2006 Pennsylvania Traffic Data

Bureau of Planning and Research
Transportation Planning Information Division

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Introduction

The "Pennsylvania Traffic Data Book" documents procedures for developing accurate estimates of highway traffic volumes based on sample traffic counts.

Traffic information is critical in transportation decision-making related to highway funding, traffic engineering, highway design, air quality analysis, planning and programming, as well as winter services, highway maintenance and construction.

The "Pennsylvania Traffic Data Book" provides current traffic expansion factors through the use of tables, charts, and graphs. Expansion factors allow the traffic professional to use a sample traffic count and develop reliable and comparable Annual Average Daily Traffic (AADT) estimates.

How to Use this Booklet

This booklet provides current traffic expansion factors through the use of tables, charts, and graphs. All of the tables, charts, and graphs are listed in the Table of Contents. Refer to the description provided with each table, chart, and graph to ensure that the data presented is what you need.

Acronyms are used quite often throughout this publication. A complete list of acronyms and their meanings are located in the back of the booklet. In addition, an index was created for this booklet to help you find a particular topic quickly.

We would appreciate any comments or suggestions you can provide on information presented in this booklet. Questions or comments relating to data presented in this publication can be directed to:

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The 2006 Traffic Data Book and County Traffic Volume Maps are available free on our website!

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www.dot.state.pa.us
Select: More Links...
Scroll to: Transportation Planning
Select: Traffic Information
Select: Traffic Volume Maps or Traffic Data Report

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Traffic Volume Maps can be purchased through our Maps and Publications Sales Store by calling (717) 787-6746.

New Developments and Enhancements

Internet Traffic Monitoring System

The Traffic Monitoring System for the internet or iTMS allows you to look-up traffic data and traffic monitoring sites by place name, zip code, municipality, street name, PennDOT route, street address and road intersection. The information is displayed on an interactive map where you can find data such as AADT, ADTT, truck percent and others. Also available through iTMS are traffic factor reports and online video logging. iTMS can be found on our website with our traffic volume maps and traffic data books.

ATR Quality Assurance Program

The Transportation Planning Division (TPD) initiated an Automatic Traffic Recorder (ATR) Quality Assurance Program. This program involves comparing a manual count and a portable tube classification count to the data collected at the permanent ATR site to verify data accuracy. The division wanted an automated data entry, retrieval, archiving and reporting application for the ATR Quality Assurance Program which led to the creation of a system that included the implementation of a web-based tool with the ability to compare ATR data stored in Oracle tables to the manual count and the portable tube classification count files collected from each permanent site. Data collected from the same time period is compared to report the accuracy of individual ATR's.

Local Local Data Collection

Pennsylvania has over 72,000 miles of roadway, not on the Federal-aid system, owned by its 2,565 municipalities. Collecting traffic data on all 72,000 miles is not financially feasible. In order to improve traffic data collection on these roads, PennDOT hired a consultant to determine the number of traffic counts needed to be statistically significant when counting the total mileage was not possible. The consultant determined that approximately 7,200 counts would be required and provided a randomly selected listing of roads to count. PennDOT is currently determining the best way to include these counts in the existing traffic counting program.

Route 220 in Blair County

Traffic Data Collection

Traffic data is collected on 40,000 miles of PennDOT owned roads and 3,200 miles of local federal aid roads in Pennsylvania. Approximately 6,500 raw traffic counts are collected per year by:

- PennDOT Engineering Districts
- Fifteen Metropolitan Planning Organizations (MPOs)
- Two Rural Planning Organizations (RPOs)
- Contractors

Volume: The majority of the counts taken as part of our statewide count program record volume of traffic on a roadway. Volume is usually expressed as Annual Average Daily Traffic, (AADT) which represents traffic volume over an average 24-hour period.

Classification: One method of data collection used for our count program is vehicle classification. Vehicles are classified into 13 classes ranging from cars to trucks in accordance with the Federal Highway Administration vehicle classification scheme.

Weight: Truck weight data is collected from 13 Weigh-In-Motion stations.

Speed: Speed data is collected from 15 Automatic Traffic Recorders and 4 Continuous Automatic Vehicle Classifiers twice a year.

Traffic Count set in Harrisburg

Traffic Data Collection Sources

Automatic Traffic Recorders (ATRs)

> 60 ATRs strategically located throughout the state count volume and speed data on a continuous basis 365 days per year.   A map showing the locations of ATRs throughout the state is provided on page 11.

Short-Term In-Pavement Sites (STIP)

> Approximately 200 inductive loop sites, referred to as STIP sites are installed throughout the state of Pennsylvania. Volume data is collected from these permanent sites for a 24-hour period, once a year.

Continuous Automatic Vehicle Classifier (CAVC)

> 4 CAVC sites collect continuous vehicle classification data. A map showing CAVC locations is provided on page 11.

Weigh-In-Motion (WIM)

> 13 WIM stations provide continuous truck weight and vehicle classification data. WIM stations are shown on the map on page 11.

Pneumatic Tubes

> The majority of the counts are collected using pneumatic tubes. Axle counts are collected using a traffic counting device in association with a single pneumatic tube stretched across the roadway. An axle correction factor is applied to adjust vehicle axle base data for the incidence of vehicles with more than two axles.

> Two tubes are used to count and classify vehicles by type based on axle configuration.

Manual Counts

> Manual counts are taken on sections of roadways that are not accessible to automated data collection equipment or have safety limitations. Observers classify vehicles by type based on axle configuration.

Toll Receipts

> The Delaware River Joint Toll Bridge Commission and the Delaware River Port Authority document traffic between Pennsylvania and New Jersey.

> The Pennsylvania Turnpike Commission toll receipt surveys provide automobile and truck data on the Commonwealth's toll roads.

Automatic Traffic Recorders (ATRs)

Pennsylvania maintains Automatic Traffic Recorders (ATRs) at 60 strategically selected locations throughout the state. These ATRs collect traffic volume data on a continuous basis throughout the year. This data is used to develop daily and seasonal factors, as well as to identify changes in traffic patterns.

ATR 323 in Bedford Springs

The ATRs use magnetic loops embedded in the pavement for vehicle detection. The data is stored on site in traffic counters, prior to being automatically polled every night through the use of modems located at each ATR site.

Traffic Pattern Group (TPG)

Highway traffic characteristics can vary by geographical area, roadway type, and population density. Therefore, individual traffic volume counts are categorized into one of ten Traffic Pattern Groups (TPGs). The TPGs are based on highway functional classification, geographic area, and urban/rural characteristics.(See map on pg. 11) Each ATR is associated with one of the ten TPGs listed below.

TRAFFIC PATTERN GROUP	DESCRIPTION
TPG 1	URBAN - INTERSTATE
TPG 2	RURAL - INTERSTATE
TPG 3	URBAN - OTHER PRINCIPAL ARTERIALS
TPG 4	RURAL - OTHER PRINCIPAL ARTERIALS
TPG 5	URBAN - MINOR ARTERIALS, COLLECTORS, LOCAL ROADS
TPG 6	NORTH RURAL - MINOR ARTERIALS
TPG 7	CENTRAL RURAL- MINOR ARTERIALS
TPG 8	NORTH RURAL - COLLECTORS AND LOCAL ROADS
TPG 9	CENTRAL RURAL- COLLECTORS AND LOCAL ROADS
TPG 10	SPECIAL RECREATIONAL

ATR data is used in computing:

- Daily, monthly, and seasonal adjustment factors by highway functional classification and geographic location.

- Yearly growth factors which are used to update older counts in the Department's Roadway Management System (RMS).

- Design hour factors (peak hour, 30th highest and 50th highest hour) used for the design of highways.

Automatic Traffic Recorder (ATR) Station Locations

This chart lists the ATR stations by number, county, municipality, traffic route number, state route (SR), segment, and also by a physical description of where the ATR is located in the state.

* Indicates ATR site data is also used for the Department's Speed Monitoring Program.
** Indicates road is not a PA, US, or Interstate Route

ATR #	COUNTY	MUNICIPALITY	ROUTE	SR	SEGMENT	LOCATION
1	Erie	Springfield Twp.	US 20	20	10	0.4 mi. E of PA/Ohio State Line (West Springfield)
2	Crawford	Richmond Twp.	PA 77	77	270	0.7 mi. W of PA 408 (New Richmond)
3	Clearfield	Huston Twp.	PA 255	255	280	1.4 mi. N of PA 153 (Penfield)
4	Tioga	Delmar Twp.	US 6	6	400	0.9 mi. W of PA 287 (Wellsboro)
5	Bradford	Sheshequin Twp.	**	1043	10	0.1 mi. NW of SR 1041 (North Towanda)
8	Montgomery	Whitemarsh Twp.	PA 73	73	530	1.4 mi. NW of PA 309-Skippack Pike (Whitemarsh)
15	Fulton	Todd Twp.	US 522	522	540	1.3 mi. N or US 30 (McConnellsburg)
18	Butler	Summitt Twp.	PA 38	38	20	0.7 mi. NW of PA 68 (Butler)
19	Washington	Union Twp.	PA 88	88	750	0.4 mi. S of SR1006-Washington Ave. (Finleyville)
20	Lawrence	Shenango Twp.	PA 65	65	270	0.6 mi. S of US 422 (New Castle)
24	Westmoreland	Derry Twp.	US 22	22	340	1.0 mi. E of PA 981 (New Alexandria)
27	Elk	Highland Twp.	PA 66/948	66	60	0.2 mi. W of De-Young Post Office (Russell City)
29	Susquehanna	Rush Twp.	PA 267	267	190	0.9 mi. S of PA 706 (Lawton)
40	Schuylkill	Schuylkill Twp.	US 209	209	860	0.6 mi. SW of PA 309 (Tamaqua)
48	Susquehanna	New Milford Twp.	US 11	11	420	0.8 mi. SW of PA 848/492 (New Milford)
51	Potter	Eulalia Twp.	PA 44	44	700	0.7 mi. N of Coudersport Boro Line (Coundersport)
203	Allegheny	Leetsdale	PA 65	65	270	0.6 mi. S of Beaver County Line (Leetsdale)
205	York	North York	I-83	83	234	0.3 mi. S of Route 238
206	Cumberland	Wormleysburg	Taylor Br.	1014	30	230' E of Second St. (Wormleysburg)
207*	Erie	Springfield Twp.	I-90	90	10	1.0 mi. E of Ohio Line (West Springfield)
208	Allegheny	Monroeville	I-376	376	120	2.2 mi. W of PA 48-Exit 14 (Monroeville)
210*	Cumberland	Lemoyne	I-83	83	416	0.6 mi. SW of York Ramp on John Harris Bridge (Lemoyne)
216*	Susquehanna	Great Bend Twp.	I-81	81	2314	1.1 mi. N of PA 171 (Great Bend)
301	Erie	Lawrence Park Twp.	PA 5	5	680	0.3 mi. E of Erie City Line (Erie)
306	Pike	Palmyra Twp.	PA 507	507	280	0.9 mi. S of US 6 (Hawley)
323	Bedford	Bedford Twp.	US 220	220	310	0.7 mi. S of Business US 220 (Bedford Springs)
326	Clarion	Paint Twp.	US 322	322	280	0.5 mi. E of PA 66 (Clarion)
328	Centre	Boggs Twp.	PA 150	150	194	1.1 mi. N of 1-80 (Milesburg)
330	Bucks	Northampton Twp.	PA 532	532	130	1.4 mi. SW of PA 413 (Newtown)

Automatic Traffic Recorder (ATR) Station Locations (Continued)

* Indicates ATR site data is also used for the Department's Speed Monitoring Program.
** Indicates road is not a PA, US, or Interstate Route

ATR #	COUNTY	MUNICIPALITY	ROUTE	SR	SEGMENT	LOCATION
334	York	W. Manchester Twp.	US 30	30	170	0.7 mi. W of PA 116 (Thomasville)
349	Lehigh	Upper Saucon Twp.	PA 309	309	30	0.7 mi. S of PA 378 (Coopersburg)
360	Clearfield	Bloom Twp.	US 219	219	670	3.2 mi. S of US 322 (Luthersburg)
362	York	North Codorus Twp.	PA 616	616	240	2 mi. south of New Salem Boro
363	McKean	Lafayette Twp.	US 219	219	290	0.1 mi. N of PA 59 (Lewis Run)
364	Lackawanna	Newton Twp.	PA 307	307	360	50' NW of SR 4017 (Clarks Summitt)
367	Union	West Buffalo Twp.	PA 45	45	250	0.6 mi. W of PA 104 (Mifflinburg)
370*	Westmoreland	Rostraver Twp.	I-70	70	454	0.9 mi. W of PA 51-Exit 46 (Uniontown)
371*	Fulton	Brush Creek Twp.	I-70	70	1522	5.1 mi. S of US 30 (Crystal Springs)
372*	Union	White Deer Twp.	I-80	80	2104	0.9 i. W of I-180 (Milton)
374*	Butler	Lancaster Twp.	I-79	79	904	2.2 mi. N of PA 68-Exit 87 (Zelienople)
375*	Allegheny	N. Fayette Twp.	US 22/30	22	80	0.8 mi. E of PA 978 (Imperial)
376*	Luzerne	Wilkes-Barre Twp.	I-81	81	1664	0.7 mi. N of PA 309-Exit 165 (Wilkes-Barre)
377*	Bucks	Bristol Twp.	I-95	95	404	2.5 mi. S of US 1/PA 413 (PennDel)
378	Fayette	Redstone Twp.	US 40	40	160	5.6 mi. W of US 119 (Brier Hill)
379	Blair	Logan Twp.	**	4013	80	0.5 mi. SE of SR 4015 (Altoona)
380	Berks	St. Lawrence	PA 562	562	40	0.3 mi. W of SR 2033 (St. Lawrence)
381	Mercer	Hermitage Twp.	**	3019	20	0.8 mi. N of PA 718 (Sharon)
382	Cambria	Lower Yoder Twp.	**	3005	40	0.4 mi. SW of Johnstown City Line (Morrelville)
383	Clinton	Chatham Run	PA 150	150	360	0.7 mi. E of SR 1005 (Chatham Run)
384	Tioga	Lawrence Twp.	**	4022	50	1.9 mi. From PA 49 on Lakeview Dr. (Nelson)
385	Warren	Southwest Twp.	**	3002	30	1.7 mi. W of PA 27 (Enterprise)
386	Montour	Limestone Twp.	PA 254	254	10	1.9 mi. E of I-80 (Limestoneville)
387	Somerset	Brothers Valley	**	2031	120	2.0 mi. SW of US 219 (Garrett)
388	Monroe	Ross Twp.	**	3004	170	0.4 mi. SW of SR 3015-Rolling Hill Road. (Saylorsburg)
389	Jefferson	Perry Twp.	PA 536	536	210	3.5 mi. W of PA 36 (Frostburg)
390	Lancaster	West Donegal Twp.	PA 230	230	20	1.9 mi. W of PA 743/241 (Elizabethtown)
391	Chester	Warwick Twp.	PA 23	23	110	1.4 mi. E of PA 345 (Warwick Area)
392*	Luzerne	Foster Twp.	I-80	80	2684	5.9 mi. E of PA 309 (White Haven)
393*	Washington	Donegal Twp.	I-70	70	2	At the West Virginia State Line (West Alexander)
394*	Lehigh	Upper Saucon Twp.	I-78	78	614	1.5 mi. W of Northampton County Line (Allentown)

Strategic Highway Research Program (SHRP) and LTPP

The Strategic Highway Research Program (SHRP) was authorized by the U.S. Congress in 1987 as a five-year research initiative. The focus of this initiative was to develop and evaluate technologies and techniques to improve the performance, safety, durability, and efficieny of the nation's highways. SHRP was directed by a committee of managers from state highway agencies, industry, and academia, and operated as a unit of the National Research Council. Research was concentrated in asphalt, concrete and structures, highway operations, and pavement performance.

The Federal Highway Administration assumed coordination of a national program to move the products evaluated or developed under SHRP to the state and local agencies upon completion of the research phase.

The Long Term Pavement Performance (LTPP) program was established under SHRP and is currently managed by FHWA. LTPP, which is a 20-year study of in-service pavements, provides the basis for pavement design, maintenance, rehabilitation, and construction methodologies. The Bureau supports this program by collecting weight and vehicle classification data and reporting the data to LTPP.

ATR and SHRP Weigh-In-Motion Locations Map (Opposite)

The ATR, SHRP, and WIM locations map of Pennsylvania, which is shown on the following page, gives an overview of where all of the ATRs and SHRP Weigh-In-Motion sites are located. Symbols are used in addition to the site number to identify the location of the site and to distinguish the different classification of roads.

I-99 in Blair County

CONTINUOUS MONITORING SITES

■ *ATR*   ⊙ *WIM / CAVC*   ★ *CAVC*   ⬭ *WIM / CAVC*   ～ *TPG Boundary*

ATR Site Locations by Traffic Pattern Group (TPG)

This chart groups the ATR site locations by Traffic Pattern Group. It gives the ATR number, route, and the urban area or county depending on the TPG into which the ATR falls. The Annual Average Daily Traffic (AADT) for each ATR is also listed on this chart.

ATR SITE LOCATIONS BY TPG

TPG 1: URBAN INTERSTATE					TPG 2: RURAL INTERSTATE			
ATR	ROUTE	URBAN AREA	AADT		ATR	ROUTE	COUNTY	AADT
205	I-83	YORK	52,256		207	I-90	ERIE	20,577
208	I-376	PITTSBURGH	65,773		216	I-81	SUSQUEHANNA	28,187
210	I-83	HARRISBURG	116,841		370	I-70	WESTMORELAND	31,099
376	I-81	WILKES-BARRE	61,170		371	I-70	FULTON	19,401
377	I-95	PHILADELPHIA	53,219		372	I-80	UNION	26,696
394	I-78	ALLENTOWN	52,363		374	I-79	BUTLER	33,927
					392	I-80	LUZERNE	23,746
					393	I-70	WASHINGTON	30,910

ATR SITE LOCATIONS BY TPG

TPG 3: URBAN PRINCIPAL ARTERIAL					TPG 4: RURAL PRINCIPAL ARTERIAL			
ATR	ROUTE	URBAN AREA	AADT		ATR	ROUTE	COUNTY	AADT
8	PA 73	PHILADELPHIA	15,912		4	US 6	TIOGA	2,834
203	PA 65	PITTSBURGH	20,589		19	PA 88	WASHINGTON	5,982
206	H. Taylor Br.	HARRISBURG	27,977		24	US 22	WESTMORELAND	17,350
301	PA 5	ERIE	15,439		323	US 220	BEDFORD	3,651
330	PA 532	PHILADELPHIA	11,471		326	US 322	CLARION	10,114
375	US 22/30	PITTSBURGH	25,170		334	US 30	YORK	18,933
					349	US 309	LEHIGH	38,480
					360	US 219	CLEARFIELD	2,658
					363	US 219	MCKEAN	5,058
					378	US 40	FAYETTE	10,922

ATR Site Locations by TPG (Continued)

ATR SITE LOCATIONS BY TPG								
TPG 5: URBAN MINOR ARTERIAL/COLLECTOR					**TPG 6: NORTH RURAL MINOR ARTERIAL**			
ATR	**ROUTE**	**URBAN AREA**	**AADT**		**ATR**	**ROUTE**	**COUNTY**	**AADT**
18	PA 38	BUTLER	7,015		2	PA 77	CRAWFORD	2,058
20	PA 65	NEW CASTLE	7,801		3	PA 255	CLEARFIELD	5,738
379	SR 4013	ALTOONA	1,493		27	PA 66/948	ELK	2,773
380	PA 562	READING	9,451		48	US 11	SUSQUEHANNA	4,547
381	SR 3019	SHARON	671		51	PA 44	POTTER	3,650
382	SR 3005	JOHNSTOWN	1,927		328	PA 150	CENTRE	5,070

ATR SITE LOCATIONS BY TPG								
TPG 7: CENTRAL RURAL MINOR ARTERIAL					**TPG 8: NORTH RURAL COLLECTOR**			
ATR	**ROUTE**	**COUNTY**	**AADT**		**ATR**	**ROUTE**	**COUNTY**	**AADT**
1	US 20	ERIE	3,716		5	SR 1043	BRADFORD	1,441
15	US 522	FULTON	5,982		29	PA 267	SUSQUEHANNA	1,173
40	US 209	SCHUYLKILL	4,943		383	PA 150	CLINTON	4,181
367	PA 45	UNION	6,241		384	SR 4022	TIOGA	630
390	PA 230	LANCASTER	6,608		385	SR 3002	WARREN	2,081
391	PA 23	CHESTER	8,733					

ATR SITE LOCATIONS BY TPG								
TPG 9: CENTRAL RURAL COLLECTOR					**TPG 10: SPECIAL RECREATIONAL**			
ATR	**ROUTE**	**COUNTY**	**AADT**		**ATR**	**ROUTE**	**COUNTY**	**AADT**
362	PA 616	YORK	5,932		306	PA 507	PIKE	6,155
364	PA 307	LACKAWANNA	5,352					
386	PA 254	MONTOUR	2,122					
387	SR 2031	SOMERSET	3,384					
388	SR 3004	MONROE	3,961					
389	PA 536	JEFFFERSON	2,239					

2006 Peak Hour by Traffic Pattern Group (TPG)

2006 Peak Hour by Traffic Pattern Group (TPG)													
TPG 1: Urban Interstate							TPG 2: Rural Interstate						
ATR	Date	Hour (start)	DOW	Volume	% AADT	AADT	ATR	Date	Hour (start)	DOW	Volume	% AADT	AADT
205	7/27	5:00 PM	Thu	4,964	9.50%	52,256	207	7/30	1:00 PM	Sun	2,762	13.42%	20,577
208	6/30	5:00 PM	Fri	6,170	9.38%	65,773	216	11/26	1:00 PM	Sun	4,642	16.47%	28,187
210	7/26	4:00 PM	Wed	10,349	8.86%	116,841	370	6/30	3:00 PM	Fri	3,116	10.02%	31,099
376	7/28	4:00 PM	Fri	6,360	10.40%	61,170	371	11/26	11:00 AM	Sun	3,452	17.79%	19,401
377	3/3	5:00 PM	Fri	5,898	11.08%	53,219	372	11/26	3:00 PM	Sun	4,363	16.34%	26,696
394	4/21	4:00 PM	Fri	5,278	10.08%	52,363	374	10/13	5:00 PM	Fri	4,306	12.69%	33,927
							392	11/26	4:00 PM	Sun	3,847	16.20%	23,746
							393	11/26	2:00 PM	Sun	4,097	13.25%	30,910

2006 Peak Hour by Traffic Pattern Group (TPG)													
TPG 3: Urban Principal Arterial							TPG 4: Rural Principal Arterial						
ATR	Date	Hour (start)	DOW	Volume	% AADT	AADT	ATR	Date	Hour (start)	DOW	Volume	% AADT	AADT
8	4/25	7:00 AM	Tue	2,042	12.83%	15,912	4	6/12	4:00 PM	Mon	511	18.03%	2,834
203	4/14	4:00 PM	Fri	2,222	10.79%	20,589	19	9/17	12:00 PM	Sun	765	12.79%	5,982
206	10/31	7:00 AM	Tue	3,920	14.01%	27,977	24	4/14	4:00 PM	Fri	1,951	11.24%	17,350
301	5/12	3:00 PM	Fri	1,964	12.72%	15,439	323	8/11	3:00 PM	Fri	486	13.31%	3,651
330	4/21	4:00 PM	Fri	1,265	11.03%	11,471	326	10/30	5:00 PM	Mon	1,233	12.19%	10,114
375	9/8	4:00 PM	Fri	2,823	11.22%	25,170	334	3/11	12:00 PM	Sat	1,891	9.99%	18,933
							349	10/27	3:00 PM	Fri	3,737	9.71%	38,480
							360	5/25	4:00 PM	Thu	336	12.64%	2,658
							363	12/6	3:00 PM	Wed	660	13.05%	5,058
							378	9/15	4:00 PM	Fri	1,278	11.70%	10,922

2006 Peak Hour by TPG (Continued)

2006 Peak Hour by Traffic Pattern Group (TPG)														
TPG 5: Urban Minor Arterial or Collector								**TPG 6: North Rural Minor Arterial**						
ATR	**Date**	**Hour (start)**	**DOW**	**Volume**	**% AADT**	**AADT**		**ATR**	**Date**	**Hour (start)**	**DOW**	**Volume**	**% AADT**	**AADT**
18	9/29	4:00 PM	Fri	896	12.77%	7,015		2	8/23	4:00 PM	Wed	347	16.86%	2,058
20	5/12	5:00 PM	Fri	803	10.29%	7,801		3	4/14	3:00 PM	Fri	723	12.60%	5,738
379	12/7	6:00 PM	Thu	182	12.19%	1,493		27	7/1	1:00 PM	Sat	414	14.93%	2,773
380	4/14	5:00 PM	Fri	1,163	12.31%	9,451		48	7/4	1:00 PM	Tue	605	13.31%	4,547
381	10/25	5:00 PM	Wed	90	13.41%	671		51	12/13	7:00 AM	Wed	479	13.12%	3,650
382	6/7	4:00 PM	Wed	253	13.13%	1,927		328	5/29	4:00 PM	Mon	1,064	20.99%	5,070

2006 Peak Hour by Traffic Pattern Group (TPG)														
TPG 7: Central Rural Minor Arterial								**TPG 8: North Rural Collector**						
ATR	**Date**	**Hour (start)**	**DOW**	**Volume**	**% AADT**	**AADT**		**ATR**	**Date**	**Hour (start)**	**DOW**	**Volume**	**% AADT**	**AADT**
1	6/11	11:00 AM	Sun	496	13.35%	3,716		5	6/15	3:00 PM	Thu	281	19.50%	1,441
15	10/20	2:00 PM	Fri	790	13.21%	5,982		29	5/29	3:00 PM	Mon	231	19.69%	1,173
40	5/24	3:00 PM	Wed	550	11.13%	4,943		383	11/22	2:00 PM	Wed	1,320	31.57%	4,181
367	9/30	9:00 AM	Sat	885	14.18%	6,241		384	5/29	3:00 PM	Mon	190	30.16%	630
390	8/30	4:00 PM	Wed	3,926	59.41%	6,608		385	6/1	4:00 PM	Thu	286	13.74%	2,081
391	4/21	4:00 PM	Fri	1,011	11.58%	8,733								

2006 Peak Hour by Traffic Pattern Group (TPG)														
TPG 9: Central Rural Collector								**TPG 10: Special Recreational**						
ATR	**Date**	**Hour (start)**	**DOW**	**Volume**	**% AADT**	**AADT**		**ATR**	**Date**	**Hour (start)**	**DOW**	**Volume**	**% AADT**	**AADT**
362	5/9	5:00 PM	Tue	669	11.28%	5,932		306	7/1	11:00 AM	Sat	1,026	16.67%	6,155
364	8/5	11:00 AM	Sat	646	12.07%	5,352								
386	11/21	10:00 AM	Tue	417	19.65%	2,122								
387	8/25	6:00 PM	Fri	444	13.12%	3,384								
388	6/30	6:00 AM	Fri	557	14.06%	3,961								
389	3/29	3:00 PM	Wed	281	12.55%	2,239								

2006 30th Highest Hour by Traffic Pattern Group (TPG)

2006 30th Highest Hour by Traffic Pattern Group

TPG 1: Urban Interstate							TPG 2: Rural Interstate						
ATR	Date	Hour (start)	DOW	Volume	%AADT	AADT	ATR	Date	Hour (start)	DOW	Volume	%AADT	AADT
205	7/27	5:00 PM	Thu	4,964	9.50%	52,256	207	7/28	4:00 PM	Fri	2,468	11.99%	20,577
208	9/1	4:00 PM	Fri	5,848	8.89%	65,773	216	11/22	12:00 PM	Wed	3,466	12.30%	28,187
210	5/8	7:00 AM	Mon	10,156	8.69%	116,841	370	10/19	4:00 PM	Thu	2,845	9.15%	31,099
376	3/24	4:00 PM	Fri	5,865	9.59%	61,170	371	8/20	5:00 PM	Sun	2,778	14.32%	19,401
377	5/17	5:00 PM	Wed	5,484	10.30%	53,219	372	6/26	11:00 AM	Mon	2,700	10.11%	26,696
394	6/21	5:00 PM	Wed	4,883	9.33%	52,363	374	11/22	4:00 PM	Wed	3,720	10.96%	33,927
							392	11/22	12:00 PM	Wed	2,478	10.44%	23,746
							393	12/29	4:00 PM	Fri	3,112	10.07%	30,910

2006 30th Highest Hour by Traffic Pattern Group

TPG 3: Urban Principal Arterial							TPG 4: Rural Principal Arterial						
ATR	Date	Hour (start)	DOW	Volume	%AADT	AADT	ATR	Date	Hour (start)	DOW	Volume	%AADT	AADT
8	1/17	7:00 AM	Tue	1,924	12.09%	15,912	4	6/3	12:00 PM	Sat	367	12.95%	2,834
203	5/18	3:00 PM	Thu	2,086	10.13%	20,589	19	5/8	4:00 PM	Mon	625	10.45%	5,982
206	11/20	8:00 AM	Mon	3,746	13.39%	27,977	24	3/16	4:00 PM	Thu	1,742	10.04%	17,350
301	5/19	3:00 PM	Fri	1,686	10.92%	15,439	323	11/3	5:00 PM	Fri	388	10.63%	3,651
330	4/5	4:00 PM	Wed	1,090	9.50%	11,471	326	11/17	3:00 PM	Fri	1,086	10.74%	10,114
375	8/23	4:00 PM	Wed	2,435	9.67%	25,170	334	10/18	4:00 PM	Wed	1,701	8.98%	18,933
							349	4/7	4:00 PM	Fri	3,479	9.04%	38,480
							360	8/8	4:00 PM	Tue	279	10.50%	2,658
							363	10/6	5:00 PM	Fri	534	10.56%	5,058
							378	10/19	4:00 PM	Thu	1,096	10.03%	10,922

2006 30th Highest Hour by TPG (Continued)

2006 30th Highest Hour by Traffic Pattern Group													
TPG 5: Urban Minor Arterial or Collector							**TPG 6: North Rural Minor Arterial**						
ATR	Date	Hour (start)	DOW	Volume	% AADT	AADT	ATR	Date	Hour (start)	DOW	Volume	% AADT	AADT
18	4/7	4:00 PM	Fri	741	10.56%	7,015	2	9/1	4:00 PM	Fri	255	12.39%	2,058
20	6/16	4:00 PM	Fri	758	9.72%	7,801	3	9/22	4:00 PM	Fri	614	10.70%	5,738
379	1/13	4:00 PM	Fri	148	9.91%	1,493	27	11/28	1:00 PM	Tue	357	12.87%	2,773
380	1/27	5:00 PM	Fri	1,060	11.22%	9,451	48	7/7	3:00 PM	Fri	507	11.15%	4,547
381	4/26	2:00 PM	Wed	78	11.62%	671	51	6/6	4:00 PM	Tue	417	11.42%	3,650
382	4/11	3:00 PM	Tue	213	11.05%	1,927	328	6/16	5:00 PM	Fri	561	11.07%	5,070

2006 30th Highest Hour by Traffic Pattern Group													
TPG 7: Central Rural Minor Arterial							**TPG 8: North Rural Collector**						
ATR	Date	Hour (start)	DOW	Volume	% AADT	AADT	ATR	Date	Hour (start)	DOW	Volume	% AADT	AADT
1	8/27	1:00 PM	Sun	399	10.74%	3,716	5	6/14	11:00 AM	Wed	186	12.91%	1,441
15	11/22	2:00 PM	Wed	639	10.68%	5,982	29	11/10	4:00 PM	Fri	144	12.28%	1,173
40	3/3	4:00 PM	Fri	473	9.57%	4,943	383	4/20	5:00 PM	Thu	438	10.48%	4,181
367	7/15	10:00 AM	Sat	673	10.78%	6,241	384	8/18	6:00 PM	Fri	80	12.70%	630
390	9/11	5:00 PM	Mon	763	11.55%	6,608	385	5/5	3:00 PM	Fri	230	11.05%	2,081
391	6/30	5:00 PM	Fri	901	10.32%	8,733							

2006 30th Highest Hour by Traffic Pattern Group													
TPG 9: Central Rural Collector							**TPG 10: Special Recreational**						
ATR	Date	Hour (start)	DOW	Volume	% AADT	AADT	ATR	Date	Hour (start)	DOW	Volume	% AADT	AADT
362	1/27	5:00 PM	Fri	600	10.11%	5,932	306	6/24	10:00 AM	Sat	767	12.46%	6,155
364	8/3	4:00 PM	Thu	567	10.59%	5,352							
386	11/1	3:00 PM	Wed	236	11.12%	2,122							
387	8/25	2:00 PM	Fri	356	10.52%	3,384							
388	6/12	5:00 PM	Mon	395	9.97%	3,961							
389	3/31	3:00 PM	Fri	246	10.99%	2,239							

2006 50th Highest Hour by Traffic Pattern Group (TPG)

2006 50th Highest Hour by Traffic Pattern Group

TPG 1: Urban Interstate

ATR	Date	Hour (start)	DOW	Volume	% AADT	AADT
205	7/27	5:00 PM	Thu	4,964	9.50%	52,256
208	3/10	4:00 PM	Fri	5,777	8.78%	65,773
210	3/2	3:00 PM	Thu	10,090	8.64%	116,841
376	7/7	3:00 PM	Fri	5,733	9.37%	61,170
377	4/18	5:00 PM	Tue	5,444	10.23%	53,219
394	6/29	4:00 PM	Thu	4,757	9.08%	52,363

TPG 2: Rural Interstate

ATR	Date	Hour (start)	DOW	Volume	% AADT	AADT
207	7/9	2:00 PM	Sun	2,378	11.56%	20,577
216	5/26	3:00 PM	Fri	3,330	11.81%	28,187
370	8/18	4:00 PM	Fri	2,786	8.96%	31,099
371	4/17	2:00 PM	Mon	2,641	13.61%	19,401
372	10/15	2:00 PM	Sun	2,580	9.66%	26,696
374	11/10	4:00 PM	Fri	3,605	10.63%	33,927
392	11/22	11:00 AM	Wed	2,357	9.93%	23,746
393	5/26	2:00 PM	Fri	2,975	9.62%	30,910

2006 50th Highest Hour by Traffic Pattern Group

TPG 3: Urban Principal Arterial

ATR	Date	Hour (start)	DOW	Volume	% AADT	AADT
8	12/13	7:00 AM	Wed	1,895	11.91%	15,912
203	3/17	4:00 PM	Fri	2,055	9.98%	20,589
206	11/14	8:00 AM	Tue	3,717	13.29%	27,977
301	5/18	4:00 PM	Thu	1,634	10.58%	15,439
330	9/20	5:00 PM	Wed	1,077	9.39%	11,471
375	5/30	5:00 PM	Tue	2,362	9.38%	25,170

TPG 4: Rural Principal Arterial

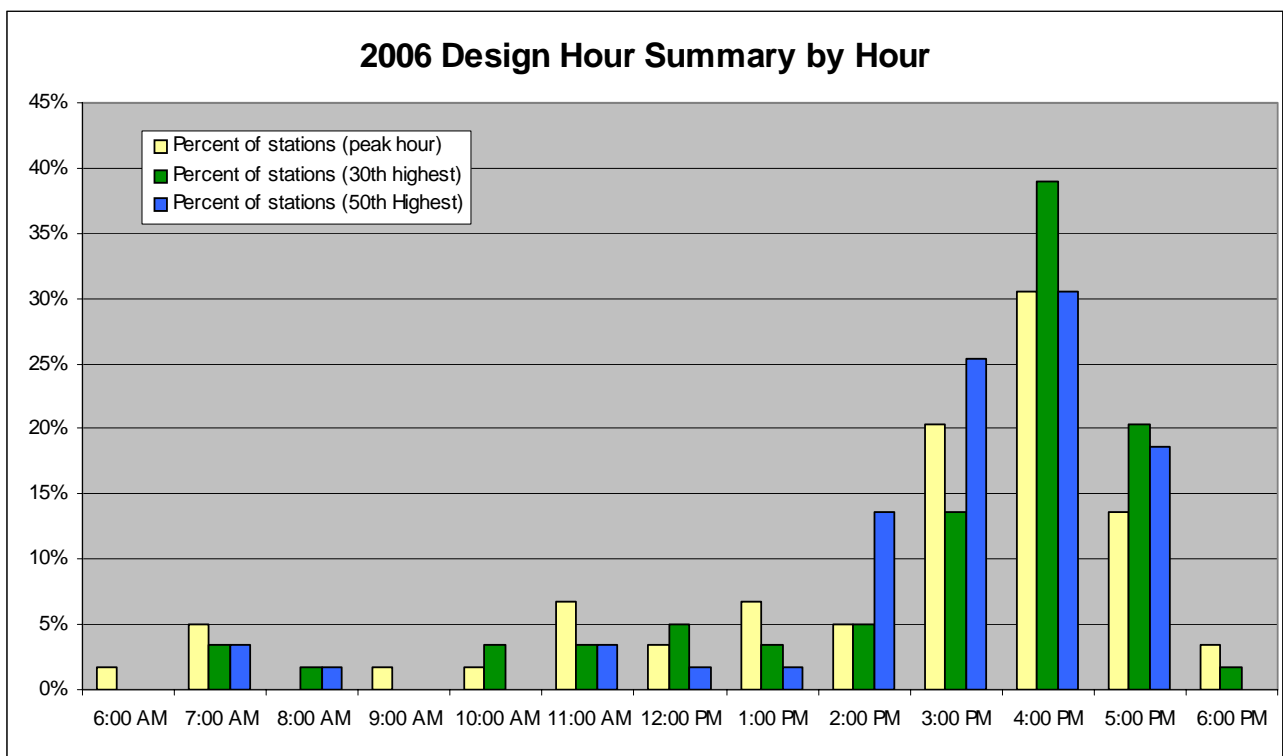| ATR	Date	Hour (start)	DOW	Volume	% AADT	AADT
4	7/3	2:00 PM	Mon	354	12.49%	2,834
19	4/28	4:00 PM	Fri	603	10.08%	5,982
24	11/21	5:00 PM	Tue	1,675	9.65%	17,350
323	11/26	1:00 PM	Sun	371	10.16%	3,651
326	1/27	3:00 PM	Fri	1,071	10.59%	10,114
334	3/18	12:00 PM	Sat	1,655	8.74%	18,933
349	8/16	4:00 PM	Wed	3,427	8.91%	38,480
360	5/4	3:00 PM	Thu	272	10.23%	2,658
363	4/14	4:00 PM	Fri	509	10.06%	5,058
378	3/31	3:00 PM	Fri	1,073	9.82%	10,922

2006 50th Highest Hour by TPG (Continued)

2006 50th Highest Hour by Traffic Pattern Group

TPG 5: Urban Minor Arterial or Collector							TPG 6: North Rural Minor Arterial						
ATR	Date	Hour (start)	DOW	Volume	% AADT	AADT	ATR	Date	Hour (start)	DOW	Volume	% AADT	AADT
18	3/27	4:00 PM	Mon	727	10.36%	7,015	2	7/28	5:00 PM	Fri	240	11.66%	2,058
20	9/22	4:00 PM	Fri	744	9.54%	7,801	3	10/13	5:00 PM	Fri	589	10.26%	5,738
379	5/17	5:00 PM	Wed	144	9.65%	1,493	27	8/20	3:00 PM	Sun	334	12.04%	2,773
380	10/20	5:00 PM	Fri	1,027	10.87%	9,451	48	7/21	2:00 PM	Fri	492	10.82%	4,547
381	6/30	5:00 PM	Fri	75	11.18%	671	51	9/7	3:00 PM	Thu	405	11.10%	3,650
382	5/4	3:00 PM	Thu	205	10.64%	1,927	328	4/17	3:00 PM	Mon	526	10.37%	5,070

2006 50th Highest Hour by Traffic Pattern Group

TPG 7: Central Rural Minor Arterial							TPG 8: North Rural Collector						
ATR	Date	Hour (start)	DOW	Volume	% AADT	AADT	ATR	Date	Hour (start)	DOW	Volume	% AADT	AADT
1	7/21	4:00 PM	Fri	381	10.25%	3,716	5	6/5	2:00 PM	Mon	173	12.01%	1,441
15	4/14	3:00 PM	Fri	611	10.21%	5,982	29	5/2	4:00 PM	Tue	132	11.25%	1,173
40	4/19	3:00 PM	Wed	466	9.43%	4,943	383	5/15	4:00 PM	Mon	431	10.31%	4,181
367	7/14	4:00 PM	Fri	639	10.24%	6,241	384	7/25	4:00 PM	Tue	76	12.06%	630
390	5/6	11:00 AM	Sat	719	10.88%	6,608	385	9/15	3:00 PM	Fri	221	10.62%	2,081
391	6/16	5:00 PM	Fri	880	10.08%	8,733							

2006 50th Highest Hour by Traffic Pattern Group

TPG 9: Central Rural Collector							TPG 10: Special Recreational						
ATR	Date	Hour (start)	DOW	Volume	% AADT	AADT	ATR	Date	Hour (start)	DOW	Volume	% AADT	AADT
362	12/11	4:00 PM	Mon	591	9.96%	5,932	306	5/28	2:00 PM	Sun	724	11.76%	6,155
364	7/14	5:00 PM	Fri	556	10.39%	5,352							
386	7/17	4:00 PM	Mon	230	10.84%	2,122							
387	4/25	3:00 PM	Tue	346	10.22%	3,384							
388	9/28	7:00 AM	Thu	385	9.72%	3,961							
389	5/9	3:00 PM	Tue	237	10.59%	2,239							

2006 Design Hour Summaries: Peak, 30th and 50th Highest Hour

Design Hour Volume (DHV) is the hourly traffic volume used in the design of highways. The DHV is usually represented by the 30th highest hourly volume of the future year chosen for design. The following three graphs show the peak, 30th, and 50th highest hour summary by hour, day, and month.

2006 Design Hour Summary by Hour

Legend:
- ☐ Percent of stations (peak hour)
- ■ Percent of stations (30th highest)
- ■ Percent of stations (50th Highest)

2006 Design Hour Summaries: Peak, 30th and 50th Highest Hour

2006 Design Hour Summary by Day

Legend:
- Percent of stations (peak hour)
- Percent of stations (30th highest)
- Percent of stations (50th Highest)

2006 Design Hour Summary by Month

Legend:
- Percent of stations (peak hour)
- Percent of stations (30th highest)
- Percent of stations (50th Highest)

Five Year Summary of Annual Average Daily Traffic (AADT) from ATRs

This chart shows the ATR station numbers and their Annual Average Daily Traffic (AADT) for the past five years, 2002 through 2006. The percent change is also given for 2005 to 2006 and 2002 to 2006, showing where traffic has increased or decreased.

Indicates there is no data available.

ATR#	Annual Average Daily Traffic (AADT)					Percent Change	
	2002	2003	2004	2005	2006	2005-2006	2002-2006
1	3,900	3,849	3,668	3,628	3,716	2.4%	-5.0%
2	2,154	2,136	2,153	2,120	2,058	-3.0%	-4.7%
3	5,917	5,849	5,868	5,709	5,738	0.5%	-3.1%
4	3,109	3,073	2,990	2,889	2,834	-1.9%	-9.7%
5	1,462	1,461	1,502	1,433	1,441	0.6%	-1.5%
8	17,446	17,475	17,531	15,733	15,912	1.1%	-9.6%
15	5,372	5,265	5,808	5,990	5,982	-0.1%	10.2%
18	7,200	6,921	6,434	6,598	7,015	5.9%	-2.6%
19	7,277	6,512	6,389	6,321	5,982	-5.7%	-21.6%
20	8,301	8,293	7,939	7,769	7,801	0.4%	-6.4%
24	17,249	17,027	17,310	17,443	17,350	-0.5%	0.6%
27	2,688	2,661	2,708	2,737	2,773	1.3%	3.1%
29	1,107	1,126	1,104	1,111	1,173	5.3%	5.6%
40	4,762	4,794	4,877	4,935	4,943	0.2%	3.7%
48	4,313	4,268	4,413	4,411	4,547	3.0%	5.1%
51	4,086	4,030	4,007	3,882	3,650	-6.4%	-11.9%
203	20,024	20,624	19,829	21,406	20,589	-4.0%	2.7%
205	47,226	48,124	49,254	51,083	52,256	2.2%	9.6%
206	28,535	28,212	27,067	27,393	27,977	2.1%	-2.0%
207	20,725	20,578	21,000	20,905	20,577	-1.6%	-0.7%
208	66,711	66,129	66,016	65,863	65,773	-0.1%	-1.4%
210	107,830	112,820	114,311	115,600	116,841	1.1%	7.7%
216	27,654	27,568	27,771	28,006	28,187	0.6%	1.9%
301	16,876	16,594	16,401	15,857	15,439	-2.7%	-9.3%
306	5,968	6,013	6,146	6,134	6,155	0.3%	3.0%
323	3,728	3,742	3,667	3,572	3,651	2.2%	-2.1%
326	11,126	10,570	10,165	10,201	10,114	-0.9%	-10.0%
328	6,217	6,092	5,763	5,784	5,070	-14.1%	-22.6%
330	12,471	12,102	11,818	11,392	11,471	0.7%	-8.7%

Five Year Summary of AADT from ATRs (Continued)

Indicates there is no data available.

ATR#	Annual Average Daily Traffic (AADT)					Percent Change	
	2002	2003	2004	2005	2006	2005-2006	2002-2006
334	15,154	16,849	18,712	19,764	18,933	-4.4%	20.0%
349	36,425	36,626	37,775	38,372	38,480	0.3%	5.3%
360	2,662	2,638	2,763	2,698	2,658	-1.5%	-0.2%
362	*	5,277	5,439	5,699	5,932	3.9%	11.0%
363	4,954	4,913	5,039	5,102	5,058	-0.9%	2.1%
364	5,049	4,976	5,198	5,310	5,352	0.8%	5.7%
367	6,399	6,349	6,462	6,473	6,241	-3.7%	-2.5%
370	31,934	31,813	31,388	31,111	31,099	0.0%	-2.7%
371	18,768	18,939	18,982	19,299	19,401	0.5%	3.3%
372	25,202	25,430	25,527	26,111	26,696	2.2%	5.6%
374	33,475	33,569	33,404	33,870	33,927	0.2%	1.3%
375	24,285	24,500	24,945	25,013	25,170	0.6%	3.5%
376	54,566	56,893	58,645	59,882	61,170	2.1%	10.8%
377	53,658	52,814	53,595	54,307	53,219	-2.0%	-0.8%
378	10,695	10,682	11,025	10,989	10,922	-0.6%	2.1%
379	1,370	1,370	1,422	1,474	1,493	1.3%	8.2%
380	9,926	9,610	9,634	9,563	9,451	-1.2%	-5.0%
381	631	649	634	701	671	-4.5%	6.0%
382	2,198	2,136	2,115	1,963	1,927	-1.9%	-14.1%
383	4,251	4,196	4,366	4,209	4,181	-0.7%	-1.7%
384	636	675	647	622	630	1.3%	-1.0%
385	2,078	2,043	2,021	2,159	2,081	-3.7%	0.1%
386	2,020	2,013	2,123	2,056	2,122	3.1%	4.8%
387	3,496	3,525	3,469	3,379	3,384	0.1%	-3.3%
388	3,063	3,163	3,569	3,862	3,961	2.5%	22.7%
389	2,176	2,157	2,190	2,160	2,239	3.5%	2.8%
390	7,191	7,308	6,862	6,673	6,608	-1.0%	-8.8%
391	8,258	8,266	8,498	8,607	8,733	1.4%	5.4%
392	22,615	23,140	23,180	23,522	23,746	0.9%	4.8%
393	29,839	30,316	30,739	30,354	30,910	1.8%	3.5%
394	47,656	50,527	50,618	50,879	52,363	2.8%	9.0%

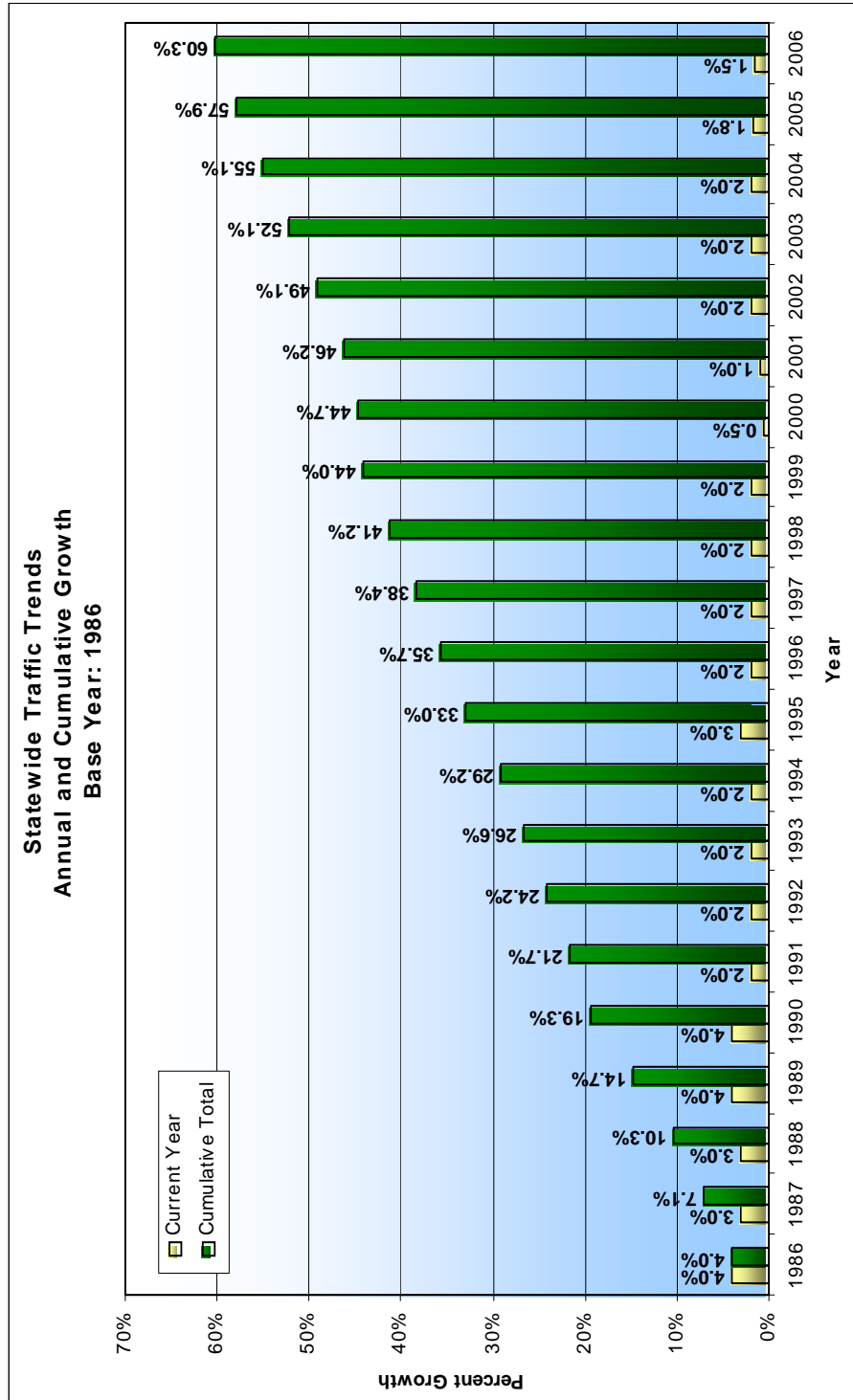* 362 Percent change is taken from 2003 to 2006

Statewide Traffic Trends: Annual and Multi-Year Change By Traffic Pattern Group

This table shows percent change for the traffic pattern groups at one-year intervals starting with 2001/2002 up to 2005/2006. An overall percent change for the traffic pattern groups is also shown on this table.

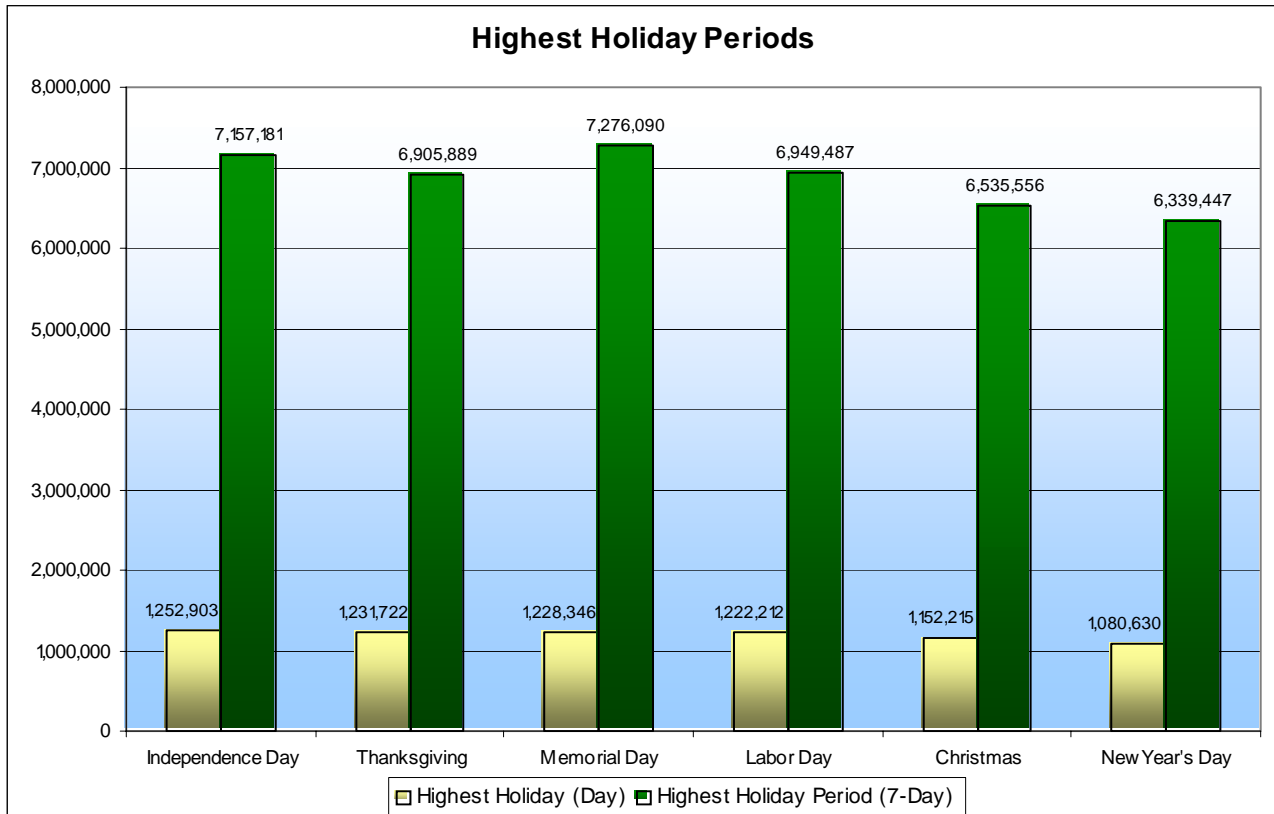| Percent Change Per Year, 2001 - 2006						
TRAFFIC PATTERN GROUPS	**2001-02**	**2002-03**	**2003-04**	**2004-05**	**2005-2006**	**2001-06**
TPG 1 **Urban Interstate**	3.0%	3.0%	3.2%	3.2%	2.9%	15.3%
TPG 2 **Rural Interstate**	3.0%	3.0%	3.3%	3.2%	3.0%	15.5%
TPG 3 **Urban Principal Arterial**	1.8%	1.0%	1.4%	1.1%	0.7%	6.0%
TPG 4 **Rural Principal Arterial**	1.9%	1.3%	1.7%	1.6%	1.2%	7.7%
TPG 5 **Urban Minor Arterials or Collectors**	1.8%	1.0%	1.4%	1.1%	0.7%	6.0%
TPG 6 **North Rural Minor Arterials**	1.9%	1.3%	1.7%	1.6%	1.2%	7.7%
TPG 7 **Central Rural Minor Arterials**	1.9%	1.3%	1.7%	1.6%	1.2%	7.7%
TPG 8 **North Rural Collectors**	1.9%	1.3%	1.7%	1.6%	1.2%	7.7%
TPG 9 **Central Rural Collectors**	1.9%	1.3%	1.7%	1.6%	1.2%	7.7%
TPG 10 **Special Recreational**	1.0%	1.0%	1.7%	1.6%	1.2%	6.5%
Statewide	2.0%	1.6%	2.0%	1.8%	1.5%	8.8%

Statewide Traffic Trends

This chart shows yearly changes from 1986 to 2006, and a 20-year cumulative trend for the same period.

**Statewide Traffic Trends
Annual and Cumulative Growth
Base Year: 1986**

Year	Current Year	Cumulative Total
2006	1.5%	60.3%
2005	1.8%	57.9%
2004	2.0%	55.1%
2003	2.0%	52.1%
2002	2.0%	49.1%
2001	1.0%	46.2%
2000	0.5%	44.7%
1999	2.0%	44.0%
1998	2.0%	41.2%
1997	2.0%	38.4%
1996	2.0%	35.7%
1995	3.0%	33.0%
1994	2.0%	29.2%
1993	2.0%	26.6%
1992	2.0%	24.2%
1991	2.0%	21.7%
1990	4.0%	19.3%
1989	4.0%	14.7%
1988	3.0%	10.3%
1987	3.0%	7.1%
1986	4.0%	4.0%

Percent Growth

Heaviest Holiday Travel Periods: 2006

The 60 ATRs were used to calculate the holidays having the highest seven-day periods of traffic. The highest seven-day holiday periods and the highest day within the seven-day holiday period (total traffic at all ATR stations) are shown on the chart below:

Highest Holiday Periods

	Independence Day	Thanksgiving	Memorial Day	Labor Day	Christmas	New Year's Day
Highest Holiday (Day)	1,252,903	1,231,722	1,228,346	1,222,212	1,152,215	1,080,630
Highest Holiday Period (7-Day)	7,157,181	6,905,889	7,276,090	6,949,487	6,535,556	6,339,447

The chart indicates that Memorial Day had the highest seven-day holiday period in 2006 with a total volume of 7,276,090. Independence Day ranked second (7,157,181) followed by Labor Day (6,949,487) and Thanksgiving (6,905,889). Christmas and New Year's Day ranked fifth (6,535,556) and sixth (6,339,447) respectively.

The highest day during a seven-day holiday period in 2006 was the Friday before Independence Day (June 30, 2006), which had a volume of 1,252,903. The second highest day was the Wednesday before Thanksgiving (November 22, 2006), which had a volume of 1,231,722. The Friday before Memorial Day, (May 26, 2006), ranked third (1,228,346), while the Friday before Labor Day, (September 1, 2006) ranked fourth (1,222,212). The Friday before Christmas ranked fifth (1,152,215), while the Friday before New Year's Day ranked sixth (1,080,630).

Heaviest Holiday Travel Period Comparisons: 2005-2006

Highest Holiday (Day)			
2005		**2006**	
Holiday	**Total Volume**	**Holiday**	**Total Volume**
1. Memorial Day	1,240,912	1. Independence Day	1,252,903
2. Independence Day	1,239,516	2. Thanksgiving	1,231,722
3. Thanksgiving	1,218,479	3. Memorial Day	1,228,346
4. Labor Day	1,211,255	4. Labor Day	1,222,212
5. Christmas	1,127,546	5. Christmas	1,152,215
6. New Year's Day	1,073,504	6. New Year's Day	1,080,630

Highest Holiday Period (7-Day)			
2005		**2006**	
Holiday	**Total Volume**	**Holiday**	**Total Volume**
1. Independence Day	7,287,645	1. Memorial Day	7,276,090
2. Memorial Day	7,149,396	2. Independence Day	7,157,181
3. Labor Day	7,072,801	3. Labor Day	6,949,487
4. Thanksgiving	6,730,351	4. Thanksgiving	6,905,889
5. Christmas	6,553,892	5. Christmas	6,535,556
6. New Year's Day	6,332,887	6. New Year's Day	6,339,447

Factoring Process: Traffic Adjustment Factors

Traffic Adjustment Factors
Traffic Adjustment Factors are numbers that are used to create traffic statistics representing an average day. Factors are generated by applying statistical methods and programs to raw traffic counts. The different procedures used to factor counts depend on the following outcomes:

24-Hour Total Traffic and Truck Traffic Estimation
Count data less than 24-hours (short term counts) must first be expanded to a 24-hour total, which is accomplished through the use of hourly percentage tables. Separate tables are utilized for total vehicles and truck data application.

AADT and ADTT Estimation
A 24-hour count is processed to an Annual Average Daily Traffic (AADT) and Average Daily Truck Traffic (ADTT) through the application of a "day of week by month" factor. Separate tables are utilized for total vehicle and truck data application.

Axle Correction
Axle volume count data is collected by counting the number of axles striking a single pneumatic tube stretched across a section of highway and dividing by two. This type of data must be corrected to compensate for vehicles containing more than two axles (specifically truck data) to obtain a representative number of vehicles actually traveling that road section. This representation is obtained through the application of an axle correction factor.

Equivalent Single Axle Load Adjustment (ESAL)
ESAL adjustment factors are applied to the ADTT for each type of truck classification, to determine the loading effect these truck classes have on the pavement. Two separate calculations are performed: one for rigid type pavement (concrete) and one for flexible type pavement (bituminous). The 2002 FHWA Pavement Design Guide has incorporated improved methods of determining loading effects of traffic. In the future, these new methods may supercede the use of ESAL factors (see New Developments and Enhancements, page 3).

Growth Factor
If the count to be analyzed was taken earlier than the current year, a regional growth trend is applied to project the older count data to a representative current year estimate. Regional growth trends are established based on Functional Class Group (FCG).

Design Hour Volume Factor, DHV(K)
The K-factor represents the percentage of AADT during the design hour. It is calculated by dividing the peak hour volume by the AADT. A 24-hour count is required to calculate the K-factor. If this condition is not met (in the case of manual counts), a default value is applied. The default value is calculated from the 60 ATR stations using the 30th highest hour and is established based on Traffic Pattern Group (TPG).

Table 350
Hourly Percentages Compiled for Total Vehicles

The following table shows hourly percentages of total vehicles sorted by Traffic Pattern Group (TPG) for the year 2006. Factors from this table are applied to raw traffic counts of less than 24 hours, which may include volume counts (axle and loop), automatic vehicle classification (AVC), or manual classification counts. Hourly percentages from this table are applied to the known hour periods of the raw count, converting it to a 24-hour total.

The factors were developed using the Department's Traffic Information System (TIS), a PC-based computer application. Raw count data from 1,700 raw AVC counts, collected statewide and averaged over the last five years, was assigned to the respective TPG and a summary was produced showing the hourly percentage tables by direction (applied to divided roadways).

Hourly Percentages: Total Vehicles							
TPG 1				**TPG 2**			
HOUR	**DIR 1**	**DIR 2**	**TOTAL**	**HOUR**	**DIR 1**	**DIR 2**	**TOTAL**
1	1.22%	1.36%	1.23%	1	1.53%	1.91%	1.82%
2	0.94%	0.99%	0.90%	2	1.26%	1.60%	1.50%
3	0.86%	0.90%	0.81%	3	1.19%	1.52%	1.39%
4	0.91%	0.95%	0.85%	4	1.21%	1.54%	1.40%
5	1.26%	1.19%	1.12%	5	1.43%	1.75%	1.58%
6	2.55%	2.09%	2.24%	6	2.35%	2.39%	2.27%
7	5.64%	4.06%	4.81%	7	4.02%	3.73%	3.59%
8	7.72%	5.29%	6.60%	8	5.42%	4.54%	4.66%
9	6.64%	5.02%	5.87%	9	5.19%	4.73%	4.81%
10	5.45%	4.84%	5.13%	10	5.40%	4.90%	5.12%
11	5.34%	4.92%	5.10%	11	5.79%	5.19%	5.47%
12	5.36%	5.16%	5.28%	12	6.03%	5.30%	5.69%
13	5.43%	5.40%	5.44%	13	5.96%	5.38%	5.72%
14	5.43%	5.56%	5.51%	14	6.00%	5.68%	5.89%
15	5.88%	6.21%	6.03%	15	6.28%	6.18%	6.26%
16	6.51%	7.44%	6.98%	16	6.65%	6.89%	6.77%
17	6.55%	8.31%	7.47%	17	6.80%	7.52%	7.04%
18	6.34%	7.81%	7.21%	18	6.22%	6.82%	6.49%
19	5.25%	5.66%	5.54%	19	5.06%	5.28%	5.31%
20	4.06%	4.47%	4.35%	20	4.22%	4.28%	4.40%
21	3.38%	3.95%	3.71%	21	3.70%	3.85%	3.92%
22	2.97%	3.55%	3.28%	22	3.26%	3.50%	3.51%
23	2.44%	2.77%	2.59%	23	2.81%	3.01%	2.96%
24	1.86%	2.11%	1.95%	24	2.25%	2.51%	2.43%
TOTAL	**100.00%**	**100.00%**	**100.00%**	**TOTAL**	**100.00%**	**100.00%**	**100.00%**

Table 350
Hourly Percentages Compiled for Total Vehicles (Continued)

Hourly Percentages: Total Vehicles							
TPG 3				**TPG 4**			
HOUR	**DIR 1**	**DIR 2**	**TOTAL**	**HOUR**	**DIR 1**	**DIR 2**	**TOTAL**
1	0.75%	1.03%	0.83%	1	0.88%	1.03%	0.83%
2	0.48%	0.61%	0.51%	2	0.60%	0.69%	0.56%
3	0.43%	0.48%	0.42%	3	0.53%	0.59%	0.49%
4	0.50%	0.46%	0.44%	4	0.62%	0.63%	0.56%
5	0.94%	0.67%	0.75%	5	1.09%	0.91%	0.99%
6	2.66%	1.61%	2.04%	6	2.86%	2.07%	2.43%
7	6.29%	3.63%	4.77%	7	5.73%	3.75%	4.73%
8	8.60%	5.42%	6.73%	8	7.35%	5.06%	6.07%
9	7.10%	5.08%	5.97%	9	6.33%	4.99%	5.57%
10	5.41%	4.63%	5.09%	10	5.53%	4.75%	5.27%
11	5.14%	4.67%	5.08%	11	5.38%	4.85%	5.39%
12	5.25%	5.07%	5.41%	12	5.53%	5.16%	5.60%
13	5.48%	5.37%	5.70%	13	5.75%	5.40%	5.81%
14	5.53%	5.54%	5.73%	14	5.87%	5.75%	5.98%
15	6.04%	6.38%	6.31%	15	6.22%	6.49%	6.57%
16	6.69%	8.21%	7.34%	16	6.77%	8.16%	7.55%
17	6.91%	9.29%	7.85%	17	7.07%	8.92%	7.90%
18	6.70%	9.08%	7.68%	18	6.69%	8.56%	7.40%
19	5.33%	6.25%	5.91%	19	5.22%	5.96%	5.57%
20	4.05%	4.69%	4.57%	20	4.05%	4.53%	4.35%
21	3.30%	4.01%	3.81%	21	3.31%	4.03%	3.67%
22	2.80%	3.48%	3.18%	22	2.89%	3.51%	3.04%
23	2.18%	2.46%	2.28%	23	2.22%	2.49%	2.18%
24	1.45%	1.88%	1.58%	24	1.51%	1.73%	1.49%
TOTAL	**100.00%**	**100.00%**	**100.00%**	**TOTAL**	**100.00%**	**100.00%**	**100.00%**

Table 350
Hourly Percentages Compiled for Total Vehicles (Continued)

Hourly Percentages: Total Vehicles							
TPG 5				TPG 6			
HOUR	DIR 1	DIR 2	TOTAL	HOUR	DIR 1	DIR 2	TOTAL
1	0.80%	1.10%	0.75%	1	1.06%	0.89%	0.81%
2	0.48%	0.65%	0.43%	2	0.66%	0.55%	0.51%
3	0.40%	0.52%	0.34%	3	0.53%	0.47%	0.45%
4	0.43%	0.51%	0.34%	4	0.65%	0.58%	0.50%
5	0.78%	0.71%	0.62%	5	0.85%	0.81%	0.91%
6	2.21%	1.71%	1.80%	6	1.82%	1.68%	2.15%
7	5.32%	3.72%	4.43%	7	4.02%	3.69%	4.24%
8	7.54%	5.21%	6.43%	8	5.52%	6.07%	5.66%
9	6.71%	4.96%	5.77%	9	5.77%	5.23%	5.47%
10	5.41%	4.72%	4.99%	10	5.59%	4.85%	5.38%
11	5.09%	4.66%	5.01%	11	5.18%	5.10%	5.56%
12	5.44%	5.06%	5.46%	12	5.54%	5.36%	5.84%
13	5.69%	5.65%	5.87%	13	5.84%	5.99%	6.10%
14	5.72%	5.59%	5.76%	14	6.06%	5.99%	6.22%
15	6.02%	6.19%	6.34%	15	6.32%	6.79%	6.86%
16	6.86%	7.76%	7.51%	16	6.94%	8.44%	7.89%
17	7.15%	8.82%	8.09%	17	7.15%	8.61%	8.04%
18	6.93%	8.68%	7.91%	18	7.20%	8.59%	7.29%
19	5.64%	6.38%	6.16%	19	6.41%	5.92%	5.58%
20	4.63%	4.92%	4.91%	20	4.97%	4.36%	4.42%
21	3.80%	4.12%	4.10%	21	4.05%	3.64%	3.69%
22	3.14%	3.57%	3.24%	22	3.18%	2.83%	2.92%
23	2.32%	2.76%	2.25%	23	2.82%	2.08%	2.11%
24	1.50%	2.02%	1.48%	24	1.88%	1.47%	1.42%
TOTAL	100.00%	100.00%	100.00%	TOTAL	100.00%	100.00%	100.00%

Table 350
Hourly Percentages Compiled for Total Vehicles (Continued)

Hourly Percentages: Total Vehicles							
TPG 7				**TPG 8**			
HOUR	DIR 1	DIR 2	TOTAL	HOUR	DIR 1	DIR 2	TOTAL
1	0.86%	1.02%	0.80%	1	0.63%	0.91%	0.78%
2	0.52%	0.66%	0.49%	2	0.34%	0.62%	0.48%
3	0.46%	0.53%	0.42%	3	0.32%	0.40%	0.39%
4	0.54%	0.51%	0.47%	4	0.43%	0.37%	0.41%
5	1.04%	0.75%	0.88%	5	0.74%	0.77%	0.72%
6	2.77%	1.67%	2.44%	6	2.25%	1.41%	1.95%
7	5.78%	3.42%	4.98%	7	5.53%	3.27%	4.37%
8	7.38%	4.89%	6.24%	8	7.54%	5.52%	6.11%
9	6.31%	4.52%	5.40%	9	5.90%	4.91%	5.60%
10	5.50%	4.50%	5.05%	10	5.29%	4.61%	5.10%
11	5.30%	4.76%	5.17%	11	5.30%	5.07%	5.21%
12	5.62%	5.15%	5.43%	12	5.68%	5.53%	5.56%
13	5.96%	5.65%	5.83%	13	6.15%	5.87%	5.90%
14	5.78%	5.72%	5.74%	14	5.88%	5.97%	5.92%
15	6.39%	6.78%	6.45%	15	6.09%	6.44%	6.52%
16	7.01%	8.79%	7.64%	16	6.85%	8.20%	7.69%
17	7.15%	9.92%	8.11%	17	7.36%	8.52%	8.07%
18	6.49%	9.04%	7.59%	18	7.09%	8.36%	7.64%
19	5.09%	5.95%	5.73%	19	5.74%	6.47%	6.00%
20	3.99%	4.58%	4.49%	20	4.69%	5.00%	4.79%
21	3.52%	3.79%	3.81%	21	3.91%	4.36%	4.00%
22	2.88%	3.17%	3.10%	22	2.99%	3.58%	3.17%
23	2.15%	2.41%	2.23%	23	1.96%	2.31%	2.18%
24	1.48%	1.79%	1.50%	24	1.33%	1.54%	1.44%
TOTAL	**100.00%**	**100.00%**	**100.00%**	**TOTAL**	**100.00%**	**100.00%**	**100.00%**

Table 350
Hourly Percentages Compiled for Total Vehicles (Continued)

Hourly Percentages: Total Vehicles							
TPG 9				**TPG 10**			
HOUR	**DIR 1**	**DIR 2**	**TOTAL**	**HOUR**	**DIR 1**	**DIR 2**	**TOTAL**
1	0.86%	1.15%	0.81%	1	0.00%	0.00%	0.71%
2	0.51%	0.68%	0.48%	2	0.00%	0.00%	0.43%
3	0.42%	0.55%	0.40%	3	0.00%	0.00%	0.30%
4	0.53%	0.55%	0.42%	4	0.00%	0.00%	0.36%
5	0.95%	0.80%	0.76%	5	0.00%	0.00%	0.70%
6	2.66%	1.83%	2.11%	6	0.00%	0.00%	1.53%
7	6.16%	3.78%	4.64%	7	0.00%	0.00%	3.25%
8	7.91%	5.10%	6.27%	8	0.00%	0.00%	5.36%
9	6.87%	4.98%	5.57%	9	0.00%	0.00%	5.53%
10	5.57%	4.58%	4.97%	10	0.00%	0.00%	5.64%
11	5.24%	4.56%	5.01%	11	0.00%	0.00%	5.89%
12	5.14%	4.86%	5.31%	12	0.00%	0.00%	6.38%
13	5.39%	5.28%	5.65%	13	0.00%	0.00%	6.41%
14	5.57%	5.37%	5.66%	14	0.00%	0.00%	6.74%
15	5.81%	6.15%	6.31%	15	0.00%	0.00%	7.10%
16	6.32%	7.82%	7.60%	16	0.00%	0.00%	7.87%
17	6.68%	8.74%	8.09%	17	0.00%	0.00%	8.08%
18	6.71%	8.66%	7.78%	18	0.00%	0.00%	7.22%
19	5.63%	6.29%	6.14%	19	0.00%	0.00%	5.71%
20	4.50%	5.15%	4.86%	20	0.00%	0.00%	4.84%
21	3.54%	4.38%	4.07%	21	0.00%	0.00%	3.73%
22	3.12%	3.85%	3.25%	22	0.00%	0.00%	2.85%
23	2.39%	2.81%	2.30%	23	0.00%	0.00%	2.03%
24	1.51%	2.09%	1.53%	24	0.00%	0.00%	1.33%
TOTAL	**100.00%**	**100.00%**	**100.00%**	**TOTAL**	**0.00%**	**0.00%**	**100.00%**

Table 360
Hourly Percentages Compiled for Truck Traffic

The following four tables and chart show hourly percentages of truck traffic sorted by Maintenance Functional Class (MFC). These tables are applied separately to raw truck data of less than 24-hours, including both AVC and manual counts. Manual classification counts are the primary source of data using these tables. The hourly percentages are calculated from these tables and applied to the sum of the known hour periods and in turn converted to a 24-hour truck total.

The factors were developed using 1,700 AVC counts, collected and verified over the last five years. The raw count data was assigned to the respective TPG, the truck data was extracted by vehicle type, TIS generated a summary showing the hourly percentage table by direction (applied to divided roadways). Truck data is tabulated according to MFC. Hourly weekday truck distribution provides evidence that the hourly percentage changes by MFC provide a valid breakdown of groups. Therefore, a summary was produced converting the TPGs to comparable MFC groups to be consistent with the characteristics of the 2006 Hourly Percentages (Truck Traffic) tables.

TPG 1 & 2				TPG 3 & 4			
MAINTENANCE FUNCTIONAL CLASS A (INTERSTATES)				MAINTENANCE FUNCTIONAL CLASS B (PRINCIPAL ARTERIALS)			
HOUR	DIR 1	DIR 2	TOTAL	HOUR	DIR 1	DIR 2	TOTAL
1	2.79%	3.27%	2.98%	1	1.33%	1.59%	1.25%
2	2.49%	3.15%	2.73%	2	1.22%	1.50%	1.19%
3	2.43%	2.96%	2.65%	3	1.26%	1.60%	1.27%
4	2.46%	3.11%	2.72%	4	1.52%	1.83%	1.55%
5	2.68%	3.26%	2.92%	5	2.06%	2.34%	2.09%
6	2.97%	3.55%	3.28%	6	3.16%	3.34%	3.17%
7	3.61%	3.99%	3.87%	7	4.80%	4.80%	4.87%
8	4.07%	4.31%	4.27%	8	6.09%	5.67%	6.14%
9	4.41%	4.54%	4.53%	9	6.73%	6.21%	6.71%
10	4.91%	4.74%	4.84%	10	6.45%	6.24%	6.64%
11	5.19%	4.74%	5.05%	11	6.69%	6.40%	6.80%
12	5.50%	4.71%	5.13%	12	6.69%	6.37%	6.80%
13	5.34%	4.72%	5.10%	13	6.73%	6.51%	6.73%
14	5.40%	4.83%	5.15%	14	6.68%	6.61%	6.76%
15	5.56%	4.91%	5.24%	15	6.68%	6.70%	6.85%
16	5.59%	5.00%	5.25%	16	6.55%	6.38%	6.59%
17	5.53%	4.79%	5.11%	17	5.78%	5.73%	5.73%
18	5.12%	4.60%	4.88%	18	4.83%	4.70%	4.71%
19	4.79%	4.51%	4.62%	19	3.73%	3.70%	3.59%
20	4.53%	4.39%	4.39%	20	2.93%	2.98%	2.81%
21	4.14%	4.14%	4.17%	21	2.47%	2.58%	2.39%
22	3.82%	4.19%	4.00%	22	2.19%	2.34%	2.08%
23	3.54%	3.95%	3.74%	23	1.87%	2.06%	1.77%
24	3.15%	3.64%	3.38%	24	1.59%	1.81%	1.52%
TOTAL	100.00%	100.00%	100.00%	TOTAL	100.00%	100.00%	100.00%

Table 360
Hourly Percentages Compiled for Truck Traffic (Continued)

TPG 5, 6 & 7				TPG 8 & 9			
MAINTENANCE FUNCTIONAL CLASS C				MAINTENANCE FUNCTIONAL CLASS D, E & F			
(MINOR ARTERIALS)				(RURAL COLLECTORS)			
HOUR	DIR 1	DIR 2	TOTAL	HOUR	DIR 1	DIR 2	TOTAL
1	1.08%	1.69%	0.91%	1	1.23%	2.01%	1.04%
2	0.93%	1.65%	0.83%	2	1.07%	1.73%	0.93%
3	0.95%	1.75%	0.87%	3	1.03%	1.83%	0.95%
4	1.11%	2.10%	1.08%	4	1.36%	2.20%	1.17%
5	1.60%	2.29%	1.53%	5	1.80%	2.39%	1.62%
6	2.56%	3.17%	2.69%	6	2.72%	3.54%	2.77%
7	4.48%	4.38%	4.87%	7	4.85%	5.32%	4.90%
8	6.47%	5.75%	6.71%	8	5.87%	6.24%	6.60%
9	7.10%	6.20%	7.10%	9	6.30%	6.13%	6.83%
10	6.88%	6.36%	6.81%	10	6.75%	6.56%	6.56%
11	6.97%	6.35%	6.81%	11	6.60%	6.17%	6.67%
12	7.05%	6.24%	6.94%	12	6.57%	5.73%	6.70%
13	6.92%	6.29%	6.83%	13	6.82%	5.64%	6.65%
14	6.81%	6.44%	6.91%	14	6.77%	6.10%	6.78%
15	6.96%	6.51%	7.26%	15	6.88%	5.88%	7.13%
16	7.11%	6.23%	7.32%	16	6.49%	5.94%	7.30%
17	6.32%	5.74%	6.26%	17	5.99%	5.56%	6.22%
18	4.85%	4.90%	4.95%	18	5.16%	4.60%	4.95%
19	3.62%	3.72%	3.63%	19	4.15%	3.94%	3.78%
20	2.92%	3.07%	2.82%	20	3.18%	3.26%	2.98%
21	2.38%	2.61%	2.30%	21	2.63%	2.79%	2.49%
22	2.06%	2.35%	1.88%	22	2.28%	2.62%	2.03%
23	1.57%	2.19%	1.49%	23	1.92%	2.15%	1.63%
24	1.31%	2.01%	1.20%	24	1.56%	1.68%	1.33%
TOTAL	100.00%	100.00%	100.00%	TOTAL	100.00%	100.00%	100.00%

Hourly Percentages Charts

Hourly Percentages: Total Vehicles
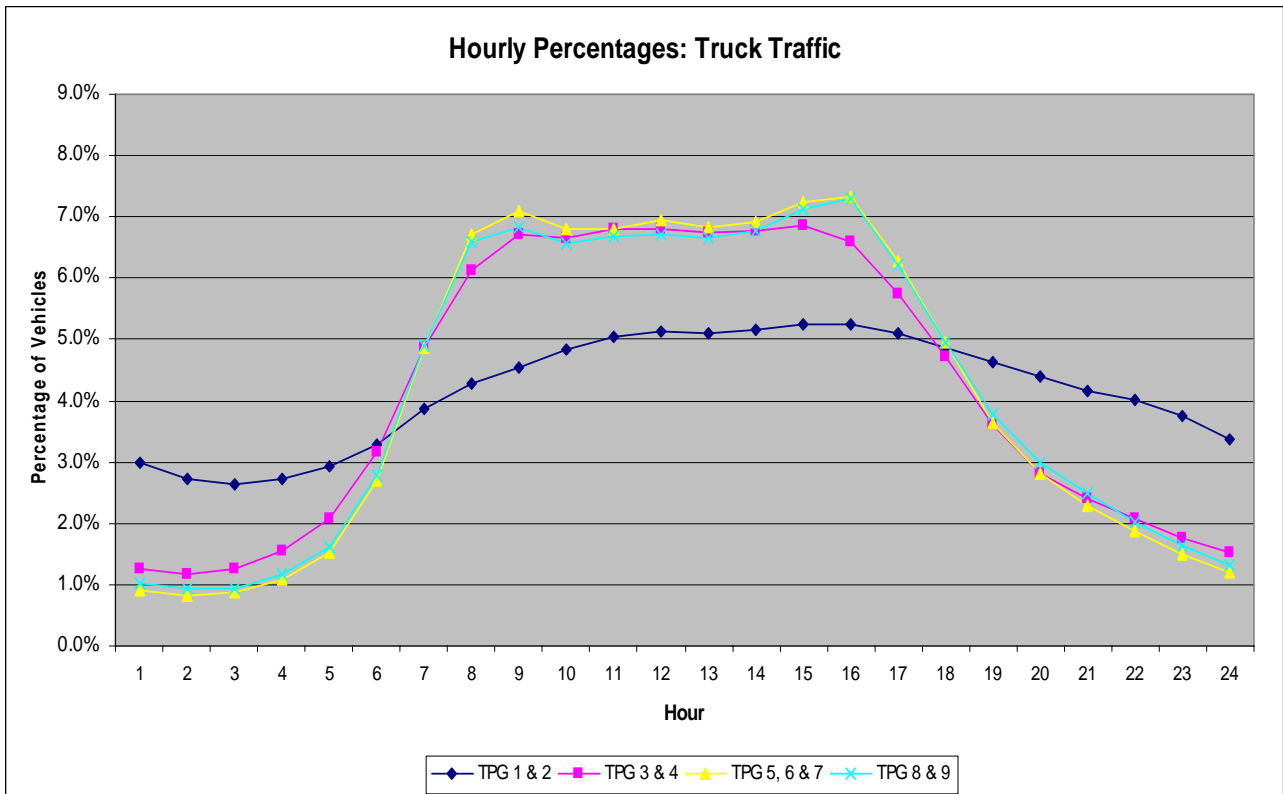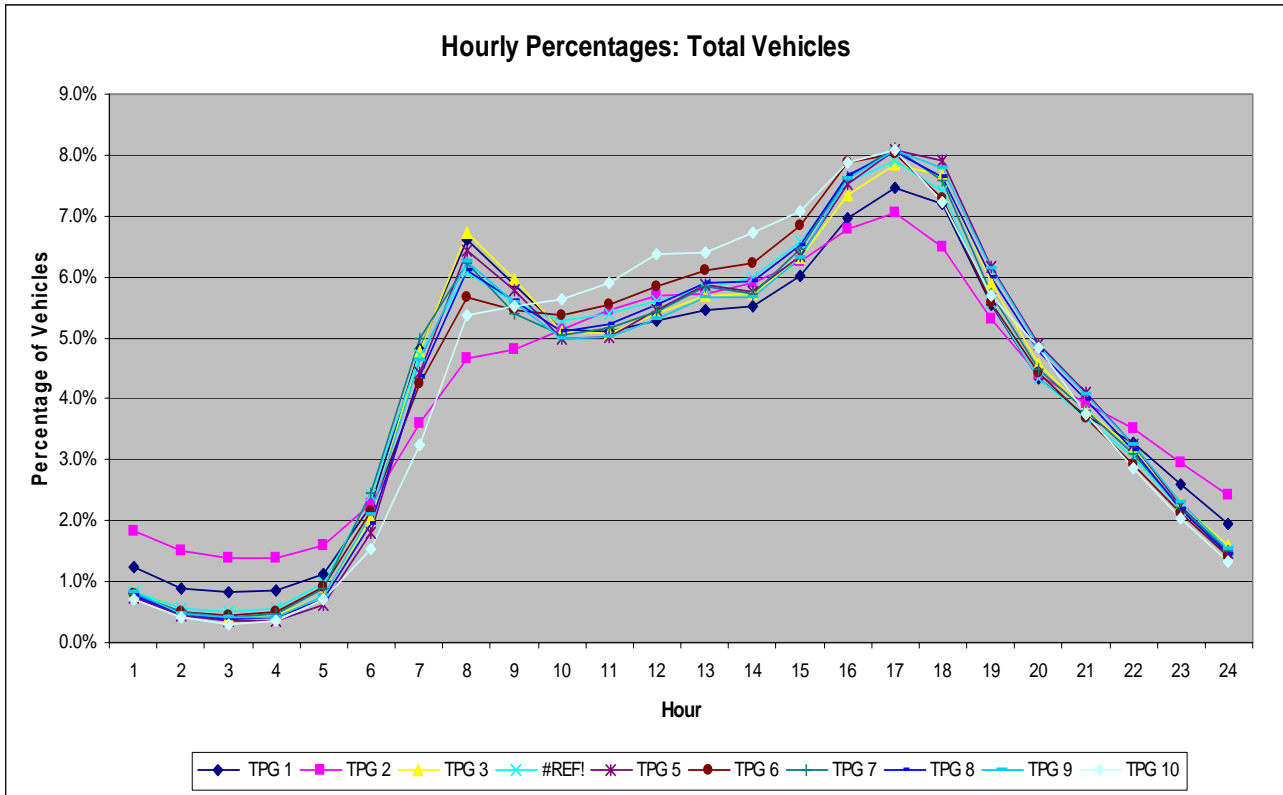

Hourly Percentages: Truck Traffic

Table 355
Average Day of Week by Month Factors Compiled for Total Vehicles

The following 12 tables show average day of week factors by month compiled for total vehicles for the year 2006. Current year ATR traffic data is assembled and the data is placed in the respective TPG. Annual Average Daily Traffic (AADT) is tabulated individually for each of the 60 ATR stations. A factor is calculated for each day from each station and a list is tabulated by month and day of the week. This data is assembled by day and TPG for each station. The result is a group factor, which can be applied to a 24-hour raw traffic count taken during any day of the year to develop an AADT volume.

January 2006										
DAY	TPG 1	TPG 2	TPG 3	TPG 4	TPG 5	TPG 6	TPG 7	TPG 8	TPG 9	TPG 10
Monday	1.120	1.290	1.064	1.151	1.146	1.264	1.166	1.234	1.152	1.329
Tuesday	1.092	1.294	0.992	1.108	1.085	1.226	1.122	1.194	1.096	1.277
Wednesday	1.048	1.308	0.993	1.125	1.095	1.225	1.100	1.211	1.094	1.378
Thursday	1.028	1.257	0.966	1.085	1.075	1.197	1.078	1.194	1.074	1.270
Friday	0.973	1.121	0.934	0.997	1.038	1.067	1.008	1.077	1.020	1.158
Saturday	1.315	1.438	1.325	1.316	1.224	1.442	1.225	1.308	1.282	1.230
Sunday	1.482	1.387	1.687	1.441	1.364	1.629	1.448	1.498	1.502	1.331
DAY OF MONTH	1.151	1.299	1.137	1.175	1.147	1.293	1.164	1.245	1.174	1.282

February 2006										
DAY	TPG 1	TPG 2	TPG 3	TPG 4	TPG 5	TPG 6	TPG 7	TPG 8	TPG 9	TPG 10
Monday	1.054	1.255	1.016	1.117	1.129	1.186	1.106	1.198	1.109	1.306
Tuesday	1.043	1.285	0.963	1.080	1.073	1.146	1.080	1.152	1.054	1.246
Wednesday	1.004	1.239	0.935	1.062	1.049	1.135	1.034	1.147	1.032	1.227
Thursday	0.983	1.180	0.927	1.039	1.047	1.086	1.032	1.106	1.024	1.206
Friday	0.933	1.066	0.895	0.947	0.998	0.989	0.989	1.024	0.997	0.929
Saturday	1.225	1.371	1.232	1.209	1.151	1.300	1.161	1.235	1.213	1.138
Sunday	1.345	1.287	1.475	1.347	1.268	1.442	1.334	1.445	1.411	1.381
DAY OF MONTH	1.084	1.240	1.063	1.114	1.102	1.183	1.105	1.187	1.120	1.205

Table 355
Average Day of Week by Month Factors Compiled for Total Vehicles (Continued)

DAY	TPG 1	TPG 2	TPG 3	TPG 4	TPG 5	TPG 6	TPG 7	TPG 8	TPG 9	TPG 10
March 2006										
Monday	1.016	1.187	0.980	1.060	1.048	1.118	1.093	1.122	1.023	1.261
Tuesday	0.998	1.193	0.955	1.049	1.031	1.107	1.077	1.105	0.999	1.206
Wednesday	0.969	1.150	0.935	1.031	1.015	1.098	1.035	1.109	0.991	1.238
Thursday	0.944	1.096	0.927	1.008	1.009	1.063	1.027	1.074	0.989	1.225
Friday	0.908	0.980	0.892	0.922	0.947	0.956	0.959	1.004	0.934	1.107
Saturday	1.175	1.237	1.192	1.133	1.086	1.228	1.106	1.166	1.119	1.162
Sunday	1.242	1.149	1.534	1.266	1.173	1.348	1.242	1.283	1.275	1.066
DAY OF MONTH	1.036	1.142	1.059	1.067	1.044	1.131	1.077	1.123	1.047	1.181

DAY	TPG 1	TPG 2	TPG 3	TPG 4	TPG 5	TPG 6	TPG 7	TPG 8	TPG 9	TPG 10
April 2006										
Monday	0.969	1.082	0.934	0.976	0.961	0.999	0.995	1.005	0.953	1.120
Tuesday	0.954	1.102	0.905	0.976	0.947	1.003	0.973	1.001	0.928	1.075
Wednesday	0.932	1.063	0.890	0.958	0.929	0.997	0.929	0.983	0.914	1.088
Thursday	0.907	0.992	0.875	0.930	0.923	0.947	0.931	0.954	0.899	1.041
Friday	0.888	0.864	0.866	0.859	0.888	0.859	0.875	0.882	0.857	0.962
Saturday	1.126	1.098	1.160	1.045	0.995	1.069	1.003	1.024	1.024	1.003
Sunday	1.162	1.015	1.360	1.098	1.049	1.108	1.110	1.084	1.117	1.184
DAY OF MONTH	0.991	1.031	0.999	0.978	0.956	0.997	0.974	0.991	0.956	1.068

DAY	TPG 1	TPG 2	TPG 3	TPG 4	TPG 5	TPG 6	TPG 7	TPG 8	TPG 9	TPG 10
May 2006										
Monday	1.002	1.008	0.917	0.972	0.975	0.959	0.986	0.924	0.942	1.010
Tuesday	0.947	1.042	0.886	0.955	0.920	0.941	0.936	0.909	0.897	0.965
Wednesday	0.925	1.028	0.871	0.942	0.906	0.930	0.904	0.887	0.884	0.971
Thursday	0.896	0.946	0.861	0.912	0.894	0.893	0.900	0.861	0.871	0.934
Friday	0.879	0.831	0.841	0.841	0.862	0.802	0.824	0.803	0.832	0.845
Saturday	1.105	1.027	1.137	0.996	0.957	0.987	0.962	0.887	0.999	0.833
Sunday	1.133	0.971	1.331	1.057	1.045	1.009	1.053	0.934	1.092	0.698
DAY OF MONTH	0.984	0.979	0.978	0.953	0.937	0.932	0.938	0.886	0.931	0.894

Table 355
Average Day of Week by Month Factors Compiled for Total Vehicles
(Continued)

June 2006										
DAY	**TPG 1**	**TPG 2**	**TPG 3**	**TPG 4**	**TPG 5**	**TPG 6**	**TPG 7**	**TPG 8**	**TPG 9**	**TPG 10**
Monday	0.926	0.952	0.911	0.946	0.918	0.913	0.976	0.902	0.915	0.913
Tuesday	0.914	0.994	0.886	0.944	0.909	0.918	0.955	0.905	0.896	0.892
Wednesday	0.898	0.964	0.872	0.928	0.904	0.909	0.924	0.895	0.885	0.902
Thursday	0.877	0.891	0.861	0.908	0.899	0.873	0.929	0.873	0.872	0.879
Friday	0.849	0.762	0.852	0.841	0.868	0.813	0.872	0.801	0.832	0.777
Saturday	1.080	0.945	1.146	0.997	0.966	0.989	0.991	0.908	0.998	0.786
Sunday	1.066	0.882	1.271	1.018	0.986	0.964	0.983	0.940	1.090	0.927
DAY OF MONTH	0.944	0.913	0.971	0.940	0.921	0.911	0.947	0.889	0.927	0.868

July 2006										
DAY	**TPG 1**	**TPG 2**	**TPG 3**	**TPG 4**	**TPG 5**	**TPG 6**	**TPG 7**	**TPG 8**	**TPG 9**	**TPG 10**
Monday	0.941	0.891	0.971	0.947	0.941	0.894	0.947	0.917	0.930	0.825
Tuesday	0.934	0.937	0.941	0.927	0.913	0.888	0.917	0.912	0.899	0.803
Wednesday	0.906	0.913	0.922	0.912	0.919	0.877	0.877	0.895	0.897	0.812
Thursday	0.878	0.841	0.910	0.885	0.908	0.856	0.885	0.873	0.895	0.783
Friday	0.861	0.724	0.890	0.855	0.884	0.783	0.836	0.814	0.863	0.696
Saturday	1.059	0.835	1.204	0.973	0.999	0.925	0.936	0.898	1.002	0.631
Sunday	1.073	0.806	1.418	0.984	1.035	0.887	0.961	0.936	1.086	0.799
DAY OF MONTH	0.950	0.850	1.037	0.926	0.943	0.873	0.908	0.892	0.939	0.764

August 2006										
DAY	**TPG 1**	**TPG 2**	**TPG 3**	**TPG 4**	**TPG 5**	**TPG 6**	**TPG 7**	**TPG 8**	**TPG 9**	**TPG 10**
Monday	0.919	0.891	0.940	0.939	0.945	0.899	0.949	0.926	0.926	0.823
Tuesday	0.914	0.940	0.909	0.932	0.919	0.906	0.929	0.914	0.901	0.811
Wednesday	0.891	0.910	0.896	0.916	0.921	0.891	0.898	0.907	0.891	0.806
Thursday	0.865	0.839	0.885	0.890	0.912	0.856	0.896	0.882	0.876	0.790
Friday	0.836	0.716	0.880	0.838	0.890	0.776	0.845	0.817	0.839	0.702
Saturday	1.022	0.830	1.189	0.953	0.997	0.907	0.963	0.929	1.005	0.684
Sunday	1.000	0.809	1.147	0.964	1.043	0.889	0.983	0.939	1.080	0.803
DAY OF MONTH	0.921	0.848	0.978	0.919	0.947	0.875	0.923	0.902	0.931	0.774

Table 355
Average Day of Week by Month Factors Compiled for Total Vehicles
(Continued)

September 2006										
DAY	TPG 1	TPG 2	TPG 3	TPG 4	TPG 5	TPG 6	TPG 7	TPG 8	TPG 9	TPG 10
Monday	1.011	1.031	1.019	0.979	0.986	0.978	1.008	1.008	0.968	1.003
Tuesday	0.963	1.073	0.912	0.957	0.947	0.946	0.966	0.978	0.928	0.986
Wednesday	0.939	1.059	0.896	0.948	0.946	0.952	0.930	0.974	0.914	0.991
Thursday	0.919	0.987	0.886	0.929	0.936	0.917	0.940	0.937	0.907	0.977
Friday	0.858	0.835	0.852	0.846	0.893	0.831	0.869	0.876	0.867	0.886
Saturday	1.110	1.029	1.177	1.004	1.013	0.999	0.988	0.994	1.034	0.882
Sunday	1.158	0.949	1.409	1.050	1.092	1.014	1.102	1.037	1.153	0.828
DAY OF MONTH	0.994	0.995	1.022	0.959	0.973	0.948	0.972	0.972	0.967	0.936

October 2006										
DAY	TPG 1	TPG 2	TPG 3	TPG 4	TPG 5	TPG 6	TPG 7	TPG 8	TPG 9	TPG 10
Monday	0.957	1.033	0.928	0.963	0.984	0.965	0.990	1.004	0.959	1.029
Tuesday	0.953	1.092	0.898	0.959	0.962	0.965	0.969	0.995	0.936	1.028
Wednesday	0.946	1.068	0.885	0.955	0.951	0.972	0.937	0.991	0.926	1.036
Thursday	0.909	0.979	0.870	0.919	0.945	0.913	0.930	0.948	0.907	0.994
Friday	0.853	0.843	0.845	0.851	0.905	0.833	0.861	0.880	0.859	0.893
Saturday	1.098	1.059	1.161	1.018	1.028	1.023	0.998	1.013	1.055	0.929
Sunday	1.122	0.937	1.346	1.024	1.045	1.003	1.080	1.045	0.990	1.092
DAY OF MONTH	0.977	1.002	0.991	0.956	0.974	0.953	0.966	0.982	0.947	1.000

Table 355
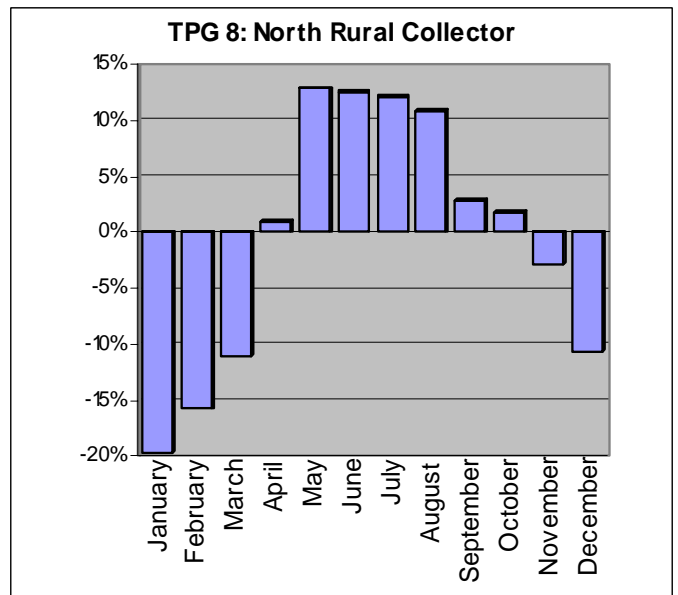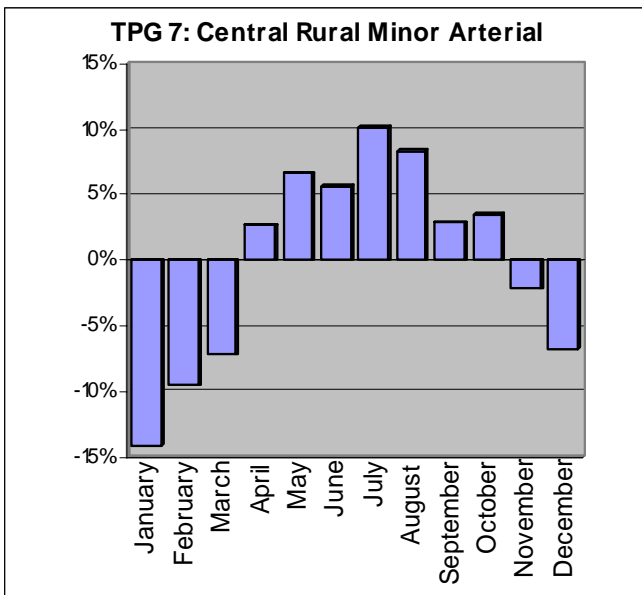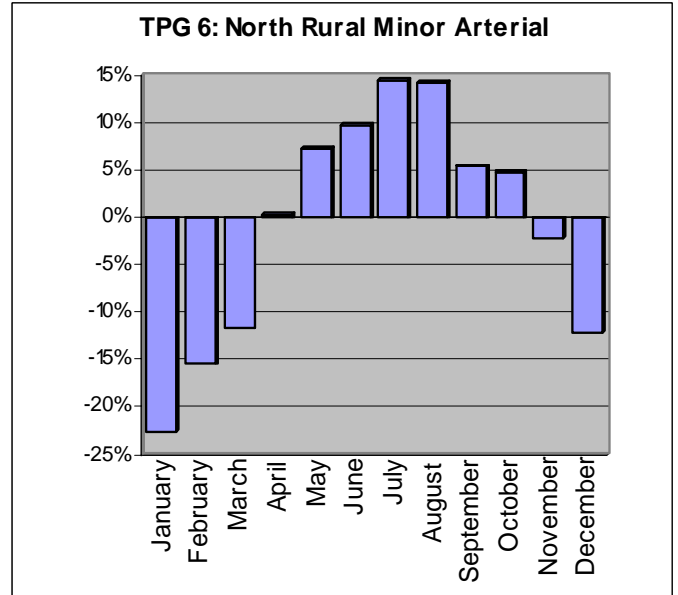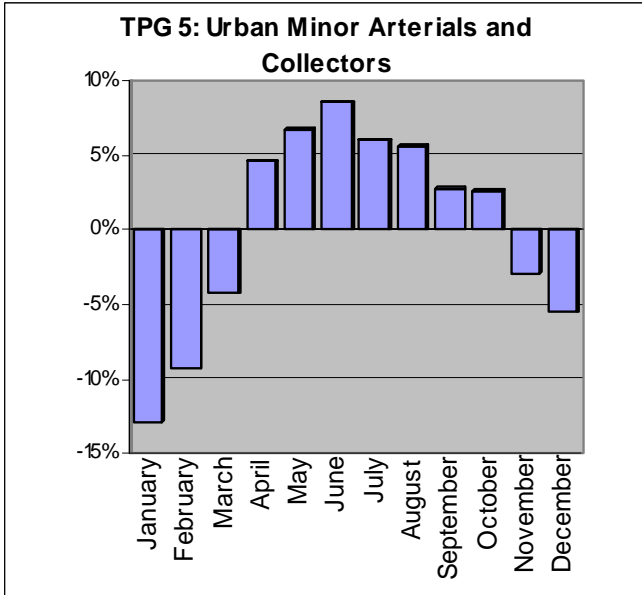## Average Day of Week by Month Factors Compiled for Total Vehicles (Continued)

November 2006										
DAY	**TPG 1**	**TPG 2**	**TPG 3**	**TPG 4**	**TPG 5**	**TPG 6**	**TPG 7**	**TPG 8**	**TPG 9**	**TPG 10**
Monday	0.978	1.074	0.957	1.014	1.019	1.018	1.029	1.048	1.004	1.154
Tuesday	0.947	1.077	0.920	0.979	0.991	0.983	0.995	1.020	0.966	1.079
Wednesday	0.939	1.062	0.910	0.971	0.989	0.987	0.966	1.012	0.951	1.109
Thursday	0.969	1.047	0.953	0.997	1.018	0.982	1.017	0.996	0.941	1.083
Friday	0.911	0.936	0.937	0.915	0.958	0.916	0.918	0.950	0.931	0.996
Saturday	1.121	1.086	1.202	1.078	1.067	1.102	1.043	1.079	1.093	1.032
Sunday	1.147	1.057	1.511	1.145	1.171	1.157	1.188	1.097	1.041	0.906
DAY OF MONTH	1.002	1.048	1.056	1.014	1.030	1.021	1.022	1.029	0.990	1.051

December 2006										
DAY	**TPG 1**	**TPG 2**	**TPG 3**	**TPG 4**	**TPG 5**	**TPG 6**	**TPG 7**	**TPG 8**	**TPG 9**	**TPG 10**
Monday	1.009	1.167	1.004	1.065	1.040	1.119	1.075	1.125	1.047	1.256
Tuesday	0.969	1.123	0.963	1.017	1.017	1.057	1.017	1.087	0.996	1.147
Wednesday	0.958	1.103	0.943	1.018	1.004	1.063	1.007	1.072	0.981	1.125
Thursday	0.957	1.059	0.940	1.013	1.029	1.087	1.029	1.064	1.015	1.115
Friday	0.947	1.042	0.955	0.993	1.003	1.020	0.973	1.021	0.995	1.080
Saturday	1.165	1.175	1.229	1.148	1.096	1.247	1.092	1.168	1.143	1.194
Sunday	1.309	1.247	1.524	1.312	1.215	1.368	1.309	1.296	1.329	1.512
DAY OF MONTH	1.045	1.131	1.080	1.081	1.058	1.137	1.072	1.119	1.072	1.204

Monthly Variation Charts by Traffic Pattern Group (TPG)
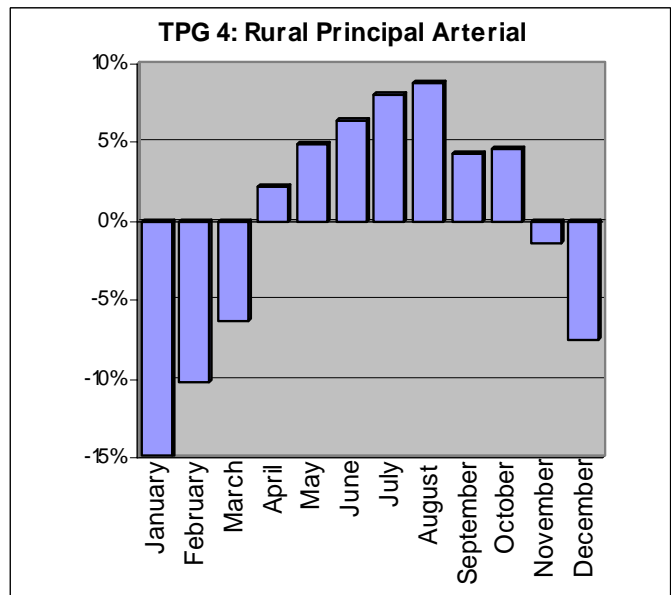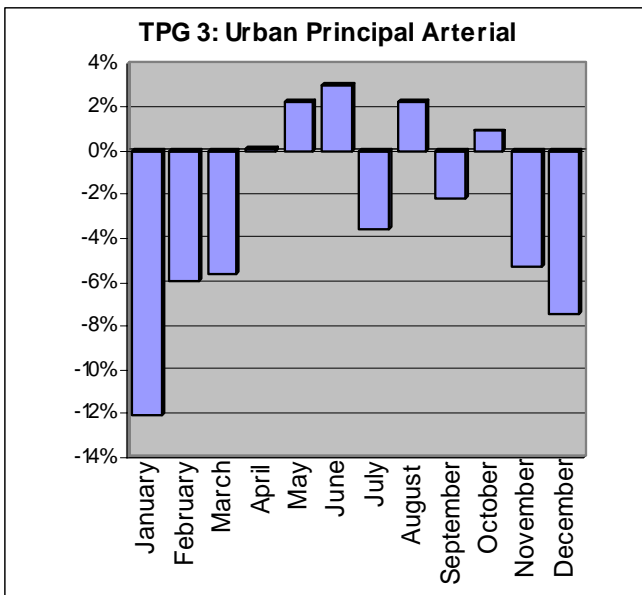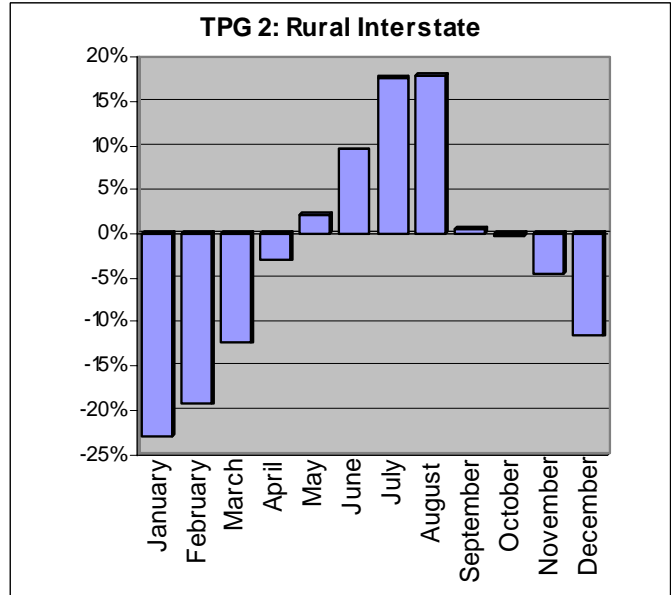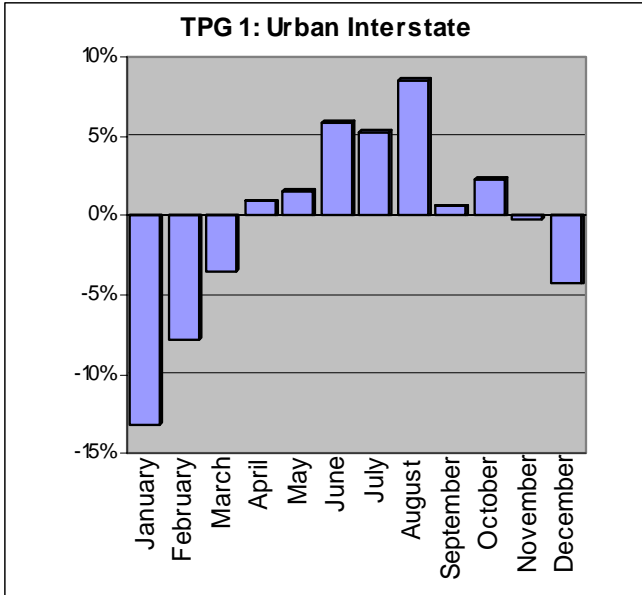
TPG 1: Urban Interstate

TPG 2: Rural Interstate

TPG 3: Urban Principal Arterial

TPG 4: Rural Principal Arterial

Monthly Variation Charts by TPG (Continued)

TPG 5: Urban Minor Arterials and Collectors

TPG 6: North Rural Minor Arterial

TPG 7: Central Rural Minor Arterial

TPG 8: North Rural Collector

Monthly Variation Charts by TPG (Continued)

TPG 9: Central Rural Collector

TPG 10: Special Recreational
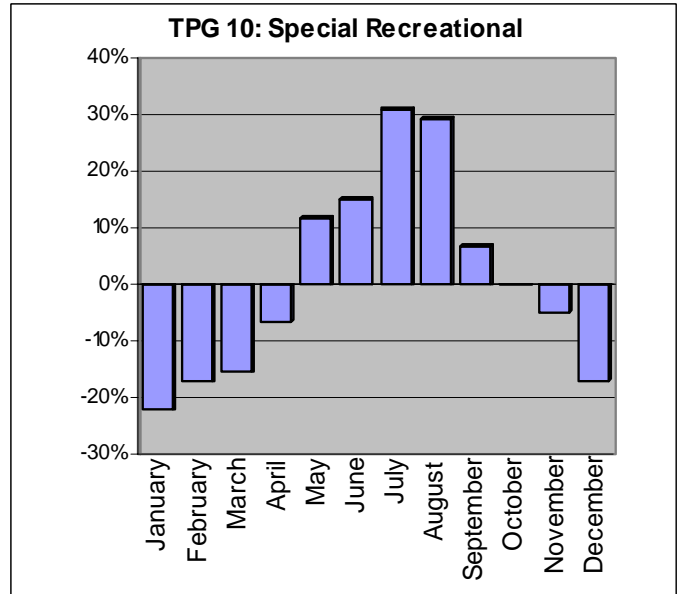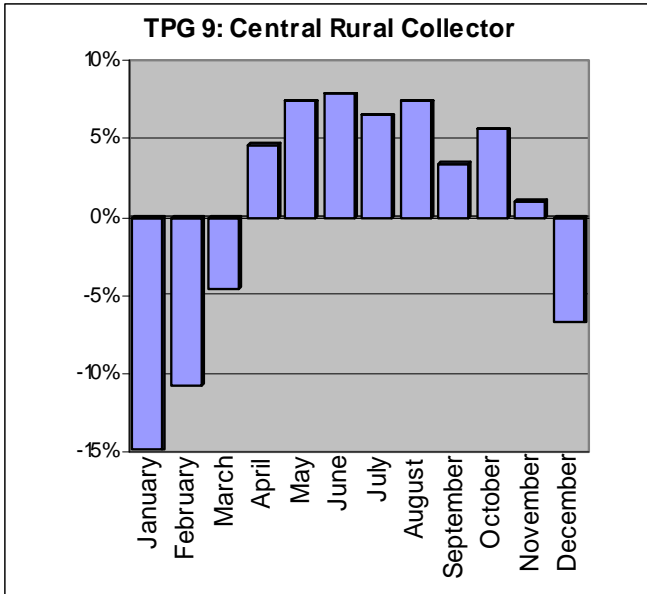
Table 365
Average Day of Week by Month Factors Compiled for Truck Traffic

The following table shows average day of week factors by month compiled for truck traffic. This data is used to convert 24-hour truck data to Average Daily Truck Traffic (ADTT). The ADTT is determined by applying the appropriate factor for the day of week and month to the truck traffic. Truck seasonal variation charts, which are based on truck traffic studies, indicate that truck traffic varies little for both the Interstate and Non-Interstate systems. On the other hand, day of week distribution does indicate a large variation between weekday (Monday through Friday) versus week-end (Saturday through Sunday) truck flow. Continuous truck data obtained from the Pennsylvania Turnpike Commission toll collection facilities was evaluated and used to formulate the required truck factors.

Delaware River toll bridges and SHRP locations that also collect continous vehicle classification data are being evaulated and may be used in calculation of future truck factors.

AVERAGE DAY OF WEEK BY MONTH FOR TRUCK TRAFFIC						
	MONDAY	**TUESDAY**	**WEDNESDAY**	**THURSDAY**	**FRIDAY**	**SATURDAY**	**SUNDAY**
JANUARY	0.94	0.87	0.85	0.84	0.88	2.34	3.70
FEBRUARY	0.92	0.85	0.85	0.84	0.87	2.38	3.57
MARCH	0.88	0.82	0.81	0.80	0.84	2.15	3.30
APRIL	0.87	0.79	0.77	0.76	0.77	1.86	2.91
MAY	0.82	0.78	0.75	0.75	0.76	1.82	2.66
JUNE	0.83	0.76	0.75	0.72	0.74	1.74	2.40
JULY	0.84	0.77	0.76	0.75	0.76	1.63	2.28
AUGUST	0.81	0.76	0.76	0.74	0.75	1.65	2.27
SEPTEMBER	0.82	0.75	0.73	0.72	0.73	1.72	2.41
OCTOBER	0.80	0.75	0.74	0.73	0.74	1.85	2.46
NOVEMBER	0.85	0.77	0.77	0.75	0.77	1.86	2.85
DECEMBER	0.85	0.85	0.83	0.78	0.81	2.13	3.10

Table 370
Yearly Growth Factors

The yearly growth factors (shown in the following table) are used to compute the current estimated average daily traffic for count data that is older than the current year. The factor application is applied by Traffic Pattern Group (TPG) and is used to calculate total vehicles and truck estimates. A limited amount of count data is processed through the Yearly Growth Factor table, since most traffic counts are for the current year.

To use this table, select the base year of the count from the "YEAR" column and multiply it by the percentage under the corresponding "TPG" row.

For example, to determine the current year estimate (2006) of a 1997 base year count having a TPG 5, multiply 1.132 (13.2%) by the AADT of the 1997 count.

Yearly Growth Factors: 1996-2006										
TPG	**96-97**	**97-98**	**98-99**	**99-00**	**00-01**	**01-02**	**02-03**	**03-04**	**04-05**	**05-06**
TPG 1	2.0%	2.0%	3.0%	0.5%	2.0%	3.0%	3.0%	3.2%	3.2%	2.9%
TPG 2	3.0%	3.0%	3.0%	0.5%	2.0%	3.0%	3.0%	3.3%	3.2%	3.0%
TPG 3	2.0%	2.0%	2.0%	0.5%	2.0%	1.8%	1.0%	1.4%	1.1%	0.7%
TPG 4	2.0%	2.0%	2.0%	0.3%	1.0%	1.8%	1.3%	1.7%	1.6%	1.2%
TPG 5	2.0%	2.0%	2.0%	0.5%	2.0%	1.8%	1.0%	1.4%	1.1%	0.7%
TPG 6	2.0%	2.0%	2.0%	0.3%	1.0%	1.9%	1.3%	1.7%	1.6%	1.2%
TPG 7	2.0%	2.0%	2.0%	0.3%	1.0%	1.9%	1.3%	1.7%	1.6%	1.2%
TPG 8	2.0%	2.0%	2.0%	0.3%	1.0%	1.9%	1.3%	1.7%	1.6%	1.2%
TPG 9	2.0%	2.0%	2.0%	0.3%	1.0%	1.9%	1.3%	1.7%	1.6%	1.2%
TPG 10	2.0%	5.0%	2.0%	1.0%	1.0%	1.0%	1.0%	1.7%	1.6%	1.2%

The table below shows yearly growth percentages by TPG for 1996 through 2006.

Percent Growth: 1996-2006										
TPG	**96-06**	**97-06**	**98-06**	**99-06**	**00-06**	**01-06**	**02-06**	**03-06**	**04-06**	**05-06**
TPG1	27.7%	25.2%	22.8%	19.2%	18.6%	16.3%	12.9%	9.6%	6.2%	2.9%
TPG2	30.5%	26.7%	23.0%	19.4%	18.8%	16.5%	13.1%	9.8%	6.3%	3.0%
TPG3	15.5%	13.2%	11.0%	8.8%	8.3%	6.1%	4.3%	3.2%	1.8%	0.7%
TPG4	15.9%	13.7%	11.4%	9.2%	8.9%	7.8%	5.9%	4.6%	2.8%	1.2%
TPG5	15.5%	13.2%	11.0%	8.8%	8.3%	6.1%	4.3%	3.2%	1.8%	0.7%
TPG6	16.0%	13.8%	11.5%	9.3%	9.0%	7.9%	5.9%	4.6%	2.8%	1.2%
TPG7	16.0%	13.8%	11.5%	9.3%	9.0%	7.9%	5.9%	4.6%	2.8%	1.2%
TPG8	16.0%	13.8%	11.5%	9.3%	9.0%	7.9%	5.9%	4.6%	2.8%	1.2%
TPG9	16.0%	13.8%	11.5%	9.3%	9.0%	7.9%	5.9%	4.6%	2.8%	1.2%
TPG10	18.9%	16.5%	11.0%	8.8%	7.7%	6.7%	5.6%	4.6%	2.8%	1.2%

Functional Class Groups

Traffic volume data displayed in PennDOT's Roadway Management System (RMS) is projected to a current estimate year (2006) based on County/Functional Class Group (FCG). This provides the user with trends relative to a specific county. The factors are applied annually to the Department's Roadway Management System (RMS) to produce the current year traffic volume estimate values.

This table shows the FCGs with a description and corresponding Functional Class Codes (FCCs).

FCG	DESCRIPTIVE NAME	FCC
FCG 1	URBAN INTERSTATE	FCC 11
FCG 2	RURAL INTERSTATE	FCC 01
FCG 3	URBAN - OTHER FREEWAYS/EXPRESSWAYS	FCC 12
	URBAN - OTHER PRINCIPAL ARTERIALS	FCC 14
	URBAN - MINOR ARTERIALS	FCC 16
	RAMPS	FCC 99
FCG 4	RURAL - OTHER PRINCIPAL ARTERIALS	FCC 02
	RURAL - MINOR ARTERIAL	FCC 06
FCG 5	URBAN COLLECTORS	FCC 17
	URBAN - LOCAL	FCC 19
FCG 6	RURAL - MAJOR COLLECTOR	FCC 07
	RURAL - MINOR COLLECTOR	FCC 08
	RURAL - LOCAL	FCC 09

Table 371
County/Functional Class Group Trend Factors

The factors in the table below were derived by pulling historical traffic data from the Bureau of Planning and Research's database, and performing a linear regression analysis. These factors are used to update traffic statistics, as well as for air quality conformity determinations, planning and design.

* Indicates the County contains no roads in this FCG

	COUNTY	FCG 1	FCG 2	FCG 3	FCG 4	FCG 5	FCG 6
	Functional Class Group Trend Factors: 2005-2006						
1	**Adams**	*	*	0.8%	1.7%	0.8%	1.7%
2	**Allegheny**	2.9%	*	0.5%	0.9%	0.5%	0.9%
3	**Armstrong**	*	*	0.5%	0.9%	0.5%	0.9%
4	**Beaver**	*	*	0.5%	0.9%	0.5%	0.9%
5	**Bedford**	2.9%	3.0%	*	1.3%	*	1.3%
6	**Berks**	2.9%	3.0%	0.8%	1.8%	0.8%	1.8%
7	**Blair**	2.9%	3.0%	0.6%	1.3%	0.6%	1.3%
8	**Bradford**	*	*	0.5%	1.0%	0.5%	1.0%
9	**Bucks**	2.9%	*	0.7%	0.8%	0.7%	0.8%
10	**Butler**	2.9%	3.0%	0.5%	0.9%	0.5%	0.9%
11	**Cambria**	*	*	0.5%	0.9%	0.5%	0.9%
12	**Cameron**	*	*	*	1.0%	*	1.0%
13	**Carbon**	*	3.0%	1.0%	0.5%	1.0%	0.5%
14	**Centre**	*	3.0%	0.6%	1.3%	0.6%	1.3%
15	**Chester**	*	*	0.7%	0.8%	0.7%	0.8%
16	**Clarion**	*	3.0%	0.5%	0.9%	0.5%	0.9%
17	**Clearfield**	2.9%	3.0%	0.5%	0.9%	0.5%	0.9%
18	**Clinton**	*	3.0%	0.5%	1.0%	0.5%	1.0%
19	**Columbia**	2.9%	3.0%	0.6%	1.3%	0.6%	1.3%
20	**Crawford**	2.9%	3.0%	0.5%	0.5%	0.5%	0.5%
21	**Cumberland**	2.9%	3.0%	0.8%	2.5%	0.8%	2.5%
22	**Dauphin**	2.9%	3.0%	0.8%	2.5%	0.8%	2.5%
23	**Delaware**	2.9%	*	0.7%	0.8%	0.7%	0.8%
24	**Elk**	*	*	0.5%	1.0%	0.5%	1.0%
25	**Erie**	2.9%	3.0%	0.5%	0.5%	0.5%	0.5%
26	**Fayette**	*	*	0.5%	0.9%	0.5%	0.9%
27	**Forest**	*	*	*	1.0%	0.5%	1.0%
28	**Franklin**	2.9%	3.0%	0.8%	2.5%	0.8%	2.5%
29	**Fulton**	*	3.0%	*	1.3%	*	1.3%

Table 371
County/Functional Class Group Trend Factors (Continued)

* Indicates the County contains no roads in this FCG

	COUNTY	FCG 1	FCG 2	FCG 3	FCG 4	FCG 5	FCG 6
	Functional Class Group Trend Factors: 2005-2006						
30	Greene	*	3.0%	*	0.9%	*	0.9%
31	Huntingdon	*	*	0.6%	1.3%	0.6%	1.3%
32	Indiana	*	*	0.5%	0.9%	0.5%	0.9%
33	Jefferson	*	3.0%	0.5%	0.9%	0.5%	0.9%
34	Juniata	*	*	*	1.3%	*	1.3%
35	Lackawanna	2.9%	3.0%	1.0%	0.5%	1.0%	0.5%
36	Lancaster	*	*	0.8%	1.7%	0.8%	1.7%
37	Lawrence	*	3.0%	0.5%	0.5%	0.5%	0.5%
38	Lebanon	*	3.0%	0.8%	2.5%	0.8%	2.5%
39	Lehigh	2.9%	3.0%	0.8%	1.8%	0.8%	1.8%
40	Luzerne	2.9%	3.0%	1.0%	0.0%	1.0%	0.0%
41	Lycoming	2.9%	3.0%	0.5%	1.0%	0.5%	1.0%
42	McKean	*	*	0.5%	1.0%	0.5%	1.0%
43	Mercer	2.9%	3.0%	0.5%	0.5%	0.5%	0.5%
44	Mifflin	*	*	0.6%	1.3%	0.6%	1.3%
45	Monroe	2.9%	3.0%	2.5%	3.0%	2.5%	3.0%
46	Montgomery	2.9%	*	0.7%	0.8%	0.7%	0.8%
47	Montour	*	3.0%	0.6%	1.3%	0.6%	1.3%
48	Northampton	2.9%	*	0.8%	1.8%	0.8%	1.8%
49	Northumberland	*	3.0%	0.6%	1.3%	0.6%	1.3%
50	Perry	*	*	0.8%	2.5%	*	2.5%
67	Philadelphia	2.9%	*	0.7%	*	0.7%	*
51	Pike	*	3.0%	*	3.0%	*	3.0%
52	Potter	*	*	*	1.0%	*	1.0%
53	Schuylkill	*	3.0%	1.0%	0.0%	1.0%	0.0%
54	Snyder	*	*	0.6%	1.3%	0.6%	1.3%
55	Somerset	*	*	0.6%	1.3%	0.6%	1.3%
56	Sullivan	*	*	*	1.0%	*	1.0%
57	Susquehanna	*	3.0%	*	1.0%	*	1.0%
58	Tioga	*	*	*	1.0%	*	1.0%
59	Union	*	3.0%	0.6%	1.3%	0.6%	1.3%
60	Venango	*	3.0%	0.5%	0.9%	0.5%	0.9%
61	Warren	*	*	0.5%	1.0%	0.5%	1.0%
62	Washington	2.9%	3.0%	0.5%	0.9%	0.5%	0.9%
63	Wayne	*	3.0%	*	3.0%	2.5%	3.0%
64	Westmoreland	2.9%	3.0%	0.5%	0.9%	0.5%	0.9%
65	Wyoming	*	*	*	1.0%	*	1.0%
66	York	2.9%	3.0%	0.8%	1.7%	0.8%	1.7%
	Average	2.9%	3.0%	0.7%	1.2%	0.7%	1.2%

* Null cells, data not required.

Table 380
Axle Correction Factors

Axle volume count data is collected by counting vehicle axles (two axle strikes equals one vehicle). Since these counts may include a number of trucks with more than two axles, they must be corrected to represent the actual volume of total vehicles. The axle correction factors are applied to raw axle volume count data, adjusting it to a correct representative volume.

2006 Axle Correction Factors are shown in the table below.

TPG	Axle Correction Factor
1	82.27%
2	68.87%
3	93.79%
4	89.02%
5	97.37%
6	92.62%
7	94.99%
8	95.15%
9	96.64%
10	97.20%

Table 385
Design Hour Factor Default Values

The design hour factor (K-factor) represents the percent of Annual Average Daily Traffic (AADT) occuring in the peak hour. This value is important in the design of roadways and capacity analysis studies.

Count data less than 24-hours and/or data not having directional volumes will not have the necessary raw data required to compute actual K-factor values. The K-factor default values were produced to complete unknown values not generated through the raw count factoring process, and to satisfy Highway Performance Monitoring System (HPMS) reporting requirements. They were developed by processing the actual hourly data from the 61 ATR stations to identify the 30th highest hour; this hourly volume was divided by the AADT for each station, producing a K-factor. The factors were then averaged by Traffic Pattern Group (TPG).

During the raw count factoring process, the K-factor value is programmatically inserted into the Roadway Management System (RMS) database if the raw count data is insufficient to calculate an actual K-factor.

2006 K-Factors and corresponding TPGs are shown in the table below.

TPG	K factor default value
1	9%
2	11%
3	11%
4	10%
5	11%
6	11%
7	11%
8	11%
9	10%
10	12%

Tables 390 and 395
Equivalent Single Axle Load Factors

Equivalent Single Axle Load (ESAL) tables are used to calculate pavement loadings (rigid and flexible types) to produce a common parameter for design and planning purposes.

ESAL factors used in RMS were derived through a composite of data obtained from AASHTO guidelines and test data collected from historical Loadometer Surveys. Data obtained through WIM equipment is under review at this time and will be considered in development of future ESAL factors. The 2002 FHWA Pavement Design Guide has incorporated improved methods of determining loading effects of traffic. In the future, these new methods may supercede the use of ESAL factors (see New Developments and Enhancements, page 3).

2006 ESAL factors for rigid pavements are shown by Traffic Pattern Group (TPG) and vehicle classification in **Table 390**, below.

RIGID ESAL FACTORS										
CLASS	TPG 1	TPG 2	TPG 3	TPG 4	TPG 5	TPG 6	TPG 7	TPG 8	TPG 9	TPG 10
2 AXLE SINGLE UNIT TRUCK	0.240	0.240	0.240	0.240	0.240	0.240	0.240	0.240	0.240	0.240
3 AXLE SINGLE UNIT TRUCK	1.150	1.150	1.150	1.150	1.150	1.150	1.150	1.150	1.150	1.150
4 AXLE SINGLE UNIT TRUCK	7.000	7.000	7.000	7.000	7.000	7.000	7.000	7.000	7.000	7.000
3 AXLE SINGLE TRAILER	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430	0.430
4 AXLE SINGLE TRAILER	0.900	0.900	0.900	0.900	0.900	0.900	0.900	0.900	0.900	0.900
5 AXLE SINGLE TRAILER	1.590	1.590	1.590	1.590	1.590	1.590	1.590	1.590	1.590	1.590
5 AXLE MULTI TRAILER	2.400	2.400	2.400	2.400	2.400	2.400	2.400	2.400	2.400	2.400
6 AXLE MULTI TRAILER	1.421	1.421	1.421	1.421	1.421	1.421	1.421	1.421	1.421	1.420

2006 ESAL factors for flexible pavements are shown by Traffic Pattern Group (TPG) and vehicle classification in **Table 395**, below.

FLEXIBLE ESAL FACTORS										
CLASS	TPG 1	TPG 2	TPG 3	TPG 4	TPG 5	TPG 6	TPG 7	TPG 8	TPG 9	TPG 10
2 AXLE SINGLE UNIT TRUCK	0.240	0.240	0.240	0.240	0.240	0.240	0.240	0.240	0.240	0.240
3 AXLE SINGLE UNIT TRUCK	0.820	0.820	0.820	0.820	0.820	0.820	0.820	0.820	0.820	0.820
4 AXLE SINGLE UNIT TRUCK	4.500	4.500	4.500	4.500	4.500	4.500	4.500	4.500	4.500	4.500
3 AXLE SINGLE TRAILER	0.440	0.440	0.440	0.440	0.440	0.440	0.440	0.440	0.440	0.440
4 AXLE SINGLE TRAILER	0.760	0.760	0.760	0.760	0.760	0.760	0.760	0.760	0.760	0.760
5 AXLE SINGLE TRAILER	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
5 AXLE MULTI TRAILER	2.330	2.330	2.330	2.330	2.330	2.330	2.330	2.330	2.330	2.330
6 AXLE MULTI TRAILER	1.276	1.276	1.276	1.276	1.276	1.276	1.276	1.276	1.276	1.270

Roadway Management System
Factor Table Application Flow Chart

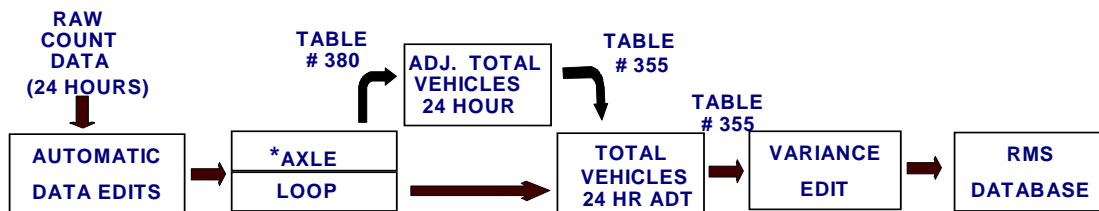## I. MANUAL COUNT (LESS THAN 24 HOURS)
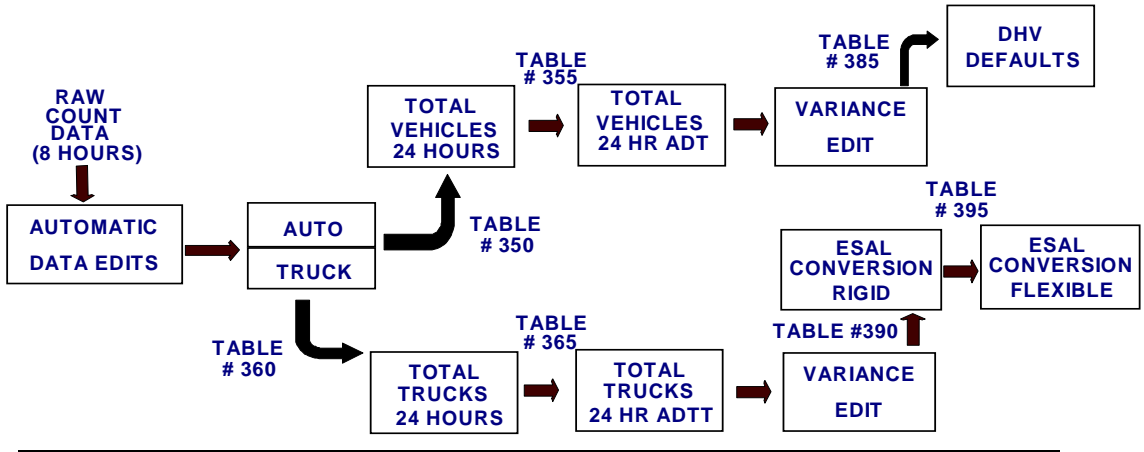
II. AUTOMATIC VEHICLE CLASSIFICATION COUNT
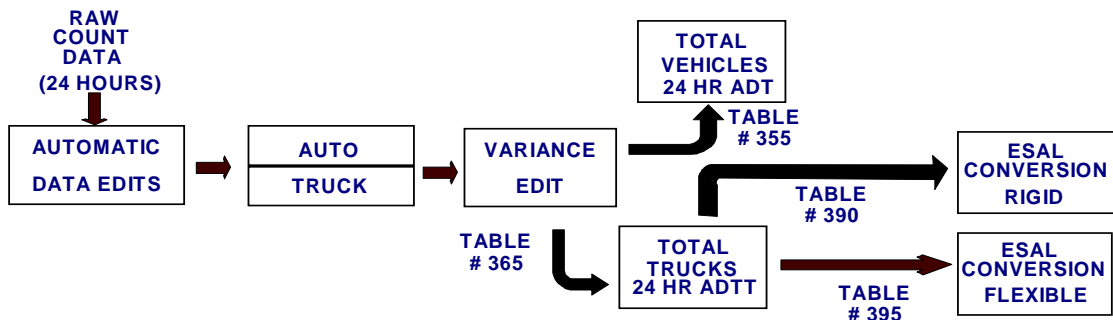
Note: DHV is computed from the raw count data.

III. AXLE AND LOOP VOLUME COUNTS

* Total Vehicles are computed by counting axles (2 axles equals 1 Vehicle)

Acronyms

AADT	Annual Average Daily Traffic
AASHTO	American Association of State Highway & Transportation Officials
ACF	Axle Correction Factor
ADL	Average Daily Load
ADT	Average Daily Traffic
ADTT	Average Daily Truck Traffic
AGF	Annual Growth Factor
ATR	Automatic Traffic Recorder
AVC	Automatic Vehicle Classification
CAVC	Continuous Automatic Vehicle Classification
DHV	Design Hour Volume
DOW	Day Of Week
DRJTBC	Delware River Joint Toll Bridge Commission
DVMT	Daily Vehicle Miles of Travel
ESAL	Equivalent Single Axle Load
FCC	Functional Classification Code
FCG	Functional Classification Group
FHWA	Federal Highway Administration
GIS	Geographic Information System
HMPS	Highway Performance Monitoring System
HVTIS	Heavy Vehicle Travel Information System
ITDUS	Internet Traffic Data Upload System
ITS	Intelligent Transportation Systems
LTPP	Long Term Pavement Performace
MFC	Maintenance Functional Classification
MPO	Metropolitan Planning Organization
RPO	Rural Planning Organization
RMS	Roadway Management System
SHRP	Strategic Highway Research Program
SR	State Route
STIP	Short-Term In-Pavement
TIS	Traffic Information System
TMG	Traffic Monitoring Guide
TMS/H	Traffic Monitoring System for Highways
TPG	Traffic Pattern Group
TR	Traffic Route
WIM	Weigh-in-Motion

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