. of sites = Nr. of sites used for analysis + Nr. of sites excluded from analysis due to questionable or missing data

*4: Adjustment for downtime

*5: A tentative minimum of 2 new ATRs is recommended for groups with less than 2 existing ATRs

Int.- Interstate, PA- other principal arterial, MA- minor arterial, MC- minor collector, L- local

FW&EW- freeways and expressways

Table AC.4 (h)
Adequacy Analysis for Vehicle Classification ATRs, Criterion H

Year: 1995 data

Desired level of confidence: 99%, Precision threshold: +/- 10%

Grouping Criterion: **H**- ATRs in groups based on regional and functional classes

Iteration #	Statistic	Group 1 Northern Intestates	Group 2 Southern Other	Group 3 Northern Intestates	Group 4 Southern Other
	Coeff. of variation (from prec. analysis), CV	14.4365	15.2743	11.8716	12.7498
0	Number of ATR sites used for analysis, n	10	4	9	6
0	t-statistic for existing number of sites, T	3.169	5.841	3.355	4.032
0	Existing precision*1	14.46719	44.6086	13.2764	20.9869
1	Assumed number of ATR sites, n	16	10	11	14
1	t-statistic for assumed number of sites, T	2.947	3.25	3.169	3.012
1	precision*1	10.63609	15.698	11.3432	10.2635
2	Assumed number of ATR sites, n	17	19	13	15
2	t-statistic for assumed number of sites, T	2.921	2.878	3.055	2.977
2	precision*1	10.22749	10.085	10.0589	9.80024
3	Assumed number of ATR sites, n	18	20	14	
3	t-statistic for assumed number of sites, T	2.898	2.861	3.012	
3	precision*1	9.86107	9.77157	9.55653	
	Minimum number of ATR sites needed	18	20	14	15
	Adjusted minimum number of new sites needed*4, x	24	27	18	20
	Number of excluded ATR sites, m	1	3	0	0
	Existing number of ATR sites, y= n+m	11	7	8	6
	Number of new sites needed, z = x - y	13	20	10	14

*1: Precision Interval, $PI = T * CV/n^{0.5}$

where $T = t_{1-d/2, n-1}$, read off from statistical tables

d = significance level

and n = number of observations (stations) in seasonal group under consideration

*2: Represents maximum number of sites that could be deleted for any reason, or maximum number of sites that could be in an in-operational state at any particular time such that precision threshold would not be exceeded.

*3: Actual Nr. of sites = Nr. of sites used for analysis + Nr. of sites excluded from analysis due to questionable or missing data

*4: Adjustment for downtime

*5: A tentative minimum of 2 new ATRs is recommended for groups with less than 2 existing ATRs

Table AC.4 (i)
Adequacy Analysis for Vehicle Classification ATRs, Criterion I

Year: 1995 data					
Level of Confidence: 99%, Precision threshold: +/- 10%					
Grouping Criterion: I- ATRs in groups based on regional and functional classes					
Iteration #	Statistic	Group 1 Peripheral Interstates	Group 2 Non-Per. Interstates	Group 3 Peripheral Other	Group 4 Non-Per. Other
	Coeff. of variation, CV	15.8093	9.7819	21.2706	12.508
0	Nr. of ATR sites used for analysis, n	8	6	7	9
0	t-statistic for existing number of sites, T	3.499	4.604	3.707	3.355
0	Existing precision* ¹	19.55742	18.38582	29.80254	13.98811
1	Assumed number of ATR sites, n	15	8	26	11
1	t-statistic for assumed number of sites, T	2.977	3.499	2.779	3.106
1	precision* ¹	12.15195	12.10103	11.59262	11.71367
2	Assumed number of ATR sites, n	20	10	30	14
2	t-statistic for assumed number of sites, T	2.861	3.25	2.756	3.012
2	precision* ¹	10.11383	10.05325	10.70282	10.06883
3	Assumed number of ATR sites, n	21	11		15
3	t-statistic for assumed number of sites, T	2.845	3.106		2.977
3	precision* ¹	9.814886	9.160693		9.614375
	Minimum number of ATR sites needed	21	11	>30	15
	Adjusted minimum number of new sites needed* ⁴ , x	28	15	>40	20
	Number of excluded ATR sites, m	3	1	0	0
	Existing number of ATR sites, y= n+m	11	7	7	9
	Number of new sites needed, z = x - y	17	8	>33	11

*1: Precision Interval, $PI = T * CV/n^{0.5}$

where $T = t_{1-d/2, n-1}$, read off from statistical tables

d = significance level

and n = number of observations (stations) in seasonal group under consideration

*2: Represents maximum number of sites that could be deleted for any reason, or maximum number of sites that could be in an in-operational state at any particular time such that precision threshold would not be exceeded.

*3: Actual Nr. of sites = Nr. of sites used for analysis + Nr. of sites excluded from analysis due to questionable or missing data

*4: Adjustment for downtime

*5: A tentative minimum of 2 new ATRs is recommended for groups with less than 2 existing ATRs

Table AC.4 (j)
Adequacy Analysis for Vehicle Classification ATRs, Criterion J

Year: 1995 data

Level of Confidence: 99%, Precision threshold: +/- 10%

Grouping Criterion: J - ATRs in groups based on regional location only

Iteration	Statistic	Group 1 North- western	Group 2 North- eastern	Group 3 South- western	Group 4 South- eastern	Group 5 Central
	Coeff. of variation (from prec. Analysis)	17.7223	12.2115	12.0447	21.0802	8.5232
0	Nr. of ATR sites used for analysis, n	10	5	8	2	5
0	t-statistic for existing nr. of sites, T	3.25	4.032	3.499	63.657	4.032
0	Existing precision* ¹	18.2139	22.01935	14.9003	948.868	15.3687
1	Assumed number of ATR sites, n	23	10	12	27	8
1	t-statistic for existing nr. of sites, T	2.819	3.25	3.106	2.779	3.499
1	precision* ¹	10.4172	12.55025	10.7996	11.2741	10.5439
2	Assumed number of ATR sites, n	24	13	13	30	9
2	t-statistic for existing nr. of sites, T	2.807	3.055	3.055	2.756	3.355
2	precision* ¹	10.1545	10.34686	10.2055	10.607	9.53178
3	Assumed number of ATR sites, n	25	14	14		
3	t-statistic for existing nr. of sites, T	2.797	3.012	3.012		
3	precision* ¹	9.91385	9.830146	9.69587		
	Minimum number of ATR sites needed	25	14	14	>30	9
	Adjusted minimum number of new sites needed* ⁴ , x	33	19	19	>40	12
	Number of excluded ATR sites, m	0	0	1	2	1
	Existing number of ATR sites, y= n+m	10	5	9	4	6
	Number of new sites needed, z = x - y	23	14	10	>36	6

*1: Precision Interval, $PI = T * CV/n^{0.5}$

where $T = t_{1-d/2, n-1}$, read off from statistical tables

d = significance level

and n = number of observations (stations) in seasonal group under consideration

*2: Represents maximum number of sites that could be deleted for any reason, or maximum number of sites that could be in an in-operational state at any particular time such that precision threshold would not be exceeded.

*3: Actual Nr. of sites = Nr. of sites used for analysis + Nr. of sites excluded from analysis due to questionable or missing data

*4: Adjustment for downtime

*5: A tentative minimum of 2 new ATRs is recommended for groups with less than 2 existing ATRs

Table AC.4(k)
COMPOSITION OF GROUPS BASED STRICTLY ON RESULTS OF
THE CLUSTER PROCEDURE (Criterion A)

Description of data

Year: 1995

Count type: Vehicle classification

Page: 1 of 1

Description of cluster procedure

Clustering method: Ward's Min. Variance

Clustering variable used: AAPT/MAPT

Number of clusters specified: unspecified

Cluster #	Obs.	ATR station ID	Attributes of ATR station	Dominant attributes in cluster
Cluster 1 (7 ATRs)	1	Adams 4280	Rural OPA Northern NE Peripheral	*Arterials
	29	Marshall 4260	Rural OPA Northern NW Non-P	(Strongly dominant)
	26	Dekalb 4150	Rural Interstate Northern NE Peripheral	*Rural
	7	Delaware 5270	Rural Collector Northern NE Non-P	(strongly dominant)
	5	Benton 5240	Rural OPA Northern NW Non-P	*Northern
	28	Laporte 4250	Rural MA Northern NW Peripheral	(strong dominance)
	30	Miami 4270	Rural OPA Northern NE Non-peripheral	*Non-peripheral (weak dominance)
Cluster 2 (9 ATRs)	2	Lake 4440	Urban Interstate Northern NW P	*Urban
	25	Grant 4140	Rural Interstate Northern NE Non-P	(fairly dominant)
	6	Monroe 5250	Rural OPA Southern SW Non-peripheral	*Interstate
	18	V'burg 6260	Rural Collector Southern SW Peripheral	(strongly dominant)
	10	Marion 5460	Urban Interstate Southern Central Non-P	*Northern
	27	Porter 4240	Rural OPA Northern NW Peripheral	(Fairly dominant)
	12	Marion 5480	Urban Interstate Northern Central Non-P	*Non-peripheral
	11	Marion 5470	Urban Interstate Southern Central Non-P	(Weakly dominant)
	24	Laporte 4130	Rural Interstate Northern NW Peripheral	
Cluster 3 (8 ATRs)	3	Vermillion 5130	Rural OPA Northern NW Peripheral	*Rural
	8	Vigo 5440	Urban Interstate Southern SW P	(Strongly dominant)
	20	Daviess 6280	Rural OPA Southern SW Non-P	*Arterials
	21	Ripley 6290	Rural OPA Southern SE Non-peripheral	(Strongly dominant)
	17	Posey 6250	Rural OPA Southern SW Peripheral	*Southern
	23	Jasper 4110	Rural Interstate Northern NW Non-P	(Fairly dominant)
	19	Spencer 6270	Rural OPA Southern SW Peripheral	*Peripheral
	4	Wayne 5140	Rural Interstate Northern NE Peripheral	(Weakly dominant)
Cluster 4 (6 ATRs)	9	T'canoe 5450	Rural Interstate Northern NW Non-P	*Rural
	15	Gibson 6140	Rural Interstate Southern SW Peripheral	(Weakly dominant)
	13	Hamilton 5550	Urban OPA Northern Central Non-P	*Interstate
	16	Hamilton 6260	Rural MA Northern Central Non-P	(Strongly dominant)
	22	Clark 6420	Urban Interstate Southern SE Non-P	*Southern
	14	V'burg 6130	Urban Interstate Southern SW P	(Weakly dominant)
				*Non-peripheral (Weakly dominant)

Abbreviations: NW- Northwestern, NE-Northeastern, SW- Southwestern, SE- Southeastern
OPA- Other Principal Arterial, MA- Minor Arterial, P- peripheral

Table AC.4(l)
COMPOSITION OF GROUPS BASED STRICTLY ON RESULTS
OF THE CLUSTER PROCEDURE (Criterion B1)

Description of data

Year: 1995

Count type: Vehicle classification

Page: 1 of 1

Description of cluster procedure

Clustering method: Ward's Min. Variance

Clustering variable used : AAPT/MAPT

Number of clusters specified: 3

Cluster #	Obs.	ATR station ID	Attributes of ATR station	Dominant attributes
Cluster 1 (13 ATRs)	1	Adams 4280	Rural OPA Northern NE Peripheral	*Rural (Strongly dominant)
	29	Marshall 4260	Rural OPA Northern NW Non-P	* Arterials
	26	Dekalb 4150	Rural Interstate Northern NE P	(Strongly dominant)
	7	Delaware 5270	Rural Collector Northern NE Non-P	* Northern
	5	Benton 5240	Rural OPA Northern NW Non-P	(Fairly dominant)
	28	Laporte 4250	Rural MA Northern NW Peripheral	*Non-peripheral
	30	Miami 4270	Rural OPA Northern NE Non-P	(Fairly dominant)
	9	Tipp'canoe 5450	Rural Interstate Northern NW Non-P	
	15	Gibson 6140	Rural Interstate Southern SW P	
	13	Hamilton 5550	Urban OPA Northern Central Non-P	
	16	Hamilton 6260	Rural MA Northern Central Non-P	
	22	Clark 6420	Urban Interstate Southern SE Non-P	
	14	Vanderburg 6130	Urban Interstate Southern SW P	
Cluster 2 (9 ATRs)	2	Lake 4440	Urban Interstate Northern NW P	*Urban (fairly dominant)
	25	Grant 4140	Rural Interstate Northern NE Non-P	*Interstate
	6	Monroe 5250	Rural OPA Southern SW Non-P	(strongly dominant)
	18	Vanderburg 6260	Rural Collector Southern SW P	*Northern
	10	Marion 5460	Urban Interstate Southern Central Non-P	(Fairly dominant)
	27	Porter 4240	Rural OPA Northern NW Peripheral	*Non-peripheral
	12	Marion 5480	Urban Interstate Northern Central Non-P	(Weakly dominant)
	11	Marion 5470	Urban Interstate Southern Central Non-P	
Cluster 3 (8 ATRs)	24	Laporte 4130	Rural Interstate Northern NW Peripheral	
	3	Vermillion 5130	Rural OPA Northern NW Peripheral	*Rural (Strongly dominant)
	8	Vigo 5440	Urban Interstate Southern SW Peripheral	* Arterials
	20	Daviess 6280	Rural OPA Southern SW Non-peripheral	(strongly dominant)
	21	Ripley 6290	Rural OPA Southern SE Non-peripheral	(strongly dominant)
	17	Posey 6250	Rural OPA Southern SW Peripheral	*Southern
	23	Jasper 4110	Rural Interstate Northern NW Non-P	(Fairly dominant)
	19	Spencer 6270	Rural OPA Southern SW Peripheral	*Peripheral
	4	Wayne 5140	Rural Interstate Northern NE Peripheral	(Weakly dominant)

Abbreviations:

NW- Northwestern, NE-Northeastern, SW- Southwestern, SE- Southeastern, P-peripheral

Table AC.4(m)
COMPOSITION OF GROUPS BASED STRICTLY ON RESULTS OF
THE CLUSTER PROCEDURE (Criterion B2)

Description of data

Year: 1995

Count type: Vehicle classification

Page: 1 of 1

Description of cluster procedure

Clustering method: Ward's Min. Variance

Clustering variable used: AAPT/MAPT

Number of clusters specified: 4

Cluster #	Obs.	ATR station ID	Attributes of ATR station	Dominant attributes
Cluster 1 (7 ATRs)	1	Adams 4280	Rural OPA Northern NE Peripheral	*Arterials
	29	Marshall 4260	Rural OPA Northern NW Non-P	(Strongly dominant)
	26	Dekalb 4150	Rural Interstate Northern NE Peripheral	*Rural
	7	Delaware 5270	Rural Collector Northern NE Non-P	(strongly dominant)
	5	Benton 5240	Rural OPA Northern NW Non-P	*Northern
	28	Laporte 4250	Rural MA Northern NW Peripheral	(strong dominance)
	30	Miami 4270	Rural OPA Northern NE Non-peripheral	*Non-peripheral (weak dominance)
Cluster 2 (9 ATRs)	2	Lake 4440	Urban Interstate Northern NW P	*Urban
	25	Grant 4140	Rural Interstate Northern NE Non-P	(fairly dominant)
	6	Monroe 5250	Rural OPA Southern SW Non-peripheral	*Interstate
	18	V'burg 6260	Rural Collector Southern SW Peripheral	(strongly dominant)
	10	Marion 5460	Urban Interstate Southern Central Non-P	*Northern
	27	Porter 4240	Rural OPA Northern NW Peripheral	(Fairly dominant)
	12	Marion 5480	Urban Interstate Northern Central Non-P	*Non-peripheral
	11	Marion 5470	Urban Interstate Southern Central Non-P	(Weakly dominant)
	24	Laporte 4130	Rural Interstate Northern NW Peripheral	
Cluster 3 (8 ATRs)	3	Vermillion 5130	Rural OPA Northern NW Peripheral	*Rural
	8	Vigo 5440	Urban Interstate Southern SW P	(Strongly dominant)
	20	Daviess 6280	Rural OPA Southern SW Non-P	*Arterials
	21	Ripley 6290	Rural OPA Southern SE Non-peripheral	(Strongly dominant)
	17	Posey 6250	Rural OPA Southern SW Peripheral	*Southern
	23	Jasper 4110	Rural Interstate Northern NW Non-P	(Fairly dominant)
	19	Spencer 6270	Rural OPA Southern SW Peripheral	*Peripheral
	4	Wayne 5140	Rural Interstate Northern NE Peripheral	(Weakly dominant)
Cluster 4 (6 ATRs)	9	T'canoe 5450	Rural Interstate Northern NW Non-P	*Rural
	15	Gibson 6140	Rural Interstate Southern SW Peripheral	(Weakly dominant)
	13	Hamilton 5550	Urban OPA Northern Central Non-P	*Interstate
	16	Hamilton 6260	Rural MA Northern Central Non-P	(Strongly dominant)
	22	Clark 6420	Urban Interstate Southern SE Non-P	*Southern
	14	V'burg 6130	Urban Interstate Southern SW P	(Weakly dominant)
				*Non-peripheral (Weakly dominant)

Abbreviations: NW- Northwestern, NE-Northeastern, SW- Southwestern, SE- Southeastern
OPA- Other Principal Arterial, MA- Minor Arterial, P- peripheral

Table AC.4(n)
COMPOSITION OF GROUPS BASED STRICTLY ON RESULTS
OF THE CLUSTER PROCEDURE (Criterion B3)

Description of data

Year: 1995

Count type: Vehicle classification

Page: 1 of 2

Description of cluster procedure

Clustering method: Ward's Min. Variance

Clustering variable used: AAPT/MAPT

Number of clusters specified: 5

Cluster #	Obs.	ATR station ID	Attributes of ATR station	Dominant attributes
Cluster 1 (7 ATRs)	1	Adams 4280	Rural OPA Northern NE Peripheral	*Arterials
	29	Marshall 4260	Rural OPA Northern NW Non-P	(Strongly dominant)
	26	Dekalb 4150	Rural Interstate Northern NE P	*Rural
	7	Delaware 5270	Rural Collector Northern NE Non-P	(strongly dominant)
	5	Benton 5240	Rural OPA Northern NW Non-P	*Northern
	28	Laporte 4250	Rural MA Northern NW P	(strong dominance)
	30	Miami 4270	Rural OPA Northern NE Non-P	*Non-peripheral (weak dominance)
Cluster 2 (9 ATRs)	2	Lake 4440	Urban Interstate Northern NW P	*Urban
	25	Grant 4140	Rural Interstate Northern NE Non-P	(fairly dominant)
	6	Monroe 5250	Rural OPA Southern SW Non-P	*Interstate
	18	Vanderburg 6260	Rural Collector Southern SW P	(strongly dominant)
	10	Marion 5460	Urban Interstate Southern Central Non-P	*Northern
	27	Porter 4240	Rural OPA Northern NW Peripheral	(Fairly dominant)
	12	Marion 5480	Urban Interstate Northern Central Non-p	*Non-peripheral
	11	Marion 5470	Urban Interstate Southern Central Non-p	(Weakly dominant)
	24	Laporte 4130	Rural Interstate Northern NW Peripheral	

Abbreviations:

NW- Northwestern, NE-Northeastern, SW- Southwestern, SE- Southeastern

OPA- Other Principal Arterial, MA- Minor Arterial

Table AC.4(n) continued
 COMPOSITION OF GROUPS BASED STRICTLY ON RESULTS
 OF THE CLUSTER PROCEDURE (Criterion B3, cont'd)

Description of data

Year: 1995

Count type: Vehicle classification

Page: 2 of 2

Description of cluster procedure

Clustering method: Ward's Min. Variance

Clustering variable used: AAPT/MAPT

Number of clusters specified: 5

Cluster #	Obs.	ATR station ID	Attributes of ATR station	Dominant attributes
Cluster 3 (8 ATRs)	3	Vermillion 5130	Rural OPA Northern NW P	*Rural (Strongly dominant)
	8	Vigo 5440	Urban Interstate Southern SW P	*Arterials (Strongly dominant)
	20	Daviess 6280	Rural OPA Southern SW Non-P	*Southern (Fairly dominant)
	21	Ripley 6290	Rural OPA Southern SE Non-P	*Peripheral (Weakly dominant)
	17	Posey 6250	Rural OPA Southern SW Peripheral	
	23	Jasper 4110	Rural Interstate Northern NW Non-P	
	19	Spencer 6270	Rural OPA Southern SW Peripheral	
Cluster 4 (1 ATR)	4	Wayne 5140	Rural Interstate Northern NE P	not applicable
Cluster 5 (6 ATRs)	9	Tipp'canoe 5450	Rural Interstate Northern NW Non-P	*Rural (Weakly dominant)
	15	Gibson 6140	Rural Interstate Southern SW P	*Interstate (Strongly dominant)
	13	Hamilton 5550	Urban OPA Northern Central Non-P	*Southern (Weakly dominant)
	16	Hamilton 6260	Rural MA Northern Central Non-P	*Non-peripheral (Weakly dominant)
	22	Clark 6420	Urban Interstate Southern SE Non-P	
	14	Van'burg 6130	Urban Interstate Southern SW P	

Abbreviations:

NW- Northwestern, NE-Northeastern, SW- Southwestern, SE- Southeastern, OPA- Other Principal Arterial, MA- Minor Arterial

Table AC.4(o)
COMPOSITION OF GROUPS BASED STRICTLY ON RESULTS OF
THE CLUSTER PROCEDURE (Criterion B4)

Description of data

Year: 1995

Count type: Vehicle classification

Page: 1 of 2

Description of cluster procedure

Clustering method: Ward's Min. Variance

Clustering variable used: AAPT/MAPT

Number of clusters specified: 6

Cluster #	Obs.	ATR station ID	Attributes of ATR station	Dominant attributes
Cluster 1 (7 ATRs)	1	Adams 4280	Rural OPA Northern NE Peripheral	*Arterials (Strongly dominant)
	29	Marshall 4260	Rural OPA Northern NW Non-peripheral	*Rural
	26	Dekalb 4150	Rural Interstate Northern NE Peripheral	(strongly dominant)
	7	Delaware 5270	Rural Collector Northern NE Non-p	*Northern
	5	Benton 5240	Rural OPA Northern NW Non-p	(strong dominance)
	28	Laporte 4250	Rural MA Northern NW P	*Non-peripheral
	30	Miami 4270	Rural OPA Northern NE Non-peripheral	(weak dominance)
Cluster 2 (9 ATRs)	2	Lake 4440	Urban Interstate Northern NW Peripheral	*Urban
	25	Grant 4140	Rural Interstate Northern NE Non-p	(fairly dominant)
	6	Monroe 5250	Rural OPA Southern SW Non-peripheral	*Interstate
	18	Vand'burg 6260	Rural Collector Southern SW Peripheral	(strongly dominant)
	10	Marion 5460	Urban Interstate Southern Central Non-p	*Northern
	27	Porter 4240	Rural OPA Northern NW Peripheral	(Fairly dominant)
	12	Marion 5480	Urban Interstate Northern Central Non-p	*Non-peripheral
	11	Marion 5470	Urban Interstate Southern Central Non-p	(Weakly dominant)
	24	Laporte 4130	Urban Interstate Northern NW Peripheral	

Abbreviations:

NW- Northwestern, NE-Northeastern, SW- Southwestern, SE- Southeastern, OPA- Other Principal Arterial, MA- Minor Arterial

Table AC.4(o)
COMPOSITION OF GROUPS BASED STRICTLY ON RESULTS OF
THE CLUSTER PROCEDURE (Criterion B4, cont'd)

Description of data

Year: 1995

Count type: Vehicle classification

Page: 2 of 2

Description of cluster procedure

Clustering method: Ward's Min. Variance

Clustering variable used: AAPT/MAPT

Number of clusters specified: 6

Cluster #	Obs.	ATR station ID	Attributes of ATR station	Dominant attributes
Cluster 3 (4 ATRs)	3 8 20 21	Vermillion 5130 Vigo 5440 Davies 6280 Ripley 6290	Rural OPA Northern NW Peripheral Urban Interstate Southern SW Peripheral Rural OPA Southern SW Non-peripheral Rural OPA Southern SE Non-peripheral	*Rural (strong dominance) *Other principal Arterial (strong dominance) *Southern (strong dominance)
Cluster 4 (1 ATR)	4	Wayne 5140	Rural Interstate Northern NE Peripheral	not applicable
Cluster 5 (6 ATRs)	9 15 13 16 22 14	Tipp'canoe 5450 Gibson 6140 Hamilton 5550 Hamilton 6260 Clark 6420 Vanderburg 6130	Rural Interstate Northern NW Non-p Rural Interstate Southern SW Peripheral Urban OPA Northern Central Non-p Rural MA Northern Central Non-peripheral Urban Interstate Southern SE Non-p Urban Interstate Southern SW Peripheral	*Interstate (fairly dominant) *Southern (fairly dominant) *Non-peripheral (strongly dominant)
Cluster 6 (3 ATRs)	17 23 19	Posey 6250 Jasper 4110 Spencer 6270	Rural OPA Southern SW Peripheral Rural Interstate Northern NW Non-p Rural OPA Southern SW Peripheral	*Rural (strong dominance) *OPA (fair dominance) *Southern (fair dominance) *Peripheral (fair dominance)

Abbreviations:

NW- Northwestern, NE-Northeastern, SW- Southwestern, SE- Southeastern

OPA- Other Principal Arterial, MA- Minor Arterial

Appendices for Truck Weight ATRs

Precision Analysis
Adequacy Analysis
Results of Cluster Procedure

Appendices for Truck Weight ATRs

Table AC.5: Sample of Precision Analysis, Truck Weight ATRs

Count type and Year: **Truck Weights, 1995 data**

Level of confidence desired : 90%

Grouping Criterion: **H- ATRs in groups based on regional and functional classes**

Group 1 (ATRs on Northern Interstates)

Excluded stations: Hancock 5110, Laporte 4130, Wayne 5140, Lake 4440

County	Route	Station	Jan	Feb	Mar	Apr
<i>Dekalb</i>	I-69	4150	0.9297	1.0121	1.0663	1.0016
<i>Grant</i>	I-69	4140	0.8673	0.8565	1.2938	1.2394
<i>Marion</i>	I-465	5460	0.9248	1.1042	1.0641	0.9317
<i>Marion</i>	I-65	5470	1.0779	1.0452	0.9906	1.0073
<i>Marion</i>	I-465	5480	0.9856	1.1235	1.0511	0.9807
<i>Jasper</i>	I-65	4110	0.5643	1.2243	0.7865	0.7123
<i>Vermillion</i>	I-74	5130	0.9403	1.1859	0.8716	1.0571
<i>Tip'canoe</i>	I-65	5450	0.9345	1.1056	1.0646	0.9345
<i>Mean</i>			0.90305	1.082163	1.023575	0.983075
<i>Std. Dev.</i>			0.149751	0.113959	0.150863	0.146598
<i># of stations, n</i>			8	8	8	8
<i>t statistic for n, d</i>			1.895	1.895	1.895	1.895
<i>CV</i>			16.58275	10.53069	14.73887	14.91214
<i>Precision</i>			11.11017	7.05539	9.874799	9.990892
<i>Ave. Precision =</i>					9.507814	

Average Precision Interval = 90% +/- 9.507814

Average CV = 14.19111

Table AC.6(a)
Adequacy Analysis for Truck Weight ATRs, Criterion A

Year: 1995 data

Level of Confidence: 90% Precision threshold: +/- 10%

Grouping Criterion: A- ATRs in groups based on results of cluster analysis, unspecified n

Iteration	Statistic	Group 1	Group 2	Group 3	Group 4	
	Coeff. of variation (from prec. analysis), CV	2.9858	5.4959	4.5053	n.a.	
0	Number of ATR sites used for analysis, n	6	11	3	1	
0	t-statistic for existing number of sites, T	2.015	1.812	2.92	n.a.	
0	Existing precision* ¹	2.45618	3.002622	7.59532		
1	Assumed number of ATR sites, n	3	6	2		
1	t-statistic for assumed number of sites, T	2.92	2.015	12.179		
1	Precision* ¹	5.033649	4.521039	38.799		
2	Assumed number of ATR sites, n	2	3			
2	t-statistic for assumed number of sites, T	12.179	2.92			
2	Precision* ¹	25.71327	9.265333			
3	Assumed number of ATR sites, n		2			
3	t-statistic for assumed number of sites, T		12.179			
3	Precision* ¹		47.32989			
						SUM
	Minimum number of ATR sites needed	3	3	3	2* ⁴	
	Adjusted min. number of new sites needed* ³ , x	4	4	4	3	15
	Number of ATR sites used for analysis	6	11	3	1	21
	Actual Number of existing ATR sites* ⁵ , n					34
	Net number of new sites needed, $z = x - n$					
	Net number of excess sites* ² , $z' = n - x$					21

*1: Precision Interval, $PI = T * CV/n^{0.5}$

where $T = t_{1-\alpha/2, n-1}$, read off from statistical tables

d = significance level

and n = number of observations (stations) in seasonal group under consideration

*2: Represents maximum number of sites that could be deleted for any reason, or maximum number of sites that could be in an in-operational state at any particular time such that precision threshold would not be exceeded.

*3: Adjustment of 30% for downtime

*4: A tentative minimum of 2 new ATR sites is recommended for groups that have less than 2 existing ATRs

*5: Actual Nr. of sites = Nr. of sites used for analysis + Nr. of sites excluded from analysis due to questionable or missing data

Table AC.6(b1)
Adequacy Analysis for Truck Weight ATRs, Criterion B1

Year: 1995 data

Level of Confidence: 90% Precision threshold: +/- 10%

Grouping Criterion: **B1**- ATRs in groups based on results of cluster analysis,
with number of clusters specified as 3

Iteration	Statistic	Group 1	Group 2	Group 3	
	Coeff. of variation (from prec. analysis), CV	19.9326	5.4959	4.5053	
0	Nr. of ATR sites used for analysis, n	7	11	3	
0	t-statistic for existing number of sites, T	1.943	1.812	2.92	
0	Existing precision* ¹	14.6382	3.00262	7.59532	
1	Assumed number of ATR sites, n	10	6	2	
1	t-statistic for assumed nr. of sites, T	1.833	2.015	12.179	
1	Precision* ¹	11.5538	4.52104	38.799	
2	Assumed number of ATR sites, n	12	3		
2	t-statistic for assumed nr. of sites, T	1.796	2.92		
2	Precision* ¹	10.3343	9.26533		
3	Assumed number of ATR sites, n	13	2		
3	t-statistic for assumed nr. of sites, T	1.782	12.179		
3	Precision* ¹	9.85145	47.3299		
					SUM
	Minimum number of ATR sites needed	13	3	3	
	Adjusted min. number of new sites needed* ³ , x	17	4	4	25
	Number of ATR sites used for analysis	6	11	3	21
	Actual Number of existing ATR sites* ⁵ , n				34
	Net number of excess sites*², z' = n - x				9

*1: Precision Interval, $PI = T * CV/n^{0.5}$

where $T = t_{1-d/2, n-1}$, read off from statistical tables

d = significance level

and n = number of observations (stations) in seasonal group under consideration

*2: Represents maximum number of sites that could be deleted for any reason, or maximum number of sites that could be in an in-operational state at any particular time such that precision threshold would not be exceeded.

*3: Adjustment of 30% for downtime

*4: A tentative minimum of 2 new ATR sites is recommended for groups that have less than 2 existing ATRs

*5: Actual Nr. of sites = Nr. of sites used for analysis + Nr. of sites excluded from analysis due to questionable or missing data

Table AC.6 (b2)
Adequacy Analysis for Truck Weight ATRs, Criterion B2

Year: 1995 data

Level of Confidence: 90% Precision threshold: +/- 10%

Grouping Criterion: **B2**- ATRs in groups based on results of cluster analysis,
with number of clusters specified as 4

Iteration	Statistic	Group 1	Group 2	Group 3	Group 4	
	Coeff. of variation (from prec. analysis), CV	2.9858	5.4959	4.5053	n.a.	
0	Number of ATR sites used for analysis, n	6	11	3	1	
0	t-statistic for existing nr. of sites, T	2.015	1.812	2.92	n.a.	
0	Existing precision* ¹	2.45618	3.00262	7.59532		
1	Assumed number of ATR sites, n	3	6	2		
1	t-statistic for assumed nr. of sites, T	2.92	2.015	12.179		
1	Precision* ¹	5.03365	4.52104	38.799		
2	Assumed number of ATR sites, n	2	3			
2	t-statistic for assumed nr. of sites, T	12.179	2.92			
2	Precision* ¹	25.7133	9.26533			
3	Assumed number of ATR sites, n		2			
3	t-statistic for assumed nr. of sites, T		12.179			
3	Precision* ¹		47.3299			
						SUM
	Minimum number of ATR sites needed	3	3	3	2* ⁴	
	Adjusted min. number of new sites needed* ³ , x	4	4	4	3	15
	Number of ATR sites used for analysis	6	11	3	1	21
	Actual Number of existing ATR sites* ⁵ , n					34
	Net number of new sites needed, $z = x - n$					
	Net number of excess sites*², $z' = n - x$					21

*1: Precision Interval, $PI = T * CV/n^{0.5}$

where $T = t_{1-d/2, n-1}$, read off from statistical tables

d = significance level

and n = number of observations (stations) in seasonal group under consideration

*2: Represents maximum number of sites that could be deleted for any reason, or maximum number of sites that could be in an in-operational state at any particular time such that precision threshold would not be exceeded.

*3: Adjustment of 30% for downtime

*4: A tentative minimum of 2 new ATR sites is recommended for groups that have less than 2 existing ATRs

*5: Actual Nr. of sites = Nr. of sites used for analysis + Nr. of sites excluded from analysis due to questionable or missing data

Table AC.6 (b3)
Adequacy Analysis for Truck Weight ATRs, Criterion B2

Year: 1995 data

Level of Confidence: 90% Precision threshold: +/- 10%

Grouping Criterion: **B3**- ATRs in groups based on results of cluster analysis,
with number of clusters specified as 5

Iteration	Statistic	Group 1	Group 2	Group 3	Group 4	Group 5	
	Coeff. of variation, CV	2.9858	5.4959	4.5053	2.0493	n.a.	
0	Nr. of ATR sites used for analysis	6	6	3	5	1	
0	t-statistic for existing nr. of sites	2.015	2.015	2.92	2.132	n.a.	
0	Existing precision* ¹	2.4562	4.52104	7.59532	1.95392		
1	Assumed nr. of ATR sites, n	3	3	2	3		
1	t-statistic for assumed nr. of sites,	2.92	2.92	12.179	2.92		
1	Precision* ¹	5.0336	9.26533	38.799	3.45484		
2	Assumed nr. of ATR sites, n	2	2		2		
2	t-statistic for assumed nr. of sites,	12.179	12.179		12.179		
2	Precision* ¹	25.713	47.3299		17.6483		
							SUM
Minimum number of ATR sites needed		3	3	3	3	2* ⁴	
Adjusted min. number of new sites needed* ³ , x		4	4	4	4	3	19
Number of ATR sites used for analysis		6	6	3	5	1	21
Actual Number of existing ATR sites* ⁵ , n							34
Net number of new sites needed, $z = x - n$							
Net number of excess sites* ² , $z' = n - x$							15

*1: Precision Interval, $PI = T * CV/n^{0.5}$

where $T = t_{1-d/2, n-1}$, read off from statistical tables

d = significance level

and n = number of observations (stations) in seasonal group under consideration

*2: Represents maximum number of sites that could be deleted for any reason, or
maximum number of sites that could be in an inoperational state at any particular time
such that precision threshold would not be exceeded.

*3: Adjustment of 30% for downtime

*4: A tentative minimum of 2 new ATR sites is recommended for groups that have less than
2 existing ATRs

*5: Actual Nr. of sites = Nr. of sites used for analysis + Nr. of sites excluded from
analysis due to questionable or missing data

Table AC.6 (b4)
Adequacy Analysis for Truck Weight ATRs, Criterion B4

Year: 1995 data

Level of Confidence: 90% Precision threshold: +/- 10%

Grouping Criterion: **B4**- ATRs in groups based on results of cluster analysis,
with number of clusters specified as 6

Statistic	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	
Coeff. of variation, CV	n.a.	5.4959	4.5053	2.0493	1.461	n.a.	
0 Nr. of ATR sites used for analysis, n	1	6	3	5	5	1	
0 t-statistic for existing nr. of sites, T	n.a.	2.015	2.92	2.132	2.132	n.a.	
0 Existing precision* ¹		4.52104	7.5953	1.95392	1.393		
1 Assumed nr. of ATR sites, n		3	2	3	3		
1 t-statistic for assumed nr. of sites, T		2.92	12.179	2.92	2.92		
1 Precision* ¹		9.26533	38.799	3.45484	2.46305		
2 Assumed nr. of ATR sites, n		2		2	2		
2 t-statistic for assumed nr. of sites, T		12.179		12.179	12.179		
2 Precision* ¹		47.3299		17.6483	12.5819		
							SUM
Minimum number of ATR sites needed	2*4	3	3	3	3	2*4	
Adjusted min. nr.of new sites needed* ³ ,x	3	4	4	4	4	3	22
Number of ATR sites used for analysis	1	6	3	5	5	1	21
Actual Number of existing ATR sites* ⁵ , n							34
Net number of new sites needed, $z = x - n$							
Net number of excess sites* ² , $z' = n - x$							12

*1: Precision Interval, $PI = T * CV/n^{0.5}$

where $T = t_{1-d/2, n-1}$, read off from statistical tables

d = significance level

and n = number of observations (stations) in seasonal group under consideration

*2: Represents maximum number of sites that could be deleted for any reason, or maximum number of sites that could be in an inoperational state at any particular time such that precision threshold would not be exceeded.

*3: Adjustment of 30% for downtime

*4: A tentative minimum of 2 new ATR sites is recommended for groups that have less than 2 existing ATRs

*5: Actual Nr. of sites = Nr. of sites used for analysis + Nr. of sites excluded from analysis due to questionable or missing data

Table AC.6 (c)
Adequacy Analysis for Truck Weight ATRs, Criterion C

Year: 1995 data

Level of Confidence: 90%, Precision threshold: +/- 10%

Grouping Criterion: C- ATRs in groups based on area and functional classes
i.e., current Indot grouping for volume

Iteration	Statistic	Group 1 Urban Int., FW& EW	Group 2 Urban OPA, MA,C, & L	Group 3 Rural Int.	Group 4 Rural, OPA & MA	Group 5 Rural MC & Locals
	Coeff. of variation, CV	12.8384	n.a.	16.4897	25.1026	1.7668
0	Nr. of ATR sites used for analysis	5	1	6	7	2
0	t-statistic for existing nr. of sites	2.132	n.a.	2.015	1.943	6.314
0	Existing precision*1	12.24089	n.a.	13.56476	18.43497	7.888183
1	Assumed number of ATR sites, n	6		9	15	
1	t-statistic for assumed nr. of sites	2.015		1.86	1.761	
1	precision*1	10.56113		10.22361	11.41386	
2	Assumed number of ATR sites, n	7		10	18	
2	t-statistic for assumed nr. of sites,	1.943		1.833	1.74	
2	precision*1	9.428328		9.55818	10.29513	
3	Assumed number of ATR sites, n				19	
3	t-statistic for assumed number of sites, T				1.734	
3	precision*1				9.985987	
	Minimum nr. of ATR sites needed	7	2*5	10	19	2
	Adjusted min. nr. of ATR sites needed*4	9	3	13	25	3
	Actual Nr. of sites, y*3	7	1	12	12	2
	Number of new sites needed, z = x - y	2	2	1	13	1

*1: Precision Interval, $PI = T * CV/n^{0.5}$

where $T = t_{1-d/2, n-1}$, read off from statistical tables

d = significance level

and n = number of observations (stations) in seasonal group under consideration

*2: Represents maximum number of sites that could be deleted for any reason, or maximum number of sites that could be in an in-operational state at any particular time such that precision threshold would not be exceeded.

*3: Actual Nr. of sites = Nr. of sites used for analysis + Nr. of sites excluded from analysis due to questionable or missing data

*4: Adjustment of 30% for
downtime

*5: Tentative figure of 2 ATRs for classes for which number of existing ATRs is less than 2

Table AC.6 (e)
Adequacy Analysis for Truck Weight ATRs, Criterion E

Year: 1995 data

Level of Confidence: 90%, Precision threshold: +/- 10%

Grouping Criterion: E- ATRs in groups, based on aerial, regional, functional, and peripheral classes

Iteration	Statistic	Group 1	Group 2	Group 3
		NP ATRs excl. NRI	P ATRs excl. NRI	NRI
	Coeff. of variation, CV	24.2812	20.3078	23.4452
0	Nr. of ATR sites used for the analysis, n	12	6	3
0	t-statistic for existing number of sites, T	1.782	2.015	2.92
0	Existing precision*1	12.49071	16.70561	39.52539
1	Assumed number of ATR sites, n	15	13	9
1	t-statistic for assumed number of sites, T	1.761	1.782	1.86
1	precision*1	11.04038	10.03688	14.53602
2	Assumed number of ATR sites, n	17	14	15
2	t-statistic for assumed number of sites, T	1.746	1.771	1.761
2	precision*1	10.28229	9.612081	10.66026
3	Assumed number of ATR sites, n	18		16
3	t-statistic for assumed number of sites, T	1.74		1.753
3	precision*1	9.958253		10.27486
4	Assumed number of ATR sites, n			17
4	t-statistic for assumed number of sites, T			1.746
4	precision*1			9.928273
	Minimum nr. of ATR sites needed	18	14	17
	Adjusted min. nr. of ATR sites needed*4	24	19	23
	Actual Nr. of sites, y*3	17	11	6
	Number of new sites needed, z = x - y	7	8	18

*1: Precision Interval, $PI = T * CV/n^{0.5}$

where $T = t_{1-d/2, n-1}$, read off from statistical tables

d = significance level

and n = number of observations (stations) in seasonal group under consideration

*2: Represents maximum number of sites that could be deleted for any reason, or maximum number of sites that could be in an inoperational state at any particular time such that precision threshold would not be exceeded.

*3: Actual Nr. of sites = Nr. of sites used for analysis + Nr. of sites excluded from analysis due to questionable or missing data

*4: Adjustment of 30% for downtime

Table AC.6 (f)
Adequacy Analysis for Truck Weight ATRs, Criterion F

Year: 1995 data

Level of Confidence: 90%, Precision threshold: +/- 10%

Grouping Criterion: F- ATRs in bunched groups based on aerial and functional classes

Iteration	Statistic	Group 1 Rural Interstate	Group 2 Rural Other	Group 3 Urban I.,OFE	Group 4 Urban Other
	Coefficient of variation, CV	16.4897	29.8444	4.7444	n.a.
0	Nr. of ATR sites used for the analysis, n	6	9	5	1
0	t-statistic for existing number of sites, T	2.015	1.833	2.132	n.a.
0	Existing precision*1	13.56476	18.23493	4.523593	n.a.
1	Assumed number of ATR sites, n	9	18	4	
1	t-statistic for assumed number of sites, T	1.86	1.74	2.132	
1	precision*1	10.22361	12.23984	5.05753	
2	Assumed number of ATR sites, n	10	24	3	
2	t-statistic for assumed number of sites, T	1.833	1.717	2.92	
2	precision*1	9.55818	10.4599	7.998407	
3	Assumed number of ATR sites, n		25	2	
3	t-statistic for assumed number of sites, T		1.711	6.314	
3	precision*1		10.21275	21.18219	
4	Assumed number of ATR sites, n		26		
4	t-statistic for assumed number of sites, T		1.708		
4	precision*1		9.99687		
	Minimum nr. of ATR sites needed	10	26	3	2*5
	Adjusted min. nr. of ATR sites needed*4	13	35	4	3
	Actual Nr. of sites, y*3	12	14	7	1
	Number of new sites needed, z = x - y	1	21		2
	Number of excess sites*2, z' = y - x			3	

*1: Precision Interval, $PI = T * CV/n^{0.5}$

where $T = t_{1-d/2, n-1}$, read off from statistical tables

d = significance level

and n = number of observations (stations) in seasonal group under consideration

*2: Represents maximum number of sites that could be deleted for any reason, or maximum number of sites that could be in an in-operational state at any particular time such that precision threshold would not be exceeded.

*3: Actual Nr. of sites = Nr. of sites used for analysis + Nr. of sites excluded from analysis due to questionable or missing data

*4: Adjustment of 30% for downtime

*5: Tentative figure of 2 ATRs for classes for which no operational ATR was used for the analysis

Table AC.6 (g)
Adequacy Analysis for Truck Weight ATRs, Criterion G

Year: 1995 data

Level of Confidence: 90%, Precision threshold: +/- 10%

Grouping Criterion: **G** - ATRs in groups based on functional classes only

Iteration	Statistic	Group 1 Int.	Group 2 OPA, OFE	Group 3 Minor Art'ls	Group 4 Coll & Locals
	Coeff. of variation CV	12.2557	12.8446	n.a	3.3729
0	Nr. of ATR sites used for the analysis, n	11	7	1	2
0	t-statistic for existing number of sites, T	1.812	1.943	n.a.	6.314
0	Existing precision*1	6.695761	9.432881	n.a.	15.05889
1	Assumed number of ATR sites, n	10	6		3
1	t-statistic for assumed number of sites, T	1.833	2.015		2.92
1	precision*1	7.103961	10.56623		5.686247
2	Assumed number of ATR sites, n	7			
2	t-statistic for assumed number of sites, T	1.943			
2	precision*1	9.000402			
3	Assumed number of ATR sites, n	6			
3	t-statistic for assumed number of sites, T	2.015			
3	precision*1	10.08179			
	Minimum nr. of ATR sites needed	7	7	2* ⁵	3
	Adjusted min. nr. of ATR sites needed*4	9	9	3	4
	Actual Nr. of sites, y* ³	19	11	2	2
	Number of new sites needed, z = x - y			1	2
	Number of excess sites* ² , z' = y - x	10	2		

*1: Precision Interval, $PI = T * CV/n^{0.5}$

where $T = t_{1-d/2, n-1}$, read off from statistical tables

d = significance level

and n = number of observations (stations) in seasonal group under consideration

*2: Represents maximum number of sites that could be deleted for any reason, or maximum number of sites that could be in an in-operational state at any particular time such that precision threshold would not be exceeded.

*3: Actual Nr. of sites = Nr. of sites used for analysis + Nr. of sites excluded from analysis due to questionable or missing data

*4: Adjustment of 30% for downtime

*5: Tentative figure of 2 ATRs for classes for which no operational ATR was used for the analysis

Table AC.6 (h)
Adequacy Analysis for Truck Weight ATRs, Criterion H

Year: 1995 data

Level of Confidence: 90%, Precision threshold: +/- 10%

Grouping Criterion: H - ATRs in groups based on regional and functional classes

Iteration	Statistic	Group 1 Northern I, Fw &Ew	Group 2 Northern Other	Group 3 Southern I, Fw &Ew	Group 4 Southern Other
	Coefficient of variation, CV	14.1911	3.931	35.6087	20.8413
0	Nr. of ATR sites used for the analysis, n	8	3	5	5
0	t-statistic for existing number of sites, T	1.895	2.92	2.132	2.132
0	precision*1	9.507805	6.627127	33.95145	19.87133
1	Assumed number of ATR sites, n	7	2	15	10
1	t-statistic for assumed number of sites, T	2.132	6.314	1.761	1.833
1	precision*1	11.43548	17.55063	16.19086	12.08057
2	Assumed number of ATR sites, n			21	13
2	t-statistic for assumed number of sites, T			1.725	1.782
2	precision*1			13.40404	10.30056
3	Assumed number of ATR sites, n			28	14
3	t-statistic for assumed number of sites, T			1.703	1.761
3	precision*1			11.46019	9.808896
4	Assumed number of ATR sites, n			30	
4	t-statistic for assumed number of sites, T			1.699	
4	precision*1			11.04559	
	Minimum nr. of ATR sites needed	7	2	>30	14
	Adjusted min. nr. of ATR sites needed*4	9	3	>40	19
	Actual Nr. of sites, y*3	12	7	9	6
	Number of new sites needed, z = x - y			>31	13
	Number of excess sites*2, z' = y - x	3	4		

*1: Precision Interval, $PI = T * CV/n^{0.5}$

where $T = t_{1-d/2, n-1}$, read off from statistical tables

d = significance level

and n = number of observations (stations) in seasonal group under consideration

*2: Represents maximum number of sites that could be deleted for any reason, or maximum number of sites that could be in an in-operational state at any particular time such that precision threshold would not be exceeded.

*3: Actual Nr. of sites = Nr. of sites used for analysis + Nr. of sites excluded from analysis due to questionable or missing data

*4: Adjustment of 30% for downtime

*5: Tentative figure of 2 ATRs for classes for which no operational ATR was used for the analysis

Table AC.6 (i)
Adequacy Analysis for Truck Weight ATRs, Criterion I

Year: 1995 data

Level of Confidence: 90% Precision threshold: +/- 10%

Grouping Criterion: I - ATRs in groups based on peripheral and functional classes

Iteration	Statistic	Group 1	Group 2	Group 3	Group 4
		Peripheral Interstates	Non-per Interstates	Peripheral Other	Non-per Other
	Coefficient of variation, CV	6.3158	16.0418	31.3276	24.1983
0	Nr. of ATR sites used for the analysis, n	5	6	6	4
0	t-statistic for existing number of sites, T	2.132	2.015	2.015	2.353
0	precision* ¹	6.021859	13.19631	25.77072	28.4693
1	Assumed number of ATR sites, n	4	8	20	17
1	t-statistic for assumed number of sites, T	2.353	1.895	1.729	1.746
1	precision* ¹	7.430539	10.74774	12.11176	10.24719
2	Assumed number of ATR sites, n	3	9	27	18
2	t-statistic for assumed number of sites, T	2.92	1.86	1.706	1.74
2	precision* ¹	10.64757	9.945916	10.28547	9.924254
3	Assumed number of ATR sites, n			28	
3	t-statistic for assumed number of sites, T			1.703	
3	precision* ¹			10.08237	
4	Assumed number of ATR sites, n			29	
4	t-statistic for assumed number of sites, T			1.699	
4	precision* ¹			9.883744	
	Minimum nr. of ATR sites needed	4	9	29	18
	Adjusted min. nr. of ATR sites needed* ⁴	5	12	39	24
	Actual Nr. of sites, y* ³	12	7	7	8
	Number of new sites needed, z = x - y		5	32	16
	Number of excess sites* ² , z' = y - x	7			

*1: Precision Interval, $PI = T * CV/n^{0.5}$

where $T = t_{1-d/2, n-1}$, read off from statistical tables

d = significance level

and n = number of observations (stations) in seasonal group under consideration

*2: Represents maximum number of sites that could be deleted for any reason, or maximum number of sites that could be in an in-operational state at any particular time such that precision threshold would not be exceeded.

*3: Actual Nr. of sites = Nr. of sites used for analysis + Nr. of sites excluded from analysis due to questionable or missing data

*4: Adjustment of 30% for downtime

*5: Tentative figure of 2 ATRs for classes for which no operational ATR was used for the analysis

Table AC.6 (j)
Adequacy Analysis for Truck Weight ATRs, Criterion J

Year: 1995 data

Level of Confidence: 90%, Precision threshold: +/- 10%

Grouping Criterion: J - ATRs in groups based on regional location only

Iteration	Statistic	Group 1 North- western	Group 2 North- eastern	Group 3 South- western	Group 4 South- eastern	Group 5 Central
	Coefficient of variation, CV	33.7321	22.7131	18.9945	9.3298	11.5739
0	Nr. of ATR sites used for analysis	5	4	6	2	4
0	t-statistic for existing nr. of sites, T	2.132	2.353	2.015	6.314	2.353
0	Existing precision*1	32.1622	26.72196	15.6253	41.6545	13.6167
1	Assumed number of ATR sites, n	20	10	10	3	5
1	t-statistic for existing nr. of sites, T	1.725	1.833	1.833	2.92	2.132
1	precision*1	13.0112	13.16555	11.0101	15.7288	11.0352
2	Assumed number of ATR sites, n	25	14	11	4	6
2	t-statistic for existing nr. of sites, T	1.711	1.771	1.812	2.353	2.015
2	precision*1	11.5431	10.75056	10.3774	10.9765	9.52093
3	Assumed number of ATR sites, n	30	15	12	5	
3	t-statistic for existing nr. of sites, T	1.697	1.761	1.796	2.132	
3	precision*1	10.4512	10.32738	9.8479	8.89559	
4	Assumed number of ATR sites, n		16			
4	t-statistic for existing nr. of sites, T		1.753			
4	precision*1		9.954016			
	Minimum nr. of ATR sites needed	30	16	12	5	6
	Adj. min. nr. of ATR sites needed*4	40	21	16	7	8
	Actual Nr. of sites, y*3	9	6	10	4	5
	Number of new sites needed, z = x - y	31	15	6	3	3

*1: Precision Interval, $PI = T * CV/n^{0.5}$

where $T = t_{1-d/2, n-1}$, read off from statistical tables

d = significance level

and n = number of observations (stations) in seasonal group under consideration

*2: Represents maximum number of sites that could be deleted for any reason, or maximum number of sites that could be in an inoperational state at any particular time such that precision threshold would not be exceeded.

*3: Actual Nr. of sites = Nr. of sites used for analysis + Nr. of sites excluded from analysis due to questionable or missing data

*4: Adjustment of 30% for downtime

*5: Tentative figure of 2 ATRs for classes for which no operational ATR was used for the analysis

TABLE AC.6(k)
COMPOSITION OF GROUPS BASED STRICTLY ON RESULTS OF
THE CLUSTER PROCEDURE (Criterion A)

Description of data

Year: 1995

Count type: Truck Weights

Page: 1 of 1

Description of cluster procedure

Clustering method: Ward's Min. Variance

Clustering variable used AATW/MATW

Number of clusters specified: unspecified

Cluster #	Obs.	ATR station ID	Attributes of ATR station	Dominant attributes
Cluster 1 (6 ATRs)	1	Adams 4280	Rural OPA Northern NE Peripheral	Rural (strong dominance) OPA (strong dominance) Northern (weak dominance)
	10	Hamilton 5550	Urban OPA Northern Central Non-P	
	12	Poesy 6250	Rural OPA Southern SW Peripheral	
	19	Grant 4140	Rural Interstate Northern NE Non-P	
	15	Daviess 6280	Rural OPA Southern SW Peripheral	
	14	Spencer 6270	Rural OPA Southern SW Non-peripheral	
Cluster 2 (11 ATRs)	5	Vigo 5440	Urban Interstate Southern SW Peripheral	Rural (weak dominance) Interstate (strong dominance) Southern (fair dominance) Peripheral (weak dominance)
	20	Dekalb 4150	Rural Interstate Northern NE Peripheral	
	6	Tip'canoe 5450	Rural OPA Northern NW Non-peripheral	
	7	Marion 5460	Urban Interstate Southern Central Non-P	
	9	Marion 5480	Urban Interstate Northern Central Non-peripheral	
	2	V'llion 5130	Rural Interstate Northern NW P	
	3	Benton 5240	Rural OPA Northern NW Peripheral	
	11	Gibson 6140	Rural Interstate Southern SW Peripheral	
	8	Marion 5470	Urban Interstate Southern Central Non-P	
	16	Ripley 6290	Rural OPA Southern SE Peripheral	
	17	Clark 6420	Urban Interstate Southern SW Peripheral	
Cluster 3 (3 ATRs)	4	Delaware 5270	Rural Collector Northern NE Non-P	Rural (strong dominance) Collector (fair dominance) Northern (fair dominance)
	13	V'burg 6260	Rural Collector Southern SW Peripheral	
	18	Jasper 4110	Rural Interstate Northern NW Non-P	
Cluster 4 (1 ATR)	21	Laporte	Rural MA Northern NE Peripheral	not applicable

Abbreviations: NW- Northwestern, NE-Northeastern, SW- Southwestern, SE- Southeastern,
OPA- Other Principal Arterial, MA- Minor Arterial, P-peripheral, Int.- Interstate

TABLE AC.6(1)
COMPOSITION OF GROUPS BASED STRICTLY ON RESULTS OF
THE CLUSTER PROCEDURE (Criterion B1)

Description of data

Year: 1995

Count type: Truck Weights

Page: 1 of 1

Description of cluster procedure

Clustering method: Ward's Min. Variance

Clustering variable used: AATW/MATW

Number of clusters specified: 3

Cluster #	Obs.	ATR station ID	Attributes of ATR station	Dominant attributes
Cluster 1 (7 ATRs)	1	Adams 4280	Rural OPA Northern NE Peripheral	Rural (strong dominance) OPA (strong dominance) Northern (weak dominance)
	10	Hamilton 5550	Urban OPA Northern Central Non-P	
	12	Poesy 6250	Rural OPA Southern SW Peripheral	
	19	Grant 4140	Rural Interstate Northern NE Non-P	
	15	Daviess 6280	Rural OPA Southern SW Peripheral	
	14	Spencer 6270	Rural OPA Southern SW Non-P	
	21	Laporte 4250	Rural MA Northern NE Peripheral	
Cluster 2 (11 ATRs)	5	Vigo 5440	Urban Interstate Southern SW P	Rural (weak dominance) Interstate (strong dominance) Southern (fair dominance) Peripheral (weak dominance)
	20	Dekalb 4150	Rural Interstate Northern NE Peripheral	
	6	Tip'canoe 5450	Rural OPA Northern NW Non-P	
	7	Marion 5460	Urban Interstate Southern Central Non-peripheral	
	9	Marion 5480	Urban Interstate Northern Central	
	2	Vermillion 5130	Non-peripheral Rural Interstate Northern	
	3	Benton 5240	NW Peripheral	
	11	Gibson 6140	Rural OPA Northern NW Peripheral	
	8	Marion 5470	Rural Interstate Southern SW Peripheral	
	16	Ripley 6290	Urban Interstate Southern Central Non-P	
	17	Clark 6420	Rural OPA Southern SE Peripheral	
			Urban Interstate Southern SW Peripheral	
Cluster 3 (3 ATRs)	4	Delaware 5270	Rural Collector Northern NE Non-P	Rural (strong dominance) Collector (fair dominance) Northern (fair dominance)
	13	V'burg 6260	Rural Collector Southern SW Peripheral	
	18	Jasper 4110	Rural Interstate Northern NW Non-P	

Abbreviations: NW- Northwestern, NE-Northeastern, SW- Southwestern, SE- Southeastern,
OPA- Other Principal Arterial, MA- Minor Arterial, P- peripheral

TABLE AC.6(m)
COMPOSITION OF GROUPS BASED STRICTLY ON RESULTS OF
THE CLUSTER PROCEDURE (Criterion B2)

Description of data

Year: 1995

Count type: Truck Weights

Page: 1 of 1

Description of cluster procedure

Clustering method: Ward's Min. Variance

Clustering variable used : AATW/MATW

Number of clusters specified: 4

Cluster #	Obs.	ATR station ID	Attributes of ATR station	Dominant attributes
Cluster 1 (7 ATRs)	1	Adams 4280	Rural OPA Northern NE Peripheral	Rural (strong dominance) OPA (strong dominance) Northern (weak dominance)
	10	Hamilton 5550	Urban OPA Northern Central Non-P	
	12	Poesy 6250	Rural OPA Southern SW Peripheral	
	19	Grant 4140	Rural Interstate Northern NE Non-P	
	15	Daviess 6280	Rural OPA Southern SW Peripheral	
	14	Spencer 6270	Rural OPA Southern SW Non-P	
Cluster 2 (11 ATRs)	5	Vigo 5440	Urban Interstate Southern SW P	Rural (weak dominance) Interstate (strong dominance) Southern (fair dominance) Peripheral (weak dominance)
	20	Dekalb 4150	Rural Interstate Northern NE P	
	6	Tip'canoe 5450	Rural OPA Northern NW Non-P	
	7	Marion 5460	Urban Int. Southern Central Non-P Urban	
	9	Marion 5480	Int. Northern Central Non-P Rural	
	2	V'llion 5130	Interstate Northern NW P	
	3	Benton 5240	Rural OPA Northern NW Peripheral	
	11	Gibson 6140	Rural Interstate Southern SW P	
	8	Marion 5470	Urban Int. Southern Central Non-P	
	16	Ripley 6290	Rural OPA Southern SE Peripheral	
	17	Clark 6420	Urban Interstate Southern SW P	
Cluster 3 (3 ATRs)	4	Delaware 5270	Rural Collector Northern NE Non-P	Rural (strong dominance) Collector (fair dominance) Northern (fair dominance)
	13	V'burg 6260	Rural Collector Southern SW P	
	18	Jasper 4110	Rural Interstate Northern NW Non-P	
Cluster 4 (1 ATR)	21	Laporte	Rural MA Northern NE Peripheral	not applicable

Abbreviations: NW- Northwestern, NE-Northeastern, SW- Southwestern, SE- Southeastern,
OPA- Other Principal Arterial, MA- Minor Arterial, P-peripheral, Int.- Interstate

TABLE AC.6(n)
COMPOSITION OF GROUPS BASED STRICTLY ON RESULTS OF
THE CLUSTER PROCEDURE (Criterion B3)

Description of data

Year: 1995

Count type: Truck Weights

Page: 1 of 1

Description of cluster procedure

Clustering method Ward's Min. Variance

Clustering variable used: AATW/MATW

Number of clusters specified: 5

Cluster #	Obs.	ATR station ID	Attributes of ATR station	Dominant attributes
Cluster 1 (7 ATRs)	1	Adams 4280	Rural OPA Northern NE Peripheral	Rural (strong dominance) OPA (strong dominance) Northern (weak dominance)
	10	Hamilton 5550	Urban OPA Northern Central Non-P	
	12	Poesy 6250	Rural OPA Southern SW Peripheral	
	19	Grant 4140	Rural Interstate Northern NE Non-P	
	15	Daviess 6280	Rural OPA Southern SW Peripheral	
	14	Spencer 6270	Rural OPA Southern SW Non-P	
Cluster 2 (6 ATRs)	2	V'llion 5130	Rural Interstate Northern NW P	Rural (strong dominance) Interstate (strong dominance) Southern (fair dominance) Peripheral (strong dominance)
	3	Benton 5240	Rural OPA Northern NW Peripheral	
	11	Gibson 6140	Rural Interstate Southern SW P	
	8	Marion 5470	Urban Int. Southern Central Non-P	
	16	Ripley 6290	Rural OPA Southern SE Peripheral	
	17	Clark 6420	Urban Interstate Southern SW P	
Cluster 3 (3 ATRs)	4	Delaware 5270	Rural Collector Northern NE Non-P	Rural (fair dominance) Collector (fair dominance) Southern (fair dominance)
	13	V'burg 6260	Rural Collector Southern SW P	
	18	Jasper 4110	Rural Interstate Northern NW Non-P	
Cluster 4 (5 ATRs)	5	Vigo 5440	Urban Interstate Southern SW P	Urban (fair dominance) Interstate (strong dominance) Southern (weak dominance)
	20	Dekalb 4150	Rural Interstate Northern NE P	
	6	Tip'canoe 5450	Rural OPA Northern NW Non-P	
	7	Marion 5460	Urban Int. Southern Central Non-P Urban	
	9	Marion 5480	Int. Northern Central Non-P	
Cluster 5 (IATR)	21	Laporte	Rural MA Northern NE Peripheral	not applicable

Abbreviations: NW- Northwestern, NE-Northeastern, SW- Southwestern, SE- Southeastern. OPA- Other Principal Arterial, MA- Minor Arterial, P-peripheral, Int.- Interstate

TABLE AC.6(o)
COMPOSITION OF GROUPS BASED STRICTLY ON RESULTS OF
THE CLUSTER PROCEDURE (Criterion B4)

Description of data

Year: 1995

Count type: Truck Weights

Page: 1 of 1

Description of cluster procedure

Clustering method: Ward's Min. Variance

Clustering variable used: AATW/MATW

Number of clusters specified: 6

Cluster #	Obs.	ATR station ID	Attributes of ATR station	Dominant attributes
Cluster 1	1	Adams 4280	Rural OPA Northern NE Peripheral	not applicable
Cluster 2 (6 ATRs)	2	V'llion 5130	Rural Interstate Northern NW P	Rural (strong dominance)
	3	Benton 5240	Rural OPA Northern NW Peripheral	Interstate (fair dominance)
	11	Gibson 6140	Rural Interstate Southern SW P	Southern (fair dominance)
	8	Marion 5470	Urban Int. Southern Central Non-P	Peripheral (strong dominance)
	16	Ripley 6290	Rural OPA Southern SE Peripheral	
	17	Clark 6420	Urban Interstate Southern SW P	
Cluster 3 (3 ATRs)	4	Delaware 5270	Rural Collector Northern NE Non-P	Rural (strong dominance)
	13	V'burg 6260	Rural Collector Southern SW P	Collector (fair dominance)
	18	Jasper 4110	Rural Interstate Northern NW Non-P	Southern (fair dominance)
Cluster 4 (5 ATRs)	5	Vigo 5440	Urban Interstate Southern SW P	Urban (fair dominance)
	20	Dekalb 4150	Rural Interstate Northern NE P	Interstate (strong dominance)
	6	Tip'canoe 5450	Rural OPA Northern NW Non-P	Southern (weak dominance)
	7	Marion 5460	Urban Int. Southern Central Non-P Urban	
	9	Marion 5480	Int. Northern Central Non-P	
Cluster 5 (5 ATRs)	10	Hamilton 5550	Urban OPA Northern Central Non-P	Rural (strong dominance)
	12	Poesy 6250	Rural OPA Southern SW Peripheral	OPA (strong dominance)
	19	Grant 4140	Rural Interstate Northern NE Non-P	Northern (weak dominance)
	15	Daviess 6280	Rural OPA Southern SW Peripheral	
	14	Spencer 6270	Rural OPA Southern SW Non-P	
Cluster 6 (1 ATR)	21	Laporte	Rural MA Northern NE Peripheral	not applicable

Abbreviations: NW- Northwestern, NE-Northeastern, SW- Southwestern, SE- Southeastern,
OPA- Other Principal Arterial, MA- Minor Arterial, P-peripheral, Int.- Interstate

Sample Results of Cluster Procedure

Appendix AC.7a: Printout of Cluster Analysis Session

Worksheet size: 100000 cells

Hierarchical Cluster Analysis of Observations, unspecified number of clusters

Euclidean Distance, Ward Linkage
Amalgamation Steps

Step	Number of clusters	Similarity level	Distance level	Clusters joined	New cluster	Number of Obs in new cluster
1	29	99.84	0.002	6 18	6	2
2	28	99.80	0.002	1 29	1	2
3	27	99.77	0.003	10 27	10	2
4	26	99.47	0.006	1 26	1	3
5	25	99.31	0.008	2 25	2	2
6	24	99.29	0.009	9 15	9	2
7	23	99.26	0.009	11 24	11	2
8	22	99.08	0.011	1 7	1	4
9	21	98.81	0.014	2 6	2	4
10	20	98.79	0.014	13 16	13	2
11	19	98.54	0.017	5 28	5	2
12	18	98.53	0.018	9 13	9	4
13	17	98.23	0.021	1 5	1	6
14	16	98.12	0.023	2 10	2	6
15	15	97.93	0.025	3 8	3	2
16	14	97.38	0.031	2 12	2	7
17	13	97.34	0.032	3 20	3	3
18	12	96.91	0.037	3 21	3	4
19	11	96.50	0.042	9 22	9	5
20	10	95.43	0.055	17 23	17	2
21	9	95.10	0.059	2 11	2	9
22	8	94.77	0.062	1 30	1	7
23	7	92.42	0.091	9 14	9	6
24	6	90.99	0.108	17 19	17	3
25	5	87.65	0.148	3 17	3	7
26	4	41.68	0.697	3 4	3	8
27	3	-53.87	1.839	1 9	1	13
28	2	-191.30	3.482	2 3	2	17
29	1	-448.85	6.560	1 2	1	30

Final Partition

Number of clusters: 4

	Number of observations	Within cluster sum of squares	Average distance from centroid	Maximum distance from centroid
Cluster1	7	0.002	0.013	0.035
Cluster2	9	0.002	0.012	0.022
Cluster3	8	0.175	0.108	0.372
Cluster4	6	0.004	0.022	0.051

Cluster Centroids

Variable	Cluster1	Cluster2	Cluster3	Cluster4	Grand centrd
jan 95	1.2056	0.8543	0.7716	1.0174	0.9468
feb 95	1.2350	0.9026	0.8178	1.0117	0.9794
mar 95	0.9290	1.1434	1.2300	1.0087	1.0895
apr 95	0.9434	1.2028	1.6601	0.9917	1.2220

Distances Between Cluster Centroids

	Cluster1	Cluster2	Cluster3	Cluster4
Cluster1	0.0000	0.5892	0.9832	0.3065
Cluster2	0.5892	0.0000	0.4803	0.3181
Cluster3	0.9832	0.4803	0.0000	0.7706
Cluster4	0.3065	0.3181	0.7706	0.0000

Appendix AC7b
Cluster procedure results (Dendrogram)

Appendices to Data Action Plan B7

APPENDIX B7

Contents

B7a- The HPMS Standard Sample (1996)

Existing situation

B7a (i)- Number of existing HPMS sample and non-sample sections, by volume group, functional class, area class, and NHS class

Required situation vs. existing situation

B7a (ii)- Summary of adequacy analysis for HPMS sample, by functional class

B7a (iii)- Summary of adequacy analysis for HPMS sample, by volume group

B7a (iv)- Details of adequacy analysis for HPMS sample, by volume group

B7b- The HPMS Traffic Volume Sample

B7b (i)- Summary of locations of HPMS traffic volume counts, carried out by INDOT over selected three-year periods

B7b (ii)- Locations of HPMS sample and non-sample traffic volume counts, carried out by INDOT from 1994-1996

B7c- The HPMS Vehicle Classification Sample

B7c (i)- Summary of distribution of HPMS and non-HPMS vehicle classification counts, carried out by INDOT FROM 1994-1996

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APPENDIX B7a (i)

Number of existing HPMS sample and non-sample sections,
by volume group, functional and area class, and NHS class

Area Class: Rural

Functional Class: Interstate

Volume Group	NHS category, i.e., NHS/Non-NHS	Number of <i>non</i> - sample HPMS sections	Number of <i>sample</i> HPMS sections	Total number of HPMS sections
		<i>a</i>	<i>b</i>	<i>c = a + b</i>
01	Non-NHS	0	0	0
	NHS	1	10	11
02	Non-NHS	0	0	0
	NHS	25	41	66
03	Non-NHS	0	0	0
	NHS	48	25	73
04	Non-NHS	0	0	0
	NHS	20	9	29
05	Non-NHS	0	0	0
	NHS	8	8	16
06	Non-NHS	0	0	0
	NHS	2	1	3
07	Non-NHS	0	0	0
	NHS	2	1	3
08	Non-NHS	0	0	0
	NHS	0	0	0
09	Non-NHS	0	0	0
	NHS	1	1	2
10	Non-NHS	0	0	0
	NHS	0	0	0

APPENDIX B7a (i)

Number of existing HPMS sample and non-sample sections,
by volume group, functional and area class, and NHS class (cont'd)

Area Class: Rural

Functional Class: Other Principal Arterial

Volume Group	NHS category, i.e., NHS/Non-NHS	Number of non-sample HPMS sections	Number of sample HPMS sections	Total number of HPMS sections
		<i>a</i>	<i>b</i>	<i>c = a + b</i>
01	Non-NHS	28	25	53
	NHS	38	53	91
02	Non-NHS	82	19	101
	NHS	43	96	139
03	Non-NHS	16	5	21
	NHS	38	44	82
04	Non-NHS	3	4	7
	NHS	23	8	31
05	Non-NHS	5	2	7
	NHS	19	14	33
06	Non-NHS	0	0	0
	NHS	4	7	11
07	Non-NHS	1	0	1
	NHS	3	1	4
08	Non-NHS	0	0	0
	NHS	0	0	0
09	Non-NHS	0	0	0
	NHS	0	0	0
10	Non-NHS	0	0	0
	NHS	0	0	0

APPENDIX B7a (i)

Number of existing HPMS sample and non-sample sections,
by volume group, functional and area class, and NHS class (cont'd)

Area Class: Rural

Functional Class: Minor Arterial

Volume Group	NHS category, i.e., NHS/Non-NHS	Number of non-sample HPMS sections	Number of sample HPMS sections	Total number of HPMS sections
		<i>a</i>	<i>b</i>	<i>c = a + b</i>
01	Non-NHS	45	29	74
	NHS	0	0	0
02	Non-NHS	156	53	209
	NHS	0	0	0
03	Non-NHS	135	26	161
	NHS	0	0	0
04	Non-NHS	54	15	69
	NHS	2	0	2
05	Non-NHS	4	4	8
	NHS	1	0	1
06	Non-NHS	1	1	2
	NHS	0	1	1
07	Non-NHS	0	0	0
	NHS	0	0	0
08	Non-NHS	0	0	0
	NHS	0	0	0
09	Non-NHS	0	0	0
	NHS	0	0	0
10	Non-NHS	0	0	0
	NHS	0	0	0

APPENDIX B7a (i)

Number of existing HPMS sample and non-sample sections,
by volume group, functional and area class, and NHS class (cont'd)

Area Class: Rural

Functional Class: Major Collector

Volume Group	NHS category, i.e., NHS/Non-NHS	Number of non- sample HPMS sections	Number of sample HPMS sections	Total number of HPMS sections
		<i>a</i>	<i>b</i>	<i>c = a + b</i>
01	Non-NHS	142	103	241
	NHS	0	0	0
02	Non-NHS	93	38	131
	NHS	1	0	1
03	Non-NHS	27	17	44
	NHS	1	1	2
04	Non-NHS	0	7	7
	NHS	0	0	0
05	Non-NHS	0	3	3
	NHS	0	0	0
06	Non-NHS	0	0	0
	NHS	0	0	0
07	Non-NHS	0	0	0
	NHS	0	0	0
08	Non-NHS	0	0	0
	NHS	0	0	0
09	Non-NHS	0	0	0
	NHS	0	0	0
10	Non-NHS	0	0	0
	NHS	0	0	0

APPENDIX B7a (i)

Number of existing HPMS sample and non-sample sections,
by volume group, functional and area class, and NHS class (cont'd)

Area Class: Rural

Functional Class: Minor Collector

Volume Group	NHS category, i.e., NHS/Non-NHS	Number of non-sample HPMS sections	Number of sample HPMS sections	Total number of HPMS sections
		<i>a</i>	<i>b</i>	<i>c = a + b</i>
01	Non-NHS	119	0	119
	NHS	0	0	0
02	Non-NHS	53	0	53
	NHS	1	0	1
03	Non-NHS	9	0	9
	NHS	0	0	0
04	Non-NHS	0	0	0
	NHS	0	0	0
05	Non-NHS	0	0	0
	NHS	0	0	0
06	Non-NHS	0	0	0
	NHS	0	0	0
07	Non-NHS	0	0	0
	NHS	0	0	0
08	Non-NHS	0	0	0
	NHS	0	0	0
09	Non-NHS	0	0	0
	NHS	0	0	0
10	Non-NHS	0	0	0
	NHS	0	0	0

APPENDIX B7a (i)

Number of existing HPMS sample and non-sample sections,
by volume group, functional and area class, and NHS class (cont'd)

Area Class: Rural

Functional Class: Local

Volume Group	NHS category, i.e., NHS/Non-NHS	Number of <i>non</i> -sample HPMS sections	Number of <i>sample</i> HPMS sections	Total number of HPMS sections
		<i>a</i>	<i>b</i>	<i>c = a + b</i>
01	Non-NHS	141	0	141
	NHS	0	0	0
02	Non-NHS	66	0	66
	NHS	0	0	0
03	Non-NHS	10	0	10
	NHS	0	0	0
04	Non-NHS	0	0	0
	NHS	0	0	0
05	Non-NHS	0	0	0
	NHS	0	0	0
06	Non-NHS	0	0	0
	NHS	0	0	0
07	Non-NHS	0	0	0
	NHS	0	0	0
08	Non-NHS	0	0	0
	NHS	0	0	0
09	Non-NHS	0	0	0
	NHS	0	0	0
10	Non-NHS	0	0	0
	NHS	0	0	0

APPENDIX B7a (i)

Number of existing HPMS sample and non-sample sections,
by volume group, functional and area class, and NHS class (cont'd)

Area Class: Small Urban

Functional Class: Interstate

Volume Group	NHS category, i.e., NHS/Non-NHS	Number of <i>non</i> - sample HPMS sections	Number of <i>sample</i> HPMS sections	Total number of HPMS sections
		<i>a</i>	<i>b</i>	<i>c = a + b</i>
01	Non-NHS	0	0	0
	NHS	0	0	0
02	Non-NHS	0	0	0
	NHS	0	2	2
03	Non-NHS	0	0	0
	NHS	4	6	10
04	Non-NHS	0	0	0
	NHS	3	11	14
05	Non-NHS	0	0	0
	NHS	1	1	2
06	Non-NHS	0	0	0
	NHS	0	0	0
07	Non-NHS	0	0	0
	NHS	0	0	0
08	Non-NHS	0	0	0
	NHS	0	0	0
09	Non-NHS	0	0	0
	NHS	0	0	0
10	Non-NHS	0	0	0
	NHS	0	0	0

APPENDIX B7a (i)

Number of existing HPMS sample and non-sample sections,
by volume group, functional and area class, and NHS class (cont'd)

Area Class: Small Urban

Functional Class: Other Freeways and Expressways

Volume Group	NHS category, i.e., NHS/Non-NHS	Number of non-sample HPMS sections	Number of sample HPMS sections	Total number of HPMS sections
		<i>a</i>	<i>b</i>	<i>c = a + b</i>
01	Non-NHS	0	1	1
	NHS	9	11	20
02	Non-NHS	4	1	5
	NHS	5	7	12
03	Non-NHS	1	2	3
	NHS	9	6	15
04	Non-NHS	0	0	0
	NHS	0	0	0
05	Non-NHS	0	0	0
	NHS	0	0	0
06	Non-NHS	0	0	0
	NHS	0	0	0
07	Non-NHS	0	0	0
	NHS	0	0	0
08	Non-NHS	0	0	0
	NHS	0	0	0
09	Non-NHS	0	0	0
	NHS	0	0	0
10	Non-NHS	0	0	0
	NHS	0	0	0

APPENDIX B7a (i)

Number of existing HPMS sample and non-sample sections,
by volume group, functional and area class, and NHS class (cont'd)

Area Class: Small Urban

Functional Class: Other Principal Arterials

Volume Group	NHS category, i.e., NHS/Non-NHS	Number of <i>non</i> - sample HPMS sections	Number of <i>sample</i> HPMS sections	Total number of HPMS sections
		<i>a</i>	<i>b</i>	<i>c = a + b</i>
01	Non-NHS	37	58	95
	NHS	2	5	7
02	Non-NHS	137	105	242
	NHS	20	18	38
03	Non-NHS	119	70	189
	NHS	16	6	22
04	Non-NHS	75	34	109
	NHS	10	3	13
05	Non-NHS	24	8	32
	NHS	8	6	14
06	Non-NHS	10	3	13
	NHS	2	4	6
07	Non-NHS	4	1	5
	NHS	1	0	1
08	Non-NHS	2	3	5
	NHS	0	0	0
09	Non-NHS	0	0	0
	NHS	0	0	0
10	Non-NHS	0	0	0
	NHS	0	0	0

APPENDIX B7a (i)

Number of existing HPMS sample and non-sample sections,
by volume group, functional and area class, and NHS class (cont'd)

Area Class: Small Urban

Functional Class: Minor Arterials

Volume Group	NHS category, i.e., NHS/Non-NHS	Number of <i>non</i> - sample HPMS sections	Number of <i>sample</i> HPMS sections	Total number of HPMS sections
		<i>a</i>	<i>b</i>	<i>c = a + b</i>
01	Non-NHS	7	31	38
	NHS	0	0	0
02	Non-NHS	72	25	97
	NHS	0	0	0
03	Non-NHS	57	20	77
	NHS	0	0	0
04	Non-NHS	12	8	20
	NHS	0	0	0
05	Non-NHS	0	6	6
	NHS	0	0	0
06	Non-NHS	0	2	2
	NHS	0	0	0
07	Non-NHS	0	0	0
	NHS	0	0	0
08	Non-NHS	0	0	0
	NHS	0	0	0
09	Non-NHS	0	0	0
	NHS	0	0	0
10	Non-NHS	0	0	0
	NHS	0	0	0

APPENDIX B7a (i)

Number of existing HPMS sample and non-sample sections,
by volume group, functional and area class, and NHS class (cont'd)

Area Class: Small Urban

Functional Class: Collectors

Volume Group	NHS category, i.e., NHS/Non-NHS	Number of non-sample HPMS sections	Number of sample HPMS sections	Total number of HPMS sections
		<i>a</i>	<i>b</i>	<i>c = a + b</i>
01	Non-NHS	38	38	76
	NHS	0	0	0
02	Non-NHS	37	41	78
	NHS	0	0	0
03	Non-NHS	27	39	66
	NHS	0	0	0
04	Non-NHS	6	15	21
	NHS	0	0	0
05	Non-NHS	1	2	3
	NHS	0	0	0
06	Non-NHS	0	4	4
	NHS	0	0	0
07	Non-NHS	0	0	0
	NHS	0	0	0
08	Non-NHS	0	0	0
	NHS	0	0	0
09	Non-NHS	0	0	0
	NHS	0	0	0
10	Non-NHS	0	0	0
	NHS	0	0	0

APPENDIX B7a (i)

Number of existing HPMS sample and non-sample sections,
by volume group, functional and area class, and NHS class (cont'd)

Area Class: Small Urban

Functional Class: Locals

Volume Group	NHS category, i.e., NHS/Non-NHS	Number of non-sample HPMS sections	Number of sample HPMS sections	Total number of HPMS sections
		<i>a</i>	<i>b</i>	<i>c = a + b</i>
01	Non-NHS	43	0	43
	NHS	0	0	0
02	Non-NHS	38	0	38
	NHS	0	0	0
03	Non-NHS	29	0	29
	NHS	0	0	0
04	Non-NHS	6	0	6
	NHS	0	0	0
05	Non-NHS	2	0	2
	NHS	0	0	0
06	Non-NHS	0	0	0
	NHS	0	0	0
07	Non-NHS	0	0	0
	NHS	0	0	0
08	Non-NHS	0	0	0
	NHS	0	0	0
09	Non-NHS	0	0	0
	NHS	0	0	0
10	Non-NHS	0	0	0
	NHS	0	0	0

APPENDIX B7a (i)

Number of existing HPMS sample and non-sample sections,
by volume group, functional and area class, and NHS class (cont'd)

Area Class: Urban

Functional Class: Interstates

Volume Group	NHS category, i.e., NHS/Non-NHS	Number of <i>non</i> - sample HPMS sections	Number of <i>sample</i> HPMS sections	Total number of HPMS sections
		<i>a</i>	<i>b</i>	<i>c = a + b</i>
01	Non-NHS	0	0	0
	NHS	10	7	17
02	Non-NHS	0	0	0
	NHS	5	10	15
03	Non-NHS	0	0	0
	NHS	0	0	0
04	Non-NHS	0	0	0
	NHS	0	0	0
05	Non-NHS	0	0	0
	NHS	0	0	0
06	Non-NHS	0	0	0
	NHS	0	0	0
07	Non-NHS	0	0	0
	NHS	0	0	0
08	Non-NHS	0	0	0
	NHS	0	0	0
09	Non-NHS	0	0	0
	NHS	0	0	0
10	Non-NHS	0	0	0
	NHS	0	0	0

APPENDIX B7a (i)

Number of existing HPMS sample and non-sample sections,
by volume group, functional and area class, and NHS class (cont'd)

Area Class: Urban

Functional Class: Other Freeways and Expressways

Volume Group	NHS category, i.e., NHS/Non-NHS	Number of non-sample HPMS sections	Number of sample HPMS sections	Total number of HPMS sections
		<i>a</i>	<i>b</i>	<i>c = a + b</i>
01	Non-NHS	5	2	7
	NHS	6	6	12
02	Non-NHS	0	2	2
	NHS	1	3	4
03	Non-NHS	0	0	0
	NHS	0	0	0
04	Non-NHS	0	0	0
	NHS	0	0	0
05	Non-NHS	0	0	0
	NHS	0	0	0
06	Non-NHS	0	0	0
	NHS	0	0	0
07	Non-NHS	0	0	0
	NHS	0	0	0
08	Non-NHS	0	0	0
	NHS	0	0	0
09	Non-NHS	0	0	0
	NHS	0	0	0
10	Non-NHS	0	0	0
	NHS	0	0	0

APPENDIX B7a (i)

Number of existing HPMS sample and non-sample sections,
by volume group, functional and area class, and NHS class (cont'd)

Area Class: Urban

Functional Class: Other Principal Arterials

Volume Group	NHS category, i.e., NHS/Non-NHS	Number of non-sample HPMS sections	Number of sample HPMS sections	Total number of HPMS sections
		<i>a</i>	<i>b</i>	<i>c = a + b</i>
01	Non-NHS	3	0	3
	NHS	0	0	0
02	Non-NHS	0	2	2
	NHS	1	0	1
03	Non-NHS	35	39	75
	NHS	11	3	14
04	Non-NHS	49	52	101
	NHS	8	4	12
05	Non-NHS	31	36	67
	NHS	7	3	10
06	Non-NHS	20	13	33
	NHS	3	3	6
07	Non-NHS	15	21	36
	NHS	23	22	45
08	Non-NHS	4	3	7
	NHS	7	11	18
09	Non-NHS	0	1	1
	NHS	3	2	5
10	Non-NHS	0	0	0
	NHS	3	3	6

APPENDIX B7a (i)

Number of existing HPMS sample and non-sample sections,
by volume group, functional and area class, and NHS class (cont'd)

Area Class: Urban

Functional Class: Minor Arterials

Volume Group	NHS category, i.e., NHS/Non-NHS	Number of <i>non</i>-sample HPMS sections	Number of <i>sample</i> HPMS sections	Total number of HPMS sections
		<i>a</i>	<i>b</i>	<i>c = a + b</i>
01	Non-NHS	13	39	52
	NHS	0	0	0
02	Non-NHS	10	58	68
	NHS	0	0	0
03	Non-NHS	12	78	90
	NHS	1	0	1
04	Non-NHS	12	50	62
	NHS	0	0	0
05	Non-NHS	6	10	16
	NHS	0	0	0
06	Non-NHS	4	5	9
	NHS	2	0	2
07	Non-NHS	2	5	7
	NHS	0	0	0
08	Non-NHS	1	1	2
	NHS	0	0	0
09	Non-NHS	0	0	0
	NHS	0	0	0
10	Non-NHS	0	0	0
	NHS	0	0	0

APPENDIX B7a (i)

Number of existing HPMS sample and non-sample sections,
by volume group, functional and area class, and NHS class (cont'd)

Area Class: Urban

Functional Class: Collectors

Volume Group	NHS category, i.e., NHS/Non-NHS	Number of non-sample HPMS sections	Number of sample HPMS sections	Total number of HPMS sections
		<i>a</i>	<i>b</i>	<i>c = a + b</i>
01	Non-NHS	12	61	73
	NHS	0	0	0
02	Non-NHS	12	56	68
	NHS	0	0	0
03	Non-NHS	10	76	86
	NHS	0	0	0
04	Non-NHS	7	37	44
	NHS	0	0	0
05	Non-NHS	3	11	14
	NHS	0	0	0
06	Non-NHS	2	4	6
	NHS	0	0	0
07	Non-NHS	0	0	0
	NHS	0	0	0
08	Non-NHS	0	0	0
	NHS	0	0	0
09	Non-NHS	0	0	0
	NHS	0	0	0
10	Non-NHS	0	0	0
	NHS	0	0	0

APPENDIX B7a (i)

Number of existing HPMS sample and non-sample sections,
by volume group, functional and area class, and NHS class (cont'd)

Area Class: Urban

Functional Class: Locals

Volume Group	NHS category, i.e., NHS/Non-NHS	Number of non-sample HPMS sections	Number of sample HPMS sections	Total number of HPMS sections
		<i>a</i>	<i>b</i>	<i>c = a + b</i>
01	Non-NHS NHS	13	0	13
		0	0	0
02	Non-NHS NHS	7	0	7
		0	0	0
03	Non-NHS NHS	0	0	0
		0	0	0
04	Non-NHS NHS	0	0	0
		0	0	0
05	Non-NHS NHS	0	0	0
		0	0	0
06	Non-NHS NHS	0	0	0
		0	0	0
07	Non-NHS NHS	0	0	0
		0	0	0
08	Non-NHS NHS	0	0	0
		0	0	0
09	Non-NHS NHS	0	0	0
		0	0	0
10	Non-NHS NHS	0	0	0
		0	0	0

APPENDIX B7a (i)

Number of existing HPMS sample and non-sample sections,
by volume group, functional and area class, and NHS class (cont'd)

Area Class: Large Urban

Functional Class: Interstates

Volume Group	NHS category, i.e., NHS/Non-NHS	Number of non-sample HPMS sections	Number of sample HPMS sections	Total number of HPMS sections
		<i>a</i>	<i>b</i>	<i>c = a + b</i>
01	Non-NHS	0	0	0
	NHS	5	10	15
02	Non-NHS	0	0	0
	NHS	18	26	42
03	Non-NHS	0	0	0
	NHS	9	16	25
04	Non-NHS	0	0	0
	NHS	26	12	38
05	Non-NHS	0	0	0
	NHS	18	6	24
06	Non-NHS	0	0	0
	NHS	13	6	19
07	Non-NHS	0	0	0
	NHS	1	1	2
08	Non-NHS	0	0	0
	NHS	1	2	3
09	Non-NHS	0	0	0
	NHS	0	0	0
10	Non-NHS	0	0	0
	NHS	0	0	0

APPENDIX B7a (i)

Number of existing HPMS sample and non-sample sections,
by volume group, functional and area class, and NHS class (cont'd)

Area Class: Large Urban

Functional Class: Other Freeways and Expressways

Volume Group	NHS category, i.e., NHS/Non-NHS	Number of non-sample HPMS sections	Number of sample HPMS sections	Total number of HPMS sections
		<i>a</i>	<i>b</i>	<i>c = a + b</i>
01	Non-NHS	4	2	6
	NHS	5	6	11
02	Non-NHS	11	8	19
	NHS	6	18	24
03	Non-NHS	5	3	8
	NHS	2	2	4
04	Non-NHS	0	1	1
	NHS	0	0	0
05	Non-NHS	0	0	0
	NHS	0	0	0
06	Non-NHS	0	0	0
	NHS	0	0	0
07	Non-NHS	0	0	0
	NHS	0	0	0
08	Non-NHS	0	0	0
	NHS	0	0	0
09	Non-NHS	0	0	0
	NHS	0	0	0
10	Non-NHS	0	0	0
	NHS	0	0	0

APPENDIX B7a (i)

Number of existing HPMS sample and non-sample sections,
by volume group, functional and area class, and NHS class (cont'd)

Area Class: Large Urban

Functional Class: Other Principal Arterials

Volume Group	NHS category, i.e., NHS/Non-NHS	Number of non-sample HPMS sections	Number of sample HPMS sections	Total number of HPMS sections
		<i>a</i>	<i>b</i>	<i>c = a + b</i>
01	Non-NHS	2	1	3
	NHS	1	1	2
02	Non-NHS	2	5	7
	NHS	5	2	7
03	Non-NHS	37	25	62
	NHS	6	1	7
04	Non-NHS	40	24	64
	NHS	15	2	17
05	Non-NHS	48	37	85
	NHS	9	2	11
06	Non-NHS	41	23	64
	NHS	11	9	20
07	Non-NHS	36	35	71
	NHS	21	12	33
08	Non-NHS	18	10	28
	NHS	12	2	14
09	Non-NHS	0	1	1
	NHS	7	2	9
10	Non-NHS	2	0	2
	NHS	0	3	3
11	Non-NHS	0	0	0
	NHS	1	1	2

APPENDIX B7a (i)

Number of existing HPMS sample and non-sample sections,
by volume group, functional and area class, and NHS class (cont'd)

Area Class: Large Urban

Functional Class: Minor Arterials

Volume Group	NHS category, i.e., NHS/Non-NHS	Number of <i>non-</i> sample HPMS sections	Number of <i>sample</i> HPMS sections	Total number of HPMS sections
		<i>a</i>	<i>b</i>	<i>c = a + b</i>
01	Non-NHS	15	31	46
	NHS	0	0	0
02	Non-NHS	7	37	44
	NHS	0	1	1
03	Non-NHS	7	47	54
	NHS	3	0	3
04	Non-NHS	10	24	34
	NHS	1	0	13
05	Non-NHS	0	5	5
	NHS	0	0	0
06	Non-NHS	8	6	14
	NHS	0	0	0
07	Non-NHS	6	5	11
	NHS	0	0	0
08	Non-NHS	0	0	0
	NHS	0	0	0
09	Non-NHS	0	0	0
	NHS	0	0	0
10	Non-NHS	0	0	0
	NHS	0	0	0

APPENDIX B7a (i)

Number of existing HPMS sample and non-sample sections,
by volume group, functional and area class, and NHS class (cont'd)

Area Class: Large Urban

Functional Class: Collectors

Volume Group	NHS category, i.e., NHS/Non-NHS	Number of <i>non</i> - sample HPMS sections	Number of <i>sample</i> HPMS sections	Total number of HPMS sections
		<i>a</i>	<i>b</i>	<i>c = a + b</i>
01	Non-NHS	16	60	76
	NHS	0	0	0
02	Non-NHS	7	35	42
	NHS	0	0	0
03	Non-NHS	6	59	65
	NHS	0	0	0
04	Non-NHS	7	38	45
	NHS	0	0	0
05	Non-NHS	3	11	14
	NHS	0	0	0
06	Non-NHS	3	4	7
	NHS	0	0	0
07	Non-NHS	1	1	2
	NHS	0	0	0
08	Non-NHS	0	0	0
	NHS	0	0	0
09	Non-NHS	0	0	0
	NHS	0	0	0
10	Non-NHS	0	0	0
	NHS	0	0	0

APPENDIX B7a (i)

Number of existing HPMS sample and non-sample sections,
by volume group, functional and area class, and NHS class (cont'd)

Area Class: Large Urban

Functional Class: Locals

Volume Group	NHS category, i.e., NHS/Non-NHS	Number of non-sample HPMS sections	Number of sample HPMS sections	Total number of HPMS sections
		<i>a</i>	<i>b</i>	<i>c = a + b</i>
01	Non-NHS	25	0	25
	NHS	0	0	0
02	Non-NHS	0	0	0
	NHS	0	0	0
03	Non-NHS	2	0	2
	NHS	0	0	0
04	Non-NHS	2	0	2
	NHS	0	0	0
05	Non-NHS	0	0	0
	NHS	0	0	0
06	Non-NHS	0	0	0
	NHS	0	0	0
07	Non-NHS	0	0	0
	NHS	0	0	0
08	Non-NHS	0	0	0
	NHS	0	0	0
09	Non-NHS	0	0	0
	NHS	0	0	0
10	Non-NHS	0	0	0
	NHS	0	0	0

APPENDIX B7 a(ii)
SUMMARY OF ADEQUACY ANALYSIS FOR HPMS SAMPLE SECTIONS
BY FUNCTIONAL CLASS (1996)

Area and functional class	Current total nr. of HPMS sections* ¹	Current number of sample sections* ¹	Additional number of sections needed* ²	Number of excess sites* ²
Rural Interstates	204	96	3	47
Rural Other Principal Arterials	583	278	0	139
Rural Minor Arterials	528	129	27	27
Rural Major Collectors	429	169	15	7
Rural Minor Collectors	182	0	0	0
Rural Locals	217	0	0	0
Small Urban Interstates	28	20	2	7
Small Urban Other F'ways and E'ways	56	27	9	0
Small Urban Other Principal Arterials	784	324	26	194
Small Urban Minor Arterials	237	90	1	21
Small Urban Collectors	248	139	9	33
Small Urban Locals	118	0	0	0
Urban Interstates	32	17	0	2
Urban Other F'ways and E'ways	25	13	5	2
Urban Other Principal Arterials	436	215	1	189
Urban Minor Arterials	314	244	0	151
Urban Collectors	291	245	0	207
Urban Locals	20	0	8	0
Large Urban Interstates	167	79	0	51
Large Urban Other F'ways and E'ways	74	40	4	15
Large Urban Other Principal Arterials	514	198	3	166
Large Urban Minor Arterials	225	161	3	123
Large Urban Collectors	255	208	6	164
Large Urban Locals	29	0	5	0

*1: Details of current numbers of sample and non-sample sections are shown in Appendix B7a (i)

*2: For computations for additional and excess sections for volumes groups with undersized and oversized HPMS sample sizes respectively, see Appendix B7 a(iv).

APPENDIX B7 a(iii), continued
SUMMARY OF ADEQUACY ANALYSIS FOR HPMS SAMPLE SECTIONS
BY VOLUME GROUP, AREA AND FUNCTIONAL CLASSES (1996)

Area, functional class and volume group	Current total nr. of HPMS sections* ¹	Current nr. of sample sections* ¹	Required nr. of sample sections, n* ²	Additional nr. of sites needed	Number of excess sites
	<i>a</i>	<i>b</i>	<i>c</i>	<i>d = c - a</i>	<i>e = b - c</i>
Rural Interstates					
01	11	10	3	-	7
02	66	41	22	-	19
03	73	25	11	-	14
04	29	9	8	-	1
05	16	8	2	-	6
06	3	1	2	1	-
07	3	1	2	1	-
08	0	0	-	-	-
09	2	1	2	1	-
Rural Other Principal Arterials					
01	144	78	36	-	42
02	240	115	69	-	46
03	103	49	12	-	37
04	38	12	6	-	6
05	42	16	10	-	6
06	11	7	5	-	2
07	5	1	1	-	-
Rural Minor Arterials					
01	74	29	37	-	8
02	209	53	34	-	19
03	161	26	39	13	-
04	71	15	26	11	-
05	9	4	6	2	-
06	4	2	3	1	-
Rural Major Collectors					
01	241	103	121	8	-
02	132	38	31	-	7
03	46	18	25	7	-
04	7	7	7	-	-
05	3	3	3	-	-
Rural Minor Collectors					
01	119	0	0	-	-
02	54	0	0	-	-
03	9	0	0	-	-

*1: Details of current number of HPMS sample and non-sample sections are provided in Appendix B7 a (i)

*2: Calculation details for required number of HPMS sample size, n, are provided in Appendix B7 a(iv)

APPENDIX B7 a(iii), continued
SUMMARY OF ADEQUACY ANALYSIS FOR HPMS SAMPLE SECTIONS
BY VOLUME GROUP, AREA AND FUNCTIONAL CLASSES (1996)

Area, functional class and volume group	Current total nr. of HPMS sections* ¹	Current nr. of sample sections* ¹	Required nr. of sample sections, n* ²	Additional nr. of sites needed	Number of excess sites
	<i>a</i>	<i>b</i>	<i>c</i>	<i>d = c - a</i>	<i>e = b - c</i>
Rural Locals					
01	141	0	0	-	-
02	66	0	0	-	-
03	10	0	0	-	-
Small Urban Interstates					
01	0	-	-	-	-
02	2	2	2	-	-
03	10	6	7	1	-
04	14	11	4	-	7
05	2	1	2	1	-
Small Urban Other Freeways and Expressways					
01	21	11	17	6	-
02	17	8	11	3	-
03	18	8	8	-	-
Small Urban Other Principal Arterials					
01	104	63	88	25	-
02	270	123	37	-	86
03	211	76	14	-	62
04	122	37	7	-	30
05	48	14	4	-	10
06	19	7	3	-	4
07	5	1	2	1	-
08	5	3	1	-	2
Small Urban Minor Arterials					
01	37	31	30	-	1
02	97	25	16	-	9
03	77	20	29	-	9
04	20	8	9	1	-
05	6	6	4	-	2

*1: Details of current number of HPMS sample and non-sample sections are provided in Appendix B7 a (i)

*2: Calculation details for required number of HPMS sample size, n, are provided in Appendix B7 a(iv)

APPENDIX B7 a(iii), continued
SUMMARY OF ADEQUACY ANALYSIS FOR HPMS SAMPLE SECTIONS
BY VOLUME GROUP, AREA AND FUNCTIONAL CLASSES (1996)

Area, functional class and volume group	Current total nr. of HPMS sections* ¹	Current nr. of sample sections* ¹	Required nr. of sample sections, n* ²	Additional nr. of sites needed	Number of excess sites
	<i>a</i>	<i>b</i>	<i>c</i>	<i>d = c - d</i>	<i>e = b - c</i>
Small Urban Collectors					
01	76	38	46	8	-
02	78	41	20	-	21
03	66	39	32	-	7
04	21	15	14	-	1
05	3	2	3	1	-
06	4	4	0	-	4
Small Urban Locals					
01	43	0	0	-	-
02	38	0	0	-	-
03	29	0	0	-	-
04	6	0	0	-	-
05	2	0	0	-	-
Urban Interstates					
01	17	7	7	-	-
02	15	10	8	-	2
Urban Other Freeways and Expressways					
01	19	8	13	5	-
02	6	5	3	-	2
Urban Other Principal Arterials					
01	3	0	1	1	-
02	3	2	1	-	1
03	89	42	11	-	31
04	113	56	4	-	52
05	77	39	2	-	37
06	39	16	2	-	14
07	81	43	3	-	40
08	25	14	2	-	12
09	6	3	1	-	2

*1: Details of current number of HPMS sample and non-sample sections are provided in Appendix B7 a (i)

*2: Calculation details for required number of HPMS sample size, n, are provided in Appendix B7 a(iv)

APPENDIX B7 a(iii), continued
SUMMARY OF ADEQUACY ANALYSIS FOR HPMS SAMPLE SECTIONS
BY VOLUME GROUP, AREA AND FUNCTIONAL CLASSES (1996)

Area, functional class and volume group	Current total nr. of HPMS sections* ¹	Current nr. of sample sections* ¹	Required nr. of sample sections, n* ²	Additional nr. of sites needed	Number of excess sites
	<i>a</i>	<i>b</i>	<i>c</i>	<i>d = c - d</i>	<i>e = b - c</i>
Urban Minor Arterials					
01	52	39	22	-	17
02	68	58	26	-	32
03	91	78	25	-	53
04	62	50	13	-	37
05	16	10	3	-	7
06	11	5	2	-	3
07	7	3	1	-	2
08	7	1	1	-	-
Urban Collectors					
01	73	61	12	-	49
02	68	56	7	-	49
03	86	76	10	-	66
04	44	37	5	-	32
05	14	11	2	-	9
06	6	4	2	-	2
Urban Locals					
01	13	0	6	6	-
02	7	0	2	2	-
Large Urban Interstates					
01	15	10	4	-	6
02	42	26	8	-	18
03	25	16	10	-	6
04	38	12	2	-	10
05	24	6	2	-	4
06	19	6	1	-	5
07	2	1	1	-	-
08	2	2	0	-	2
Large Urban Other Freeways and Expressways					
01	17	8	12	4	-
02	43	26	12	-	14
03	12	5	4	-	1
04	2	1	1	-	-

*1: Details of current number of HPMS sample and non-sample sections are provided in Appendix B7 a (i)

*2: Calculation details for required number of HPMS sample size, n, are provided in Appendix B7 a(iv)

APPENDIX B7 a(iii), continued
SUMMARY OF ADEQUACY ANALYSIS FOR HPMS SAMPLE SECTIONS
BY VOLUME GROUP, AREA AND FUNCTIONAL CLASSES (1996)

Area, functional class and volume group	Current total nr. of HPMS sections* ¹	Current nr. of sample sections* ¹	Required nr. of sample sections, n* ²	Additional nr. of sites needed	Number of excess sites
	<i>a</i>	<i>b</i>	<i>c</i>	<i>d = c - a</i>	<i>e = b - c</i>
Large Urban Other Principal Arterials					
01	7	2	5	3	-
02	14	7	7	-	-
03	69	26	9	-	17
04	81	26	4	-	22
05	96	39	2	-	37
06	84	32	1	-	31
07	104	47	3	-	44
08	42	12	1	-	11
09	10	3	2	-	1
10	5	3	1	-	2
11	2	1	0	-	1
Large Urban Minor Arterials					
01	46	31	31	-	15
02	45	38	9	-	29
03	57	47	7	-	40
04	47	34	4	-	30
05	5	5	1	-	4
06	14	6	1	-	5
07	11	0	3	3	-
Large Urban Collectors					
01	76	60	16	-	44
02	42	35	7	-	28
03	65	59	10	-	49
04	44	38	6	-	32
05	14	11	2	-	9
06	7	4	2	-	2
07	7	1	7	6	-
Large Urban Locals					
01	25	0	5	5	-
02	0	0	0	-	-
03	2	0	0	-	-
04	2	0	0	-	-

*1: Details of current number of HPMS sample and non-sample sections are provided in Appendix B7 a (i)

*2: Calculation details for required number of HPMS sample size, n, are provided in Appendix B7 a(iv)

APPENDIX B7a (iv) Adequacy Analysis for HPMS sample sections

Year: 1996

Area Class: Large Urban

Functional Class: Interstate

Volume Group 01:

Section ID	AADT
469028030	18420
465204100	17780
465204560	17780
80070420	22500
80071340	23172
265006780	15110
90000000	24625
90001060	21530
90004990	24326
74069870	22820
80016120	24730
80066420	22457
80070690	22500
80071880	23670
80076230	23544
Mean, u	21664.26667
Standard Deviation, s	2953.411066
Coefficient of Variation (CV) = s/u	0.136326381
Size of HPMS universe in this volume group, N	15
Confidence level, a (two-sided)	90%
Standard normal statistic for confidence level, Z	1.645
Precision Rate, d	0.1
Number of HPMS sample sections needed for this volume group, n	3.964279532
Corrected value of n to the nearest integer (x)	4
Existing number of HPMS sample sections (y)	10
Additional HPMS sample sections needed, z = x - y	nil
Excess nr. of HPMS sample sections that could be deleted, z = y - x	6

Appendix B7b(i)
Summary of HPMS traffic volume counts carried out within 1992-1996
(See details in Appendix B7-b(ii))

<i>Functional Class</i>	<i>Year</i>	1992	1993	1994	1995	1996
Rural Interstates		22	31	8	27	8
Rural Other Principal Arterial		34	101	28	62	47
Rural Minor Arterial		40	62	17	53	48
Rural Major Collectors		72	35	4	72	26
Urban Interstates		0	10	10	12	2
Urban Freeways & Expressways		12	8	2	3	4
Urban Other Principal Arterials		105	82	2	100	33
Urban Minor Arterials		41	9	4	22	16
Urban Collectors		29	13	1	35	9
Sub-total* ¹		385	355	76	386	193
Total from additional checksheets* ²				137	415	822
Average total for all MPOs* ³				60	60	60
Overall Total				273	861	1075

*1- Excludes counts in counties whose checksheets were submitted by INDOT at a later period

*2- Counties whose checksheets were submitted at a later period and their respective number of total HPMS volume counts are as follows: Porter 1994 (32), Clark 1994 (58 counts), Tippecanoe 1994 (47), Lake 1995 (262), Madison 1995 (105), Monroe 1995 (48), St. Joseph 1996 (55), Vigo 1996 (99), Marion 1996 (3300, Elkhart 1996 (41), Warrick 1996 (20), Vanderburg 1996 (84).

*3- Data submitted by MPOs to date show that these organizations carry out a total of about 180 HPMS volume counts over a cycle of approximately 3 years duration. This translates to an annual average of 60 counts.

APPENDIX B7b(ii)**DETAILS OF HPMS TRAFFIC VOLUME COUNTS CARRIED OUT FROM 1992 - 1996****1) 1996**

County	Functional Class	Number of HPMS volume counts, and road name of count sections	
		Sample sections	Non-sample sections
Benton	Rural Other Principal Arterial	1 (US-41)	10 (US-41)
	Rural Minor Arterial	2 (US-52)	11 (US-52)
	Rural Major Collector	2 (SR-18, CR-400)	0
Brown	Rural Other Principal Arterial	6 (SR-135)	0
	Rural Minor Arterial	0	11 (SR-46)
Gibson	Rural Interstate	2 (I-64)	0
	Rural Other Principal Arterial	12 (US-41)	14 (US-41)
	Rural Minor Arterial	0	19 (SR-64)
	Rural Major Collector	2 (SR-68)	0
	Urban Other Principal Arterial	1 (SR-64)	5 (SR-64)
	Urban Minor Arterial	0	1 (Embree St.)
	Urban Collector	1 (IR-336)	
Sullivan	Rural Other Principal Arterial	7 (US-41)	11 (US-41)
	Rural Minor Arterial	3 (SR-58)	0
	Rural Major Collector	4 (SR-154)	11 (SR-54, SR-154)
Orange	Rural Other Principal Arterial	5 (SR-56, SR-145, US -150)	24 (US-150, SR-37 SR-56, SR-145)
	Rural Minor Arterial	3 (SR-56, US-150)	16 (US-150, SR-56 SR-60)
	Rural Major Collector	6 (SR-337)	0

APPENDIX B7b(ii), continued
 DETAILS OF HPMS TRAFFIC VOLUME COUNTS CARRIED OUT FROM 1992 - 1996

1996 (continued)

County	Functional Class	Number of HPMS volume counts, and road name of count sections	
		Sample sections	Non-sample sections
Cass	Rural Other Principal Arterial	2 (SR-25)	3 (US-24)
	Rural Minor Arterial	6 (US-24)	15 (US-24, US-35, SR-25, SR-29)
	Rural Major Collector	8 (SR-218)	0
	Urban Other Principal Arterial	2 (US-24, SR-25)	15 (US-24, US-35, SR-17, SR-25)
	Urban Minor Arterial	13 (US-24, SR-435 Davis Rd.)	0
	Urban Collector	3 (Cicott St., George St., Chase St.)	0
Laporte	Rural Interstate	3 (I-94)	0
	Rural Other Principal Arterial	4 (US-30, US-421)	14 (US-20, US-30, US-421)
	Rural Minor Arterial	8 (US-35, SR-2)	31 (US-20, US-35, SR-2, SR-8, SR-39)
	Rural Major Collector	1 (SR-2)	0
	Urban Other Principal Arterial	27 (US-35, US-421 SR-2, SR-4))	70 (US-6, US-12, SR4 US-20, US-35, SR-2 US-421, SR212, SR39)
	Urban Minor Arterial	2 (IR-98, 1 st St.)	1 (SR-39)
	Urban Collector	4 (IR-43, Maple Ave., Weller Ave., IR-243)	0

APPENDIX B7b(ii), continued

DETAILS OF HPMS TRAFFIC VOLUME COUNTS CARRIED OUT FROM 1992 - 1996

1996 (continued)

County	Functional Class	Number of HPMS volume counts, and road name of count sections	
		Sample sections	Non-sample sections
Putnam	Rural Interstate	0	3 (I-70)
	Rural Other Principal Arterial	14 (US-231)	7 (US-231)
	Rural Minor Arterial	0	9 (US-36)
	Urban Other Principal Arterial	3 (US-231, Washington St.)	11 (US-231, SR-240, Indianapolis Rd.)
	Urban Minor Arterial	0	2 (SR-240)
	Urban Collector	1 (Seminary St.)	0
Warrick	Rural Interstate	3 (I-64, I-164)	0
	Rural Other Principal Arterial	2 (US-231)	0
	Rural Major Collector	4 (SR-61, SR-66, SR-261)	0
	Urban Interstate	2 (I-164)	0
St. Joseph		55 total	
Vigo		99 total	
Marion		330 total	
Elkhart		41 total	
Warrick		20 total	
Van'burg		84 total	

APPENDIX B7b(ii), continued

DETAILS OF HPMS TRAFFIC VOLUME COUNTS CARRIED OUT FROM 1992 - 1996

2) 1995

County	Functional Class	Number of HPMS volume counts, and road name of count sections	
		Sample sections	Non-sample sections
Adams	Rural Other Principal Arterial	13 (US-27, US-33)	9 (US-24, US-33)
	Rural Minor Arterial	1 (US-224)	6 (US-224)
	Rural Major Collector	4 (SR-101, IR-95)	0
	Urban Other Principal Arterial	1 (US-224)	15 (US-224, US-27)
	Urban Collector	3 (Patterson St., 3 RD St., 5 th St.)	0
Crawford	Rural Interstate	7 (I-64)	0
	Rural Other Principal Arterial	1 (SR-145)	4 (SR-145)
	Rural Major Collector	2 (SR-37)	0
Fulton	Rural Other Principal Arterial	7 (US-31)	0
	Rural Minor Arterial	15 (SR-14)	0
	Urban Minor Arterial	3 (SR-14)	0
Henry	Rural Interstate	2 (I-70)	0
	Rural Other Principal Arterial	8 (SR-3)	6 (SR-3)
	Rural Minor Arterial	0	6 (US-35, SR-109)
	Rural Major Collector	5 (US-40, SR-38)	0
	Urban Other Principal Arterial	9 (SR-3, SR-103)	13 (SR-3, SR-38 SR-103)
	Urban Minor Arterial	1 (Main St.)	0
	Urban Collector	6 (Indy Ave., Main St., Riley St., Washington St.)	0

APPENDIX B7b(ii), continued

DETAILS OF HPMS TRAFFIC VOLUME COUNTS CARRIED OUT FROM 1992 - 1996

1995 (continued)

County	Functional Class	Number of HPMS volume counts, and road name of count sections	
		Sample sections	Non-sample sections
Kosciusko	Rural Other Principal Arterial	6 (US-30)	3 (US-30)
	Rural Minor Arterial	0	11 (SR-15)
	Rural Major Collector	1 (SR-19)	0
	Urban Other Freeways and Expressways	3 (US-30)	4 (US-30)
	Urban Other Principal Arterial	8 (SR-15, Center St., Lake St., IR-52, IR-372)	0
	Urban Minor Arterial	2 (Buffalo St., Country Club Rd.)	0
	Urban Collector	1 (Harrison St.)	
Madison	Rural Minor Arterial	4 (SR-9)	0
	Rural Major Collector	7 (SR-28, SR-13, SR-37)	0
Wabash	Rural Other Principal Arterial	4 (US-24)	4 (US-40, US-24)
	Rural Minor Arterial	0	25 (SR-15, SR-114)
	Rural Major Collector	4 (SR-14)	6 (US-35, SR-109)
	Urban Other Freeways and Expressways	0	5 (US-24)
	Urban Other Principal Arterial	3 (SR-13, SR-15)	26 (SR-13, SR-15 SR-114)
	Urban Minor Arterial	1 (Huntington St.)	0
	Urban Collector	6 (Falls Ave., Euclid St., Harrison St.)	0

APPENDIX B7b(ii), continued

DETAILS OF HPMS TRAFFIC VOLUME COUNTS CARRIED OUT FROM 1992 - 1996

1995 (continued)

County	Functional Class	Number of HPMS volume counts, and road name of count sections	
		Sample sections	Non-sample sections
Wayne	Rural Interstate	0	3 (I-70)
	Rural Other Principal Arterial	4 (US-27)	10 (SR-1, US-27)
	Rural Minor Arterial	3 (SR-1)	9 (SR-1, US-35)
	Rural Major Collector	7 (US-40, SR-227, IR-529)	0
	Urban Interstate	4 (I-70)	0
	Urban Other Principal Arterial	5 (US-27, US-40)	38 (US-27, US-40, NW 5 th St.)
	Urban Minor Arterial	1 (IR-168)	0
	Urban Collector	IR-263, SE St., SQ St., SW 22 nd St., N 22 nd St)	0
Clay	Rural Interstate	0	2 (I-70)
	Rural Minor Arterial	5 (SR-59)	23 (SR-46, SR-59)
	Rural Major Collector	7 (SR-42, US-40)	0
	Urban Other Principal Arterial	5 (SR-59, US-40)	11 (SR-59, US-40)
	Urban Minor Arterial	1 (Harmony Rd.)	0
	Urban Collector	1 (IR-91)	0
Fayette	Rural Other Principal Arterial	0	6 (SR-1)
	Rural Minor Arterial	0	5 (SR-44)
	Urban Other Principal Arterial	7 (Grand Ave., SR-1, SR-44, Western Blvd.)	19 (SR-1, SR-44)
	Urban Collector	2 (32 nd St., Central Ave.)	0

APPENDIX B7b(ii), continued

DETAILS OF HPMS TRAFFIC VOLUME COUNTS CARRIED OUT FROM 1992 - 1996

1995 (continued)

County	Functional Class	Number of HPMS volume counts, and road name of count sections	
		Sample sections	Non-sample sections
Clinton	Rural Interstate	0	2 (I-65)
	Rural Other Principal Arterial	0	12 (SR-26)
	Rural Minor Arterial	5 (SR-28, US-421))	43 (SR-28, SR-29, US-421)
	Rural Major Collector	3 (SR-75)	
	Urban Minor Arterial	1 (Washington St.)	17 (W. Washington St IR-33, US-421 W. IR-309)
	Urban Collector	9 (US-421, US-28)	0
Grant	Rural Interstate	2 (I-69)	1 (I-69)
	Rural Other Principal Arterial	5 (US-35)	0
	Rural Minor Arterial	3 (SR-37)	16 (SR-9, SR-15 SR-18, SR-37)
	Rural Major Collector	5 (SR-5)	0
	Urban Other Principal Arterial	15 (US-25, SR-9 SR-15, SR-18)	0
	Urban Minor Arterial	3 (Broadway St., Lincoln Ave.)	0
	Urban Collector	5 (Chapelpike S. Dr., Adams St., 9 th St., 30 th St)	0
Harrison	Rural Interstate	1 (I-64)	2 (I-64)
	Rural Minor Arterial	5 (SR-135)	19 (SR-135, US-150)
	Rural Major Collector	2 (IR-294, SR-11)	0

APPENDIX B7b(ii), continued

DETAILS OF HPMS TRAFFIC VOLUME COUNTS CARRIED OUT FROM 1992 - 1996

1995 (continued)

County	Functional Class	Number of HPMS volume counts, and road name of count sections	
		Sample sections	Non-sample sections
Greene	Rural Other Principal Arterial	4 (US-231)	18 (US-231)
	Rural Minor Arterial	4 (SR-67)	19 (SR-54, SR-59, SR-67)
	Rural Major Collector	5 (SR-157, SR-48 SR-57)	0
	Urban Other Principal Arterial	5 (SR-54)	1 (SR-54)
	Urban Collector	1 (NE H. St.)	0
Hancock	Rural Interstate	1 (I-70)	2 (I-70)
	Rural Minor Arterial	4 (US-36)	23 (SR-109, SR-9, US-36, US-52)
	Rural Major Collector	4 (US-40)	0
	Urban Interstate	0	1 (I-70)
	Urban Other Principal Arterial	1 (US-40)	14 (SR-9, IS-40)
	Urban Minor Arterial	1 (IR-28)	0
	Urban Collector	1 (Park St.)	0
Harrison	Rural Interstate	1 (I-64)	2 (I-64)
	Rural Minor Arterial	5 (SR-135)	19 (SR-135, US-150)
	Rural Major Collector	2 (IR-294, SR-11)	0

APPENDIX B7b(ii), continued

DETAILS OF HPMS TRAFFIC VOLUME COUNTS CARRIED OUT FROM 1992 - 1996

1995 (continued)

County	Functional Class	Number of HPMS volume counts, and road name of count sections	
		Sample sections	Non-sample sections
Randolph	Rural Interstate	0	2 (I-64)
	Rural Minor Arterial	0	9 (US-150)
	Large Urban Interstate		1 (I-64)
	Large Urban Other Principal Arterial	9 (SR-111, SR-311)	11 (SR-111, SR-311, SR-62)
	Large Urban Minor Arterial	5 (SR-111, State St.)	0
Hendricks	Rural Interstate	5 (I-70, I-74)	3 (I-70)
	Rural Minor Arterial	3 (SR-67, US36)	30 (SR-267, US-36, US-136, US-40)
	Rural Major Collector	8 (SR-75, US-136)	0
	Urban Interstate	2 (I-74)	0
	Urban Other Principal Arterial	10 (US-40, US-136 SR-267)	24 (IR-461, US-40 SR-267, US-136)
	Urban Minor Arterial	1 (IR-28)	0
	Urban Collector	1 (Park St.)	0
Shelby	Rural Interstate	7 (I-74, I-65)	0
	Rural Minor Arterial	0	16 (SR-44, SR-9, US-52)
	Urban Interstate	3 (I-74)	1 (I-74)
	Urban Other Principal Arterial	11 (SR-44, SR-9, Miller Ave.)	30 (SR-44, SR-9)
	Urban Minor Arterial	1 (Washington St.)	0
	Urban Collector	1 (Miller St.)	0

APPENDIX B7b(ii), continued

DETAILS OF HPMS TRAFFIC VOLUME COUNTS CARRIED OUT FROM 1992 - 1996

2) 1994 (*cont'd*)

County	Functional Class	Number of HPMS volume counts, and road name of count sections	
		Sample sections	Non-sample sections
Lake		262 total	
Madison		105 total	
Monroe		48 total	

APPENDIX B7b(ii), continued

DETAILS OF HPMS TRAFFIC VOLUME COUNTS CARRIED OUT FROM 1992 - 1996

3) 1994

County	Functional Class	Number of HPMS volume counts, and road name of count sections	
		Sample sections	Non-sample sections
Floyd	Rural Interstate	1 (I-64)	1 (I-64)
	Large Urban Interstate	12 (I-265), I-64)	
Lagrange	Rural Interstate	1 (I-80 Roll Road)	
	Rural Minor Arterial	0	26 (US-20, SR-9)
	Rural Major Collector	1 (SR-5)	0
Marshall	Rural Other Principal Arterial	14 (US-30, US-31)	10 (US-30, US-31)
	Rural Major Collector	1 (Old US 31)	0
	Urban Other Freeway and Expressway	2 (US-30)	0
	Urban Other Principal Arterial	0	6 (Michigan St., SR-17)
	Urban Minor Arterial	3 (SR-17)	0
	Urban Collector	1 (Baker Ave.) Miller Ave.)	
Parke	Rural Other Principal Arterial	2 (US-36, SR-47)	39 (US-36, US-41, SR-47, SR-59)
	Rural Major Collector	1 (IR-3)	0
Posey	Rural Interstate	6 (I-64)	0
	Rural Other Principal Arterial	5 (SR-62, SR-69)	3 (SR-62, SR-69)
	Urban Other Principal Arterial	2 (SR-62)	5 (SR-62)
	Urban Minor Arterial	1 (IR-120)	0

APPENDIX B7b(ii), continued

DETAILS OF HPMS TRAFFIC VOLUME COUNTS CARRIED OUT FROM 1992 - 1996

1994 (cont'd)

County	Functional Class	Number of HPMS volume counts, and road name of count sections	
		Sample sections	Non-sample sections
Pulaski	Rural Other Principal Arterial	3 (US-421)	0
	Rural Minor Arterial	8 (SR-14)	25 (SR-114, SR-14 US-35)
	Rural Major Collector	1 (IR-68)	
Whitley	Rural Other Principal Arterial	6 (US-24, US-30, US-33)	0
	Rural Minor Arterial	7 (SR-114)	26 (US-20, SR-9)
	Urban Other Principal Arterial	0	11 (SR-9, US-30)
Porter		32 total	
Clark		58 total	
Tippecanoe		47 total	

APPENDIX B7b(ii), continued

DETAILS OF HPMS TRAFFIC VOLUME COUNTS CARRIED OUT FROM 1992 - 1996

4) 1993

County	Functional Class	Number of HPMS volume counts on sample sections, and road name of count sections
Allen	Rural Interstate	5 (I-69)
	Rural Other Principal Arterial	7 (IR-73, US-27, US-30, US-33)
	Rural Minor Arterial	2 (US 24)
	Rural Major Collector	2 (SR-205)
	Urban Interstate	8 (I-69)
	Urban Other Freeway and Expressway	2 (US-30)
	Urban Other Principal Arterial	18 (US-24, Upper Huntington Rd., Washington Rd.)
		2 (SR-37)
	Urban Minor Arterial	
	Rural Interstate	5 (I-74)
Decatur	Rural Other Principal Arterial	7 (SR-3, SR-46)
	Rural Major Collector	3 (IR-3, IR-56)
	Urban Other Principal Arterial	1 (US-421)
	Urban Collector	1 (Mckee St.)
Hamilton	Rural Interstate	5 (I-69)
	Rural Other Principal Arterial	2 (US-31)
	Rural Major Collector	1 (IR-9)
	Rural Minor Collector	1 (SR-1)
	Urban Interstate	2 (I-465)
	Urban Other Principal Arterial	4 (SR-32, 10 th St.)
	Urban Minor Arterial	4 (116 th St., 16 th St.)
	Urban Collector	3 (IR-4, Firestone Blvd., 6 th St.)

APPENDIX B7b(ii), continued

DETAILS OF HPMS TRAFFIC VOLUME COUNTS CARRIED OUT FROM 1992 - 1996

1993 (continued)

County	Functional Class	Number of HPMS volume counts on sample sections, and road name of count sections
Jefferson	Rural Minor Arterial	8 (SR-56, SR-62)
	Rural Major Collector	4 (SR-62, SR-256)
	Rural Minor Collector	3 (IR 22)
	Urban Other Principal Arterial	8 (US-421, SR-7, SR-56)
	Urban Minor Arterial	1 (3 rd St.)
	Urban Collector	3 (East St., 5 th St., Jefferson St.)
Jennings	Rural Other Principal Arterial	4 (US-50)
	Rural Minor Arterial	8 (SR-3)
	Rural Minor Collector	3 (IR-4, IR-38)
Knox	Rural Other Principal Arterial	14 (US-41, US-50)
	Rural Minor Arterial	2 (US-31)
	Urban Other Freeways and Expressways	4 (US-41)
	Urban Other Principal Arterial	7 (SR-441, SR-61)
Morgan	Rural Interstate	4 (I-74)
	Rural Other Principal Arterial	3 (SR-37)
	Rural Minor Arterial	2 (SR-67)
	Rural Major Collector	1 (IR-53)
	Rural Minor Collector	2 (IR-288, IR 297)
	Urban Other Principal Arterial	14 (SR-39, Morgan St.)
	Urban Minor Arterial	2 (Indiana St.)
	Urban Collector	1 (Bridge St.)

APPENDIX B7b(ii), continued

DETAILS OF HPMS TRAFFIC VOLUME COUNTS CARRIED OUT FROM 1992 - 1996

1993 (continued)

County	Functional Class	Number of HPMS volume counts on sample sections, and road name of count sections
Owen	Rural Other Principal Arterial	7 (US-231)
	Rural Interstate	1 (I-65)
Newton	Rural Minor Arterial	16 (US-41, SR-10)
	Rural Minor Collector	3 (IR 67)
Perry	Rural Interstate	3 (I-64)
	Rural Other Principal Arterial	3 (SR-37)
	Rural Minor Arterial	2 (SR-66)
	Urban Other Principal Arterial	13 (SR-37, SR-66)
Pike	Rural Other Principal Arterial	15 (SR-56, SR-57)
	Rural Minor Arterial	8 (SR-64)
Ripley	Rural Interstate	3 (I-74)
	Rural Other Principal Arterial	11 (US-50)
	Rural Minor Arterial	4 (US-421, SR-101)
	Rural Minor Collector	3 (Benham Rd.)
Rush	Rural Other Principal Arterial	1 (SR-3)
	Rural Minor Arterial	1 (US-52)
	Rural Major Collector	2 (SR-244)
	Rural Minor Collector	2 (IR-46)
	Urban Other Principal Arterial	7 (US-52, SR-3, SR-44)
	Urban Minor Arterial	1 (Ft. Wayne St.)

APPENDIX B7b(ii), continued

DETAILS OF HPMS TRAFFIC VOLUME COUNTS CARRIED OUT FROM 1992 - 1996

1993 (continued)

County	Functional Class	Number of HPMS volume counts on sample sections, and road name of count sections
Tipton	Rural Other Principal Arterial	1 (US-31)
	Rural Minor Arterial	1 (IR-134)
	Rural Minor Collector	2 (IR 35, CR-300W)
	Urban Other Principal Arterial	1 (SR-38)
	Urban Collector	2 (1 st St.)
Union	Rural Other Principal Arterial	13 (US-27)
	Rural Minor Collector	1 (IR-13)
Vermillion	Rural Interstate	2 (I-74)
	Rural Other Principal Arterial	13 (SR-63)
	Rural Major Collector	2 (SR-32)
	Rural Minor Collector	3 (IR-23)
	Urban Other Freeways and Expressways	2 (SR-63)
	Urban Other Principal Arterial	9 (SR-163, Main St., IR-177)
	Urban Minor Arterial	1 (9 th St.)
	Urban Collector	3 (Ash St.)
Warren	Rural Minor Arterial	8 (SR-28, US-41)
	Rural Major Collector	1 (IR-55)
White	Rural Interstate	3 (I-65)
	Rural Major Collector	1 (CR-1150E)
	Rural Minor Collector	3 (CR-1450E, CR-300S, CR400N)

APPENDIX B7b(ii), continued

DETAILS OF HPMS TRAFFIC VOLUME COUNTS CARRIED OUT FROM 1992 - 1996

5) 1992

County	Functional Class	Number of HPMS volume counts, and road name of count sections
Daviss	Urban Other Principal Arterial	23 (US-50, SR-57)
	Urban Minor Arterial	6 (SR-62, SR-37)
Hartford	Urban Other Principal Arterial	7 (SR-26)
	Urban Minor Arterial	3 (Jefferson St.)
	Urban Collector	2 (Hill St.)
Dearborn	Rural Interstate	2 (I-74)
	Rural Minor Arterial	1 (US-50)
	Urban Other Principal Arterial	11 (US-50)
	Urban Minor Arterial	4 (SR-1, SR-48)
DeKalb	Rural Interstate	4 (I-69)
	Rural Other Principal Arterial	3 (US-6)
	Rural Major Collector	3(SR-1)
	Rural Minor Collector	2 (IR-5, IR-17)
	Urban Other Principal Arterial	1 (SR-8)
	Urban Minor Arterial	1 (North St.)
	Urban Collector	1 (Indiana St.)
Fountain	Rural Interstate	4 (I-74)
	Rural Minor Arterial	1 (US-41)
	Rural Major Collector	3 (SR-234, IR-44)

APPENDIX B7b(ii), continued

DETAILS OF HPMS TRAFFIC VOLUME COUNTS CARRIED OUT FROM 1992 - 1996

1992 (continued)

County	Functional Class	Number of HPMS volume counts, and road name of count sections
Dubois	Rural Interstate	2 (I-64)
	Rural Other Principal Arterial	1 (US-231)
	Rural Minor Arterial	7 (SR-56, SR-64, SR-145)
	Rural Minor Collector	5 (IR-198, IR-45, IR-220, CR-400N)
	Urban Other Principal Arterial	8 (US-231)
	Urban Minor Arterial	5 (SR-162, SR-264)
	Urban Collector	4 (Van Buren St., IR-6, 15 th St.)
Lawrence	Rural Other Principal Arterial	8 (US-50, SR-37)
	Rural Major Collector	9 (US-50, SR-58, SR-450)
	Rural Minor Collector	2 (IR-62, IR-38)
	Urban Other Freeways and Expressways	6 (SR-37)
	Urban Other Principal Arterial	1 (SR-450)
	Urban Minor Arterial	2 (Main St.)
	Urban Collector	1 (7 th St.)
Martin	Rural Other Principal Arterial	3 (US-231)
	Rural Minor Arterial	1 (US-150)
	Rural Major Collector	3 (SR-550)
	Rural Minor Collector	3 (US-50)
Switzerland	Rural Minor Arterial	3 (SR-56)
	Rural Major Collector	1 (SR-250)
	Rural Minor Collector	3 (IR-15)

APPENDIX B7b(ii), continued

DETAILS OF HPMS TRAFFIC VOLUME COUNTS CARRIED OUT FROM 1992 - 1996

1992 (continued)

County	Functional Class	Number of HPMS volume counts, and road name of count sections
Franklin	Rural Interstate	2 (I-74)
	Rural Minor Arterial	16 (US-52, SR-101)
	Rural Major Collector	2 (IR-48)
	Rural Minor Collector	3 (IR-51, IR-128)
Huntington	Rural Other Principal Arterial	11 (US-24)
	Rural Minor Arterial	3 (SR-9)
	Rural Major Collector	7 (IR-64, SR-105)
	Rural Minor Collector	2 (IR-12)
	Urban Other Freeways and Expressways	6 (US-24, SR-9)
	Urban Other Principal Arterial	13 (IR-337, Etna Rd., US-24, Park Rd.)
	Urban Minor Arterial	1 (Flaxmill Rd.)
Jay	Urban Collector	3 (Stoltz Rd., Salamonie Rd.)
	Rural Other Principal Arterial	7 (US-27)
	Rural Minor Arterial	2 (SR-1, SR-18)
	Rural Major Collector	2 (IR-1, IR-26)
	Urban Other Principal Arterial	9 (SR-26, US-27)
	Urban Minor Arterial	4 (7 TH St., SR-26)
Ohio	Urban Collector	5 (Charles St., Votaw St.)
	Rural Minor Arterial	2 (SR-56)

APPENDIX B7b(ii), continued

DETAILS OF HPMS TRAFFIC VOLUME COUNTS CARRIED OUT FROM 1992 - 1996

1992 (continued)

County	Functional Class	Number of HPMS volume counts, and road name of count sections
Johnson	Rural Interstate	4 (I-65)
	Rural Other Principal Arterial	1 (SR-37)
	Rural Minor Arterial	1 (SR-44)
	Rural Major Collector	12 (SR-135, SR-252, IR-402)
	Rural Minor Collector	2 (IR-7)
	Urban Other Principal Arterial	3 (US-31)
	Urban Minor Arterial	1 (State St.)
	Urban Collector	2 (Pearl St., Circle Dr.)
Miami	Urban Other Principal Arterial	17 (US-24, US-31)
	Urban Minor Arterial	12 (Broadway St., SR-19)
	Urban Collector	9 (IR-32, IR-167, IR-99, Washington Ave., 6 th St.)
Steuben	Rural Interstate	7 (I-69)
	Rural Major Collector	1 (IR-72)
	Rural Minor Collector	1 (IR-23)
	Urban Other Principal Arterial	5 (SR-127)
	Urban Collector	2 (IR-25, Darling St.)

APPENDIX B7c(i)

SUMMARY OF HPMS AND NON-HPMS VEHICLE CLASSIFICATION COUNTS, 1994-1996

Year: 1996

Functional class	Nr. of counts at sample sections	Nr. of counts at non-sample sections	Sum of counts for each functional class	Sum of HPMS counts for the entire year	Sum of non-HPMS counts for the entire year	Sum of both counts for the entire year	Counties
	<i>a</i>	<i>b</i>	<i>c = a + b</i>	<i>d = E c</i>	<i>e</i>	<i>f = d + e</i>	
Rural Interstates	15	3	3	142	115 (see Appendix ...)	257	Included counties: Benton Brown Cass Gibson Laporte Orange Putnam Sullivan Elkhart St. Joseph V'burg Vigo
Rural Other Prin. Art.	23	35	58				
Rural Minor Arterial	11	38	49				
Rural Major Collector	5	0	5				
Rural Minor Collector	0	0	0				
Urban Interstate	3	0	0				
Urban Other F'ways & E'ways	1	0	1				
Urban Other Prin. Art.	4	19	23				
Urban Minor Arterial	2	1	3				
Urban Collector	0	0	0				
Total	46						

APPENDIX B7c(i), continued

SUMMARY OF HPMS AND NON-HPMS VEHICLE CLASSIFICATION COUNTS, 1994-1996
 Year: 1995

Functional class	Nr. of counts at sample sections	Nr. of counts at non-sample sections	Sum of counts for each functional class	Sum of HPMS counts for the entire year	Sum of non-HPMS counts for the entire year	Sum of both counts for the entire year	Counties
	<i>a</i>	<i>b</i>	<i>c = a + b</i>	<i>d = sum c</i>	<i>e</i>	<i>f = d + e</i>	
Rural Interstates	17	14	31	257	214 (see Appendix ...)	471	Included counties: Adams Clay Clinton Crawford Fayette Grant Greene Hancock Harrison Hendricks Henry K'cuisko M'gomery Randolph Shelby Wayne Wabash Lake Madison Marion
Rural Other Prin. Art.	25	26	51				
Rural Minor Arterial	12	99	111				
Rural Major Collector	26	0	26				
Rural Minor Collector	0	0	0				
Urban Interstate	8	2	10				
Urban Other F'ways & E'ways	0	4	4				
Urban Other Prin. Art.	5	18	23				
Urban Minor Arterial	0	1	1				
Urban Collector	0	0	0				
Total	93						

APPENDIX B7c(i)

SUMMARY OF HPMS AND NON-HPMS VEHICLE CLASSIFICATION COUNTS, 1994-1996

Year: 1994

Functional class	Nr. of counts at sample sections	Nr. of counts at non-sample sections	Sum of counts for each functional class	Sum of HPMS counts for the entire year	Sum of non-HPMS counts for the entire year	Sum of both counts for the entire year	Counties
	<i>a</i>	<i>b</i>	<i>c = a + b</i>	<i>d = E c</i>	<i>e</i>	<i>f = d + e</i>	
Rural Interstates	9	0	0				
Rural Other Prin. Art.	10	14	24				<u>Included counties:</u>
Rural Minor Arterial	9	42	51				Floyd
Rural Major Collector	1	0	1				L'grange
Rural Minor Collector	0	0	0	80	93	173	Marshall
Urban Interstate	6	0	0				Parke
Urban Other F'ways & E'ways	0	0	0				Posey
Urban Other Prin. Art.	3	1	4				Pulaski
Urban Minor Arterial	3	0	0				Whitley
Urban Collector	2	0	0				Clarke
							Porter
							T'canoe
Total	23						

APPENDIX B7c (ii)

Details (locations) of HPMS sample and HPMS non-sample vehicle classification counts,
carried out by INDOT 1994-1996

Year: 1994

County	Coverage-count station ID	Route	Functional/area classification	Sample status	Comments
PARKE	0010	US-36	Rural Minor Arterial	Non-sample	<u>Number of counts in each category:</u> HPMS sample- 2 HPMS non-sample- 14 Non-HPMS- 10 Total = 26
	0020	US-36	Rural Minor Arterial	Non-sample	
	0040	US-36	Rural Minor Arterial	Sample	
	0051	US-36	Rural Minor Arterial	Non-sample	
	0060	US-36	Rural Minor Arterial	Non-sample	
	0080	US-41	Rural Minor Arterial	Non-sample	
	0100	US-41	Rural Minor Arterial	Non-sample	
	0110	US-41	Rural Minor Arterial	Non-sample	
	0120	US-41	Rural Minor Arterial	Non-sample	
	0130	US-41	Rural Minor Arterial	Non-sample	
	0160	US-41	Rural Minor Arterial	Non-sample	
	0170	US-41	Rural Minor Arterial	Non-sample	
	0190	SR-47	Rural Minor Arterial	Non-sample	
	0200	SR-47	Rural Minor Arterial	Sample	
	0220	SR-47	Rural Minor Arterial	Non-sample	
	0230	SR-47	Rural Minor Arterial	Non-sample	
POSEY	0060	SR-62	Rural Minor Arterial	Non-sample	HPMS sample- 1 HPMS non-sample- 5 Non-HPMS- 9 Total = 15
	0070	SR-62	Rural Minor Arterial	Non-sample	
	0100	SR-62	Rural Other Prin. Arterial	Non-sample	
	0210	SR-66	Rural Minor Arterial	Non-sample	
	0270	SR-68	Rural Other Prin. Arterial	Non-sample	
	0374	SR-69	Rural Other Prin. Arterial	Sample	
PULASKI	0010	US-35	Rural Minor Arterial	Non-sample	<u>Number of counts in each category:</u> HPMS sample- 5 HPMS non-sample- 10 Non-HPMS- 7 Total = 22
	0071	US-35	Rural Minor Arterial	Non-sample	
	0080	US-35	Rural Minor Arterial	Non-sample	
	0100	US-421	Rural Other Prin. Arterial	Non-sample	
	0120	US-421	Rural Other Prin. Arterial	Non-sample	
	0130	US-421	Rural Other Prin. Arterial	Non-sample	
	0140	US-421	Rural Other Prin. Arterial	Non-sample	
	0160	US-421	Rural Other Prin. Arterial	Non-sample	
	0170	US-421	Rural Other Prin. Arterial	Sample	
	0190	US-421	Rural Other Prin. Arterial	Sample	
	0220	SR-14	Rural Minor Arterial	Sample	
	0240	SR-14	Rural Minor Arterial	Sample	
	0262	SR-14	Rural Minor Arterial	Non-sample	
	0270	SR-14	Rural Minor Arterial	Sample	
	0340	SR-114	Rural Minor Arterial	Non-sample	

APPENDIX B7c (ii), continued

Details (locations) of HPMS sample and HPMS non-sample vehicle classification counts,
carried out by INDOT 1994-1996

Year: 1994 (cont'd)

County	Coverage- count station ID	Route	Functional/area classification	Sample status	Comments
WHITLEY	0010	US-24	Rural Other Prin. Arterial	Sample	<u>Number of counts in each category:</u> HPMS sample- 5 HPMS non-sample- 8 Non-HPMS- 22 Total = 35
	0030	US-30	Rural Other Prin. Arterial	Non-sample	
	0560	SR-105	Rural Minor Arterial	Sample	
	0580	SR-114	Rural Minor Arterial	Sample	
	0600	SR-114	Rural Minor Arterial	Sample	
	0610	SR-114	Rural Minor Arterial	Sample	
	0310	SR-9	Rural Minor Arterial	Sample	
	0320	SR-9	Rural Minor Arterial	Non-sample	
	0381	SR-9	Urban Other Prin. Arterial	Non-sample	
	0390	SR-9	Rural Minor Arterial	Non-sample	
	0090	US-30	Rural Other Prin. Arterial	Non-sample	
	0100	US-30	Rural Other Prin. Arterial	Non-sample	
	0540	SR-114	Rural Minor Arterial	Non-sample	
FLOYD	0120	US-150	Urban Other Prin. Arterial	Sample	HPMS sample- 2 HPMS non-sample- 0 Non-HPMS- 6 Total = 8
	0150	US-150	Urban Other Prin. Arterial	Sample	
LAGRA- NGE	0010	US-20	Rural Minor Arterial	Non-sample	<u>Number of counts in each category:</u> HPMS sample- 1 HPMS non-sample- 9 Non-HPMS- 11 Total = 21
	0030	US-20	Rural Minor Arterial	Non-sample	
	0051	US-20	Rural Minor Arterial	Non-sample	
	0060	US-20	Rural Minor Arterial	Non-sample	
	0080	US-20	Rural Minor Arterial	Non-sample	
	0180	SR-5	Rural Major Collector	Sample	
	0201	SR-9	Rural Minor Arterial	Non-sample	
	0204	SR-9	Rural Minor Arterial	Non-sample	
	0223	SR-9	Rural Minor Arterial	Non-sample	
	0250	SR-9	Rural Minor Arterial	Non-sample	

APPENDIX B7c (ii), continued

Details (locations) of HPMS sample and HPMS non-sample vehicle classification counts,
carried out by INDOT 1994-1996

Year: 1994 (cont'd)

County	Coverage-count station ID	Route	Functional/area classification	Sample status	Comments
MARSH-ALL	0010	US-6	Rural Minor Arterial	Non-sample	<u>Number of counts in each category:</u> HPMS sample- 7 HPMS non-sample- 11 Non-HPMS- 30 Total = 48
	0012	US-6	Rural Minor Arterial	Non-sample	
	0020	US-6	Rural Minor Arterial	Non-sample	
	0030	US-6	Rural Minor Arterial	Non-sample	
	0040	US-6	Rural Minor Arterial	Non-sample	
	0050	US-6	Rural Minor Arterial	Non-sample	
	0080	US-6	Rural Minor Arterial	Non-sample	
	0100	US-30	Rural Other Prin. Arterial	Non-sample	
	0110	US-30	Urban Other Prin. Arterial	Sample	
	0130	US-30	Rural Other Prin. Arterial	Non-sample	
	0140	US-30	Rural Other Prin. Arterial	Sample	
	0150	US-30	Rural Other Prin. Arterial	Sample	
	0170	US-30	Rural Other Prin. Arterial	Sample	
	0190	US-31	Rural Other Prin. Arterial	Sample	
	0210	US-31	Rural Other Prin. Arterial	Sample	
CLARK	0050	I-65	Urban Interstates	Sample	<u>Number of counts in each category:</u> HPMS sample- 7 HPMS non-sample- 11 Non-HPMS- 8 Total = 26
	0060	I-65	Urban Interstates	Sample	
	0070	I-65	Urban Interstates	Sample	
	0080	I-65	Urban Interstates	Sample	
	0090	I-65	Urban Interstates	Sample	
	0100	I-65	Urban Interstates	Non-sample	
	0110	I-65	Urban Interstates	Non-sample	
	0120	I-65	Urban Interstates	Sample	
	0200	US-31	Urban Other Prin. Arterial	Non-sample	
	0330	SR-3	Urban Other Prin. Arterial	Sample	
	0340	SR-3	Rural Collector	Non-sample	
	0350	SR-3	Rural Collector	Non-sample	
	0370	SR-60	Urban Other Prin. Arterial	Non-sample	
	0410	SR-60	Urban Other Prin. Arterial	Non-sample	
	0510	SR-62	Urban Other Prin. Arterial	Non-sample	
	0520	SR-62	Urban Other Prin. Arterial	Non-sample	
	0530	SR-62	Rural Minor Arterial	Non-sample	

APPENDIX B7c (ii), continued

Details (locations) of HPMS sample and HPMS non-sample vehicle classification counts,
carried out by INDOT 1994-1996

Year: 1994 (cont'd)

County	Coverage- count station ID	Route	Functional/area classification	Sample status	Comments
PORTER	0010	US-6	Urban Other Prin. Arterial	Sample	<u>Number of counts in each category:</u> HPMS sample- 11 HPMS non-sample- 15 Non-HPMS- 17 Total = 43
	0013	US-6	Urban Other Prin. Arterial	Sample	
	0020	US-6	Urban Other Prin. Arterial	Sample	
	0030	US-6	Rural Minor Arterial	Non-sample	
	0033	US-6	Rural Minor Arterial	Non-sample	
	0060	US-6	Rural Minor Arterial	Non-sample	
	0080	US-12	Urban Other Prin. Arterial	Sample	
	0100	US-12	Urban Other Prin. Arterial	Sample	
	0126	US-12	Urban Other Prin. Arterial	Non-sample	
	0130	US-12	Urban Other Prin. Arterial	Non-sample	
	0140	US-12	Urban Other Prin. Arterial	Non-sample	
	0320	US-30	Rural Other Prin. Arterial	Sample	
	0380	US-30	Rural Other Prin. Arterial	Sample	
	0420	US-30	Rural Minor Arterial	Non-sample	
	0490	US-30	Rural Minor Arterial	Non-sample	
	0502	SR-2	Rural Minor Arterial	Non-sample	
	0508	SR-2	Rural Minor Arterial	Non-sample	
	0551	SR-2	Rural Major Collector	Sample	
	0650	SR-49	Urban Other Prin. Arterial	Non-sample	
	0660	SR-49	Urban Other Prin. Arterial	Non-sample	
	0670	SR-49	Rural Other Prin. Arterial	Sample	
	0690	SR-49	Urban Other Prin. Arterial	Non-sample	
	0700	SR-49	Urban Other Prin. Arterial	Non-sample	
	0730	SR-49	Urban Other Prin. Arterial	Non-sample	
	0842	SR-149	Urban Other Prin. Arterial	Sample	
	0860	SR-149	Urban Other Prin. Arterial	Sample	
	0863	SR-149	Urban Other Prin. Arterial	Non-sample	
	0890	SR-149	Urban Other Prin. Arterial	Non-sample	
	0920	SR-249	Urban Other Prin. Arterial	Non-sample	
TIPPE- CANOE	0010	1-65	Urban Interstates	Non-sample	
	0020	1-65	Urban Interstates	Non-sample	
	0030	1-65	Urban Interstates	Sample	
	0040	1-65	Urban Interstates	Sample	
	0045	1-65	Urban Interstates	Sample	
	0050	US-52	Rural Minor Arterial	Non-sample	
	0060	US-52	Rural Minor Arterial	Sample	
	0070	US-52	Rural Minor Arterial	Sample	
	0090	US-52	Urban Other Prin. Arterial	Non-sample	
	0100	US-52	Urban Other Prin. Arterial	Non-sample	

APPENDIX B7c (ii), continued

Details (locations) of HPMS sample and HPMS non-sample vehicle classification counts,
carried out by INDOT 1994-1996

Year: 1994 (cont'd)

County	Coverage- count station ID	Route	Functional/area classification	Sample status	Comments
TIPPE- CANOE (cont'd)	0130	US-52	Urban Other Prin. Arterial	Non-sample	<u>Number of counts in each category:</u> HPMS sample- 13 HPMS non-sample- 16 Non-HPMS- 8 Total = 37
	0191	US-52	Urban Other Prin. Arterial	Non-sample	
	0250	US-231	Rural Other Prin. Arterial	Sample	
	0275	US-231	Urban Other Prin. Arterial	Sample	
	0590	SR-25	Rural Minor Arterial	Non-sample	
	0600	SR-25	Rural Minor Arterial	Non-sample	
	0603	SR-25	Urban Other Prin. Arterial	Sample	
	0670	SR-25	Rural Other Prin. Arterial	Sample	
	0690	SR-25	Rural Other Prin. Arterial	Sample	
	0971	SR-26	Urban Other Prin. Arterial	Non-sample	
	0980	SR-26	Urban Other Prin. Arterial	Non-sample	
	1000	SR-28	Rural Minor Arterial	Non-sample	
	1010	SR-28	Rural Other Prin. Arterial	Sample	
	1020	SR-28	Rural Other Prin. Arterial	Sample	
	1040	SR-28	Rural Minor Arterial	Non-sample	
	1050	SR-28	Rural Minor Arterial	Non-sample	
	1072	SR-28	Rural Minor Arterial	Non-sample	
	1160	SR-43	Urban Minor Arterial	Non-sample	
	1190	SR-43	Rural Other Prin. Arterial	Sample	
	1210	SR-43	Rural Other Prin. Arterial	Non-sample	

APPENDIX B7c (ii), continued

Details (locations) of HPMS sample and HPMS non-sample vehicle classification counts,
carried out by INDOT 1994-1996

Year: 1995

County	Coverage-count station ID	Route	Functional/area classification	Sample status	Comments
HEND-RICKS	0010	I-70	Rural Interstate	Sample	<u>Number of counts in each category:</u> HPMS sample- 10 HPMS non-sample- 8 Non-HPMS- 15 Total = 33
	0020	I-70	Rural Interstate	Sample	
	0050	I-74	Rural Interstate	Sample	
	0060	I-74	Urban Interstate	Sample	
	0070	I-74	Urban Interstate	Sample	
	0090	US-36	Rural Minor Arterial	Non-sample	
	0110	US-36	Rural Minor Arterial	Non-sample	
	0153	US-36	Rural Minor Arterial	Non-sample	
	0320	US-136	Rural Major Collector	Sample	
	0330	US-136	Rural Major Collector	Sample	
	0360	US-136	Urban Other Prin. Arterial	Sample	
	0530	SR-67	Rural Minor Arterial	Sample	
	0600	SR-75	Rural Major Collector	Sample	
	0720	SR-267	Rural Minor Arterial	Non-sample	
	0830	SR-267	Rural Minor Arterial	Non-sample	
MADI-SON	0010	I-69	Rural Interstate	Sample	<u>Number of counts in each category:</u> HPMS sample- 11 HPMS non-sample- 15 Non-HPMS- 10 Total = 36
	0020	I-69	Rural Interstate	Sample	
	0030	I-69	Rural Interstate	Sample	
	0040	I-69	Urban Interstate	Sample	
	0050	I-69	Urban Interstate	Sample	
	0070	US-36	Rural Minor Arterial	Non-sample	
	0140	US-36	Rural Minor Arterial	Non-sample	
	0180	SR-9	Rural Minor Arterial	Non-sample	
	0190	SR-9	Rural Minor Arterial	Non-sample	
	0283	SR-9	Urban Other Prin. Arterial	Sample	
	0290	SR-9	Urban Minor Arterial	Sample	
	0300	SR-9	Urban Other Prin. Arterial	Sample	
	0301	SR-9	Urban Other Prin. Arterial	Sample	
	0320	SR-9	Rural Minor Arterial	Non-sample	
	0430	SR-13	Rural Minor Arterial	Non-sample	
	0472	SR-13	Rural Minor Arterial	Non-sample	
	0540	SR-28	Urban Other Prin. Arterial	Non-sample	
	0560	SR-28	Urban Other Prin. Arterial	Non-sample	
	0570	SR-28	Rural Other Prin. Arterial	Non-sample	
	0610	SR-32	Rural Minor Arterial	Non-sample	
	0631	SR-32	Urban Other Prin. Arterial	Sample	
	0640	SR-32	Urban Other Prin. Arterial	Sample	
	0660	SR-37	Urban Other Prin. Arterial	Non-sample	
	0800	SR-109	Rural Minor Arterial	Non-sample	
	0820	SR-109	Rural Minor Arterial	Non-sample	
	0840	SR-109	Rural Minor Arterial	Non-sample	

APPENDIX B7c (ii), continued

Details (locations) of HPMS sample and HPMS non-sample vehicle classification counts,
carried out by INDOT 1994-1996

Year: 1995 (cont'd)

County	Coverage-count station ID	Route	Functional/area classification	Sample status	Comments
SHELBY	0010	I-65	Rural Interstate	Non-sample	<u>Number of counts in each category:</u> HPMS sample- 7 HPMS non-sample- 12 Non-HPMS- 5 Total = 24
	0020	I-65	Rural Interstate	Non-sample	
	0040	I-65	Rural Interstate	Sample	
	0050	I-74	Rural Interstate	Sample	
	0060	I-74	Rural Interstate	Sample	
	0070	I-74	Urban Interstate	Sample	
	0080	I-74	Urban Interstate	Sample	
	0090	I-74	Urban Interstate	Sample	
	0100	I-74	Rural Interstate	Sample	
	0130	US-52	Rural Minor Arterial	Non-sample	
	0150	US-52	Rural Minor Arterial	Non-sample	
	0160	US-52	Rural Minor Arterial	Non-sample	
	0180	SR-9	Rural Minor Arterial	Non-sample	
	0185	SR-9	Urban Other Prin. Arterial	Non-sample	
	0242	SR-9	Urban Other Prin. Arterial	Non-sample	
	0250	SR-9	Rural Minor Arterial	Non-sample	
	0260	SR-9	Rural Minor Arterial	Non-sample	
	0280	SR-44	Rural Minor Arterial	Non-sample	
	0330	SR-44	Rural Minor Arterial	Non-sample	
FAYETTE	0010	SR-1	Rural Other Prin. Arterial	Non-sample	<u>Number of counts in each category:</u> HPMS sample- 0 HPMS non-sample- 4 Non-HPMS- 2 Total = 6
	0060	SR-1	Rural Other Prin. Arterial	Non-sample	
	0080	SR-44	Rural Minor Arterial	Non-sample	
	0130	SR-44	Urban Other Prin. Arterial	Non-sample	
RAN-DOLPH	0010	US-27	Rural Other Prin. Arterial	Sample	<u>Number of counts in each category:</u> HPMS sample- 5 HPMS non-sample- 6 Non-HPMS- 11 Total = 22
	0031	US-27	Rural Other Prin. Arterial	Sample	
	0054	US-27	Rural Other Prin. Arterial	Sample	
	0080	US-27	Rural Other Prin. Arterial	Sample	
	0100	US-35	Rural Minor Arterial	Non-sample	
	0130	US-35	Rural Minor Arterial	Non-sample	
	0231	US-36	Rural Minor Arterial	Non-sample	
	0260	US-36	Rural Minor Arterial	Non-sample	
	0480	SR-32	Rural Other Prin. Arterial	Non-sample	
	0500	SR-32	Rural Other Prin. Arterial	Sample	
	0522	SR-32	Rural Other Prin. Arterial	Non-sample	

APPENDIX B7c (ii), continued

Details (locations) of HPMS sample and HPMS non-sample vehicle classification counts,
carried out by INDOT 1994-1996

Year: 1995 (cont'd)

County	Coverage-count station ID	Route	Functional/area classification	Sample status	Comments
CLAY	0010	I-70	Rural Interstate	Non-sample	<u>Number of counts in each category:</u> HPMS sample- 3 HPMS non-sample- 11 Non-HPMS- 15 Total = 29
	0020	I-70	Rural Interstate	Non-sample	
	0110	US-40	Rural Major Collector	Sample	
	0150	SR-42	Rural Major Collector	Sample	
	0160	SR-42	Rural Major Collector	Sample	
	0200	SR-46	Rural Minor Arterial	Non-sample	
	0210	SR-46	Rural Minor Arterial	Non-sample	
	0270	SR-59	Rural Minor Arterial	Non-sample	
	0273	SR-59	Rural Minor Arterial	Non-sample	
	0331	SR-59	Rural Minor Arterial	Non-sample	
	0340	SR-59	Rural Minor Arterial	Non-sample	
	0350	SR-59	Rural Minor Arterial	Non-sample	
HENRY	0030	I-70	Rural Interstate	Non-sample	<u>Number of counts in each category:</u> HPMS sample- 5 HPMS non-sample- 7 Non-HPMS- 17 Total = 29
	0040	I-70	Rural Interstate	Non-sample	
	0060	US-35	Rural Minor Arterial	Non-sample	
	0070	US-35	Rural Minor Arterial	Non-sample	
	0250	SR-3	Rural Other Prin. Arterial	Sample	
	0320	SR-3	Rural Other Prin. Arterial	Sample	
	0340	SR-38	Rural Major Collector	Sample	
	0423	SR-38	Urban Other Prin. Arterial	Non-sample	
	0424	SR-38	Rural Major Collector	Sample	
	0430	SR-38	Rural Major Collector	Sample	
	0520	SR-109	Rural Minor Arterial	Non-sample	
	0530	SR-109	Rural Minor Arterial	Non-sample	
KOS-CUI SKO	0010	US-30	Rural Other Prin. Arterial	Non-sample	<u>Number of counts in each category:</u> HPMS sample- 1 HPMS non-sample- 9 Non-HPMS- 16 Total = 26
	0020	US-30	Rural Other Prin. Arterial	Non-sample	
	0030	US-30	Urban Other F'ways & E'ways	Non-sample	
	0041	US-30	Urban Other F'ways & E'ways	Non-sample	
	0050	US-30	Rural Other Prin. Arterial	Sample	
	0070	US-30	Rural Other Prin. Arterial Rural	Non-sample	
	0260	SR-15	Minor Arterial	Non-sample	
	0282	SR-15	Rural Minor Arterial	Non-sample	
	0331	SR-15	Rural Minor Arterial	Non-sample	
	0340	SR-15	Rural Minor Arterial	Non-sample	

APPENDIX B7c (ii), continued

Details (locations) of HPMS sample and HPMS non-sample vehicle classification counts,
carried out by INDOT 1994-1996

Year: 1995 (cont'd)

County	Coverage- count station ID	Route	Functional/area classification	Sample status	Comments
CLINTON	0010	I-65	Rural Interstate	Non-sample	<u>Number of counts in each category:</u> HPMS sample- 5 HPMS non-sample- 18 Non-HPMS- 13 Total = 36
	0020	I-65	Rural Interstate	Non-sample	
	0050	US-421	Rural Minor Arterial	Non-sample	
	0080	US-421	Rural Minor Arterial	Non-sample	
	0100	US-421	Rural Minor Arterial	Non-sample	
	0150	US-421	Rural Minor Arterial	Non-sample	
	0160	US-421	Rural Minor Arterial	Non-sample	
	0182	US-421	Rural Minor Arterial	Sample	
	0200	SR-26	Rural Other Prin. Arterial	Non-sample	
	0230	SR-26	Rural Other Prin. Arterial	Non-sample	
	0240	SR-26	Rural Other Prin. Arterial	Non-sample	
	0250	SR-26	Rural Other Prin. Arterial	Non-sample	
	0260	SR-26	Rural Other Prin. Arterial	Non-sample	
	0270	SR-26	Rural Other Prin. Arterial	Non-sample	
	0290	SR-28	Rural Minor Arterial	Non-sample	
	0330	SR-28	Rural Minor Arterial	Non-sample	
	0340	SR-28	Rural Minor Arterial	Sample	
	0360	SR-29	Rural Minor Arterial	Non-sample	
	0370	SR-29	Rural Minor Arterial	Non-sample	
	0390	SR-29	Rural Minor Arterial	Non-sample	
GREENE	0540	SR-75	Rural Major Collector	Sample	<u>Number of counts in each category:</u> HPMS sample- 4 HPMS non-sample- 12 Non-HPMS- 14 Total = 30
	0550	SR-75	Rural Major Collector	Sample	
	0560	SR-75	Rural Major Collector	Sample	
	0010	US-231	Rural Other Prin. Arterial	Non-sample	
	0020	US-231	Rural Other Prin. Arterial	Non-sample	
	0050	US-231	Rural Other Prin. Arterial	Non-sample	
	0060	US-231	Rural Other Prin. Arterial	Non-sample	
	0080	US-231	Rural Other Prin. Arterial	Non-sample	
	0120	US-231	Rural Other Prin. Arterial	Non-sample	
	0270	SR-48	Rural Major Collector	Sample	
	0320	SR-54	Rural Minor Arterial	Non-sample	
	0363	SR-54	Rural Minor Arterial	Non-sample	
	0390	SR-54	Rural Minor Arterial	Non-sample	
	0490	SR-57	Rural Major Collector	Sample	
	0561	SR-59	Rural Minor Arterial	Non-sample	
	0590	SR-59	Rural Minor Arterial	Non-sample	
	0610	SR-67	Rural Minor Arterial	Sample	
	0617	SR-67	Rural Minor Arterial	Sample	
	0640	SR-67	Rural Minor Arterial	Non-sample	

APPENDIX B7c (ii), continued

Details (locations) of HPMS sample and HPMS non-sample vehicle classification counts,
carried out by INDOT 1994-1996

Year: 1995 (cont'd)

County	Coverage-count station ID	Route	Functional/area classification	Sample status	Comments
GRANT	0010	I-69	Rural Interstate	Sample	<u>Number of counts in each category:</u> HPMS sample- 14 HPMS non-sample- 12 Non-HPMS- 18 Total = 44
	0020	I-69	Rural Interstate	Sample	
	0030	I-69	Rural Interstate	Sample	
	0040	I-69	Urban Interstate	Sample	
	0060	US-35	Urban Other Prin. Arterial	Non-sample	
	0070	US-35	Urban Other Prin. Arterial	Sample	
	0080	US-35	Urban Other Prin. Arterial	Sample	
	0090	US-35	Urban Other Prin. Arterial	Sample	
	0100	US-35	Urban Other Prin. Arterial	Sample	
	0110	US-35	Rural Other Prin. Arterial	Sample	
	0120	US-35	Rural Other Prin. Arterial	Sample	
	0130	US-35	Rural Other Prin. Arterial	Sample	
	0150	SR-5	Rural Major Collector	Sample	
	0160	SR-5	Rural Major Collector	Sample	
	0170	SR-5	Rural Major Collector	Sample	
	0200	SR-9	Rural Minor Arterial	Non-sample	
	0300	SR-9	Urban Other Prin. Arterial	Non-sample	
	0350	SR-9	Rural Minor Arterial	Non-sample	
	0406	SR-13	Rural Minor Arterial	Non-sample	
	0440	SR-15	Urban Other Prin. Arterial	Non-sample	
	0490	SR-18	Rural Minor Arterial	Non-sample	
	0500	SR-18	Rural Minor Arterial	Non-sample	
	0510	SR-18	Rural Minor Arterial	Non-sample	
	0520	SR-18	Urban Other Prin. Arterial	Non-sample	
	0540	SR-18	Urban Other Prin. Arterial	Non-sample	
	0590	SR-18	Rural Minor Arterial	Non-sample	
HARRISON	0010	I-65	Rural Interstate	Sample	<u>Number of counts in each category:</u> HPMS sample- 5 HPMS non-sample- 7 Non-HPMS- 20 Total = 32
	0020	I-64	Rural Interstate	Non-sample	
	0030	I-64	Rural Interstate	Non-sample	
	0040	US-150	Rural Minor Arterial	Non-sample	
	0070	US-150	Rural Minor Arterial	Non-sample	
	0100	SR-11	Rural Major Collector	Sample	
	0420	SR-135	Rural Minor Arterial	Sample	
	0430	SR-135	Rural Minor Arterial	Sample	
	0481	SR-135	Rural Minor Arterial	Non-sample	
	0500	SR-135	Rural Minor Arterial	Non-sample	
	0521	SR-135	Rural Minor Arterial	Sample	
	0550	SR-135	Rural Minor Arterial	Non-sample	

APPENDIX B7c (ii), continued

Details (locations) of HPMS sample and HPMS non-sample vehicle classification counts,
carried out by INDOT 1994-1996

Year: 1995 (cont'd)

County	Coverage-count station ID	Route	Functional/area classification	Sample status	Comments
HAN-COCK	0010	I-70	Rural Interstate	Non-sample	<u>Number of counts in each category:</u> HPMS sample- 3 HPMS non-sample- 16 Non-HPMS- 9 Total = 28
	0020	I-70	Rural Interstate	Sample	
	0030	I-70	Urban Interstate	Non-sample	
	0050	US-36	Rural Minor Arterial	Non-sample	
	0060	US-36	Rural Minor Arterial	Non-sample	
	0070	US-36	Rural Minor Arterial	Sample	
	0072	US-36	Rural Minor Arterial	Sample	
	0100	US-36	Rural Minor Arterial	Non-sample	
	0170	US-52	Rural Minor Arterial	Non-sample	
	0180	US-52	Rural Minor Arterial	Non-sample	
	0200	SR-9	Rural Minor Arterial	Non-sample	
	0240	SR-9	Urban Other Prin. Arterial	Non-sample	
	0250	SR-9	Rural Minor Arterial	Non-sample	
	0260	SR-9	Rural Minor Arterial	Non-sample	
	0270	SR-9	Rural Minor Arterial	Non-sample	
	0360	SR-109	Rural Minor Arterial	Non-sample	
WAYNE	0370	SR-109	Rural Minor Arterial	Non-sample	<u>Number of counts in each category:</u> HPMS sample- 8 HPMS non-sample- 14 Non-HPMS- 12 Total = 34
	0380	SR-109	Rural Minor Arterial	Non-sample	
	0390	SR-109	Rural Minor Arterial	Non-sample	
	0010	I-70	Rural Interstate	Non-sample	
	0020	I-70	Rural Interstate	Non-sample	
	0030	I-70	Rural Interstate	Non-sample	
	0050	I-70	Urban Interstate	Sample	
	0170	US-27	Urban Other Prin. Arterial	Non-sample	
	0180	US-27	Urban Other Prin. Arterial	Non-sample	
	0190	US-27	Rural Other Prin. Arterial	Sample	
	0220	US-35	Urban Minor Arterial	Non-sample	
	0230	US-35	Rural Minor Arterial	Non-sample	
	0240	US-35	Rural Minor Arterial	Non-sample	
	0320	US-40	Urban Other Prin. Arterial	Non-sample	
	0410	SR-1	Rural Other Prin. Arterial	Non-sample	
	0420	SR-1	Rural Other Prin. Arterial	Non-sample	
	0440	SR-1	Rural Other Prin. Arterial	Non-sample	
	0450	SR-1	Rural Major Collector	Non-sample	
	0460	SR-1	Rural Minor Arterial	Non-sample	
	0470	SR-1	Rural Minor Arterial	Sample	
	0480	SR-1	Rural Minor Arterial	Sample	
	0610	SR-227	Rural Major Collector	Sample	
	0620	SR-227	Rural Major Collector	Sample	
	0630	SR-227	Rural Major Collector	Sample	
	0640	SR-227	Rural Major Collector	Sample	

APPENDIX B7c (ii), continued

Details (locations) of HPMS sample and HPMS non-sample vehicle classification counts,
carried out by INDOT 1994-1996

Year: 1995 (cont'd)

County	Coverage- count station ID	Route	Functional/area classification	Sample status	Comments
WABASH	0010	US-24	Rural Other Prin. Arterial	Non-sample	<u>Number of counts in each category:</u> HPMS sample- 4 HPMS non-sample- 11 Non-HPMS- 11 Total = 26
	0032	US-24	Urban Other F'ways & E'ways	Non-sample	
	0060	US-24	Rural Other Prin. Arterial	Sample	
	0070	US-24	Rural Other Prin. Arterial	Sample	
	0100	US-24	Rural Other Prin. Arterial	Sample	
	0140	SR-13	Rural Major Collector	Sample	
	0290	SR-15	Rural Minor Arterial	Non-sample	
	0320	SR-15	Rural Minor Arterial	Non-sample	
	0330	SR-15	Rural Minor Arterial	Non-sample	
	0401	SR-15	Rural Minor Arterial	Non-sample	
	0430	SR-15	Rural Minor Arterial	Non-sample	
	0440	SR-15	Rural Minor Arterial	Non-sample	
	0470	SR-15	Rural Minor Arterial	Non-sample	
	0570	SR-114	Rural Minor Arterial	Non-sample	
	0580	SR-114	Rural Minor Arterial	Non-sample	
MONT- GOMERY	0010	I-74	Rural Interstate	Sample	<u>Number of counts in each category:</u> HPMS sample- 8 HPMS non-sample- 9 Non-HPMS- 17 Total = 34
	0020	I-74	Rural Interstate	Sample	
	0030	I-74	Urban Interstate	Sample	
	0040	I-74	Urban Interstate	Non-sample	
	0170	US-231	Rural Other Prin. Arterial	Sample	
	0180	US-231	Rural Other Prin. Arterial	Sample	
	0190	US-231	Rural Other Prin. Arterial	Sample	
	0250	US-231	Urban Other Prin. Arterial	Non-sample	
	0260	US-231	Rural Other Prin. Arterial	Sample	
	0350	SR-32	Rural Major Collector	Sample	
	0460	SR-32	Rural Minor Arterial	Non-sample	
	0470	SR-32	Rural Minor Arterial	Non-sample	
	0480	SR-32	Rural Minor Arterial	Non-sample	
	0490	SR-47	Rural Major Collector	Non-sample	
	0520	SR-47	Rural Major Collector	Non-sample	
	0530	SR-47	Rural Major Collector	Non-sample	
	0540	SR-47	Urban Other Prin. Arterial	Non-sample	

APPENDIX B7c (ii), continued

Details (locations) of HPMS sample and HPMS non-sample vehicle classification counts,
carried out by INDOT 1994-1996

Year: 1995 (cont'd)

County	Coverage-count station ID	Route	Functional/area classification	Sample status	Comments
MONROE	0010	SR-37	Rural Other Prin. Arterial	Non-sample	<u>Number of counts in each category:</u> HPMS sample- 8 HPMS non-sample- 6 Non-HPMS- 11 Total = 25
	0030	SR-37	Rural Other Prin. Arterial	Non-sample	
	0060	SR-37	Urban Other F'ways & E'ways	Sample	
	0070	SR-37	Urban Other F'ways & E'ways	Sample	
	0090	SR-37	Urban Other F'ways & E'ways	Sample	
	0200	SR-45	Urban Other Prin. Arterial	Sample	
	0203	SR-45	Urban Other Prin. Arterial	Non-sample	
	0250	SR-46	Rural Other Prin. Arterial	Non-sample	
	0260	SR-46	Urban Other Prin. Arterial	Sample	
	0290	SR-46	Rural Other Prin. Arterial	Sample	
	0300	SR-46	Rural Other Prin. Arterial	Sample	
	0320	US-48	Urban Minor Arterial	Non-sample	
	0350	US-446	Rural Major Collector	Sample	
LAKE	0010	I-65	Rural Interstate	Non-sample	<u>Number of counts in each category:</u> HPMS sample- 4 HPMS non-sample- 30 Non-HPMS- 18 Total = 52
	0030	I-65	Rural Interstate	Sample	
	0060	I-65	Urban Interstate	Sample	
	0070	I-65	Urban Interstate	Non-sample	
	0080	I-65	Urban Interstate	Non-sample	
	0300	I-90	Urban Interstate	Sample	
	0340	I-90	Urban Interstate	Sample	
	0350	I-90	Urban Interstate	Non-sample	
	0360	I-90	Urban Interstate	Non-sample	
	0370	I-90	Urban Interstate	Non-sample	
	0530	US-6	Urban Other Prin. Arterial	Non-sample	
	0830	US-12	Urban Other Prin. Arterial	Non-sample	
	0890	US-20	Urban Other Prin. Arterial	Non-sample	
	2000	US-30	Urban Other Prin. Arterial	Non-sample	
	2020	US-41	Rural Other Prin. Arterial	Non-sample	
	2030	US-41	Rural Other Prin. Arterial	Non-sample	
	2040	US-41	Rural Other Prin. Arterial	Non-sample	
	2060	US-41	Rural Other Prin. Arterial	Non-sample	
	2260	US-231	Urban Other Prin. Arterial	Non-sample	
	2270	US-231	Urban Other Prin. Arterial	Non-sample	
	2280	US-231	Urban Other Prin. Arterial	Non-sample	
	2290	US-231	Urban Other Prin. Arterial	Non-sample	
	2460	SR-2	Rural Minor Arterial	Non-sample	
	2480	SR-2	Rural Minor Arterial	Non-sample	
	2520	SR-51	Rural Minor Arterial	Non-sample	
	2540	SR-51	Urban Other Prin. Arterial	Non-sample	
	2820	SR-130	Urban Other Prin. Arterial	Non-sample	
	3080	SR-912	Urban Other Prin. Arterial	Non-sample	

APPENDIX B7c (ii), continued

Details (locations) of HPMS sample and HPMS non-sample vehicle classification counts,
carried out by INDOT 1994-1996

Year: 1996

County	Coverage-count station ID	Route	Functional/area classification	Sample status	Comments
BENTON	0010	US-41	Rural Other Prin. Arterial	Non-sample	<u>Number of counts in each category:</u> HPMS sample- 4 HPMS non-sample- 8 Non-HPMS- 22 Total = 34
	0020	US-41	Rural Other Prin. Arterial	Non-sample	
	0040	US-41	Rural Other Prin. Arterial	Sample	
	0060	US-41	Rural Other Prin. Arterial	Non-sample	
	0080	US-41	Rural Other Prin. Arterial	Non-sample	
	0100	US-52	Rural Minor Arterial	Sample	
	0101	US-52	Rural Minor Arterial	Sample	
	0160	US-52	Rural Minor Arterial	Non-sample	
	0170	US-52	Rural Minor Arterial	Non-sample	
	0190	US-52	Rural Minor Arterial	Non-sample	
	0200	US-52	Rural Minor Arterial	Non-sample	
	0281	US-52	Rural Major Collector	Sample	
GIBSON	0102	US-41	Rural Other Prin. Arterial	Sample	<u>Number of counts in each category:</u> HPMS sample- 8 HPMS non-sample- 18 Non-HPMS- 31 Total = 57
	0110	US-41	Rural Other Prin. Arterial	Sample	
	0120	US-41	Rural Other Prin. Arterial	Sample	
	0121	US-41	Rural Other Prin. Arterial	Sample	
	0130	US-41	Rural Other Prin. Arterial	Sample	
	0140	US-41	Rural Other Prin. Arterial	Sample	
	0150	US-41	Rural Other Prin. Arterial	Sample	
	0160	US-41	Rural Other Prin. Arterial	Non-sample	
	0170	US-41	Rural Other Prin. Arterial	Non-sample	
	0180	US-41	Rural Other Prin. Arterial	Non-sample	
	0190	US-41	Rural Other Prin. Arterial	Non-sample	
	0250	SR-57	Rural Other Prin. Arterial	Non-sample	
	0260	SR-57	Rural Other Prin. Arterial	Non-sample	
	0270	SR-57	Rural Other Prin. Arterial	Non-sample	
	0280	SR-57	Rural Other Prin. Arterial	Non-sample	
	0290	SR-57	Rural Other Prin. Arterial	Non-sample	
	0300	SR-57	Rural Other Prin. Arterial	Non-sample	
	0310	SR-57	Rural Other Prin. Arterial	Non-sample	
	0320	SR-57	Rural Other Prin. Arterial	Non-sample	
	0340	SR-64	Rural Minor Arterial	Non-sample	
	0350	SR-64	Rural Minor Arterial	Non-sample	
	0360	SR-64	Rural Minor Arterial	Non-sample	
	0404	SR-64	Rural Minor Arterial	Non-sample	
	0410	SR-64	Rural Minor Arterial	Non-sample	
	0450	SR-64	Rural Minor Arterial	Non-sample	
	0560	SR-68	Rural Major Collector	Sample	

APPENDIX B7c (ii), continued

Details (locations) of HPMS sample and HPMS non-sample vehicle classification counts,
carried out by INDOT 1994-1996

Year: 1996(cont'd)

County	Coverage-count station ID	Route	Functional/area classification	Sample status	Comments
SULLIVAN	0010	US-41	Rural Other Prin. Arterial	Sample	<u>Number of counts in each category:</u> HPMS sample- 8 HPMS non-sample- 9 Non-HPMS- 12 Total = 29
	0020	US-41	Rural Other Prin. Arterial	Non-sample	
	0030	US-41	Rural Other Prin. Arterial	Sample	
	0040	US-41	Rural Other Prin. Arterial	Sample	
	0050	US-41	Rural Other Prin. Arterial	Sample	
	0060	US-52	Rural Other Prin. Arterial	Sample	
	0070	US-52	Rural Other Prin. Arterial	Non-sample	
	0080	US-52	Rural Other Prin. Arterial	Non-sample	
	0090	US-52	Rural Other Prin. Arterial	Non-sample	
	0110	US-52	Rural Other Prin. Arterial	Non-sample	
	0120	US-52	Rural Other Prin. Arterial	Non-sample	
	0192	SR-54	Rural Minor Arterial	Non-sample	
	0194	SR-54	Rural Minor Arterial	Non-sample	
	0220	SR-54	Rural Minor Arterial	Non-sample	
	0290	SR-58	Rural Major Collector	Sample	
	0410	SR-154	Rural Minor Arterial	Sample	
	0420	SR-154	Rural Minor Arterial	Sample	
PUTNAM	0010	I-70	Rural Interstate	Non-sample	<u>Number of counts in each category:</u> HPMS sample- 7 HPMS non-sample- 9 Non-HPMS- 13 Total = 29
	0020	I-70	Rural Interstate	Non-sample	
	0030	I-70	Rural Interstate	Non-sample	
	0050	US-36	Rural Minor Arterial	Non-sample	
	0070	US-36	Rural Minor Arterial	Non-sample	
	0080	US-36	Rural Minor Arterial	Non-sample	
	0190	US-231	Rural Other Prin. Arterial	Sample	
	0213	US-231	Rural Other Prin. Arterial	Non-sample	
	0240	US-231	Rural Other Prin. Arterial	Sample	
	0250	US-231	Rural Other Prin. Arterial	Non-sample	
	0295	US-231	Urban Other Prin. Arterial	Sample	
	0300	US-231	Rural Other Prin. Arterial	Non-sample	
	0310	US-231	Rural Other Prin. Arterial	Sample	
	0320	US-231	Rural Other Prin. Arterial	Sample	
	0340	US-231	Rural Other Prin. Arterial	Sample	
	0350	US-231	Rural Other Prin. Arterial	Sample	

APPENDIX B7c (ii), continued

Details (locations) of HPMS sample and HPMS non-sample vehicle classification counts,
carried out by INDOT 1994-1996

Year: 1996(cont'd)

County	Coverage- count station ID	Route	Functional/area classification	Sample status	Comments
ORANGE	0011	US-150	Rural Minor Arterial	Sample	<u>Number of counts in each category:</u> HPMS sample- 4 HPMS non-sample- 6 Non-HPMS- 3 Total = 13
	0031	US-150	Rural Other Prin. Arterial	Non-sample	
	0084	US-150	Rural Minor Arterial	Sample	
	0133	SR-37	Rural Other Prin. Arterial	Non-sample	
	0160	SR-37	Rural Other Prin. Arterial	Non-sample	
	0180	SR-37	Rural Minor Arterial	Sample	
	0250	SR-60	Rural Minor Arterial	Non-sample	
	0280	SR-145	Rural Other Prin. Arterial	Non-sample	
	0285	SR-145	Rural Other Prin. Arterial	Non-sample	
	0310	SR-337	Rural Major Collector	Sample	
CASS	0010	US-24	Rural Other Prin. Arterial	Non-sample	<u>Number of counts in each category:</u> HPMS sample- 5 HPMS non-sample- 12 Non-HPMS- 14 Total = 31
	0020	US-24	Urban Minor Arterial	Sample	
	0160	US-24	Rural Minor Arterial	Non-sample	
	0180	US-35	Rural Minor Arterial	Non-sample	
	0201	US-35	Rural Minor Arterial	Non-sample	
	0221	US-35	Rural Minor Arterial	Non-sample	
	0240	US-35	Urban Other F'way & E'way	Sample	
	0300	US-35	Urban Other Prin. Arterial	Non-sample	
	0330	US-35	Rural Minor Arterial	Non-sample	
	0550	SR-25	Rural Other Prin. Arterial	Sample	
	0560	SR-25	Urban Other Prin. Arterial	Non-sample	
	0570	SR-25	Urban Other Prin. Arterial	Non-sample	
	0610	SR-25	Rural Minor Arterial	Non-sample	
	0620	SR-25	Rural Minor Arterial	Non-sample	
	0630	SR-25	Rural Minor Arterial	Non-sample	
BROWN	0040	SR-46	Rural Other Prin. Arterial	Non-sample	<u>Number of counts in each category:</u> HPMS sample- 2 HPMS non-sample- 3 Non-HPMS- 7 Total = 12
	0070	SR-46	Rural Other Prin. Arterial	Non-sample	
	0080	SR-46	Rural Other Prin. Arterial	Non-sample	
	0140	SR-135	Rural Minor Arterial	Sample	
	0160	SR-135	Rural Minor Arterial	Sample	

APPENDIX B7c (ii), continued

Details (locations) of HPMS sample and HPMS non-sample vehicle classification counts,
carried out by INDOT 1994-1996

Year: 1996(cont'd)

County	Coverage- count station ID	Route	Functional/area classification	Sample status	Comments
LA- PORTE	0080	US-6	Urban Other Prin. Arterial	Non-sample	(see next page)
	0090	US-6	Urban Other Prin. Arterial	Non-sample	
	0100	US-6	Urban Other Prin. Arterial	Non-sample	
	0120	US-6	Urban Other Prin. Arterial	Non-sample	
	0130	US-6	Urban Other Prin. Arterial	Non-sample	
	0140	US-6	Rural Minor Arterial	Non-sample	
	0150	US-6	Rural Minor Arterial	Non-sample	
	0160	US-6	Rural Minor Arterial	Non-sample	
	0170	US-6	Rural Other Prin. Arterial	Non-sample	
	0180	US-6	Rural Other Prin. Arterial	Non-sample	
	0200	US-6	Rural Other Prin. Arterial	Non-sample	
	0220	US-12	Urban Other Prin. Arterial	Non-sample	
	0360	US-20	Rural Minor Arterial	Non-sample	
	0400	US-20	Rural Minor Arterial	Non-sample	
	0410	US-20	Rural Minor Arterial	Sample	
	0430	US-30	Rural Other Prin. Arterial	Non-sample	
	0470	US-30	Rural Other Prin. Arterial	Sample	
	0490	US-30	Rural Other Prin. Arterial	Sample	
	0520	US-35	Rural Minor Arterial	Sample	
	0530	US-35	Rural Minor Arterial	Non-sample	
	0532	US-35	Urban Other Prin. Arterial	Sample	
	0590	US-35	Urban Other Prin. Arterial	Sample	
	0620	US-421	Rural Other Prin. Arterial	Non-sample	
	0621	US-421	Rural Other Prin. Arterial	Non-sample	
	0650	US-421	Rural Other Prin. Arterial	Non-sample	
	0710	US-421	Urban Other Prin. Arterial	Non-sample	
	0720	US-421	Urban Other Prin. Arterial	Non-sample	
	0730	US-421	Urban Other Prin. Arterial	Non-sample	
	0740	US-421	Rural Other Prin. Arterial	Non-sample	
	0741	US-421	Rural Other Prin. Arterial	Sample	
	0790	SR-2	Urban Other Prin. Arterial	Non-sample	
	0800	SR-2	Urban Other Prin. Arterial	Non-sample	
	0810	SR-2	Urban Other Prin. Arterial	Non-sample	
	0830	SR-2	Urban Other Prin. Arterial	Non-sample	

APPENDIX B7c (ii), continued

Details (locations) of HPMS sample and HPMS non-sample vehicle classification counts,
carried out by INDOT 1994-1996

Year: 1996 (cont'd)

County	Coverage-count station ID	Route	Functional/area classification	Sample status	Comments
LA- PORTE (cont'd)	0833	SR-2	Urban Other Prin. Arterial	Sample	<u>Number of counts in each category:</u> HPMS sample- 8 HPMS non-sample- 36 Non-HPMS- 12 Total = 56
	0880	SR-2	Rural Minor Arterial	Sample	
	0930	SR-4	Urban Other Prin. Arterial	Non-sample	
	0940	SR-4	Urban Other Prin. Arterial	Non-sample	
	0950	SR-4	Urban Other Prin. Arterial	Non-sample	
	0970	SR-8	Rural Minor Arterial	Non-sample	
	1061	SR-39	Urban Minor Arterial	Non-sample	
	1081	SR-39	Rural Minor Arterial	Non-sample	
	1090	SR-39	Rural Minor Arterial	Non-sample	
	1120	SR-39	Rural Minor Arterial	Non-sample	
	1130	SR-35	Rural Minor Arterial	Non-sample	
ST. JOSEPH	0160	US-20	Urban Other F'ways & E'ways	not indicated on checksheet	<u>Number of counts in each category:</u> n.a.
	0170	US-20	Urban Other F'ways & E'ways		
	0180	US-20	Urban Other F'ways & E'ways		
	0190	US-20	Urban Other F'ways & E'ways		
	0390	US-20	Urban Other Prin. Arterial		
	0410	US-31	Rural Other Prin. Arterial		
	0450	US-31	Urban Other F'ways & E'ways		
	0460	US-31	Urban Other F'ways & E'ways		
	0733	SR-2	Urban Other F'ways & E'ways		
WARRICK	0010	I-64	Urban Interstate	Sample	<u>Number of counts in each category:</u> HPMS sample- 10 HPMS non-sample- 0 Non-HPMS- 17 Total = 27
	0020	I-64	Rural Interstate	Sample	
	0040	I-64	Rural Interstate	Sample	
	0060	I-164	Rural Interstate	Sample	
	0070	I-164	Rural Interstate	Sample	
	0080	I-164	Rural Interstate	Sample	
	0110	US-231	Rural Other Prin. Arterial	Sample	
	0470	SR-66	Urban Other Prin. Arterial	Sample	
	0471	SR-66	Urban Other Prin. Arterial	Sample	
	0748	Local	Urban Collector	Sample	
				Sample	

APPENDIX B7c (ii), continued

Details (locations) of HPMS sample and HPMS non-sample vehicle classification counts,
carried out by INDOT 1994-1996

Year: 1996 (cont'd)

County	Coverage-count station ID	Route	Functional/area classification	Sample status	Comments
VANDER-BURGH	0010	I-64	Rural Interstate	Sample	<u>Number of counts in each category:</u> HPMS sample- 9 HPMS non-sample- 5 Non-HPMS- 2 Total = 16
	0030	I-64	Rural Interstate	Sample	
	0040	I-64	Rural Interstate	Sample	
	0080	I-164	Rural Interstate	Sample	
	0090	I-164	Rural Interstate	Sample	
	0100	I-164	Rural Interstate	Sample	
	0110	I-164	Rural Interstate	Sample	
	0120	I-164	Rural Interstate	Non-sample	
	0130	I-164	Rural Interstate	Sample	
	0140	I-164	Rural Interstate	Non-sample	
	0262	US-41	Rural Other Prin. Arterial	Sample	
	0310	SR-57	Urban Other Prin. Arterial	Non-sample	
	0320	SR-62	Urban Other Prin. Arterial	Non-sample	
	0390	SR-62	Rural Minor Arterial	Non-sample	
	0450	SR-66	Rural Collector	Sample	
ELKHART	0170	US-6	Rural Other Prin. Arterial Rural	Sample	<u>Number of counts in each category:</u> HPMS sample- 5 HPMS non-sample- 0 Non-HPMS- 6 Total = 11
	0300	US-33	Other Prin. Arterial Urban	Sample	
	0442	US-33	Other Prin. Arterial Urban	Sample	
	0930	SR-19	Other Prin. Arterial	Sample	
	1133	Local	Urban Minor Arterial	Sample	
MARION	0190	I-65	Urban Interstate	Non-sample	<u>Number of counts in each category:</u> HPMS sample- 4 HPMS non-sample- 9 Non-HPMS- 10 Total = 23
	0240	I-69	Urban Interstate	Non-sample	
	0420	I-70	Urban Interstate	Non-sample	
	0670	I-465	Urban Interstate	Non-sample	
	0680	I-465	Urban Interstate	Non-sample	
	1030	US-36	Urban Other Prin. Arterial	Non-sample	
	1160	US-52	Urban Other Prin. Arterial	Non-sample	
	1210	US-136	Urban Other Prin. Arterial	Non-sample	
	1270	SR-37	Urban Other F'way & E'way	Sample	
	1297	SR-37	Urban Other F'way & E'way	Sample	
	1301	SR-37	Urban Other F'way & E'way	Sample	
	1330	SR-67	Urban Minor Arterial	Sample	
	1360	SR-134	Urban Minor Arterial	Non-sample	
	1460	old 100	Urban Other F'way & E'way	Non-sample	

APPENDIX B7c (ii), continued

Details (locations) of HPMS sample and HPMS non-sample vehicle classification counts,
carried out by INDOT 1994-1996

Year: 1996 (cont'd)

County	Coverage- count station ID	Route	Functional/area classification	Sample status	Comments
VIGO	0024	I-70	Rural Interstate	Non-sample	<u>Number of counts in each category:</u> HPMS sample- 5 HPMS non-sample- 14 Non-HPMS- 19 Total = 38
	0040	I-70	Rural Interstate	Non-sample	
	0050	I-70	Rural Interstate	Non-sample	
	0070	US-40	Urban Other Prin. Arterial	Non-sample	
	0072	US-40	Urban Other Prin. Arterial	Non-sample	
	0220	US-41	Rural Other Prin. Arterial	Non-sample	
	0240	US-41	Rural Other Prin. Arterial Rural	Non-sample	
	0350	US-41	Other Prin. Arterial Rural Other	Non-sample	
	0351	US-41	Prin. Arterial Rural Other Prin.	Sample	
	0352	US-41	Arterial Rural Other Prin.	Non-sample	
	0354	US-41	Arterial	Sample	
	0360	US-41	Rural Minor Arterial	Non-sample	
	0380	US-150	Rural Minor Arterial	Non-sample	
	0410	SR-42	Urban Other Prin. Arterial	Sample	
	0420	SR-42	Urban Other Prin. Arterial	Non-sample	
	0460	SR-46	Urban Other Prin. Arterial	Sample	
	0480	SR-46	Urban Other Prin. Arterial	Sample	
	0575	SR-63	Urban Other Prin. Arterial	Non-sample	
	0590	SR-63	Rural Other Prin. Arterial	Non-sample	
	0591	SR-63	Rural Other Prin. Arterial	Non-sample	

APPENDIX B7-d(i)

ADEQUACY ANALYSIS FOR HPMS TRUCK WEIGHING SAMPLE SECTIONS

Part 1: Stratification by area and functional classes

Total number of Truck Weighing (t.w.) counts required every three years = 90

Sub-stratum	Road Extent (mi)	DVDT 1000's (a)	% DVDT	Total # of t.w. sites needed = c*90	Revised total # of t.w. sites needed
		<i>a</i>	<i>c = a/b</i>	<i>d = c*90</i>	<i>e</i>
Rural Interstates	852.53	17935	12.01	11	14
Small Urban Interstates	44.04	1363	0.91	1	1
Urban Interstates	275.26	20470	13.71	12	15
Small Urban Other Freeways & Expressways	46.58	670	0.45	1	1
Urban Other Freeways & Expressways	85.64	2301	1.45	2	2
Rural Other Principal Arterials	1699.6	15208	10.19	9	8
Small Urban Other Principal Arterials	595.70	6890	4.61	4	4
Urban Other Principal Arterials	951.08	16851	11.29	11	10
Rural Minor Arterials	2246.6	11904	7.97	8	7
Small Urban Minor Arterials	814.27	4514	3.02	3	3
Urban Minor Arterials	1603.1	11868	7.95	7	6
Rural Major Collectors	10685.72	27799	18.62	17	15
Small Urban Collectors	722.46	1416	0.95	1	1
Urban Collectors	1477.99	4465	2.99	3	1

Sum = b

APPENDIX B7 d (ii)
Recommended work schedule for portable WIM program

SITE	ACTIVITY	MON	TUE	WED	THU	FRI
Site 1	Transport/ Install	8am-11am 3 ■				
Site 1	Calibrate	11am to 12.30pm 1.5 ■				
Site 1	Operate	12.30pm 48 ■		12.30pm		
Site 1	Remove			12.30 - 1pm 0.5 ■		
Site 2	Transport/ Install	12.30 - 3.30pm 3 ■				
Site 2	Calibrate	3.30 - 5.00pm 1.5 ■				
Site 2	Operate	5.00pm 48 ■		5.00pm		
Site 2	Remove			5pm-5.30pm 0.5 ■		
Site 3	Transport/ Install		8am-11am 3 ■			
Site 3	Calibrate		11am to 12.30 1.5 ■			
Site 3	Operate		12.30pm 48 ■	12.30pm		
Site 3	Remove			12.30 - 1pm 0.5 ■		
Site 4	Transport/ Install		12.30 - 3.30pm 3 ■			
Site 4	Calibrate		3.30 - 5.00pm 1.5 ■			
Site 4	Operate		5.00pm 48 ■	5.00pm		
Site 4	Remove			5pm- 5.30pm 0.5 ■		
Site 5	Transport/ Install			8am-11am 3 ■		
Site 5	Calibrate			11am to 12.30 1.5 ■		
Site 5	Operate			12.30pm 48 ■	12.30pm	
Site 5	Remove				12.30 - 1pm 0.5 ■	
Site 6	Transport/ Install			12.30 - 3.30pm 3 ■		
Site 6	Calibrate			3.30 - 5.00pm 1.5 ■		
Site 6	Operate			5.00pm 48 ■	5.00pm	
Site 6	Remove				5pm - 5.30pm 0.5 ■