

**Iowa Department  
of Transportation**

# **AUTOMATIC TRAFFIC RECORDERS**

**1999 - 2009**

**Prepared by**

**OFFICE OF TRANSPORTATION DATA**

**In Cooperation With**

**UNITED STATES DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION**

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**JANUARY 2010**

## TABLE OF CONTENTS

<b>Introduction.....</b>	<b>3</b>
<b>Summary.....</b>	<b>4</b>
<b>Percent of Change in Traffic from 1980 .....</b>	<b>5</b>
<b>Graphs Showing Monthly Comparison</b>	
<b>All Systems.....</b>	<b>6</b>
<b>Rural.....</b>	<b>8</b>
<b>Municipal.....</b>	<b>10</b>
<b>Graphs Showing Daily Comparison</b>	
<b>All Systems.....</b>	<b>7</b>
<b>Rural.....</b>	<b>9</b>
<b>Municipal .....</b>	<b>11</b>
<b>Graphs Showing Hourly Comparison</b>	
<b>Rural Interstate.....</b>	<b>12</b>
<b>Rural Primary .....</b>	<b>13</b>
<b>Rural Secondary.....</b>	<b>14</b>
<b>Municipal Interstate .....</b>	<b>15</b>
<b>Municipal Primary.....</b>	<b>16</b>
<b>Municipal Streets .....</b>	<b>17</b>
<b>Summary of Analysis of Thirtieth Highest Hour.....</b>	<b>18</b>
<b>Annual Average Daily Traffic by Stations</b>	
<b>for the Years 1999 to 2009.....</b>	<b>19 - 25</b>
<b>Map of Automatic Traffic Recorder Locations.....</b>	<b>26</b>

## **INTRODUCTION**

**This report contains graphic comparisons of daily and monthly traffic collected on Iowa's highway system at 155 Permanent Continuous Automatic Traffic Recorder locations. Seventeen (17) stations are located on the Rural Interstate system, five (5) are on the Municipal Interstate system, seventy-two (72) are on the Rural Primary system, twenty-three (23) are on the Municipal Primary system, twenty-five (25) are on the Rural Secondary system and thirteen (13) are on the Municipal Street system. The map on page 26 shows the general location of count sites. Specific descriptions of locations, along with an eleven year summary of AADT's for each station, start on page 19.**

**The report compares travel trends from 1980 to present. Traffic is shown for rural, municipal and statewide travel.**

**Factors for estimating Design Hour Volumes from Annual Average Daily Traffic are shown by highway system. The values are developed from the straight-line relationships between Design Hour Volume and Annual Average Daily Traffic for the period of 2000 - 2009.**

**Information from the permanent traffic recorders indicates a 1.2% increase in statewide travel from 2008 to 2009. The estimated vehicle miles of travel for 2009 is 31.34 billion. Final 2009 traffic figures will be published near June 2010, when all traffic data collected during 2009 has been processed.**

**More travel occurs on Friday than any other day of the week on all road systems. Sunday is the lowest travel day on all systems except Rural Interstate. This is typical of other years.**

## **TRAFFIC VOLUME VARIATIONS**

**ON**

### **IOWA ROAD SYSTEMS**

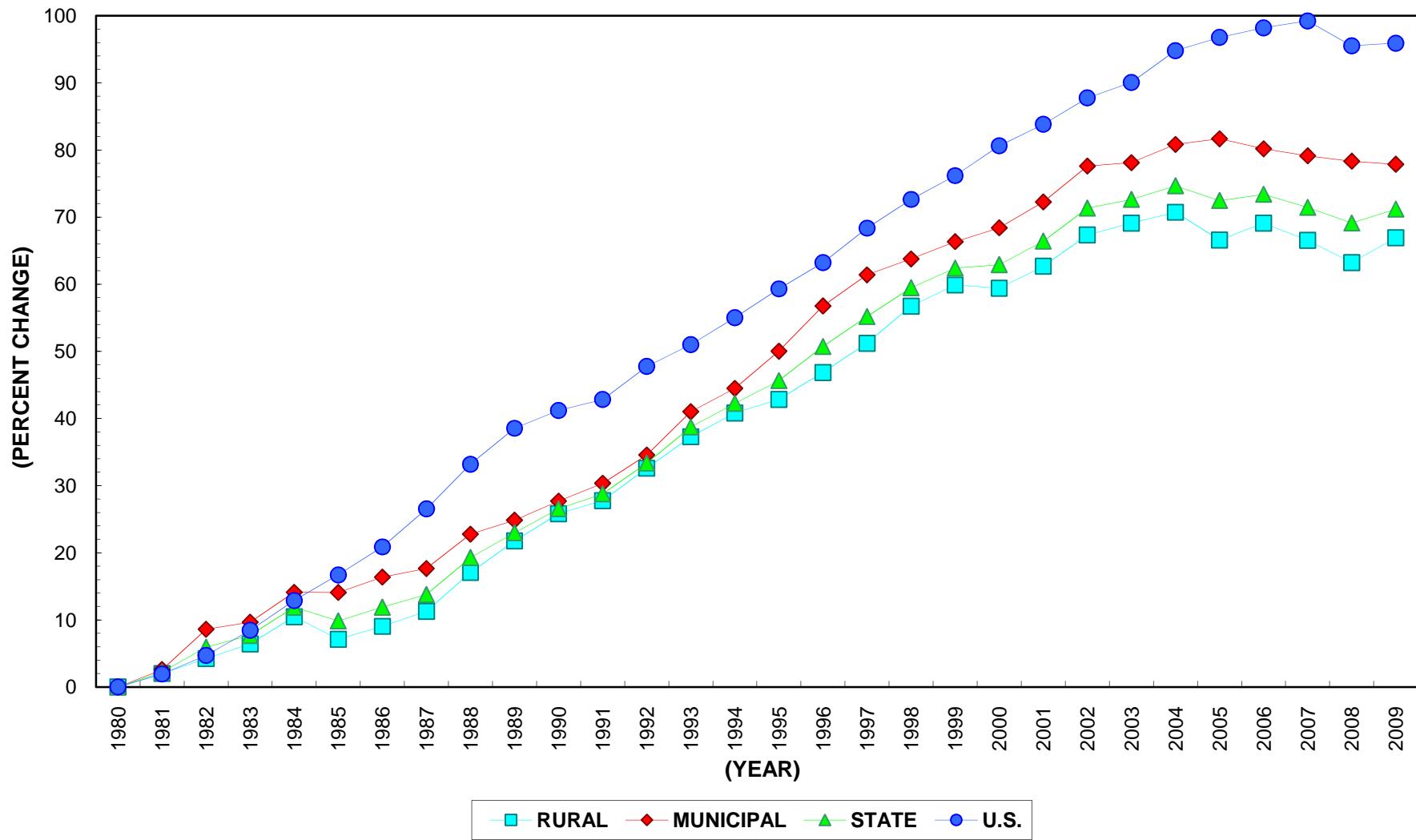
**2009 COMPARED TO 2008**

RURAL INTERSTATE	+ 1.5 %
RURAL PRIMARY	+ 2.3%
RURAL SECONDARY	+ 3.0 %
RURAL TOTAL	+ 2.3 %
MUNICIPAL INTERSTATE	- 0.2 %
MUNICIPAL PRIMARY	+ 1.2 %
MUNICIPAL STREETS	- 1.0 %
MUNICIPAL TOTAL	- 0.3 %
<b>STATE TOTAL</b>	<b>+ 1.2 %</b>

Data collected at continuous automatic traffic recorder locations (see pages 19 – 25) were utilized to compute the above percentages. The rural, municipal and state totals were weighted based on estimated vehicle miles of travel.

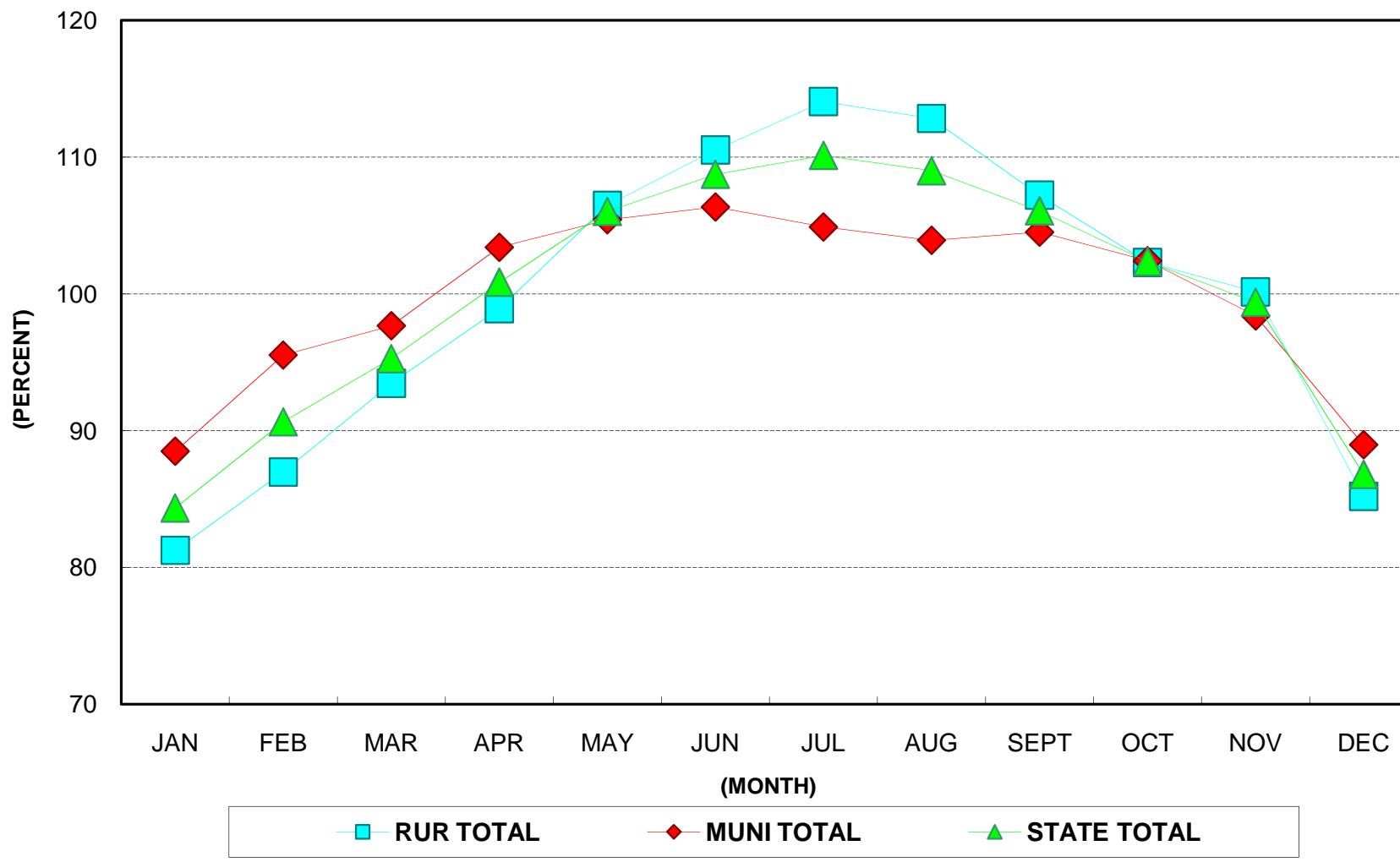
## PERCENT CHANGE IN TRAFFIC

BASE YEAR 1980



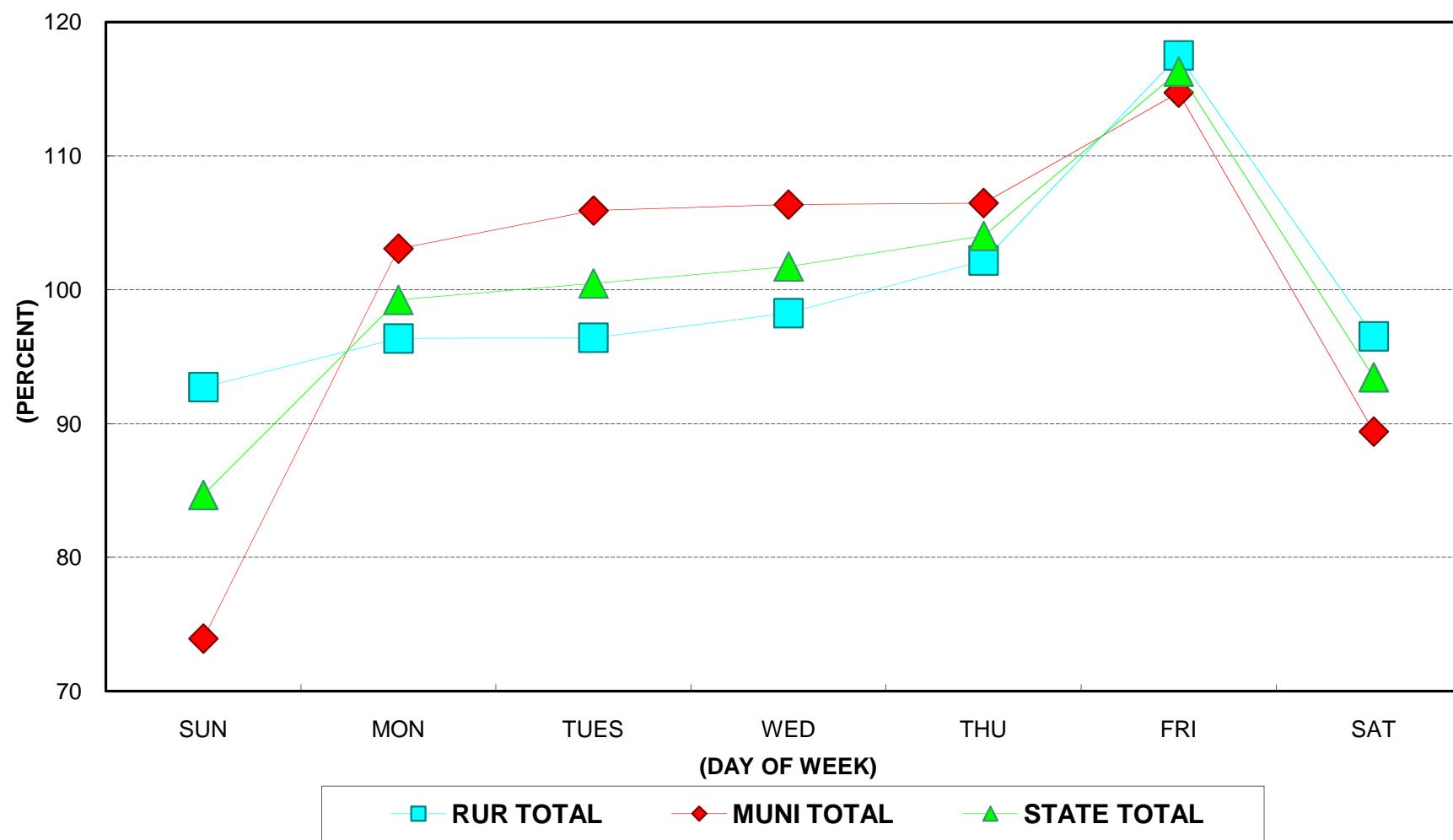
## 2009 MONTHLY TRAFFIC

AS A % OF ANNUAL AVERAGE DAILY TRAFFIC



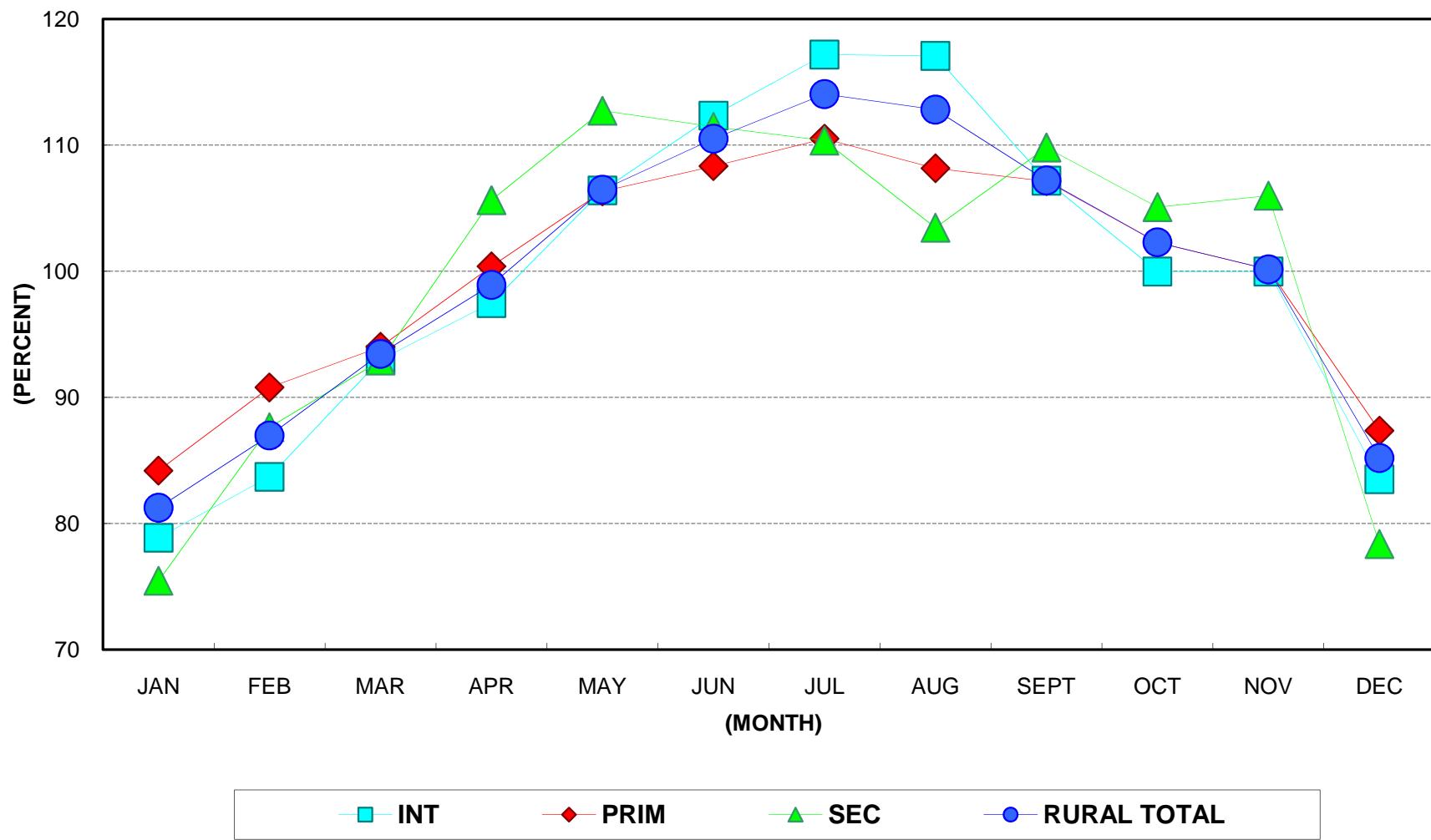
# 2009 DAY OF WEEK TRAFFIC

AS A % OF ANNUAL AVERAGE DAILY TRAFFIC



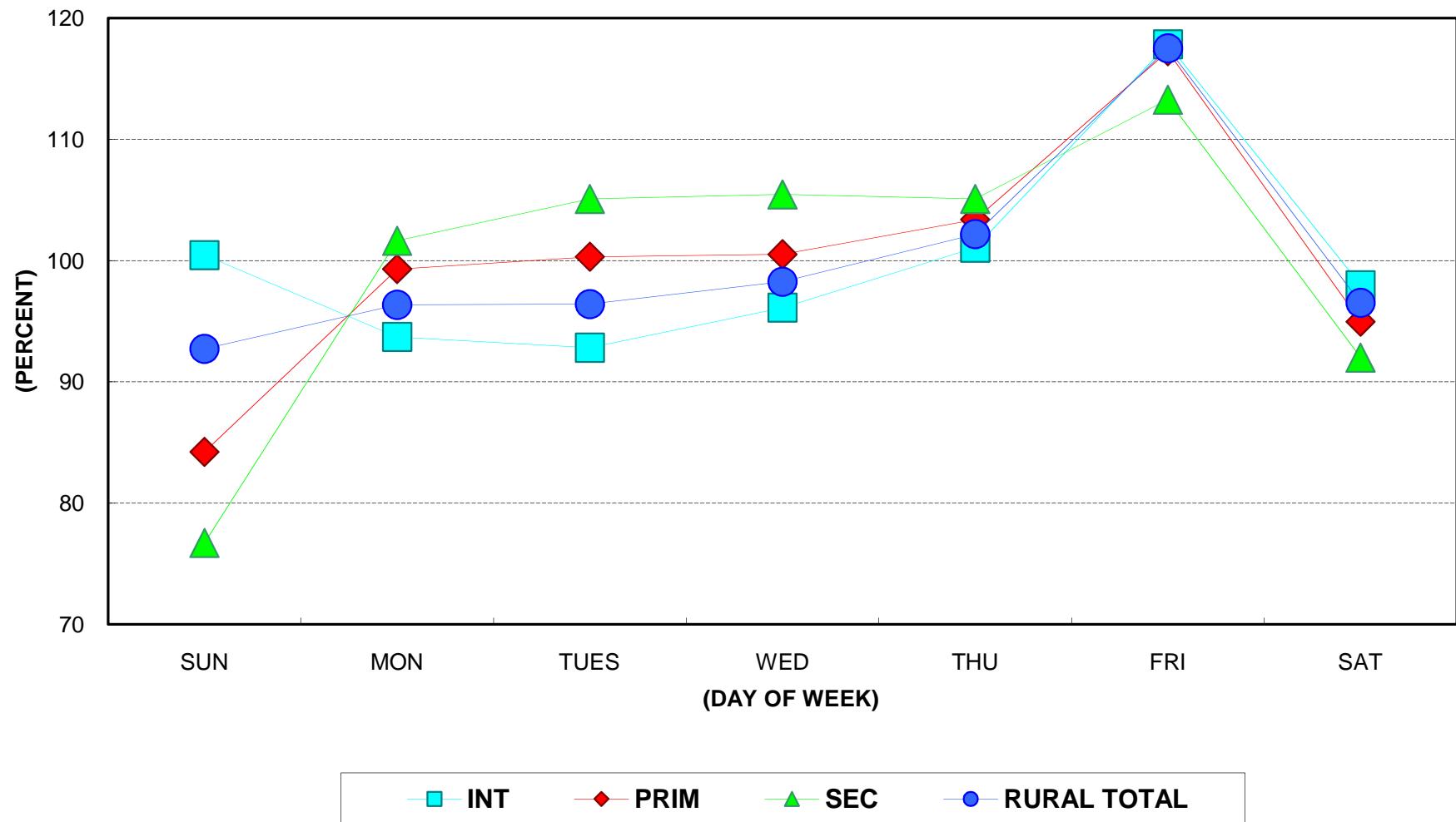
## 2009 RURAL MONTHLY TRAFFIC

AS A % OF ANNUAL AVERAGE DAILY TRAFFIC



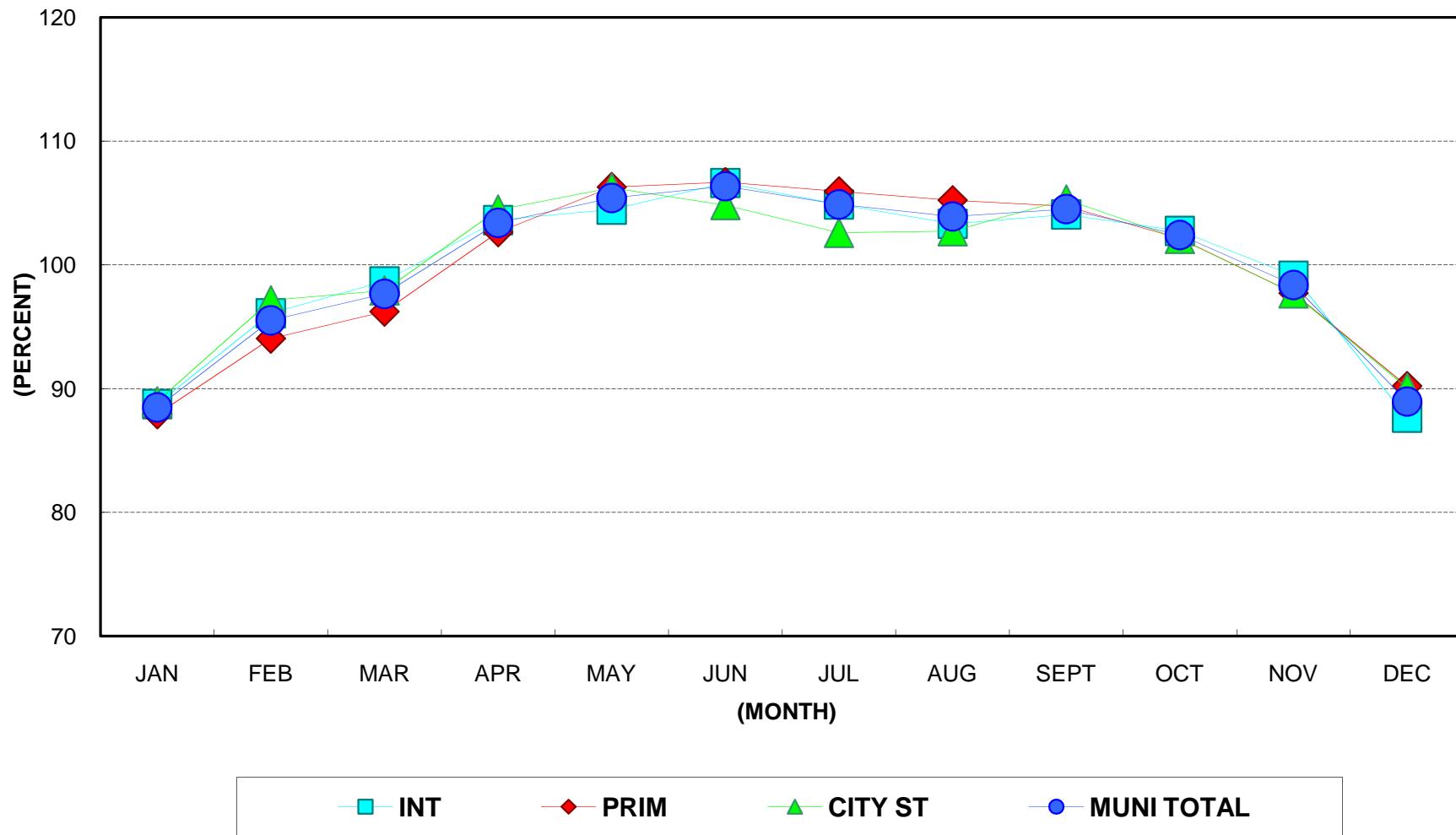
# 2009 RURAL DAY OF WEEK TRAFFIC

AS A % OF ANNUAL AVERAGE DAILY TRAFFIC



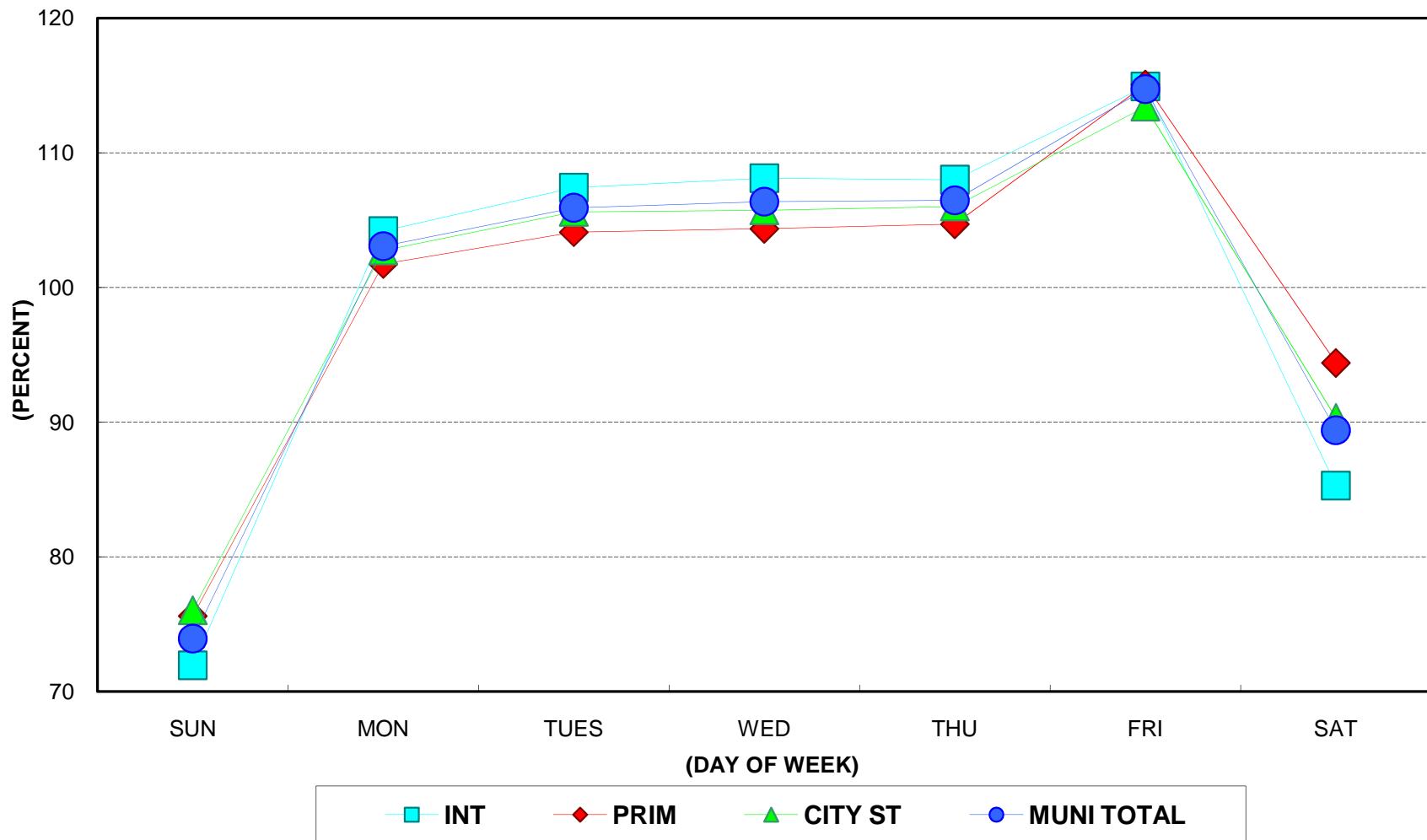
# 2009 MUNICIPAL MONTHLY TRAFFIC

AS A % OF ANNUAL AVERAGE DAILY TRAFFIC

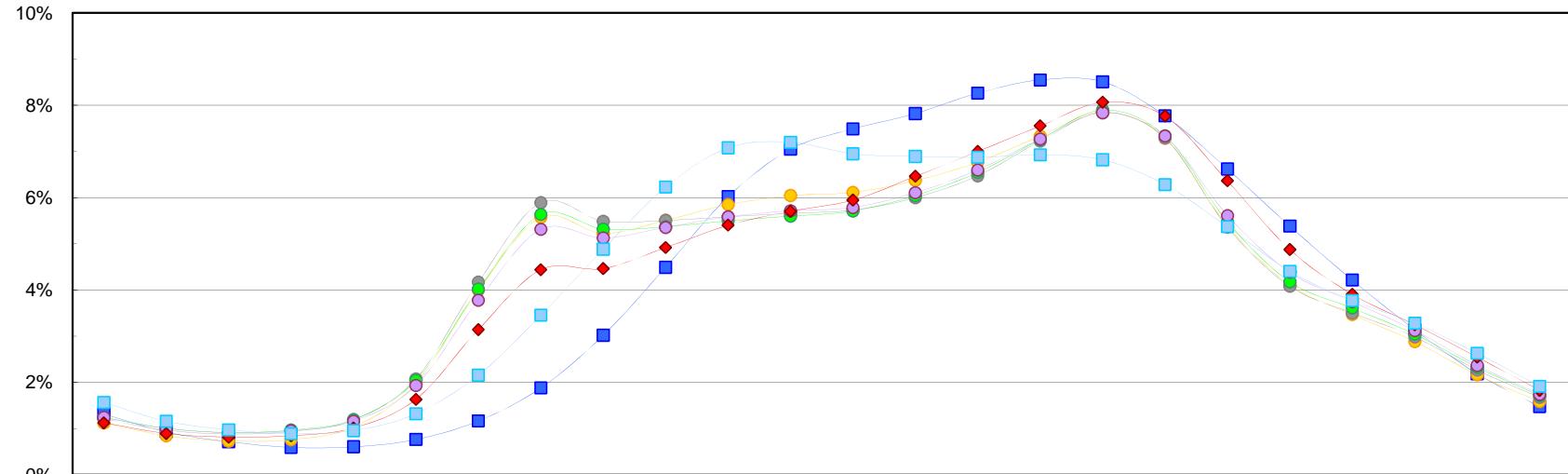


# 2009 MUNICIPAL DAY OF WEEK TRAFFIC

AS A % OF ANNUAL AVERAGE DAILY TRAFFIC

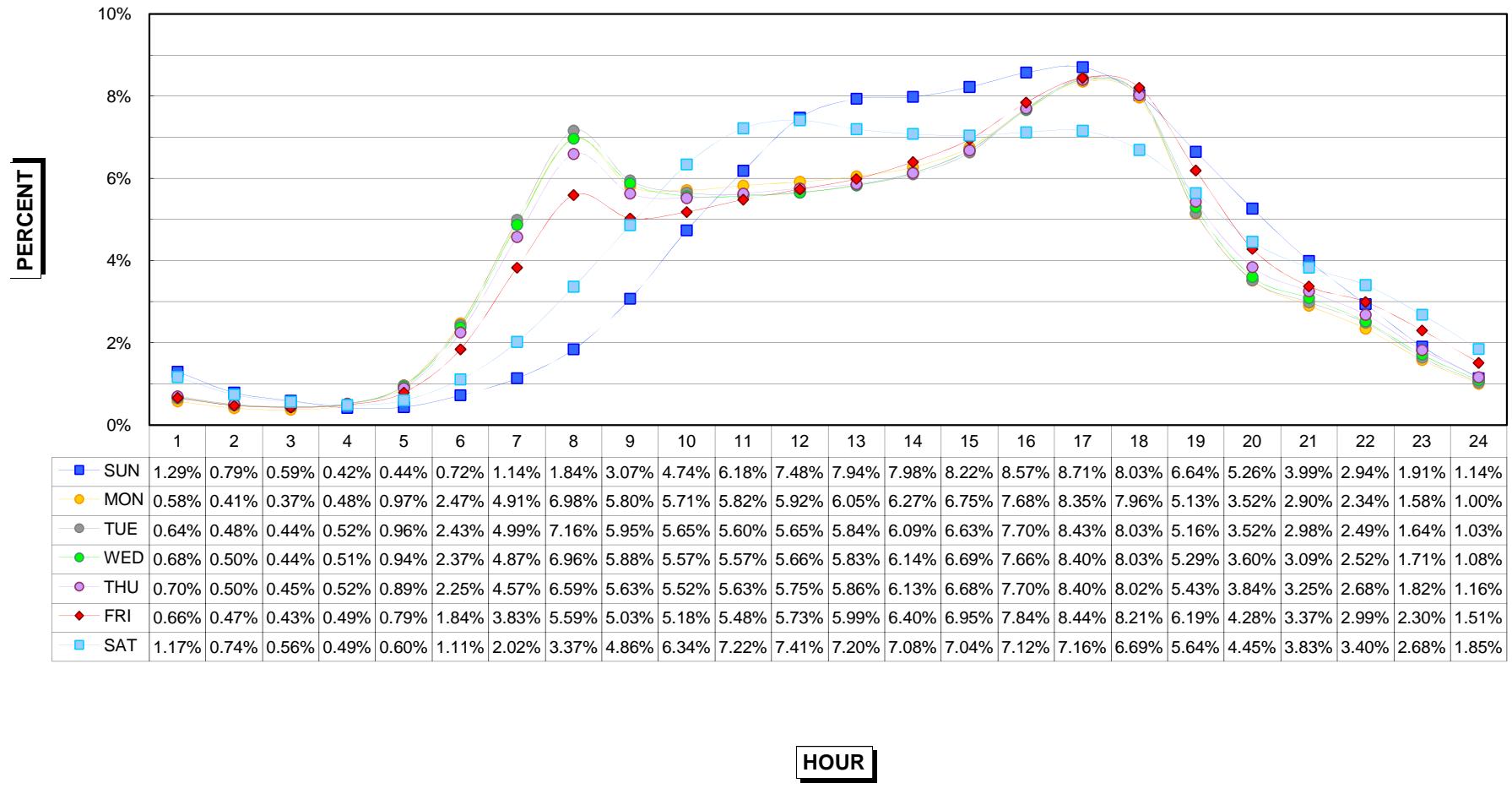


## HOURLY DISTRIBUTION OF DAILY TRAFFIC 2009 RURAL INTERSTATE

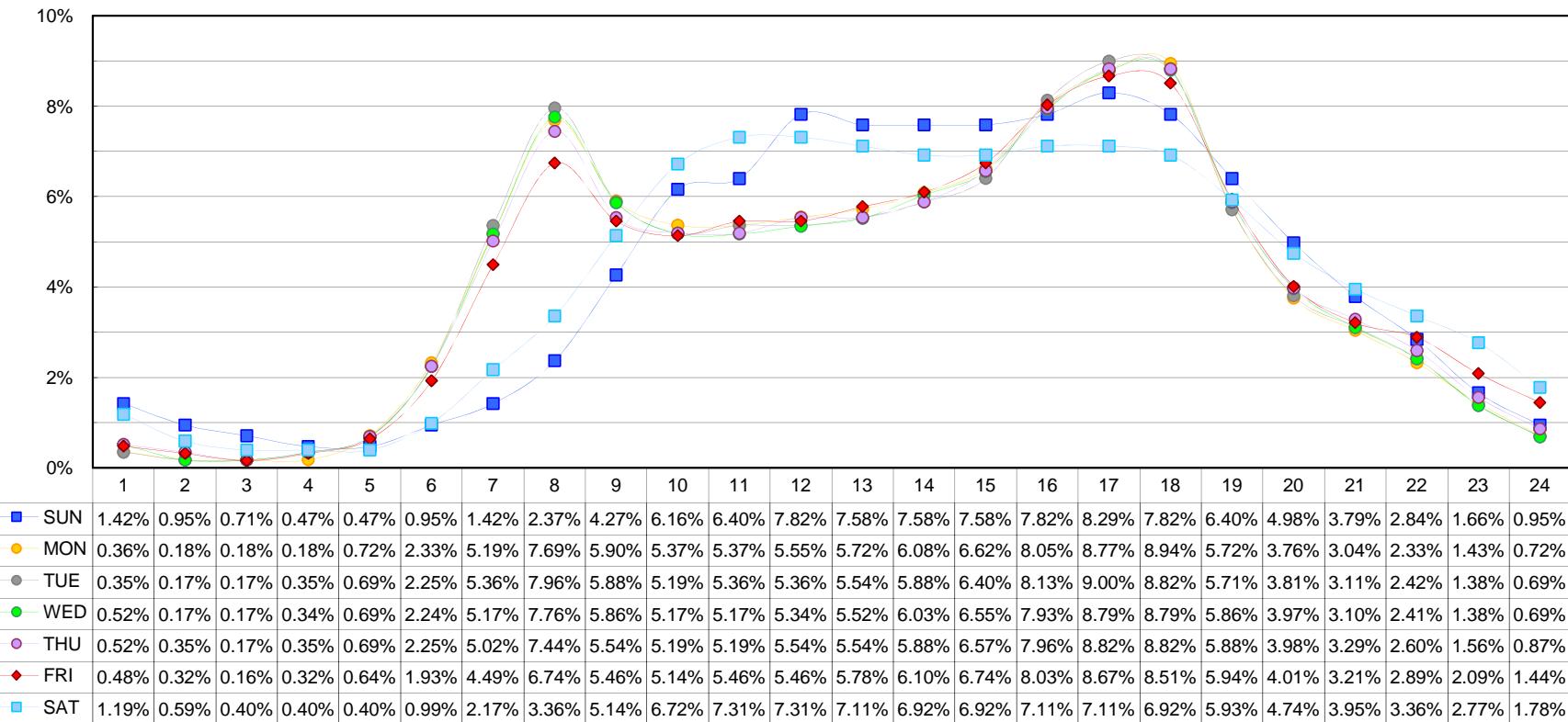


**HOUR**

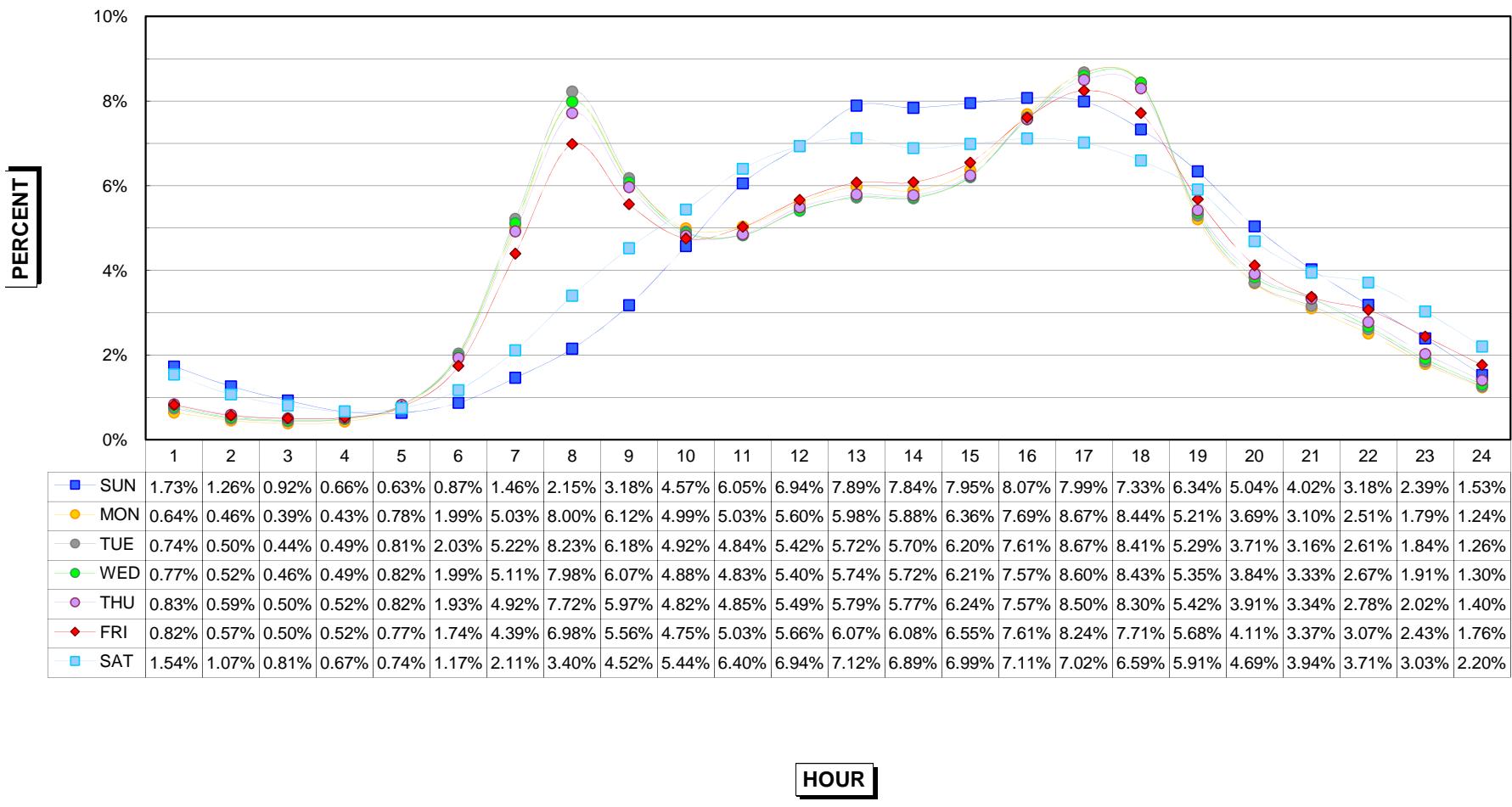
## HOURLY DISTRIBUTION OF DAILY TRAFFIC 2009 RURAL PRIMARY



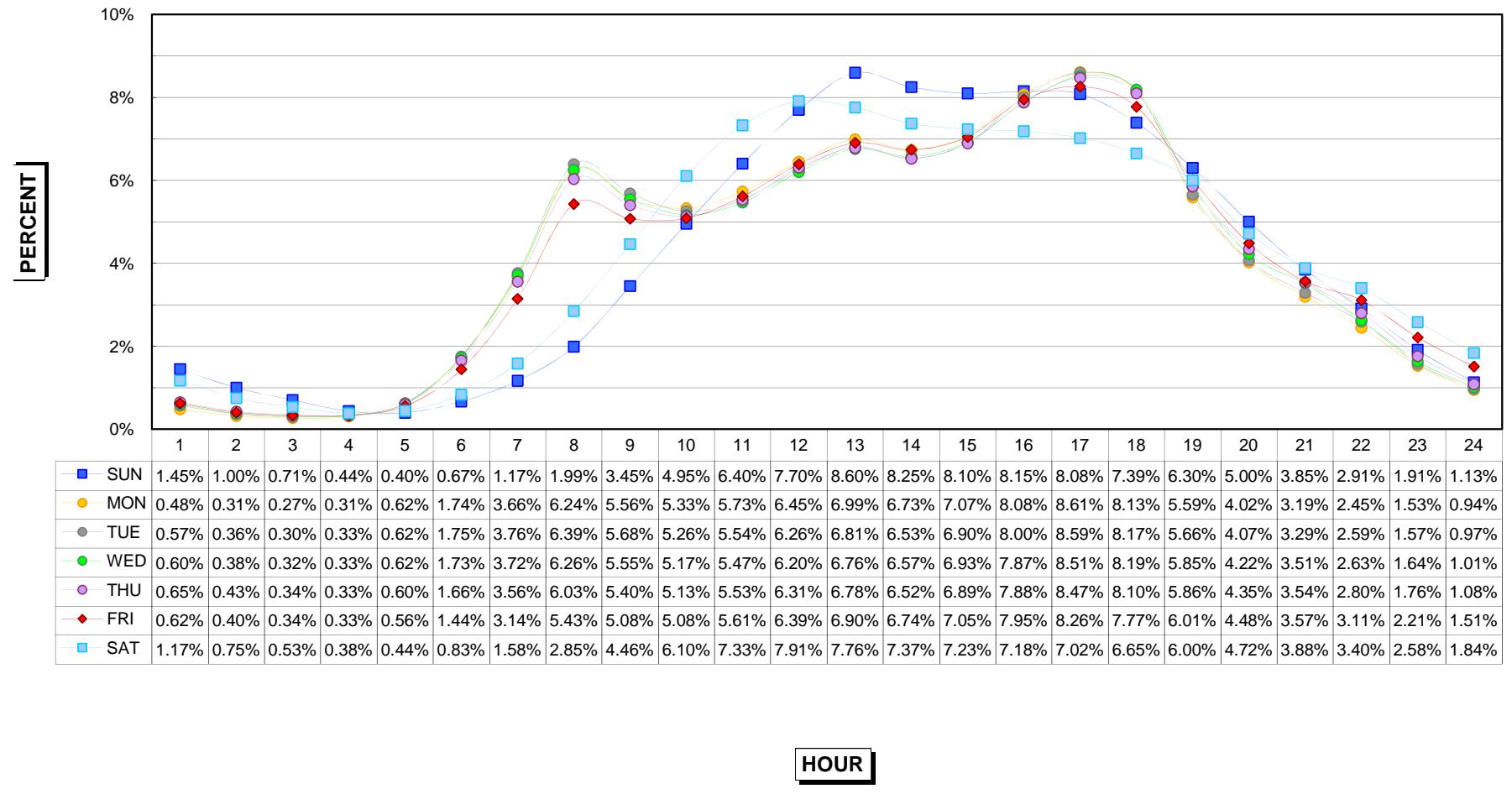
## HOURLY DISTRIBUTION OF DAILY TRAFFIC 2009 RURAL SECONDARY



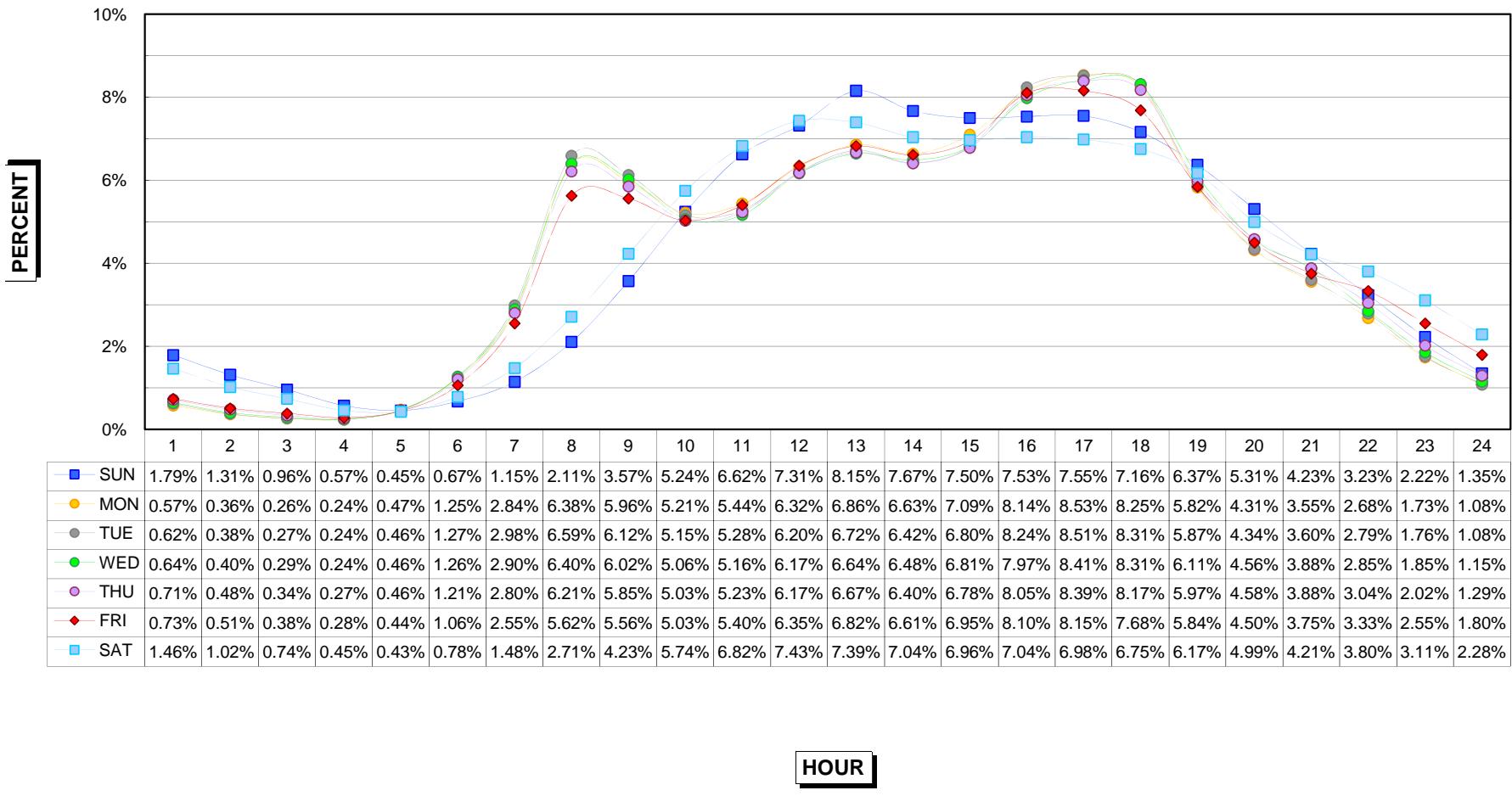
## HOURLY DISTRIBUTION OF DAILY TRAFFIC 2009 MUNICIPAL INTERSTATE



**HOURLY DISTRIBUTION OF DAILY TRAFFIC**  
**2009 MUNICIPAL PRIMARY**



## HOURLY DISTRIBUTION OF DAILY TRAFFIC 2009 MUNICIPAL STREETS



## SUMMARY OF ANALYSIS

### Analysis of the Thirtieth Highest Hour at the Permanent Continuous Automatic Traffic Recorder Stations 2000 - 2009

Permanent automatic traffic recorder data is collected on a continuing basis in Iowa to facilitate the expansion of the short-time manual and portable recorder traffic counts to Annual Average Daily Traffic and to make possible a means of estimating design hour volumes from the Annual Average Daily Traffic. A record of the 50 highest hourly volumes at each rural automatic recorder station has been kept since 1949, and at each urban station since 1959, making possible the fitting of first degree curves to desired design hours periodically as the data has been accumulated.

From permanent automatic traffic recorder data a straight-line relationship between the design hour volume and the Annual Average Daily Traffic can be expressed mathematically as:

$$Y = a + bx$$

Where  $Y$  = nth high hour volume (design hour)

$x$  = Annual Average Daily Traffic

$a$  = A constant of minimum relationship

$b$  = The slope relationship which can be expressed as a percentage of the Annual Average Daily Traffic

The constant "a" and the relationship "b" have been recomputed for the 30th highest hour as the data for each succeeding year has become available. Table 1 shows the 30th high hour results computed from data collected over a ten-year period, 2000 through 2009.

Table 1

#### Calculations of Design Hour Volumes (30th high hour) From Annual Average Daily Traffic

	PRIMARY		INTERSTATE		SECONDARY		CITY STREET	
	"a" Constant	"b" %AADT	"a" Constant	"b" %AADT	"a" Constant	"b" %AADT	"a" Constant	"b" %AADT
Rural	<b>9.79</b>	<b>10.70</b>	<b>361.32</b>	<b>9.73</b>	<b>5.21</b>	<b>12.09</b>	-	-
Municipal	<b>67.83</b>	<b>9.75</b>	<b>258.80</b>	<b>9.73</b>	-	-	<b>63.25</b>	<b>9.79</b>

**ANNUAL AVERAGE DAILY TRAFFIC BY STATIONS FOR THE YEARS 1999 TO 2009**  
**RURAL INTERSTATE**

STATION	ROUTE	LOCATION
100	I 29	3.0 MI N OF S JCT I 680 HONEY CREEK
102	I 29	4.0 MI S OF US 34 PACIFIC JCT
103	I 80	5.0 MI E OF IA 146 GRINNELL
104	I 35	3.0 MI N OF IA 175 JEWELL
105	I 29	3.8 MI S OF IA 175 ONAWA
106	I 35	1.5 MI N OF IA 2 LEON
109	I 35	3.0 MI N OF CO B20 HANLONTOWN
110	I 80	1.5 MI W OF CO M16 SHELBY
111	I 80	2.0 MI E OF IA 149 WILLIAMSBURG
113	I 380	3.75 MI NW OF IA 150 BRANDON
115	I 80	2.0 MI E OF US 71 ATLANTIC
116	I 80	0.8 MI W OF 74TH ST WAUKEE
117	I 80	1.75 MI E OF E JCT I 35/80/235 ALTOONA
119	I 80	1.5 MI E OF MIDDLE RD LECLAIRE
120	I 80	2.5 MI E OF CO RD X40 TIPTON
121	I 35	2.0 MI N OF CO RD R75 DOWS
122	I 35	1.0 MI N OF IA 92 CUMMING

1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	
20419	20202	20192	21070	20906	21319	20959	21484	21033	20246	20170	
11247	11221	11402	11917	12010	12101	12151	12495	12300	11793	11761	
26366	26178	26249	27346	26917	26726	26325	26940	26853	26118	26234	
17411	17547	17848	18596	18996	20269	20200	20629	20598	20147	20509	
11200	11016	11092	11346	12031	12171	12015	12283	12418	12096	12512	
12271	12486	12659	13234	13265	13233	12982	13290	13227	12705	12715	
14965	15221	15880	16575	17046	17556	17373	18466	18611	17794	18757	
21572	21441	21468	22379	22254	22496	22208	22670	22752	21727	22189	
29838	29808	29952	31092	31021	31258	30939	31347	31325	29718	29950	
11854	12029	12224	12934	13422	14156	14308	14695	14976	14648	15084	
18365	18339	18377	19018	19013	19324	19282	19480	19697	19267	19067	
31937	34507	32492	34059	33413	33870	33880	35190	34897	33977	34437	
60719	60851	62242	65755	66846	69050	70547	70362	68589	67650	69757	
			25685	28206	29720	29201	28264	28926	28639	27436	27398
29391	29329	30323	31234	31513	32318	32239	32583	32755	31284	31386	
						13800	14112	13858	13376	13822	
									21255	21339	

**2009 EXPANSION FACTORS**  
**RURAL INTERSTATE**

<u>MON - THU</u>	MON	TUE	WED	THU	FRI	SAT	SUN	
1.299	JAN	1.397	1.299	1.297	1.219	1.090	1.361	1.405
1.215	FEB	1.261	1.237	1.218	1.154	1.041	1.281	1.293
1.131	MAR	1.183	1.191	1.101	1.042	0.880	1.100	1.107
1.059	APR	1.087	1.107	1.074	0.993	0.843	1.097	1.090
1.008	MAY	1.058	1.071	1.013	0.910	0.808	0.960	0.950
0.939	JUN	0.962	0.983	0.940	0.868	0.751	0.893	0.842
0.895	JUL	0.922	0.953	0.893	0.841	0.717	0.867	0.828
0.899	AUG	0.904	0.935	0.907	0.855	0.742	0.817	0.800
1.015	SEP	1.056	1.043	1.012	0.948	0.789	0.955	0.918
1.041	OCT	1.075	1.084	1.037	0.991	0.822	1.037	0.931
1.108	NOV	1.162	1.152	1.096	1.034	0.849	1.018	1.078
1.301	DEC	1.211	1.382	1.501	1.167	0.954	1.120	1.301

**ANNUAL AVERAGE DAILY TRAFFIC BY STATIONS FOR THE YEARS 1999 TO 2009**  
**MUNICIPAL INTERSTATE**

STATION	ROUTE	LOCATION	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
701	I 380	BTWN WILSON AND 33RD CEDAR RAPIDS	60722	60803	61973	63391	63338	64289	64150	64968	64650	63791	65296
703	I 380	AT J AVE S OF COLDSTREAM CEDAR RAPIDS	78696	78969	79802	81023	81222	82356	81384	82503	82450	80922	80465
704	I 29/80	0.6 MI W OF IA 192 COUNCIL BLUFFS	68638	69496	70860	76024	74081	75623	77569	79350	79516	76838	75586
705	I 74	0.6 MI S OF US 6 BETTENDORF	41466	43683	47438	48380	48022	47671	48031	49099	48849	48427	47738
707	I 29	AT SOUTH DAKOTA BORDER SIOUX CITY									28070	27931	28175

**2009 EXPANSION FACTORS**  
**MUNICIPAL INTERSTATE**

MON - THU	MON	TUE	WED	THU	FRI	SAT	SUN	
1.027	JAN	1.083	1.011	1.022	0.999	0.974	1.329	1.667
0.974	FEB	1.007	0.963	0.976	0.953	0.918	1.240	1.546
0.953	MAR	0.987	0.965	0.937	0.917	0.866	1.205	1.455
0.912	APR	0.956	0.916	0.901	0.887	0.847	1.149	1.480
0.894	MAY	0.925	0.907	0.894	0.856	0.831	1.090	1.299
0.898	JUN	0.915	0.918	0.885	0.868	0.844	1.127	1.291
0.903	JUL	0.930	0.928	0.890	0.877	0.848	1.154	1.314
0.914	AUG	0.927	0.915	0.914	0.901	0.849	1.128	1.323
0.909	SEP	0.937	0.917	0.902	0.885	0.839	1.140	1.317
0.932	OCT	0.953	0.936	0.919	0.925	0.848	1.180	1.349
0.933	NOV	0.967	0.943	0.925	0.904	0.831	1.146	1.431
1.060	DEC	0.993	1.101	1.182	0.991	0.880	1.164	1.558

**ANNUAL AVERAGE DAILY TRAFFIC BY STATIONS FOR THE YEARS 1999 TO 2009**  
**RURAL PRIMARY**

STATION	ROUTE	LOCATION
201	US 65	2.7 MI N OF IA 3 HAMPTON
202	US 71	2.0 MI N OF IA 44 HAMLIN
204	US 75	1.3 MI N OF CO C60 HINTON
205	US 218	2.7 MI S OF IA 78 SWEDESBURG
206	US 30	AT BOONE/STORY CO LINE NAPIER
207	US 18	2.2 MI E OF US 169 ALGONA
208	US 6	3.0 MI E OF CO V66 MARENGO
209	US 67	1.5 MI S OF CO F45 PRINCETON
210	US 18	4.2 MI E OF IA 60 SHELDON
211	US 20	2.8 MI E OF CO N57 ROCKWELL CITY
212	IA 92	0.6 MI W OF CO V45 SIGOURNEY
213	US 30	1.8 MI E OF US 65 COLO
214	US 61	3.8 MI N OF US 34 BURLINGTON
216	US 34/169	2.5 MI E OF WCT US 169 AFTON
217	US 18	2.5 MI E OF I 35 CLEAR LAKE
218	IA 44	0.2 MI W OF CO 169 ADEL
219	US 34	1.0 MI W I 35 OSCEOLA
220	US 52	1.0 MI NW OF US 18 POSTVILLE
221	IA 9	2.5 MI W OF CO N52 ARMSTRONG
222	IA 3	0.1 MI W OF CO P66 HUMBOLDT
223	IA 48	4.0 MI S OF IA 92 GRISWOLD
224	US 59	0.5 MI S OF CO F16 DEFIANCE
226	US 18	3.8 MI E OF CO W14 WEST UNION
228	IA 117	2.5 MI S OF US 65 MINGO
229	IA 78	1.2 MI W OF CO X23 WINFIELD
230	US 169	3.5 MI S OF S JCT IA 92 WINTERSET
231	IA 148	9.3 MI N OF IA 92 ANITA
233	IA 110	1.5 MI S OF CO C65 SCHALLER
234	IA 12	2.5 MI N OF CO K18 AKRON
235	IA 143	3.4 MI S OF IA 10 MARCUS
236	IA 196	3.0 MI S OF US 20 SAC CITY
238	IA 149	2.1 MI N OF IA 78 MARTINSBURG
240	IA 2	3.0 MI E OF US 275 SIDNEY
241	IA 13	5.0 MI S OF US 20 RYAN
242	US 61	3.8 MI N OF CO F41 ELDRIDGE
243	US 30	0.3 MI E OF CO Z24 DEWITT
244	IA 1	0.8 MI S OF CO F67 KALONA
245	US 20	1.5 MI E OF CO V62 JESUP
246	IA 141	1.0 MI E OF WILLIS AVE PERRY
247	US 20	3.0 MI E OF E JCT IA 17 WEBSTER CITY
248	IA 21	2.8 MI N OF US 6 BELLE PLAINE
249	US 218	0.5 MI N OF HILLS INTERCHANGE HILLS
250	US 65	1.5 MI N OF IA 163 PLEASANT HILL
252	US 18/63	0.5 MI S OF CO B54 NEW HAMPTON
253	US 218	3.5 MI S OF CO T64 CHARLES CITY
254	IA 60	4.1 MI N OF IA 9 SIBLEY
255	US 20	1.0 MI E OF US 65 IOWA FALLS
256	US 18	3.3 MI E OF I 35 MASON CITY
257	US 20	3.6 MI W OF W JCT US 59 HOLSTEIN
258	US 30	0.6 MI E OF CO V66 BLAIRSTOWN
259	US 30	3.5 MI E OF IA 1 LISBON
260	US 71	0.6 MI S OF CO J64 BRADDYVILLE
261	US 169	2.3 MI N OF CO D14 FORT DODGE
262	US 63	1.6 MI S OF IA 2 BLOOMFIELD
263	US 52	0.3 MI E OF CO X47 GARNAVILLO
264	IA 27	3.0 MI S OF CO W62 ARGYLE
265	US 61	1.0 MI N OF CO E17 MAQUOKETA
266	IA 2	0.8 MI W OF US 63 WEST GROVE
267	US 34	3.0 MI W OF US 59 EMERSON
268	US 30	4.0 MI SW OF CO M14 DOW CITY
269	US 30	3.6 MI E OF IA 144 GRAND JUNCTION
270	US 71	3.1 MI S OF IA 3 STORM LAKE
271	US 18	4.3 MI E OF IA 4 EMMETSBURG
272	US 71	5.2 MI S OF W JCT US 6 ATLANTIC
273	US 34	3.6 MI E OF CO RD S56 RUSSELL
274	IA 163	2.6 MI NW OF CO RD G28 PELLA
275	US 20	0.5 MI W OF CENTER AVE EPWORTH
276	US 63	1.5 MI N OF IA 9 LIME SPRINGS
277	US 34	1.1 MI E OF IA 16 AGENCY
278	IA 141	0.5 MI N OF IA 44 GRIMES
279	IA 13	1.5 MI N OF CO RD C64 DUNDEE

1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
3152	2958	2869	3005	2981	2959	2886	2831	2808	2777	2824
3082	3238	3162	3458	3416	3544	3504	3450	3473	3375	3393
9934	9960	10003	11049	11440	11718	12095	12296	12264	12302	12671
8018	8144	8930	9346	9671	10174	10375	10831	11292	11063	11484
10479	10431	10920	11746	12011	12366	12760	12793	12929	13039	13356
3186	3158	3220	3363	3353	3381	3332	3306	3449	3226	3326
3511	3386	3404	3511	3437	3466	3344	3256	3157	3113	3153
4690	4575	4436	4380	4305	4433	4471	4424	4372	4181	4132
3800	3702	3736	3771	3776	3939	4066	4061	4066	4053	4120
2888	2845	2862	2929	2984	3152	3099	3138	3111	3087	3155
2954	2832	2849	2868	2821	2792	2753	2731	2684	2554	2602
5666	5753	5765	5988	5431	5332	5074	5105	5058	4908	5047
7532	7275	7101	7234	7200	7183	7097	7050	6985	6953	6814
3491	3647	3651	3690	3913	3835	3654	3696	3671	3537	3665
15625	13978	14089	14615	14916	14876	15140	14373	14364	14173	14489
3382	3478	3466	3528	3645	3707	3646	3645	3444	3396	3406
4612	4675	4618	4650	4742	4762	4724	4724	4702	4575	4624
1762	1656	1698	1793	1746	1746	1757	1715	1658	1578	1609
1788	1780	1750	1760	1748	1768	1703	1678	1690	1592	1631
2569	2483	2443	2323	2235	2183	1989	1956	1919	1844	1793
1402	1366	1306	1309	1297	1209	1238	1248	1221	1171	1164
2676	2552	2572	2577	2557	2635	2644	2613	2561	2507	2590
2525	2539	2380	2385	2431	2358	2292	2357	2339	2197	2291
987	958	965	1189	946	948	967	993	986	979	993
879	813	829	798	775	733	757	785	742	738	748
1985	2032	1858	1770	1837	1795	1701	1726	1610	1588	1651
780	812	769	761	756	776	756	782	761	755	763
1321	1284	1299	1301	1337	1318	1260	1294	1298	1306	1306
1596	1637	1589	1555	1548	1469	1465	1435	1415	1304	1277
866	821	831	825	800	795	826	825	802	765	746
1139	1079	1106	1109	1082	1094	1037	1060	1082	1088	1131
1013	1014	1096	1153	1175	1216	1158	1153	1132	1071	1102
1969	1840	1841	1882	1887	1936	1857	1879	1949	1914	1772
5051	5058	5118	5048	4979	4694	4408	4460	4280	4034	4069
14614	14483	15108	15911	16104	16459	16082	16108	16214	15940	16374
8387	8477	8723	9222	9295	9413	9488	9124	9448	9408	9678
6293	5798	5804	5948	5950	5969	5956	5858	5624	5765	5694
9105	9115	9185	9538	10032	10392	10194	10345	10571	10532	10789
9701	9598	9630	9805	9785	9940	9806	9676	9448	9315	9478
6537	6560	6685	6848	6995	7827	7958	7888	7945	7858	7834
1303	1248	1260	1297	1283	1318	1270	1246	1193	1120	1135
15447	16116	16404	16852	16973	18313	19527	18686	19548		
15690	16724	18451	20559	22221	23923	25288	25274	24416	23942	24223
						4803	4780	4831	4797	4909
						8316	8436	8649	8542	8643
										3296
						7531	7926	8057	8148	8335
						7066	7290	7507	7342	7612
								2781	2881	2926
								6424	5940	NODATA
										5427 5610
										2182 2240 2301
										5783 5360 5389
										2247 2217 2288
										2395 2225 2267
										4532 4764 5079
										7349 7053 7236
										1560 1546 1535
										4176 4168 4380
										2997 2977 3022
										4137 4320
										2441
										3111 3218
										2112 2228
										2109
										9872 10331
										12096
										2870
										7804
										20594
										2311

Note: Stations 500 & 501 are used in the calculation of the Rural Primary Factors

**2009 EXPANSION FACTORS**

**RURAL PRIMARY**

MON - THU	MON	TUE	WED	THU	FRI	SAT	SUN	
1.127	JAN	1.186	1.113	1.141	1.077	0.981	1.231	1.510
1.066	FEB	1.086	1.056	1.071	1.055	0.937	1.157	1.399
1.036	MAR	1.057	1.063	1.030	0.988	0.873	1.108	1.335
0.968	APR	1.003	0.975	0.973	0.932	0.822	1.053	1.294
0.933	MAY	0.955	0.954	0.943	0.884	0.804	0.944	1.084
0.907	JUN	0.923	0.928	0.904	0.870	0.786	0.959	1.040
0.889	JUL	0.911	0.917	0.879	0.860	0.767	0.947	1.024
0.900	AUG	0.916	0.911	0.901	0.876	0.780	0.934	1.035
0.932	SEP	0.961	0.939	0.938	0.895	0.779	0.955	1.062
0.966	OCT	0.984	0.979	0.960	0.951	0.823	1.052	1.157
0.985	NOV	1.000	1.003	0.990	0.950	0.821	1.030	1.237
1.135	DEC	1.039	1.159	1.347	1.050	0.881	1.066	1.391

**ANNUAL AVERAGE DAILY TRAFFIC BY STATIONS FOR THE YEARS 1999 TO 2009  
MUNICIPAL PRIMARY**

STATION	ROUTE	LOCATION
** 802	US 71	W OF MEMPHIS AVE SPIRIT LAKE
803	IA 12	ON VIADUCT E OF COURT ST SIOUX CITY
804	IA 4	N OF 4TH AVE NW POCAHONTAS
805	IA 148	S OF 11TH ST CORNING
806	US 6	E OF SHASTA WINDSOR HEIGHTS
808	US 71	S OF BIRCH ST AUDUBON
809	IA 14	N OF WOODLAND ST MARSHALLTOWN
810	IA 92	W OF N ST INDIANOLA
811	IA 192	S OF AVE N COUNCIL BLUFFS
812	IA 122	W OF VIRGINIA AVE MASON CITY
813	US 6	E OF PINE ST DAVENPORT
815	IA 922	BTWN WILEY BLVD & WESTDALE CDR RPDS
816	US 34	W OF US 61 WEST BURLINGTON
819	IA 9	EAST OF 14TH ST OSAGE
820	IA 17	N OF NW 11TH ST EAGLE GROVE
821	IA 4	S OF EDGEWOOD AVE E JEFFERSON
823	US 6	BETWEEN SYCAMORE & 1ST AVE IOWA CITY
824	US 69	BETWEEN 15TH AND 16TH ST AMES
826	US 65	1.5 MI NE OF I-80 BONDURANT
827	US 61/151	W OF MISSISSIPPI R DUBUQUE
828	IA 150	S OF 12TH ST OELWEIN
829	US 59	S OF 5TH AVE SHENANDOAH
830	IA 23	S OF IA 92 OSKALOOSA

1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
13207	12667	12948	12038	11884	12408	12408	12102	11721	11530	11961
27834	26772	27293	26866	26579	25631	25518	23924	23112	22228	NODATA
3213	3059	3049	3019	2962	3012	3052	3082	3012	2950	2868
3351	3256	3208	3325	3230	3223	3098	3202	3046	2852	2867
22551	22199	21766	21952	21382	22129	22989	21425	19954	19072	19481
6862	5177	4592	4811	4757	4992	4858	4750	4701	4655	4769
6736	6729	6401	6636	6604	6540	6484	6268	6304	6164	6119
11109	10513	11077	11793	11634	11725	11582	11203	10858	10837	11024
10419	10474	10792	10061	9665	9442	9474	9047	8858	9139	9057
15650	12925	13941	13489	13326	13052	12706	12014	12035	11825	12186
21129	20440	20584	19789	19891	21888	22078	21648	22022	21686	21312
8107	8044	8249	8560	8783	9027	9006	9474	9565	9551	10812
13716	13015	13036	13162	13096	13085	12814	13878	13666	13097	13168
7047	6750	6024	5857	5627	5546	5536	5391	5374	5264	5237
3609	3443	3151	2970	2934	2902	2997	2867	2818	2739	2722
4790	4548	4405	4285	4206	4343	4211	4166	4102	4074	4154
21880	20968	21027	21564	21677	21858	21726	21526	21187	20946	20652
19468	19214	19331	19624	19394	19737	20080	19804	19440	17551	17318
10708	10710	10863	11068	11293	11824	12737	12397	12052	11761	12272
18001	18133	18270	18716	19036	19188	19238	19396	20588	20031	20744
6928	6840	6652	6600	6470	6555	6505	6654	6298	6295	6461
10383	9688	9842	9697	9964	10054	10053	9698	9121	8694	

Note: Station 802 is not used in the calculation of the Municipal Primary Factors. It is used in the calculation of the Recreational Factors.

**2009 EXPANSION FACTORS  
MUNICIPAL PRIMARY**

<u>MON - THU</u>	<u>MON</u>	<u>TUE</u>	<u>WED</u>	<u>THU</u>	<u>FRI</u>	<u>SAT</u>	<u>SUN</u>
1.081	JAN	1.110	1.070	1.085	1.063	0.971	1.198
1.023	FEB	1.052	1.016	1.022	1.007	0.924	1.145
0.995	MAR	1.009	1.009	0.991	0.970	0.886	1.112
0.941	APR	0.988	0.945	0.930	0.916	0.830	1.026
0.918	MAY	0.937	0.930	0.918	0.888	0.830	0.949
0.919	JUN	0.936	0.935	0.908	0.894	0.839	1.018
0.927	JUL	0.950	0.944	0.916	0.907	0.846	1.033
0.917	AUG	0.928	0.917	0.919	0.905	0.841	1.022
0.925	SEP	0.955	0.928	0.920	0.901	0.823	1.017
0.950	OCT	0.970	0.955	0.940	0.941	0.843	1.061
0.962	NOV	0.979	0.968	0.962	0.942	0.849	1.062
1.052	DEC	0.980	1.064	1.192	0.998	0.887	1.053

## ANNUAL AVERAGE DAILY TRAFFIC BY STATIONS FOR THE YEARS 1999 TO 2009

# **SECONDARY**

**PAVED**

STATION	ROUTE	LOCATION
300	CO P14	2.7 MI N OF CO E33 CHURDAN
301	CO S14	0.8 MI S OF CO E29 NEVADA
302	CO M55	0.2 MI N OF IA 141 MANILLA
303	CO K45	2.25 MI S OF IA 175 ONAWA
304	CO V45	3.5 MI N OF IA 92 SIGOURNEY
306	CO E53	1.75 MI E OF IA 25 SCRANTON
307	CO R38	2.2 MI N OF CO C54 CLARION
308	CO N32	1.6 MI N OF IA 9 ESTHERVILLE
309	CO K52	1.5 MI S OF US 18 HULL
310	CO Y52	1.5 MI S OF US 30 GRAND MOUND
311	CO W12	3.5 MI S OF US 30 WATKINS
312	CO E26	2.7 MI W OF CO RD R38 BOONE
313	CO D42	0.2 MI E OF IA 13 MANCHESTER
314	CO 105	1.3 MI E OF CO S56 NORTHWOOD
315	CO RD	5.5 MI E OF US 63 DRAKESVILLE

1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
302	294	288	292	286	303	296	303	250	237	247
1043	964	931	1005	985	1001	979	1008	989	975	973
923	943	975	936	875	845	824	830	783	739	736
1177	1138	1107	1115	1075	1005	1025	1029	1059	1106	1152
646	623	572	599	614	643	640	645	634	617	636
572	558	568	625	595	575	579	570	515	520	544
1316	1230	1257	1308	1309	1341	1292	1361	1293	1255	1240
364	369	353	360	360	361	361	370	341	330	357
803	959	972	998	992	999	974	1017	987	1001	1063
559	526	518	533	531	529	529	534	504	479	501
795	758	800	861	847	864	835	852	853	804	825
1438	1386	1364	1405	1383	1406	1336	1370	1327	1213	1269
659	675	682	734	746	707	715	719	698	679	691
740	697	675	647	638	667	675	766	771	775	778
743	706	706	721	734	712	722	733	720	656	676

STATION	ROUTE	LOCATION
400	CO B30	0.5 MI E OF CO L48 PRIMGHAR
401	LOC RD	1.75 MI N OF CO E36 CLUTIER
402	LOC RD	0.75 MI E OF CO V18 CLUTIER
403	CO H47	5.0 MI SE OF US 34 ALBIA
405	LOC RD	2.5 MI N OF US 18 NEW HAMPTON
406	LOC RD	2.0 MI E OF US 169 LORIMOR
407	CO H23	2.0 MI E OF US 169 LORIMOR

1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
25	22	24	26	27	28	26	29	27	21	23
30	29	36	33	36	52	32	33	35	31	30
42	39	38	38	40	51	42	50	50	41	47
87	75	77	91	103	115	109	111	102	88	98
57	54	43	60	57	56	47	55	55	46	48
86	80	73	68	67	76	71	67	70	57	63
66	69	62	62	73	75	81	77	76	68	70

Note: Stations 600 & 603 are used in the calculation of the Secondary Factors and the Recreational Factors.

## **2009 EXPANSION FACTORS**

## **SECONDARY**

MON - THU	MON	TUE	WED	THU	FRI	SAT	SUN
1.246	JAN	1.354	1.210	1.235	1.195	1.139	1.476
1.087	FEB	1.116	1.060	1.065	1.105	1.042	1.319
1.037	MAR	1.069	1.063	1.014	0.988	0.919	1.182
0.916	APR	0.979	0.916	0.902	0.884	0.810	1.022
0.865	MAY	0.878	0.870	0.865	0.849	0.806	0.914
0.863	JUN	0.885	0.881	0.844	0.831	0.802	1.012
0.879	JUL	0.898	0.893	0.857	0.871	0.824	0.958
0.924	AUG	0.936	0.919	0.921	0.915	0.858	1.049
0.878	SEP	0.912	0.875	0.864	0.863	0.808	0.975
0.932	OCT	0.944	0.916	0.914	0.946	0.860	1.020
0.880	NOV	0.892	0.890	0.872	0.867	0.814	0.998
1.177	DEC	1.141	1.175	1.327	1.089	0.955	1.150

**ANNUAL AVERAGE DAILY TRAFFIC BY STATIONS FOR THE YEARS 1999 TO 2009**  
**MUNICIPAL STREETS**

STATION	ROUTE	LOCATION
900	LAKE ST	N OF 3RD ST in STORM LAKE
901	2ND AVE N	E OF 15TH ST in FORT DODGE
902	LOCUST ST	E OF SPRING ST in DAVENPORT
903	JEFFERSON	NE OF E 5TH ST in OTTUMWA
904	JOHNSON	W OF JANICE DR in CEDAR RAPIDS
905	N'WESTERN	N OF 20TH ST in AMES
906	DUBUQUE	S OF DAVENPORT ST in IOWA CITY
907	COLLEGE	S OF 23RD ST in CEDAR FALLS
908	LINDWOOD	S OF 35TH ST in SIOUX CITY
909	HAMILTON	N OF CLIFTON AVE in SIOUX CITY
910	GRANDVIEW	SE OF PLYMOUTH CT in DUBUQUE
911	HUMBOLDT	S OF 4TH ST in BODE
912	ELM ST	N OF LUCAS ST in CRESTON
** 913	WASHINGTON	E OF HARRISON ST in MOUNT PLEASANT

1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
3662	3508	3502	3266	3128	3046	2911	2818	2872	2756	2848
7264	7211	7368	6681	6471	6795	6780	6695	6760	6775	6665
23322	22415	22498	23162	22986	22382	22369	21934	21750	21300	20726
6905	6678	6768	6935	6862	6901	6549	6627	6456	6272	6006
9527	9821	10174	9499	10202	10381	10360	10086	9947	10000	9818
2842	2727	2741	2791	2797	2652	2460	2348	2304	2202	2264
15358	15324	15899	16201	15593	15615	15177	15448	15230	14688	14411
9469	9564	9973	9272	9036	8440	7947	7862	7444	NO DATANO DATA	
1171	1193	1139	1171	1134	1129	1056	1026	1008	969	977
15700	15280	15448	15596	15335	14789	14529	14547	14314	13854	14159
9020	8973	9090	9218	9272	9402	9094	8836	8779	8596	8871
942	886	898	869	794	773	796	796	786	776	770
4207	4066	4024	4054	4081	4422	4126	3938	3710	3798	3807
16087	14866	14032	13998	13942	13728	12834	11283	10632	10540	10161

Note: Station 913 was previously site 801.  
Washington Street was US 34 until Nov. 2005 when the US 34 bypass opened.

**2009 EXPANSION FACTORS**  
**MUNICIPAL STREETS**

MON - THU	MON	TUE	WED	THU	FRI	SAT	SUN	
1.070	JAN	1.102	1.055	1.078	1.050	0.981	1.255	1.542
1.002	FEB	1.033	0.987	0.996	0.994	0.922	1.185	1.421
0.985	MAR	0.997	1.001	0.981	0.957	0.905	1.180	1.413
0.931	APR	0.984	0.937	0.915	0.905	0.845	1.091	1.389
0.904	MAY	0.915	0.913	0.909	0.883	0.830	0.980	1.212
0.924	JUN	0.942	0.940	0.911	0.900	0.873	1.095	1.295
0.949	JUL	0.967	0.971	0.942	0.928	0.887	1.096	1.273
0.934	AUG	0.953	0.933	0.936	0.916	0.875	1.101	1.302
0.925	SEP	0.957	0.926	0.917	0.907	0.850	1.079	1.258
0.958	OCT	0.976	0.956	0.946	0.955	0.871	1.103	1.290
0.955	NOV	0.975	0.957	0.958	0.932	0.864	1.110	1.300
1.036	DEC	0.985	1.044	1.144	0.989	0.889	1.135	1.416

**ANNUAL AVERAGE DAILY TRAFFIC BY STATIONS FOR THE YEARS 1999 TO 2009**

# RECREATIONAL

## **PRIMARY**

STATION	ROUTE	LOCATION
* * 500	US 71	0.1 MI S OF CO RD B14 FOSTORIA
* * 501	IA 5	3.8 MI S OF US 34 MORAVIA
503	IA 415	0.5 MI W OF NW POLK CITY RD POLK CITY

1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
7985	8197	8178	8174	8358	8497	8263	8343	8346	7877	8067
3557	3292	3328	3437	3492	3650	3644	3765	3745	3692	3922
4540	4531	4344	4544	4926	5541	5789	5870	5162	5293	6076

STATION	ROUTE	LOCATION
** 600	CO F25	0.1 MI W OF CO P18 SPRINGBROOK
602	ENTRANCE	GEORGE WYTH S. P. WATERLOO
** 603	ENTRANCE	3.3 MI N OF IA 25 GREEN VALLEY S. P.

SECONDARY											
1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	
250	250	260	223	203	210	204	209	226	205	216	
1170	1200	1032	994	937	826	822	777	799	643	731	
324	257	256	301	346	348	339	352	339	273	175	

Notes: Stations 500 & 501 are used in the calculation of the Rural Primary Factors and the Recreational Factors.

Stations 600 & 603 are used in the calculation of the Secondary Factors and the Recreational Factors.

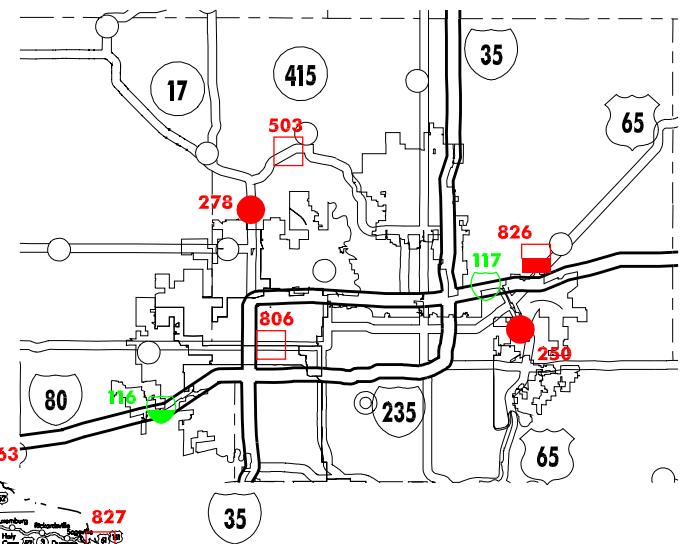
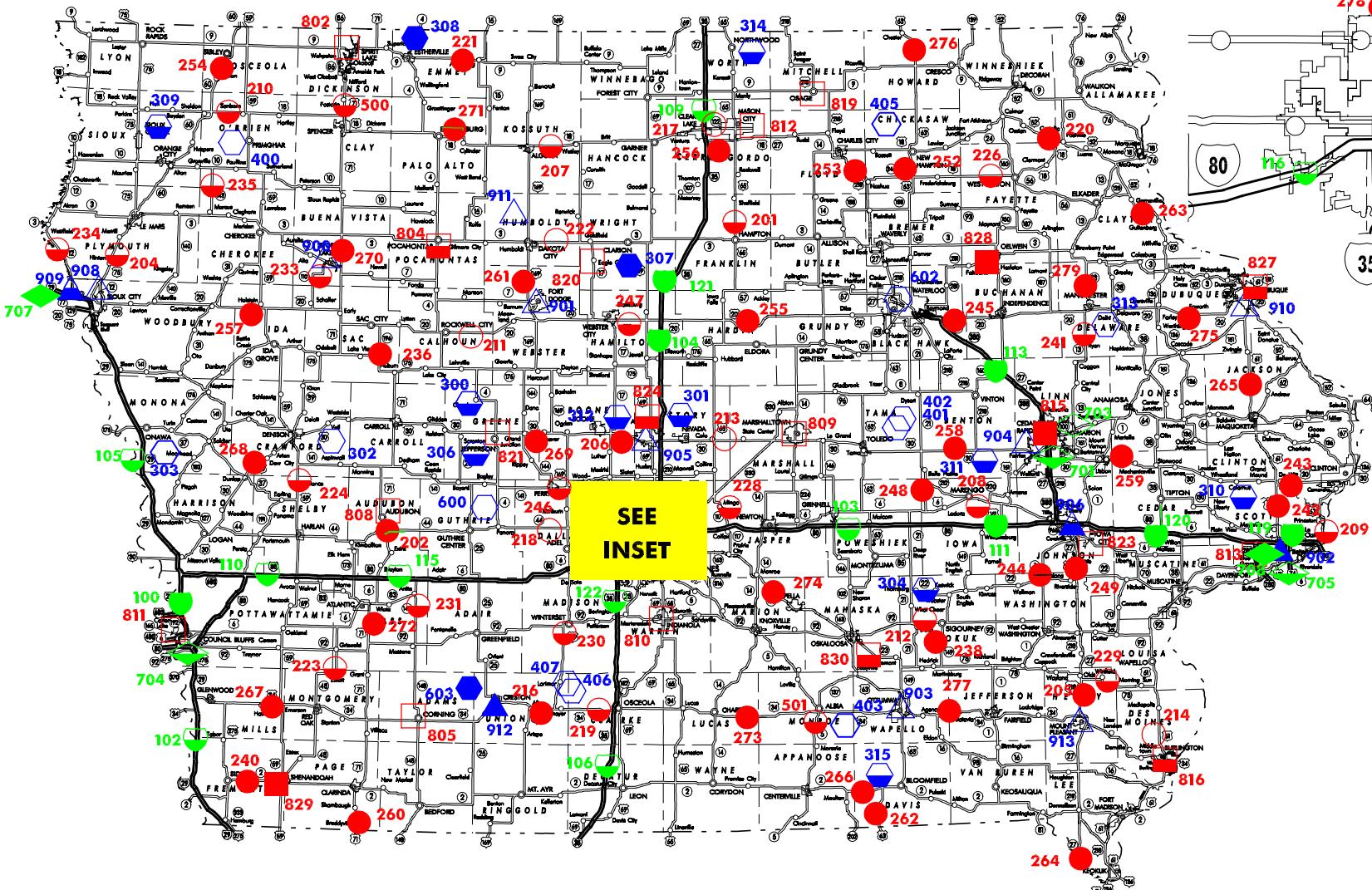
Station 802 is used in the calculation of the Recreational Factors.

## **2009 EXPANSION FACTORS RECREATIONAL**

<b>MON - THU</b>	<b>MON</b>	<b>TUE</b>	<b>WED</b>	<b>THU</b>	<b>FRI</b>	<b>SAT</b>	<b>SUN</b>	
1.199	JAN	1.281	1.177	1.194	1.157	1.063	1.271	1.619
1.158	FEB	1.191	1.127	1.140	1.177	1.049	1.231	1.603
1.104	MAR	1.118	1.145	1.101	1.049	0.968	1.149	1.529
0.995	APR	1.057	0.991	0.990	0.959	0.861	1.082	1.511
0.902	MAY	0.923	0.910	0.916	0.861	0.815	0.854	0.994
0.834	JUN	0.854	0.856	0.825	0.794	0.716	0.760	0.879
0.792	JUL	0.814	0.822	0.776	0.767	0.679	0.721	0.827
0.823	AUG	0.829	0.829	0.831	0.804	0.719	0.750	0.873
0.870	SEP	0.897	0.874	0.873	0.838	0.750	0.794	0.952
0.979	OCT	0.990	0.975	0.972	0.979	0.884	1.085	1.309
1.038	NOV	1.058	1.038	1.041	1.016	0.926	1.137	1.411
1.172	DEC	1.079	1.193	1.376	1.089	0.976	1.175	1.618

# AUTOMATIC TRAFFIC RECORDER LOCATIONS

JANUARY 1, 2010



Iowa Department  
of Transportation  
Office of  
Transportation Data  
Phone 515-239-1526

