2010 Pennsylvania Traffic Data

Bureau of Planning and Research
Transportation Planning Information Division

pennsylvania
DEPARTMENT OF TRANSPORTATION

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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. All tables & charts in the "Pennsylvania Traffic Data Book" are derived from the data of 73 permanent sites.

Some of the permanent sites are excluded on a year to year basis. If it is determined a permanent site has less than 50% of the current year's data, it is not used for the factors. Reasons for a permanent site having less than 50% of the current year's data would be construction projects or equipment malfunction.

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:

Joseph E. Piper, Jr.
Telephone: (717) 214-8687
Fax: (717) 783-9152
Email: josephpipe@state.pa.us

The 2010 Traffic Data Book and County Traffic Volume Maps are available free on our website!

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

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

Updates and Developments

ATR/CAVC Conversion Project

The Bureau of Planning and Research (BPR) continues the process of converting Automatic Traffic Recorder (ATR) sites which only collect vehicle volume to Continuous Automatic Vehicle Classification (CAVC) sites. The upgrade/conversion will allow BPR to collect 13 different vehicle classifications required by the Federal Highway Administration (FHWA); including collection and reporting of motorcycle travel data. In addition, FHWA has amended the Traffic Monitoring Guide (TMG) and added requirements for motorcycle correction factors. To be able to meet the requirements, it is recommended that PennDOT have at least 5 Continuous Automatic Vehicle Classification (CAVC) sites per traffic pattern group (TPG). To date, BPR has been able to upgrade/convert 25 Automatic Traffic Recorder (ATR) sites to Continuous Automatic Vehicle Classification (CAVC) sites.

Local Road Traffic Counting Project

Pennsylvania's 2,562 municipalities own 76,834 linear miles of road of which 3,488 linear miles of municipal owned roads are on the Federal-Aid System. These roads on the Federal-Aid System are scheduled for traffic counts on a five year cycle. However, the remaining 73,346 linear miles did not have traffic counts taken on a regular basis.

Approximately 7,200 local road traffic counts were set in 2009 to develop a baseline for this new data. During the 2010 traffic count season, 749 sites in PennDOT Engineering Districts 2-0 & 9-0 were completed and 1,377 sites in District 6-0 will be completed during the 2011 traffic count season.

Ramp Traffic Counting Project

Pennsylvania has approximately 4,320 interchange ramps. In 2010, BPR began scheduling traffic counts to be set on all interchange ramps statewide. Approximately 2,030 sites classified as Interstate ramps were set during the 2010 traffic count season. The data was collected by the vendors on the statewide contract and BPR field staff. In the 2011 traffic count season, BPR will schedule the remaining 2,320 sites that are classified as US, PA and State route interchange ramps.

US 202 / US 30 Interchange – Exton, PA.

Traffic Data Collection

Traffic data is collected on 40,000 miles of PennDOT owned roads and 3,300 miles of local federal aid roads in Pennsylvania. Approximately 7,000 raw traffic counts are collected per year by:

- BPR Field Staff
- PennDOT Engineering District 1-0
- 15 Metropolitan Planning Organizations (MPOs)
- 2 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 WIM stations.

Speed: Speed data is collected from Permanent Traffic Recorders.

Traffic Count set in Downingtown, PA (Chester County)

Traffic Data Collection Sources

Automatic Traffic Recorders (ATRs)
> 46 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 230 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)
> 28 CAVC sites collect continuous vehicle classification data. A map showing CAVC locations are 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.

Permanent Traffic Recorders

Pennsylvania maintains permanent traffic recorders at 89 strategically selected locations throughout the state. These permanent sites 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. Based on a research study performed by Pennsylvania State University and West Virginia University, it was determined that PennDOT locations in the traffic pattern groups were acceptable according to the FHWA Traffic Monitoring Guide.

ATR 391 in Chester County

The permanent sites 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 permanent 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 permanent site is associated with one of the ten TPGs listed below.

TRAFFIC PATTERN GROUP	DESCRIPTION
TPG 1	URBAN - INTERSTATE
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Permanent Site 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.

Permanent Site Locations

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

* Indicates CAVC site
** Indicates WIM Site
*** Indicates road is not a PA, US, or Interstate Route

SITE #	COUNTY	MUNICIPALITY	ROUTE	SR	SEGMENT	LOCATION
1 *	Erie	Springfield Twp.	US 20	20	10	0.4 mi. E of Ohio/Pennsylvania Line (West Springfield)
2	Crawford	Richmond Twp.	PA 77	77	270	0.5 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	Wysox Twp.	***	1043	10	0.1 mi. NW of SR 1041 (Towanda)
8	Montgomery	Whitemarsh Twp.	PA 73	73	534	1.4 mi. NW of PA 309-Skippack Pike (Whitemarsh)
15	Fulton	Todd Twp.	US 522	522	540	1.2 mi. N of US 30 (McConnellsburg)
18	Butler	Summit 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	264	1.1 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	1.1 mi. E of PA 948 (Russell City)
29	Susquehanna	Rush Twp.	PA 267	267	190	0.7 mi. S of PA 367 (Lawton)
40 *	Schuylkill	Schuylkill Twp.	US 209	209	860	0.7 mi. S of PA 309 (Tamaqua)
48 *	Susquehanna	New Milford Twp.	US 11	11	420	0.8 mi. SW of PA 848 (New Milford)
51	Potter	Eulalia Twp.	PA 44	44	700	1.3 mi. SW of PA 49 (Coudersport)
106 **	Berks	Windsor Twp.	I-78	78	340	1.5 mi. W of PA 143 (Hamburg)
126 *	Jefferson	Brookville Boro.	I-80	80	790	0.6 mi. E of PA 36 (Brookville)
158 **	Centre	Boggs Twp.	I-80	80	1580	0.6 mi. E of PA 150 (Milesburg)
203	Allegheny	Leetsdale Boro.	PA 65	65	270	1.0 mi. S of SR 4036 (Leetsdale)
205 *	York	Manchester Twp.	I-83	83	220	1.4 mi. S of PA 238 (North York)
206	Cumberland	Wormleysburg Boro.	***	1014	30	Harvey Taylor Bridge on west approach (Harvey Taylor Bridge)
207	Erie	Springfield Twp.	I-90	90	10	1.1 mi. E of Ohio/Pennsylvania Line (West Springfield)
208	Allegheny	Monroeville Boro.	I-376	376	820	2.0 mi. W of PA 48 (Monroeville)
210	Cumberland	Lemoyne Boro.	I-83	83	416	0.6 mi. NE of PA 581 on John Harris Bridge (South Bridge)
216	Susquehanna	Great Bend Twp.	I-81	81	2314	1.1 mi. N of PA 171 (Hallstead)
301	Erie	Lawrence Park Twp.	PA 5	5	680	0.5 mi. W of PA 955 (Erie)
304	Lycoming	S. Williamsport Boro.	US 15	15	250	0.3 mi. S of I-180 (Williamsport)
306 *	Pike	Palmyra Twp.	PA 507	507	280	0.7 mi. N of PA 390 (Hawley)
317 **	Blair	Freedom Twp.	I-99	99	214	1.0 mi. S of PA 36/PA 164 (East Freedom)
323	Bedford	Bedford Twp.	US 220	220	310	0.7 mi. S of Business US 220 (Bedford Springs)
324 **	Elk	Ridgway Boro.	PA 120	120	42	1.1 mi. E of US 219 (Ridgway)
326	Clarion	Paint Twp.	US 322	322	280	0.5 mi. E of PA 66 (Clarion)
328 *	Centre	Boggs Twp.	PA 150	150	194	1.2 mi. N of 1-80 (Milesburg)
330	Bucks	Northampton Twp.	PA 532	532	130	1.4 mi. SW of PA 413 (Newtown)
334 *	York	W. Manchester Twp.	US 30	30	170	0.6 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	Union Twp.	US 219	219	670	3.2 mi. S of US 322 (Luthersburg)
362	York	North Codorus Twp.	PA 616	616	240	1.6 mi. N of PA 214 (New Salem)
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 ft. W of SR 4017 (Clarks Summitt)
367	Union	Limestone 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 (Belle Vernon)
371	Fulton	Brush Creek Twp.	I-70	70	1522	1.1 mi. S of PA 915 (Crystal Springs)

Permanent Site Locations (Continued)

* Indicates CAVC site
** Indicates WIM site
*** Indicates road is not a PA, US, or Interstate Route

SITE #	COUNTY	MUNICIPALITY	ROUTE	SR	SEGMENT	LOCATION
372	Union	White Deer Twp.	I-80	80	2104	0.7 mi. E of US 15 (Milton)
374	Butler	Lancaster Twp.	I-79	79	904	3.5 mi. N of PA 68 (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 165A/165B (Wilkes-Barre)
377	Bucks	Bristol Twp.	I-95	95	404	2.5 mi. S of US 1 (PennDel)
378	Fayette	Redstone Twp.	US 40	40	160	0.6 mi. W of SR 4020 (Briar Hill)
379	Blair	Logan Twp.	***	4013	80	0.4 mi. E of SR 4015 (Altoona)
380 *	Berks	Exeter Twp.	PA 562	562	40	0.2 mi. W of SR 2033 (St. Lawrence)
381	Mercer	Hermitage City	***	3019	20	0.9 mi. N of PA 718 (Sharon)
382	Cambria	Lower Yoder Twp.	***	3005	40	0.7 mi. SW of PA 56 (Morrellville)
383 *	Clinton	Pine Creek Twp.	PA 150	150	360	0.5 mi. N of SR 1005 (Chatham Run)
384	Tioga	Lawrence Twp.	***	4022	50	1.9 mi. E of PA 49 (Nelson)
385	Warren	Southwest Twp.	***	3002	30	0.7 mi. W of PA 27 (Enterprise)
386 *	Montour	Limestone Twp.	PA 254	254	10	2.0 mi. E of I-80 (Limestoneville)
387 *	Somerset	Brothers Valley Twp.	***	2031	110	2.0 mi. S of US 219 (Garrett)
388	Monroe	Ross Twp.	***	3004	170	0.4 mi. SW of SR 3015 (Saylorsburg)
389 *	Jefferson	Perry Twp.	PA 536	536	210	0.3 mi. W of SR 3011 (Frostburg)
390 *	Lancaster	West Donegal Twp.	PA 230	230	20	1.7 mi. W of PA 743/241 (Elizabethtown)
391	Chester	Warwick Twp.	PA 23	23	110	1.5 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	0.3 mi. E of W. Virginia/Pennsylvania Line (West Alexander)
394	Lehigh	Upper Saucon Twp.	I-78	78	614	1.1 mi. E of PA 309/PA 145/I-78 Interchange (Allentown)
395	Fayette	German Twp.	PA 21	21	230	0.1 mi. E of SR 3023 (Uniontown)
410 **	Tioga	Nelson Twp.	PA 49	49	520	0.5 mi. W of SR 4027 (Nelson)
501 **	Tioga	Liberty Twp.	US 15	15	142	2.7 mi. N of SR 2005 (Blossburg)
502 **	Mercer	Wolf Creek Twp.	I-80	80	220	1.4 mi. W of PA 173 (Barkeyville)
503 **	Warren	Youngsville Boro.	US 6	6	410	0.7 mi. W of PA 27 (Youngsville)
504 **	Delaware	Chadds Ford Twp.	US 202	202	114	0.8 mi. N of US 1 (Dilworthtown)
505 **	Perry	Howe Twp.	US 22	22	160	0.7 mi. E of PA 34 (Newport)
506 **	Blair	Allegheny Twp.	***	1001	30	0.2 mi. N of SR 1002 (Altoona)
600 **	Franklin	Southampton Twp.	I-81	81	244	3.0 mi. N of PA 174 (Shippensburg)
700 **	Indiana	Armstrong Twp.	US 422	422	120	0.5 mi. W of SR 4004 (Indiana)
800 *	Centre	Spring Twp.	I-99	99	800	1.2 mi. N of PA 150 (Bellefonte)
801 *	Dauphin	Lower Paxton Twp.	I-81	81	714	0.7 mi. S of SR 3019 (Paxtonia)
802 *	Monroe	Coolbaugh Twp.	PA 423	423	140	0.2 mi. E of I-380 (Tobyhanna)
803 *	Adams	Freedom Twp.	US 15	15	20	0.5 mi. N of Maryland/Pennsylvania Line (Gettysburg)
804 *	Washington	Canton Twp.	I-70	70	160	1.3 mi. E of US 40 (Washington)
805 *	Crawford	N. Shenango Twp.	PA 285	285	20	0.1 mi. E of SR 3007 (Espyville)
806 *	Westmoreland	Hempfield Twp.	US 30	30	170	0.2 mi. E of Strawberry Lane (Jeannette)
807 *	Washington	Twilight Boro.	I-70	70	380	0.6 mi. W of Exit 39 (Spears)
808 *	Indiana	W. Wheatfield Twp.	US 22	22	242	1300 ft. E of Bethel Cemetery Rd.
809 *	McKean	Foster Twp.	US 219	219	594	50 ft. S of Tuna Crossroads Bridge (Foster Brook)
985 *	Cambria	Richland Twp.	US 219	219	120	1.6 mi. N of PA 56 (St. Michael)

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 efficiency 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, CAVC and Weigh-In-Motion (WIM) Locations Map (Opposite)

The ATR, CAVC, and WIM locations map of Pennsylvania, which is shown on the following page, gives an overview of where all of the ATR, CAVC and WIM sites are located. Symbols are used in addition to the site number to identify the location of the site.

US 30 – Chester County

CONTINUOUS MONITORING SITES

■ *ATR* ◎ *WIM / CAVC* ★ *CAVC*

Permanent Site Locations by Traffic Pattern Group (TPG)

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

PERMANENT SITE LOCATIONS BY TPG

TPG 1: URBAN INTERSTATE					TPG 2: RURAL INTERSTATE			
SITE #	ROUTE	URBAN AREA	AADT		SITE #	ROUTE	COUNTY	AADT
205	I-83	YORK	52,706		106	I-78	BERKS	39,468
210	I-83	HARRISBURG	97,178		207	I-90	ERIE	21,460
216	I-81	BINGHAMPTON	28,089		371	I-70	FULTON	18,876
317	I-99	ALTOONA	12,603		372	I-80	UNION	27,516
370	I-70	MONESSEN	32,075		392	I-80	LUZERNE	23,050
376	I-81	WILKES-BARRE	58,951		393	I-70	WASHINGTON	30,979
377	I-95	PHILADELPHIA	54,213		600	I-81	FRANKLIN	37,286
394	I-78	ALLENTOWN	59,668		800	I-99	CENTRE	20,737
801	I-81	HARRISBURG	80,320					
804	I-70	PITTSBURGH	54,765					

PERMANENT SITE LOCATIONS BY TPG

TPG 3: URBAN PRINCIPAL ARTERIAL					TPG 4: RURAL PRINCIPAL ARTERIAL			
SITE #	ROUTE	URBAN AREA	AADT		SITE #	ROUTE	COUNTY	AADT
8	PA 73	PHILADELPHIA	17,828		4	US 6	TIOGA	3,177
206	H. Taylor Br.	HARRISBURG	27,319		19	PA 88	WASHINGTON	5,868
301	PA 5	ERIE	13,548		24	US 22	WESTMORELAND	18,228
304	US 15	WILLIAMSPORT	28,828		323	US 220	BEDFORD	3,978
330	PA 532	PHILADELPHIA	11,381		324	PA 120	ELK	4,608
334	US 30	YORK	16,493		326	US 322	CLARION	9,440
375	US 22/30	PITTSBURGH	23,248		360	US 219	CLEARFIELD	2,635
504	US 202	PHILADELPHIA	41,808		363	US 219	MCKEAN	4,861
					395	PA 21	FAYETTE	10,808
					501	US 15	TIOGA	9,154
					503	US 6	WARREN	4,077
					505	US 22	PERRY	21,047
					700	US 422	INDIANA	13,347
					803	US 15	ADAMS	22,173

Permanent Site Locations by TPG (Continued)

PERMANENT SITE LOCATIONS BY TPG

TPG 5: URBAN MINOR ARTERIAL/COLLECTOR

SITE #	ROUTE	URBAN AREA	AADT
18	PA 38	BUTLER	6,723
20	PA 65	NEW CASTLE	7,638
379	SR 4013	ALTOONA	1,399
380	PA 562	READING	8,631
381	SR 3019	SHARON	480
382	SR 3005	JOHNSTOWN	1,765
390	PA 230	LANCASTER	5,663
506	SR 1001	ALTOONA	16,638

TPG 6: NORTH RURAL MINOR ARTERIAL

SITE #	ROUTE	COUNTY	AADT
2	PA 77	CRAWFORD	1,911
3	PA 255	CLEARFIELD	5,438
27	PA 66/948	ELK	2,834
48	US 11	SUSQUEHANNA	4,835
51	PA 44	POTTER	3,247
328	PA 150	CENTRE	5,069
410	PA 49	TIOGA	4,335

PERMANENT SITE LOCATIONS BY TPG

TPG 7: CENTRAL RURAL MINOR ARTERIAL

SITE #	ROUTE	COUNTY	AADT
1	US 20	ERIE	3,156
15	US 522	FULTON	5,321
40	US 209	SCHUYLKILL	4,742
367	PA 45	UNION	6,210
391	PA 23	CHESTER	7,714

TPG 8: NORTH RURAL COLLECTOR

SITE #	ROUTE	COUNTY	AADT
5	SR 1043	BRADFORD	1,997
29	PA 267	SUSQUEHANNA	1,399
383	PA 150	CLINTON	4,243
384	SR 4022	TIOGA	443
385	SR 3002	WARREN	1,915
802	PA 423	MONROE	4,287

PERMANENT SITE LOCATIONS BY TPG

TPG 9: CENTRAL RURAL COLLECTOR

SITE #	ROUTE	COUNTY	AADT
362	PA 616	YORK	6,094
364	PA 307	LACKAWANNA	4,926
386	PA 254	MONTOUR	2,214
388	SR 3004	MONROE	3,367
389	PA 536	JEFFERSON	2,068

TPG 10: SPECIAL RECREATIONAL

SITE #	ROUTE	COUNTY	AADT
306	PA 507	PIKE	5,856
805	PA 285	CRAWFORD	2,892

2010 Peak Hour by Traffic Pattern Group (TPG)

2010 Peak Hour by Traffic Pattern Group (TPG)													
TPG 1: Urban Interstate							**TPG 2: Rural Interstate**						
Site #	**Date**	**Hour (start)**	**DOW**	**Volume**	**% AADT**	**AADT**	**Site #**	**Date**	**Hour (start)**	**DOW**	**Volume**	**% AADT**	**AADT**
205	9/3	4:00 PM	Fri	5,391	10.23%	52,706	106	11/28	1:00 PM	Sun	4,717	11.95%	39,468
210	1/27	4:00 PM	Wed	10,260	10.56%	97,178	207	11/28	3:00 PM	Sun	3,147	14.66%	21,460
216	11/28	3:00 PM	Sun	4,768	16.97%	28,089	371	11/28	11:00 AM	Sun	3,582	18.98%	18,876
317	2/16	3:00 PM	Tues	4,310	34.20%	12,603	372	11/28	2:00 PM	Sun	4,455	16.19%	27,516
370	9/3	4:00 PM	Fri	3,379	10.53%	32,075	392	11/28	3:00 PM	Sun	3,740	16.23%	23,050
376	11/24	3:00 PM	Wed	6,347	10.77%	58,951	393	11/28	2:00 PM	Sun	4,381	14.14%	30,979
377	6/10	5:00 PM	Thur	5,887	10.86%	54,213	600	11/8	3:00 PM	Mon	4,722	12.66%	37,286
394	11/23	4:00 PM	Tues	6,316	10.59%	59,668	800	11/19	4:00 PM	Fri	2,763	13.32%	20,737
801	5/13	4:00 PM	Thur	7,600	9.46%	80,320							
804	11/28	12:00 PM	Sun	5,827	10.64%	54,765							

2010 Peak Hour by Traffic Pattern Group (TPG)													
TPG 3: Urban Principal Arterial							**TPG 4: Rural Principal Arterial**						
Site #	**Date**	**Hour (start)**	**DOW**	**Volume**	**% AADT**	**AADT**	**Site #**	**Date**	**Hour (start)**	**DOW**	**Volume**	**% AADT**	**AADT**
8	12/7	7:00 AM	Tues	2,108	11.82%	17,828	4	6/5	10:00 AM	Sat	491	15.45%	3,177
206	8/19	4:00 PM	Thur	4,338	15.88%	27,319	19	9/15	5:00 PM	Wed	683	11.64%	5,868
301	9/9	4:00 PM	Thur	1,650	12.18%	13,548	24	10/8	4:00 PM	Fri	2,068	11.35%	18,228
304	8/27	4:00 PM	Fri	3,032	10.52%	28,828	323	11/28	3:00 PM	Sun	501	12.59%	3,978
330	5/20	5:00 PM	Thur	1,211	10.64%	11,381	324	11/8	3:00 PM	Mon	848	18.40%	4,608
334	3/21	12:00 PM	Sun	1,635	9.91%	16,493	326	5/7	4:00 PM	Fri	1,121	11.88%	9,440
375	2/1	4:00 PM	Mon	3,297	14.18%	23,248	360	10/8	4:00 PM	Fri	335	12.71%	2,635
504	11/8	3:00 PM	Mon	5,092	12.18%	41,808	363	9/3	3:00 PM	Fri	634	13.04%	4,861
							395	10/1	4:00 PM	Fri	1,192	11.03%	10,808
							501	11/28	1:00 PM	Sun	1,709	18.67%	9,154
							503	8/14	10:00 PM	Sat	661	16.21%	4,077
							505	3/5	3:00 PM	Fri	2,882	13.69%	21,047
							700	1/1	1:00 PM	Fri	3,723	27.89%	13,347
							803	11/25	11:00 AM	Thur	2,778	12.53%	22,173

2010 Peak Hour by TPG (Continued)

2010 Peak Hour by Traffic Pattern Group (TPG)

TPG 5: Urban Minor Arterial or Collector

Site #	Date	Hour (start)	DOW	Volume	% AADT	AADT
18	10/1	4:00 PM	Fri	854	12.70%	6,723
20	6/17	4:00 PM	Thur	1,145	14.99%	7,638
379	3/22	4:00 PM	Mon	226	16.15%	1,399
380	4/23	5:00 PM	Fri	1,073	12.43%	8,631
381	10/31	2:00 PM	Sun	71	14.79%	480
382	8/31	3:00 PM	Tues	244	13.82%	1,765
390	7/25	5:00 PM	Sun	718	12.68%	5,663
506	11/8	3:00 PM	Mon	2,629	15.80%	16,638

TPG 6: North Rural Minor Arterial

Site #	Date	Hour (start)	DOW	Volume	% AADT	AADT
2	3/27	8:00 AM	Sat	348	18.21%	1,911
3	10/8	4:00 PM	Fri	731	13.44%	5,438
27	9/6	2:00 PM	Mon	429	15.14%	2,834
48	7/23	4:00 PM	Fri	596	12.33%	4,835
51	10/8	3:00 PM	Fri	404	12.44%	3,247
328	4/16	3:00 PM	Fri	627	12.37%	5,069
410	11/8	3:00 PM	Mon	703	16.22%	4,335

2010 Peak Hour by Traffic Pattern Group (TPG)

TPG 7: Central Rural Minor Arterial

Site #	Date	Hour (start)	DOW	Volume	% AADT	AADT
1	8/21	4:00 PM	Sat	455	14.42%	3,156
15	10/6	3:00 PM	Wed	846	15.90%	5,321
40	3/12	4:00 PM	Fri	531	11.20%	4,742
367	8/6	6:00 PM	Fri	758	12.21%	6,210
391	6/24	5:00 PM	Thur	1,021	13.24%	7,714

TPG 8: North Rural Collector

Site #	Date	Hour (start)	DOW	Volume	% AADT	AADT
5	7/29	5:00 PM	Thur	580	29.04%	1,997
29	9/3	5:00 PM	Fri	193	13.80%	1,399
383	5/14	4:00 PM	Fri	609	14.35%	4,243
384	7/31	12:00 PM	Sat	95	21.44%	443
385	4/30	4:00 PM	Fri	249	13.00%	1,915
802	7/30	6:00 PM	Fri	829	19.34%	4,287

2010 Peak Hour by Traffic Pattern Group (TPG)

TPG 9: Central Rural Collector

Site #	Date	Hour (start)	DOW	Volume	% AADT	AADT
362	6/30	4:00 PM	Wed	759	12.45%	6,094
364	8/7	12:00 PM	Sat	596	12.10%	4,926
386	7/29	5:00 PM	Thur	514	23.22%	2,214
388	6/25	5:00 PM	Fri	467	13.87%	3,367
389	5/21	5:00 PM	Fri	291	14.07%	2,068

TPG 10: Special Recreational

Site #	Date	Hour (start)	DOW	Volume	% AADT	AADT
306	7/4	12:00 PM	Sun	983	16.79%	5,856
805	7/4	12:00 PM	Sun	762	26.35%	2,892

2010 30th Highest Hour by Traffic Pattern Group (TPG)

2010 30th Highest Hour by Traffic Pattern Group													
TPG 1: Urban Interstate							**TPG 2: Rural Interstate**						
Site #	**Date**	**Hour (start)**	**DOW**	**Volume**	**% AADT**	**AADT**	**Site #**	**Date**	**Hour (start)**	**DOW**	**Volume**	**% AADT**	**AADT**
205	8/27	4:00 PM	Fri	4,860	9.22%	52,706	106	8/6	3:00 PM	Fri	3,809	9.65%	39,468
210	1/7	7:00 AM	Thur	9,578	9.86%	97,178	207	5/31	4:00 PM	Mon	2,726	12.70%	21,460
216	8/15	4:00 PM	Sun	3,553	12.65%	28,089	371	7/18	3:00 PM	Sun	2,819	14.93%	18,876
317	9/3	3:00 PM	Fri	1,475	11.70%	12,603	372	8/21	10:00 AM	Sat	2,864	10.41%	27,516
370	9/10	3:00 PM	Fri	3,087	9.62%	32,075	392	7/5	12:00 PM	Mon	2,470	10.72%	23,050
376	9/3	3:00 PM	Fri	5,604	9.51%	58,951	393	9/6	2:00 PM	Mon	3,209	10.36%	30,979
377	7/22	5:00 PM	Thur	5,483	10.11%	54,213	600	4/2	3:00 PM	Fri	3,509	9.41%	37,286
394	8/24	4:00 PM	Tues	5,726	9.60%	59,668	800	11/12	4:00 PM	Fri	2,364	11.40%	20,737
801	10/19	4:00 PM	Tues	7,231	9.00%	80,320							
804	9/3	4:00 PM	Fri	4,894	8.94%	54,765							

2010 30th Highest Hour by Traffic Pattern Group													
TPG 3: Urban Principal Arterial							**TPG 4: Rural Principal Arterial**						
Site #	**Date**	**Hour (start)**	**DOW**	**Volume**	**% AADT**	**AADT**	**Site #**	**Date**	**Hour (start)**	**DOW**	**Volume**	**% AADT**	**AADT**
8	4/13	7:00 AM	Tues	1,984	11.13%	17,828	4	5/30	1:00 PM	Sun	374	11.77%	3,177
206	10/14	7:00 AM	Thur	3,748	13.72%	27,319	19	10/14	4:00 PM	Thur	625	10.65%	5,868
301	9/30	4:00 PM	Thur	1,452	10.72%	13,548	24	5/5	4:00 PM	Fri	1,855	10.18%	18,228
304	4/30	3:00 PM	Fri	2,799	9.71%	28,828	323	11/19	4:00 PM	Fri	419	10.53%	3,978
330	5/19	5:00 PM	Wed	1,104	9.70%	11,381	324	11/18	3:00 PM	Thur	536	11.63%	4,608
334	4/17	10:00 AM	Sat	1,499	9.09%	16,493	326	6/4	3:00 PM	Fri	1,023	10.84%	9,440
375	8/22	4:00 PM	Sun	2,247	9.67%	23,248	360	9/29	4:00 PM	Wed	285	10.82%	2,635
504	11/8	8:00 AM	Mon	3,490	8.35%	41,808	363	7/2	5:00 PM	Fri	520	10.70%	4,861
							395	12/2	4:00 PM	Thur	1,058	9.79%	10,808
							501	8/15	3:00 PM	Sun	1,196	13.07%	9,154
							503	9/8	7:00 AM	Wed	449	11.01%	4,077
							505	8/20	3:00 PM	Fri	2,424	11.52%	21,047
							700	3/5	3:00 PM	Fri	1,494	11.19%	13,347
							803	10/10	5:00 PM	Sun	2,331	10.51%	22,173

2010 30th Highest Hour by TPG (Continued)

2010 30th Highest Hour by Traffic Pattern Group

TPG 5: Urban Minor Arterial or Collector / TPG 6: North Rural Minor Arterial

Site #	Date	Hour (start)	DOW	Volume	% AADT	AADT	Site #	Date	Hour (start)	DOW	Volume	% AADT	AADT
18	10/6	4:00 PM	Wed	753	11.20%	6,723	2	6/18	4:00 PM	Fri	226	11.83%	1,911
20	6/24	2:00 PM	Thur	836	10.95%	7,638	3	10/15	5:00 PM	Fri	600	11.03%	5,438
379	4/30	4:00 PM	Fri	150	10.72%	1,399	27	9/3	3:00 PM	Fri	356	12.56%	2,834
380	4/30	5:00 PM	Fri	973	11.27%	8,631	48	11/19	4:00 PM	Fri	526	10.88%	4,835
381	10/27	3:00 PM	Wed	55	11.46%	480	51	4/23	3:00 PM	Fri	346	10.66%	3,247
382	3/19	4:00 PM	Fri	212	12.01%	1,765	328	5/27	7:00 AM	Thur	521	10.28%	5,069
390	1/23	12:00 PM	Sat	615	10.86%	5,663	410	10/15	3:00 PM	Fri	453	10.45%	4,335
506	7/2	3:00 PM	Fri	1,644	9.88%	16,638							

2010 30th Highest Hour by Traffic Pattern Group

TPG 7: Central Rural Minor Arterial / TPG 8: North Rural Collector

Site #	Date	Hour (start)	DOW	Volume	% AADT	AADT	Site #	Date	Hour (start)	DOW	Volume	% AADT	AADT
1	7/10	12:00 PM	Sat	364	11.53%	3,156	5	9/9	4:00 PM	Thur	359	17.98%	1,997
15	5/5	3:00 PM	Wed	656	12.33%	5,321	29	9/16	3:00 PM	Thur	148	10.58%	1,399
40	3/12	5:00 PM	Fri	466	9.83%	4,742	383	5/14	3:00 PM	Fri	494	11.64%	4,243
367	7/24	10:00 AM	Sat	646	10.40%	6,210	384	5/29	1:00 PM	Sat	58	13.09%	443
391	8/27	4:00 PM	Fri	826	10.71%	7,714	385	11/12	4:00 PM	Fri	212	11.07%	1,915
							802	8/30	4:00 PM	Mon	586	13.67%	4,287

2010 30th Highest Hour by Traffic Pattern Group

TPG 9: Central Rural Collector / TPG 10: Special Recreational

Site #	Date	Hour (start)	DOW	Volume	% AADT	AADT	Site #	Date	Hour (start)	DOW	Volume	% AADT	AADT
362	6/4	4:00 PM	Fri	617	10.12%	6,094	306	5/29	2:00 PM	Sat	776	13.25%	5,856
364	5/20	4:00 PM	Thur	534	10.84%	4,926	805	8/7	3:00 PM	Sat	537	18.57%	2,892
386	12/17	2:00 PM	Fri	241	10.89%	2,214							
388	12/3	7:00 AM	Fri	345	10.25%	3,367							
389	10/8	3:00 PM	Fri	245	11.85%	2,068							

2010 50th Highest Hour by Traffic Pattern Group (TPG)

2010 50th Highest Hour by Traffic Pattern Group

TPG 1: Urban Interstate							TPG 2: Rural Interstate						
Site #	Date	Hour (start)	DOW	Volume	% AADT	AADT	Site #	Date	Hour (start)	DOW	Volume	% AADT	AADT
205	3/26	4:00 PM	Fri	4,799	9.11%	52,706	106	8/8	4:00 PM	Sun	3,722	9.43%	39,468
210	1/14	3:00 PM	Thur	9,382	9.65%	97,178	207	7/30	2:00 PM	Fri	2,578	12.01%	21,460
216	8/8	4:00 PM	Sun	3,471	12.36%	28,089	371	8/8	4:00 PM	Sun	2,722	14.42%	18,876
317	8/13	5:00 PM	Fri	1,416	11.24%	12,603	372	10/1	4:00 PM	Fri	2,745	9.98%	27,516
370	5/14	4:00 PM	Fri	3,027	9.44%	32,075	392	8/20	2:00 PM	Fri	2,408	10.45%	23,050
376	11/28	3:00 PM	Sun	5,492	9.32%	58,951	393	8/1	1:00 PM	Sun	3,088	9.97%	30,979
377	7/15	5:00 PM	Thur	5,410	9.98%	54,213	600	7/23	4:00 PM	Fri	3,429	9.20%	37,286
394	8/11	5:00 PM	Wed	5,601	9.39%	59,668	800	4/1	4:00 PM	Thur	2,276	10.98%	20,737
801	9/29	4:00 PM	Wed	7,168	8.92%	80,320							
804	7/16	5:00 PM	Fri	4,812	8.79%	54,765							

2010 50th Highest Hour by Traffic Pattern Group

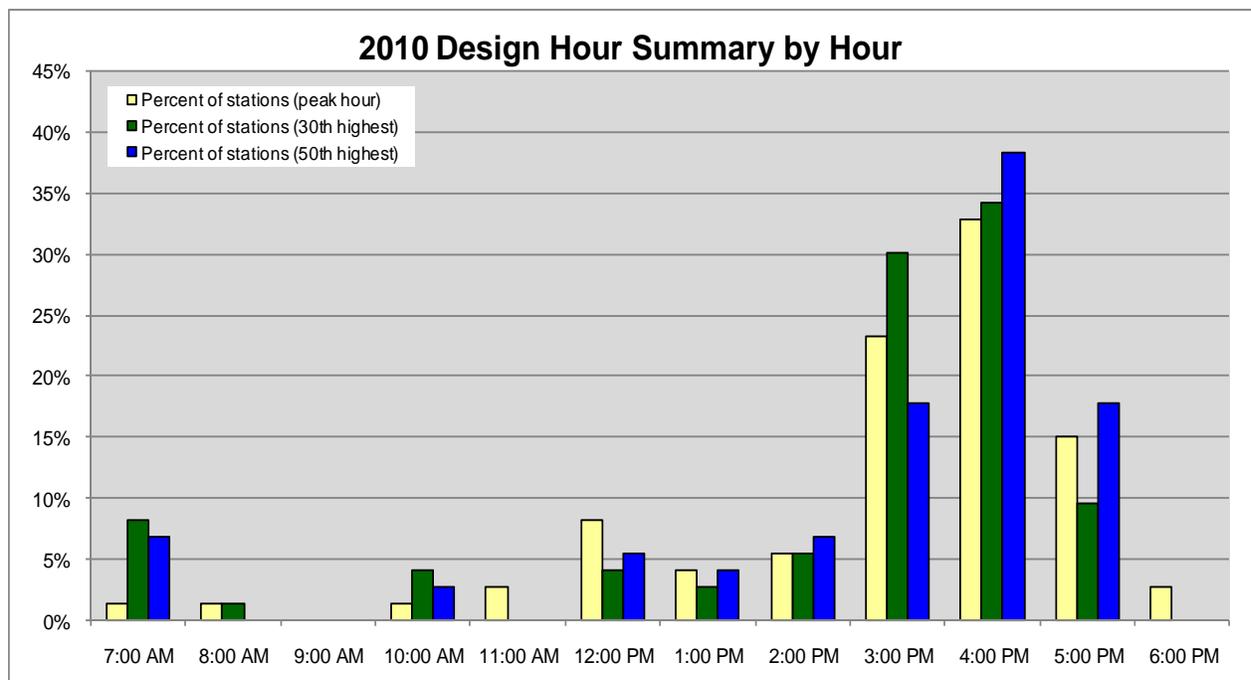| TPG 3: Urban Principal Arterial							TPG 4: Rural Principal Arterial						
Site #	Date	Hour (start)	DOW	Volume	% AADT	AADT	Site #	Date	Hour (start)	DOW	Volume	% AADT	AADT
8	4/12	7:00 AM	Mon	1,961	11.00%	17,828	4	7/5	2:00 PM	Mon	362	11.39%	3,177
206	4/27	7:00 AM	Tues	3,706	13.57%	27,319	19	9/9	5:00 PM	Thur	608	10.36%	5,868
301	4/1	3:00 PM	Thur	1,430	10.56%	13,548	24	11/5	5:00 PM	Fri	1,798	9.86%	18,228
304	8/27	5:00 PM	Fri	2,749	9.54%	28,828	323	3/5	4:00 PM	Fri	408	10.26%	3,978
330	10/7	5:00 PM	Thur	1,084	9.52%	11,381	324	7/2	4:00 PM	Fri	523	11.35%	4,608
334	5/20	4:00 PM	Thur	1,473	8.93%	16,493	326	3/26	4:00 PM	Fri	1,005	10.65%	9,440
375	8/18	12:00 PM	Wed	2,182	9.39%	23,248	360	4/29	3:00 PM	Thur	278	10.55%	2,635
504	11/9	7:00 AM	Tues	3,455	8.26%	41,808	363	4/2	2:00 PM	Fri	498	10.24%	4,861
							395	9/20	4:00 PM	Mon	1,038	9.60%	10,808
							501	9/3	2:00 PM	Fri	1,139	12.44%	9,154
							503	9/15	7:00 AM	Wed	438	10.74%	4,077
							505	3/19	4:00 PM	Fri	2,338	11.11%	21,047
							700	11/12	3:00 PM	Fri	1,416	10.61%	13,347
							803	10/8	5:00 PM	Fri	2,287	10.31%	22,173

2010 50th Highest Hour by TPG (Continued)

2010 50th Highest Hour by Traffic Pattern Group

TPG 5: Urban Minor Arterial or Collector | TPG 6: North Rural Minor Arterial

Site #	Date	Hour (start)	DOW	Volume	% AADT	AADT	Site #	Date	Hour (start)	DOW	Volume	% AADT	AADT
18	10/1	5:00 PM	Fri	732	10.89%	6,723	2	5/10	4:00 PM	Mon	214	11.20%	1,911
20	6/24	12:00 PM	Thur	789	10.33%	7,638	3	10/29	4:00 PM	Fri	576	10.59%	5,438
379	5/3	4:00 PM	Mon	146	10.44%	1,399	27	8/6	4:00 PM	Fri	342	12.07%	2,834
380	4/15	4:00 PM	Thur	947	10.97%	8,631	48	8/7	10:00 AM	Sat	512	10.59%	4,835
381	11/12	5:00 PM	Fri	53	11.04%	480	51	8/5	4:00 PM	Thur	339	10.44%	3,247
382	5/3	4:00 PM	Mon	205	11.61%	1,765	328	7/29	5:00 PM	Thur	511	10.08%	5,069
390	4/10	12:00 PM	Sat	598	10.56%	5,663	410	4/9	3:00 PM	Fri	444	10.24%	4,335
506	5/28	4:00 PM	Fri	1,611	9.68%	16,638							

2010 50th Highest Hour by Traffic Pattern Group

TPG 7: Central Rural Minor Arterial | TPG 8: North Rural Collector

Site #	Date	Hour (start)	DOW	Volume	% AADT	AADT	Site #	Date	Hour (start)	DOW	Volume	% AADT	AADT
1	7/5	3:00 PM	Mon	354	11.22%	3,156	5	9/14	7:00 AM	Tues	349	17.48%	1,997
15	10/22	3:00 PM	Fri	634	11.92%	5,321	29	11/12	3:00 PM	Fri	144	10.29%	1,399
40	4/8	4:00 PM	Thur	454	9.57%	4,742	383	4/8	3:00 PM	Thur	475	11.19%	4,243
367	12/18	12:00 PM	Sat	627	10.10%	6,210	384	7/17	1:00 PM	Sat	54	12.19%	443
391	3/26	5:00 PM	Fri	810	10.50%	7,714	385	4/15	4:00 PM	Thur	203	10.60%	1,915
							802	10/29	3:00 PM	Fri	571	13.32%	4,287

2010 50th Highest Hour by Traffic Pattern Group

TPG 9: Central Rural Collector | TPG 10: Special Recreational

Site #	Date	Hour (start)	DOW	Volume	% AADT	AADT	Site #	Date	Hour (start)	DOW	Volume	% AADT	AADT
362	5/26	4:00 PM	Wed	607	9.96%	6,094	306	7/31	10:00 AM	Sat	737	12.59%	5,856
364	6/21	4:00 AM	Mon	520	10.56%	4,926	805	6/20	1:00 PM	Sun	494	17.08%	2,892
386	11/5	3:00 PM	Fri	236	10.66%	2,214							
388	9/15	4:00 PM	Wed	338	10.04%	3,367							
389	9/21	3:00 PM	Tues	240	11.61%	2,068							

2010 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.

2010 Design Hour Summary by Hour

2010 Design Hour Summaries: Peak, 30th and 50th Highest Hour

2010 Design Hour Summary by Day

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

2010 Design Hour Summary by Month

Legend:
- ☐ Percent of stations (peak hour)
- ■ Percent of stations (30th highest)
- ■ Percent of stations (50th highest)
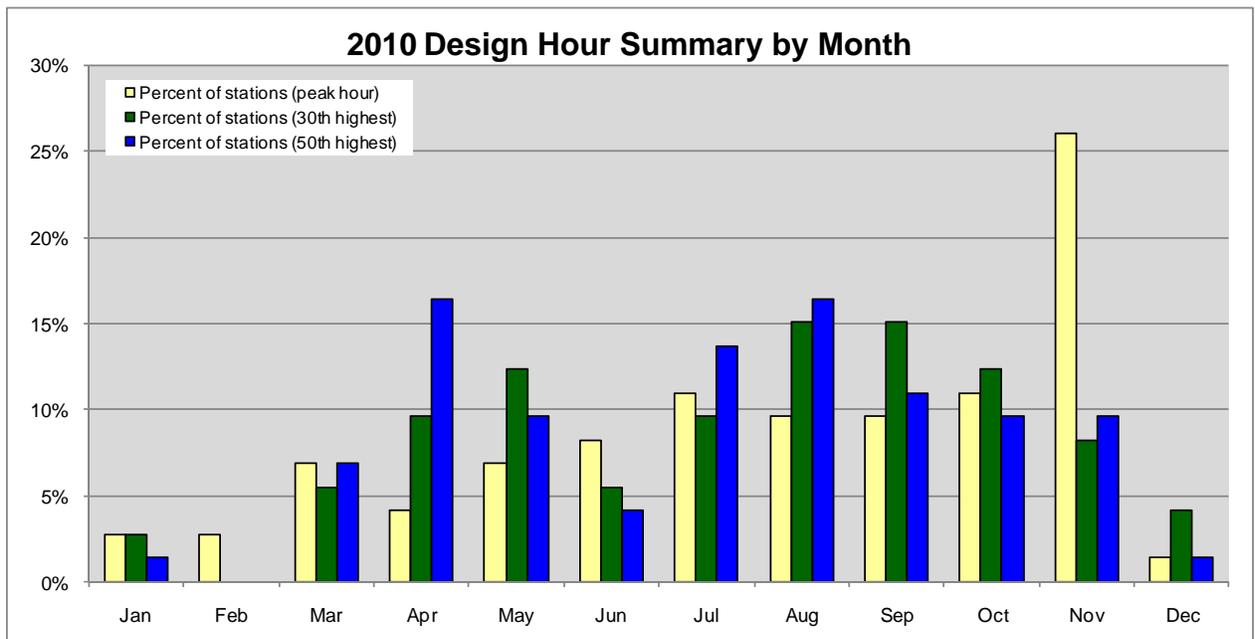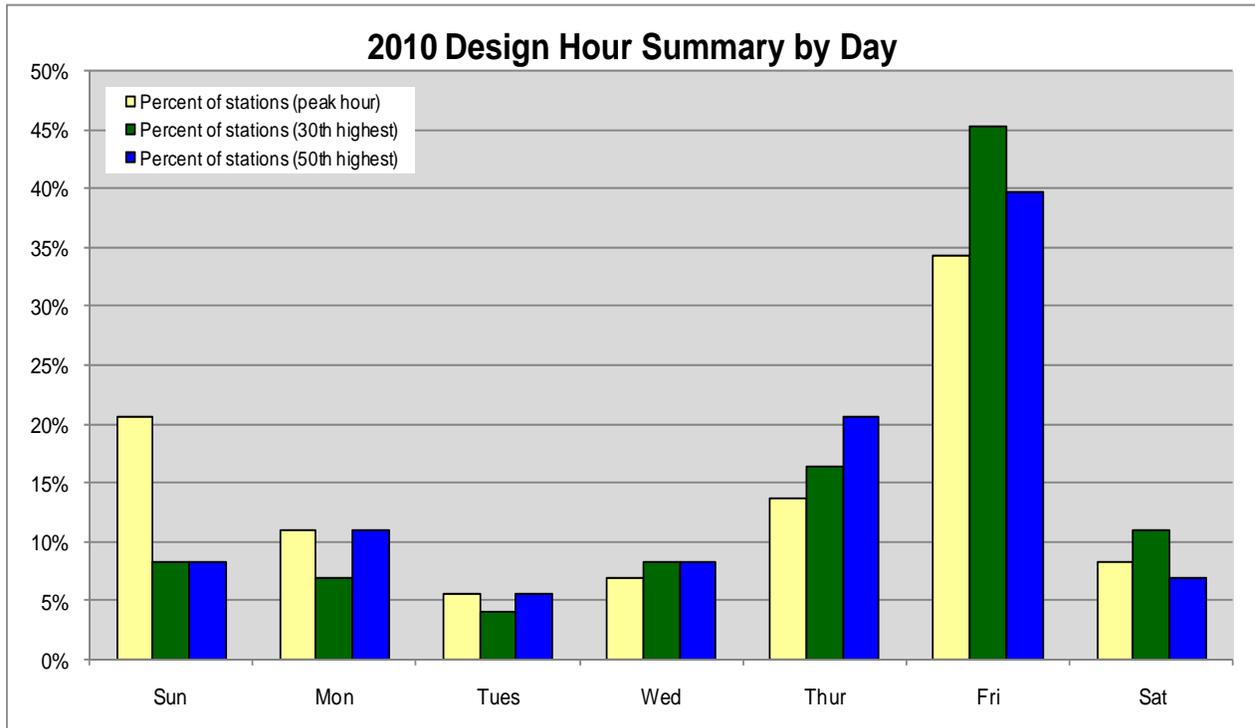
Five Year Summary of Annual Average Daily Traffic (AADT) from Permanent Sites

This chart shows the permanent site station numbers and their Annual Average Daily Traffic (AADT) for the past five years, 2006 through 2010. The percent change is also given for 2009 to 2010 and 2006 to 2010, showing where traffic has increased or decreased.

Indicates there is no data available.

	Annual Average Daily Traffic (AADT)					Percent Change	
Site #	2006	2007	2008	2009	2010	2009-2010	2006-2010
1	3,716	3,806	*	3,767	3,156	-19.4%	-17.7%
2	2,058	2,098	2,016	1,935	1,911	-1.3%	-7.7%
3	5,738	5,728	5,448	5,402	5,438	0.7%	-5.5%
4	2,834	2,855	2,741	2,868	3,177	9.7%	10.8%
5	1,441	1,400	1,327	1,336	1,997	33.1%	27.8%
8	15,912	16,282	16,270	16,649	17,828	6.6%	10.7%
15	5,982	5,832	5,564	5,199	5,321	2.3%	-12.4%
18	7,015	6,644	6,545	6,414	6,723	4.6%	-4.3%
19	5,982	5,821	5,587	5,712	5,868	2.7%	-1.9%
20	7,801	7,552	7,381	7,401	7,638	3.1%	-2.1%
24	17,350	17,705	*	17,992	18,228	1.3%	4.8%
27	2,773	2,799	2,688	2,742	2,834	3.2%	2.2%
29	1,173	1,156	1,163	1,246	1,399	10.9%	16.2%
40	4,943	5,019	*	4,865	4,742	-2.6%	-4.2%
48	4,547	4,547	4,610	4,275	4,835	11.6%	6.0%
51	3,650	3,388	3,195	3,160	3,247	2.7%	-12.4%
106	*	*	*	*	39,468	0.0%	0.0%
126	*	*	*	*	*	0.0%	0.0%
203	20,589	20,491	20,589	20,570	*	0.0%	-0.1%
205	*	*	*	52,221	52,706	0.9%	0.0%
206	27,977	29,004	28,350	27,590	27,319	-1.0%	-2.4%
207	20,577	21,038	21,402	21,107	21,460	1.6%	4.1%
208	65,773	65,294	64,510	62,178	*	0.0%	-5.8%
210	116,841	117,292	115,527	113,384	97,178	-16.7%	-20.2%
216	28,187	27,395	26,915	27,376	28,089	2.5%	-0.3%
301	15,439	15,045	14,757	14,285	13,548	-5.4%	-14.0%
304	*	*	*	26,626	28,828	7.6%	0.0%
306	6,155	5,991	5,784	5,416	5,856	7.5%	-5.1%
317	*	*	*	*	12,603	0.0%	0.0%
323	3,651	3,788	3,757	3,877	3,978	2.5%	8.2%
324	*	*	*	*	4,608	0.0%	0.0%
326	10,114	10,027	9,594	9,475	9,440	-0.4%	-7.1%
328	5,070	5,138	4,944	4,950	5,069	2.3%	0.0%
330	11,471	11,487	11,371	11,166	11,381	1.9%	-0.8%
334	18,933	18,125	17,379	16,951	16,493	-2.8%	-14.8%
349	38,480	38,380	37,130	37,154	*	0.0%	-3.6%
360	2,658	2,580	2,500	2,368	2,635	10.1%	-0.9%
362	5,932	6,019	5,927	5,987	6,094	1.8%	2.7%
363	5,058	5,037	4,817	4,733	4,861	2.6%	-4.1%

Five Year Summary of AADT from Permanent Sites (Continued)

Indicates there is no data available.

Site #	\multicolumn{5}{c}{Annual Average Daily Traffic (AADT)}	\multicolumn{2}{c}{Percent Change}

Site #	2006	2007	2008	2009	2010	2009-2010	2006-2010
364	5,352	5,327	5,192	5,006	4,926	-1.6%	-8.6%
367	6,241	6,087	5,894	6,023	6,210	3.0%	-0.5%
370	31,099	31,865	32,519	31,319	32,075	2.4%	3.0%
371	19,401	19,092	18,680	18,249	18,876	3.3%	-2.8%
372	26,696	27,031	26,543	26,692	27,516	3.0%	3.0%
374	33,927	33,181	32,253	32,941	*	0.0%	-3.0%
375	25,170	24,070	23,479	23,249	23,248	0.0%	-8.3%
376	61,170	61,431	61,733	60,457	58,951	-2.6%	-3.8%
377	53,219	54,592	54,531	54,557	54,213	-0.6%	1.8%
378	10,922	10,660	10,446	8,969	*	0.0%	-21.8%
379	1,493	1,515	1,439	1,426	1,399	-1.9%	-6.7%
380	9,451	9,171	9,399	9,121	8,631	-5.7%	-9.5%
381	671	612	537	520	480	-8.3%	-39.8%
382	1,927	1,870	1,782	1,778	1,765	-0.7%	-9.2%
383	4,181	3,926	4,223	3,761	4,243	11.4%	1.5%
384	630	606	584	451	443	-1.8%	-42.2%
385	2,081	1,929	1,844	1,840	1,915	3.9%	-8.7%
386	2,122	2,235	2,271	2,097	2,214	5.3%	4.2%
387	3,384	3,301	3,164	3,219	*	0.0%	-5.1%
388	3,961	3,822	3,358	3,220	3,367	4.4%	-17.6%
389	2,239	2,182	2,158	2,022	2,068	2.2%	-8.3%
390	6,608	6,307	6,267	5,781	5,663	-2.1%	-16.7%
391	8,733	8,549	8,170	7,769	7,714	-0.7%	-13.2%
392	23,746	23,867	23,035	23,312	23,050	-1.1%	-3.0%
393	30,910	30,875	30,513	29,812	30,979	3.8%	0.2%
394	52,363	52,003	55,137	57,096	59,668	4.3%	12.2%
395	*	11,550	10,971	10,736	10,808	0.7%	-6.9%
410	*	*	*	*	4,335	0.0%	0.0%
501	*	*	*	*	9,154	0.0%	0.0%
503	*	*	*	*	4,077	0.0%	0.0%
504	*	*	*	*	41,808	0.0%	0.0%
505	*	*	*	*	21,047	0.0%	0.0%
506	*	*	*	*	16,638	0.0%	0.0%
600	*	*	*	*	37,286	0.0%	0.0%
700	*	*	*	*	13,347	0.0%	0.0%
800	*	*	*	20,493	20,737	1.2%	0.0%
801	*	*	*	76,651	80,320	4.6%	0.0%
802	*	*	*	*	4,287	0.0%	0.0%
803	*	*	*	*	22,173	0.0%	0.0%
804	*	*	*	*	54,765	0.0%	0.0%
805	*	*	*	*	2,892	0.0%	0.0%
806	*	*	*	*	*	0.0%	0.0%
809	*	*	*	*	*	0.0%	0.0%
985	*	*	*	19,748	*	0.0%	0.0%

* 395 Percent change is taken from 2007, 2008, 2009 & 2010 data only, 2007 was first full year of data.

* 205, 304, 800 & 801 2009 was first full year of data.

* 106, 317, 324, 410, 501, 503, 504, 505, 506, 600, 700, 802, 803, 804 & 805 2010 was first full year of data

* 985 2009 only full year of data.

* 1, 24 & 40 no 2008 data due to site being inactive.

* 203, 208, 349, 374, 378 & 387 no 2010 data due to site being inactive.
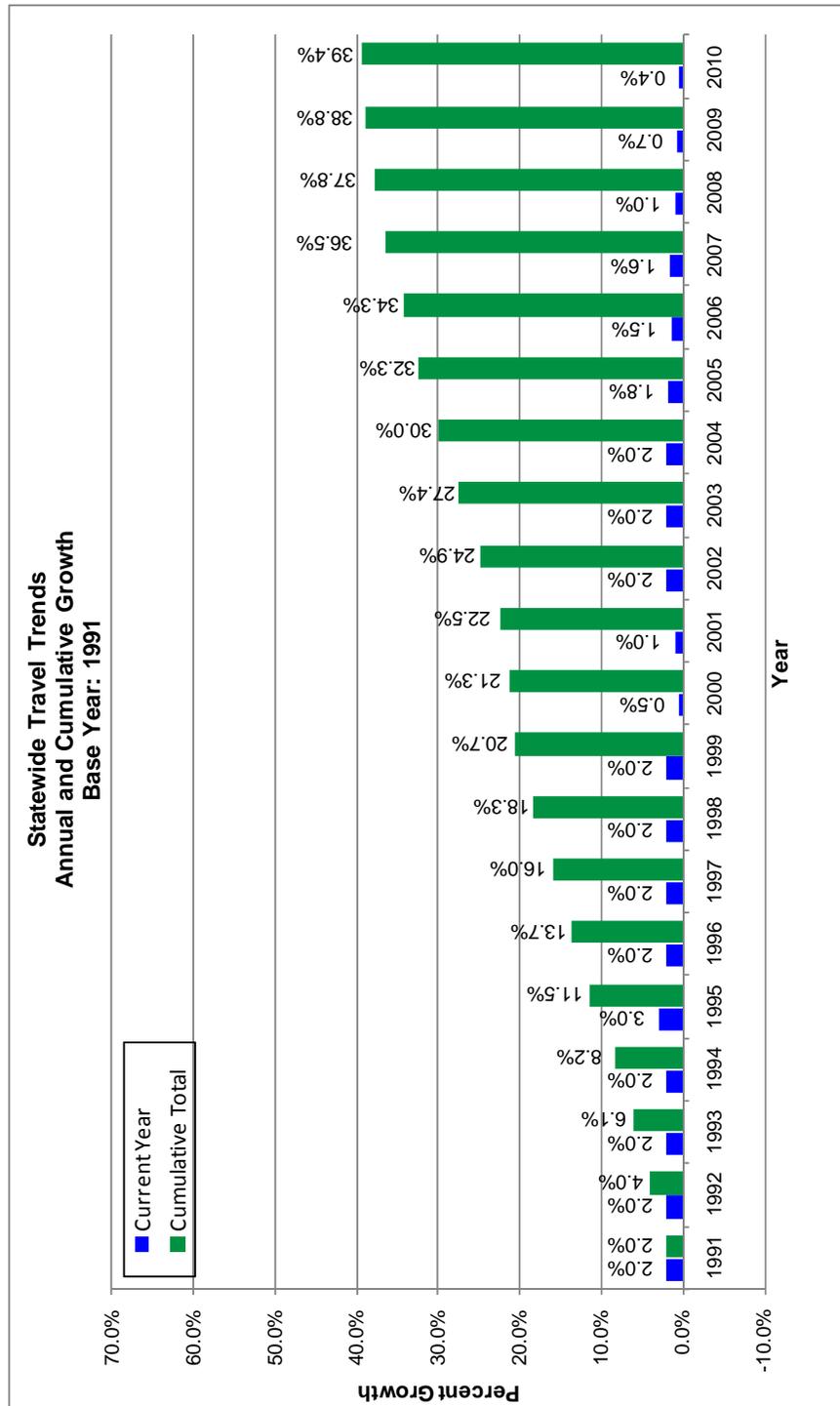
* 126, 806 & 809 sites inactive.

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 2005/2006 up to 2009/2010. An overall change in growth over the 5 year period for the traffic pattern groups is also shown on this table.

Percent Change Per Year, 2005 - 2010						
TRAFFIC PATTERN GROUPS	**2005-06**	**2006-07**	**2007-08**	**2008-09**	**2009-10**	**2005-10**
TPG 1 Urban Interstate	2.9%	3.0%	2.4%	1.0%	0.0%	9.3%
TPG 2 Rural Interstate	3.0%	3.0%	2.4%	2.2%	1.6%	12.2%
TPG 3 Urban Principal Arterial	0.7%	1.1%	0.2%	0.3%	0.2%	2.5%
TPG 4 Rural Principal Arterial	1.2%	1.3%	0.8%	0.5%	0.3%	4.1%
TPG 5 Urban Minor Arterials or Collectors	0.7%	1.1%	0.2%	0.3%	0.2%	2.5%
TPG 6 North Rural Minor Arterials	1.2%	1.3%	0.8%	0.5%	0.3%	4.1%
TPG 7 Central Rural Minor Arterials	1.2%	1.3%	0.8%	0.5%	0.3%	4.1%
TPG 8 North Rural Collectors	1.2%	1.3%	0.8%	0.5%	0.3%	4.1%
TPG 9 Central Rural Collectors	1.2%	1.3%	0.8%	0.5%	0.3%	4.1%
TPG 10 Special Recreational	1.2%	1.3%	0.8%	0.5%	0.3%	4.1%
Statewide	1.5%	1.6%	1.0%	0.7%	0.4%	5.1%

Statewide Traffic Trends

This chart shows yearly changes from 1991 to 2010 and a 20-year cumulative trend for the same period.

Statewide Travel Trends
Annual and Cumulative Growth
Base Year: 1991

Year	Current Year	Cumulative Total
2010	0.4%	39.4%
2009	0.7%	38.8%
2008	1.0%	37.8%
2007	1.6%	36.5%
2006	1.5%	34.3%
2005	1.8%	32.3%
2004	2.0%	30.0%
2003	2.0%	27.4%
2002	2.0%	24.9%
2001	1.0%	22.5%
2000	0.5%	21.3%
1999	2.0%	20.7%
1998	2.0%	18.3%
1997	2.0%	16.0%
1996	2.0%	13.7%
1995	3.0%	11.5%
1994	2.0%	8.2%
1993	2.0%	6.1%
1992	2.0%	4.0%
1991	2.0%	2.0%

Heaviest Holiday Travel Periods: 2010

The 73 permanent sites 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 permanent site stations) are shown on the chart below:

Highest Holiday Periods

Holiday	Highest Holiday (Day)	Highest Holiday Period (7-Day)
Independence Day	1,596,181	9,266,855
Thanksgiving	1,595,697	8,748,873
Labor Day	1,543,231	8,706,592
Memorial Day	1,439,252	8,160,247
Christmas	1,370,083	7,504,560
New Year's Day	1,036,300	6,116,394
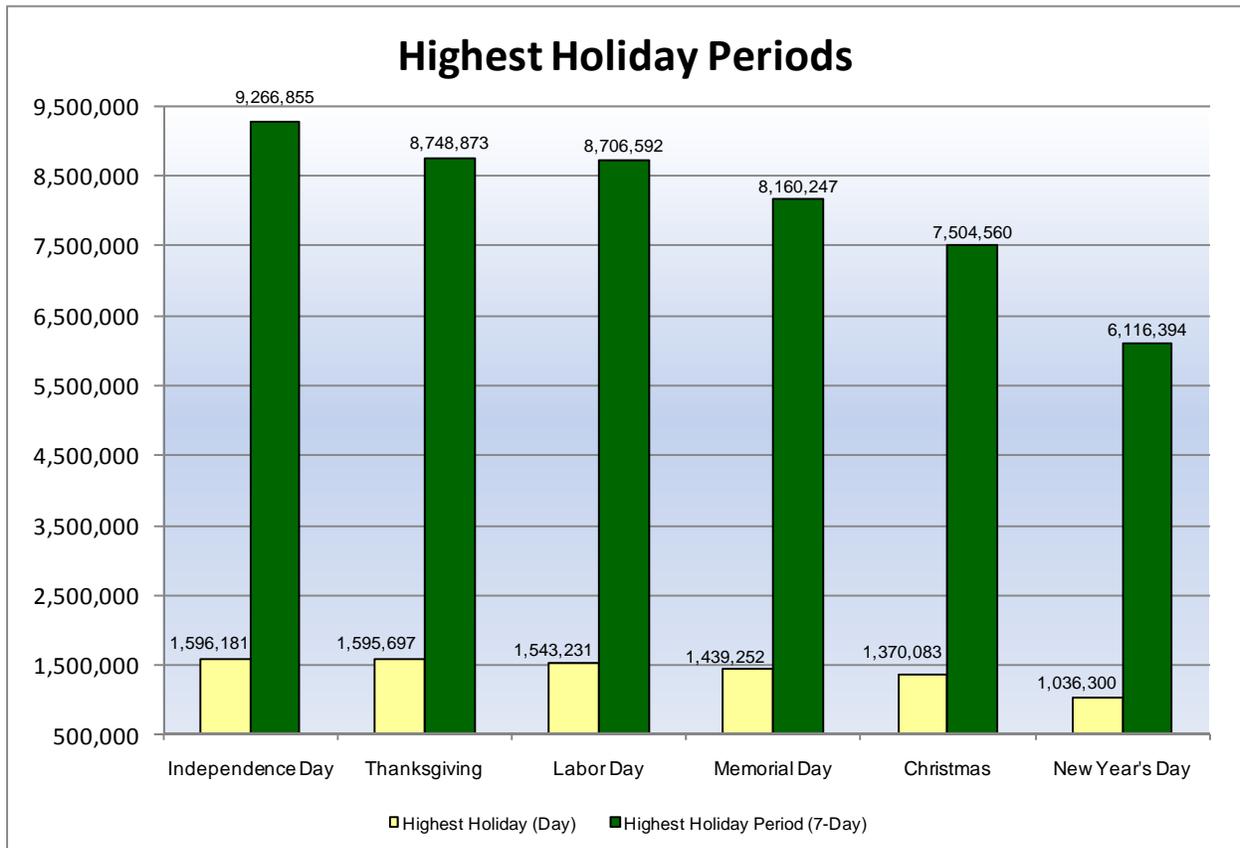
The chart indicates that Independence Day had the highest seven-day holiday period in 2010 with a total volume of 9,266,855. Thanksgiving ranked second (8,748,873) followed by Labor Day (8,706,592) and Memorial Day (8,160,247). Christmas and New Year's Day ranked fifth (7,504,560) and sixth (6,116,394) respectively.

The highest day during a seven-day holiday period in 2010 was the Friday before Independence Day (July 2, 2010), which had a volume of 1,596,181. The second highest day was the Wednesday before Thanksgiving (November 24, 2010), which had a volume of 1,595,697. The Friday before Labor Day (September 3, 2010), ranked third with 1,543,231, while the Friday before Memorial Day (May 28, 2010), ranked fourth with 1,439,252. The Thursday before Christmas (December 23, 2010) ranked fifth with 1,370,083, while the Thursday before New Year's Day (December 30, 2010) ranked sixth with 1,036,300.

Heaviest Holiday Travel Period Comparisons: 2009-2010

Highest Holiday (Day)					
2009			**2010**		
Holiday	**Total Volume**		**Holiday**	**Total Volume**	
1. Memorial Day	1,409,991		1. Independence Day	1,596,181	
2. Labor Day	1,383,728		2. Thanksgiving	1,595,697	
3. Thanksgiving	1,316,256		3. Labor Day	1,543,231	
4. Independence Day	1,314,166		4. Memorial Day	1,439,252	
5. Christmas	1,191,002		5. Christmas	1,370,083	
6. New Year's Day	989,628		6. New Year's Day	1,036,300	

Highest Holiday Period (7-Day)					
2009			**2010**		
Holiday	**Total Volume**		**Holiday**	**Total Volume**	
1. Memorial Day	8,049,350		1. Independence Day	9,266,855	
2. Independence Day	7,776,275		2. Thanksgiving	8,748,873	
3. Labor Day	7,718,298		3. Labor Day	8,706,592	
4. Thanksgiving	7,498,077		4. Memorial Day	8,160,247	
5. Christmas	6,720,232		5. Christmas	7,504,560	
6. New Year's Day	5,799,441		6. New Year's Day	6,116,394	

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 AASHTO Mechanistic Empirical Pavement Design Guide has incorporated improved methods of determining loading effects of traffic. In the future, these new methods may supersede the use of ESAL factors.

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 73 permanent site 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 2010. 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 2,000 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	1.07%	1.20%	1.17%	1	1.47%	1.75%	1.74%
2	0.81%	0.85%	0.85%	2	1.21%	1.47%	1.43%
3	0.75%	0.77%	0.77%	3	1.15%	1.38%	1.32%
4	0.83%	0.83%	0.82%	4	1.18%	1.38%	1.33%
5	1.25%	1.11%	1.12%	5	1.43%	1.59%	1.54%
6	2.67%	2.08%	2.29%	6	2.41%	2.24%	2.26%
7	6.00%	4.08%	4.90%	7	4.36%	3.60%	3.68%
8	8.30%	5.41%	6.70%	8	5.98%	4.58%	4.82%
9	6.88%	5.11%	5.93%	9	5.51%	4.75%	4.90%
10	5.46%	4.76%	5.13%	10	5.41%	4.86%	5.13%
11	5.21%	4.81%	5.04%	11	5.68%	5.16%	5.45%
12	5.27%	5.05%	5.23%	12	5.89%	5.30%	5.65%
13	5.34%	5.31%	5.40%	13	5.86%	5.43%	5.71%
14	5.39%	5.49%	5.49%	14	5.92%	5.72%	5.88%
15	5.89%	6.24%	6.04%	15	6.19%	6.28%	6.27%
16	6.55%	7.76%	7.04%	16	6.57%	7.14%	6.81%
17	6.66%	8.79%	7.57%	17	6.74%	7.92%	7.12%
18	6.48%	8.42%	7.36%	18	6.20%	7.29%	6.59%
19	5.21%	5.83%	5.59%	19	5.04%	5.40%	5.33%
20	3.95%	4.41%	4.32%	20	4.14%	4.31%	4.40%
21	3.26%	3.81%	3.66%	21	3.61%	3.81%	3.89%
22	2.82%	3.35%	3.20%	22	3.20%	3.41%	3.47%
23	2.27%	2.56%	2.51%	23	2.69%	2.86%	2.90%
24	1.66%	1.96%	1.87%	24	2.15%	2.36%	2.36%
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	0.73%	0.99%	0.81%	1	0.87%	1.02%	0.79%
2	0.47%	0.59%	0.49%	2	0.61%	0.71%	0.53%
3	0.42%	0.47%	0.41%	3	0.55%	0.62%	0.48%
4	0.50%	0.47%	0.44%	4	0.69%	0.67%	0.58%
5	0.95%	0.70%	0.77%	5	1.20%	0.95%	1.04%
6	2.67%	1.63%	2.06%	6	3.16%	2.05%	2.53%
7	6.18%	3.62%	4.71%	7	5.96%	3.88%	4.83%
8	8.54%	5.38%	6.69%	8	7.42%	5.26%	6.22%
9	7.20%	5.05%	6.04%	9	6.33%	5.14%	5.69%
10	5.52%	4.63%	5.17%	10	5.47%	4.89%	5.32%
11	5.18%	4.68%	5.11%	11	5.32%	4.88%	5.40%
12	5.29%	5.07%	5.43%	12	5.40%	5.22%	5.59%
13	5.53%	5.41%	5.74%	13	5.54%	5.40%	5.80%
14	5.55%	5.59%	5.76%	14	5.78%	5.73%	5.98%
15	6.03%	6.44%	6.34%	15	6.26%	6.47%	6.58%
16	6.69%	8.19%	7.33%	16	6.83%	8.01%	7.54%
17	6.89%	9.26%	7.81%	17	7.10%	8.89%	7.91%
18	6.76%	9.08%	7.68%	18	6.80%	8.52%	7.43%
19	5.38%	6.41%	5.97%	19	5.20%	6.03%	5.58%
20	4.06%	4.79%	4.60%	20	3.90%	4.52%	4.26%
21	3.26%	3.98%	3.79%	21	3.20%	3.84%	3.56%
22	2.73%	3.40%	3.11%	22	2.80%	3.23%	2.90%
23	2.10%	2.38%	2.22%	23	2.19%	2.36%	2.06%
24	1.40%	1.77%	1.52%	24	1.42%	1.70%	1.41%
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	0.72%	0.93%	0.69%	1	0.89%	0.87%	0.74%
2	0.45%	0.55%	0.40%	2	0.57%	0.56%	0.47%
3	0.38%	0.44%	0.32%	3	0.47%	0.45%	0.41%
4	0.46%	0.44%	0.34%	4	0.56%	0.60%	0.50%
5	0.87%	0.65%	0.64%	5	0.96%	0.83%	0.97%
6	2.40%	1.57%	1.85%	6	2.18%	1.73%	2.35%
7	5.43%	3.66%	4.38%	7	4.67%	3.51%	4.39%
8	7.83%	5.33%	6.48%	8	6.18%	5.43%	5.89%
9	6.85%	5.08%	5.91%	9	6.34%	5.04%	5.62%
10	5.37%	4.63%	5.03%	10	5.77%	4.69%	5.42%
11	5.11%	4.65%	5.01%	11	5.32%	4.93%	5.58%
12	5.38%	5.14%	5.45%	12	5.74%	5.29%	5.83%
13	5.71%	5.57%	5.87%	13	5.96%	5.97%	6.06%
14	5.71%	5.60%	5.78%	14	6.20%	6.22%	6.17%
15	6.11%	6.38%	6.37%	15	6.45%	7.06%	6.82%
16	6.95%	8.15%	7.55%	16	7.04%	8.64%	7.78%
17	7.26%	9.31%	8.16%	17	7.27%	8.88%	8.02%
18	7.03%	9.18%	8.03%	18	6.96%	8.66%	7.33%
19	5.57%	6.57%	6.22%	19	5.82%	6.03%	5.61%
20	4.41%	4.86%	4.87%	20	4.46%	4.55%	4.40%
21	3.62%	4.02%	4.02%	21	3.56%	3.73%	3.58%
22	2.91%	3.28%	3.11%	22	2.78%	2.86%	2.77%
23	2.11%	2.36%	2.12%	23	2.31%	2.07%	1.97%
24	1.36%	1.65%	1.38%	24	1.55%	1.42%	1.30%
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	0.82%	0.98%	0.73%	1	0.66%	1.03%	0.70%
2	0.53%	0.67%	0.44%	2	0.42%	0.59%	0.43%
3	0.49%	0.54%	0.38%	3	0.31%	0.40%	0.35%
4	0.56%	0.55%	0.45%	4	0.41%	0.38%	0.39%
5	1.02%	0.84%	0.90%	5	0.77%	0.49%	0.73%
6	2.66%	1.84%	2.51%	6	2.28%	1.26%	1.97%
7	5.75%	3.66%	5.04%	7	5.77%	2.67%	4.33%
8	7.40%	5.00%	6.35%	8	7.56%	4.90%	6.16%
9	6.32%	4.72%	5.51%	9	6.35%	4.83%	5.70%
10	5.48%	4.53%	5.08%	10	5.52%	4.37%	5.21%
11	5.33%	4.71%	5.15%	11	5.42%	4.80%	5.32%
12	5.53%	5.05%	5.40%	12	5.52%	5.22%	5.60%
13	5.82%	5.49%	5.76%	13	6.00%	5.73%	5.95%
14	5.77%	5.63%	5.76%	14	5.93%	5.80%	6.00%
15	6.35%	6.64%	6.48%	15	6.52%	6.36%	6.58%
16	7.08%	8.53%	7.71%	16	6.84%	8.33%	7.74%
17	7.30%	9.52%	8.18%	17	7.22%	9.01%	8.15%
18	6.76%	9.10%	7.74%	18	6.75%	8.99%	7.71%
19	5.31%	6.36%	5.78%	19	5.32%	7.28%	5.99%
20	4.10%	4.66%	4.45%	20	4.42%	5.16%	4.72%
21	3.44%	3.91%	3.75%	21	3.58%	4.26%	3.88%
22	2.74%	3.09%	2.98%	22	2.93%	3.56%	2.98%
23	2.03%	2.27%	2.08%	23	2.10%	2.45%	2.05%
24	1.40%	1.71%	1.39%	24	1.38%	2.12%	1.37%
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	0.83%	1.23%	0.76%	1	0.48%	0.37%	0.55%
2	0.53%	0.76%	0.45%	2	0.40%	0.22%	0.33%
3	0.48%	0.64%	0.39%	3	0.43%	0.33%	0.27%
4	0.61%	0.65%	0.43%	4	0.32%	0.23%	0.31%
5	1.18%	0.93%	0.81%	5	0.56%	0.47%	0.62%
6	2.92%	1.96%	2.22%	6	1.38%	1.06%	1.53%
7	6.26%	3.91%	4.74%	7	3.55%	1.76%	3.55%
8	7.90%	5.17%	6.44%	8	6.21%	2.48%	6.04%
9	6.99%	5.02%	5.66%	9	5.76%	3.02%	5.90%
10	5.60%	4.56%	4.96%	10	4.53%	3.61%	5.29%
11	5.00%	4.48%	4.94%	11	4.88%	4.10%	5.47%
12	5.17%	4.73%	5.25%	12	6.04%	4.27%	5.88%
13	5.31%	5.45%	5.60%	13	6.83%	5.40%	6.28%
14	5.49%	5.56%	5.64%	14	6.86%	5.71%	6.47%
15	5.74%	6.49%	6.34%	15	6.24%	5.71%	6.59%
16	6.33%	7.78%	7.65%	16	6.37%	7.41%	7.45%
17	6.70%	8.63%	8.17%	17	6.63%	9.96%	7.95%
18	6.60%	8.25%	7.88%	18	6.85%	12.49%	8.01%
19	5.61%	6.33%	6.12%	19	7.16%	7.81%	6.14%
20	4.45%	4.66%	4.77%	20	6.86%	7.53%	5.19%
21	3.44%	3.98%	3.98%	21	5.06%	7.57%	4.08%
22	3.00%	3.48%	3.13%	22	3.38%	4.52%	2.95%
23	2.37%	2.98%	2.21%	23	1.99%	2.41%	1.95%
24	1.47%	2.37%	1.46%	24	1.22%	1.55%	1.21%
TOTAL	100.00%	100.00%	100.00%	TOTAL	100.00%	100.00%	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 Automatic Vehicle Classification (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 2,000 AVC counts, collected and verified over the last five years. The raw count data was assigned to the respective Traffic Pattern Group (TPG), the truck data was extracted by vehicle type, and the Traffic Information System (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 2010 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
0	2.62%	3.11%	2.82%	0	1.24%	1.44%	1.17%
1	2.35%	3.00%	2.59%	1	1.12%	1.34%	1.10%
2	2.29%	2.84%	2.51%	2	1.19%	1.43%	1.19%
3	2.35%	3.01%	2.61%	3	1.44%	1.70%	1.47%
4	2.62%	3.17%	2.85%	4	2.01%	2.23%	2.03%
5	3.00%	3.55%	3.29%	5	3.26%	3.22%	3.21%
6	3.74%	4.12%	3.97%	6	5.01%	4.73%	4.98%
7	4.26%	4.52%	4.42%	7	6.34%	5.63%	6.25%
8	4.56%	4.71%	4.69%	8	6.84%	6.13%	6.72%
9	5.02%	4.87%	4.95%	9	6.53%	6.18%	6.66%
10	5.32%	4.86%	5.17%	10	6.62%	6.28%	6.74%
11	5.59%	4.81%	5.25%	11	6.63%	6.37%	6.78%
12	5.45%	4.82%	5.23%	12	6.68%	6.45%	6.70%
13	5.52%	4.97%	5.28%	13	6.65%	6.51%	6.75%
14	5.65%	5.04%	5.36%	14	6.71%	6.76%	6.86%
15	5.75%	5.12%	5.36%	15	6.52%	6.60%	6.67%
16	5.61%	4.91%	5.20%	16	5.76%	6.08%	5.82%
17	5.16%	4.66%	4.91%	17	4.85%	5.09%	4.81%
18	4.73%	4.44%	4.58%	18	3.76%	3.98%	3.69%
19	4.39%	4.25%	4.29%	19	2.94%	3.13%	2.86%
20	3.99%	3.99%	4.03%	20	2.43%	2.68%	2.39%
21	3.67%	4.01%	3.85%	21	2.15%	2.34%	2.02%
22	3.37%	3.76%	3.58%	22	1.82%	1.98%	1.70%
23	2.99%	3.46%	3.21%	23	1.51%	1.71%	1.44%
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
0	0.98%	1.32%	0.80%	0	1.32%	1.72%	0.97%
1	0.88%	1.16%	0.72%	1	1.12%	1.42%	0.85%
2	0.92%	1.23%	0.78%	2	1.22%	1.60%	0.90%
3	1.13%	1.46%	0.98%	3	1.40%	1.91%	1.11%
4	1.54%	1.80%	1.47%	4	2.01%	2.26%	1.61%
5	2.66%	2.61%	2.70%	5	3.30%	3.41%	2.83%
6	4.72%	4.22%	4.99%	6	5.32%	4.88%	4.96%
7	6.67%	5.76%	6.84%	7	5.89%	5.84%	6.66%
8	7.09%	6.05%	7.14%	8	6.31%	5.98%	6.81%
9	6.70%	5.91%	6.77%	9	6.54%	6.16%	6.51%
10	6.73%	6.03%	6.75%	10	6.34%	6.06%	6.59%
11	6.78%	6.09%	6.88%	11	6.41%	6.17%	6.64%
12	6.64%	6.25%	6.81%	12	6.62%	6.24%	6.64%
13	6.64%	6.35%	6.88%	13	6.38%	6.14%	6.72%
14	6.83%	6.83%	7.26%	14	6.55%	6.28%	7.11%
15	7.11%	7.05%	7.37%	15	6.32%	6.08%	7.38%
16	6.42%	6.76%	6.41%	16	5.94%	5.45%	6.36%
17	5.19%	6.09%	5.19%	17	4.98%	4.83%	5.13%
18	3.91%	4.57%	3.77%	18	4.10%	4.01%	3.86%
19	3.01%	3.56%	2.87%	19	3.26%	3.57%	3.02%
20	2.49%	2.87%	2.30%	20	2.81%	3.14%	2.51%
21	2.08%	2.39%	1.82%	21	2.34%	2.93%	2.01%
22	1.60%	2.00%	1.40%	22	1.89%	2.12%	1.55%
23	1.29%	1.64%	1.09%	23	1.63%	1.82%	1.25%
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
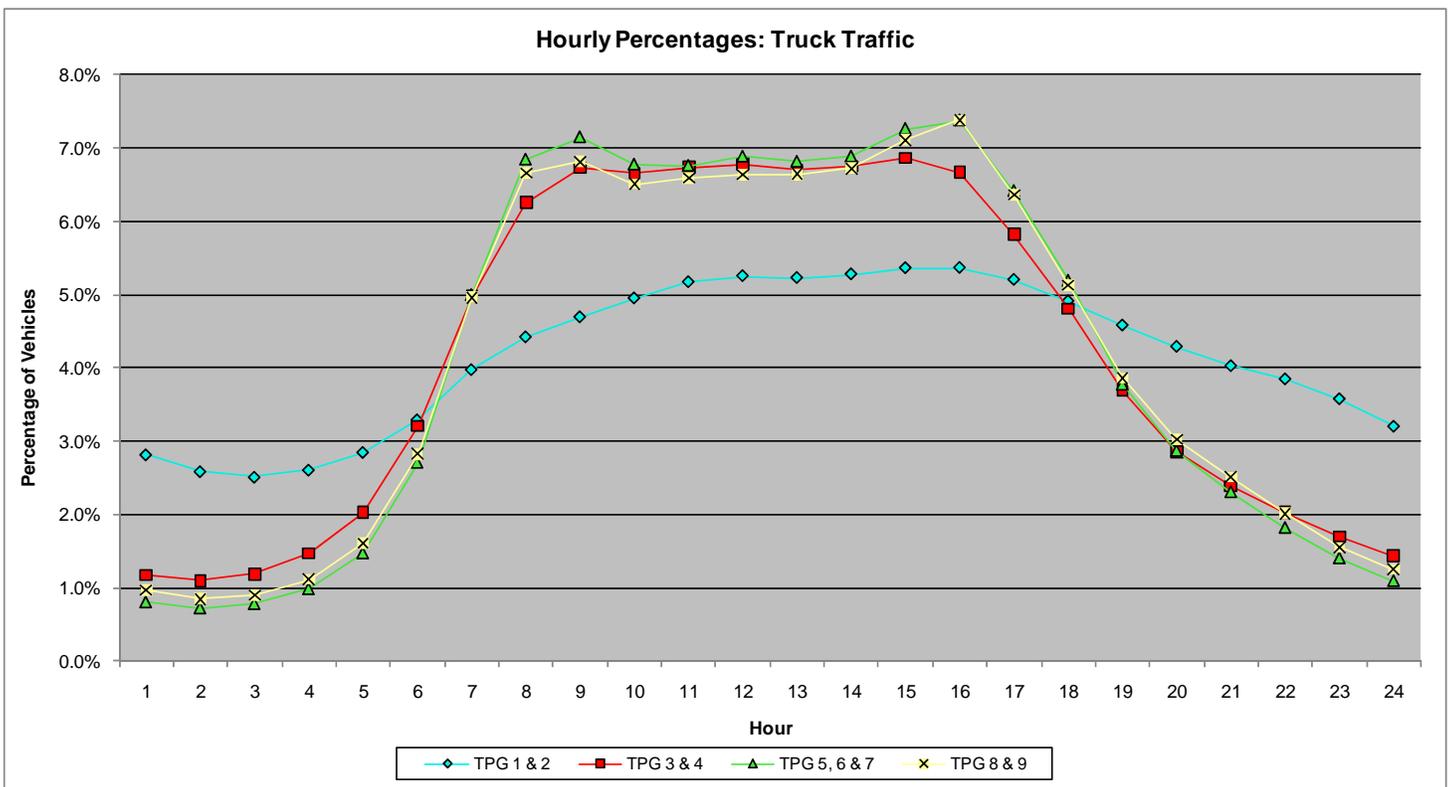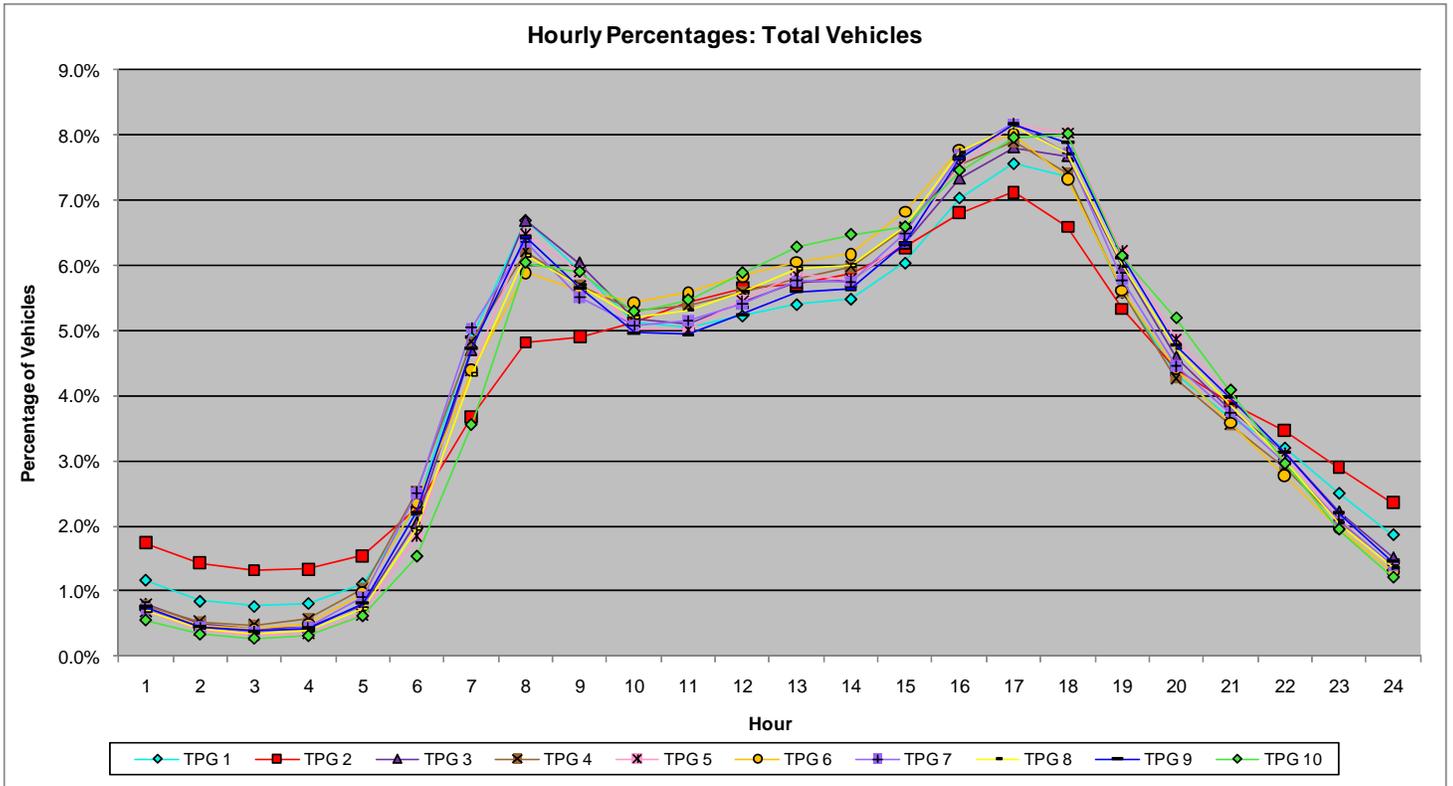
Table 355
Average Day of Week by Month Factors Compiled for Total Vehicles

The following 12 tables show average day of week factors by month compiled for total vehicles for the year 2010. Current year permanent site 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 73 permanent site 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 2010										
DAY	**TPG 1**	**TPG 2**	**TPG 3**	**TPG 4**	**TPG 5**	**TPG 6**	**TPG 7**	**TPG 8**	**TPG 9**	**TPG 10**
Monday	1.061	1.281	1.032	1.118	1.112	1.143	1.027	1.344	1.083	1.656
Tuesday	1.027	1.306	0.913	1.098	1.075	1.132	0.985	1.276	1.072	1.735
Wednesday	1.010	1.293	0.888	1.044	1.039	1.151	0.955	1.223	1.005	1.673
Thursday	0.982	1.243	0.885	1.053	1.039	1.137	0.944	1.192	1.048	1.697
Friday	0.967	1.128	0.900	1.050	1.080	1.050	0.950	1.251	1.029	1.751
Saturday	1.293	1.322	1.510	1.342	1.260	1.349	1.301	1.604	1.322	1.634
Sunday	1.654	1.339	1.861	1.647	1.392	1.586	1.569	1.776	1.626	1.762
DAY OF MONTH	1.142	1.273	1.141	1.193	1.142	1.221	1.104	1.381	1.169	1.701

February 2010										
DAY	**TPG 1**	**TPG 2**	**TPG 3**	**TPG 4**	**TPG 5**	**TPG 6**	**TPG 7**	**TPG 8**	**TPG 9**	**TPG 10**
Monday	1.045	1.328	1.003	1.112	1.128	1.142	1.078	1.262	1.209	1.652
Tuesday	1.067	1.358	0.924	1.126	1.113	1.139	1.030	1.319	1.281	1.768
Wednesday	0.986	1.274	0.958	1.020	1.167	1.132	1.008	1.119	1.146	1.609
Thursday	1.056	1.289	0.999	1.078	1.195	1.138	1.293	1.230	1.766	1.668
Friday	1.057	1.368	1.004	1.059	1.112	1.127	0.997	1.143	2.574	2.072
Saturday	1.211	1.392	1.400	1.399	1.369	1.338	1.271	1.688	1.677	1.687
Sunday	1.405	1.337	1.827	1.574	1.463	1.447	1.556	1.615	2.158	1.838
DAY OF MONTH	1.118	1.335	1.159	1.195	1.221	1.209	1.176	1.339	1.687	1.756

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

March 2010										
DAY	**TPG 1**	**TPG 2**	**TPG 3**	**TPG 4**	**TPG 5**	**TPG 6**	**TPG 7**	**TPG 8**	**TPG 9**	**TPG 10**
Monday	1.000	1.173	0.902	1.002	1.038	1.067	0.985	1.219	0.979	1.500
Tuesday	0.980	1.151	0.859	0.957	0.989	0.999	0.934	1.151	0.989	1.414
Wednesday	0.959	1.115	0.846	0.935	0.976	0.996	0.906	1.128	0.949	1.324
Thursday	0.935	1.070	0.866	0.945	0.968	0.979	0.932	1.121	0.940	1.404
Friday	0.864	0.990	0.850	0.889	0.952	0.919	0.858	1.122	0.907	1.170
Saturday	1.171	1.112	1.343	1.126	1.116	1.166	1.194	1.246	1.105	1.210
Sunday	1.263	1.057	1.646	1.239	1.214	1.318	1.321	1.504	1.239	1.430
DAY OF MONTH	1.025	1.095	1.045	1.013	1.036	1.063	1.019	1.213	1.015	1.350

April 2010										
DAY	**TPG 1**	**TPG 2**	**TPG 3**	**TPG 4**	**TPG 5**	**TPG 6**	**TPG 7**	**TPG 8**	**TPG 9**	**TPG 10**
Monday	0.979	1.049	0.901	0.933	1.002	0.974	0.909	0.990	0.926	1.158
Tuesday	0.969	1.102	0.847	0.923	0.966	0.943	0.897	1.008	0.897	1.175
Wednesday	0.952	1.069	0.829	0.898	0.930	0.929	0.851	0.961	0.879	1.089
Thursday	0.902	0.985	0.823	0.877	0.935	0.911	0.861	0.936	0.864	1.069
Friday	0.861	0.874	0.865	0.843	0.908	0.845	0.825	0.931	0.842	0.934
Saturday	1.112	1.101	1.323	1.102	1.031	1.085	1.107	1.177	1.028	0.871
Sunday	1.160	0.999	1.761	1.259	1.029	1.103	1.253	1.217	1.114	1.074
DAY OF MONTH	0.991	1.026	1.050	0.976	0.972	0.970	0.958	1.031	0.936	1.053

May 2010										
DAY	**TPG 1**	**TPG 2**	**TPG 3**	**TPG 4**	**TPG 5**	**TPG 6**	**TPG 7**	**TPG 8**	**TPG 9**	**TPG 10**
Monday	1.005	0.977	0.884	0.929	0.994	0.937	0.967	0.980	0.947	0.934
Tuesday	0.992	1.041	0.855	0.932	0.985	0.940	0.891	0.957	0.910	1.132
Wednesday	0.950	0.997	0.834	0.887	0.930	0.911	0.850	0.893	0.886	0.992
Thursday	0.895	0.911	0.829	0.865	0.913	0.871	0.841	0.847	0.865	0.902
Friday	0.850	0.826	0.828	0.816	0.894	0.794	0.778	0.805	0.833	0.730
Saturday	1.080	1.021	1.293	1.044	1.072	0.990	1.045	1.021	0.976	0.633
Sunday	1.150	0.970	1.449	1.161	1.047	1.083	1.188	1.068	1.088	0.736
DAY OF MONTH	0.989	0.963	0.996	0.948	0.976	0.932	0.937	0.939	0.929	0.866

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

June 2010										
DAY	**TPG 1**	**TPG 2**	**TPG 3**	**TPG 4**	**TPG 5**	**TPG 6**	**TPG 7**	**TPG 8**	**TPG 9**	**TPG 10**
Monday	0.923	0.928	0.877	0.923	0.937	0.916	0.915	0.828	0.883	0.908
Tuesday	0.910	0.968	0.837	0.897	0.930	0.909	0.895	0.798	0.868	0.964
Wednesday	0.901	0.943	0.833	0.888	0.921	0.915	0.895	0.826	0.855	0.957
Thursday	0.867	0.875	0.816	0.863	0.879	0.878	0.868	0.750	0.838	0.859
Friday	0.820	0.811	0.822	0.815	0.871	0.834	0.817	0.707	0.789	0.665
Saturday	1.031	0.971	1.299	1.048	0.992	1.008	1.056	0.905	0.928	0.608
Sunday	1.063	0.891	1.753	1.066	0.984	1.036	1.124	0.888	1.054	0.678
DAY OF MONTH	0.931	0.912	1.034	0.929	0.931	0.928	0.939	0.815	0.888	0.806

July 2010										
DAY	**TPG 1**	**TPG 2**	**TPG 3**	**TPG 4**	**TPG 5**	**TPG 6**	**TPG 7**	**TPG 8**	**TPG 9**	**TPG 10**
Monday	0.954	0.935	1.068	0.962	0.965	0.947	1.019	0.949	0.948	0.783
Tuesday	0.916	0.956	0.859	0.907	0.898	0.904	0.925	0.883	0.884	0.877
Wednesday	0.899	0.927	0.853	0.888	0.872	0.898	0.890	0.856	0.874	0.871
Thursday	0.847	0.960	0.844	0.858	0.875	0.858	0.884	0.780	0.851	0.784
Friday	0.821	0.849	0.864	0.834	0.862	0.835	0.846	0.741	0.814	0.608
Saturday	1.039	0.976	1.383	1.024	0.971	0.974	1.064	1.012	0.959	0.500
Sunday	1.095	0.905	1.646	1.045	0.988	1.002	1.161	1.058	1.043	0.571
DAY OF MONTH	0.939	0.930	1.074	0.931	0.919	0.917	0.970	0.897	0.910	0.713

August 2010										
DAY	**TPG 1**	**TPG 2**	**TPG 3**	**TPG 4**	**TPG 5**	**TPG 6**	**TPG 7**	**TPG 8**	**TPG 9**	**TPG 10**
Monday	0.932	0.878	0.915	0.913	0.916	0.920	0.940	0.911	0.915	0.929
Tuesday	0.914	0.905	0.870	0.905	0.912	0.902	0.913	0.910	0.879	0.963
Wednesday	0.895	0.874	0.861	0.891	0.878	0.892	0.889	0.850	0.886	0.941
Thursday	0.870	0.811	0.847	0.876	0.869	0.863	0.897	0.833	0.871	0.856
Friday	0.828	0.717	0.860	0.829	0.869	0.797	0.852	0.779	0.821	0.658
Saturday	0.988	0.834	1.381	1.020	0.969	0.940	1.065	1.038	0.949	0.550
Sunday	0.994	0.807	1.877	0.972	1.016	1.007	1.176	1.022	1.042	0.594
DAY OF MONTH	0.917	0.832	1.087	0.915	0.918	0.903	0.962	0.906	0.909	0.784

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

September 2010										
DAY	**TPG 1**	**TPG 2**	**TPG 3**	**TPG 4**	**TPG 5**	**TPG 6**	**TPG 7**	**TPG 8**	**TPG 9**	**TPG 10**
Monday	1.040	0.993	1.134	0.963	0.946	0.953	1.043	0.974	0.976	1.162
Tuesday	0.965	1.045	0.851	0.888	0.940	0.929	0.929	0.879	0.879	1.187
Wednesday	0.938	1.004	0.835	0.875	0.905	0.918	0.892	0.877	0.866	1.127
Thursday	0.928	0.939	0.840	0.875	0.921	0.915	0.933	0.872	0.878	1.081
Friday	0.846	0.817	0.838	0.808	0.867	0.833	0.835	0.728	0.826	0.793
Saturday	1.079	0.946	1.346	1.031	1.006	0.970	1.084	1.049	1.006	0.702
Sunday	1.152	0.934	1.541	1.143	0.992	1.081	1.230	1.234	1.136	0.891
DAY OF MONTH	0.993	0.954	1.055	0.940	0.940	0.943	0.992	0.945	0.938	0.992

October 2010										
DAY	**TPG 1**	**TPG 2**	**TPG 3**	**TPG 4**	**TPG 5**	**TPG 6**	**TPG 7**	**TPG 8**	**TPG 9**	**TPG 10**
Monday	0.955	1.004	0.928	0.930	0.951	0.949	0.965	1.039	0.948	1.240
Tuesday	0.960	1.057	0.865	0.923	0.916	0.936	0.940	1.037	0.913	1.334
Wednesday	0.934	1.033	0.842	0.894	0.893	0.919	0.892	0.970	0.895	1.250
Thursday	0.897	0.947	0.845	0.878	0.904	0.898	0.906	0.922	0.881	1.249
Friday	0.829	0.814	0.831	0.823	0.862	0.831	0.842	0.845	0.842	0.983
Saturday	1.053	1.013	1.320	1.041	1.021	0.997	1.081	1.140	1.024	0.923
Sunday	1.140	0.922	1.801	1.133	1.005	1.039	0.977	1.403	1.184	1.119
DAY OF MONTH	0.967	0.970	1.062	0.946	0.936	0.938	0.943	1.051	0.955	1.157

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

November 2010										
DAY	**TPG 1**	**TPG 2**	**TPG 3**	**TPG 4**	**TPG 5**	**TPG 6**	**TPG 7**	**TPG 8**	**TPG 9**	**TPG 10**
Monday	0.970	1.062	0.913	0.974	0.942	0.984	1.000	0.994	0.953	1.391
Tuesday	0.937	1.090	0.868	0.947	0.954	0.940	0.968	0.956	0.941	1.427
Wednesday	0.946	1.068	0.852	0.904	0.897	0.930	0.925	0.909	0.890	1.327
Thursday	0.971	0.992	0.884	0.930	0.935	1.034	0.967	0.930	0.921	1.374
Friday	0.911	0.908	1.005	0.907	0.943	0.887	0.947	0.896	0.897	1.224
Saturday	1.091	1.021	1.409	1.168	1.082	1.114	1.180	1.301	1.117	1.275
Sunday	1.107	1.022	1.850	1.406	1.169	1.151	1.186	1.353	1.321	1.479
DAY OF MONTH	0.990	1.023	1.112	1.034	0.989	1.006	1.025	1.048	1.006	1.357

December 2010										
DAY	**TPG 1**	**TPG 2**	**TPG 3**	**TPG 4**	**TPG 5**	**TPG 6**	**TPG 7**	**TPG 8**	**TPG 9**	**TPG 10**
Monday	0.990	1.243	0.987	1.093	1.162	1.114	1.100	1.096	1.200	1.730
Tuesday	0.964	1.127	0.919	1.065	1.091	1.050	1.030	1.087	1.040	1.605
Wednesday	0.953	1.047	0.890	1.003	1.048	1.060	1.002	1.003	1.072	1.609
Thursday	0.931	1.028	0.882	0.973	1.063	0.988	0.992	0.949	1.014	1.506
Friday	1.033	1.153	1.057	1.022	1.040	1.075	1.043	1.052	1.053	1.460
Saturday	1.207	1.188	1.378	1.173	1.152	1.176	1.190	1.269	1.111	1.464
Sunday	1.368	1.189	1.731	1.470	1.308	1.586	1.492	1.413	1.474	2.049
DAY OF MONTH	1.064	1.139	1.121	1.114	1.123	1.150	1.121	1.124	1.138	1.632

Monthly Variation Charts by Traffic Pattern Group (TPG)

The chart below shows the different variations between months and traffic pattern groups (TPG). The seasonal factors, which are the data this chart is derived from, show the percentage difference between the raw data count and the annual average daily traffic (AADT). The seasonal factors data can be found in Table 355.
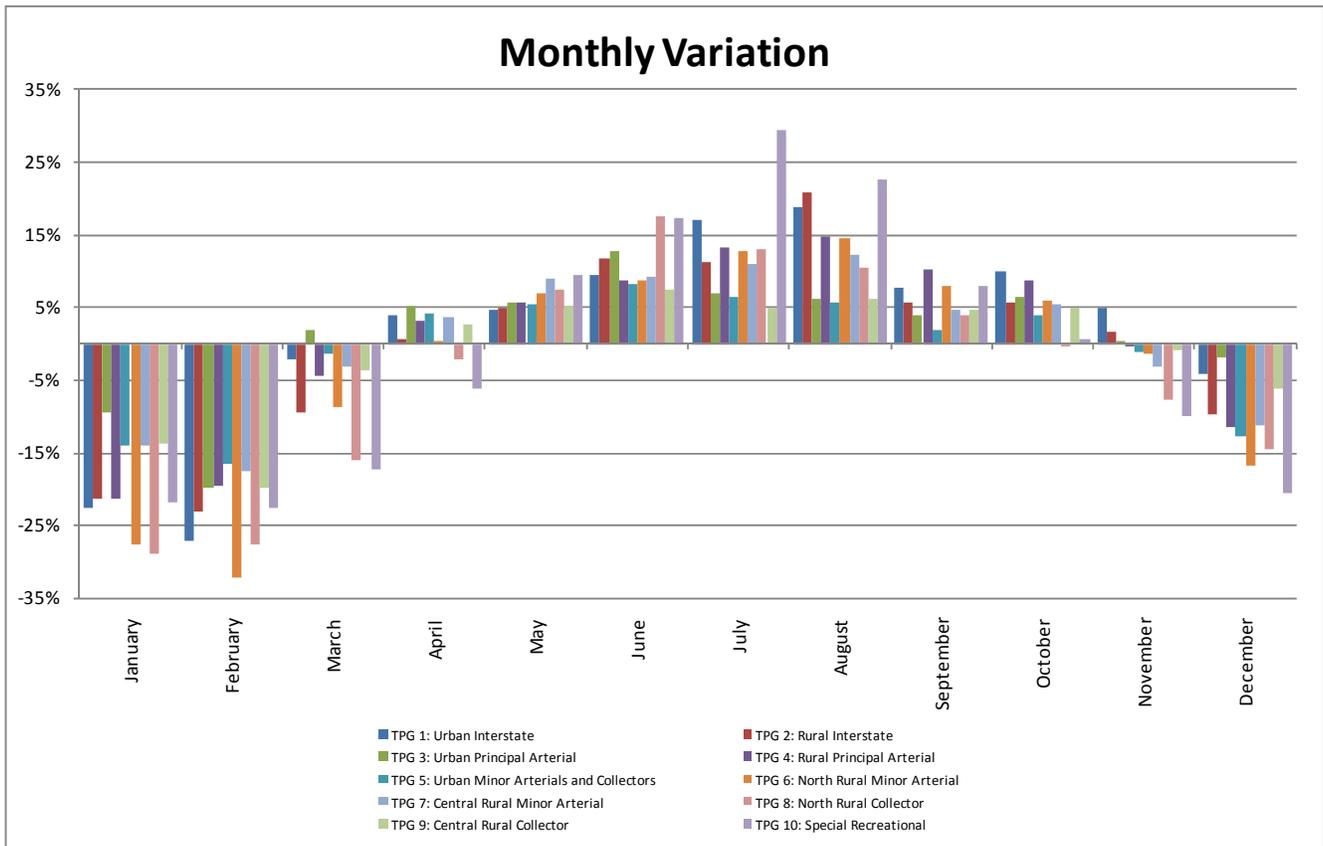
Table 365
Average Day of Week by Month Factors Compiled for Truck Traffic

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 weekdays (Monday through Friday) versus weekend (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 continuous vehicle classification data are being evaluated 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 tables) 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 (2010) of a 2001 base year count having a TPG 5, multiply 1.102 (10.2%) by the AADT of the 2001 count.

Yearly Growth Factors: 2000-2010										
TPG	**00-01**	**01-02**	**02-03**	**03-04**	**04-05**	**05-06**	**06-07**	**07-08**	**08-09**	**09-10**
TPG 1	2.0%	3.0%	3.0%	3.2%	3.2%	2.9%	3.0%	2.4%	1.0%	0.0%
TPG 2	2.0%	3.0%	3.0%	3.3%	3.2%	3.0%	3.0%	2.4%	2.2%	1.6%
TPG 3	2.0%	1.8%	1.0%	1.4%	1.1%	0.7%	1.1%	0.2%	0.3%	0.2%
TPG 4	1.0%	1.8%	1.3%	1.7%	1.6%	1.2%	1.3%	0.8%	0.5%	0.3%
TPG 5	2.0%	1.8%	1.0%	1.4%	1.1%	0.7%	1.1%	0.2%	0.3%	0.2%
TPG 6	1.0%	1.9%	1.3%	1.7%	1.6%	1.2%	1.3%	0.8%	0.5%	0.3%
TPG 7	1.0%	1.9%	1.3%	1.7%	1.6%	1.2%	1.3%	0.8%	0.5%	0.3%
TPG 8	1.0%	1.9%	1.3%	1.7%	1.6%	1.2%	1.3%	0.8%	0.5%	0.3%
TPG 9	1.0%	1.9%	1.3%	1.7%	1.6%	1.2%	1.3%	0.8%	0.5%	0.3%
TPG 10	1.0%	1.0%	1.0%	1.7%	1.6%	1.2%	1.3%	0.8%	0.5%	0.3%

The table below shows yearly growth percentages by TPG for 2000 through 2010.

Yearly Growth Factors: 2000-2010										
TPG	**00-01**	**01-02**	**02-03**	**03-04**	**04-05**	**05-06**	**06-07**	**07-08**	**08-09**	**09-10**
TPG 1	26.3%	23.9%	20.2%	16.7%	13.1%	9.6%	6.5%	3.4%	1.0%	0.0%
TPG 2	30.1%	27.6%	23.9%	20.3%	16.4%	12.8%	9.5%	6.3%	3.8%	1.6%
TPG 3	10.2%	8.1%	6.2%	5.1%	3.6%	2.5%	1.8%	0.7%	0.5%	0.2%
TPG 4	12.1%	11.0%	9.0%	7.6%	5.8%	4.2%	2.9%	1.6%	0.8%	0.3%
TPG 5	10.2%	8.1%	6.2%	5.1%	3.6%	2.5%	1.8%	0.7%	0.5%	0.2%
TPG 6	12.1%	11.0%	9.0%	7.6%	5.8%	4.2%	2.9%	1.6%	0.8%	0.3%
TPG 7	12.1%	11.0%	9.0%	7.6%	5.8%	4.2%	2.9%	1.6%	0.8%	0.3%
TPG 8	12.1%	11.0%	9.0%	7.6%	5.8%	4.2%	2.9%	1.6%	0.8%	0.3%
TPG 9	12.1%	11.0%	9.0%	7.6%	5.8%	4.2%	2.9%	1.6%	0.8%	0.3%
TPG 10	12.1%	11.0%	9.0%	7.6%	5.8%	4.2%	2.9%	1.6%	0.8%	0.3%

Functional Class Groups

Traffic volume data displayed in PennDOT's Roadway Management System (RMS) is projected to a current estimate year (2010) 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.

The first table shows the FCGs with a description and corresponding Functional Class Codes (FCCs). The second table shows the new FCC breakdown mandated by FHWA that will be adopted in coming years.

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

FCC	DESCRIPTIVE NAME	OLD FCC
01	INTERSTATE	01-11
02	OTHER FREEWAY / EXPRESSWAY	12
03	OTHER PRINCIPAL ARTERIAL	02-14
04	MINOR ARTERIAL	06-16
05	MAJOR COLLECTOR	07-17
06	MINOR COLLECTOR	08
07	LOCAL	09

** The Federal Functional Classification of a ramp reflects the highest order of Federal Functional Classification of the roadways to which the ramp connects. As an example, Adams County, SR 8001 is the interchange at US 15, a principal arterial, and SR 3001, a minor arterial; therefore, the segments associated with SR 8001 are assigned a Federal Functional Classification of principal arterial.

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.

2010 Axle Correction Factors are shown in the table below.

TPG	Axle Correction Factor
1	84.47%
2	69.73%
3	93.84%
4	89.27%
5	97.07%
6	92.43%
7	94.79%
8	95.07%
9	96.21%
10	95.70%

Table 385
Design Hour Factor Default Values

The design hour factor (K-factor) represents the percent of Annual Average Daily Traffic (AADT) occurring 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 73 permanent site 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.

2010 K-Factors and corresponding TPGs are shown in the table below.

TPG	K factor default value
1	10%
2	11%
3	10%
4	11%
5	11%
6	11%
7	11%
8	13%
9	11%
10	15%

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 AASHTO Mechanistic Empirical Design Guide (MEPDG) has incorporated improved methods of determining loading effects of traffic. In the future, these new methods may supersede the use of ESAL factors.

2010 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
BUS	0.240	0.240	0.240	0.240	0.240	0.240	0.240	0.240	0.240	0.240
2 AXLE SIX TIRE	0.240	0.240	0.240	0.240	0.240	0.240	0.240	0.240	0.240	0.240
3 AXLE SINGLE UNIT	1.150	1.150	1.150	1.150	1.150	1.150	1.150	1.150	1.150	1.150
4 AXLE SINGLE UNIT	7.000	7.000	7.000	7.000	7.000	7.000	7.000	7.000	7.000	7.000
3 AXLE WITH TRAILER	0.600	0.600	0.600	0.600	0.600	0.600	0.600	0.600	0.600	0.600
3 AXLE MULTI-AXLE TRAILER	1.590	1.590	1.590	1.590	1.590	1.590	1.590	1.590	1.590	1.590
6 AXLE SINGLE TRAILER	1.421	1.421	1.421	1.421	1.421	1.421	1.421	1.421	1.421	1.421
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	1.421
7 AXLE MULTI TRAILER	1.421	1.421	1.421	1.421	1.421	1.421	1.421	1.421	1.421	1.421

2010 ESAL factors for flexible pavements are shown by Traffic Pattern Group (TPG) and vehicle classification in **Table 395**, below.
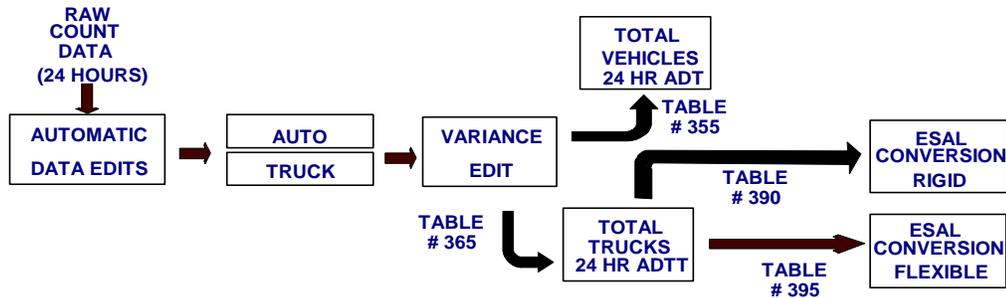
FLEXIBLE ESAL FACTORS										
CLASS	TPG 1	TPG 2	TPG 3	TPG 4	TPG 5	TPG 6	TPG 7	TPG 8	TPG 9	TPG 10
BUS	0.240	0.240	0.240	0.240	0.240	0.240	0.240	0.240	0.240	0.240
2 AXLE SIX TIRE	0.240	0.240	0.240	0.240	0.240	0.240	0.240	0.240	0.240	0.240
3 AXLE SINGLE UNIT	0.820	0.820	0.820	0.820	0.820	0.820	0.820	0.820	0.820	0.820
4 AXLE SINGLE UNIT	4.500	4.500	4.500	4.500	4.500	4.500	4.500	4.500	4.500	4.500
3 AXLE WITH TRAILER	0.440	0.440	0.440	0.440	0.440	0.440	0.440	0.440	0.440	0.440
3 AXLE MULTI-AXLE TRAILER	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
6 AXLE SINGLE TRAILER	0.750	0.750	0.750	0.750	0.750	0.750	0.750	0.750	0.750	0.750
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	1.276
7 AXLE MULTI TRAILER	1.276	1.276	1.276	1.276	1.276	1.276	1.276	1.276	1.276	1.276

Roadway Management System
Factor Table Application Flow Chart
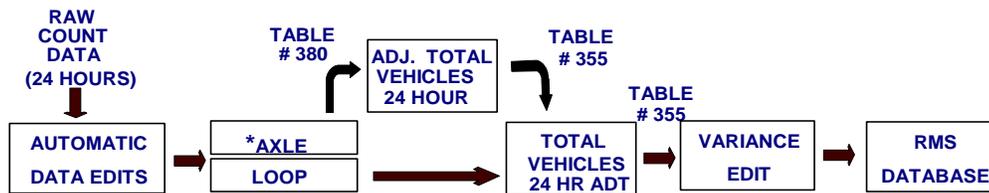
I. MANUAL COUNT (LESS THAN 24 HOURS)

RAW COUNT DATA (8 HOURS)

AUTOMATIC DATA EDITS

AUTO / TRUCK

TABLE # 350 → TOTAL VEHICLES 24 HOURS

TABLE # 355 → TOTAL VEHICLES 24 HR ADT

TABLE # 385 → VARIANCE EDIT → DHV DEFAULTS

TABLE # 360 → TOTAL TRUCKS 24 HOURS

TABLE # 365 → TOTAL TRUCKS 24 HR ADTT

TABLE #390 → VARIANCE EDIT

TABLE # 395 → ESAL CONVERSION RIGID → ESAL CONVERSION FLEXIBLE

II. AUTOMATIC VEHICLE CLASSIFICATION COUNT

RAW COUNT DATA (24 HOURS)

AUTOMATIC DATA EDITS

AUTO / TRUCK

VARIANCE EDIT

TABLE # 355 → TOTAL VEHICLES 24 HR ADT

TABLE # 365 → TOTAL TRUCKS 24 HR ADTT

TABLE # 390 → ESAL CONVERSION RIGID

TABLE # 395 → ESAL CONVERSION FLEXIBLE

Note: DHV is computed from the raw count data.

III. AXLE AND LOOP VOLUME COUNTS

RAW COUNT DATA (24 HOURS)

AUTOMATIC DATA EDITS

*AXLE / LOOP

TABLE # 380 → ADJ. TOTAL VEHICLES 24 HOUR

TABLE # 355 → TOTAL VEHICLES 24 HR ADT

TABLE # 355 → VARIANCE EDIT → RMS DATABASE

* 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	Delaware 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 Performance
MEPDG	Mechanistic Empirical Design Guide
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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