

2021 Pennsylvania Traffic Data



**Bureau of Planning and Research
Transportation Planning Division**



In cooperation with:
US Department of Transportation
Federal Highway Administration
PUB 601 (4-22)

On The Cover:

I-81 in Franklin County at WIM 712.

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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 permanent sites or short-term sites.

Some of the permanent sites are excluded on a year to year basis. Reasons for exclusion can be insufficient data due to 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:

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The 2021 Traffic Data Book and County Traffic Volume Maps are available free on our website! Traffic Volume Maps can also be purchased through our Maps and Publications Sales Store on the website.

www.penndot.gov

Select: Projects & Programs

Select: Planning

Select: Maps for the County Traffic Volume Maps or select Traffic Information for the Traffic Data Book or select Maps followed by Sales Store List to purchase a map

New Developments

New Permanent Site Installations

One new Continuous Automatic Vehicle Classification (CAVC) sites was installed in the 2021 calendar year. The site collects classification data in all lanes of travel. The site is listed below, showing the location and when the site began collecting data.

- CAVC 12 – I 80 in Marion Township, Centre County, began in November.

Two sites were reinstalled and upgraded from an automatic traffic recorder (ATR) to a CAVC in the 2021 calendar year. Both sites now collect classification data. A list of the sites are below, showing their location and when the site began collecting data.

- CAVC 4 – SR 6 in Delmar Township, Tioga County, began in November.
- CAVC 392 – I 80 in Foster Township, Luzerne County, began in April.

One site was reinstalled and upgraded from an ATR to a Weigh in Motion (WIM) site in the 2021 calendar year. The site now collects WIM data in all lanes of travel. The site is listed below, showing its location and when the site began collecting data.

- WIM 713 – I 90 in Springfield Township, Erie County, began in July.



Installation of WIM 713 in Erie County

Traffic Data Collection

Traffic data is collected on 40,000 miles of PennDOT owned roads and 3,700 miles of local federal aid roads in Pennsylvania. Approximately 10,000 raw traffic counts are collected per year by:

- 3 Bureau of Planning and Research (BPR) Field Staff
- PennDOT Engineering Districts 2-0 and 10-0
- 8 Metropolitan Planning Organizations (MPOs)
- 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 WIM stations.

Speed: Speed data is collected from permanent traffic recorders.



Short-Term classification count installed.

Traffic Data Collection Sources

Automatic Traffic Recorders (ATRs)

9 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 13.

Short-Term In-Pavement Sites (STIP)

Approximately 13 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.

Continuous Automatic Vehicle Classifier (CAVC)

114 CAVC sites collect continuous vehicle classification data. A map showing CAVC locations are provided on page 13.

Weigh-In-Motion (WIM)

21 WIM stations provide continuous truck weight and vehicle classification data. 14 of the 21 sites are VWIM. WIM stations are shown on the map on page 14.

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 data on the Commonwealth's toll roads.

Permanent Traffic Recorders

Pennsylvania maintains permanent traffic recorders at 144 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.



CAVC 392 in Luzerne County

The permanent sites use magnetic loops embedded in the pavement for vehicle detection. Additionally, CAVC sites utilize piezo sensors to classify and WIM sites utilize Linesas™ quartz or strip sensors to weigh. 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. Each permanent site 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

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.

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)
6	Clearfield	Lawrence Twp.	PA 879	879	200	1.0 mi. SW of SR 1001 (Hyde)
7	Wyoming	Eaton Twp.	PA 29	29	260	2.2 mi. S of US 6 (Tunkhannock)
8 *	Montgomery	Whitemarsh Twp.	PA 73	73	534	1.4 mi. NW of PA 309-Skipack Pike (Whitemarsh)
9	Bucks	West Rockhill Twp.	PA 563	563	50	0.4 mi. S of SR 4033 (Perkasie)
10	Chester	Lower Oxford Twp.	PA 10	10	60	0.6 mi. N of US 1 (Oxford)
11	Elk	Fox Twp.	PA 948	948	40	1.4 mi. W of PA 225 (Kersey)
12	Centre	Marion Twp.	I-80	80	1660	6.0 mi. E of I-99 (Nittany)
15	Fulton	Todd Twp.	US 522	522	540	1.3 mi. N of 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 SR 1006 (Finleyville)
20	Lawrence	Shenango Twp.	PA 65	65	264	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	1.1 mi. E of PA 948 (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. S of PA 309 (Tamaqua)
48	Susquehanna	New Milford Twp.	US 11	11	420	0.8 mi. S 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	330	2.3 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)
208 *	Allegheny	Churchill Boro.	I-376	376	794	0.7 mi. W of PA 791 (Monroeville)
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	0.9 mi. S of US 6 (Hawley)
317 **	Blair	Freedom Twp.	I-99	99	214	1.0 mi. S of PA 36/PA 164 (East Freedom)

* Indicates ATR site

** Indicates WIM site

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

Permanent Site Locations (Continued)

SITE #	COUNTY	MUNICIPALITY	ROUTE	SR	SEGMENT	LOCATION
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	1.1 mi. N of I -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	0.7 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	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 Summit)
367	Union	West Buffalo Twp.	PA 45	45	250	0.6 mi. W of PA 104 (Mifflinburg)
370	Westmoreland	Rostraver Twp.	I-70	70	450	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)
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	2.2 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	1.7 mi. N of PA 309-Exit 165A/165B (Wilkes-Barre)
377	Bucks	Bristol Twp.	I-295	295	404	2.5 mi. S of US 1 (Penn del)
378	Fayette	Redstone Twp.	US 40	40	160	1.0 mi. W of SR 4010 (Briar Hill)
379	Blair	Logan Twp.	***	4013	80	0.5 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	Lawence 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	120	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	Mount Joy Twp.	PA 230	230	20	1.7 mi. W of PA 743/PA 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)

* Indicates ATR site

** Indicates WIM site

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

Permanent Site Locations (Continued)

SITE #	COUNTY	MUNICIPALITY	ROUTE	SR	SEGMENT	LOCATION
396 *	Washington	Canton Twp.	US 40	40	320	0.4 mi E of SR 3013 (Washington)
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	420	0.6 mi. E of Railroad St (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	0.7 mi. N of PA 696 (Shippensburg)
700 **	Indiana	Armstrong Twp.	US 422	422	120	0.5 mi. W of SR 4004 (Indiana)
701 **	Dauphin	East Hanover Twp.	I-81	81	774	0.75 mi. N of PA 39 Manada Hill/Hershey Interchange (Grantville)
702 **	Dauphin	East Hanover Twp.	I-81	81	810	0.7 mi. N of SR 2025 (Grantville)
703 **	Lancaster	Brecknock Twp.	US 222	222	1034	0.3 mi. S of Lancaster/Berks County Line (Adamstown)
704 **	Fulton	Bethel Twp.	I-70	70	1702	0.1 mi. N of Maryland/Pennsylvania Line (Warfordsburg)
705 **	Northampton	Williams Twp.	I-78	78	724	1.0 mi. E of SR 33 (Easton)
706 **	Greene	Perry Twp.	I-79	79	14	1.0 mi. N of SR 2002 (Mt. Morris)
709 **	Columbia	Mifflin Twp.	I-80	80	2444	2.7 mi. E of PA 339 (Columbia)
710 **	Butler	Cranberry Twp.	I-79	79	790	1.2 mi. N of PA 228 (Butler)
712 **	Franklin	Antrim Twp.	I-81	81	64	1.75 Mi. N of PA 16 (Greencastle)
713 **	Erie	Springfield Twp.	I-90	90	10	1.1 mi. E of Ohio/Pennsylvania Line (Cherry Hill)
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	154	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	390	0.6 mi. W of Exit 39 (Speers)
808	Indiana	W. Wheatfield Twp.	US 22	22	242	0.1 mi. E of Bethel Cemetery Rd. (Clyde)
809	McKean	Foster Twp.	US 219	219	594	0.1 mi. N of Tuna Crossroads Bridge (Foster Brook)
810	Bucks	Doylestown Twp.	US 611	611	130	0.3 mi. S of SR 4202 (Doylestown)
811	Cumberland	Hampden Twp.	PA 581	581	10	Between the I-81 Junction and Creekview Rd. Exit (Creekview)
812	Westmoreland	S. Greenburg Twp.	US 30	30	300	Between Exits for SR 119 and Cedar St. (Cedar Creek)
813	Cumberland	Camp Hill Boro.	PA 581	581	120	Between US 11/15 and I-83 (Camp Hill)
815	Columbia	Hemlock Twp.	PA 44	44	10	0.25 mi. W of PA 42 (Buckhorn)
816	Lebanon	South Annville Twp.	PA 241	241	120	1.1 mi. S of US 322 (Mt. Gretna)
817	Jefferson	Winslow Twp.	***	1002	70	0.1 mi. E of SR 2033 (Reynoldsville)

* Indicates ATR site

** Indicates WIM site

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

Permanent Site Locations (Continued)

SITE #	COUNTY	MUNICIPALITY	ROUTE	SR	SEGMENT	LOCATION
818	Pike	Matamoras Boro.	I-84	84	540	0.1 mi. W of New York/Pennsylvania Line (Matamoras)
821	Tioga	Lawrence Twp.	US 15	15	774	0.1 mi. S of T-722 Tioga River Rd overpass (Lawrenceville)
822	Dauphin	Swatara Twp.	PA 300	300	30	0.8 mi. W of PA 441 (Highspire)
823	Dauphin	Swatara Twp.	PA 283	283	4	1.1 mi. S of SR 441 (Swatara)
824	Chester	Uwchlan Twp.	PA 100	100	260	Between SR 1001 and PA 113 (Exton)
825	York	Shrewsbury Twp.	I-83	83	2	0.2 mi. N of Maryland/Pennsylvania Line (New Freedom)
826	Berks	Exeter Twp.	US 422	422	450	0.7 mi. E of I-176 (Exeter)
827	Union	White Deer Twp.	US 15	15	320	1.1 mi. N of SR 1004 (New Columbia)
828	Crawford	Vernon Twp.	I-79	79	1500	3.3 mi. N of US 6 (Meadville)
829	Mercer	Shenango Twp.	I-80	80	24	1.3 mi. W of I-376 (West Middlesex)
830	Cumberland	Middlesex Twp.	I-81	81	490	1.0 mi. N of PA 641 (Carlisle)
831	Cumberland	Silver Spring Twp.	I-81	81	550	1.4 mi. S of PA 114 (Silver Spring)
832	Berks	Robeson Twp.	I-176	176	74	At Morgantown Rd Overpass (Green Hills)
833	Cumberland	E. Pennsboro Twp.	I-81	81	634	0.8 mi. North of PA 944 (Enola)
834	Erie	North East Twp.	I-90	90	450	0.5 mi. E of US 20 (North East)
835	Erie	Greenfield Twp.	I-86	86	60	2.4 mi. E of PA 89 (Erie South Tier)
836	Mercer	Findley Twp.	I-80	80	164	2.4 mi. W. of I-79 (Mercer)
837	Schuylkill	Kline Twp.	I-81	81	1364	2.5 mi. N of SR 1017 (Delano)
838	Beaver	Brighton Twp.	I-376	376	344	1.2 mi. W of PA 4035 (Brighton)
839	Monroe	Coolbaugh Twp.	I-380	380	70	Between Exits for SR 940 and SR 423 (Pocono Summit)
840	Allegheny	Ross Twp.	I-279	279	86	0.4 mi. N of SR 4021 (Franklin Park)
841	Cumberland	Lower Allen Twp.	I-83	83	400	0.5 mi. S of Exit 40B (New Cumberland)
842	Northumberland	Delaware Twp.	I-180	180	580	At PA 44 overpass (Warrior Run)
843	Union	White Deer Twp.	I-80	80	2060	3.83 mi. W of US 15 (White Deer)
844	Lackawanna	South Abington Twp.	I-81	81	1930	0.6 mi. N of US 11 (Dickson City)
845	Blair	Allegheny Twp.	I-99	99	290	0.7 mi. N of SR 8004 (Hollidaysburg)
846	Cumberland	Upper Allen Twp.	***	2013	40	0.7 mi. E of Winding Hill Rd (Winding Hill)
848	Adams	Straban Twp.	US 15	15	250	1.7 mi. N of US 30 (Huntertown)
849	Crawford	Summit Twp.	PA 618	618	72	0.3 mi. S of PA 18 (Conneaut Lake)
850	Berks	Penn Twp.	PA 183	183	210	0.3 mi. N of SR 3006 (Bernville)
851	Northampton	Lower Nazareth Twp.	PA 33	33	50	0.7 mi. S of PA 248 (Nazareth)
853	Bucks	Haycock Twp.	PA 563	563	563	3.0 mi. W of PA 412 (Lake Nockamixon)
854	York	West Manheim Twp.	PA 216	216	60	0.3 mi. E of SR 3045 (Lake Marburg)
855	Huntingdon	Penn Twp.	***	3011	110	0.3 mi. S of PA 26 (Raystown)
856	Cambria	White Twp.	***	1026	40	3.8 mi. W of PA 53 (Glendale Lake)
985	Cambria	Richland Twp.	US 219	219	120	1.6 mi. N of PA 56 (St. Michael)

* Indicates ATR site

** Indicates WIM site

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

Long-Term Pavement Performance Program (LTPP)

The Long Term Pavement Performance (LTPP) program was established under the Strategic Highway Research Program (SHRP). The first five years of the LTPP program were funded and managed under SHRP. Beginning in 1991, the Federal Highway Administration (FHWA) has sustained the management and funding of the program.

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.

LTPP, which is a study of in-service pavements, provides the basis for pavement design, maintenance, rehabilitation, and construction methodologies. The LTPP program monitors and collects pavement performance data on all active LTPP sites. The Bureau supports this program by collecting weight and vehicle classification data and reporting the data to LTPP.

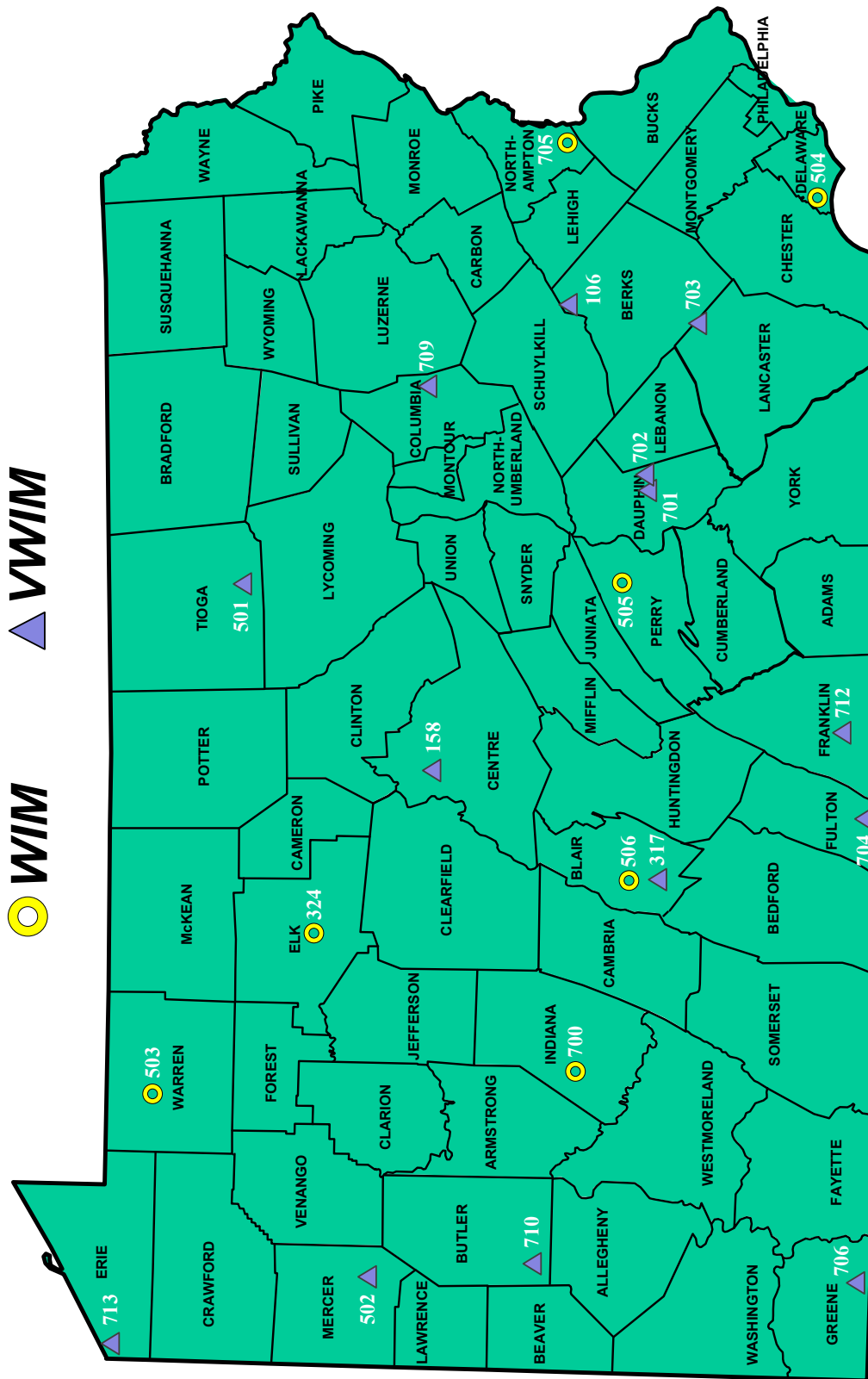
ATR, CAVC and WIM Locations Map (Opposite)

The ATR, CAVC, and WIM location maps of Pennsylvania, which are shown on the following two pages, give an overview of where all of the 144 ATR, CAVC and WIM sites are located. Symbols are used in addition to the site number to identify the location of the site.



CAVC 392 Sensor Array on I 80 in Luzerne County

CONTINUOUS MONITORING SITES



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.

TPG 1: URBAN INTERSTATE				TPG 2: RURAL INTERSTATE			
SITE #	ROUTE	URBAN AREA	AADT	SITE #	ROUTE	COUNTY	AADT
208	I-376	PITTSBURGH	85,580	106	I-78	BERKS	40,146
216	I-81	BINGHAMTON	25,726	126	I-80	JEFFERSON	25,765
317	I-99	ALTOONA	12,559	158	I-80	CENTRE	24,999
370	I-70	MONESSEN	29,416	371	I-70	FULTON	18,582
372	I-80	UNION	32,058	392	I-80	LUZERNE	27,688
374	I-79	PITTSBURGH	32,309	393	I-70	WASHINGTON	31,682
377	I-295	PHILADELPHIA	53,517	600	I-81	FRANKLIN	43,497
394	I-78	ALLENTOWN	65,964	705	I-78	NORTHAMPTON	68,052
702	I-81	HARRISBURG	60,061	706	I-79	GREENE	23,455
804	I-70	PITTSBURGH	47,346	709	I-80	COLUMBIA	32,635
818	I-84	PORT JERVIS	30,421	712	I-81	FRANKLIN	49,155
823	I-283	HARRISBURG	51,153	800	I-99	CENTRE	21,590
830	I-81	HARRISBURG	63,671	807	I-70	WASHINGTON	28,556
831	I-81	HARRISBURG	66,545	825	I-83	YORK	41,298
832	I-176	READING	19,028	828	I-79	CRAWFORD	17,526
833	I-81	HARRISBURG	67,290	829	I-80	MERCER	30,127
840	I-279	PITTSBURGH	44,134	834	I-90	ERIE	20,015
841	I-83	HARRISBURG	68,081	835	I-86	ERIE	9,457
844	I-81	SCRANTON	39,318	836	I-80	MERCER	28,287
845	I-99	ALTOONA	34,259	837	I-81	SCHUYLKILL	26,160
				838	I-376	BEAVER	22,638
				839	I-380	MONROE	26,990
				843	I-80	UNION	23,504

Permanent Site Locations by TPG (Continued)

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	17,202	4	US 6	TIOGA	2,486
203	PA 65	PITTSBURGH	18,872	19	PA 88	WASHINGTON	5,195
206	H. Taylor Br.	HARRISBURG	21,972	24	US 22	WESTMORELAND	20,238
304	US 15	WILLIAMSPORT	27,917	323	US 220	BEDFORD	4,481
326	US 322	CLARION	8,498	360	US 219	CLEARFIELD	2,650
330	PA 532	PHILADELPHIA	9,714	363	US 219	MCKEAN	4,441
334	US 30	YORK	15,237	378	US 40	FAYETTE	7,116
349	PA 309	ALLENTOWN	34,305	808	US 22	INDIANA	13,925
375	US 22	PITTSBURGH	24,852	821	US 15	TIOGA	10,581
395	PA 21	UNIONTOWN	8,846	851	PA 33	NORTHAMPTON	74,206
396	US 40	PITTSBURGH	10,977	985	US 219	CAMBRIA	17,323
803	US 15	EMMITSBURG	22,532				
806	US 30	GREENSBURG	28,774				
810	PA 611	DOYLESTOWN	32,930				
811	PA 581	HARRISBURG	46,475				
812	US 30	GREENSBURG	43,672				
813	PA 581	HARRISBURG	89,372				
822	PA 300	HARRISBURG	53,581				
824	PA 100	PHILADELPHIA	33,576				
826	US 422	READING	47,944				
827	US 15	MILTON	20,375				
848	US 15	HANOVER	22,169				

PERMANENT SITE LOCATIONS BY TPG							
TPG 5: URBAN MINOR ARTERIAL/COLLECTOR				TPG 6: NORTH RURAL MINOR ARTERIAL			
SITE #	ROUTE	URBAN AREA	AADT	SITE #	ROUTE	COUNTY	AADT
18	PA 38	BUTLER	5,759	2	PA 77	CRAWFORD	2,017
20	PA 65	NEW CASTLE	6,662	3	PA 255	CLEARFIELD	4,989
380	PA 562	READING	6,850	6	PA 879	CLEARFIELD	7,593
381	SR 3019	YOUNGSTOWN	339	7	PA 29	WYOMING	8,271
390	PA 230	LANCASTER	7,105	11	PA 948	ELK	5,231
506	SR 1001	ALTOONA	16,174	27	PA 66	ELK	2,680
815	PA 44	BLOOMSBURG	3,710	48	US 11	SUSQUEHANNA	4,810
846	SR 2013	HARRISBURG	4,140	51	PA 44	POTTER	2,859
				324	PA 120	ELK	4,158
				328	PA 150	CENTRE	4,909
				410	PA 49	TIOGA	4,272

Permanent Site Locations by TPG (Continued)

PERMANENT SITE LOCATIONS BY TPG							
TPG 7: CENTRAL RURAL MINOR ARTERIAL				TPG 8: NORTH RURAL COLLECTOR			
SITE #	ROUTE	COUNTY	AADT	SITE #	ROUTE	COUNTY	AADT
1	US 20	ERIE	3,741	5	SR 1043	BRADFORD	1,640
9	PA 563	BUCKS	7,722	29	PA 267	SUSQUEHANNA	1,327
10	PA 10	CHESTER	9,728	383	PA 150	CLINTON	3,339
15	US 522	FULTON	4,927	384	SR 4022	TIOGA	441
40	US 209	SCHUYLKILL	4,116	385	SR 3002	WARREN	1,761
367	PA 45	UNION	6,047	802	PA 423	MONROE	5,256
391	PA 23	CHESTER	8,090	817	SR 1002	JEFFERSON	1,611
850	PA 183	BERKS	15,344				
853	PA 563	BUCKS	4,134				

PERMANENT SITE LOCATIONS BY TPG							
TPG 9: CENTRAL RURAL COLLECTOR				TPG 10: SPECIAL RECREATIONAL			
SITE #	ROUTE	COUNTY	AADT	SITE #	ROUTE	COUNTY	AADT
362	PA 616	YORK	5,882	306	PA 507	PIKE	5,886
364	PA 307	LACKAWANNA	4,649	805	PA 285	CRAWFORD	2,921
379	SR 4013	BLAIR	1,246	849	PA 618	CRAWFORD	1,850
382	SR 3005	CAMBRIA	1,545	855	SR 3011	HUNTINGDON	1,601
386	PA 254	MONTOUR	2,262	856	SR 1026	CAMBRIA	830
388	SR 3004	MONROE	2,548				
389	PA 536	JEFFERSON	1,811				
816	PA 241	LEBANON	3,060				
854	PA 216	YORK	8,802				

2021 Peak Hour by Traffic Pattern Group (TPG)

2021 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
208	11/11	5:00 PM	Thu	7,530	8.80%	85,580	106	11/28	3:00 PM	Sun	4,286	10.68%	40,146
216	8/22	12:00 PM	Sun	3,911	15.20%	25,726	126	11/28	12:00 PM	Sun	3,679	14.28%	25,765
317	10/22	4:00 PM	Fri	1,674	13.33%	12,559	158	9/3	4:00 PM	Fri	2,864	11.46%	24,999
370	9/3	3:00 PM	Fri	3,198	10.87%	29,416	371	11/28	11:00 AM	Sun	3,441	18.52%	18,582
372	11/28	1:00 PM	Sun	5,072	15.82%	32,058	392	11/28	2:00 PM	Sun	3,778	13.65%	27,688
374	7/5	12:00 PM	Mon	4,188	12.96%	32,309	393	8/15	1:00 PM	Sun	3,333	10.52%	31,682
377	9/29	4:00 PM	Wed	5,351	10.00%	53,517	600	11/28	2:00 PM	Sun	4,429	10.18%	43,497
394	5/14	3:00 PM	Fri	6,010	9.11%	65,964	705	11/28	1:00 PM	Sun	6,350	9.33%	68,052
702	11/28	12:00 PM	Sun	6,044	10.07%	60,061	706	7/2	4:00 PM	Fri	2,886	12.30%	23,455
804	7/9	3:00 PM	Fri	5,057	10.68%	47,346	709	11/28	2:00 PM	Sun	5,109	15.67%	32,635
818	11/28	12:00 PM	Sun	3,508	11.53%	30,421	712	7/2	4:00 PM	Fri	4,938	10.05%	49,155
823	11/19	3:00 PM	Fri	5,140	10.05%	51,153	800	11/19	3:00 PM	Fri	2,926	13.56%	21,590
830	4/23	3:00 PM	Fri	6,076	9.54%	63,671	807	9/3	4:00 PM	Fri	3,036	10.63%	28,556
831	4/5	3:00 PM	Mon	6,135	9.22%	66,545	825	7/3	12:00 PM	Sat	4,284	10.37%	41,298
832	10/8	4:00 PM	Fri	2,109	11.08%	19,028	828	8/22	11:00 AM	Sun	2,348	13.40%	17,526
833	12/22	4:00 PM	Wed	7,438	11.05%	67,290	829	11/28	2:00 PM	Sun	3,574	11.86%	30,127
840	8/19	4:00 PM	Thu	5,014	11.36%	44,134	834	11/28	12:00 PM	Sun	3,003	15.00%	20,015
841	10/15	4:00 PM	Fri	6,673	9.80%	68,081	835	7/5	1:00 PM	Mon	1,459	15.43%	9,457
844	11/28	2:00 PM	Sun	4,943	12.57%	39,318	836	11/28	1:00 PM	Sun	3,503	12.38%	28,287
845	11/19	4:00 PM	Fri	4,192	12.24%	34,259	837	11/28	1:00 PM	Sun	3,067	11.72%	26,160
							838	9/3	3:00 PM	Fri	2,562	11.32%	22,638
							839	10/8	4:00 PM	Fri	3,216	11.92%	26,990
							843	11/28	1:00 PM	Sun	4,525	19.25%	23,504

2021 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	5/13	7:00 AM	Thu	1,942	11.29%	17,202	4	11/26	12:00 PM	Fri	366	14.72%	2,486
203	8/5	4:00 PM	Thu	1,929	10.22%	18,872	19	10/12	4:00 PM	Tue	625	12.03%	5,195
206	7/22	4:00 PM	Thu	2,821	12.84%	21,972	24	11/28	3:00 PM	Sun	2,298	11.35%	20,238
304	10/8	4:00 PM	Fri	2,827	10.13%	27,917	323	10/3	12:00 PM	Sun	610	13.61%	4,481
326	5/20	4:00 PM	Thu	1,183	13.92%	8,498	360	4/27	3:00 PM	Tue	326	12.30%	2,650
330	6/9	5:00 PM	Wed	1,085	11.17%	9,714	363	10/8	3:00 PM	Fri	577	12.99%	4,441
334	8/7	11:00 AM	Sat	1,626	10.67%	15,237	378	10/1	3:00 PM	Fri	818	11.50%	7,116
349	12/17	4:00 PM	Fri	3,073	8.96%	34,305	808	10/17	4:00 PM	Sun	1,601	11.50%	13,925
375	10/15	4:00 PM	Fri	2,760	11.11%	24,852	821	11/28	12:00 PM	Sun	1,573	14.87%	10,581
395	10/8	4:00 PM	Fri	1,026	11.60%	8,846	851	5/7	3:00 PM	Fri	6,871	9.26%	74,206
396	6/11	12:00 PM	Fri	1,266	11.53%	10,977	985	8/24	4:00 PM	Tue	2,068	11.94%	17,323
803	11/28	12:00 PM	Sun	2,852	12.66%	22,532							
806	11/19	4:00 PM	Fri	2,901	10.08%	28,774							
810	10/27	4:00 PM	Wed	3,619	10.99%	32,930							
811	5/6	4:00 PM	Thu	4,716	10.15%	46,475							
812	12/22	4:00 PM	Wed	4,510	10.33%	43,672							
813	4/22	3:00 PM	Thu	7,633	8.54%	89,372							
822	11/19	4:00 PM	Fri	5,242	9.78%	53,581							
824	12/17	3:00 PM	Fri	3,434	10.23%	33,576							
826	5/11	4:00 PM	Tue	4,978	10.38%	47,944							
827	10/8	4:00 PM	Fri	2,345	11.51%	20,375							
848	11/28	2:00 PM	Sun	2,774	12.51%	22,169							

2021 Peak Hour by TPG (Continued)

2021 Peak Hour by Traffic Pattern Group (TPG)													
TPG 5: Urban Minor Arterial/Collector							TPG 6: North Rural Minor Arterial						
Site #	Date	Hour (start)	DOW	Volume	% AADT	AADT	Site #	Date	Hour (start)	DOW	Volume	% AADT	AADT
18	5/21	4:00 PM	Fri	724	12.57%	5,759	2	8/27	5:00 PM	Fri	304	15.07%	2,017
20	4/6	3:00 PM	Tue	784	11.77%	6,662	3	7/16	4:00 PM	Fri	615	12.33%	4,989
380	11/19	4:00 PM	Fri	953	13.91%	6,850	6	6/25	3:00 PM	Fri	958	12.62%	7,593
381	5/22	5:00 PM	Sat	109	32.15%	339	7	8/15	11:00 AM	Sun	1,692	20.46%	8,271
390	3/12	4:00 PM	Fri	933	13.13%	7,105	11	9/24	3:00 PM	Fri	681	13.02%	5,231
506	1/16	12:00 PM	Sat	1,853	11.46%	16,174	27	10/10	1:00 PM	Sun	451	16.63%	2,680
815	7/5	2:00 PM	Mon	472	12.72%	3,710	48	8/20	4:00 PM	Fri	595	12.37%	4,810
846	3/11	12:00 PM	Thu	604	14.59%	4,140	51	8/6	3:00 PM	Fri	368	12.87%	2,859
							324	5/7	3:00 PM	Fri	564	13.56%	4,158
							328	5/21	4:00 PM	Fri	637	12.98%	4,909
							410	10/1	3:00 PM	Fri	522	12.22%	4,272

2021 Peak Hour by Traffic Pattern Group (TPG)													
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	8/20	4:00 PM	Fri	543	14.51%	3,741	5	7/1	3:00 PM	Thu	254	15.49%	1,640
9	10/12	4:00 PM	Tue	1,047	13.56%	7,722	29	11/26	12:00 PM	Fri	212	15.98%	1,327
10	6/18	4:00 PM	Fri	1,103	11.34%	9,728	383	4/14	3:00 PM	Wed	413	12.37%	3,339
15	10/15	12:00 PM	Fri	704	14.29%	4,927	384	4/7	2:00 PM	Wed	144	32.65%	441
40	5/11	4:00 PM	Tue	481	11.69%	4,116	385	9/3	4:00 PM	Fri	239	13.57%	1,761
367	8/6	5:00 PM	Fri	926	15.31%	6,047	802	7/30	3:00 PM	Fri	943	17.94%	5,256
391	10/22	4:00 PM	Fri	988	12.21%	8,090	817	5/19	4:00 PM	Wed	224	13.90%	1,611
850	10/21	5:00 PM	Thu	1,595	10.39%	15,344							
853	9/6	2:00 PM	Mon	581	14.05%	4,134							

2021 Peak Hour by Traffic Pattern Group (TPG)													
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	9/10	3:00 PM	Fri	682	11.62%	5,882	306	7/3	12:00 PM	Sat	862	14.64%	5,886
364	7/30	4:00 PM	Fri	573	12.33%	4,649	805	9/4	12:00 PM	Sat	678	23.21%	2,921
379	10/12	4:00 PM	Tue	165	13.24%	1,246	849	7/31	2:00 PM	Sat	374	20.22%	1,850
382	6/17	4:00 PM	Thu	237	15.34%	1,545	855	6/19	2:00 PM	Sat	449	28.04%	1,601
386	5/26	2:00 PM	Wed	297	13.13%	2,262	856	10/3	11:00 AM	Sun	619	74.58%	830
388	10/22	3:00 PM	Fri	340	13.34%	2,548							
389	5/18	3:00 PM	Tue	246	13.58%	1,811							
816	3/11	4:00 PM	Thu	483	15.78%	3,060							
854	7/4	12:00 PM	Sun	1,128	12.82%	8,802							

2021 30th Highest Hour by Traffic Pattern Group (TPG)

2021 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
208	10/22	5:00 PM	Fri	7,145	8.35%	85,580	106	8/21	11:00 AM	Sat	3,784	9.43%	40,146
216	9/6	12:00 PM	Mon	3,331	12.95%	25,726	126	9/23	3:00 PM	Thu	2,524	9.80%	25,765
317	12/10	3:00 PM	Fri	1,396	11.12%	12,559	158	8/20	2:00 PM	Fri	2,345	9.38%	24,999
370	7/23	3:00 PM	Fri	2,885	9.81%	29,416	371	8/1	3:00 PM	Sun	2,654	14.28%	18,582
372	8/21	11:00 AM	Sat	3,200	9.98%	32,058	392	10/22	4:00 PM	Fri	2,671	9.65%	27,688
374	8/22	2:00 PM	Sun	3,838	11.88%	32,309	393	7/18	1:00 PM	Sun	3,093	9.76%	31,682
377	11/4	4:00 PM	Thu	4,918	9.19%	53,517	600	7/30	3:00 PM	Fri	4,116	9.46%	43,497
394	11/5	4:00 PM	Fri	5,792	8.78%	65,964	705	8/7	10:00 AM	Sat	5,807	8.53%	68,052
702	8/8	1:00 PM	Sun	5,583	9.30%	60,061	706	7/9	2:00 PM	Fri	2,607	11.11%	23,455
804	5/28	3:00 PM	Fri	4,349	9.19%	47,346	709	9/24	4:00 PM	Fri	3,497	10.72%	32,635
818	7/2	1:00 PM	Fri	3,232	10.62%	30,421	712	6/18	5:00 PM	Fri	4,511	9.18%	49,155
823	4/16	4:00 PM	Fri	4,490	8.78%	51,153	800	9/17	5:00 PM	Fri	2,428	11.25%	21,590
830	10/1	2:00 PM	Fri	5,752	9.03%	63,671	807	8/27	4:00 PM	Fri	2,786	9.76%	28,556
831	10/7	4:00 PM	Thu	5,808	8.73%	66,545	825	7/25	12:00 PM	Sun	3,913	9.48%	41,298
832	11/17	4:00 PM	Wed	1,897	9.97%	19,028	828	7/5	3:00 PM	Mon	2,121	12.10%	17,526
833	5/27	4:00 PM	Thu	6,737	10.01%	67,290	829	5/28	5:00 PM	Fri	2,934	9.74%	30,127
840	8/20	4:00 PM	Fri	4,588	10.40%	44,134	834	7/5	12:00 PM	Mon	2,497	12.48%	20,015
841	9/3	5:00 PM	Fri	6,110	8.97%	68,081	835	7/18	11:00 AM	Sun	1,243	13.14%	9,457
844	8/22	11:00 AM	Sun	4,022	10.23%	39,318	836	7/2	2:00 PM	Fri	2,816	9.96%	28,287
845	11/12	3:00 PM	Fri	3,633	10.60%	34,259	837	8/1	1:00 PM	Sun	2,701	10.32%	26,160
							838	8/26	4:00 PM	Thu	2,390	10.56%	22,638
							839	11/5	3:00 PM	Fri	2,776	10.29%	26,990
							843	8/1	3:00 PM	Sun	2,415	10.27%	23,504

2021 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	10/7	7:00 AM	Thu	1,817	10.56%	17,202	4	7/2	2:00 PM	Fri	290	11.67%	2,486
203	4/13	4:00 PM	Tue	1,787	9.47%	18,872	19	11/2	4:00 PM	Tue	580	11.16%	5,195
206	8/25	4:00 PM	Wed	2,588	11.78%	21,972	24	8/21	11:00 AM	Sat	2,034	10.05%	20,238
304	4/30	3:00 PM	Fri	2,711	9.71%	27,917	323	10/1	3:00 PM	Fri	496	11.07%	4,481
326	6/8	4:00 PM	Tue	1,060	12.47%	8,498	360	6/22	3:00 PM	Tue	296	11.17%	2,650
330	4/28	4:00 PM	Wed	992	10.21%	9,714	363	10/22	2:00 PM	Fri	489	11.01%	4,441
334	9/28	4:00 PM	Tue	1,348	8.85%	15,237	378	11/3	4:00 PM	Wed	745	10.47%	7,116
349	4/9	3:00 PM	Fri	2,914	8.49%	34,305	808	10/10	5:00 PM	Sun	1,447	10.39%	13,925
375	10/4	4:00 PM	Mon	2,379	9.57%	24,852	821	6/27	3:00 PM	Sun	1,294	12.23%	10,581
395	11/23	5:00 PM	Tue	938	10.60%	8,846	851	5/20	3:00 PM	Thu	6,561	8.84%	74,206
396	7/9	12:00 PM	Fri	1,128	10.28%	10,977	985	9/9	3:00 PM	Thu	1,945	11.23%	17,323
803	6/20	2:00 PM	Sun	2,607	11.57%	22,532							
806	9/9	4:00 PM	Thu	2,736	9.51%	28,774							
810	11/11	4:00 PM	Thu	3,455	10.50%	32,930							
811	7/15	4:00 PM	Thu	4,470	9.62%	46,475							
812	2/26	4:00 PM	Fri	4,218	9.67%	43,672							
813	3/26	5:00 PM	Fri	7,427	8.31%	89,372							
822	9/24	4:00 PM	Fri	5,000	9.33%	53,581							
824	3/26	4:00 PM	Fri	3,221	9.59%	33,576							
826	9/8	4:00 PM	Wed	4,447	9.28%	47,944							
827	8/1	1:00 PM	Sun	2,087	10.24%	20,375							
848	7/9	4:00 PM	Fri	2,526	11.39%	22,169							

2021 30th Highest Hour by TPG (Continued)

2021 30th Highest Hour by Traffic Pattern Group													
TPG 5: Urban Minor Arterial/Collector							TPG 6: North Rural Minor Arterial						
Site #	Date	Hour (start)	DOW	Volume	% AADT	AADT	Site #	Date	Hour (start)	DOW	Volume	% AADT	AADT
18	9/29	4:00 PM	Wed	644	11.18%	5,759	2	8/20	4:00 PM	Fri	232	11.50%	2,017
20	11/4	4:00 PM	Thu	696	10.45%	6,662	3	5/28	1:00 PM	Fri	531	10.64%	4,989
380	7/27	5:00 PM	Tue	830	12.12%	6,850	6	5/12	3:00 PM	Wed	824	10.85%	7,593
381	5/4	3:00 PM	Tue	46	13.57%	339	7	8/15	12:00 PM	Sun	835	10.10%	8,271
390	12/9	3:00 PM	Thu	819	11.53%	7,105	11	5/12	3:00 PM	Wed	610	11.66%	5,231
506	10/1	2:00 PM	Fri	1,639	10.13%	16,174	27	8/1	1:00 PM	Sun	374	13.96%	2,680
815	4/9	4:00 PM	Fri	393	10.59%	3,710	48	9/3	3:00 PM	Fri	522	10.85%	4,810
846	12/23	12:00 PM	Thu	502	12.13%	4,140	51	4/16	3:00 PM	Fri	325	11.37%	2,859
							324	5/14	3:00 PM	Fri	499	12.00%	4,158
							328	4/28	3:00 PM	Wed	527	10.74%	4,909
							410	5/20	3:00 PM	Thu	467	10.93%	4,272

2021 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	8/21	4:00 PM	Sat	458	12.24%	3,741	5	4/9	4:00 PM	Fri	208	12.68%	1,640
9	5/18	4:00 PM	Tue	930	12.04%	7,722	29	12/23	12:00 PM	Thu	145	10.93%	1,327
10	5/28	4:00 PM	Fri	1,016	10.44%	9,728	383	2/17	4:00 PM	Wed	369	11.05%	3,339
15	8/4	4:00 PM	Wed	574	11.65%	4,927	384	7/28	2:00 PM	Wed	60	13.61%	441
40	5/12	2:00 PM	Wed	418	10.16%	4,116	385	12/10	3:00 PM	Fri	205	11.64%	1,761
367	7/24	11:00 AM	Sat	647	10.70%	6,047	802	6/29	4:00 PM	Tue	794	15.11%	5,256
391	11/12	4:00 PM	Fri	875	10.82%	8,090	817	5/19	3:00 PM	Wed	205	12.73%	1,611
850	9/9	4:00 PM	Thu	1,477	9.63%	15,344							
853	6/5	12:00 PM	Sat	508	12.29%	4,134							

2021 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	9/8	4:00 PM	Wed	604	10.29%	5,882	306	7/31	12:00 PM	Sat	752	12.78%	5,886
364	5/3	4:00 PM	Mon	498	10.71%	4,649	805	7/31	2:00 PM	Sat	552	18.90%	2,921
379	10/6	4:00 PM	Wed	145	11.64%	1,246	849	10/10	11:00 AM	Sun	279	15.08%	1,850
382	6/13	3:00 PM	Sun	207	13.40%	1,545	855	6/26	5:00 PM	Sat	351	21.92%	1,601
386	11/4	4:00 PM	Thu	240	10.61%	2,262	856	6/6	2:00 PM	Sun	174	20.96%	830
388	9/24	4:00 PM	Fri	301	11.81%	2,548							
389	10/8	4:00 PM	Fri	202	11.15%	1,811							
816	2/17	4:00 PM	Wed	432	14.12%	3,060							
854	6/27	12:00 PM	Sun	956	10.86%	8,802							

2021 50th Highest Hour by Traffic Pattern Group (TPG)

2021 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
208	4/16	4:00 PM	Fri	7,068	8.26%	85,580	106	8/13	4:00 PM	Fri	3,695	9.20%	40,146
216	8/21	12:00 PM	Sat	3,182	12.37%	25,726	126	9/17	3:00 PM	Fri	2,439	9.47%	25,765
317	4/5	3:00 PM	Mon	1,328	10.57%	12,559	158	5/31	2:00 PM	Mon	2,286	9.14%	24,999
370	6/4	3:00 PM	Fri	2,827	9.61%	29,416	371	7/11	1:00 PM	Sun	2,580	13.88%	18,582
372	6/18	5:00 PM	Fri	3,106	9.69%	32,058	392	7/5	3:00 PM	Mon	2,602	9.40%	27,688
374	8/6	4:00 PM	Fri	3,744	11.59%	32,309	393	12/22	2:00 PM	Wed	3,029	9.56%	31,682
377	12/10	5:00 PM	Fri	4,858	9.08%	53,517	600	8/12	4:00 PM	Thu	3,995	9.18%	43,497
394	6/2	4:00 PM	Wed	5,731	8.69%	65,964	705	7/3	1:00 PM	Sat	5,741	8.44%	68,052
702	10/8	11:00 AM	Fri	5,424	9.03%	60,061	706	7/30	5:00 PM	Fri	2,551	10.88%	23,455
804	3/26	3:00 PM	Fri	4,282	9.04%	47,346	709	8/21	10:00 AM	Sat	3,336	10.23%	32,635
818	6/20	12:00 PM	Sun	3,171	10.42%	30,421	712	10/8	4:00 PM	Fri	4,402	8.96%	49,155
823	10/27	4:00 PM	Wed	4,394	8.59%	51,153	800	10/1	5:00 PM	Fri	2,364	10.95%	21,590
830	5/7	3:00 PM	Fri	5,661	8.89%	63,671	807	6/18	3:00 PM	Fri	2,729	9.56%	28,556
831	7/23	4:00 PM	Fri	5,731	8.61%	66,545	825	8/27	4:00 PM	Fri	3,838	9.29%	41,298
832	10/12	4:00 PM	Tue	1,870	9.83%	19,028	828	7/25	11:00 AM	Sun	2,087	11.91%	17,526
833	10/19	4:00 PM	Tue	6,646	9.88%	67,290	829	5/28	2:00 PM	Fri	2,863	9.50%	30,127
840	5/27	5:00 PM	Thu	4,474	10.14%	44,134	834	7/2	12:00 PM	Fri	2,397	11.98%	20,015
841	12/15	4:00 PM	Wed	6,032	8.86%	68,081	835	7/30	4:00 PM	Fri	1,197	12.66%	9,457
844	8/21	2:00 PM	Sat	3,922	9.98%	39,318	836	7/2	12:00 PM	Fri	2,688	9.50%	28,287
845	8/13	3:00 PM	Fri	3,557	10.38%	34,259	837	7/2	2:00 PM	Fri	2,634	10.07%	26,160
							838	6/25	3:00 PM	Fri	2,323	10.26%	22,638
							839	9/24	4:00 PM	Fri	2,733	10.13%	26,990
							843	7/11	2:00 PM	Sun	2,338	9.95%	23,504

2021 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	11/18	7:00 AM	Thu	1,788	10.39%	17,202	4	9/4	1:00 PM	Sat	278	11.18%	2,486
203	12/3	4:00 PM	Fri	1,771	9.38%	18,872	19	10/19	4:00 PM	Tue	567	10.91%	5,195
206	12/7	4:00 PM	Tue	2,525	11.49%	21,972	24	10/15	5:00 PM	Fri	1,972	9.74%	20,238
304	11/23	4:00 PM	Tue	2,681	9.60%	27,917	323	7/23	4:00 PM	Fri	482	10.76%	4,481
326	7/23	3:00 PM	Fri	1,030	12.12%	8,498	360	7/21	3:00 PM	Wed	289	10.91%	2,650
330	12/2	4:00 PM	Thu	974	10.03%	9,714	363	10/1	3:00 PM	Fri	475	10.70%	4,441
334	5/15	10:00 AM	Sat	1,323	8.68%	15,237	378	3/12	3:00 PM	Fri	733	10.30%	7,116
349	9/16	4:00 PM	Thu	2,872	8.37%	34,305	808	12/17	4:00 PM	Fri	1,401	10.06%	13,925
375	8/25	4:00 PM	Wed	2,335	9.40%	24,852	821	8/8	11:00 AM	Sun	1,239	11.71%	10,581
395	9/3	4:00 PM	Fri	913	10.32%	8,846	851	6/23	4:00 PM	Wed	6,511	8.77%	74,206
396	12/3	3:00 PM	Fri	1,108	10.09%	10,977	985	8/10	4:00 PM	Tue	1,917	11.07%	17,323
803	7/2	5:00 PM	Fri	2,536	11.26%	22,532							
806	11/10	4:00 PM	Wed	2,712	9.43%	28,774							
810	10/19	5:00 PM	Tue	3,379	10.27%	32,930							
811	5/20	4:00 PM	Thu	4,409	9.49%	46,475							
812	10/7	4:00 PM	Thu	4,171	9.56%	43,672							
813	10/22	4:00 PM	Fri	7,366	8.24%	89,372							
822	10/27	4:00 PM	Wed	4,910	9.16%	53,581							
824	6/9	5:00 PM	Wed	3,173	9.45%	33,576							
826	10/7	4:00 PM	Thu	4,417	9.21%	47,944							
827	8/6	3:00 PM	Fri	2,035	9.99%	20,375							
848	7/2	4:00 PM	Fri	2,440	11.01%	22,169							

2021 50th Highest Hour by TPG (Continued)

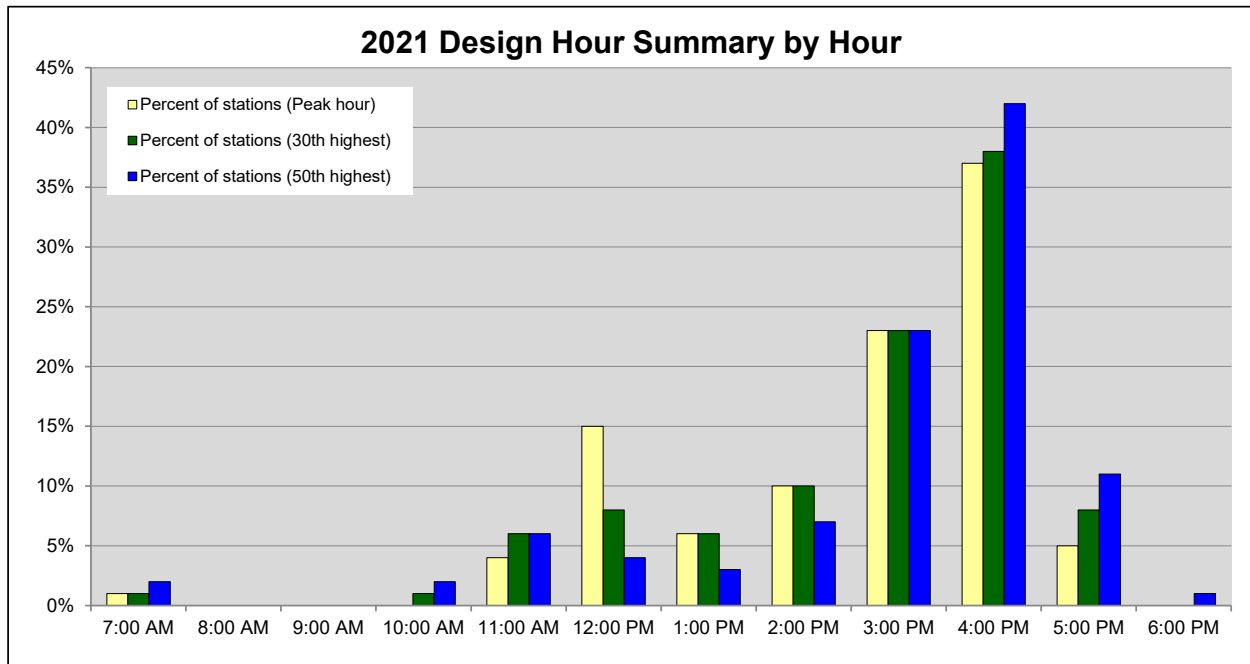
2021 50th Highest Hour by Traffic Pattern Group													
TPG 5: Urban Minor Arterial/Collector							TPG 6: North Rural Minor Arterial						
Site #	Date	Hour (start)	DOW	Volume	% AADT	AADT	Site #	Date	Hour (start)	DOW	Volume	% AADT	AADT
18	5/13	4:00 PM	Thu	622	10.80%	5,759	2	5/21	4:00 PM	Fri	226	11.20%	2,017
20	9/17	5:00 PM	Fri	686	10.30%	6,662	3	6/11	5:00 PM	Fri	513	10.28%	4,989
380	9/9	5:00 PM	Thu	812	11.85%	6,850	6	4/8	4:00 PM	Thu	802	10.56%	7,593
381	5/22	3:00 PM	Sat	43	12.68%	339	7	9/10	4:00 PM	Fri	808	9.77%	8,271
390	8/4	3:00 PM	Wed	803	11.30%	7,105	11	4/12	3:00 PM	Mon	595	11.37%	5,231
506	7/9	3:00 PM	Fri	1,608	9.94%	16,174	27	6/27	2:00 PM	Sun	353	13.17%	2,680
815	5/17	4:00 PM	Mon	385	10.38%	3,710	48	5/21	4:00 PM	Fri	512	10.64%	4,810
846	8/26	12:00 PM	Thu	493	11.91%	4,140	51	5/4	3:00 PM	Tue	317	11.09%	2,859
							324	11/17	3:00 PM	Wed	491	11.81%	4,158
							328	9/9	7:00 AM	Thu	516	10.51%	4,909
							410	12/16	3:00 PM	Thu	456	10.67%	4,272

2021 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	445	11.90%	3,741	5	7/14	4:00 PM	Wed	202	12.32%	1,640
9	5/26	4:00 PM	Wed	897	11.62%	7,722	29	6/16	11:00 AM	Wed	140	10.55%	1,327
10	4/23	4:00 PM	Fri	998	10.26%	9,728	383	5/10	4:00 PM	Mon	360	10.78%	3,339
15	5/5	4:00 PM	Wed	560	11.37%	4,927	384	6/5	5:00 PM	Sat	56	12.70%	441
40	5/14	3:00 PM	Fri	407	9.89%	4,116	385	8/27	2:00 PM	Fri	198	11.24%	1,761
367	6/18	4:00 PM	Fri	630	10.42%	6,047	802	10/7	4:00 PM	Thu	755	14.36%	5,256
391	5/7	3:00 PM	Fri	847	10.47%	8,090	817	9/24	4:00 PM	Fri	199	12.35%	1,611
850	4/23	5:00 PM	Fri	1,459	9.51%	15,344							
853	7/31	3:00 PM	Sat	492	11.90%	4,134							

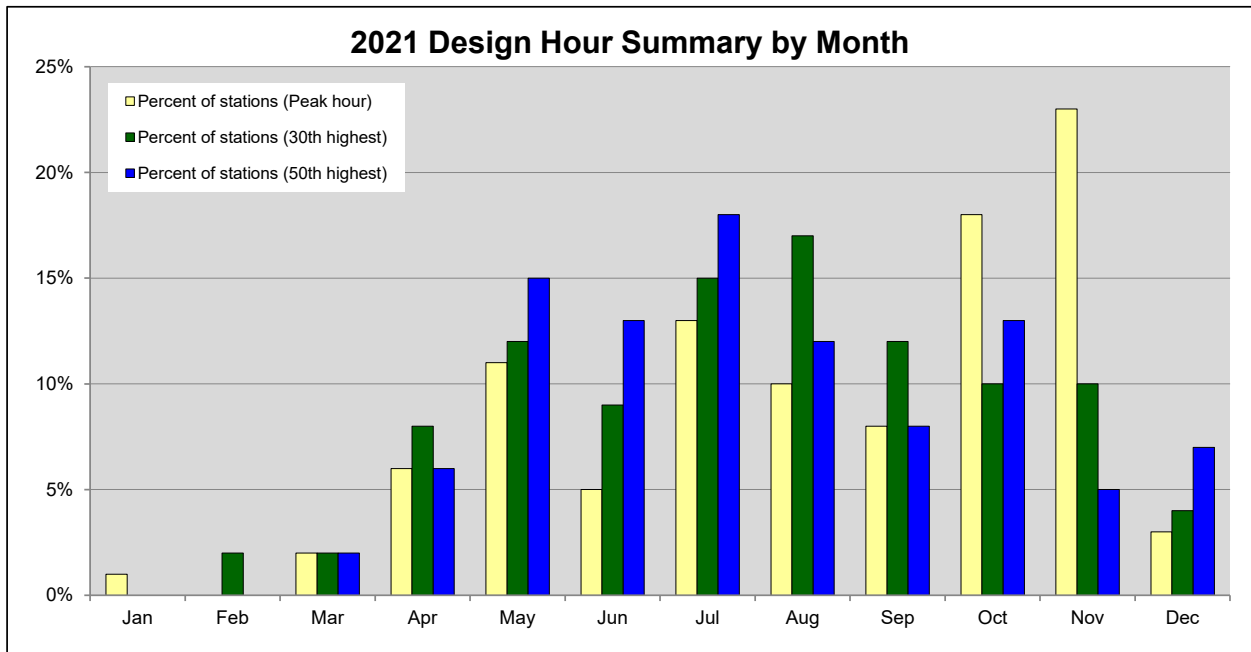
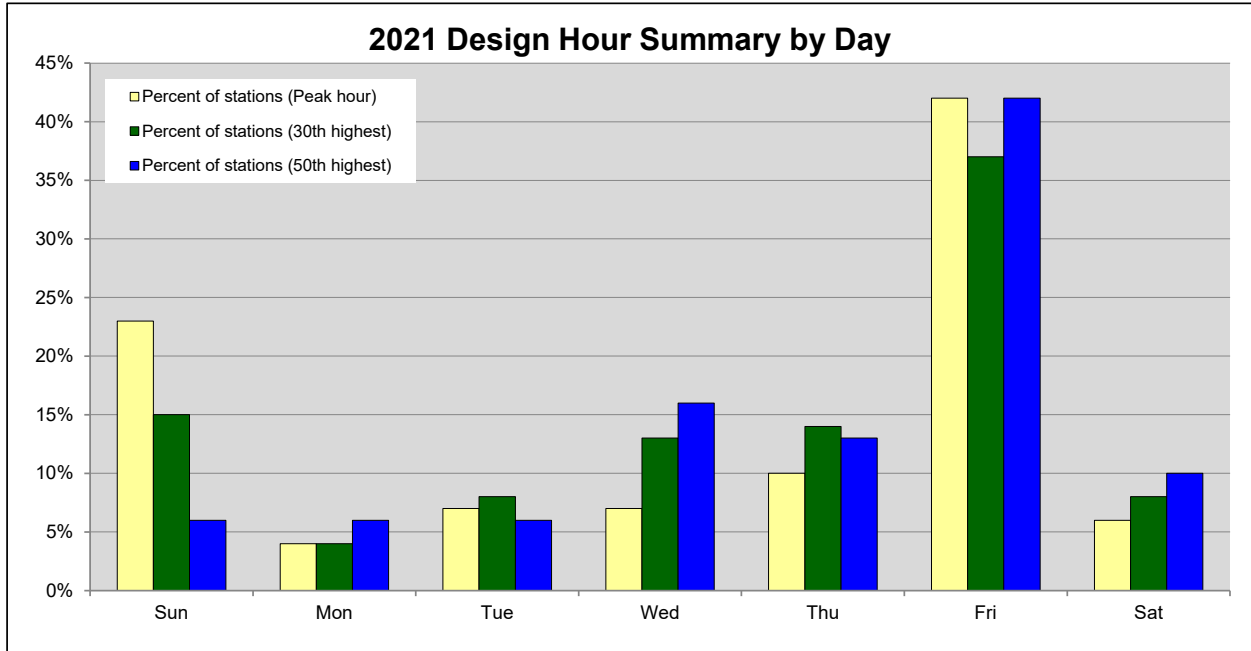
2021 50th Highest Hour by Traffic Pattern Group													
TPG 9: Central Rural Collector							TPG 10: Special Recreational						
Site #	Date	Hour (start)	DOW	Volume	% AADT	AADT	Site #	Date	Hour (start)	DOW	Volume	% AADT	AADT
362	5/5	4:00 PM	Wed	593	10.11%	5,882	306	7/24	2:00 PM	Sat	721	12.25%	5,886
364	10/7	3:00 PM	Thu	492	10.58%	4,649	805	6/5	11:00 AM	Sat	526	18.01%	2,921
379	4/21	3:00 PM	Wed	139	11.16%	1,246	849	7/2	6:00 PM	Fri	258	13.95%	1,850
382	6/12	11:00 AM	Sat	194	12.56%	1,545	855	6/18	4:00 PM	Fri	338	21.11%	1,601
386	10/11	4:00 PM	Mon	233	10.30%	2,262	856	5/2	1:00 PM	Sun	160	19.28%	830
388	11/4	4:00 PM	Thu	292	11.46%	2,548							
389	3/10	3:00 PM	Wed	195	10.77%	1,811							
816	11/10	4:00 PM	Wed	422	13.79%	3,060							
854	7/4	11:00 AM	Sun	939	10.67%	8,802							

2021 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.



2021 Design Hour Summaries: Peak, 30th and 50th Highest Hour



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, 2017 through 2021. The percent change is also given for 2020 to 2021 and 2017 to 2021, showing where traffic has increased or decreased.

**Indicates there is no data available.*

Site #	Annual Average Daily Traffic (AADT)					Percent Change	
	2017	2018	2019	2020	2021	2020-2021	2017-2021
1	3,688	3,698	3,799	3,655	3,741	2.4%	1.4%
2	1,947	1,911	1,916	1,871	2,017	7.8%	3.6%
3	5,208	5,191	5,226	4,864	4,989	2.6%	-4.2%
4	2,687	2,665	2,736	2,301	2,486	8.0%	-7.5%
5	1,745	1,764	1,737	1,602	1,640	2.4%	-6.0%
6	*	*	*	*	7,593	N/A	N/A
7	*	*	*	*	8,271	N/A	N/A
8	18,738	19,672	20,849	14,940	17,202	15.1%	-8.2%
9	*	*	*	*	7,722	N/A	N/A
10	*	*	*	*	9,728	N/A	N/A
11	*	*	*	*	5,231	N/A	N/A
12	**	**	**	**	**	N/A	N/A
15	5,276	5,394	5,429	4,616	4,927	6.7%	-6.6%
18	6,502	6,172	5,760	5,271	5,759	9.3%	-11.4%
19	5,698	5,656	5,770	4,675	5,195	11.1%	-8.8%
20	7,083	**	7,166	6,294	6,662	5.8%	-5.9%
24	21,289	21,787	21,779	17,440	20,238	16.0%	-4.9%
27	2,766	2,801	2,778	2,489	2,680	7.7%	-3.1%
29	1,055	**	1,275	1,234	1,327	7.5%	25.8%
40	4,402	4,199	4,304	3,958	4,116	4.0%	-6.5%
48	5,358	5,364	5,581	4,596	4,810	4.7%	-10.2%
51	3,203	3,115	3,025	2,702	2,859	5.8%	-10.7%
106	**	44,255	46,436	35,828	40,146	12.1%	-9.3%
126	24,029	25,662	24,731	23,132	25,765	11.4%	7.2%
158	24,629	23,233	**	**	24,999	N/A	1.5%
203	**	20,299	21,290	17,107	18,872	10.3%	-7.0%
205	**	57,157	58,874	48,723	**	N/A	-14.8%
206	26,530	26,892	27,534	19,888	21,972	10.5%	-17.2%
208	95,526	94,814	96,610	76,180	85,580	12.3%	-10.4%
216	**	26,940	26,777	21,317	25,726	20.7%	-4.5%
301	13,247	13,068	13,168	11,200	**	N/A	-15.5%
304	29,760	29,192	29,300	25,126	27,917	11.1%	-6.2%
306	5,779	5,850	5,830	5,473	5,886	7.5%	1.9%
317	**	14,301	14,685	11,856	12,559	5.9%	-12.2%
323	4,651	4,692	4,728	3,920	4,481	14.3%	-3.7%
324	4,403	4,429	4,422	3,974	4,158	4.6%	-5.6%

Five Year Summary of AADT from Permanent Sites (Continued)

*Indicates there is no data available.

Site #	Annual Average Daily Traffic (AADT)					Percent Change	
	2017	2018	2019	2020	2021	2020-2021	2017-2021
326	8,594	8,567	8,334	7,348	8,498	15.7%	-1.1%
328	4,874	4,937	4,974	4,488	4,909	9.4%	0.7%
330	10,824	10,973	11,012	8,504	9,714	14.2%	-10.3%
334	16,566	16,348	16,247	13,998	15,237	8.9%	-8.0%
349	37,924	38,071	37,646	31,363	34,305	9.4%	-9.5%
360	2,713	2,691	2,721	2,496	2,650	6.2%	-2.3%
362	6,108	6,041	6,355	5,572	5,882	5.6%	-3.7%
363	5,070	5,114	5,058	4,024	4,441	10.4%	-12.4%
364	**	4,949	4,912	4,310	4,649	7.9%	-6.1%
367	6,206	6,093	6,059	5,457	6,047	10.8%	-2.6%
370	30,781	31,294	31,856	25,949	29,416	13.4%	-4.4%
371	18,968	19,558	17,618	15,103	18,582	23.0%	-2.0%
372	28,809	31,735	32,643	27,006	32,058	18.7%	11.3%
374	**	**	**	27,523	32,309	17.4%	17.4%
375	25,133	26,285	27,101	22,903	24,852	8.5%	-1.1%
376	61,228	62,938	61,955	**	**	N/A	1.2%
377	62,354	63,041	60,341	45,871	53,517	16.7%	-14.2%
378	7,593	7,661	7,849	6,877	7,116	3.5%	-6.3%
379	1,317	1,394	1,339	1,250	1,246	-0.3%	-5.4%
380	**	**	**	6,742	6,850	1.6%	1.6%
381	421	374	374	335	339	1.2%	-19.5%
382	1,770	1,702	1,688	1,432	1,545	7.9%	-12.7%
383	3,474	3,493	3,306	3,202	3,339	4.3%	-3.9%
384	401	418	429	460	441	-4.1%	10.0%
385	1,782	1,715	1,698	1,641	1,761	7.3%	-1.2%
386	2,260	2,253	2,243	2,178	2,262	3.9%	0.1%
387	3,416	2,967	542	504	**	N/A	-85.2%
388	2,794	2,650	2,721	2,350	2,548	8.4%	-8.8%
389	1,896	1,830	1,824	1,712	1,811	5.8%	-4.5%
390	6,366	7,217	7,840	6,939	7,105	2.4%	11.6%
391	8,506	8,323	8,131	7,196	8,090	12.4%	-4.9%
392	**	**	**	**	27,688	N/A	N/A
393	36,633	35,219	**	28,708	31,682	10.4%	-13.5%
394	69,335	67,759	68,947	55,957	65,964	17.9%	-4.9%
395	9,575	10,088	10,522	**	8,846	N/A	-7.6%
396	12,344	12,248	12,017	10,258	10,977	7.0%	-11.1%
410	4,580	**	**	3,862	4,272	10.6%	-6.7%
501	10,675	10,853	**	**	**	N/A	1.7%
502	28,361	26,422	27,817	24,764	**	N/A	-12.7%
503	**	**	**	**	**	N/A	N/A

Five Year Summary of AADT from Permanent Sites (Continued)

*Indicates there is no data available.

Site #	Annual Average Daily Traffic (AADT)					Percent Change	
	2017	2018	2019	2020	2021	2020-2021	2017-2021
504	**	**	**	**	**	N/A	N/A
505	23,042	**	**	**	**	N/A	N/A
506	16,551	16,433	16,071	14,783	16,174	9.4%	-2.3%
600	44,041	42,309	42,091	35,814	43,497	21.5%	-1.2%
700	**	**	12,557	**	**	N/A	N/A
701	66,339	63,224	**	54,467	**	N/A	-17.9%
702	*	59,423	**	51,887	60,061	15.8%	1.1%
703	37,949	38,029	**	**	**	N/A	0.2%
704	22,056	21,958	21,844	**	**	N/A	-1.0%
705	*	70,315	74,850	58,501	68,052	16.3%	-3.2%
706	*	*	27,142	20,638	23,455	13.6%	-13.6%
709	*	*	33,112	27,697	32,635	17.8%	-1.4%
710	*	50,166	50,833	**	**	N/A	1.3%
712	*	*	49,661	42,383	49,155	16.0%	-1.0%
713	22,301	**	**	**	**	N/A	N/A
800	23,910	23,678	24,500	19,685	21,590	9.7%	-9.7%
801	**	**	82,240	69,787	**	N/A	-15.1%
802	4,489	4,648	5,157	4,910	5,256	7.0%	17.1%
803	22,533	23,265	23,726	18,148	22,532	24.2%	0.0%
804	51,941	53,699	52,336	42,655	47,346	11.0%	-8.8%
805	2,912	2,937	2,865	2,761	2,921	5.8%	0.3%
806	29,348	28,968	30,394	25,537	28,774	12.7%	-2.0%
807	29,738	31,677	30,559	23,741	28,556	20.3%	-4.0%
808	13,735	14,531	**	11,945	13,925	16.6%	1.4%
809	**	8,282	7,783	6,385	**	N/A	-22.9%
810	35,845	35,930	35,695	28,306	32,930	16.3%	-8.1%
811	46,748	48,462	50,556	42,172	46,475	10.2%	-0.6%
812	45,426	46,721	46,453	37,069	43,672	17.8%	-3.9%
813	93,568	90,593	91,164	78,163	89,372	14.3%	-4.5%
815	3,904	3,895	3,830	3,308	3,710	12.2%	-5.0%
816	3,375	3,343	3,388	2,852	3,060	7.3%	-9.3%
817	*	1,649	1,730	1,577	1,611	2.2%	-2.3%
818	29,005	30,683	30,527	26,420	30,421	15.1%	4.9%
821	10,094	10,610	11,050	8,677	10,581	21.9%	4.8%
822	*	*	*	*	53,581	N/A	N/A
823	56,041	53,523	55,002	44,618	51,153	14.6%	-8.7%
824	38,996	38,472	39,092	29,937	33,576	12.2%	-13.9%
825	46,479	46,494	46,301	35,944	41,298	14.9%	-11.1%
826	48,205	50,878	49,469	42,297	47,944	13.4%	-0.5%
827	20,751	23,067	23,758	18,379	20,375	10.9%	-1.8%

Five Year Summary of AADT from Permanent Sites (Continued)

*Indicates there is no data available.

Site #	Annual Average Daily Traffic (AADT)					Percent Change	
	2017	2018	2019	2020	2021	2020-2021	2017-2021
828	18,932	20,023	20,319	15,099	17,526	16.1%	-7.4%
829	28,236	29,181	29,318	26,305	30,127	14.5%	6.7%
830	64,563	64,713	63,401	54,411	63,671	17.0%	-1.4%
831	65,693	66,088	64,932	58,628	66,545	13.5%	1.3%
832	20,108	21,004	21,822	17,230	19,028	10.4%	-5.4%
833	70,787	73,044	67,245	58,598	67,290	14.8%	-4.9%
834	*	21,140	20,998	15,230	20,015	31.4%	-5.3%
835	*	9,527	**	**	9,457	N/A	-0.7%
836	*	*	28,622	25,152	28,287	12.5%	-1.2%
837	*	26,576	**	21,699	26,160	20.6%	-1.6%
838	**	**	**	19,334	22,638	17.1%	17.1%
839	*	26,875	27,239	23,093	26,990	16.9%	0.4%
840	*	51,884	52,715	38,346	44,134	15.1%	-14.9%
841	**	**	**	59,581	68,081	14.3%	14.3%
842	*	*	15,241	13,561	**	N/A	-11.0%
843	*	*	22,860	20,081	23,504	17.0%	2.8%
844	**	**	**	**	39,318	N/A	N/A
845	*	*	34,785	29,805	34,259	14.9%	-1.5%
846	*	*	5,197	3,827	4,140	8.2%	-20.3%
848	*	*	*	19,168	22,169	15.7%	15.7%
849	*	*	*	1,665	1,850	11.1%	11.1%
850	*	*	*	13,232	15,344	16.0%	16.0%
851	*	*	*	63,960	74,206	16.0%	16.0%
853	*	*	*	3,792	4,134	9.0%	9.0%
854	*	*	*	8,170	8,802	7.7%	7.7%
855	*	*	*	1,909	1,601	-16.1%	-16.1%
856	*	*	*	981	830	-15.4%	-15.4%
985	18,308	18,723	18,124	16,269	17,323	6.5%	-5.4%

* 702, 705, 710, 817, 834, 835, 837, 839, & 840 2018 was first full year of data.

* 706, 709, 712, 836, 842, 843, 845, & 846 2019 was first full year of data.

* 848, 849, 850, 851, 853, 854, 855, & 856 2020 was first full year of data

* 6, 7, 9, 10, 11, 822 2021 was first full year of data

** Site inactive or full year of data unavailable.

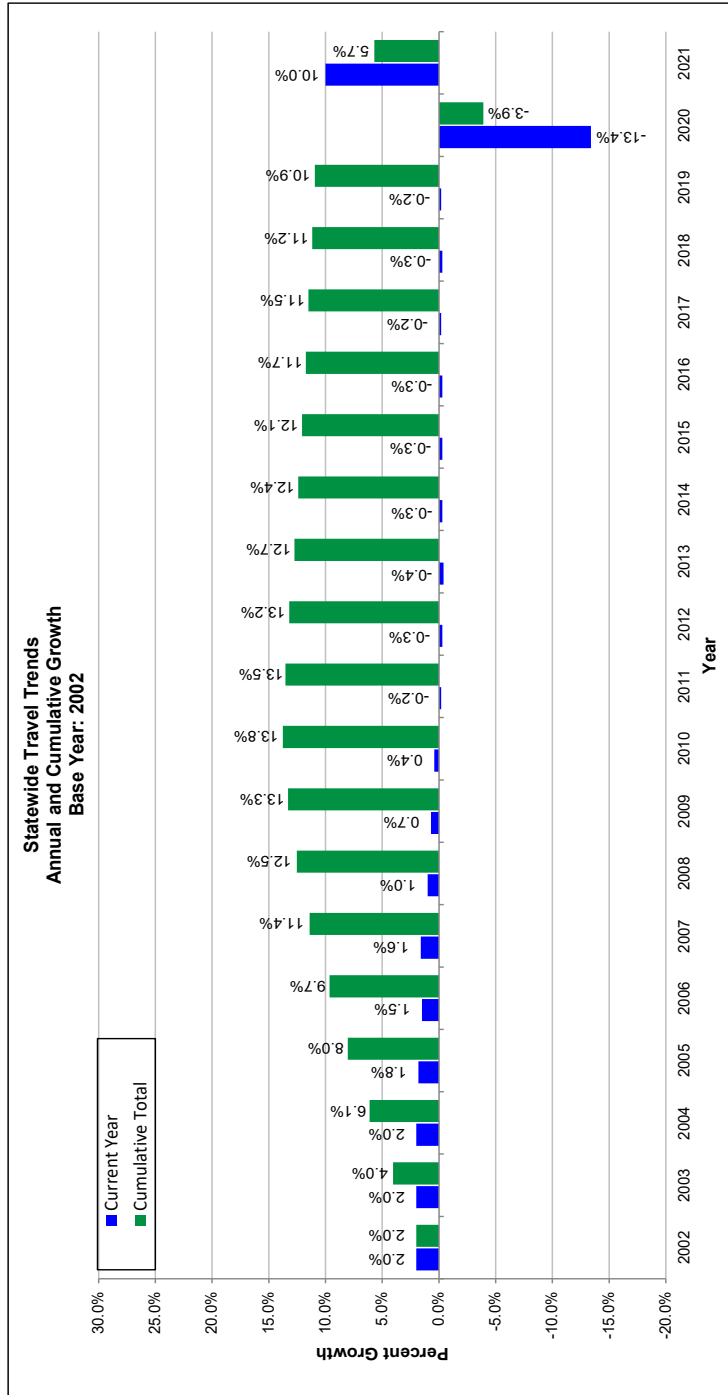
Statewide Traffic Trends: Annual and Multi-Year Change By Traffic Pattern Group

This table shows percent change for the traffic pattern groups at one-year intervals starting with 2016/2017 up to 2020/2021. 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, 2016 - 2021						
TRAFFIC PATTERN GROUPS	2016-17	2017-18	2018-19	2019-20	2020-21	2016-21
TPG 1 Urban Interstate	0.9%	1.1%	0.8%	-19.0%	14.3%	-1.9%
TPG 2 Rural Interstate	1.1%	1.1%	1.2%	-18.0%	16.5%	1.9%
TPG 3 Urban Principal Arterial	-0.7%	-0.8%	-0.7%	-18.7%	13.2%	-7.7%
TPG 4 Rural Principal Arterial	-0.5%	-0.6%	-0.5%	-15.8%	13.2%	-4.2%
TPG 5 Urban Minor Arterials or Collectors	-0.7%	-0.8%	-0.7%	-17.2%	7.8%	-11.6%
TPG 6 North Rural Minor Arterials	-0.5%	-0.6%	-0.5%	-11.8%	6.9%	-6.5%
TPG 7 Central Rural Minor Arterials	-0.5%	-0.6%	-0.5%	-10.6%	10.0%	-2.2%
TPG 8 North Rural Collectors	-0.5%	-0.6%	-0.5%	-5.8%	4.9%	-2.5%
TPG 9 Central Rural Collectors	-0.5%	-0.6%	-0.5%	-11.5%	6.5%	-6.6%
TPG 10 Special Recreational	-0.5%	-0.6%	-0.5%	-6.0%	6.9%	-0.7%
Statewide	-0.2%	-0.3%	-0.2%	-13.4%	10.0%	-4.2%

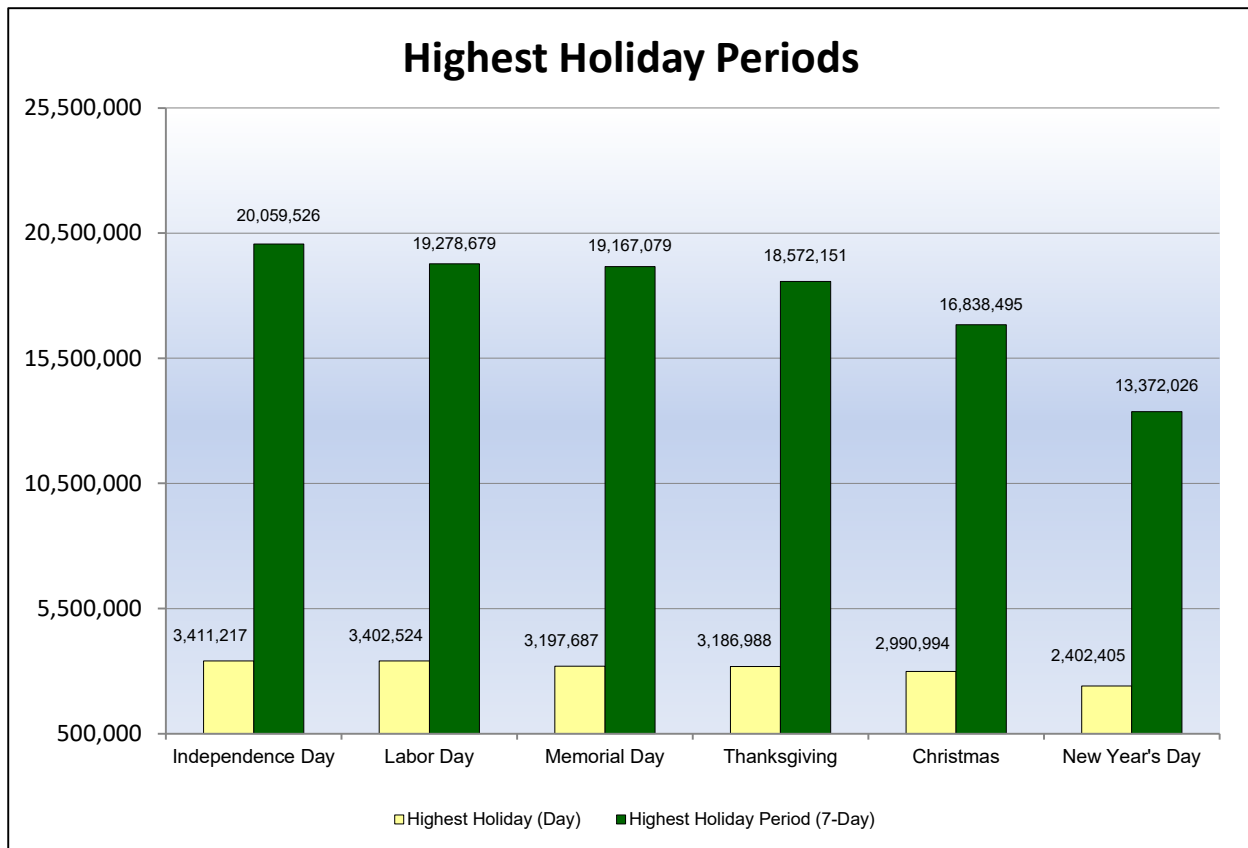
Statewide Traffic Trends

This chart shows yearly changes from 2002 to 2021 and a 20-year cumulative trend for the same period.



Heaviest Holiday Travel Periods: 2021

The 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:



The chart indicates that Independence Day had the highest seven-day holiday period in 2021 with a total volume of 20,059,526. Labor Day ranked second (19,278,679) followed by Memorial Day (19,167,079) and Thanksgiving (18,572,151). Christmas Day and New Year's Day ranked fifth (16,838,495) and sixth (13,372,026) respectively.

The highest day during a seven-day holiday period in 2021 was the Friday before Independence Day (July 2, 2021), which had a volume of 3,411,217. The second highest day was the Friday before Labor Day (September 3, 2021), which had a volume of 3,402,524. The Friday after Memorial Day (June 4, 2021), ranked third with 3,197,687, while the Wednesday before Thanksgiving Day (November 24, 2021), ranked fourth with 3,186,988. The Thursday before Christmas (December 23, 2021) ranked fifth with 2,990,994, while the Wednesday before New Year's Day (December 30, 2020) ranked sixth with 2,402,405.

Heaviest Holiday Travel Period Comparisons: 2020-2021

Highest Holiday (Day)			
2020		2021	
Holiday	Total Volume	Holiday	Total Volume
1. Independence Day	3,036,148	1. Independence Day	3,411,217
2. Labor Day	3,027,684	2. Labor Day	3,402,524
3. New Year's Day	2,905,942	3. Memorial Day	3,197,687
4. Thanksgiving	2,825,328	4. Thanksgiving	3,186,988
5. Christmas	2,663,109	5. Christmas	2,990,994
6. Memorial Day	2,369,870	6. New Year's Day	2,402,405

Highest Holiday Period (7-Day)			
2020		2021	
Holiday	Total Volume	Holiday	Total Volume
1. Independence Day	17,829,534	1. Independence Day	20,059,526
2. Labor Day	17,135,202	2. Labor Day	19,278,679
3. New Year's Day	16,237,260	3. Memorial Day	19,167,079
4. Thanksgiving	15,953,793	4. Thanksgiving	18,572,151
5. Memorial Day	14,576,622	5. Christmas	16,838,495
6. Christmas	13,794,104	6. New Year's Day	13,372,026

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 termed axle-load spectra. In the future, these new methods will supersede the use of ESAL factors.

Growth Factor

If the count to be analyzed was taken earlier than the current year, a county growth trend is applied to project the older count data to a representative current year estimate. County growth trends are established based on Traffic Pattern Group (TPG).

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 permanent site stations using the 30th highest hour and is established based on 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 2021. 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 Data System (TDS) Statistical Analysis tool. Raw count data from AVC counts, collected statewide, 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	1.25%	1.10%	1.18%	1	1.42%	1.34%	1.38%
2	0.93%	0.84%	0.88%	2	1.20%	1.06%	1.14%
3	0.88%	0.76%	0.82%	3	1.14%	0.98%	1.06%
4	0.94%	0.90%	0.92%	4	1.27%	1.11%	1.19%
5	1.28%	1.40%	1.34%	5	1.71%	1.55%	1.63%
6	2.27%	2.55%	2.41%	6	2.57%	2.50%	2.53%
7	3.83%	4.10%	3.96%	7	3.54%	3.65%	3.60%
8	5.10%	5.12%	5.11%	8	4.18%	4.58%	4.38%
9	5.15%	5.10%	5.12%	9	4.53%	4.86%	4.69%
10	5.23%	5.23%	5.23%	10	5.07%	5.37%	5.22%
11	5.67%	5.63%	5.65%	11	5.67%	5.95%	5.81%
12	6.05%	6.02%	6.04%	12	6.12%	6.39%	6.26%
13	6.32%	6.30%	6.31%	13	6.39%	6.58%	6.48%
14	6.46%	6.49%	6.47%	14	6.61%	6.68%	6.65%
15	6.97%	6.91%	6.94%	15	6.95%	6.90%	6.92%
16	7.46%	7.32%	7.39%	16	7.23%	7.11%	7.17%
17	7.52%	7.41%	7.46%	17	7.17%	7.02%	7.10%
18	6.92%	6.86%	6.89%	18	6.58%	6.42%	6.50%
19	5.46%	5.43%	5.44%	19	5.36%	5.27%	5.31%
20	4.23%	4.35%	4.29%	20	4.40%	4.28%	4.34%
21	3.43%	3.57%	3.50%	21	3.67%	3.53%	3.60%
22	2.75%	2.83%	2.79%	22	2.99%	2.86%	2.93%
23	2.22%	2.18%	2.20%	23	2.39%	2.26%	2.32%
24	1.69%	1.60%	1.65%	24	1.84%	1.75%	1.79%
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	0.77%	0.72%	0.75%	1	0.86%	0.74%	0.80%
2	0.54%	0.50%	0.52%	2	0.63%	0.57%	0.60%
3	0.48%	0.48%	0.48%	3	0.57%	0.54%	0.55%
4	0.58%	0.64%	0.61%	4	0.67%	0.77%	0.72%
5	0.96%	1.16%	1.06%	5	1.11%	1.42%	1.27%
6	2.18%	2.45%	2.32%	6	2.24%	3.02%	2.64%
7	3.97%	4.34%	4.16%	7	3.73%	4.64%	4.19%
8	5.46%	5.73%	5.59%	8	4.96%	5.78%	5.38%
9	5.34%	5.48%	5.41%	9	4.90%	5.39%	5.15%
10	5.35%	5.35%	5.35%	10	5.24%	5.41%	5.33%
11	5.80%	5.71%	5.76%	11	5.78%	5.93%	5.86%
12	6.31%	6.21%	6.26%	12	6.23%	6.28%	6.26%
13	6.62%	6.57%	6.59%	13	6.55%	6.58%	6.56%
14	6.67%	6.62%	6.65%	14	6.76%	6.67%	6.72%
15	7.16%	7.10%	7.13%	15	7.47%	7.09%	7.28%
16	7.80%	7.60%	7.70%	16	8.14%	7.58%	7.85%
17	7.89%	7.76%	7.83%	17	8.19%	7.55%	7.86%
18	7.23%	7.08%	7.15%	18	7.22%	6.75%	6.97%
19	5.60%	5.43%	5.51%	19	5.45%	5.17%	5.31%
20	4.29%	4.20%	4.24%	20	4.23%	3.88%	4.05%
21	3.36%	3.33%	3.34%	21	3.31%	3.05%	3.18%
22	2.50%	2.50%	2.50%	22	2.46%	2.32%	2.39%
23	1.85%	1.82%	1.83%	23	1.91%	1.70%	1.80%
24	1.29%	1.22%	1.26%	24	1.39%	1.17%	1.28%
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	0.45%	0.47%	0.46%	1	0.54%	0.55%	0.55%
2	0.29%	0.31%	0.30%	2	0.37%	0.39%	0.38%
3	0.27%	0.39%	0.35%	3	0.35%	0.37%	0.36%
4	0.33%	0.38%	0.36%	4	0.52%	0.56%	0.54%
5	0.61%	0.80%	0.73%	5	1.07%	0.99%	1.03%
6	1.87%	1.89%	1.88%	6	2.25%	2.27%	2.26%
7	3.26%	3.62%	3.48%	7	4.37%	4.37%	4.37%
8	4.96%	5.33%	5.19%	8	5.60%	5.82%	5.71%
9	5.47%	5.26%	5.34%	9	5.18%	5.32%	5.26%
10	5.68%	5.27%	5.43%	10	5.62%	5.51%	5.56%
11	6.19%	5.72%	5.90%	11	6.29%	6.11%	6.20%
12	6.82%	6.47%	6.61%	12	6.68%	6.57%	6.62%
13	7.29%	6.93%	7.07%	13	6.99%	6.93%	6.96%
14	7.05%	6.83%	6.91%	14	6.95%	7.00%	6.97%
15	7.61%	7.41%	7.48%	15	7.60%	7.50%	7.55%
16	8.53%	8.18%	8.31%	16	8.45%	8.45%	8.45%
17	8.42%	8.42%	8.42%	17	8.42%	8.05%	8.23%
18	7.62%	7.66%	7.64%	18	6.87%	6.82%	6.85%
19	5.56%	5.85%	5.74%	19	4.95%	4.98%	4.97%
20	4.20%	4.58%	4.44%	20	3.74%	3.82%	3.78%
21	3.16%	3.48%	3.36%	21	2.81%	2.87%	2.84%
22	2.11%	2.33%	2.25%	22	2.00%	2.07%	2.04%
23	1.41%	1.49%	1.46%	23	1.45%	1.54%	1.49%
24	0.84%	0.93%	0.89%	24	0.93%	1.14%	1.03%
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	0.50%	0.50%	0.50%	1	0.61%	0.60%	0.60%
2	0.36%	0.41%	0.39%	2	0.42%	0.36%	0.38%
3	0.34%	0.36%	0.35%	3	0.32%	0.35%	0.33%
4	0.46%	0.57%	0.52%	4	0.42%	0.44%	0.43%
5	1.15%	1.38%	1.27%	5	1.29%	1.20%	1.24%
6	2.50%	3.06%	2.79%	6	2.68%	2.13%	2.39%
7	4.53%	4.37%	4.44%	7	6.10%	3.75%	4.89%
8	5.58%	5.69%	5.64%	8	5.29%	4.99%	5.14%
9	5.14%	5.44%	5.30%	9	4.78%	5.07%	4.92%
10	5.21%	5.52%	5.37%	10	5.06%	5.29%	5.18%
11	5.73%	5.89%	5.82%	11	5.71%	6.03%	5.87%
12	6.19%	6.32%	6.25%	12	6.24%	6.62%	6.43%
13	6.58%	6.54%	6.56%	13	6.47%	6.86%	6.67%
14	6.78%	6.59%	6.68%	14	6.46%	6.85%	6.66%
15	7.40%	7.04%	7.21%	15	7.17%	7.49%	7.33%
16	8.30%	7.96%	8.12%	16	8.26%	8.79%	8.53%
17	8.50%	8.28%	8.39%	17	8.20%	9.99%	9.19%
18	7.51%	7.44%	7.47%	18	7.41%	7.12%	7.26%
19	5.58%	5.50%	5.54%	19	5.28%	5.15%	5.21%
20	4.00%	3.85%	3.92%	20	4.13%	3.84%	3.98%
21	3.12%	2.93%	3.02%	21	3.10%	2.93%	3.01%
22	2.19%	2.11%	2.15%	22	2.10%	1.95%	2.02%
23	1.47%	1.40%	1.44%	23	1.45%	1.31%	1.37%
24	0.88%	0.85%	0.86%	24	1.05%	0.89%	0.97%
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	0.47%	0.44%	0.45%	1	0.40%	0.35%	0.38%
2	0.31%	0.31%	0.31%	2	0.21%	0.20%	0.20%
3	0.27%	0.27%	0.27%	3	0.16%	0.14%	0.15%
4	0.52%	0.51%	0.51%	4	0.21%	0.20%	0.20%
5	1.20%	1.10%	1.15%	5	0.47%	0.36%	0.42%
6	2.63%	3.21%	2.94%	6	1.14%	0.79%	0.96%
7	4.35%	4.98%	4.69%	7	2.59%	1.87%	2.23%
8	5.54%	6.03%	5.81%	8	5.43%	3.89%	4.65%
9	4.93%	5.48%	5.23%	9	5.08%	4.38%	4.72%
10	4.98%	5.43%	5.22%	10	6.09%	5.20%	5.64%
11	5.51%	5.68%	5.61%	11	7.14%	6.43%	6.78%
12	6.13%	6.09%	6.11%	12	7.69%	7.50%	7.59%
13	6.56%	6.36%	6.45%	13	8.00%	7.91%	7.96%
14	6.65%	6.42%	6.52%	14	8.08%	8.04%	8.06%
15	7.33%	7.14%	7.23%	15	7.99%	8.72%	8.36%
16	8.62%	8.15%	8.36%	16	8.01%	8.84%	8.43%
17	9.08%	8.50%	8.77%	17	7.93%	8.61%	8.27%
18	7.66%	7.52%	7.58%	18	7.02%	7.85%	7.44%
19	5.49%	5.32%	5.40%	19	5.40%	5.97%	5.69%
20	4.10%	3.87%	3.97%	20	4.18%	4.77%	4.48%
21	3.14%	2.94%	3.04%	21	3.00%	3.56%	3.29%
22	2.20%	2.01%	2.10%	22	1.95%	2.27%	2.11%
23	1.39%	1.41%	1.40%	23	1.13%	1.42%	1.28%
24	0.94%	0.83%	0.88%	24	0.70%	0.73%	0.71%
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 two charts 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 AVC counts that were collected and verified. The raw count data was assigned to the respective Traffic Pattern Group (TPG), the truck data was extracted by vehicle type, and the TDS Statistical Analysis tool 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 2021 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	1.86%	1.65%	1.76%	1	0.89%	0.80%	0.84%
2	1.60%	1.38%	1.49%	2	0.65%	0.61%	0.63%
3	1.57%	1.30%	1.43%	3	0.61%	0.59%	0.60%
4	1.70%	1.46%	1.58%	4	0.71%	0.82%	0.76%
5	2.04%	1.91%	1.97%	5	1.12%	1.38%	1.25%
6	2.79%	2.80%	2.80%	6	2.35%	2.76%	2.55%
7	3.85%	3.97%	3.91%	7	4.15%	4.59%	4.37%
8	4.63%	4.72%	4.67%	8	5.63%	5.99%	5.81%
9	5.02%	4.98%	5.00%	9	5.48%	5.71%	5.59%
10	5.31%	5.28%	5.30%	10	5.41%	5.52%	5.46%
11	5.63%	5.65%	5.64%	11	5.73%	5.84%	5.79%
12	5.88%	5.95%	5.91%	12	6.15%	6.23%	6.19%
13	6.04%	6.13%	6.08%	13	6.46%	6.51%	6.49%
14	6.14%	6.26%	6.20%	14	6.53%	6.53%	6.53%
15	6.36%	6.47%	6.42%	15	7.05%	6.98%	7.02%
16	6.47%	6.60%	6.53%	16	7.63%	7.36%	7.50%
17	6.34%	6.49%	6.42%	17	7.62%	7.41%	7.52%
18	5.89%	6.04%	5.97%	18	6.96%	6.70%	6.83%
19	5.06%	5.19%	5.12%	19	5.46%	5.14%	5.30%
20	4.22%	4.39%	4.30%	20	4.24%	3.95%	4.09%
21	3.60%	3.70%	3.65%	21	3.35%	3.12%	3.24%
22	3.10%	3.08%	3.09%	22	2.52%	2.40%	2.46%
23	2.67%	2.54%	2.61%	23	1.89%	1.81%	1.85%
24	2.23%	2.06%	2.15%	24	1.41%	1.25%	1.33%
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 (MINOR ARTERIALS)				MAINTENANCE FUNCTIONAL CLASS D, E & F (RURAL COLLECTORS)			
HOUR	DIR 1	DIR 2	TOTAL	HOUR	DIR 1	DIR 2	TOTAL
1	0.66%	0.70%	0.68%	1	0.71%	0.72%	0.71%
2	0.56%	0.64%	0.60%	2	0.62%	0.64%	0.63%
3	0.56%	0.64%	0.60%	3	0.66%	0.61%	0.63%
4	0.79%	0.91%	0.85%	4	1.10%	0.91%	1.00%
5	1.62%	1.56%	1.59%	5	1.97%	1.77%	1.87%
6	3.04%	3.34%	3.20%	6	3.49%	3.19%	3.34%
7	5.24%	5.11%	5.18%	7	5.11%	5.69%	5.41%
8	6.39%	6.39%	6.39%	8	6.59%	6.54%	6.56%
9	6.15%	6.22%	6.19%	9	6.74%	6.88%	6.81%
10	6.36%	6.21%	6.28%	10	6.50%	7.07%	6.79%
11	6.65%	6.54%	6.59%	11	6.89%	7.25%	7.07%
12	6.73%	6.80%	6.77%	12	6.98%	7.36%	7.18%
13	6.87%	6.86%	6.87%	13	7.03%	7.29%	7.17%
14	6.87%	6.86%	6.87%	14	7.04%	7.41%	7.23%
15	7.24%	7.10%	7.17%	15	6.98%	7.33%	7.16%
16	7.48%	7.32%	7.39%	16	7.37%	7.20%	7.28%
17	7.19%	6.92%	7.04%	17	6.72%	6.42%	6.57%
18	5.93%	5.87%	5.90%	18	5.36%	4.97%	5.16%
19	4.38%	4.36%	4.37%	19	3.96%	3.56%	3.76%
20	3.06%	3.10%	3.08%	20	2.86%	2.47%	2.66%
21	2.39%	2.39%	2.39%	21	2.05%	1.81%	1.93%
22	1.76%	1.79%	1.77%	22	1.42%	1.25%	1.33%
23	1.24%	1.32%	1.28%	23	1.01%	0.95%	0.98%
24	0.84%	1.05%	0.95%	24	0.84%	0.71%	0.77%
TOTAL	100.00%	100.00%	100.00%	TOTAL	100.00%	100.00%	100.00%

Hourly Percentages Charts

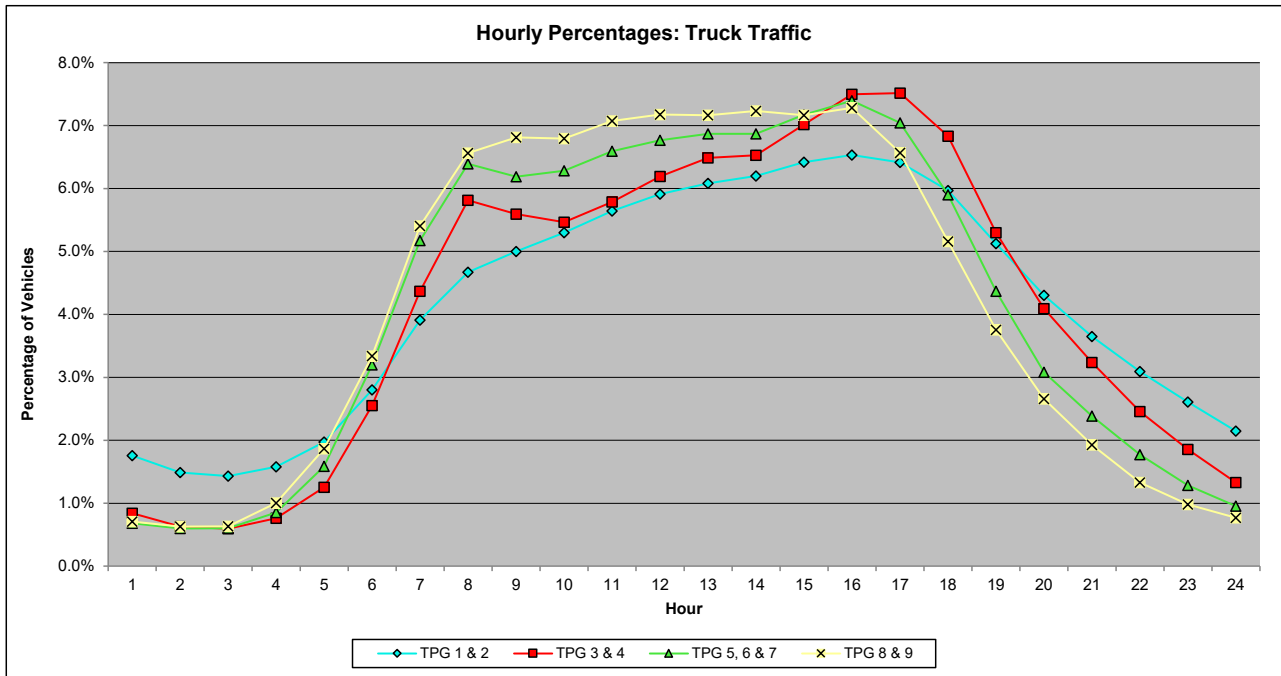
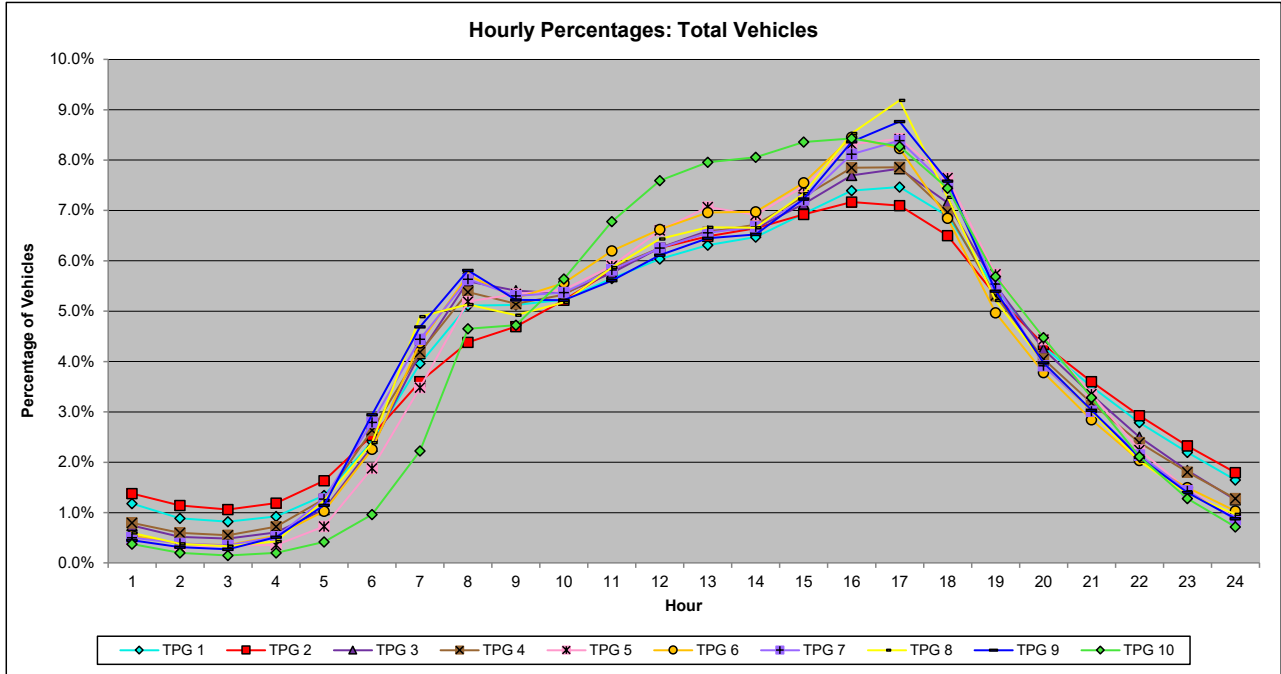


Table 355
Average Day of Week by Month Factors Compiled for Total Vehicles

The following 12 tables show average day of week factors by month compiled for total vehicles for the year 2021. 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 permanent site stations utilized in 2021. 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 2021										
DAY	TPG 1	TPG 2	TPG 3	TPG 4	TPG 5	TPG 6	TPG 7	TPG 8	TPG 9	TPG 10
Monday	0.999	1.065	1.013	1.122	1.088	0.963	1.108	1.162	1.099	1.689
Tuesday	1.023	1.084	1.035	1.173	1.096	1.022	1.173	1.233	1.146	1.792
Wednesday	0.974	1.021	0.981	1.102	1.024	0.935	1.073	1.137	1.039	1.616
Thursday	0.933	0.983	0.962	1.051	0.981	0.907	1.046	1.083	1.017	1.531
Friday	1.142	1.161	1.171	1.358	1.267	1.177	1.240	1.296	1.289	1.795
Saturday	1.119	1.161	1.163	1.288	1.225	1.235	1.227	1.346	1.288	1.482
Sunday	1.488	1.417	1.641	1.765	1.686	1.631	1.807	1.778	1.773	2.183
DAY OF MONTH	1.097	1.127	1.138	1.265	1.195	1.124	1.239	1.291	1.236	1.727

February 2021										
DAY	TPG 1	TPG 2	TPG 3	TPG 4	TPG 5	TPG 6	TPG 7	TPG 8	TPG 9	TPG 10
Monday	1.083	1.312	1.046	1.417	1.309	1.158	1.264	1.432	1.332	1.870
Tuesday	1.075	1.249	0.976	1.210	1.159	1.098	1.147	1.400	1.194	1.834
Wednesday	0.893	0.994	0.904	1.032	1.007	0.903	1.032	1.089	1.002	1.585
Thursday	0.966	1.056	0.962	1.110	1.035	0.929	1.119	1.158	1.073	1.667
Friday	0.877	0.958	0.866	0.974	0.953	0.853	0.994	1.049	0.978	1.425
Saturday	1.073	1.176	1.112	1.245	1.191	1.165	1.234	1.308	1.268	1.506
Sunday	1.358	1.337	1.527	1.552	1.621	1.481	1.847	1.600	1.755	1.974
DAY OF MONTH	1.046	1.155	1.056	1.220	1.182	1.084	1.234	1.291	1.229	1.694

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

March 2021										
DAY	TPG 1	TPG 2	TPG 3	TPG 4	TPG 5	TPG 6	TPG 7	TPG 8	TPG 9	TPG 10
Monday	0.901	0.972	0.933	1.005	0.958	0.878	1.018	1.008	0.998	1.328
Tuesday	0.881	0.947	0.904	0.982	0.925	0.865	0.974	0.993	0.949	1.278
Wednesday	0.863	0.916	0.895	0.967	0.920	0.832	0.951	0.977	0.938	1.232
Thursday	0.862	0.899	0.899	0.953	0.899	0.846	0.964	0.987	0.951	1.336
Friday	0.779	0.834	0.823	0.874	0.853	0.777	0.895	0.899	0.885	1.147
Saturday	0.961	1.018	1.000	1.061	1.047	1.016	1.035	1.113	1.090	1.093
Sunday	1.112	1.088	1.286	1.273	1.309	1.256	1.363	1.329	1.363	1.400
DAY OF MONTH	0.908	0.953	0.963	1.016	0.987	0.924	1.028	1.044	1.025	1.259

April 2021										
DAY	TPG 1	TPG 2	TPG 3	TPG 4	TPG 5	TPG 6	TPG 7	TPG 8	TPG 9	TPG 10
Monday	0.834	0.908	0.904	0.928	0.897	0.800	0.947	0.977	0.928	1.104
Tuesday	0.827	0.905	0.879	0.913	0.846	0.777	0.896	0.910	0.872	0.997
Wednesday	0.816	0.906	0.875	0.927	0.880	0.781	0.889	0.905	0.883	1.053
Thursday	0.797	0.845	0.856	0.889	0.857	0.783	0.913	0.931	0.897	1.134
Friday	0.732	0.767	0.809	0.817	0.841	0.718	0.861	0.846	0.872	0.900
Saturday	0.904	0.955	0.980	1.014	0.990	0.930	0.980	1.050	1.038	0.835
Sunday	1.021	0.988	1.248	1.178	1.266	1.138	1.267	1.256	1.266	1.081
DAY OF MONTH	0.847	0.896	0.936	0.952	0.940	0.847	0.965	0.982	0.965	1.015

May 2021										
DAY	TPG 1	TPG 2	TPG 3	TPG 4	TPG 5	TPG 6	TPG 7	TPG 8	TPG 9	TPG 10
Monday	0.839	0.870	0.946	0.947	0.961	0.808	0.957	0.917	0.957	0.946
Tuesday	0.798	0.890	0.860	0.919	0.848	0.744	0.871	0.864	0.863	0.956
Wednesday	0.793	0.855	0.850	0.909	0.865	0.748	0.869	0.866	0.855	0.940
Thursday	0.742	0.784	0.818	0.851	0.801	0.702	0.833	0.818	0.819	0.831
Friday	0.694	0.713	0.785	0.781	0.815	0.672	0.810	0.787	0.817	0.738
Saturday	0.859	0.889	0.965	0.974	0.983	0.884	0.960	0.952	1.020	0.671
Sunday	0.948	0.915	1.161	1.090	1.202	1.028	1.151	1.098	1.183	0.811
DAY OF MONTH	0.811	0.845	0.912	0.924	0.925	0.798	0.921	0.900	0.930	0.842

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

June 2021										
DAY	TPG 1	TPG 2	TPG 3	TPG 4	TPG 5	TPG 6	TPG 7	TPG 8	TPG 9	TPG 10
Monday	0.798	0.808	0.871	0.886	0.907	0.762	0.910	0.875	0.877	0.856
Tuesday	0.799	0.815	0.853	0.875	0.871	0.745	0.894	0.874	0.857	0.858
Wednesday	0.771	0.790	0.827	0.864	0.864	0.739	0.848	0.849	0.828	0.857
Thursday	0.748	0.754	0.814	0.819	0.838	0.713	0.841	0.800	0.820	0.829
Friday	0.692	0.672	0.773	0.759	0.828	0.667	0.800	0.764	0.800	0.657
Saturday	0.828	0.813	0.932	0.930	0.986	0.854	0.884	0.914	0.951	0.568
Sunday	0.875	0.795	1.092	1.000	1.123	0.941	1.022	0.989	1.060	0.636
DAY OF MONTH	0.787	0.778	0.880	0.876	0.917	0.774	0.885	0.866	0.885	0.752

July 2021										
DAY	TPG 1	TPG 2	TPG 3	TPG 4	TPG 5	TPG 6	TPG 7	TPG 8	TPG 9	TPG 10
Monday	0.791	0.748	0.910	0.890	0.936	0.800	0.944	0.899	0.939	0.771
Tuesday	0.778	0.763	0.835	0.861	0.875	0.773	0.894	0.838	0.859	0.788
Wednesday	0.758	0.750	0.816	0.846	0.857	0.753	0.856	0.837	0.846	0.815
Thursday	0.734	0.695	0.811	0.817	0.841	0.736	0.870	0.821	0.861	0.794
Friday	0.669	0.617	0.764	0.739	0.835	0.683	0.796	0.757	0.817	0.625
Saturday	0.805	0.734	0.951	0.916	1.019	0.884	0.925	0.946	0.998	0.537
Sunday	0.898	0.788	1.143	1.023	1.189	1.004	1.091	1.073	1.132	0.634
DAY OF MONTH	0.776	0.728	0.890	0.870	0.936	0.805	0.911	0.882	0.922	0.709

August 2021										
DAY	TPG 1	TPG 2	TPG 3	TPG 4	TPG 5	TPG 6	TPG 7	TPG 8	TPG 9	TPG 10
Monday	0.780	0.753	0.866	0.865	0.873	0.827	0.915	0.878	0.898	0.922
Tuesday	0.784	0.777	0.843	0.865	0.855	0.813	0.892	0.870	0.870	0.937
Wednesday	0.771	0.756	0.834	0.853	0.874	0.802	0.874	0.872	0.875	0.908
Thursday	0.721	0.693	0.805	0.802	0.824	0.771	0.856	0.845	0.843	0.833
Friday	0.685	0.629	0.773	0.737	0.820	0.720	0.806	0.769	0.825	0.683
Saturday	0.798	0.726	0.934	0.893	0.982	0.913	0.933	0.962	1.002	0.607
Sunday	0.860	0.726	1.128	0.987	1.181	1.069	1.137	1.086	1.180	0.728
DAY OF MONTH	0.771	0.723	0.883	0.857	0.916	0.845	0.916	0.897	0.928	0.802

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

September 2021										
DAY	TPG 1	TPG 2	TPG 3	TPG 4	TPG 5	TPG 6	TPG 7	TPG 8	TPG 9	TPG 10
Monday	0.848	0.805	0.941	0.913	0.958	0.909	0.952	0.971	0.977	0.966
Tuesday	0.829	0.830	0.852	0.883	0.846	0.835	0.898	0.914	0.882	1.045
Wednesday	0.850	0.865	0.885	0.920	0.886	0.857	0.926	0.948	0.932	1.145
Thursday	0.790	0.754	0.826	0.846	0.823	0.816	0.882	0.890	0.876	1.009
Friday	0.705	0.648	0.757	0.737	0.792	0.729	0.786	0.797	0.806	0.782
Saturday	0.850	0.805	0.939	0.907	0.981	0.963	0.903	0.986	0.999	0.682
Sunday	0.949	0.833	1.133	1.040	1.204	1.177	1.116	1.125	1.177	0.841
DAY OF MONTH	0.831	0.791	0.905	0.892	0.927	0.898	0.923	0.948	0.950	0.924

October 2021										
DAY	TPG 1	TPG 2	TPG 3	TPG 4	TPG 5	TPG 6	TPG 7	TPG 8	TPG 9	TPG 10
Monday	0.812	0.806	0.858	0.872	0.902	0.884	0.929	0.955	0.916	1.159
Tuesday	0.814	0.838	0.849	0.880	0.862	0.875	0.915	0.953	0.900	1.168
Wednesday	0.793	0.818	0.819	0.858	0.833	0.843	0.866	0.909	0.864	1.096
Thursday	0.757	0.760	0.796	0.815	0.815	0.823	0.845	0.892	0.850	1.041
Friday	0.707	0.687	0.762	0.752	0.798	0.769	0.802	0.840	0.834	0.877
Saturday	0.880	0.887	0.940	0.967	1.028	1.054	0.961	1.087	1.050	0.843
Sunday	0.936	0.849	1.134	1.056	1.212	1.251	1.181	1.224	1.243	1.072
DAY OF MONTH	0.814	0.806	0.880	0.886	0.922	0.928	0.928	0.980	0.951	1.036

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

November 2021										
DAY	TPG 1	TPG 2	TPG 3	TPG 4	TPG 5	TPG 6	TPG 7	TPG 8	TPG 9	TPG 10
Monday	0.808	0.876	0.869	0.929	0.918	0.944	0.971	1.006	0.966	1.360
Tuesday	0.789	0.861	0.846	0.917	0.872	0.902	0.927	0.975	0.927	1.329
Wednesday	0.757	0.818	0.811	0.871	0.859	0.872	0.887	0.947	0.885	1.251
Thursday	0.850	0.907	0.969	1.013	1.055	1.047	1.020	1.087	1.028	1.418
Friday	0.739	0.790	0.814	0.823	0.888	0.853	0.894	0.911	0.927	1.223
Saturday	0.867	0.900	0.980	1.041	1.112	1.164	1.041	1.153	1.135	1.259
Sunday	0.841	0.828	1.193	1.202	1.327	1.462	1.323	1.363	1.390	1.766
DAY OF MONTH	0.807	0.854	0.926	0.971	1.004	1.035	1.009	1.063	1.037	1.372

December 2021										
DAY	TPG 1	TPG 2	TPG 3	TPG 4	TPG 5	TPG 6	TPG 7	TPG 8	TPG 9	TPG 10
Monday	0.858	0.898	0.902	0.992	0.971	1.030	1.026	1.058	1.045	1.495
Tuesday	0.812	0.866	0.861	0.934	0.905	0.946	0.956	1.004	0.960	1.409
Wednesday	0.794	0.855	0.844	0.927	0.886	0.926	0.949	0.996	0.939	1.378
Thursday	0.769	0.816	0.831	0.894	0.869	0.920	0.925	0.957	0.926	1.327
Friday	0.866	0.916	0.906	0.963	0.941	1.009	0.975	0.996	0.995	1.284
Saturday	1.123	1.208	1.193	1.290	1.320	1.431	1.262	1.308	1.287	1.814
Sunday	1.027	1.009	1.205	1.244	1.299	1.445	1.315	1.327	1.377	1.726
DAY OF MONTH	0.893	0.938	0.963	1.035	1.027	1.101	1.059	1.092	1.076	1.490

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.

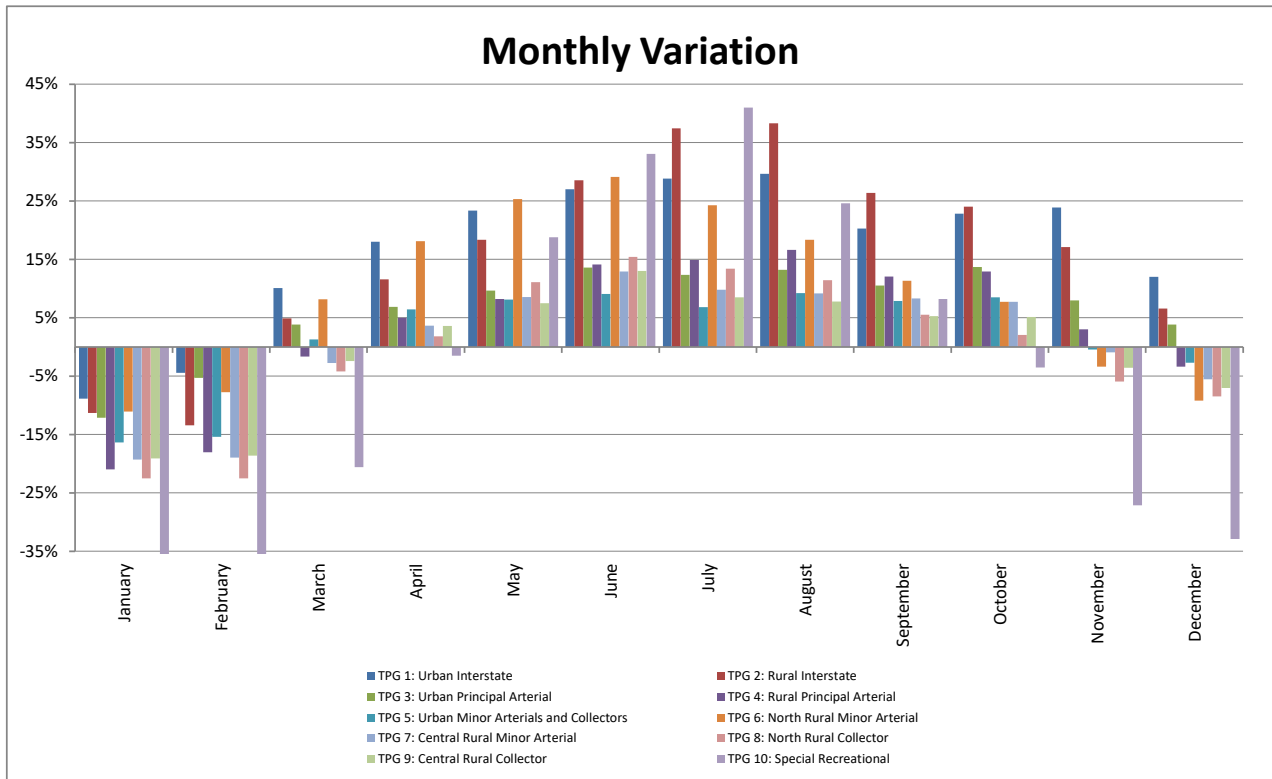


Table 365
Average Day of Week by Month Factors Compiled for Truck Traffic

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 variation between weekdays (Monday through Friday) versus weekend (Saturday through Sunday) truck flow.

AVERAGE DAY OF WEEK BY MONTH FOR TRUCK TRAFFIC							
	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
JANUARY	0.97	0.96	0.90	0.88	1.52	2.02	2.94
FEBRUARY	1.12	0.99	0.89	0.92	0.93	1.97	2.94
MARCH	0.85	0.81	0.82	0.83	0.85	1.68	2.51
APRIL	0.77	0.71	0.72	0.74	0.78	1.50	2.25
MAY	0.94	0.70	0.71	0.67	0.72	1.52	2.18
JUNE	0.77	0.73	0.72	0.70	0.72	1.45	2.01
JULY	0.91	0.74	0.73	0.72	0.74	1.51	2.07
AUGUST	0.77	0.74	0.77	0.72	0.75	1.49	1.93
SEPTEMBER	0.96	0.73	0.76	0.72	0.71	1.48	2.07
OCTOBER	0.76	0.73	0.71	0.69	0.73	1.60	2.16
NOVEMBER	0.81	0.75	0.74	1.45	0.88	1.74	2.43
DECEMBER	0.90	0.83	0.82	0.84	1.24	3.76	3.05

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 (2021) of a 2012 base year count having a TPG 5, multiply 0.837 (-16.3%) by the AADT of the 2012 count.

Yearly Growth Factors: 2012-2021										
TPG	11-12 (2012)	12-13 (2013)	13-14 (2014)	14-15 (2015)	15-16 (2016)	16-17 (2017)	17-18 (2018)	18-19 (2019)	19-20 (2020)	20-21 (2021)
TPG 1	-0.9%	-1.1%	0.1%	0.5%	0.8%	0.9%	1.1%	0.8%	-19.0%	14.3%
TPG 2	2.2%	2.2%	1.2%	1.3%	1.0%	1.1%	1.1%	1.2%	-18.0%	16.5%
TPG 3	-1.0%	-1.0%	-0.7%	-0.8%	-0.7%	-0.7%	-0.8%	-0.7%	-18.7%	13.2%
TPG 4	-0.4%	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%	-0.6%	-0.5%	-15.8%	13.2%
TPG 5	-1.0%	-1.0%	-0.7%	-0.8%	-0.7%	-0.7%	-0.8%	-0.7%	-17.2%	7.8%
TPG 6	-0.4%	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%	-0.6%	-0.5%	-11.8%	6.9%
TPG 7	-0.4%	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%	-0.6%	-0.5%	-10.6%	10.0%
TPG 8	-0.4%	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%	-0.6%	-0.5%	-5.8%	4.9%
TPG 9	-0.4%	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%	-0.6%	-0.5%	-11.5%	6.5%
TPG 10	-0.4%	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%	-0.6%	-0.5%	-6.0%	6.9%

The table below shows yearly growth percentages by TPG for 2012 through 2021.

Percent Growth: 2012-2021										
TPG	11-21 (2012)	12-21 (2013)	13-21 (2014)	14-21 (2015)	15-21 (2016)	16-21 (2017)	17-21 (2018)	18-21 (2019)	19-21 (2020)	20-21 (2021)
TPG 1	-5.4%	-4.5%	-3.4%	-3.5%	-4.0%	-4.8%	-5.6%	-6.7%	-7.4%	14.3%
TPG 2	6.8%	4.5%	2.3%	1.1%	-0.2%	-1.2%	-2.3%	-3.3%	-4.5%	16.5%
TPG 3	-13.7%	-12.8%	-11.9%	-11.3%	-10.6%	-10.0%	-9.3%	-8.6%	-8.0%	13.2%
TPG 4	-8.4%	-8.1%	-7.6%	-7.1%	-6.7%	-6.2%	-5.7%	-5.2%	-4.7%	13.2%
TPG 5	-16.3%	-15.4%	-14.6%	-14.0%	-13.3%	-12.7%	-12.1%	-11.3%	-10.7%	7.8%
TPG 6	-9.4%	-9.0%	-8.6%	-8.1%	-7.7%	-7.2%	-6.7%	-6.2%	-5.7%	6.9%
TPG 7	-5.5%	-5.1%	-4.7%	-4.2%	-3.7%	-3.2%	-2.7%	-2.1%	-1.6%	10.0%
TPG 8	-5.0%	-4.6%	-4.2%	-3.7%	-3.2%	-2.7%	-2.2%	-1.6%	-1.1%	4.9%
TPG 9	-9.5%	-9.1%	-8.7%	-8.2%	-7.7%	-7.3%	-6.8%	-6.3%	-5.8%	6.5%
TPG 10	-3.4%	-3.1%	-2.6%	-2.1%	-1.6%	-1.1%	-0.6%	0.0%	0.5%	6.9%

Functional Class Groups

Traffic volume data displayed in PennDOT's Roadway Management System (RMS) is projected to a current estimate year (2021) 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 PennDOT FCG's with a description and corresponding Functional Class Codes (FCCs). The second table shows the FHWA revision of highway functional classifications. FHWA finalized the functional class guidelines in 2013. RMS was updated to reflect these changes in late summer 2016.

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 FREEWAYS/EXPRESSWAYS	FCC 03
	RURAL - OTHER PRINCIPAL ARTERIALS	FCC 02
	RURAL - MINOR ARTERIAL	FCC 06
FCG 5	URBAN - MAJOR COLLECTOR	FCC 17
	URBAN - MINOR COLLECTOR	FCC 18
	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
1	INTERSTATE	01-11
2	OTHER FREEWAY / EXPRESSWAY	03-12
3	OTHER PRINCIPAL ARTERIAL	02-14
4	MINOR ARTERIAL	06-16
5	MAJOR COLLECTOR	07-17
6	MINOR COLLECTOR	08-18
7	LOCAL	09-19

** 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.

2021 Axle Correction Factors are shown in the table below.

TPG	Axle Correction Factor
1	79.88%
2	70.00%
3	91.86%
4	88.10%
5	97.74%
6	91.24%
7	94.30%
8	93.12%
9	96.17%
10	96.68%

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 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.

2021 K-Factors and corresponding TPGs are shown in the table below.

TPG	K factor default value
1	10%
2	10%
3	10%
4	10%
5	11%
6	11%
7	11%
8	13%
9	11%
10	16%

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 termed axle-load spectra. In the future, these new methods will supersede the use of ESAL factors.

2021 ESAL factors for rigid pavements are shown by Traffic Pattern Group (TPG) and vehicle classification in **Table 390**, below.

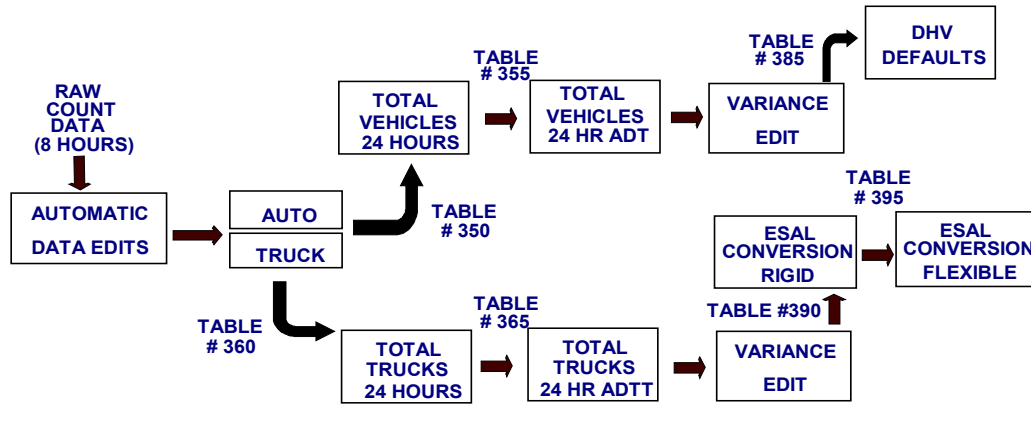
RIGID ESAL FACTORS										
CLASS	TPG 1	TPG 2	TPG 3	TPG 4	TPG 5	TPG 6	TPG 7	TPG 8	TPG 9	TPG 10
BUS	0.240	0.240	0.240	0.240	0.240	0.240	0.240	0.240	0.240	0.240
2 AXLE SIX TIRE	0.240	0.240	0.240	0.240	0.240	0.240	0.240	0.240	0.240	0.240
3 AXLE SINGLE UNIT	1.150	1.150	1.150	1.150	1.150	1.150	1.150	1.150	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

2021 ESAL factors for flexible pavements are shown by Traffic Pattern Group (TPG) and vehicle classification in **Table 395**, below.

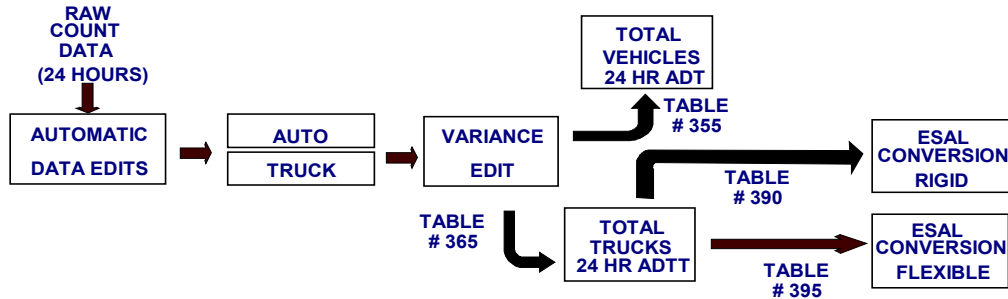
FLEXIBLE ESAL FACTORS										
CLASS	TPG 1	TPG 2	TPG 3	TPG 4	TPG 5	TPG 6	TPG 7	TPG 8	TPG 9	TPG 10
BUS	0.240	0.240	0.240	0.240	0.240	0.240	0.240	0.240	0.240	0.240
2 AXLE SIX TIRE	0.240	0.240	0.240	0.240	0.240	0.240	0.240	0.240	0.240	0.240
3 AXLE SINGLE UNIT	0.820	0.820	0.820	0.820	0.820	0.820	0.820	0.820	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)

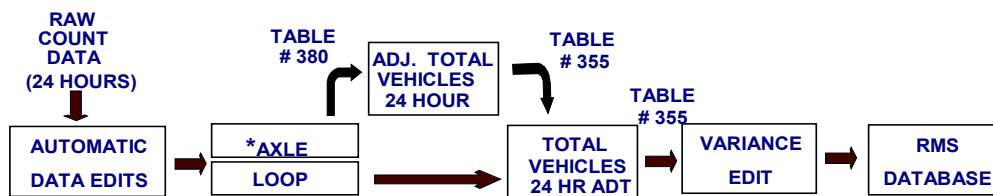


II. AUTOMATIC VEHICLE CLASSIFICATION COUNT



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
ADT	Average Daily Traffic
ADTT	Average Daily Truck Traffic
ATR	Automatic Traffic Recorder
AVC	Automatic Vehicle Classification
BPR	Bureau of Planning and Research
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
HPMS	Highway Performance Monitoring System
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
TDS	Traffic Data System
TMAS	Traffic Monitoring Analysis System
TMG	Traffic Monitoring Guide
TPG	Traffic Pattern Group
WIM	Weigh-in-Motion
VWIM	Virtual Weigh-in-Motion

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