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TRAFFIC FORECASTING REPORT - 2008



Kentucky Transportation Center
University of Kentucky
Lexington, Kentucky

in cooperation with

Kentucky Transportation Cabinet
Commonwealth of Kentucky

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INTRODUCTION

This is the sixth edition of the Traffic Forecasting Report (TFR). This edition of the *TFR* contains the latest (predominantly 2007) forecasting/modeling data as follows:

- § Functional class average traffic volume growth rates and trends
- § Vehicle miles traveled statewide total by functional class
- § ATR locations, K-factors, and ADTs
- § Functional class average K-factors and D-factors
- § Functional class average truck volumes, truck percentages, ESAL calculation factors, and vehicle types
- § Kentucky Statewide Model summary
- § List of MPO (urbanized) and county-level models
- § Socioeconomic data sources for models and summary of MUG (model users group) meetings
- § ADT and DHV count factors
- § Hourly volume percentage by functional class
- § Kentucky population projections by county
- § Traffic volume growth rates by county and functional class

1.0 TRAFFIC FORECASTING PROCESS UPDATE

1.1 BACKGROUND

Information on the traffic forecasting process can be found on the web at <http://www.planning.kytc.ky.gov/traffic.asp>. The *TFR* serves to update new data and processes used in traffic forecasting.

1.2 PROCESS IMPROVEMENT

Several mechanisms are used to improve the forecasting process including the Kentucky Traffic Model Users Group (KY MUG), research studies, further GIS implementation, new data sources, and the constant improving of the process implemented by Kentucky Transportation Cabinet (KYTC) staff. The traffic forecasting area is always evolving in response to new customers and ever-changing transportation demands. A summary of traffic forecasting products and customers of the products are presented in Table 1.

1.2.1 Innovations. Research has primarily been conducted by KYTC staff since the previous TFR (Traffic Forecast Report) update in 2004. One innovation was breaking down the ATR (Automatic Traffic Recorder) data in excel rather than relying on the mainframe to provide K-factors and D-factors by functional class (see Tables 4 and 5). This provided much more accurate data, and also led to the development of ADT and DHV count factors by Functional Class and day and week of the count (see Appendix D). These factors allow KYTC to take a peak hour count and easily estimate a DHV, or take a 48-hour count and better estimate an ADT. KYTC has also implemented these factors in their turn movement DHV calculations.

Another innovation was the development of a comprehensive, forecasting friendly vehicle classification database. The database includes all classification counts performed from January 1, 1997 through December 31, 2007 by KYTC. The database can easily be updated from the mainframe into excel. The database allowed for a comprehensive classification breakdown by vehicle type (see Table 6 and Table 9).

Another forecasting breakthrough was the breakdown of all historical traffic volumes by count station. In November, 2007 all the historical counts for every count station in Kentucky were analyzed. The previous 25 years of count data was used to come up with linear and exponential trends for the current and future years. Averages of the two trends were used to create a growth rate for all 13,000+ traffic count stations in Kentucky. They were grouped to obtain functional class average growth rates by county (see Table 2 and Appendix F). This tool has expedited the forecasting process immensely. KYTC can quickly analyze a corridor or county's traffic volume growth using this tool. Also this is a major improvement over using just ATRs for functional class traffic volume growth rates. There are just 79 ATRs to base projections off of, now KYTC uses over 13,000 stations to base projections off of.

Perhaps the biggest innovation since the last TFR update is the enhanced travel demand modeling and GIS tools that have been implemented into the forecasting process. On the modeling side, the major highlights include developing a standard user interface for all models,

constant improvements to the statewide model, developing a county model in-house, and improving staff expertise in the modeling process. For more on modeling please see section 3.0.

GIS mapping has visually upgraded the quality of KYTC forecasting reports. In addition to aesthetics, GIS has expedited the forecasting process immensely. KYTC now has a veritable one stop shop for all forecasting data in the form of one GIS map .mxd file. Latest and greatest traffic volume counts, milepoints, aerial photography, roads, schools, stop signs and signal locations, number of lane and functional class information, and all six-year plan projects are some of the more notable layers in the GIS file. The traffic count layer can be viewed online via the interactive maps at: <http://kytcgis.ky.gov/TrafficCounts/viewer.htm>.

In addition to the innovations listed above, KYTC also strives to improve forecasting tools. The turn movement, ESAL, and CTS trend line analysis spreadsheets are all much improved since the last TFR update. Kentucky Transportation Center (KTC) provided aggregated ESAL factors that were used in the ESAL spreadsheet (see Table 8).

1.2.2 Kentucky Traffic Model Users Group. The Traffic Model Users Group (MUG) is a forum that discusses current forecasting issues and shares information. The MUG consists of Transportation Cabinet forecasters/modelers, MPO modelers, consultant partners, research partners (Kentucky Transportation Center at the University of Kentucky), the Federal Highway Administration, and interested Transportation Cabinet decision-makers.

The MUG meets as needed and has sponsored several workshops. The MUG web page is at: <http://www.planning.kytc.ky.gov/traffic/MUG.asp>. A summary of previous meetings of the Traffic Model Users Group is presented in Appendix C.

1.2.3 Other Developments. Other developments include a much improved electronic archiving system for all traffic forecasts and a comprehensive database of all historical traffic forecasts in excel format. Every forecast is now written as a report and made into an electronic (PDF) file. KYTC strives to send out all forecasting reports electronically via email. The reports themselves have been scrutinized thoroughly and improved upon. There is a basic standard structure for all reports including an executive summary which lays out the data parameters and methodology used to make the traffic estimates.

2.0 TRAFFIC FORECASTING DATA SOURCES UPDATE

Traffic forecasting is a very data intensive process. This section covers traffic forecasting data sources, including traffic monitoring data, socioeconomic data, trip data, and HPMS data.

2.1 TRAFFIC MONITORING DATA

A primary source of traffic monitoring data is information obtained from 13,000+ traffic count stations in Kentucky. Each station is counted for traffic volume at least once every 3 years and a third of the counts are classification counts. KYTC collects this information in a database and can easily obtain functional class averages. Another traffic monitoring source is automatic traffic recorders. Table 4 lists the ATRs, their location, K-factors, D-factors, functional classification, and most recent average daily traffic. Table 5 groups the ATRs by functional class. Table 8 shows off weigh-in-motion (WIM) data collected at selected ATRs. This data is used primarily for ESAL calculations.

Data representing functional class averages derived from the traffic count stations, ATRs and other traffic monitoring stations are presented in the following tables:

- § Table 2– Functional Class Average Growth Rates, Trends, and 20-year Multipliers
- § Table 5– Functional Class Average K-Factors, D-Factors and DHVs
- § Table 6– Functional Class Average Truck Volume and Percentage by Day and Peak Hour
- § Table 8– Aggreagted ESAL factors by Functional Class
- § Table 9– Travel Activity by Functional Class and Vehicle Type

Appendix D contains more ATR data grouped together by functional class. Table D1 shows average weekday traffic by hour as a percentage of daily weekday traffic. Table D2 provides ADT factors by functional class and day and week of the count. So if a count were taken for an entire day, the appropriate factor would be found and applied to it to estimate ADT. Similarly, DHV factors are provided in Table D3. The DHV factor tables allow a peak hour count to be factored based on functional class and month and day of count to estimate the 30th highest hour of the year.

The Division of Planning provides access to traffic volume counts via interactive maps available on their web site at: <http://kytegis.ky.gov/TrafficCounts/viewer.htm>. The CTS computer program, which contains historical traffic volume data and current year estimates at more than 13,000 count locations in Kentucky is also available at: <http://www.planning.kytc.ky.gov/data/cts/cts.asp>.

2.2 OTHER DATA

While traffic monitoring data is the most important source of data for traffic forecasts, other data are also needed. Supplemental data to support the traffic forecasting process include socioeconomic data, trip data, land use data, and highway characteristics data from the Highway Performance Monitoring System (HPMS).

2.2.1 Socioeconomic Data. The most recent population data is available from the 2000 decennial census. This data, along with census data for each Kentucky county for 1970, 1980, and 1990 population data; and projections for 2005, 2010, 2015, 2020, 2025, and 2030 are presented in Appendix E. Census data was obtained from the Kentucky State Data Center at the University of Louisville (<http://ksdc.louisville.edu/>). Various sources of socioeconomic data and travel data are presented in Table 9. The most prominent of which is the QCEW (Quarterly Census of Employment Wages) employment data obtained from the Kentucky Education Cabinet. This data is used in KYTC travel demand models.

2.2.2 Travel Data. Travel data consists of information derived from travel diaries, origin-destination surveys, census data, and other specialized data sources. As noted in the previous section, the sources for census data and other forms of travel data are presented in Table 9.

In the past, the KYTC has obtained data from the Bureau of Transportation Statistic's National Personal Transportation Survey (NPTS). The NPTS nationwide survey is made every five years and contains information representing trip making, stratified by income, rural/urban, race, gender, and many other categories. These surveys provide Kentucky-specific data for use in traffic modeling. This information now comes from the National Household Travel Survey (NHTS) that is similar to the old NPTS.

Census Transportation Planning Package (CTPP) data obtained from the 2000 Census includes valuable journey-to-work data (<http://www.fhwa.dot.gov/ctpp/>). This data is used in the Kentucky Statewide Model.

2.2.3 HPMS Data. Another important source of information for traffic forecasting is the Highway Performance Monitoring System (HPMS). A summary of average daily vehicle miles traveled (DVMT) by functional class for the years 1999 through 2006 is presented in Table 3.

3.0 TRAFFIC DEMAND MODEL UPDATE

The most complex tools used by traffic forecasters are computerized traffic demand models. Listed below are the types of models and other traffic model information.

3.1 MODEL TYPES

- § County Models
- § Kentucky Statewide Model
- § MPO Models
- § Other Models

3.1.1 Kentucky Statewide Traffic Model Update. KYTC has used a statewide traffic model (KYSTM) for many years. The KYSTM is constantly getting improved by KYTC staff. Table 10 gives a history of major updates along with model specifications.

3.1.2 MPO Models Each Metropolitan Planning Organization (MPO) is responsible for development of their area-specific models. A listing of urbanized area model status is presented in Table 11. KYTC provides technical support as needed. Recent major model activities include:

- § New Ashland model developed in TransCAD
- § New Owensboro model developed in TransCAD
- § New Bowling Green model update to be developed in 2008 in TransCAD
- § New E-town/Radcliff model update to be developed in 2008 in TransCAD
- § New Clarksville (Christian County) model update to be developed in 2008 in TransCAD

3.1.3 County-Level Models. The county level models completed in recent years include Nelson, Woodford, and Rowan counties. The Nelson and Rowan county models were done by KYTC staff and the Woodford county model was done by KTC. Table 12 lists the county-level models developed to date.

3.1.4 Model Innovations. KYTC has worked with a team of consultants to develop a standard model user interface. This will be used on all models that KYTC oversees.

Table 1. Traffic Forecasting Products and Customers

Data Products	Forecast Year	Customers					
		Design	Planning	Air Quality	Materials	HPMS	Traffic
ESALs	10yr/20yr/40yr	X			X		
ADTs	Current, Construction, Design, Air Quality	X	X	X	X	X	X
DHVs	Current, Construction, Design, Air Quality	X	X	X		X	X
Truck Percentages	Current, Construction, Design, Air Quality	X	X	X		X	
Measures of Effectiveness (VMT, VHT)	Current, Construction, Design, Air Quality		X	X		X	
Speed Estimation	Air Quality		X	X			

Notes: Data products come in various formats including maps, worksheets, intersection turning movement diagrams, summary computer files, and reports.

Table 2. 2007 – 2027 Functional Class Average Growth Rates, Multipliers, and Trends

FC	FC Description	Number of Stations	Number of Station Miles	Growth Rate	20-year Multiplier	2007 Trend	2027 Trend
1-19	All Functional Classes	13,533	28,132	2.40%	1.61	4,407	7,082
1-9	All Rural FCs	9,891	24,933	2.36%	1.59	2,835	4,520
1	Rural Interstate	125	532	2.57%	1.66	35,246	58,510
2	Rural Principal Arterial	806	2,290	2.62%	1.68	8,891	14,917
6	Rural Minor Arterial	757	1,706	2.44%	1.62	4,787	7,758
7	Rural Major Collector	2,469	6,134	1.83%	1.44	2,321	3,334
8	Rural Minor Collector	3,221	8,986	1.91%	1.46	757	1,105
9	Rural Local	2,513	5,285	2.33%	1.58	445	705
11-19	All Urban FCs	3,642	3,199	2.45%	1.62	16,659	27,052
11	Urban Interstate	124	228	2.79%	1.73	84,352	146,193
12	Urban Freeway/Expressway	43	70	3.31%	1.92	33,453	64,141
14	Urban Principal Arterial	787	764	1.84%	1.44	20,774	29,929
16	Urban Minor Arterial	1,207	1,018	2.40%	1.61	10,588	17,015
17	Urban Collector	1,286	986	2.62%	1.68	4,795	8,050
19	Urban Local	195	134	2.21%	1.55	2,835	4,388

Notes: Data based on analysis done in November 2007. The past 25 years of count data was analyzed on all 13,000+ traffic count stations in Kentucky. Though traffic has flattened off in recent years, this is based on exponential and linear trends (an average of the two) from the previous 25 years.

Table 3. Vehicle Miles Traveled and Mileage Totals

	FUNCTIONAL CLASS		YEAR							
			1999	2000	2001	2002	2003	2004	2005	2006
Rural DVMT (x1,000)	1	Interstate	16,841	16,746	16,674	17,222	17,711	18,104	18,080	18,561
	2	Principal Arterial	17,614	17,217	17,145	17,508	18,656	19,357	19,113	19,248
	6	Minor Arterial	6,956	7,108	7,306	7,358	8,002	7,965	7,905	7,850
	7	Major Collector	15,635	15,813	16,052	16,164	13,716	13,667	13,576	13,418
	8	Minor Collector	7,023	7,094	6,979	6,844	6,565	6,562	6,560	6,494
	9	Local	10,372	9,539	9,404	9,202	9,330	9,336	9,398	9,395
Urban DVMT (x1,000)	11	Interstate	15,966	16,164	16,069	16,717	16,407	16,616	16,818	17,221
	12	Expressway	2,374	2,297	2,251	2,266	2,073	2,113	2,089	2,087
	14	Principal Arterial	12,666	13,062	12,978	13,045	15,261	15,461	15,389	15,467
	16	Minor Arterial	11,955	12,180	11,967	11,781	10,464	10,289	10,165	10,100
	17	Collector	5,291	5,370	4,939	4,829	4,560	4,568	4,571	4,573
	19	Local	9,532	5,687	5,375	5,470	5,735	5,909	6,160	6,105
Total DVMT			132,224	128,278	127,140	128,405	128,479	129,948	129,823	130,519

	FUNCTIONAL CLASS		YEAR							
			1999	2000	2001	2002	2003	2004	2005	2006
Rural Miles	1	Interstate	536	533	533	533	553	553	553	553
	2	Principal Arterial	2,053	2,045	2,049	2,052	2,310	2,338	2,335	2,340
	6	Minor Arterial	1,607	1,604	1,634	1,633	1,740	1,724	1,728	1,724
	7	Major Collector	6,992	6,994	6,968	6,968	6,133	6,153	6,160	6,170
	8	Minor Collector	9,511	9,497	9,489	9,476	8,915	8,956	8,960	8,953
	9	Local	42,343	46,768	46,434	45,821	45,380	45,662	45,964	46,166
Urban Miles	11	Interstate	226	229	229	229	210	209	209	209
	12	Expressway	91	90	90	87	65	65	65	66
	14	Principal Arterial	650	658	657	661	776	780	783	786
	16	Minor Arterial	1,181	1,185	1,187	1,154	1,032	1,014	1,019	1,015
	17	Collector	1,144	1,145	1,146	1,120	1,008	954	956	961
	19	Local	7,787	8,519	8,498	8,638	8,939	8,955	9,288	9,288
Total Mileage			74,120	79,266	78,915	78,373	77,059	77,365	78,021	78,232

Table 4. 2007 Automatic Traffic Recorder (ATR) Locations and Data Summary

STA #	County	Route	Milepoint	FC	D Factor	K Factor	ADT
P01	Franklin	US 60	0.000	6	72.9%	13.7%	4,474
P02	Jefferson	FS 8720	1.570	17	57.4%	11.9%	6,945
P03	Franklin	Collins Lane (FS 7323)	0.400	17	50.4%	12.7%	4,904
P04	McCracken	CS 1132 (FS 4622)	0.600	17	53.7%	10.8%	3,173
P06	Wolfe	KY 15	11.680	7	52.9%	11.4%	947
P07	Hardin	US 31 W	29.589	14	61.3%	10.4%	18,025
P08	Grayson	US 62	12.096	7	54.6%	11.0%	2,009
P10	Graves	US 45	6.200	7	62.1%	10.6%	1,403
P12	Pike	US 23	38.140	2	56.4%	9.8%	22,340
P13	Carter	US 60	20.029	7	60.3%	11.0%	2,681
P14	Jefferson	KY 1142	1.400	16	57.4%	9.2%	12,258
P15	Union	US 60	4.188	2	57.6%	10.0%	2,767
P16	Grant	US 25	17.464	7	53.4%	10.6%	5,825
P17	Daviess	US 60	6.083	12	53.9%	10.0%	30,286
P18	Harlan	US 119	10.026	2	60.0%	9.8%	9,454
P19	Shelby	KY 2861 (KY 2830)	0.000	8	62.7%	11.7%	1,182
P20	Clark	TR 9000 (MTNPKWY)	1.330	2	64.2%	10.6%	13,353
P21	Jefferson	US 31 E	14.635	14	59.7%	8.4%	20,950
P22	Shelby	I-64	36.000	1	53.8%	8.9%	47,220
P23	Grant	I-75	164.193	1	52.6%	10.1%	47,845
P24	Marion	US 68	10.690	16	50.0%	10.3%	10,022
P25	Mercer	US 127	2.236	2	54.3%	10.4%	15,983
P26	Bourbon	US 68	4.183	2	65.6%	10.5%	8,170
P27	Pendleton	US 27	5.731	2	60.4%	10.4%	3,686
P28	Trimble	US 42	10.049	7	50.7%	11.1%	1,899
P29	Menifee	US 460	4.955	6	55.7%	12.7%	3,635
P30	Estill	KY 52	19.081	7	59.4%	11.7%	1,235
P31	Bell	US 25 E	19.035	2	50.4%	9.8%	10,637
P32	Pulaski	US 27	5.734	2	58.4%	9.6%	7,553
P33	Russell	US 127	6.429	2	57.5%	15.2%	2,453
P34	Adair	KY 80	20.058	7	51.3%	11.4%	3,062
P35	Hancock	US 60	12.578	2	57.0%	11.0%	4,526
P36	Ohio	KY 54	9.558	7	59.8%	12.0%	1,094
P37	Butler	US 231	16.086	7	54.4%	10.3%	2,156
P38	Logan	US 68	2.574	2	50.8%	10.4%	3,691
P39	Marshall	US 641	18.236	6	57.8%	12.4%	4,712
P40	Muhlenberg	WK 9001 (WKPKWY)	57.100	2	51.2%	10.5%	7,724
P41	Elliott	KY 7	11.373	6	54.0%	11.0%	3,341
P42	Boyd	US 23	0.100	2	53.6%	9.7%	10,090
P43	Floyd	KY 1428	4.185	7	58.7%	10.7%	2,507

Notes: Only stations with at least 100 days of acceptable data for the year were used. If insufficient data for 2007, the most recent year with adequate data was used.

Table 4. 2007 Automatic Traffic Recorder (ATR) Locations and Data Summary (continued)

STA #	County	Route	Milepoint	FC	D Factor	K Factor	ADT
P45	Warren	US 231 (FS 7415)	1.400	17	53.3%	10.3%	12,553
P47	Carter	I-64	170.857	1	53.8%	10.4%	15,203
P48	Henry	I-71	34.560	1	52.5%	9.3%	30,763
P49	Kenton	KY 371	3.170	17	54.5%	9.0%	33,748
P50	Hardin	I-65	89.178	1	50.1%	10.4%	36,812
P51	Lyon	I-24	37.300	1	50.6%	11.0%	24,800
P52	Lewis	KY 546	15.100	2	50.5%	9.6%	5,694
P53	Woodford	BG 9002 (BGPWKY)	69.608	2	61.7%	10.4%	18,770
P54	Nelson	BG 9002 (BGPWKY)	37.600	2	53.6%	12.0%	9,706
P55	Owen	US 127	4.100	2	65.0%	12.3%	3,167
P56	Floyd	KY 114	11.000	2	55.9%	10.8%	11,793
P58	Henderson	US 41	18.600	14	54.2%	9.9%	35,918
P59	Warren	I-65	0.000	1			
P60	Woodford	US 60	0.200	2	61.6%	12.1%	14,864
P62	Boone	I-275	0.000	11			
P63/P64	Boone	I-75	176.100	11	56.3%	9.3%	100,933
P65	Jessamine	US 27	1.600	2	66.3%	10.2%	19,070
P66	Boyle	US 127	1.500	14	55.1%	10.3%	21,665
P67	Warren	I-65	23.200	11	50.5%	10.7%	55,102
P70	Pike	US 119	2.300	2	52.5%	10.6%	13,132
P71	Barren	TR 9008 (CUMBPKWY)	9.200	2	51.2%	9.8%	8,905
P72	Bullitt	I-65	106.500	1	55.1%	9.7%	54,699
P73	Owsley	KY 11	13.300	6	53.4%	11.2%	4,189
P74	Fayette	I-64	73.800	1	50.7%	9.9%	31,295
P75	Fayette	KY 4	3.500	12	55.3%	9.9%	51,015
P76	Laurel	DB 9006 (DBPKWY)	9.200	2	50.9%	10.0%	7,777
P77	Lawrence	US 23	5.600	2	50.3%	9.4%	9,529
P80	Jefferson	US 31E	7.850	14	60.6%	8.7%	24,030
P83	Whitley	I-75	4.200	1	52.0%	12.2%	28,632
P84	Jefferson	KY 61	0.100	14	56.2%	9.5%	23,428
P90	Fayette	I-75	100.500	1	58.6%	9.7%	63,390
P91	Simpson	I-65	2.048	1	50.9%	8.9%	43,410
P92	Jefferson	I-64	2.600	11	65.0%	14.6%	33,978
P93	Kenton	I-75	188.000	11	58.9%	8.4%	148,375
P94/P95	Jefferson	I-264	15.824	11	51.5%	9.9%	77,789
P96	Campbell	I-471	1.900	11	62.0%	10.2%	94,248
P97	Campbell	I-275	76.400	11	50.1%	11.0%	78,578
P98	Jefferson	I-265	16.134	11	50.4%	13.5%	67,358
P99	Jefferson	I-65	133.414	11	57.2%	8.4%	129,549

Notes: Only stations with at least 100 days of acceptable data for the year were used. If insufficient data for 2007, the most recent year with adequate data was used.

Table 5. Functional Class Average K-Factors, D-Factors, and Average Traffic Parameters from ATR Data for 2007

Functional Class	Number of Stations	% of Total	Average Daily Traffic	Average Weekday Traffic	Average Weekend Traffic	Average DHV (30th highest hour of 2007)	Average K-Factor (DHV / ADT)	Average Directional Factor
1 - Rural Interstate	11	14.5%	38,552	39,287	36,461	3,815	10.0%	52.8%
2 - Rural Principal Arterial	24	31.6%	9,804	10,532	8,188	1,027	10.7%	56.9%
6 - Rural Minor Arterial	5	6.6%	4,070	4,294	3,560	500	12.2%	58.8%
7 - Rural Major Collector	11	14.5%	2,256	2,370	2,006	247	11.1%	56.1%
8 - Rural Minor Collector	1	1.3%	1,182	1,255	1,026	138	11.7%	62.7%
11 - Urban Interstate	9	11.8%	87,323	95,139	69,159	8,744	10.7%	55.0%
12 - Urban Freeway/Expressway	2	2.6%	40,651	44,326	32,356	4,053	10.0%	54.6%
14 - Urban Principal Arterial	6	7.9%	24,002	25,665	20,555	2,289	9.5%	57.9%
16 - Urban Minor Arterial	2	2.6%	11,140	11,777	9,588	1,081	9.8%	53.7%
17 - Urban Collector	5	6.6%	12,265	13,351	9,966	1,223	10.9%	53.9%

- Notes: 1. No ATR data was collected for FC 9 (Rural Local) or FC 19 (Urban Local) in 2007
 2. ATR Stations 59, 62, and 77 were omitted due to lack of data (76 out of 79 ATR Stations Used)
 3. Directional Factor taken from the average weekday peak hour

Table 6. Average Daily and Peak Hour Truck Percentages and Volumes by Functional Class

FC	FC Description	Truck Volume	Peak Hour Truck Volume	Truck %	Peak Hour Truck %
1	Rural Interstate	9,514	519	29.61%	22.3%
2	Rural Principal Arterial	1,381	89	16.79%	13.0%
6	Rural Minor Arterial	529	39	9.94%	8.5%
7	Rural Major Collector	288	23	9.68%	8.7%
8	Rural Minor Collector	160	13	9.22%	8.2%
9	Rural Local	204	14	10.19%	7.7%
11	Urban Interstate	8,437	473	14.51%	10.0%
12	Urban Freeway/Expressway	2,504	152	11.55%	8.3%
14	Urban Principal Arterial	1,427	107	8.08%	7.3%
16	Urban Minor Arterial	822	66	9.04%	8.6%
17	Urban Collector	337	30	7.35%	6.9%
19	Urban Local	390	29	8.21%	6.4%
1-19	All Functional Classes	1,416	90	14.05%	10.7%

Notes: Data based on all 2007, 2006, and 2005 Classification Counts performed by KYTC

Table 7. Functional Class Aggregate Classes

FC #	FC Description	Aggregate Class #
1	Rural Interstate	I
2	Rural Principal Arterial	II
6	Rural Minor Arterial	II
7	Rural Major Collector	III
8	Rural Minor Collector	III
9	Rural Local	III
11	Urban Interstate	IV
12	Urban Other Freeway & Expressways	V
14	Urban Other Principal Arterials	V
16	Urban Minor Arterials	VI
17	Urban Collectors	VI
19	Urban Local	VI

Note: Aggregate classes are used for weigh-in-motion data aggregation purposes. This data is used for ESAL calculations.

Table 8. Modified Aggregate ESAL's – Three Year Averages with Smoothed Growth Rates

FC	FC Description	Agg. Class	ADT	T%	GR	A/T	GR	EALs/A	GR	A/CT	GR	EALs/CA	GR
1	Rural Interstate	I	35,246	29.6%	1.6%	4.6	0.1%	0.29	2.0%	4.64	0.0%	0.88	0.0%
2	Rural Principal Arterial	II	8,891	16.8%	2.0%	3.8	0.5%	0.26	1.6%	5.12	0.0%	3.30	0.0%
6	Rural Minor Arterial	II	4,787	9.9%	2.0%	3.2	0.5%	0.26	1.6%	5.12	0.0%	3.30	0.0%
7	Rural Major Collector	III	2,321	9.7%	2.0%	3.1	0.8%	0.25	1.6%	4.36	0.0%	2.70	0.0%
8	Rural Minor Collector	III	757	9.2%	2.0%	3.0	0.8%	0.25	1.6%	4.36	0.0%	2.70	0.0%
9	Rural Local	III	445	10.2%	2.0%	2.9	0.8%	0.25	1.6%	4.36	0.0%	2.70	0.0%
11	Urban Interstate	IV	84,352	14.5%	2.5%	4.3	0.9%	0.27	2.0%	4.78	0.0%	0.88	0.0%
12	Urban Freeway/Expressway	V	33,453	11.6%	2.5%	3.9	1.5%	0.30	2.0%	4.34	0.0%	3.43	0.0%
14	Urban Principal Arterial	V	20,774	8.1%	2.5%	3.7	1.5%	0.30	2.0%	4.34	0.0%	3.43	0.0%
16	Urban Minor Arterial	VI	10,588	9.0%	2.5%	3.2	1.3%	0.15	2.0%	4.47	0.0%	2.70	0.0%
17	Urban Collector	VI	4,795	7.4%	2.5%	2.9	1.3%	0.15	2.0%	4.47	0.0%	2.70	0.0%
19	Urban Local	VI	2,835	8.2%	2.5%	3.1	1.3%	0.15	2.0%	4.47	0.0%	2.70	0.0%

Notes: ADT, T%, and A/T based on traffic station information. Everything else comes from 2006 Aggregated ESAL report from Kentucky Transportation Center.

Table 9. Travel Activity by Vehicle Type

FC	FC Description	Motor-cycles	Passenger Cars	Other 2 Axle, 4 Tire	Busses	Single-Unit Trucks	Combination Trucks	All Vehicles	Heavy Vehicles	Axle Factor
1	Rural Interstate	0.4%	59.7%	10.0%	1.1%	2.3%	26.5%	100.0%	29.9%	0.71
2	Rural Principal Arterial	0.9%	63.4%	19.0%	1.1%	5.4%	10.2%	100.0%	16.7%	0.86
6	Rural Minor Arterial	0.7%	67.6%	21.8%	0.9%	5.3%	3.8%	100.0%	10.0%	0.94
7	Rural Major Collector	0.8%	67.1%	22.5%	0.8%	5.3%	3.5%	100.0%	9.7%	0.95
8	Rural Minor Collector	1.7%	66.0%	23.1%	0.9%	5.3%	2.9%	100.0%	9.2%	0.95
9	Rural Local	0.8%	68.7%	20.3%	1.0%	5.5%	3.7%	100.0%	10.2%	0.95
11	Urban Interstate	0.2%	75.0%	10.1%	0.7%	1.5%	12.5%	100.0%	14.6%	0.84
12	Urban Freeway/Expressway	0.5%	73.9%	13.6%	0.8%	3.5%	7.7%	100.0%	12.0%	0.87
14	Urban Principal Arterial	0.5%	76.7%	14.7%	0.6%	3.2%	4.2%	100.0%	8.1%	0.93
16	Urban Minor Arterial	0.6%	71.6%	18.8%	0.8%	4.8%	3.4%	100.0%	9.1%	0.95
17	Urban Collector	0.7%	72.9%	19.1%	0.8%	4.4%	2.2%	100.0%	7.3%	0.97
19	Urban Local	0.5%	74.6%	16.6%	0.6%	5.4%	2.3%	100.0%	8.3%	0.96
1-19	All Functional Classes	0.5%	70.3%	15.2%	0.8%	3.5%	9.8%	100.0%	14.1%	0.92

Notes: Data based on all 2007, 2006, and 2005 Classification Counts performed by KYTC

Table 10. Kentucky Statewide Traffic Model Summary

KYSTM History

1971: First model, designed by Alan M. Voorhees & Associates

1991: Model Update by Wilbur Smith Associates (WSA)

1999: Model Update by WSA

2004: Model Created by WSA using TransCAD

Applications

- Corridor studies
- New routes
- System questions

1999 Model Update

This update basically created a completely new model in MINUTP although the 1991 network and TAZs were used.

- Number of zones=1,530 (includes 823 Kentucky zones)
- Number of links=28,282
- Trip purposes: HBW, Truck, Tourist, External, Other Person (Combined NHB/HBO)
- Current year: 1999: Future year: 2030
- Assignment methodology: AON
- Calibration: 10 screenlines, final ground adjustment program
- Network development: use existing 1991 Kentucky network plus National Highway Planning Network outside of Kentucky
- No new data collected

2001 I-66 Corridor Calibration

This converted link-based external truck trips to trip table format, updated network and trip matrices to reflect existing plus committed I-66 conditions, and updated networks/matrices to include I-66 network implementation.

2002 Combined Zone

This revised existing TAZs.

2004 Model Update and Conversion (Version 1.0)

This work created a true GIS network in Trans CAD with a network covering the entire USA for trucks and also included:

- Updated truck travel using the latest Transearch data by commodities.
- Updated long distance truck travel using an ATS-based long distance person travel model.
- Updated trip generation/trip distribution using new journey-to-work and NPTS data.
- Developed TransCAD GISDK procedures and interface.

2005 Model Update (Version 2.0)

Fine tuned model for better run time and included:

- Aggregated truck commodities.
- Removed functions not available in to the model.
- Established RMSE using 12028 ADT records

Table 10. Kentucky Statewide Traffic Model Summary (continued)

2006 Model Update (Version 3.0)

Further tuned model for improved operation and included:

- Removed unnecessary links shorter than 100 feet.
- Amended population and growth rates to match Kentucky Data Center.
- Altered NHB trip production code to utilize MSA and Claritas type TAZ designations
- Identified missing and extraneous links in the network configuration and repaired
- Enhanced RSC files to allow an additional MSA designation for non-MSA areas
- Increased to 12270 the ADT records used to determine RMSE

2007 Model Update (Version 4.0)

Initiated systematic review of modeled flow and improved RMSE by 22% to a total of 78%:

- Adjusted Centroid Connectors to improve trip assignment
- Amended speeds to further tune trip assignment
- Studied Jefferson, Fayette, Jessamine and Henderson County
- Identified missing and extraneous links in the network configuration and repaired
- Enhanced RSC files to allow an additional MSA designation for non-MSA areas

Table 11. MPO (Urbanized Area) Model Status

MPO	COUNTY	SOFTWARE	BASE YEAR	LAST MODEL UPDATE
E-town/Radcliff	Hardin/Meade	TransCAD	2003	2005
Bowling Green	Warren	MinuTP	2004	2004
Clarksville	Christian	TransCAD	2004	2004
UTS	Henderson	TransCAD	2000	2002
LAMPO	Fayette/Jessamine	TransCAD	2003	2005
Owensboro	Daviess	TransCAD	2007	2007
Ashland	Boyd/Greenup	TransCAD	2007	2007
OKI	Boone/Kenton/Campbell	Cube	2005	2007
KIPDA	Jefferson/Bullitt/Oldham	TransCAD	2000	2005

Note: E-Town/Radcliff, Bowling Green, and Clarksville Models to be updated in 2008

Table 12. County Level Model Status

COUNTY	SOFTWARE	BASE YEAR	MODEL COMPLETED
Scott	TransCAD	2000	2001
Garrard	TransCAD	2002	2003
Graves	TransCAD	1999	2000
Hopkins	TransCAD	2000	2001
Madison	TransCAD	2000	2003
Marshall	TransCAD	1999	2000
Rowan	TransCAD	2005	2005
Simpson	TransCAD	2002	2004
Woodford	TransCAD	2002	2004
Nelson	TransCAD	2007	2007

Notes: Woodford and Nelson do not have future years

Table 13. Socioeconomic Data and Travel Data Sources

Data Source	Update Cycle	Last Update	Data Parameters	Data Provider	Web Address
National Household Travel Survey (NHTS)	appr. 5 years	2001	Travel by trip purpose and mode, social/economic trip characteristics, vehicle ownership, Long range (75 miles or greater) trip data, others	FHWA/BTS	http://nhts.ornl.gov/
Census Trans. Planning Package (CTPP)	10 years	2000	Housing units, households, person, and workers in Census areas. Journey to Work.	Census/BTS	http://www.fhwa.dot.gov/ctpp/
Origin-destination (O-D) Surveys	On Demand	NA	TAZ trip exchanges	Private Sector	
Household Surveys	On Demand	NA	TAZ tripmaking	Private Sector	
TRIS Online	Continuous	2008	448,000 books, articles, and journals	FHWA/BTS	http://ntlsearch.bts.gov/tris/index.do
TransBorder Surface Freight Data	Monthly	2008	North American trade flows by commodity type	FHWA/BTS	www.bts.gov/transborder/
TRANSEARCH INSIGHT	Continuous	2006	Freight and freightage shipments in US by county	Global Insight	http://www.globalinsight.com
Kentucky State Data Center	Continuous	2007	Population estimate/projections by county / Demographics	University of Louisville	http://ksdc.louisville.edu/
QCEW (Quarterly Census of Employment and Wages)	Quarterly	2008	Employment data including number of employees and type of employment at the address level by county	KY Education Cabinet, Department of Workforce Development, Office of Employment and Training	http://oet.ky.gov/
Kentucky Economic Development Information System	Continuous	2006	Demographics, workforce, businesses, etc.	KY Cabinet for Economics Development	http://www.thinkkentucky.com/edis/

Notes: Kentucky MPOs that have performed household surveys are Cincinnati (OKI), Louisville (KIPDA) and Evansville (EUTS).

APPENDIX-A

Acronyms

CTS – Traffic Counts System

HPMS – Highway Performance Modeling System

KTC - Kentucky Transportation Center

KYSTM - Kentucky Statewide Traffic Model

KYTC - Kentucky Transportation Cabinet

MUG – Traffic Model Users Group

NPTS - National Personal Transportation Survey

TAZ - Traffic Analysis Zone

APPENDIX-B

Glossary

Automated Traffic Recorder (ATR) – ATRs record traffic data continuously (365 days/yr.). They are used as source data for k-factors and d-factors.

Average Daily Traffic (ADT) – ADT is the average traffic volume going past a point in one day. It is interchangeable with Annual Average Daily Traffic (AADT).

Design Hour Volume (DHV) – DHV is a volume unit based on the 30th highest hourly volume on a road in a year. It is commonly used for highway capacity analysis.

Directional Factor (D-Factor) – D-Factors are measures of the peak hour directionality. They are based on the average weekday peak hour.

Equivalent Single Axleload (ESAL) – ESALs are measures of pavement damage and are used in pavement design.

K-Factor - This factor is based on the 30th highest hour of the year and is used to compute DHVs.

Metropolitan Planning Organization (MPO) – MPOs are the planning authority in areas populations over 50,000.

Milepoint – The milepoints used in this report describe the locations of ATRs (increase easterly and northerly)

Urban Areas – These areas are cities with a population of 5,000 to 49,999. Roads in these areas have urban classifications.

Urbanized Areas – These areas are cities with a population greater than 50,000.

Vehicle Miles Traveled (VMT) – VMTs are the common unit of measure of travel for an area (e.g. county). One VMT is the equivalent of one vehicle traveling one mile

APPENDIX-C

Kentucky Traffic Model Users Group Meeting Summary

Date	Presentation	Presenter
10/3/2007	Welcome & Introduction KIPDA Model Application for Restore-64 Project KYSTM Model Application for Jefferson County Interchange Study Sub-Area Analysis Options and Techniques Discussion/Wrap up	Scott Thomson Scott Walker Randy Simon Scott Thomson Vince Bernardin Scott Thomson
6/20/2007	Model Standardization Framework Network Geometry Data Files Social Economic Data Files Add-on Report Workshop Add-on Report Prioritization Discussion / Wrap-up	Ken Kaltenbach Nathan Wilkinson David Hamilton Vince Bernardin Rob Bostrom Scott Thomson
10/26/2006 Joint Mtg. Bowling Green	Kentucky Statewide Travel Demand Model KYTC Update and Tools of the Trade Small and Medium Size Communities Conference Review Tennessee Modeling Updates Memphis Travel Demand Model TransCAD 5.0 and TransModeler	Rob Bostrom Amy Thomas Fred Wegman Jerry Everett Bob Rock Ken Monrow Paul Ricotta
7/28/2006	KYTC Freight Plan Status of Current Modeling Efforts Review of Previous MUG Standardization Meeting: Where do we go from here? TransCAD Standardization; TransModeler Demo Modeling Trends	Jill Asher Scott Thomson Amy Thomas Paul Ricotta Rob Bostrom
5/25/2006	Why Standardize Group Brainstorm Sessions Results from Group Sessions and Discussions	Scott Thomson Amy Thomas Scott Thomson Amy Thomas David Hamilton
9/13/2005	Microscopic Simulation & Highway Capacity Software Workshop Synchro and CORSIM Similarities, Differences, & Practical Uses VISSIM	Paul Slone Jagan Kaja
10/29/2004	Kentucky-specific travel demand modeling techniques in the areas of trip distribution, trip assignment and validation / calibration	Ken Kaltenbach Vince Bernardin John Gliebe Scott Walker
5/27/2004	Network Development & Trip Generation	Ken Kaltenbach Vince Bernardin Diane Zimmerman Scott Walker

Kentucky Traffic Model Users Group Meeting Summary (continued)

Date	Presentation	Presenter
03/16/2004 3/19/2004	TransCAD Workshop	Paul Ricotta
11/7/2003	Congestion Performance Measures	Marc Clark
	TTI's Annual Urban Mobility Study	Tim Lomax
	Texas Business Council	Tim Lomax
	Simpson County Model Congestion Analysis	Marc Williams
	Mobility Monitoring at Trimarc	Rich Margiotta
	Archived Data Management System in Kentucky	Mei Chen
7/22/2003	Simpson County Model	Scott Walker
	Lexington Model	Kyeil Kim
	Madison County Model	Diane Zimmerman
	Mobile6 Parameter Update	Jesse Mayes
	Purpose of Meeting & History/Use of Ky. Statewide Model	Rob Bostrom
	Update on Current Activities: Network and TransCAD	Tom Cooney
	KySTM Brainstorming (Draft Wishlist of Model Objectives)	Marc Williams
	Statewide Model State of Practice	Tom Cooney Mark Byram Vince Bernardin Steve Smith
4/22/2003	Purposes of Data Collection, Sample Travel Diary & Survey Types	Elaine Murakami
	Survey Process	
	Household Travel Surveys	
	KIPDA's Household Survey	Randy Simon
	Kentucky's NHTS Add-On Surveys	Ben Pierce
	Geocoding & GPS	Elaine Murakami Ben Pierce
01/28/2003 1/30/2003	TransCAD Workshop	Paul Ricotta
12/6/2002	Summary of Speed Requirements for MOBILE6	Jesse Mayes
	Review of Atlanta Speed Study	Andrew Smith
	TMIP Review	Rob Bostrom
	Review of Current Methodology for Determining Speeds from Transportation Demand Models	
10/25/2002	Madison Model TransCAD GISDK Script	Marc Williams
	Kentucky Statewide Model Combined Zones	
	KY 22/ Old Henry Road/ Crestwood Connector Subarea Model	Nick Uhren
	Lexington Regional Model	Vince Bernardin
	Ashland Regional Model	Ken Kaltenbach
8/14/2002	Seminar on Speed Estimation for Planning Purposes	Rich Margiotta
4/4/2002	Transearch Database	Joe Bryan
	North-South Initiative (Cincinnati to Datona) Freight Model	John Gliebe
	Freight Analysis Framework	Mohammed Alam
	Critical Issues Facing Freight Data Collection	Fawn Thompson

Kentucky Traffic Model Users Group Meeting Summary (continued)

Date	Presentation	Presenter
01/07/2002	Workshop on Statewide Travel Forecasting	Alan Horowitz
1/9/2002		Bob Gorman
10/18/2001	New Traffic Simulation Product from Caliper	Paul Ricotta
	TRANSIMS: Microsimulation Package	Larry Rilett
	TRANSIMS: Software Development Update	Naveem Lamba
	Integrated Model	David Schmitt
		Paul Dorothy
	Simulation Case Studies	Karen Mohammadi
		Brian Aldridge
	Comparison of Industry Traffic Simulation Packages	Marc Williams
	KYTC Usage of Traffic Simulation	Dawn Jones
Traffic Simulation Usage Roundtable	David Smith	
7/27/2001	Summary of KYTC Air Quality Activities and How They Relate to Traffic Modeling	Jesse Mayes
	Air Quality Interface to Owensboro Model	Ken Kaltenbach
	Impact of Parameter Adjustments to Air Quality Models	Paul Lederer
	Traffic Growth Rates Research for VMT Estimation/Prediction	Barry House
5/17/2001	Socioeconomic Data Collection & Use in Kentucky's Traffic Models	Joe Barkevich
	Population Estimating and Growth Trends in Kentucky	Ron Crouch
	Economic Data Inputs into Transportation Planning	Eric Thompson
	Studies and Traffic Models in Kentucky	
2/15/2001	County Level Modeling Using TransCAD	Marc Williams
		Alan Davis
	Consolidated Travel Demand Modeling System for OKI and MVRPC	Rosella Picado
10/17/2000	Innovative Modeling Technologies	Charlie Crevo
	Freight Modeling Data: TransSearch Applications in Ky.	Lisa Aultman-Hall
	KYTC's GIS and HIS Using Arcview & EXOR	Bill Jones
		Greg Witt
	TransCAD Network Data	Carroll Collins
	Viper Network Data and Manipulations	David Schmidt
	Census Data	Ed Christopher
	NPTS Usage and ITS Traffic Data	Patricia Hu
	Traffic Survey Data: Origin-Destination & Household Surveys	Mark Byram
Traffic Monitoring Data Issues	Clark Graves	
7/14/2000	TRANSIMS Overview	Kim Fisher
4/17/2000	Florida Land Use Allocation Model	Mike Brown
	Discussion of Kentucky L.U. Allocation Practice	
	Discussion of MUG Organizational Issues	
2/16/2000	TransCAD Model Conversion	Rob Bostrom
	KY Statewide Model Update	Marc Williams
	Mobile 6.0	Tom Creasey
		Lynn Soporowski
	Air Quality Issues	Charles Shaub
	Randy Simon	
	Brent Sweger	

Kentucky Traffic Model Users Group Meeting Summary (continued)

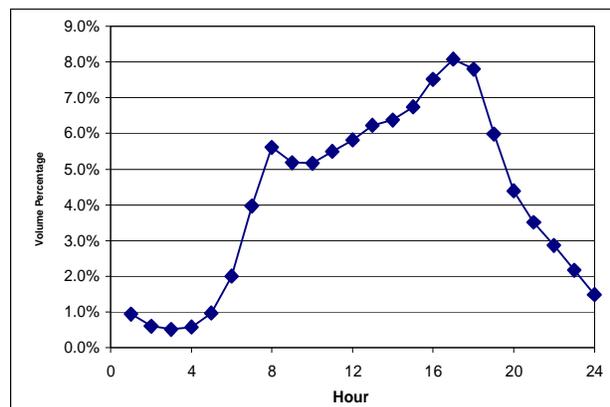
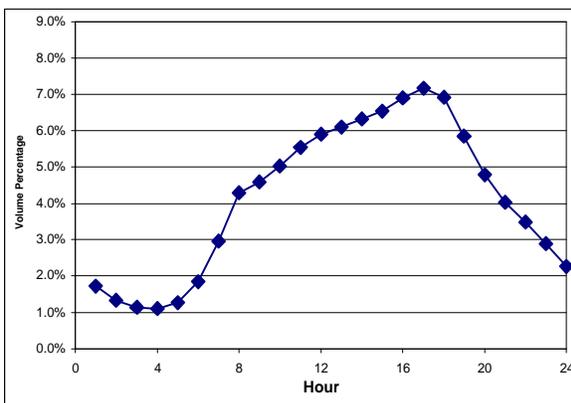
Date	Presentation	Presenter
7/16/1999	Use of Demand Model Network to Create a Traffic Simulation Model	Tom Creasey
	The Density Saturation Gradient L.U. Model	Max Conyers
	Using GIS in Travel Demand Models w/ Application of the Indianapolis Model	Sunil Saha
	Get Prepared for the 2000 CTPP	Derek Hungness
		Howard Slavin
3/17/1999	TransCAD Software Demonstration	Andres Requeros
	Discussion of Traffic Model Alternatives	
11/17/1998	External Trip Synthesizing	Vince Bernardin
	Ky. Small Urban Modeling Practice	Diane Zimmerman
	Roundtable Discussion on model updates of MPO models, small urban models, statewide model and freight model	
5/6/1998	Viper Software Presentation	Victor Siu
	TP+ Software Presentation	Larry Seiders
	Discussion of Traffic Model Alternatives	
1/21/1998	Introduction to Transportation Conformity	Charles Schaub
	MPO Discussion: Modeling for Conformity	
	Modeling Software Discussion	
7/18/1997	Kentucky Statewide Traffic Model Study	Tom Cooney
	Switching to Life Style Models of Trip Generation	Sunil Saha
2/5/1997	Traffic Model Availability (Who owns the data?)	Barry House
	Improving Travel Survey Methods Research Project (GPS O-D)	David Wagner
	Ohio-Kentucky-Indiana Travel Model Study	Cheng I Tsai
	Area Household Survey	
7/17/1996	Statewide Traffic Model Update	Rob Bostrom
	Report on Traffic Model Briefing to Secretary of KYTC	Charles Schaub
	Nodal Modeling Using TMODEL2	Bob Hazlett
	Traffic Model Calibration, Assignment Post-Processing and O-D Simulation	Vince Bernardin
3/20/1996	Statewide Traffic Model Update	Tom Cooney
	TMIP Overview	Charles Schaub
	Northern Kentucky O-D Survey Status Report	Cheng I Tsai
11/17/1995	Usage of Traffic Data by Designers	John Sacksteder
	TMIP Overview	Charles Schaub
9/13/1995	Louisville MPO External Station O-D Survey	Harold Tull
	Cincinnati MPO Traffic Model Update	Cheng I Tsai
	Maptitude Report	Rob Bostrom
7/12/1995	New Developments in MINUTP and TRANPLAN	Ken Kaltenbach
	Scope of Users Group Discussion	

APPENDIX-D

Table D1. Hourly Volume Percentage by Functional Class

FC 1: RURAL INTERSTATE	
Hour	Percentage
12 - 1 AM	1.72%
1 - 2 AM	1.33%
2 - 3 AM	1.14%
3 - 4 AM	1.10%
4 - 5 AM	1.27%
5 - 6 AM	1.84%
6 - 7 AM	2.95%
7 - 8 AM	4.29%
8 - 9 AM	4.60%
9 - 10 AM	5.03%
10 - 11 AM	5.54%
11 - 12 PM	5.90%
12 - 1 PM	6.11%
1 - 2 PM	6.32%
2 - 3 PM	6.54%
3 - 4 PM	6.90%
4 - 5 PM	7.18%
5 - 6 PM	6.92%
6 - 7 PM	5.85%
7 - 8 PM	4.79%
8 - 9 PM	4.03%
9 - 10 PM	3.49%
10 - 11 PM	2.88%
11 - 12 AM	2.27%

FC 2: RURAL PRINCIPAL ARTERIAL	
Hour	Percentage
12 - 1 AM	0.95%
1 - 2 AM	0.60%
2 - 3 AM	0.52%
3 - 4 AM	0.58%
4 - 5 AM	0.97%
5 - 6 AM	2.01%
6 - 7 AM	3.98%
7 - 8 AM	5.61%
8 - 9 AM	5.18%
9 - 10 AM	5.16%
10 - 11 AM	5.50%
11 - 12 PM	5.82%
12 - 1 PM	6.22%
1 - 2 PM	6.37%
2 - 3 PM	6.74%
3 - 4 PM	7.51%
4 - 5 PM	8.07%
5 - 6 PM	7.80%
6 - 7 PM	5.99%
7 - 8 PM	4.39%
8 - 9 PM	3.52%
9 - 10 PM	2.86%
10 - 11 PM	2.17%
11 - 12 AM	1.48%

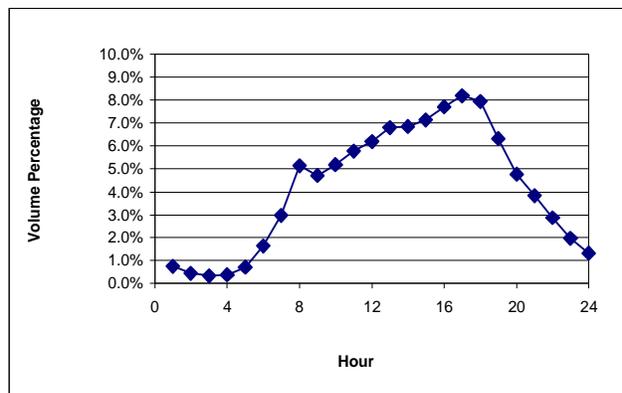
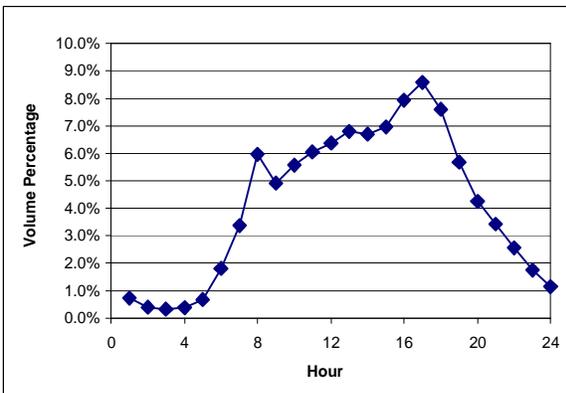


Notes: Hourly volume percentages come from an average of 2006 weekday ATR data.

Table D1. Hourly Volume Percentage by Functional Class (continued)

FC 6: RURAL MINOR ARTERIAL	
Hour	Percentage
12 -1 AM	0.73%
1 - 2 AM	0.40%
2 - 3 AM	0.32%
3 - 4 AM	0.38%
4 - 5 AM	0.67%
5 - 6 AM	1.81%
6 - 7 AM	3.37%
7 - 8 AM	5.97%
8 - 9 AM	4.92%
9 - 10 AM	5.58%
10 - 11 AM	6.05%
11 - 12 PM	6.38%
12 - 1 PM	6.81%
1 - 2 PM	6.70%
2 - 3 PM	6.97%
3 - 4 PM	7.94%
4 - 5 PM	8.58%
5 - 6 PM	7.60%
6 - 7 PM	5.68%
7 - 8 PM	4.26%
8 - 9 PM	3.42%
9 - 10 PM	2.56%
10 - 11 PM	1.75%
11 - 12 AM	1.15%

FC 7: RURAL MAJOR COLLECTOR	
Hour	Percentage
12 -1 AM	0.75%
1 - 2 AM	0.44%
2 - 3 AM	0.33%
3 - 4 AM	0.37%
4 - 5 AM	0.71%
5 - 6 AM	1.63%
6 - 7 AM	2.98%
7 - 8 AM	5.15%
8 - 9 AM	4.71%
9 - 10 AM	5.18%
10 - 11 AM	5.79%
11 - 12 PM	6.19%
12 - 1 PM	6.82%
1 - 2 PM	6.85%
2 - 3 PM	7.15%
3 - 4 PM	7.72%
4 - 5 PM	8.19%
5 - 6 PM	7.95%
6 - 7 PM	6.33%
7 - 8 PM	4.77%
8 - 9 PM	3.84%
9 - 10 PM	2.87%
10 - 11 PM	1.97%
11 - 12 AM	1.32%

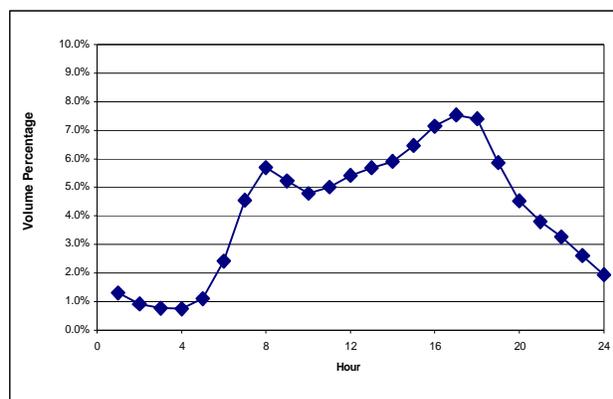
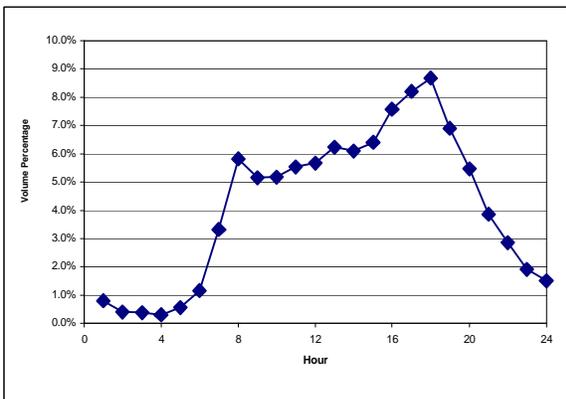


Notes: Hourly volume percentages come from an average of 2006 weekday ATR data.

Table D1. Hourly Volume Percentage by Functional Class (continued)

FC 8: RURAL MINOR COLLECTOR	
Hour	Percentage
12 -1 AM	0.79%
1 - 2 AM	0.41%
2 - 3 AM	0.39%
3 - 4 AM	0.30%
4 - 5 AM	0.56%
5 - 6 AM	1.16%
6 - 7 AM	3.31%
7 - 8 AM	5.82%
8 - 9 AM	5.16%
9 - 10 AM	5.18%
10 - 11 AM	5.54%
11 - 12 PM	5.68%
12 - 1 PM	6.24%
1 - 2 PM	6.11%
2 - 3 PM	6.40%
3 - 4 PM	7.57%
4 - 5 PM	8.20%
5 - 6 PM	8.68%
6 - 7 PM	6.90%
7 - 8 PM	5.47%
8 - 9 PM	3.87%
9 - 10 PM	2.85%
10 - 11 PM	1.92%
11 - 12 AM	1.51%

FC 11: URBAN INTERSTATE	
Hour	Percentage
12 -1 AM	1.30%
1 - 2 AM	0.91%
2 - 3 AM	0.77%
3 - 4 AM	0.74%
4 - 5 AM	1.10%
5 - 6 AM	2.42%
6 - 7 AM	4.53%
7 - 8 AM	5.69%
8 - 9 AM	5.23%
9 - 10 AM	4.78%
10 - 11 AM	5.01%
11 - 12 PM	5.42%
12 - 1 PM	5.68%
1 - 2 PM	5.90%
2 - 3 PM	6.46%
3 - 4 PM	7.14%
4 - 5 PM	7.53%
5 - 6 PM	7.40%
6 - 7 PM	5.86%
7 - 8 PM	4.52%
8 - 9 PM	3.79%
9 - 10 PM	3.26%
10 - 11 PM	2.61%
11 - 12 AM	1.94%



Notes: Hourly volume percentages come from an average of 2006 weekday ATR data.

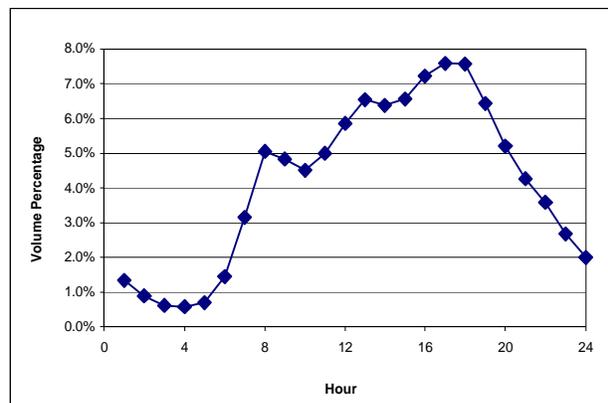
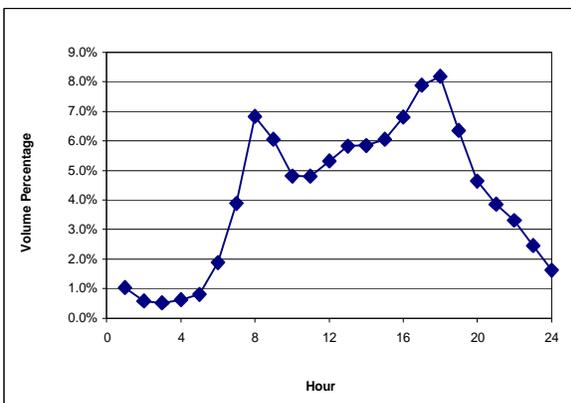
Table D1. Hourly Volume Percentage by Functional Class (continued)

FC 12: URBAN - OTHER FREEWAYS

Hour	Percentage
12 -1 AM	1.03%
1 - 2 AM	0.58%
2 - 3 AM	0.52%
3 - 4 AM	0.63%
4 - 5 AM	0.81%
5 - 6 AM	1.88%
6 - 7 AM	3.89%
7 - 8 AM	6.83%
8 - 9 AM	6.05%
9 - 10 AM	4.81%
10 - 11 AM	4.80%
11 - 12 PM	5.32%
12 - 1 PM	5.83%
1 - 2 PM	5.85%
2 - 3 PM	6.05%
3 - 4 PM	6.81%
4 - 5 PM	7.88%
5 - 6 PM	8.18%
6 - 7 PM	6.35%
7 - 8 PM	4.64%
8 - 9 PM	3.86%
9 - 10 PM	3.31%
10 - 11 PM	2.46%
11 - 12 AM	1.63%

FC 14: URBAN PRINCIPAL ARTERIAL

Hour	Percentage
12 -1 AM	1.34%
1 - 2 AM	0.89%
2 - 3 AM	0.62%
3 - 4 AM	0.58%
4 - 5 AM	0.69%
5 - 6 AM	1.44%
6 - 7 AM	3.15%
7 - 8 AM	5.06%
8 - 9 AM	4.84%
9 - 10 AM	4.51%
10 - 11 AM	5.00%
11 - 12 PM	5.86%
12 - 1 PM	6.55%
1 - 2 PM	6.38%
2 - 3 PM	6.56%
3 - 4 PM	7.22%
4 - 5 PM	7.59%
5 - 6 PM	7.57%
6 - 7 PM	6.44%
7 - 8 PM	5.21%
8 - 9 PM	4.26%
9 - 10 PM	3.59%
10 - 11 PM	2.67%
11 - 12 AM	2.00%

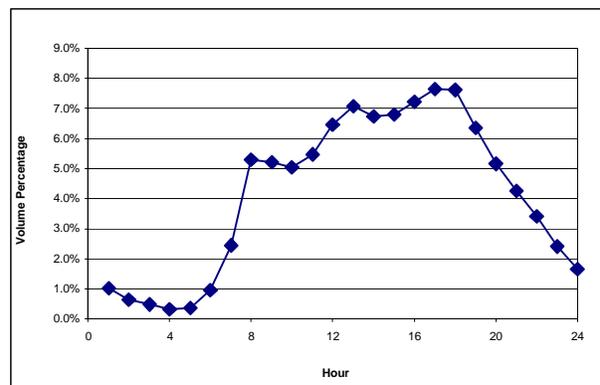
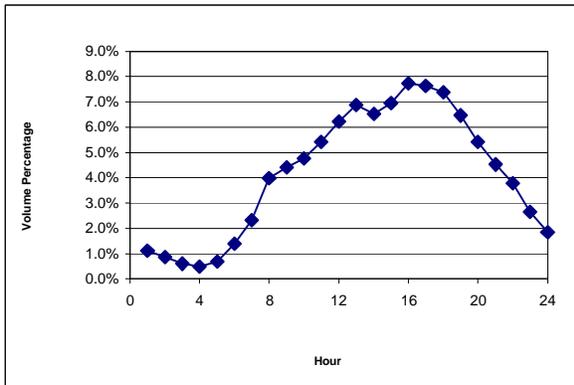


Notes: Hourly volume percentages come from an average of 2006 weekday ATR data.

Table D1. Hourly Volume Percentage by Functional Class (continued)

FC 16: URBAN MINOR ARTERIAL	
Hour	Percentage
12 -1 AM	1.10%
1 - 2 AM	0.85%
2 - 3 AM	0.59%
3 - 4 AM	0.49%
4 - 5 AM	0.68%
5 - 6 AM	1.38%
6 - 7 AM	2.33%
7 - 8 AM	3.99%
8 - 9 AM	4.41%
9 - 10 AM	4.77%
10 - 11 AM	5.40%
11 - 12 PM	6.22%
12 - 1 PM	6.88%
1 - 2 PM	6.52%
2 - 3 PM	6.95%
3 - 4 PM	7.73%
4 - 5 PM	7.62%
5 - 6 PM	7.38%
6 - 7 PM	6.46%
7 - 8 PM	5.42%
8 - 9 PM	4.53%
9 - 10 PM	3.79%
10 - 11 PM	2.65%
11 - 12 AM	1.84%

FC 17: URBAN COLLECTOR	
Hour	Percentage
12 -1 AM	1.01%
1 - 2 AM	0.64%
2 - 3 AM	0.47%
3 - 4 AM	0.31%
4 - 5 AM	0.37%
5 - 6 AM	0.95%
6 - 7 AM	2.45%
7 - 8 AM	5.30%
8 - 9 AM	5.21%
9 - 10 AM	5.04%
10 - 11 AM	5.47%
11 - 12 PM	6.46%
12 - 1 PM	7.07%
1 - 2 PM	6.73%
2 - 3 PM	6.80%
3 - 4 PM	7.23%
4 - 5 PM	7.65%
5 - 6 PM	7.61%
6 - 7 PM	6.36%
7 - 8 PM	5.15%
8 - 9 PM	4.26%
9 - 10 PM	3.41%
10 - 11 PM	2.41%
11 - 12 AM	1.65%



Notes: Hourly volume percentages come from an average of 2006 weekday ATR data.

Table D2. Monthly and Daily Volume Count Factors by Functional Class

FC1	AVERAGE ADT MONTHLY FACTOR BY MONTH AND DAY OF THE WEEK											
	MONTH of the YEAR	TOTAL	Mon-Thu	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Weekday	Weekend
	January	1.19	1.15	1.22	1.15	1.14	1.11	1.04	1.34	1.43	1.13	1.38
	February	1.15	1.13	1.18	1.16	1.13	1.07	0.96	1.30	1.36	1.09	1.33
	March	0.99	1.03	1.08	1.08	1.02	0.94	0.82	1.02	1.09	0.98	1.05
	April	0.98	1.01	1.06	1.06	1.01	0.94	0.83	1.01	1.01	0.97	1.01
	May	0.98	1.00	1.06	1.04	1.01	0.92	0.80	1.02	1.04	0.95	1.03
	June	0.91	0.95	0.99	1.00	0.95	0.88	0.77	0.92	0.95	0.91	0.94
	July	0.90	0.94	0.98	0.97	0.94	0.88	0.77	0.87	0.91	0.90	0.89
	August	0.95	0.98	1.02	1.03	0.98	0.91	0.81	0.97	0.96	0.94	0.97
	September	1.02	1.05	1.11	1.07	1.05	0.99	0.86	1.08	1.10	1.01	1.09
	October	0.98	1.00	1.04	1.04	0.99	0.92	0.82	1.03	1.01	0.95	1.02
	November	0.97	0.99	1.07	0.99	0.92	0.98	0.87	1.02	0.99	0.96	1.01
	December	1.14	1.11	1.19	1.12	1.07	1.06	0.98	1.22	1.38	1.08	1.29

FC2	AVERAGE ADT MONTHLY FACTOR BY MONTH AND DAY OF THE WEEK											
	MONTH of the YEAR	TOTAL	Mon-Thu	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Weekday	Weekend
	January	1.14	1.07	1.12	1.07	1.06	1.03	0.95	1.31	1.66	1.04	1.45
	February	1.08	1.03	1.06	1.02	1.04	1.01	0.91	1.26	1.54	1.00	1.38
	March	1.01	0.98	1.00	1.00	0.98	0.94	0.86	1.11	1.34	0.95	1.21
	April	0.98	0.95	0.96	0.96	0.95	0.92	0.84	1.07	1.25	0.92	1.15
	May	0.94	0.93	0.95	0.94	0.93	0.90	0.80	1.00	1.18	0.90	1.08
	June	0.93	0.92	0.93	0.94	0.92	0.88	0.81	1.00	1.19	0.89	1.08
	July	0.95	0.93	0.94	0.93	0.93	0.90	0.81	1.00	1.18	0.90	1.08
	August	0.95	0.94	0.96	0.96	0.94	0.90	0.81	1.01	1.21	0.91	1.10
	September	0.97	0.96	0.99	0.98	0.97	0.93	0.82	1.03	1.24	0.93	1.12
	October	0.98	0.96	0.99	0.98	0.96	0.93	0.83	1.03	1.22	0.93	1.12
	November	1.01	0.98	1.01	0.98	0.95	0.96	0.86	1.10	1.32	0.95	1.20
	December	1.08	1.01	1.05	1.01	1.00	1.01	0.92	1.16	1.48	0.99	1.30

Notes: Based on ATR Data from 05-07. Multiply appropriate factor by 24-hour count to obtain estimated ADT. Be aware of number of ATRs per Functional Class (see table 5).

Table D2. Monthly and Daily Volume Count Factors by Functional Class (continued)

FC6	AVERAGE ADT MONTHLY FACTOR BY MONTH AND DAY OF THE WEEK											
	MONTH of the YEAR	TOTAL	Mon-Thu	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Weekday	Weekend
	January	1.15	1.08	1.15	1.08	1.07	1.05	0.98	1.27	1.61	1.06	1.41
	February	1.14	1.10	1.14	1.08	1.10	1.07	0.97	1.25	1.61	1.07	1.41
	March	1.02	1.00	1.03	1.01	1.00	0.98	0.90	1.07	1.32	0.98	1.18
	April	0.97	0.95	0.96	0.95	0.95	0.94	0.87	1.00	1.18	0.93	1.08
	May	0.91	0.91	0.92	0.91	0.91	0.90	0.81	0.91	1.09	0.89	0.99
	June	0.92	0.91	0.94	0.92	0.91	0.89	0.81	0.93	1.16	0.89	1.03
	July	0.94	0.93	0.95	0.93	0.94	0.91	0.84	0.95	1.16	0.91	1.04
	August	0.96	0.94	0.96	0.95	0.94	0.92	0.85	0.99	1.20	0.92	1.08
	September	0.97	0.96	1.00	0.96	0.95	0.94	0.85	0.99	1.20	0.94	1.08
	October	0.99	0.97	0.98	0.97	0.96	0.95	0.87	1.02	1.23	0.95	1.11
	November	1.05	1.01	1.04	1.02	1.01	0.98	0.91	1.11	1.35	0.99	1.22
	December	1.09	1.03	1.05	1.01	1.03	1.04	0.95	1.15	1.45	1.01	1.28

FC7	AVERAGE ADT MONTHLY FACTOR BY MONTH AND DAY OF THE WEEK											
	MONTH of the YEAR	TOTAL	Mon-Thu	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Weekday	Weekend
	January	1.11	1.06	1.09	1.07	1.05	1.05	0.95	1.18	1.52	1.04	1.33
	February	1.08	1.04	1.06	1.02	1.05	1.03	0.92	1.17	1.49	1.01	1.31
	March	1.00	0.99	1.00	1.02	0.98	0.97	0.87	1.04	1.29	0.96	1.15
	April	0.97	0.95	0.94	0.96	0.95	0.96	0.85	0.99	1.19	0.93	1.08
	May	0.92	0.92	0.93	0.93	0.92	0.93	0.82	0.91	1.10	0.90	0.99
	June	0.94	0.94	0.96	0.96	0.93	0.92	0.83	0.93	1.15	0.92	1.03
	July	0.95	0.96	0.96	0.97	0.97	0.95	0.86	0.94	1.12	0.94	1.03
	August	0.94	0.94	0.94	0.96	0.94	0.92	0.82	0.92	1.16	0.91	1.03
	September	0.97	0.97	0.99	0.97	0.95	0.96	0.84	0.98	1.18	0.94	1.07
	October	1.00	0.99	0.99	1.01	0.99	0.99	0.88	0.99	1.21	0.97	1.09
	November	1.03	1.00	1.01	1.02	1.00	0.98	0.88	1.06	1.30	0.97	1.17
	December	1.09	1.05	1.05	1.05	1.03	1.07	0.95	1.12	1.41	1.03	1.25

Notes: Based on ATR Data from 05-07. Multiply appropriate factor by 24-hour count to obtain estimated ADT. Be aware of number of ATRs per Functional Class (see table 5).

Table D2. Monthly and Daily Volume Count Factors by Functional Class (continued)

FC8	AVERAGE ADT MONTHLY FACTOR BY MONTH AND DAY OF THE WEEK											
	MONTH of the YEAR	TOTAL	Mon-Thu	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Weekday	Weekend
	January	1.09	1.02	1.05	1.03	1.01	0.99	0.97	1.21	1.54	1.01	1.35
	February	1.03	0.98	1.01	0.97	0.97	0.98	0.88	1.15	1.42	0.96	1.27
	March	1.00	0.96	0.95	0.98	0.95	0.96	0.88	1.08	1.35	0.94	1.20
	April	0.98	0.94	0.94	0.94	0.94	0.94	0.87	1.03	1.26	0.92	1.13
	May	0.92	0.90	0.91	0.90	0.89	0.89	0.82	0.96	1.20	0.88	1.06
	June	0.92	0.88	0.92	0.90	0.85	0.89	0.83	0.96	1.21	0.87	1.07
	July	0.98	0.94	0.95	0.93	0.95	0.93	0.88	1.03	1.25	0.93	1.13
	August	0.97	0.94	0.95	0.96	0.93	0.93	0.85	1.02	1.28	0.92	1.14
	September	0.98	0.95	0.99	0.94	0.93	0.93	0.86	1.04	1.25	0.93	1.14
	October	1.01	0.97	0.98	0.98	0.96	0.98	0.90	1.06	1.28	0.96	1.16
	November	1.04	0.99	1.00	1.00	0.97	0.98	0.91	1.16	1.37	0.97	1.25
	December	1.05	1.01	1.04	0.99	0.99	1.03	0.90	1.09	1.41	0.99	1.23

FC11	AVERAGE ADT MONTHLY FACTOR BY MONTH AND DAY OF THE WEEK											
	MONTH of the YEAR	TOTAL	Mon-Thu	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Weekday	Weekend
	January	1.08	0.98	1.06	0.98	0.96	0.95	0.91	1.30	1.72	0.97	1.47
	February	1.05	0.97	1.00	0.99	0.96	0.94	0.89	1.26	1.59	0.95	1.41
	March	1.00	0.96	0.99	1.00	0.95	0.92	0.85	1.17	1.38	0.94	1.26
	April	1.00	0.94	0.97	0.94	0.93	0.91	0.87	1.16	1.36	0.92	1.24
	May	0.97	0.93	0.96	0.94	0.92	0.89	0.84	1.15	1.31	0.91	1.22
	June	0.95	0.91	0.94	0.93	0.90	0.88	0.82	1.10	1.28	0.89	1.18
	July	0.97	0.91	0.94	0.91	0.90	0.88	0.83	1.11	1.30	0.89	1.19
	August	0.96	0.91	0.93	0.93	0.91	0.88	0.84	1.14	1.31	0.90	1.21
	September	0.99	0.93	0.97	0.94	0.93	0.90	0.85	1.17	1.38	0.91	1.27
	October	0.99	0.93	0.97	0.95	0.91	0.89	0.84	1.15	1.35	0.91	1.24
	November	0.98	0.92	0.97	0.94	0.90	0.89	0.85	1.16	1.33	0.91	1.24
	December	1.05	0.96	1.01	0.96	0.93	0.96	0.90	1.21	1.52	0.95	1.35

Notes: Based on ATR Data from 05-07. Multiply appropriate factor by 24-hour count to obtain estimated ADT. Be aware of number of ATRs per Functional Class (see table 5).

Table D2. Monthly and Daily Volume Count Factors by Functional Class (continued)

FC12	AVERAGE ADT MONTHLY FACTOR BY MONTH AND DAY OF THE WEEK											
	MONTH of the YEAR	TOTAL	Mon-Thu	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Weekday	Weekend
	January	1.07	0.97	1.10	1.01	0.92	0.90	0.84	1.31	1.82	0.94	1.52
	February	1.03	0.97	0.99	0.96	0.97	0.95	0.88	1.16	1.55	0.95	1.32
	March	0.99	0.93	0.95	0.95	0.92	0.90	0.85	1.12	1.48	0.91	1.28
	April	0.95	0.89	0.91	0.90	0.89	0.86	0.82	1.06	1.37	0.87	1.20
	May	0.97	0.92	0.94	0.93	0.91	0.89	0.84	1.08	1.36	0.90	1.20
	June	0.98	0.92	0.94	0.93	0.92	0.91	0.86	1.14	1.41	0.91	1.26
	July	1.01	0.95	0.97	0.95	0.95	0.93	0.86	1.09	1.36	0.93	1.21
	August	1.01	0.97	0.98	0.98	0.97	0.94	0.87	1.12	1.42	0.94	1.25
	September	0.98	0.93	0.95	0.94	0.93	0.90	0.85	1.09	1.44	0.91	1.24
	October	0.97	0.92	0.95	0.93	0.91	0.89	0.83	1.01	1.34	0.90	1.15
	November	0.99	0.95	0.99	0.96	0.94	0.91	0.83	1.08	1.39	0.92	1.21
December	1.00	0.95	0.97	0.94	0.93	0.96	0.85	1.01	1.40	0.93	1.17	

FC14	AVERAGE ADT MONTHLY FACTOR BY MONTH AND DAY OF THE WEEK											
	MONTH of the YEAR	TOTAL	Mon-Thu	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Weekday	Weekend
	January	1.06	1.02	1.07	1.02	1.01	0.99	0.90	1.12	1.47	0.99	1.27
	February	1.03	0.99	1.02	0.98	0.98	0.98	0.88	1.08	1.40	0.97	1.22
	March	0.99	0.97	1.00	0.98	0.95	0.94	0.86	1.02	1.33	0.94	1.15
	April	0.98	0.95	0.97	0.96	0.95	0.93	0.85	1.00	1.25	0.93	1.11
	May	0.95	0.93	0.95	0.93	0.92	0.91	0.83	1.00	1.20	0.90	1.09
	June	0.97	0.95	0.97	0.96	0.95	0.92	0.84	1.01	1.24	0.92	1.11
	July	0.99	0.95	0.98	0.96	0.94	0.93	0.86	1.02	1.26	0.93	1.13
	August	0.98	0.96	0.98	0.97	0.94	0.93	0.85	1.03	1.28	0.93	1.14
	September	0.99	0.97	1.00	0.98	0.96	0.94	0.86	1.05	1.30	0.94	1.16
	October	1.00	0.97	1.00	0.97	0.95	0.94	0.86	1.03	1.28	0.94	1.14
	November	1.00	0.97	1.00	0.98	0.95	0.94	0.86	1.06	1.34	0.94	1.18
December	1.01	0.97	0.99	0.97	0.94	0.97	0.87	1.05	1.34	0.95	1.18	

Notes: Based on ATR Data from 05-07. Multiply appropriate factor by 24-hour count to obtain estimated ADT. Be aware of number of ATRs per Functional Class (see table 5).

Table D2. Monthly and Daily Volume Count Factors by Functional Class (continued)

FC16	AVERAGE ADT MONTHLY FACTOR BY MONTH AND DAY OF THE WEEK											
	MONTH of the YEAR	TOTAL	Mon-Thu	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Weekday	Weekend
	January	1.04	1.00	1.04	0.99	0.99	0.98	0.87	1.10	1.45	0.97	1.25
	February	1.00	0.96	0.99	0.94	0.95	0.95	0.85	1.08	1.46	0.93	1.24
	March	0.97	0.95	0.97	0.95	0.93	0.93	0.84	1.04	1.39	0.92	1.18
	April	0.97	0.94	0.94	0.93	0.94	0.94	0.82	1.00	1.33	0.91	1.14
	May	0.95	0.92	0.94	0.92	0.92	0.91	0.82	0.99	1.26	0.90	1.11
	June	0.98	0.97	0.99	0.97	0.97	0.95	0.85	1.01	1.34	0.94	1.15
	July	1.03	0.99	1.00	1.00	0.98	0.97	0.88	1.07	1.38	0.96	1.20
	August	0.99	0.98	0.99	0.99	0.96	0.97	0.85	1.01	1.32	0.95	1.14
	September	0.98	0.95	0.99	0.95	0.94	0.93	0.84	1.03	1.29	0.93	1.15
	October	1.00	0.97	0.98	0.97	0.96	0.96	0.87	1.04	1.32	0.95	1.16
	November	1.01	0.97	0.99	0.98	0.96	0.95	0.86	1.09	1.37	0.94	1.21
	December	1.02	1.01	0.98	0.95	0.98	1.33	0.94	1.05	1.33	0.99	1.17

FC17	AVERAGE ADT MONTHLY FACTOR BY MONTH AND DAY OF THE WEEK											
	MONTH of the YEAR	TOTAL	Mon-Thu	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Weekday	Weekend
	January	1.07	0.99	1.04	0.98	0.97	0.96	0.90	1.25	1.61	0.97	1.40
	February	1.04	0.97	1.00	0.97	0.96	0.96	0.90	1.23	1.54	0.95	1.37
	March	1.00	0.94	0.97	0.94	0.93	0.92	0.87	1.16	1.48	0.92	1.30
	April	0.99	0.92	0.93	0.93	0.92	0.91	0.86	1.12	1.40	0.91	1.24
	May	0.93	0.87	0.88	0.87	0.86	0.86	0.82	1.09	1.33	0.86	1.20
	June	0.97	0.91	0.93	0.91	0.90	0.90	0.86	1.12	1.40	0.90	1.24
	July	1.01	0.93	0.95	0.94	0.92	0.92	0.88	1.15	1.42	0.92	1.27
	August	0.96	0.91	0.93	0.91	0.90	0.89	0.86	1.11	1.41	0.90	1.24
	September	0.97	0.90	0.94	0.90	0.89	0.89	0.84	1.11	1.42	0.89	1.24
	October	0.99	0.92	0.94	0.92	0.91	0.91	0.87	1.14	1.43	0.91	1.27
	November	1.01	0.93	0.96	0.93	0.93	0.91	0.87	1.20	1.50	0.92	1.33
	December	1.01	0.92	0.93	0.92	0.91	0.93	0.87	1.17	1.45	0.91	1.30

Notes: Based on ATR Data from 05-07. Multiply appropriate factor by 24-hour count to obtain estimated ADT. Be aware of number of ATRs per Functional Class (see table 5).

Table D3. Monthly and Daily Design Hour Volume Count Factors by Functional Class

FC1	DESIGN HOUR VOLUME / AVERAGE PEAK HOUR VOLUME MONTHLY FACTOR BY MONTH AND DAY OF THE WEEK											
	MONTH of the YEAR	TOTAL	Mon-Thu	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Weekday	Weekend
	January	1.57	1.56	1.61	1.57	1.55	1.50	1.37	1.80	1.68	1.52	1.73
	February	1.53	1.55	1.59	1.60	1.54	1.46	1.28	1.78	1.61	1.48	1.69
	March	1.35	1.43	1.49	1.50	1.42	1.31	1.11	1.45	1.33	1.35	1.39
	April	1.34	1.42	1.48	1.48	1.42	1.32	1.13	1.43	1.26	1.35	1.34
	May	1.34	1.40	1.47	1.45	1.42	1.29	1.09	1.44	1.31	1.32	1.37
	June	1.24	1.32	1.35	1.39	1.32	1.22	1.06	1.33	1.19	1.26	1.25
	July	1.22	1.31	1.38	1.35	1.30	1.22	1.06	1.22	1.14	1.25	1.17
	August	1.29	1.37	1.41	1.44	1.37	1.28	1.10	1.37	1.14	1.30	1.24
	September	1.40	1.48	1.55	1.51	1.50	1.38	1.17	1.50	1.38	1.40	1.44
	October	1.30	1.35	1.40	1.41	1.36	1.25	1.10	1.45	1.23	1.29	1.33
	November	1.30	1.36	1.47	1.36	1.28	1.34	1.15	1.40	1.19	1.31	1.28
December	1.54	1.53	1.64	1.55	1.47	1.45	1.31	1.66	1.71	1.48	1.69	

FC2	DESIGN HOUR VOLUME / AVERAGE PEAK HOUR VOLUME MONTHLY FACTOR BY MONTH AND DAY OF THE WEEK											
	MONTH of the YEAR	TOTAL	Mon-Thu	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Weekday	Weekend
	January	1.40	1.32	1.38	1.32	1.31	1.28	1.18	1.72	1.87	1.29	1.78
	February	1.35	1.28	1.32	1.28	1.29	1.26	1.13	1.69	1.76	1.25	1.71
	March	1.26	1.22	1.25	1.24	1.22	1.18	1.09	1.52	1.56	1.19	1.53
	April	1.23	1.18	1.21	1.18	1.19	1.14	1.07	1.48	1.48	1.15	1.47
	May	1.21	1.18	1.21	1.20	1.19	1.13	1.04	1.39	1.43	1.15	1.41
	June	1.21	1.17	1.19	1.20	1.17	1.13	1.06	1.42	1.46	1.14	1.44
	July	1.23	1.20	1.22	1.22	1.21	1.17	1.06	1.43	1.47	1.17	1.45
	August	1.22	1.20	1.23	1.23	1.21	1.15	1.04	1.43	1.47	1.16	1.45
	September	1.24	1.22	1.25	1.24	1.23	1.17	1.04	1.42	1.51	1.18	1.46
	October	1.23	1.21	1.24	1.24	1.21	1.16	1.07	1.42	1.44	1.18	1.43
	November	1.26	1.21	1.26	1.22	1.19	1.19	1.07	1.49	1.54	1.18	1.51
December	1.35	1.26	1.30	1.26	1.25	1.26	1.15	1.59	1.75	1.24	1.66	

Notes: Based on ATR Data from 05-07. Multiply appropriate factor by 24-hour count to obtain estimated ADT. Be aware of number of ATRs per Functional Class (see table 5).

Table D3. Monthly and Daily Design Hour Volume Count Factors by Functional Class (continued)

FC6	DESIGN HOUR VOLUME / AVERAGE PEAK HOUR VOLUME MONTHLY FACTOR BY MONTH AND DAY OF THE WEEK											
	MONTH of the YEAR	TOTAL	Mon-Thu	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Weekday	Weekend
	January	1.40	1.32	1.42	1.30	1.29	1.28	1.22	1.68	1.89	1.30	1.77
	February	1.41	1.34	1.40	1.33	1.35	1.32	1.22	1.69	1.87	1.32	1.76
	March	1.30	1.27	1.29	1.26	1.27	1.25	1.15	1.49	1.63	1.24	1.55
	April	1.25	1.21	1.22	1.21	1.23	1.19	1.14	1.41	1.49	1.19	1.44
	May	1.18	1.17	1.17	1.17	1.18	1.15	1.07	1.27	1.37	1.15	1.31
	June	1.24	1.22	1.24	1.23	1.23	1.18	1.11	1.36	1.47	1.19	1.40
	July	1.26	1.23	1.26	1.25	1.24	1.19	1.15	1.36	1.53	1.21	1.43
	August	1.24	1.21	1.23	1.22	1.22	1.19	1.11	1.44	1.53	1.19	1.48
	September	1.23	1.22	1.25	1.22	1.22	1.19	1.09	1.37	1.50	1.19	1.43
	October	1.23	1.19	1.20	1.19	1.18	1.18	1.11	1.42	1.52	1.17	1.46
	November	1.29	1.22	1.26	1.22	1.23	1.19	1.13	1.53	1.60	1.20	1.56
	December	1.36	1.27	1.30	1.23	1.28	1.27	1.19	1.61	1.78	1.25	1.68

FC7	DESIGN HOUR VOLUME / AVERAGE PEAK HOUR VOLUME MONTHLY FACTOR BY MONTH AND DAY OF THE WEEK											
	MONTH of the YEAR	TOTAL	Mon-Thu	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Weekday	Weekend
	January	1.28	1.24	1.27	1.26	1.23	1.22	1.12	1.42	1.58	1.21	1.49
	February	1.26	1.22	1.25	1.20	1.23	1.21	1.08	1.43	1.58	1.19	1.49
	March	1.19	1.18	1.19	1.20	1.18	1.16	1.06	1.29	1.38	1.15	1.33
	April	1.18	1.17	1.16	1.17	1.18	1.17	1.06	1.26	1.31	1.14	1.28
	May	1.15	1.15	1.16	1.15	1.17	1.14	1.03	1.18	1.24	1.13	1.21
	June	1.18	1.19	1.20	1.22	1.21	1.16	1.07	1.22	1.32	1.17	1.26
	July	1.20	1.22	1.22	1.24	1.25	1.19	1.10	1.24	1.31	1.19	1.27
	August	1.16	1.16	1.18	1.17	1.17	1.13	1.05	1.21	1.31	1.14	1.25
	September	1.16	1.17	1.19	1.18	1.16	1.15	1.03	1.24	1.30	1.13	1.27
	October	1.19	1.19	1.18	1.20	1.19	1.18	1.08	1.25	1.32	1.16	1.28
	November	1.21	1.19	1.20	1.20	1.20	1.15	1.05	1.31	1.38	1.16	1.34
	December	1.28	1.23	1.25	1.23	1.22	1.25	1.12	1.41	1.55	1.21	1.47

Notes: Based on ATR Data from 05-07. Multiply appropriate factor by 24-hour count to obtain estimated ADT. Be aware of number of ATRs per Functional Class (see table 5).

Table D3. Monthly and Daily Design Hour Volume Count Factors by Functional Class (continued)

FC8	DESIGN HOUR VOLUME / AVERAGE PEAK HOUR VOLUME MONTHLY FACTOR BY MONTH AND DAY OF THE WEEK											
	MONTH of the YEAR	TOTAL	Mon-Thu	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Weekday	Weekend
	January	1.24	1.14	1.19	1.17	1.11	1.13	1.14	1.43	1.71	1.14	1.55
	February	1.19	1.17	1.24	1.16	1.12	1.17	1.03	1.32	1.49	1.14	1.40
	March	1.20	1.14	1.14	1.15	1.14	1.14	1.07	1.41	1.59	1.13	1.49
	April	1.22	1.15	1.17	1.15	1.13	1.18	1.08	1.39	1.49	1.14	1.44
	May	1.18	1.13	1.13	1.12	1.11	1.14	1.05	1.32	1.50	1.11	1.40
	June	1.16	1.08	1.17	1.13	1.02	1.17	1.07	1.36	1.47	1.07	1.41
	July	1.25	1.18	1.20	1.17	1.16	1.17	1.13	1.41	1.60	1.17	1.49
	August	1.22	1.15	1.16	1.18	1.14	1.14	1.08	1.45	1.59	1.14	1.51
	September	1.19	1.12	1.15	1.11	1.11	1.13	1.06	1.43	1.46	1.11	1.45
	October	1.21	1.15	1.16	1.16	1.11	1.17	1.11	1.38	1.46	1.14	1.42
	November	1.21	1.13	1.18	1.18	1.14	1.05	1.09	1.45	1.51	1.12	1.48
December	1.20	1.12	1.16	1.07	1.10	1.18	1.04	1.38	1.61	1.10	1.48	

FC11	DESIGN HOUR VOLUME / AVERAGE PEAK HOUR VOLUME MONTHLY FACTOR BY MONTH AND DAY OF THE WEEK											
	MONTH of the YEAR	TOTAL	Mon-Thu	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Weekday	Weekend
	January	1.28	1.15	1.22	1.13	1.12	1.12	1.12	1.81	2.17	1.14	1.96
	February	1.29	1.16	1.19	1.17	1.15	1.14	1.12	1.86	2.08	1.15	1.96
	March	1.25	1.18	1.20	1.21	1.18	1.12	1.09	1.73	1.78	1.15	1.75
	April	1.25	1.16	1.19	1.16	1.16	1.16	1.15	1.68	1.78	1.14	1.72
	May	1.24	1.14	1.16	1.14	1.14	1.11	1.10	1.74	1.76	1.13	1.75
	June	1.23	1.14	1.16	1.15	1.14	1.11	1.09	1.65	1.68	1.13	1.66
	July	1.22	1.11	1.14	1.11	1.10	1.08	1.07	1.60	1.68	1.10	1.63
	August	1.18	1.10	1.10	1.11	1.10	1.08	1.08	1.63	1.62	1.09	1.61
	September	1.24	1.13	1.15	1.13	1.12	1.10	1.08	1.70	1.74	1.12	1.72
	October	1.27	1.17	1.21	1.18	1.16	1.13	1.10	1.73	1.72	1.15	1.72
	November	1.27	1.18	1.22	1.20	1.17	1.14	1.13	1.66	1.64	1.17	1.64
December	1.36	1.22	1.26	1.21	1.18	1.24	1.19	1.72	1.95	1.21	1.82	

Notes: Based on ATR Data from 05-07. Multiply appropriate factor by 24-hour count to obtain estimated ADT. Be aware of number of ATRs per Functional Class (see table 5).

Table D3. Monthly and Daily Design Hour Volume Count Factors by Functional Class (continued)

FC12	DESIGN HOUR VOLUME / AVERAGE PEAK HOUR VOLUME MONTHLY FACTOR BY MONTH AND DAY OF THE WEEK											
	MONTH of the YEAR	TOTAL	Mon-Thu	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Weekday	Weekend
	January	1.24	1.10	1.23	1.13	1.05	1.05	1.00	1.63	2.17	1.08	1.85
	February	1.21	1.11	1.12	1.09	1.12	1.09	1.04	1.54	1.79	1.09	1.66
	March	1.18	1.07	1.09	1.09	1.07	1.05	1.05	1.53	1.75	1.07	1.63
	April	1.15	1.03	1.06	1.03	1.03	1.01	1.03	1.47	1.72	1.03	1.58
	May	1.21	1.10	1.10	1.12	1.11	1.08	1.08	1.54	1.73	1.10	1.63
	June	1.27	1.15	1.16	1.15	1.15	1.13	1.13	1.68	1.90	1.14	1.79
	July	1.33	1.23	1.27	1.21	1.24	1.20	1.17	1.64	1.82	1.21	1.72
	August	1.31	1.23	1.24	1.25	1.25	1.19	1.15	1.65	1.80	1.21	1.72
	September	1.24	1.13	1.15	1.13	1.12	1.11	1.11	1.55	1.87	1.12	1.70
	October	1.22	1.13	1.16	1.15	1.11	1.11	1.06	1.43	1.67	1.11	1.54
	November	1.25	1.18	1.23	1.18	1.19	1.14	1.05	1.45	1.71	1.15	1.57
	December	1.27	1.19	1.22	1.18	1.16	1.21	1.09	1.42	1.71	1.17	1.55

FC14	DESIGN HOUR VOLUME / AVERAGE PEAK HOUR VOLUME MONTHLY FACTOR BY MONTH AND DAY OF THE WEEK											
	MONTH of the YEAR	TOTAL	Mon-Thu	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Weekday	Weekend
	January	1.19	1.12	1.17	1.11	1.12	1.09	1.04	1.37	1.60	1.10	1.48
	February	1.17	1.11	1.13	1.10	1.10	1.10	1.03	1.36	1.53	1.09	1.44
	March	1.14	1.09	1.12	1.10	1.08	1.08	1.02	1.30	1.47	1.08	1.38
	April	1.14	1.08	1.09	1.09	1.09	1.07	1.03	1.26	1.43	1.07	1.33
	May	1.13	1.07	1.07	1.07	1.07	1.07	1.03	1.31	1.40	1.06	1.35
	June	1.17	1.11	1.12	1.13	1.12	1.09	1.05	1.35	1.47	1.10	1.41
	July	1.18	1.10	1.13	1.10	1.09	1.10	1.06	1.36	1.52	1.09	1.43
	August	1.17	1.12	1.13	1.13	1.11	1.10	1.05	1.36	1.50	1.10	1.42
	September	1.18	1.11	1.13	1.12	1.12	1.09	1.04	1.37	1.49	1.10	1.43
	October	1.16	1.09	1.13	1.10	1.08	1.07	1.04	1.34	1.45	1.08	1.39
	November	1.14	1.08	1.11	1.08	1.07	1.06	1.02	1.35	1.46	1.07	1.40
	December	1.12	1.06	1.08	1.07	1.04	1.08	1.04	1.27	1.44	1.06	1.34

Notes: Based on ATR Data from 05-07. Multiply appropriate factor by 24-hour count to obtain estimated ADT. Be aware of number of ATRs per Functional Class (see table 5).

Table D3. Monthly and Daily Design Hour Volume Count Factors by Functional Class (continued)

FC16	DESIGN HOUR VOLUME / AVERAGE PEAK HOUR VOLUME MONTHLY FACTOR BY MONTH AND DAY OF THE WEEK											
	MONTH of the YEAR	TOTAL	Mon-Thu	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Weekday	Weekend
	January	1.16	1.09	1.12	1.08	1.09	1.08	1.01	1.31	1.57	1.08	1.42
	February	1.16	1.09	1.11	1.08	1.09	1.10	0.99	1.31	1.60	1.07	1.44
	March	1.14	1.09	1.09	1.10	1.08	1.09	1.01	1.26	1.55	1.07	1.38
	April	1.17	1.11	1.09	1.10	1.12	1.13	1.03	1.25	1.56	1.09	1.38
	May	1.16	1.11	1.11	1.11	1.11	1.10	1.03	1.24	1.51	1.09	1.35
	June	1.19	1.14	1.14	1.15	1.14	1.14	1.05	1.35	1.57	1.12	1.44
	July	1.24	1.17	1.18	1.19	1.16	1.16	1.08	1.39	1.65	1.15	1.50
	August	1.21	1.17	1.17	1.18	1.17	1.17	1.05	1.32	1.61	1.14	1.44
	September	1.15	1.09	1.11	1.10	1.10	1.07	1.02	1.29	1.48	1.08	1.38
	October	1.15	1.10	1.10	1.10	1.10	1.09	1.03	1.27	1.48	1.08	1.36
	November	1.13	1.07	1.10	1.08	1.06	1.06	1.01	1.31	1.45	1.06	1.37
	December	1.15	1.10	1.07	1.05	1.09	1.22	1.04	1.23	1.47	1.08	1.33

FC17	DESIGN HOUR VOLUME / AVERAGE PEAK HOUR VOLUME MONTHLY FACTOR BY MONTH AND DAY OF THE WEEK											
	MONTH of the YEAR	TOTAL	Mon-Thu	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Weekday	Weekend
	January	1.27	1.15	1.22	1.13	1.13	1.11	1.10	1.69	1.96	1.14	1.81
	February	1.25	1.13	1.15	1.11	1.13	1.12	1.10	1.67	1.87	1.12	1.77
	March	1.19	1.09	1.11	1.08	1.09	1.08	1.06	1.62	1.79	1.08	1.70
	April	1.22	1.09	1.09	1.09	1.10	1.11	1.09	1.59	1.76	1.09	1.66
	May	1.16	1.04	1.04	1.04	1.05	1.05	1.07	1.54	1.72	1.05	1.62
	June	1.24	1.13	1.13	1.13	1.12	1.14	1.14	1.59	1.87	1.13	1.72
	July	1.30	1.16	1.17	1.16	1.16	1.16	1.14	1.65	1.90	1.16	1.76
	August	1.21	1.11	1.12	1.11	1.10	1.10	1.12	1.59	1.84	1.11	1.70
	September	1.18	1.07	1.09	1.07	1.05	1.06	1.07	1.51	1.78	1.07	1.63
	October	1.21	1.08	1.10	1.07	1.07	1.09	1.11	1.55	1.80	1.09	1.66
	November	1.22	1.11	1.13	1.10	1.11	1.08	1.09	1.67	1.82	1.10	1.74
	December	1.23	1.10	1.09	1.09	1.10	1.12	1.08	1.60	1.82	1.09	1.70

Notes: Based on ATR Data from 05-07. Multiply appropriate factor by 24-hour count to obtain estimated ADT. Be aware of number of ATRs per Functional Class (see table 5).

APPENDIX-E

Table E. Population Summaries for 1970 To 2000 and Projections for 2005 Through 2030

County	Census				Projection					
	1970	1980	1990	2000	2005	2010	2015	2020	2025	2030
Kentucky	3,220,711	3,660,334	3,686,892	4,041,769	4,171,016	4,326,490	4,502,595	4,660,703	4,799,443	4,912,621
Adair Co	13,037	15,233	15,360	17,244	17,601	17,925	18,603	19,187	19,660	20,045
Allen Co	12,598	14,128	14,628	17,800	18,455	19,993	21,295	22,463	23,509	24,427
Anderson Co	9,358	12,567	14,571	19,111	20,222	21,707	23,324	24,782	26,034	26,964
Ballard Co	8,276	8,798	7,902	8,286	8,257	8,243	8,341	8,428	8,504	8,552
Barren Co	28,677	34,009	34,001	38,033	40,039	41,600	43,617	45,400	46,860	48,019
Bath Co	9,235	10,025	9,692	11,085	11,565	12,258	12,908	13,510	14,065	14,544
Bell Co	31,121	34,330	31,506	30,060	29,254	29,656	28,907	28,118	27,337	26,546
Boone Co	32,812	45,842	57,589	85,991	105,585	121,919	140,577	158,013	174,084	188,652
Bourbon Co	18,476	19,405	19,236	19,360	19,751	20,215	20,848	21,457	22,012	22,481
Boyd Co	52,376	55,513	51,096	49,752	48,813	49,198	49,266	49,421	49,519	49,705
Boyle Co	21,861	25,066	25,590	27,697	28,296	28,872	29,762	30,675	31,517	32,277
Bracken Co	7,227	7,738	7,766	8,279	8,630	8,899	9,169	9,388	9,562	9,688
Breathitt Co	14,221	17,004	15,703	16,100	15,752	16,099	16,364	16,528	16,626	16,671
Breckinridge Co	14,789	16,861	16,312	18,648	19,070	20,459	21,452	22,340	23,114	23,764
Bullitt Co	26,090	43,346	47,567	61,236	71,116	72,816	78,222	82,920	86,848	89,729
Butler Co	9,723	11,064	11,245	13,010	13,285	13,857	14,542	15,153	15,672	16,087
Caldwell Co	13,179	13,473	13,232	13,060	12,787	12,609	12,507	12,392	12,256	12,093
Calloway Co	27,692	30,031	30,735	34,177	35,499	35,990	37,349	38,519	39,486	40,122
Campbell Co	88,704	83,317	83,866	88,616	87,041	91,130	95,828	100,167	104,251	108,024
Carlisle Co	5,354	5,487	5,238	5,351	5,259	5,466	5,551	5,638	5,724	5,789
Carroll Co	8,523	9,270	9,292	10,155	10,425	10,631	10,993	11,304	11,559	11,749
Carter Co	19,850	25,060	24,340	26,889	27,342	28,294	29,204	29,972	30,614	31,140
Casey Co	12,930	14,818	14,211	15,447	16,081	17,138	17,724	18,234	18,685	19,054
Christian Co	56,224	66,878	68,941	72,265	78,150	79,545	84,144	88,923	93,897	98,867
Clark Co	24,090	28,322	29,496	33,144	34,657	36,007	37,418	38,646	39,628	40,375
Clay Co	18,481	22,752	21,746	24,556	23,954	24,423	25,192	25,761	26,277	26,695
Clinton Co	8,174	9,321	9,135	9,634	9,463	9,683	9,875	10,028	10,141	10,209
Crittenden Co	8,493	9,207	9,196	9,384	9,032	9,069	9,103	9,110	9,085	9,021
Cumberland Co	6,850	7,289	6,784	7,147	6,960	7,345	7,491	7,591	7,669	7,721
Daviess Co	79,486	85,949	87,189	91,545	92,496	94,567	97,166	99,438	101,420	102,708
Edmonson Co	8,751	9,962	10,357	11,644	11,930	12,398	12,840	13,200	13,466	13,610
Elliott Co	5,933	6,908	6,455	6,748	6,901	7,156	7,313	7,424	7,473	7,472

Notes: Data obtained from Kentucky Data Center website (March, 2008)

**Table E. Population Summaries for 1970 to 2000 and Projections for 2005 Through 2030
(continued)**

County	Census				Projection					
	1970	1980	1990	2000	2005	2010	2015	2020	2025	2030
Estill Co	12,752	14,495	14,614	15,307	14,876	15,185	15,365	15,572	15,759	15,875
Fayette Co	174,323	204,165	225,366	260,512	272,219	281,613	296,647	310,262	322,194	331,212
Fleming Co	11,366	12,323	12,292	13,792	14,496	15,546	16,418	17,216	17,934	18,567
Floyd Co	35,889	48,764	43,586	42,441	42,036	42,198	41,977	41,570	41,002	40,257
Franklin Co	34,481	41,830	44,143	47,687	48,433	49,040	50,180	51,175	52,011	52,649
Fulton Co	10,183	8,971	8,271	7,752	7,101	7,090	7,014	6,973	6,961	6,948
Gallatin Co	4,134	4,842	5,393	7,870	8,046	9,155	10,135	11,033	11,851	12,570
Garrard Co	9,457	10,853	11,579	14,792	16,402	18,251	19,862	21,224	22,354	23,254
Grant Co	9,999	13,308	15,737	22,384	24,452	28,164	31,476	34,701	37,802	40,733
Graves Co	30,939	34,049	33,550	37,028	37,278	38,595	40,126	41,639	43,068	44,359
Grayson Co	16,445	20,854	21,050	24,053	25,103	26,440	27,832	29,029	30,066	30,937
Green Co	10,350	11,043	10,371	11,518	11,483	12,293	12,728	13,068	13,328	13,459
Greenup Co	33,192	39,132	36,796	36,891	36,993	37,026	37,005	36,886	36,676	36,354
Hancock Co	7,080	7,742	7,864	8,392	8,547	8,505	8,734	8,935	9,085	9,160
Hardin Co	78,421	88,911	89,240	94,174	96,816	102,848	108,505	113,497	117,911	121,847
Harlan Co	37,370	41,889	36,574	33,202	31,100	30,910	30,035	29,136	28,185	27,145
Harrison Co	14,158	15,166	16,248	17,983	18,216	19,026	19,774	20,403	20,913	21,288
Hart Co	13,980	15,402	14,890	17,445	18,125	19,050	20,199	21,177	21,993	22,654
Henderson Co	36,031	40,849	43,044	44,829	45,151	45,792	46,655	47,346	47,865	48,168
Henry Co	10,910	12,740	12,823	15,060	15,596	16,605	17,675	18,624	19,483	20,238
Hickman Co	6,264	6,065	5,566	5,262	5,025	4,940	4,835	4,752	4,660	4,554
Hopkins Co	38,167	46,174	46,126	46,519	46,259	47,312	47,860	48,346	48,725	48,929
Jackson Co	10,005	11,996	11,955	13,495	13,519	14,176	14,775	15,286	15,712	16,052
Jefferson Co	695,055	684,648	665,123	693,604	701,062	710,120	724,447	738,732	752,184	763,393
Jessamine Co	17,430	26,065	30,508	39,041	43,215	47,328	51,152	54,469	57,237	59,489
Johnson Co	17,539	24,432	23,248	23,445	23,775	24,232	24,623	24,940	25,183	25,310
Kenton Co	129,440	137,058	142,005	151,464	153,521	154,572	158,966	163,014	166,579	169,402
Knott Co	14,698	17,940	17,906	17,649	17,447	17,770	17,885	17,921	17,887	17,771
Knox Co	23,689	30,239	29,676	31,795	32,091	32,168	33,270	34,253	35,140	35,915
Larue Co	10,672	11,922	11,679	13,373	13,494	13,681	14,170	14,574	14,897	15,117
Laurel Co	27,386	38,982	43,438	52,715	56,067	61,391	65,277	68,708	71,721	74,278
Lawrence Co	10,726	14,121	13,998	15,569	16,145	16,634	17,275	17,736	18,109	18,377

Notes: Data obtained from Kentucky Data Center website (March, 2008)

**Table E. Population Summaries for 1970 to 2000 and Projections for 2005 through 2030
(continued)**

County	Census				Projection					
	1970	1980	1990	2000	2005	2010	2015	2020	2025	2030
Lee Co	6,587	7,754	7,422	7,916	7,528	8,081	8,220	8,298	8,333	8,327
Leslie Co	11,623	14,882	13,642	12,401	11,886	11,736	11,478	11,235	10,987	10,735
Letcher Co	23,165	30,687	27,000	25,277	24,209	24,089	23,640	23,203	22,835	22,510
Lewis Co	12,355	14,545	13,029	14,092	13,773	13,578	13,969	14,267	14,476	14,621
Lincoln Co	16,663	19,053	20,096	23,361	24,940	26,565	28,158	29,478	30,569	31,416
Livingston Co	7,596	9,219	9,062	9,804	9,700	9,771	9,930	9,995	9,998	9,937
Logan Co	21,793	24,138	24,416	26,573	26,872	27,533	28,367	29,055	29,639	30,072
Lyon Co	5,562	6,490	6,624	8,080	8,227	8,393	8,583	8,706	8,773	8,756
McCracken Co	58,281	61,310	62,879	65,514	64,438	63,229	64,164	64,964	65,627	66,029
McCreary Co	12,548	15,634	15,603	17,080	17,189	17,624	18,107	18,472	18,748	18,914
McLean Co	9,062	10,090	9,628	9,938	9,798	9,892	10,058	10,212	10,333	10,414
Madison Co	42,730	53,352	57,508	70,872	78,728	83,859	90,306	95,965	100,711	104,419
Magoffin Co	10,443	13,515	13,077	13,332	13,193	13,472	13,542	13,600	13,660	13,700
Marion Co	16,714	17,910	16,499	18,212	18,762	19,654	20,441	21,164	21,820	22,381
Marshall Co	20,381	25,637	27,205	30,125	30,733	31,696	32,738	33,402	33,732	33,741
Martin Co	9,377	13,925	12,526	12,578	11,889	13,716	13,884	14,108	14,325	14,579
Mason Co	17,273	17,760	16,666	16,800	16,900	17,116	17,476	17,763	18,011	18,173
Meade Co	18,796	22,854	24,170	26,349	27,894	29,533	30,636	31,554	32,299	32,858
Menifee Co	4,050	5,117	5,092	6,556	6,751	7,267	7,711	8,046	8,309	8,526
Mercer Co	15,960	19,011	19,148	20,817	21,542	22,551	23,337	24,106	24,785	25,322
Metcalfe Co	8,177	9,484	8,963	10,037	10,089	10,475	10,891	11,226	11,497	11,711
Monroe Co	11,642	12,353	11,401	11,756	11,726	11,897	12,181	12,415	12,611	12,779
Montgomery Co	15,364	20,046	19,561	22,554	24,243	25,676	27,092	28,335	29,397	30,328
Morgan Co	10,019	12,103	11,648	13,948	14,209	14,804	15,202	15,491	15,691	15,815
Muhlenberg Co	27,537	32,238	31,318	31,839	31,433	31,956	32,263	32,529	32,782	32,997
Nelson Co	23,477	27,584	29,710	37,477	40,874	45,000	48,601	51,858	54,779	57,293
Nicholas Co	6,508	7,157	6,725	6,813	6,966	7,169	7,329	7,461	7,583	7,679
Ohio Co	18,790	21,765	21,105	22,916	23,411	24,253	25,065	25,754	26,349	26,835
Oldham Co	14,687	27,795	33,263	46,178	52,787	58,123	63,516	68,335	72,524	75,973
Owen Co	7,470	8,924	9,035	10,547	11,177	12,166	12,947	13,642	14,225	14,684
Owsley Co	5,023	5,709	5,036	4,858	4,724	4,810	4,866	4,870	4,873	4,863
Pendleton Co	9,949	10,989	12,062	14,390	14,931	16,365	17,363	18,191	18,888	19,455

Notes: Data obtained from Kentucky Data Center website (March, 2008)

**Table E. Population Summaries for 1970 To 2000 and Projections for 2005 Through 2030
(continued)**

County	Census				Projection					
	1970	1980	1990	2000	2005	2010	2015	2020	2025	2030
Perry Co	26,259	33,763	30,283	29,390	29,134	29,820	29,892	29,894	29,832	29,649
Pike Co	61,059	81,123	72,584	68,736	65,759	65,532	63,777	61,952	60,082	58,001
Powell Co	7,704	11,101	11,686	13,237	13,638	14,280	14,810	15,252	15,652	15,976
Pulaski Co	35,234	45,803	49,489	56,217	58,980	60,914	62,957	64,722	66,186	67,301
Robertson Co	2,163	2,270	2,124	2,266	2,226	2,524	2,634	2,728	2,807	2,866
Rockcastle Co	12,305	13,973	14,803	16,582	16,569	17,106	17,658	18,102	18,445	18,690
Rowan Co	17,010	19,049	20,353	22,094	22,163	22,716	23,343	23,898	24,305	24,581
Russell Co	10,542	13,708	14,716	16,315	16,884	17,043	17,511	17,915	18,277	18,590
Scott Co	17,948	21,813	23,867	33,061	39,328	44,322	49,755	54,871	59,701	64,196
Shelby Co	18,999	23,328	24,824	33,337	37,965	41,445	44,882	47,993	50,792	53,151
Simpson Co	13,054	14,673	15,145	16,405	16,904	17,271	17,816	18,345	18,799	19,177
Spencer Co	5,488	5,929	6,801	11,766	15,278	19,384	22,943	26,245	29,277	31,906
Taylor Co	17,138	21,178	21,146	22,927	23,621	24,262	24,995	25,609	26,105	26,493
Todd Co	10,823	11,874	10,940	11,971	11,862	12,220	12,771	13,305	13,802	14,268
Trigg Co	8,620	9,384	10,361	12,597	13,113	14,016	14,789	15,455	16,021	16,469
Trimble Co	5,349	6,253	6,090	8,125	8,815	10,316	11,434	12,467	13,383	14,163
Union Co	15,882	17,821	16,557	15,637	15,363	15,854	15,800	15,729	15,653	15,558
Warren Co	57,884	71,828	77,720	92,522	99,659	103,655	109,558	114,955	119,785	123,931
Washington Co	10,728	10,764	10,441	10,916	11,271	11,819	12,094	12,339	12,547	12,691
Wayne Co	14,268	17,022	17,468	19,923	20,463	21,563	22,554	23,441	24,187	24,783
Webster Co	13,282	14,832	13,955	14,120	13,991	14,001	14,291	14,481	14,582	14,636
Whitley Co	24,145	33,396	33,326	35,865	37,730	40,009	41,654	43,065	44,273	45,311
Wolfe Co	5,669	6,698	6,503	7,065	7,038	6,939	7,179	7,384	7,563	7,721
Woodford Co	14,434	17,778	19,955	23,208	23,983	24,607	25,665	26,529	27,189	27,610

Notes: Data obtained from Kentucky Data Center website (March, 2008)

APPENDIX-F

Table F1. Traffic Volume Growth Rates by County and Functional Class

County	Growth Rate All	Growth Rate FC 1	Growth Rate FC 2	Growth Rate FC 6	Growth Rate FC 7	Growth Rate FC 8	Growth Rate FC 9	Growth Rate FC 11	Growth Rate FC 12	Growth Rate FC 14	Growth Rate FC 16	Growth Rate FC 17	Growth Rate FC 19
ALL COUNTIES	2.40%	2.57%	2.62%	2.44%	1.83%	1.91%	2.33%	2.79%	3.31%	1.84%	2.40%	2.62%	2.21%
ADAIR	2.75%	N/A	3.65%	0.55%	1.93%	2.49%	1.20%	N/A	N/A	N/A	N/A	N/A	N/A
ALLEN	2.39%	N/A	3.13%	4.19%	1.25%	1.39%	1.90%	N/A	N/A	N/A	N/A	N/A	N/A
ANDERSON	2.48%	N/A	2.78%	0.78%	1.33%	0.94%	1.06%	N/A	N/A	3.41%	N/A	1.95%	4.70%
BALLARD	0.35%	N/A	0.05%	-0.32%	1.25%	0.29%	-0.07%	N/A	N/A	N/A	N/A	N/A	N/A
BARREN	2.61%	2.06%	3.91%	2.05%	2.14%	2.05%	4.23%	N/A	2.92%	2.19%	4.58%	1.08%	N/A
BATH	2.53%	2.79%	N/A	2.32%	2.33%	1.68%	0.82%	N/A	N/A	N/A	N/A	N/A	N/A
BELL	1.45%	N/A	1.43%	N/A	1.03%	0.79%	4.43%	N/A	N/A	1.39%	0.71%	2.18%	0.80%
BOONE	3.02%	2.40%	N/A	N/A	2.63%	3.58%	2.16%	2.85%	N/A	2.70%	4.07%	3.72%	2.72%
BOURBON	1.97%	N/A	1.90%	2.20%	0.71%	0.96%	0.28%	N/A	N/A	2.35%	0.86%	5.38%	N/A
BOYD	1.63%	2.86%	1.68%	N/A	1.73%	2.01%	1.31%	N/A	N/A	1.12%	0.78%	1.39%	2.16%
BOYLE	2.17%	N/A	1.89%	2.41%	1.04%	1.69%	0.91%	N/A	N/A	2.42%	3.58%	1.67%	-9.91%
BRACKEN	6.04%	N/A	7.47%	N/A	1.58%	1.38%	1.24%	N/A	N/A	N/A	N/A	N/A	N/A
BREATHITT	1.90%	N/A	1.36%	N/A	1.93%	3.37%	0.81%	N/A	N/A	N/A	N/A	N/A	N/A
BRECKINRIDGE	1.93%	N/A	2.34%	2.24%	1.53%	1.07%	1.72%	N/A	N/A	N/A	N/A	N/A	N/A
BULLITT	2.73%	2.11%	3.48%	2.66%	1.63%	1.96%	1.90%	3.76%	N/A	2.52%	0.68%	5.03%	1.06%
BUTLER	2.21%	N/A	3.28%	N/A	1.51%	0.69%	-0.03%	N/A	N/A	N/A	N/A	N/A	N/A
CALDWELL	1.76%	3.10%	2.74%	1.96%	0.95%	0.20%	3.84%	N/A	N/A	-0.60%	0.21%	1.00%	-0.38%
CALLOWAY	3.54%	N/A	6.05%	N/A	1.66%	1.50%	2.56%	N/A	N/A	2.44%	1.72%	2.02%	4.37%
CAMPBELL	2.35%	N/A	4.11%	1.55%	0.95%	1.57%	1.51%	2.04%	N/A	2.06%	1.45%	2.78%	1.62%
CARSLISLE	1.00%	N/A	-0.07%	1.30%	1.42%	0.65%	1.59%	N/A	N/A	N/A	N/A	N/A	N/A
CARROLL	2.71%	2.66%	N/A	N/A	2.78%	2.87%	2.59%	N/A	N/A	N/A	N/A	N/A	N/A

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Table F1. Traffic Volume Growth Rates by County and Functional Class (continued)

County	Growth Rate All	Growth Rate FC 1	Growth Rate FC 2	Growth Rate FC 6	Growth Rate FC 7	Growth Rate FC 8	Growth Rate FC 9	Growth Rate FC 11	Growth Rate FC 12	Growth Rate FC 14	Growth Rate FC 16	Growth Rate FC 17	Growth Rate FC 19
CARTER	2.45%	2.39%	4.50%	2.28%	1.60%	2.86%	1.28%	N/A	N/A	N/A	N/A	N/A	N/A
CASEY	1.89%	N/A	2.47%	N/A	1.39%	1.45%	2.34%	N/A	N/A	N/A	N/A	N/A	N/A
CHRISTIAN	2.43%	3.69%	1.93%	2.47%	1.08%	1.70%	0.77%	3.26%	1.67%	1.77%	2.76%	1.81%	-1.24%
CLARK	2.53%	2.85%	2.43%	1.70%	1.83%	2.22%	0.73%	2.72%	N/A	2.57%	3.04%	1.41%	2.12%
CLAY	1.20%	N/A	0.82%	1.46%	1.22%	1.43%	1.54%	N/A	N/A	N/A	N/A	N/A	N/A
CLINTON	2.44%	N/A	2.08%	3.97%	1.69%	1.62%	0.34%	N/A	N/A	N/A	N/A	N/A	N/A
CRITTENDEN	0.60%	N/A	0.76%	N/A	0.01%	0.24%	1.23%	N/A	N/A	N/A	N/A	N/A	N/A
CUMBERLAND	1.61%	N/A	N/A	1.83%	1.71%	0.88%	-0.35%	N/A	N/A	N/A	N/A	N/A	N/A
DAVIESS	1.99%	N/A	2.76%	2.65%	1.46%	2.37%	1.84%	N/A	2.46%	1.17%	1.28%	2.35%	2.34%
EDMONSON	1.72%	1.94%	N/A	1.83%	1.51%	1.27%	1.54%	N/A	N/A	N/A	N/A	N/A	N/A
ELLIOTT	0.80%	N/A	N/A	1.21%	0.66%	0.71%	-1.21%	N/A	N/A	N/A	N/A	N/A	N/A
ESTILL	1.81%	N/A	N/A	1.78%	1.88%	1.74%	1.65%	N/A	N/A	N/A	N/A	N/A	N/A
FAYETTE	2.51%	1.99%	1.85%	1.95%	1.60%	1.56%	2.01%	2.36%	1.77%	1.55%	3.69%	3.79%	3.78%
FLEMING	2.23%	N/A	1.49%	2.87%	1.41%	2.30%	1.26%	N/A	N/A	N/A	N/A	N/A	N/A
FLOYD	1.99%	N/A	2.67%	-2.01%	1.08%	0.56%	0.71%	N/A	N/A	N/A	N/A	N/A	N/A
FRANKLIN	2.52%	2.84%	2.99%	2.44%	2.40%	2.07%	3.27%	N/A	N/A	2.57%	1.24%	2.55%	-1.91%
FULTON	0.93%	N/A	1.81%	-1.29%	0.16%	0.08%	5.55%	N/A	N/A	N/A	N/A	N/A	N/A
GALLATIN	3.10%	2.91%	N/A	3.40%	3.68%	3.16%	2.75%	N/A	N/A	N/A	N/A	N/A	N/A
GARRARD	3.07%	N/A	2.79%	4.77%	0.81%	1.77%	2.55%	N/A	N/A	N/A	N/A	N/A	N/A
GRANT	2.83%	2.40%	N/A	4.94%	3.46%	2.42%	5.08%	N/A	N/A	N/A	N/A	N/A	N/A
GRAVES	1.52%	N/A	1.77%	0.83%	1.15%	2.15%	1.68%	N/A	1.47%	1.25%	0.47%	2.13%	0.05%
GRAYSON	2.40%	N/A	2.95%	1.96%	1.74%	1.77%	0.01%	N/A	N/A	N/A	2.87%	0.72%	N/A

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Table F1. Traffic Volume Growth Rates by County and Functional Class (continued)

County	Growth Rate All	Growth Rate FC 1	Growth Rate FC 2	Growth Rate FC 6	Growth Rate FC 7	Growth Rate FC 8	Growth Rate FC 9	Growth Rate FC 11	Growth Rate FC 12	Growth Rate FC 14	Growth Rate FC 16	Growth Rate FC 17	Growth Rate FC 19
GREEN	1.46%	N/A	4.52%	1.09%	2.13%	1.30%	0.39%	N/A	N/A	N/A	N/A	N/A	N/A
GREENUP	1.18%	N/A	1.33%	2.15%	0.99%	0.65%	1.33%	N/A	N/A	0.91%	1.10%	1.67%	1.37%
HANCOCK	2.25%	N/A	2.23%	N/A	2.74%	1.32%	2.52%	N/A	N/A	N/A	N/A	N/A	N/A
HARDIN	2.36%	1.93%	3.01%	3.28%	2.14%	2.30%	1.50%	3.11%	3.23%	1.48%	3.15%	0.76%	5.78%
HARLAN	1.04%	N/A	1.00%	0.53%	0.82%	1.51%	2.14%	N/A	N/A	N/A	N/A	N/A	N/A
HARRISON	2.66%	N/A	1.38%	5.43%	1.49%	2.25%	1.91%	N/A	N/A	1.19%	1.81%	0.82%	1.69%
HART	1.93%	2.06%	N/A	N/A	1.63%	1.61%	1.79%	N/A	N/A	N/A	N/A	N/A	N/A
HENDERSON	1.47%	N/A	2.01%	0.91%	0.68%	0.90%	2.50%	N/A	1.13%	0.89%	1.50%	4.04%	5.43%
HENRY	2.81%	3.06%	N/A	2.05%	2.49%	1.40%	4.63%	N/A	N/A	N/A	N/A	N/A	N/A
HICKMAN	1.15%	N/A	1.34%	0.06%	0.82%	1.08%	2.04%	N/A	N/A	N/A	N/A	N/A	N/A
HOPKINS	1.48%	N/A	2.00%	0.60%	0.39%	1.12%	2.11%	N/A	1.40%	N/A	1.01%	2.73%	3.46%
JACKSON	2.01%	N/A	N/A	1.98%	2.43%	1.73%	2.08%	N/A	N/A	N/A	N/A	N/A	N/A
JEFFERSON	2.55%	3.76%	1.35%	5.25%	-0.54%	2.86%	4.59%	2.83%	5.55%	1.55%	1.59%	2.36%	-1.36%
JESSAMINE	2.85%	N/A	3.42%	1.50%	3.09%	2.45%	2.82%	N/A	N/A	3.13%	2.49%	1.47%	N/A
JOHNSON	1.09%	N/A	1.33%	-0.27%	1.26%	1.47%	0.91%	N/A	N/A	N/A	N/A	N/A	N/A
KENTON	2.53%	2.72%	N/A	N/A	2.23%	1.96%	1.68%	2.85%	N/A	1.47%	2.20%	2.27%	1.60%
KNOTT	2.32%	N/A	2.23%	2.01%	1.90%	1.30%	7.68%	N/A	N/A	N/A	N/A	N/A	N/A
KNOX	2.60%	N/A	2.71%	N/A	1.56%	3.15%	2.02%	N/A	N/A	5.16%	0.07%	1.61%	-6.35%
LARUE	2.32%	2.36%	3.80%	1.34%	0.80%	1.33%	-0.05%	N/A	N/A	N/A	N/A	N/A	N/A
LAUREL	2.38%	1.79%	2.02%	2.46%	3.15%	2.79%	2.35%	2.13%	N/A	2.85%	1.50%	4.10%	0.76%
LAWRENCE	1.77%	N/A	1.22%	1.73%	2.60%	2.94%	1.80%	N/A	N/A	N/A	N/A	N/A	N/A
LEE	2.25%	N/A	N/A	3.18%	1.17%	1.39%	2.55%	N/A	N/A	N/A	N/A	N/A	N/A

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Table F1. Traffic Volume Growth Rates by County and Functional Class (continued)

County	Growth Rate All	Growth Rate FC 1	Growth Rate FC 2	Growth Rate FC 6	Growth Rate FC 7	Growth Rate FC 8	Growth Rate FC 9	Growth Rate FC 11	Growth Rate FC 12	Growth Rate FC 14	Growth Rate FC 16	Growth Rate FC 17	Growth Rate FC 19
LESLIE	1.45%	N/A	2.37%	0.86%	0.75%	1.92%	1.10%	N/A	N/A	N/A	N/A	N/A	N/A
LETCHER	1.55%	N/A	1.73%	N/A	1.28%	1.58%	1.74%	N/A	N/A	N/A	N/A	N/A	N/A
LEWIS	3.93%	N/A	5.33%	0.79%	0.68%	0.44%	0.55%	N/A	N/A	N/A	N/A	N/A	N/A
LINCOLN	2.65%	N/A	2.85%	2.05%	1.97%	1.64%	5.03%	N/A	N/A	N/A	N/A	N/A	N/A
LIVINGSTON	2.28%	3.50%	1.76%	-0.39%	1.39%	0.42%	2.49%	N/A	N/A	N/A	N/A	N/A	N/A
LOGAN	1.92%	N/A	1.86%	1.90%	2.83%	2.11%	1.76%	N/A	N/A	1.73%	1.01%	0.97%	-2.06%
LYON	2.83%	3.29%	2.84%	0.53%	1.23%	1.94%	3.43%	N/A	N/A	N/A	N/A	N/A	N/A
McCRAKEN	2.16%	3.19%	2.48%	0.46%	1.86%	2.14%	3.01%	3.21%	N/A	0.95%	1.43%	1.49%	2.31%
McCREARY	2.32%	N/A	2.52%	0.50%	3.00%	1.21%	3.66%	N/A	N/A	N/A	N/A	N/A	N/A
McLEAN	1.38%	N/A	1.40%	N/A	1.45%	1.20%	0.82%	N/A	N/A	N/A	N/A	N/A	N/A
MADISON	2.35%	2.44%	2.97%	2.49%	2.41%	2.93%	2.87%	2.26%	N/A	2.07%	2.28%	1.74%	7.41%
MAGOFFIN	1.42%	N/A	1.79%	1.93%	0.25%	1.39%	1.31%	N/A	N/A	N/A	N/A	N/A	N/A
MARION	2.88%	N/A	3.51%	3.04%	2.08%	2.61%	2.88%	N/A	N/A	2.12%	3.57%	3.15%	N/A
MARSHALL	2.35%	3.10%	2.54%	0.35%	0.91%	0.94%	1.64%	N/A	N/A	N/A	N/A	N/A	N/A
MARTIN	0.81%	N/A	1.56%	0.90%	-0.57%	0.64%	1.00%	N/A	N/A	N/A	N/A	N/A	N/A
MASON	2.44%	N/A	2.08%	1.71%	0.48%	1.22%	-0.14%	N/A	N/A	4.43%	0.68%	4.51%	0.01%
MEADE	2.17%	N/A	1.98%	3.26%	2.06%	1.77%	0.99%	N/A	N/A	1.02%	2.39%	N/A	N/A
MENIFEE	2.53%	N/A	N/A	2.48%	2.37%	3.00%	2.46%	N/A	N/A	N/A	N/A	N/A	N/A
MERCER	1.67%	N/A	2.00%	1.39%	1.02%	1.11%	1.09%	N/A	N/A	0.94%	1.80%	2.05%	-5.00%
METCALFE	2.63%	N/A	3.92%	2.12%	2.04%	2.14%	1.03%	N/A	N/A	N/A	N/A	N/A	N/A
MONROE	1.68%	N/A	N/A	N/A	1.17%	2.30%	1.50%	N/A	N/A	N/A	N/A	N/A	N/A
MONTGOMERY	2.81%	2.83%	N/A	2.47%	4.15%	1.86%	3.59%	N/A	N/A	2.51%	3.07%	0.68%	1.71%

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Table F1. Traffic Volume Growth Rates by County and Functional Class (continued)

County	Growth Rate All	Growth Rate FC 1	Growth Rate FC 2	Growth Rate FC 6	Growth Rate FC 7	Growth Rate FC 8	Growth Rate FC 9	Growth Rate FC 11	Growth Rate FC 12	Growth Rate FC 14	Growth Rate FC 16	Growth Rate FC 17	Growth Rate FC 19
MORGAN	2.89%	N/A	2.02%	2.64%	2.03%	4.57%	2.53%	N/A	N/A	N/A	N/A	N/A	N/A
MUHLENBERG	1.45%	N/A	2.30%	N/A	0.40%	0.47%	2.75%	N/A	N/A	-0.96%	1.46%	-0.40%	-1.79%
NELSON	3.04%	N/A	3.26%	3.53%	2.91%	2.00%	2.86%	N/A	N/A	0.96%	3.69%	2.73%	3.65%
NICHOLAS	1.94%	N/A	1.97%	N/A	2.28%	0.57%	2.15%	N/A	N/A	N/A	N/A	N/A	N/A
OHIO	2.08%	N/A	2.88%	1.41%	1.21%	1.28%	2.26%	N/A	N/A	N/A	N/A	N/A	N/A
OLDHAM	2.90%	2.98%	2.11%	2.34%	2.22%	3.78%	4.90%	3.36%	N/A	0.49%	1.39%	1.66%	0.30%
OWEN	2.32%	N/A	2.52%	2.82%	1.67%	2.15%	2.91%	N/A	N/A	N/A	N/A	N/A	N/A
OWSLEY	1.72%	N/A	N/A	2.55%	1.12%	1.05%	5.03%	N/A	N/A	N/A	N/A	N/A	N/A
PENDLETON	2.41%	N/A	2.79%	2.57%	0.84%	1.99%	2.84%	N/A	N/A	N/A	N/A	N/A	N/A
PERRY	2.11%	N/A	2.37%	0.70%	1.44%	3.08%	1.48%	N/A	N/A	N/A	N/A	N/A	N/A
PIKE	1.94%	N/A	2.44%	1.23%	0.46%	1.74%	1.93%	N/A	N/A	2.34%	0.32%	2.95%	N/A
POWELL	2.16%	N/A	2.11%	3.01%	2.16%	2.20%	1.60%	N/A	N/A	N/A	N/A	N/A	N/A
PULASKI	2.45%	N/A	2.84%	3.97%	2.74%	2.44%	1.69%	N/A	2.57%	1.06%	1.53%	2.53%	0.94%
ROBERTSON	0.93%	N/A	1.55%	N/A	0.69%	1.27%	0.81%	N/A	N/A	N/A	N/A	N/A	N/A
ROCKCASTLE	2.24%	2.22%	3.69%	1.45%	1.77%	1.89%	0.87%	N/A	N/A	N/A	N/A	N/A	N/A
ROWAN	2.95%	2.89%	3.16%	3.28%	2.65%	3.12%	2.38%	N/A	N/A	2.65%	3.74%	3.59%	6.83%
RUSSELL	2.51%	N/A	3.25%	N/A	1.48%	1.67%	1.53%	N/A	N/A	N/A	N/A	N/A	N/A
SCOTT	2.79%	2.27%	2.71%	2.86%	2.36%	2.39%	3.09%	2.38%	N/A	4.22%	3.65%	4.74%	N/A
SHELBY	2.87%	3.17%	N/A	2.25%	2.50%	2.54%	2.71%	N/A	N/A	2.46%	1.31%	1.04%	1.95%
SIMPSON	2.39%	2.47%	N/A	2.83%	2.82%	1.88%	0.42%	N/A	N/A	N/A	1.25%	-0.23%	2.10%
SPENCER	4.73%	N/A	N/A	4.97%	4.40%	3.86%	5.35%	N/A	N/A	N/A	N/A	N/A	N/A
TAYLOR	2.56%	N/A	3.26%	1.93%	1.81%	1.13%	2.19%	N/A	N/A	2.06%	4.58%	0.80%	N/A

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Table F1. Traffic Volume Growth Rates by County and Functional Class (continued)

County	Growth Rate All	Growth Rate FC 1	Growth Rate FC 2	Growth Rate FC 6	Growth Rate FC 7	Growth Rate FC 8	Growth Rate FC 9	Growth Rate FC 11	Growth Rate FC 12	Growth Rate FC 14	Growth Rate FC 16	Growth Rate FC 17	Growth Rate FC 19
TODD	2.89%	N/A	1.59%	3.45%	3.78%	0.55%	1.02%	N/A	N/A	N/A	N/A	N/A	N/A
TRIGG	2.34%	3.19%	1.96%	N/A	1.47%	0.92%	1.75%	N/A	N/A	N/A	N/A	N/A	N/A
TRIMBLE	2.19%	2.95%	N/A	2.16%	2.52%	0.73%	0.95%	N/A	N/A	N/A	N/A	N/A	N/A
UNION	0.72%	N/A	0.52%	1.49%	0.32%	0.57%	0.32%	N/A	N/A	N/A	N/A	N/A	N/A
WARREN	2.62%	2.61%	3.92%	4.13%	2.22%	2.22%	3.27%	2.25%	4.13%	1.73%	2.13%	2.62%	N/A
WASHINGTON	2.58%	N/A	2.92%	2.29%	1.05%	1.10%	5.12%	N/A	N/A	N/A	N/A	N/A	N/A
WAYNE	2.83%	N/A	N/A	3.10%	2.90%	0.93%	1.53%	N/A	N/A	4.40%	1.67%	3.22%	N/A
WEBSTER	0.71%	N/A	0.91%	0.20%	0.38%	0.62%	3.56%	N/A	N/A	N/A	N/A	N/A	N/A
WHITLEY	1.75%	1.49%	3.60%	2.32%	1.54%	2.25%	0.92%	1.94%	N/A	2.37%	2.59%	1.17%	2.11%
WOLFE	1.79%	N/A	1.58%	4.08%	1.47%	1.67%	2.07%	N/A	N/A	N/A	N/A	N/A	N/A
WOODFORD	2.43%	3.15%	2.48%	1.86%	2.45%	1.02%	4.86%	N/A	N/A	1.23%	1.23%	1.70%	0.63%

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Table F2. Number of Count Stations by County and Functional Class

County	# Count Stations All	# Count Stations FC 1	# Count Stations FC 2	# Count Stations FC 6	# Count Stations FC 7	# Count Stations FC 8	# Count Stations FC 9	# Count Stations FC 11	# Count Stations FC 12	# Count Stations FC 14	# Count Stations FC 16	# Count Stations FC 17	# Count Stations FC 19
ALL COUNTIES	13533	125	806	757	2469	3221	2513	124	43	787	1207	1286	195
ADAIR	123	0	11	6	25	51	30	0	0	0	0	0	0
ALLEN	69	0	5	3	24	25	12	0	0	0	0	0	0
ANDERSON	65	0	9	2	14	16	13	0	0	2	0	8	1
BALLARD	53	0	9	3	9	20	12	0	0	0	0	0	0
BARREN	156	5	2	11	34	45	14	0	1	14	18	12	0
BATH	70	3	0	0	29	18	13	0	0	0	0	0	0
BELL	113	0	13	2	27	16	24	0	0	2	13	16	2
BOONE	145	7	0	0	25	14	8	8	0	10	46	22	5
BOURBON	75	0	5	2	8	20	4	0	0	6	11	12	0
BOYD	148	4	8	8	14	13	9	0	0	27	23	38	12
BOYLE	107	0	8	0	6	21	17	0	0	16	9	19	1
BRACKEN	63	0	4	6	29	17	13	0	0	0	0	0	0
BREATHITT	93	0	12	0	26	33	22	0	0	0	0	0	0
BRECKINRIDGE	114	0	13	3	23	39	33	0	0	0	0	0	0
BULLITT	114	4	1	3	6	21	14	2	0	16	17	9	9
BUTLER	86	0	5	0	36	29	16	0	0	0	0	0	0
CALDWELL	107	2	2	2	25	20	22	0	0	1	22	7	4
CALLOWAY	127	0	10	0	13	28	38	0	0	8	15	12	3
CAMPBELL	143	0	6	2	7	15	7	9	0	29	25	37	6
CARSLISLE	63	0	7	8	19	20	9	0	0	0	0	0	0
CARROLL	57	3	0	0	28	10	16	0	0	0	0	0	0

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Table F2. Number of Count Stations by County and Functional Class (continued)

County	# Count Stations All	# Count Stations FC 1	# Count Stations FC 2	# Count Stations FC 6	# Count Stations FC 7	# Count Stations FC 8	# Count Stations FC 9	# Count Stations FC 11	# Count Stations FC 12	# Count Stations FC 14	# Count Stations FC 16	# Count Stations FC 17	# Count Stations FC 19
GREEN	70	0	1	14	9	24	22	0	0	0	0	0	0
GREENUP	120	0	13	1	19	19	18	0	0	10	16	13	11
HANCOCK	51	0	8	0	5	17	21	0	0	0	0	0	0
HARDIN	249	5	4	7	34	42	27	2	2	19	60	43	4
HARLAN	148	0	14	16	18	39	61	0	0	0	0	0	0
HARRISON	85	0	8	2	12	20	11	0	0	5	5	19	3
HART	101	4	0	0	43	34	20	0	0	0	0	0	0
HENDERSON	154	0	8	7	10	24	36	0	4	15	21	24	5
HENRY	90	3	0	16	23	35	13	0	0	0	0	0	0
HICKMAN	84	0	8	7	17	15	37	0	0	0	0	0	0
HOPKINS	192	0	10	6	35	35	59	0	3	0	20	22	2
JACKSON	57	0	0	17	7	27	6	0	0	0	0	0	0
JEFFERSON	732	1	1	3	1	5	6	57	6	172	226	240	14
JESSAMINE	91	0	4	5	12	17	4	0	0	5	19	25	0
JOHNSON	136	0	11	8	34	39	44	0	0	0	0	0	0
KENTON	235	1	0	0	15	6	10	14	0	52	41	79	17
KNOTT	68	0	6	7	23	27	5	0	0	0	0	0	0
KNOX	118	0	12	0	24	36	34	0	0	2	4	4	2
LARUE	87	2	5	13	22	19	26	0	0	0	0	0	0
LAUREL	180	3	3	6	35	42	42	2	0	11	17	11	8
LAWRENCE	87	0	11	5	30	25	16	0	0	0	0	0	0
LEE	57	0	0	8	20	17	12	0	0	0	0	0	0

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Table F2. Number of Count Stations by County and Functional Class (continued)

County	# Count Stations All	# Count Stations FC 1	# Count Stations FC 2	# Count Stations FC 6	# Count Stations FC 7	# Count Stations FC 8	# Count Stations FC 9	# Count Stations FC 11	# Count Stations FC 12	# Count Stations FC 14	# Count Stations FC 16	# Count Stations FC 17	# Count Stations FC 19
LESLIE	58	0	2	8	15	17	16	0	0	0	0	0	0
LETCHER	119	0	21	0	49	23	26	0	0	0	0	0	0
LEWIS	77	0	12	2	18	27	18	0	0	0	0	0	0
LINCOLN	108	0	17	5	18	41	27	0	0	0	0	0	0
LIVINGSTON	66	2	9	2	7	26	20	0	0	0	0	0	0
LOGAN	137	0	11	6	14	40	29	0	0	12	16	5	4
LYON	71	4	4	6	16	20	21	0	0	0	0	0	0
McCRAKEN	244	2	11	1	26	41	34	4	0	29	47	36	13
McCREARY	81	0	7	3	10	44	17	0	0	0	0	0	0
McLEAN	87	0	6	0	29	22	30	0	0	0	0	0	0
MADISON	184	4	2	16	16	39	27	3	0	21	25	28	3
MAGOFFIN	89	0	9	9	26	23	22	0	0	0	0	0	0
MARION	98	0	4	4	20	34	10	0	0	7	12	7	0
MARSHALL	127	3	32	8	23	16	45	0	0	0	0	0	0
MARTIN	55	0	6	7	15	17	10	0	0	0	0	0	0
MASON	115	0	10	2	11	29	21	0	0	9	19	6	8
MEADE	96	0	3	12	25	25	26	0	0	4	1	0	0
MENIFEE	52	0	0	9	15	18	10	0	0	0	0	0	0
MERCER	74	0	6	5	8	13	16	0	0	7	5	13	1
METCALFE	71	0	2	4	26	25	14	0	0	0	0	0	0
MONROE	78	0	0	0	23	38	17	0	0	0	0	0	0
MONTGOMERY	110	3	0	12	9	14	19	0	0	6	15	29	3

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Table F2. Number of Count Stations by County and Functional Class (continued)

County	# Count Stations All	# Count Stations FC 1	# Count Stations FC 2	# Count Stations FC 6	# Count Stations FC 7	# Count Stations FC 8	# Count Stations FC 9	# Count Stations FC 11	# Count Stations FC 12	# Count Stations FC 14	# Count Stations FC 16	# Count Stations FC 17	# Count Stations FC 19
MORGAN	105	0	1	27	17	30	30	0	0	0	0	0	0
MUHLENBERG	144	0	17	0	40	32	33	0	0	4	9	7	2
NELSON	141	0	5	13	45	30	21	0	0	8	8	9	2
NICHOLAS	47	0	5	0	12	18	12	0	0	0	0	0	0
OHIO	102	0	6	5	34	26	31	0	0	0	0	0	0
OLDHAM	92	1	7	17	5	15	13	4	0	1	15	12	2
OWEN	73	0	9	3	23	11	27	0	0	0	0	0	0
OWSLEY	51	0	0	2	20	21	8	0	0	0	0	0	0
PENDLETON	65	0	9	0	15	24	14	0	0	0	0	0	0
PERRY	130	0	16	0	35	33	32	0	0	0	0	0	0
PIKE	213	0	33	0	56	62	23	0	0	11	16	5	0
POWELL	97	0	5	0	27	36	25	0	0	0	0	0	0
PULASKI	224	0	24	0	34	60	37	0	1	12	25	15	12
ROBERTSON	35	0	2	0	12	9	12	0	0	0	0	0	0
ROCKCASTLE	92	3	5	0	10	34	28	0	0	0	0	0	0
ROWAN	94	3	1	0	28	19	13	0	0	6	8	4	4
RUSSELL	96	0	14	0	31	31	20	0	0	0	0	0	0
SCOTT	110	5	1	0	18	27	20	2	0	11	12	6	0
SHELBY	122	5	0	0	14	50	9	0	0	12	3	9	2
SIMPSON	74	3	0	0	14	25	4	0	0	0	19	6	1
SPENCER	57	0	0	0	15	21	12	0	0	0	0	0	0
TAYLOR	116	0	10	0	10	35	20	0	0	8	6	25	0

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Table F2. Number of Count Stations by County and Functional Class (continued)

County	# Count Stations All	# Count Stations FC 1	# Count Stations FC 2	# Count Stations FC 6	# Count Stations FC 7	# Count Stations FC 8	# Count Stations FC 9	# Count Stations FC 11	# Count Stations FC 12	# Count Stations FC 14	# Count Stations FC 16	# Count Stations FC 17	# Count Stations FC 19
TODD	72	0	7	0	23	26	10	0	0	0	0	0	0
TRIGG	82	2	11	0	15	29	25	0	0	0	0	0	0
TRIMBLE	40	1	0	0	9	14	9	0	0	0	0	0	0
UNION	118	0	13	0	16	24	48	0	0	0	0	0	0
WARREN	204	4	6	0	19	56	6	3	3	24	32	43	0
WASHINGTON	81	0	8	0	15	24	21	0	0	0	0	0	0
WAYNE	93	0	0	0	5	38	17	0	0	4	12	11	0
WEBSTER	111	0	2	0	37	34	27	0	0	0	0	0	0
WHITLEY	137	3	1	0	32	23	22	1	0	2	23	23	1
WOLFE	95	0	11	0	27	24	29	0	0	0	0	0	0
WOODFORD	85	2	5	0	12	22	7	0	0	2	12	19	1

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