



AUTOMATIC TRAFFIC RECORDERS 1994 - 2004

Prepared by

OFFICE OF TRANSPORTATION DATA

In Cooperation With

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

PHONE 515-239-1526

JANUARY 2005

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INTRODUCTION

This report contains graphic comparisons of daily and monthly traffic collected on Iowa's highway system at 127 Permanent Continuous Automatic Traffic Recorder locations. Fifteen (15) stations are located on the Rural Interstate system, four (4) are on the Municipal Interstate system, forty-five (45) are on the Rural Primary system, twenty-five (25) 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 24 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 17.

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 1995 - 2004.

Information from the permanent traffic recorders indicate a 1% increase in statewide travel from 2003 to 2004. The estimated vehicle miles of travel for 2004 is 31.90 billion. Final 2004 traffic figures will be published near June 2005, when all traffic data collected during 2004 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

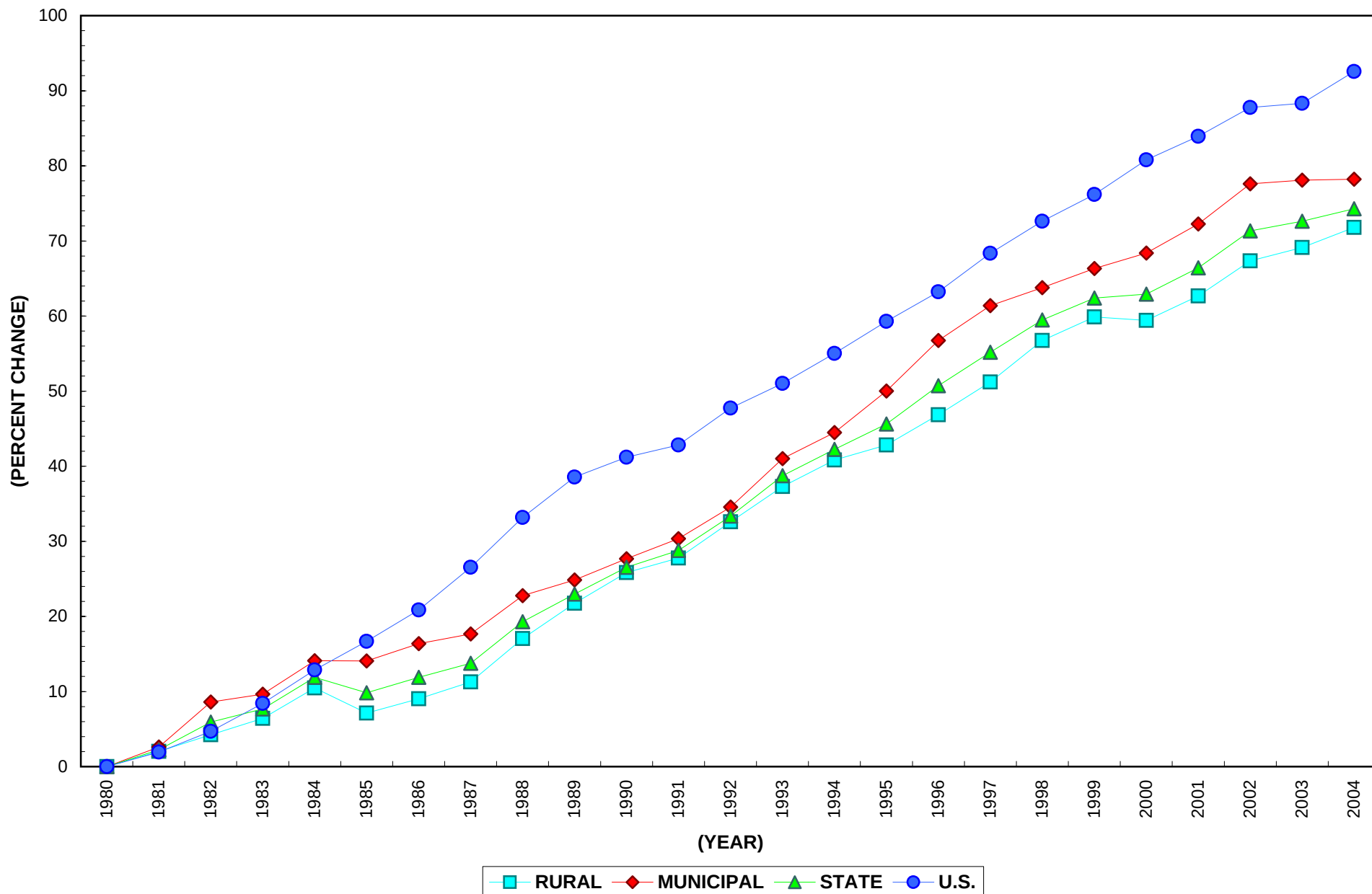
IOWA ROAD SYSTEMS

	2004 COMPARED TO 2003
RURAL INTERSTATE	+ 2%
RURAL PRIMARY	+ 2%
RURAL SECONDARY	No Change
RURAL TOTAL	+ 2%
MUNICIPAL INTERSTATE	+ 1%
MUNICIPAL PRIMARY	+ 1%
MUNICIPAL STREETS	- 1%
MUNICIPAL TOTAL	No Change
STATE TOTAL	+1%

Data collected at continuous automatic traffic recorder locations (see pages 17 – 23) were utilized to compute the above percentages. The rural, municipal and state totals were weighted based on estimated vehicle miles of travel.

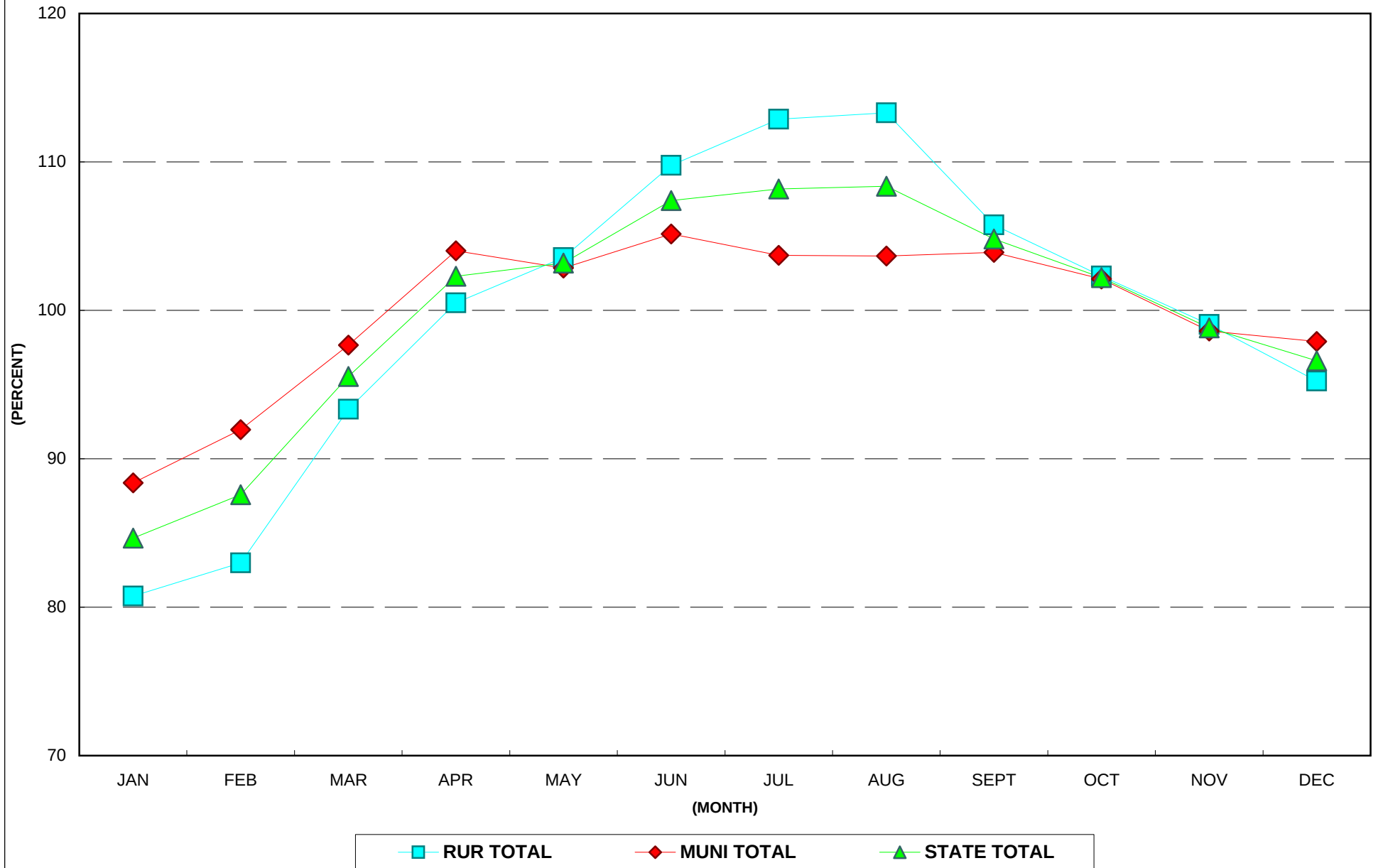
PERCENT CHANGE IN TRAFFIC

BASE YEAR 1980



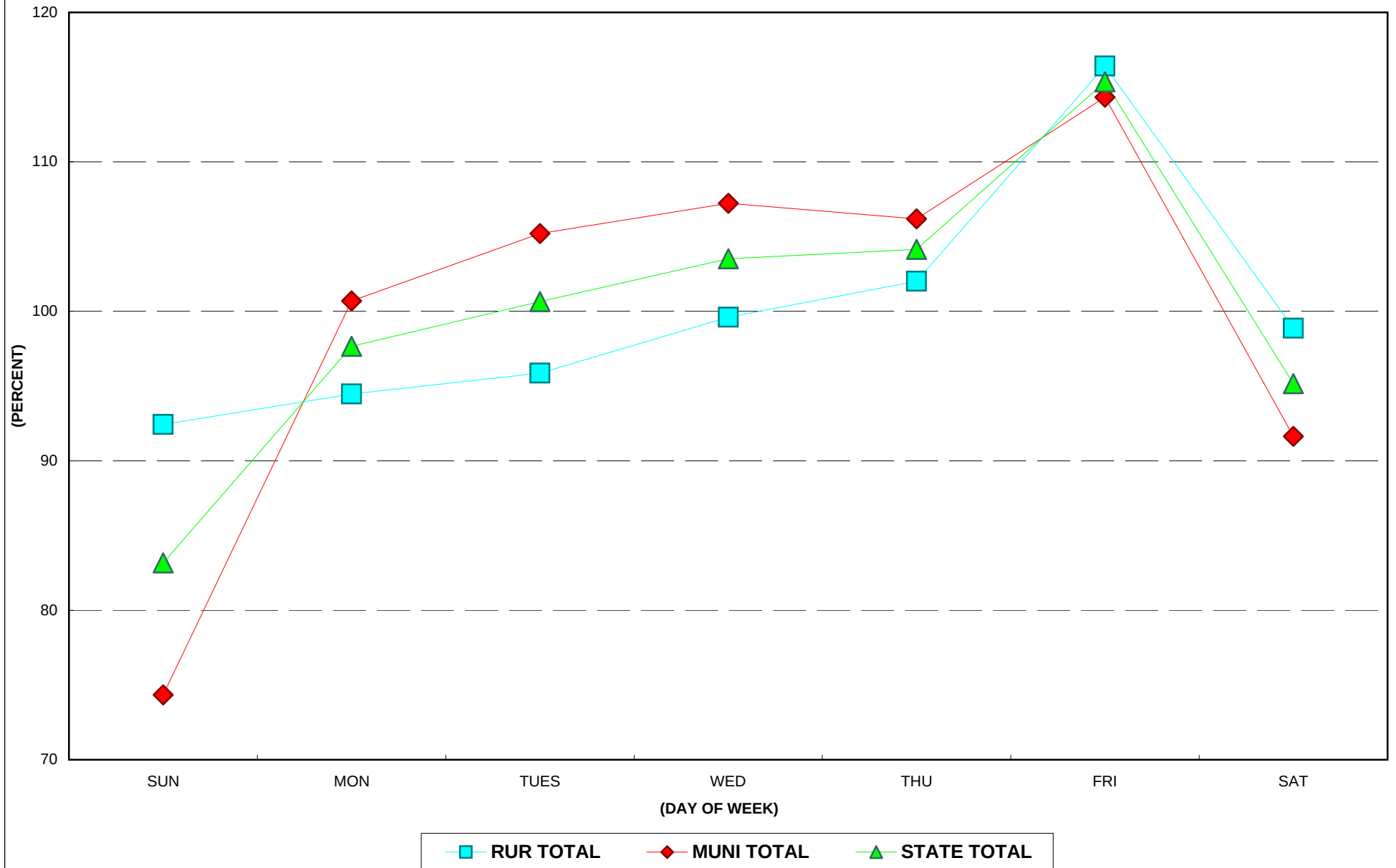
2004 MONTHLY TRAFFIC

AS A % OF ANNUAL AVERAGE DAILY TRAFFIC



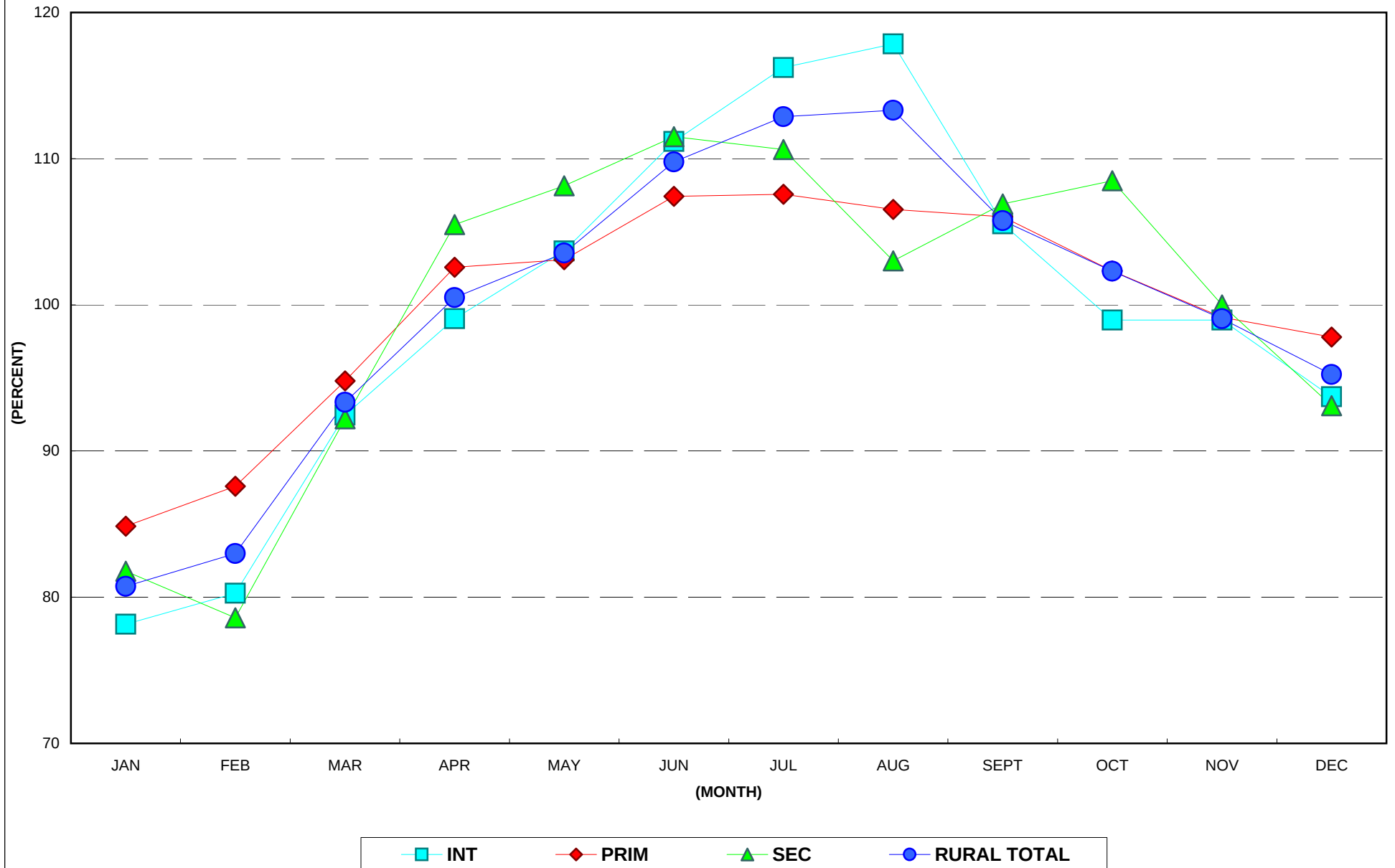
2004 DAY OF WEEK TRAFFIC

AS A % OF ANNUAL AVERAGE DAILY TRAFFIC



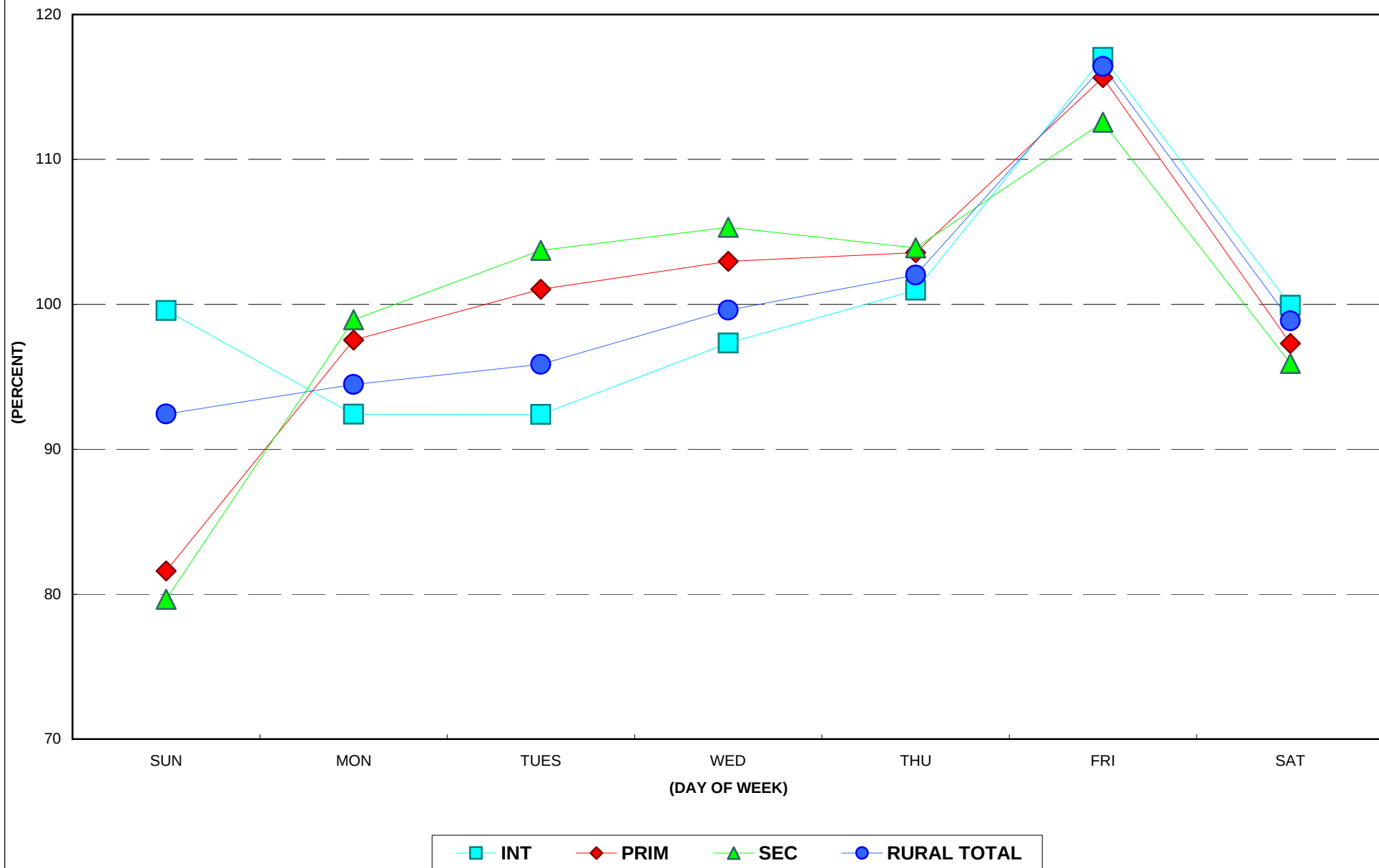
2004 RURAL MONTHLY TRAFFIC

AS A % OF ANNUAL AVERAGE DAILY TRAFFIC



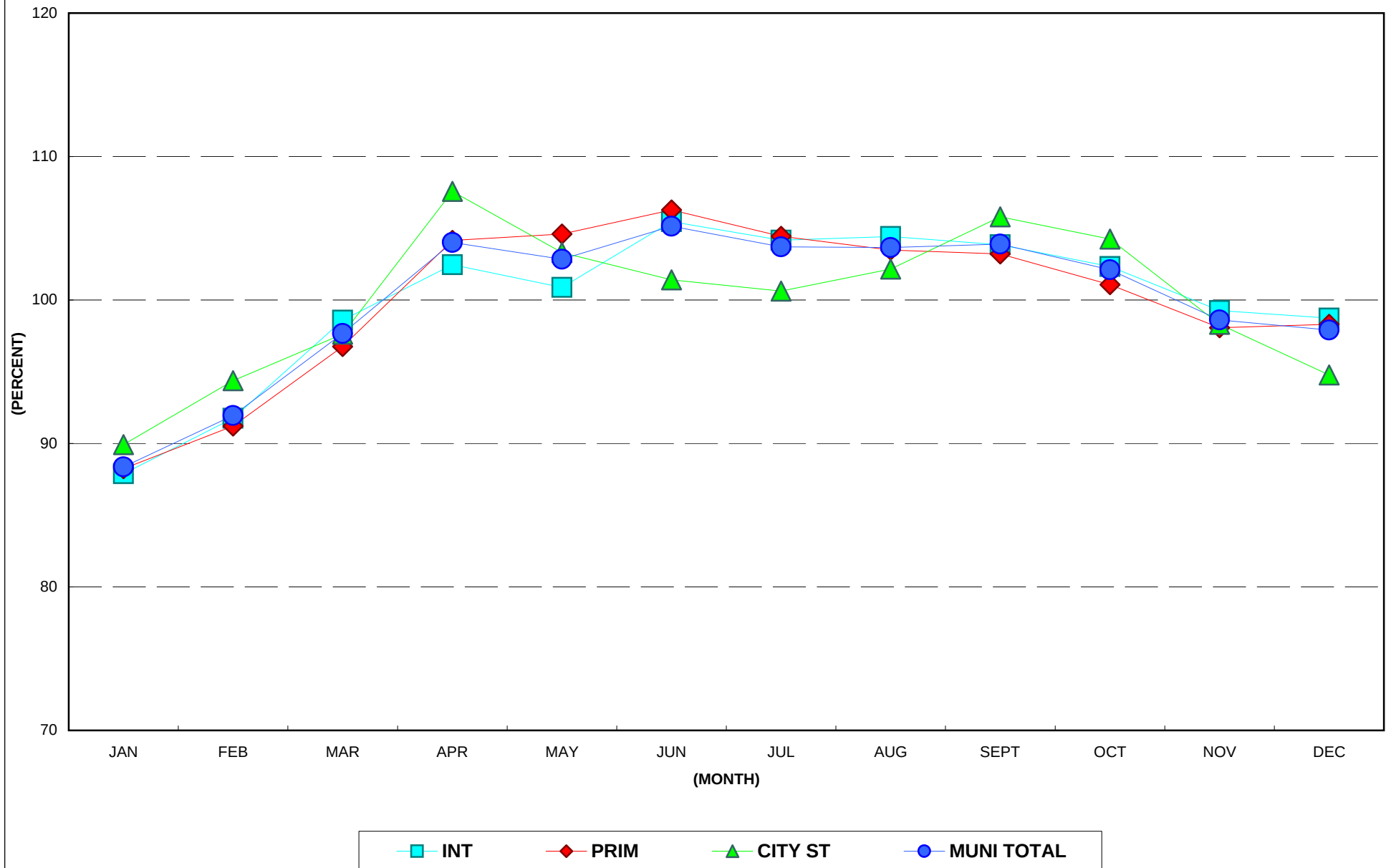
2004 RURAL DAY OF WEEK TRAFFIC

AS A % OF ANNUAL AVERAGE DAILY TRAFFIC



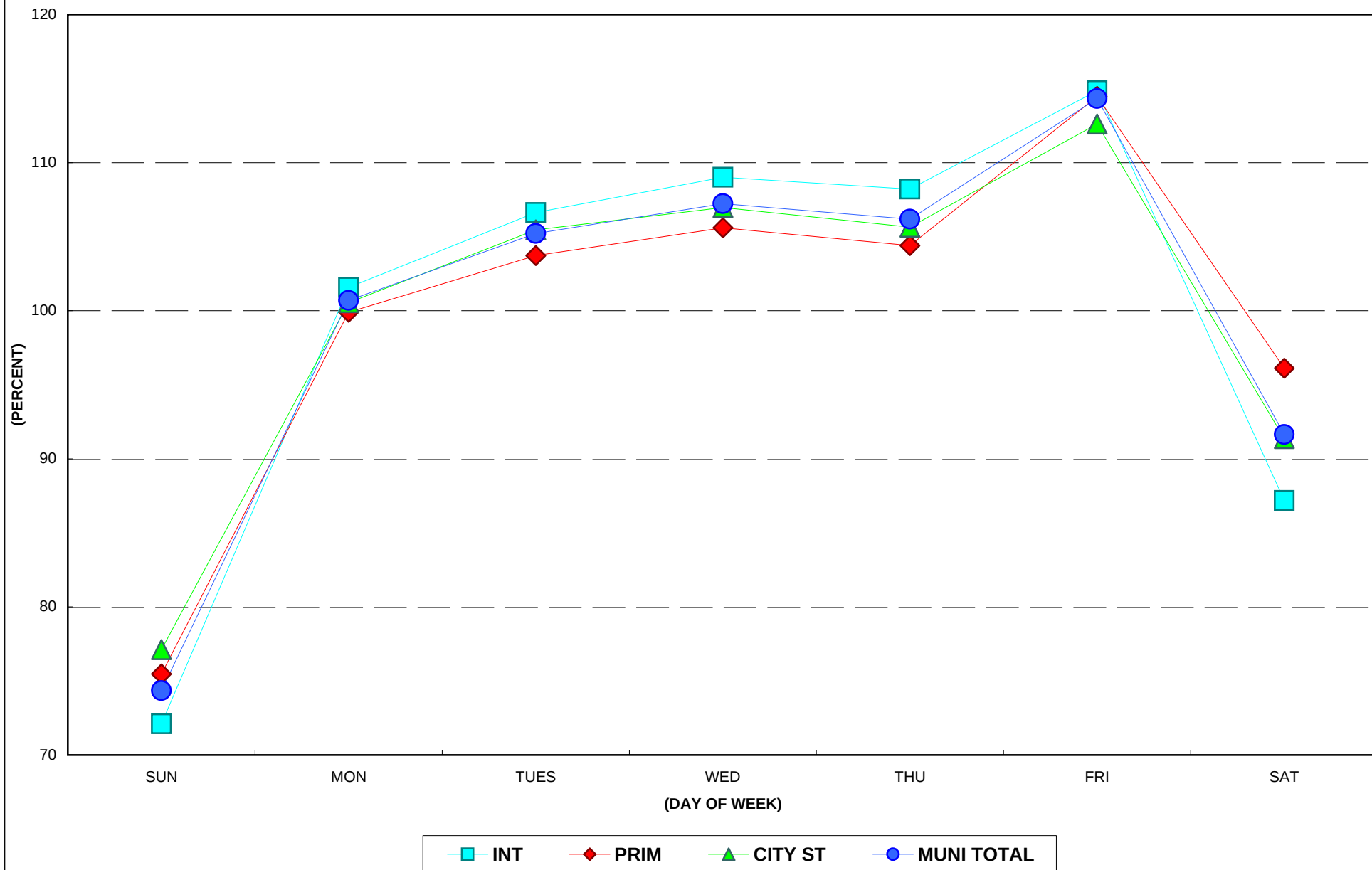
2004 MUNICIPAL MONTHLY TRAFFIC

AS A % OF ANNUAL AVERAGE DAILY TRAFFIC



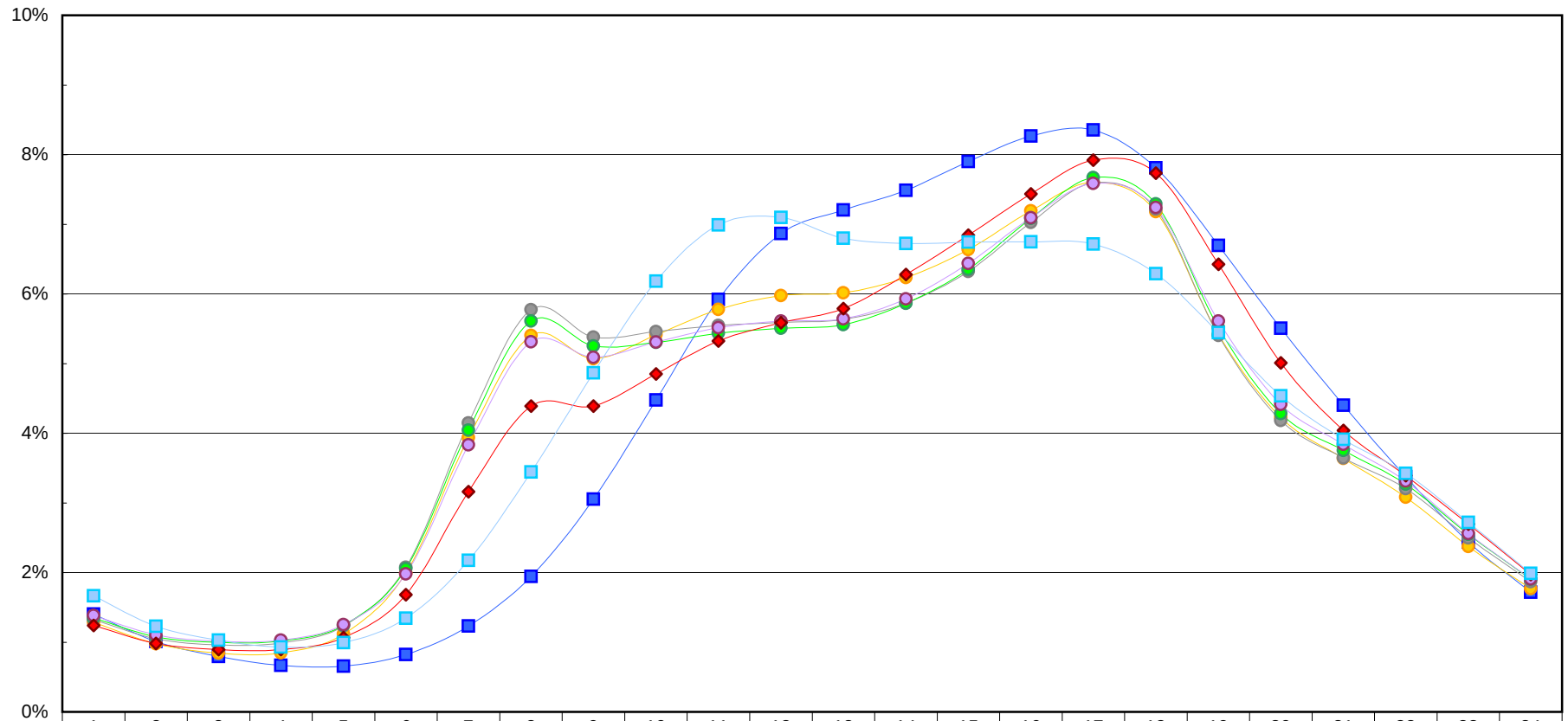
2004 MUNICIPAL DAY OF WEEK TRAFFIC

AS A % OF ANNUAL AVERAGE DAILY TRAFFIC



HOURLY DISTRIBUTION OF DAILY TRAFFIC 2004 RURAL INTERSTATE

PERCENT

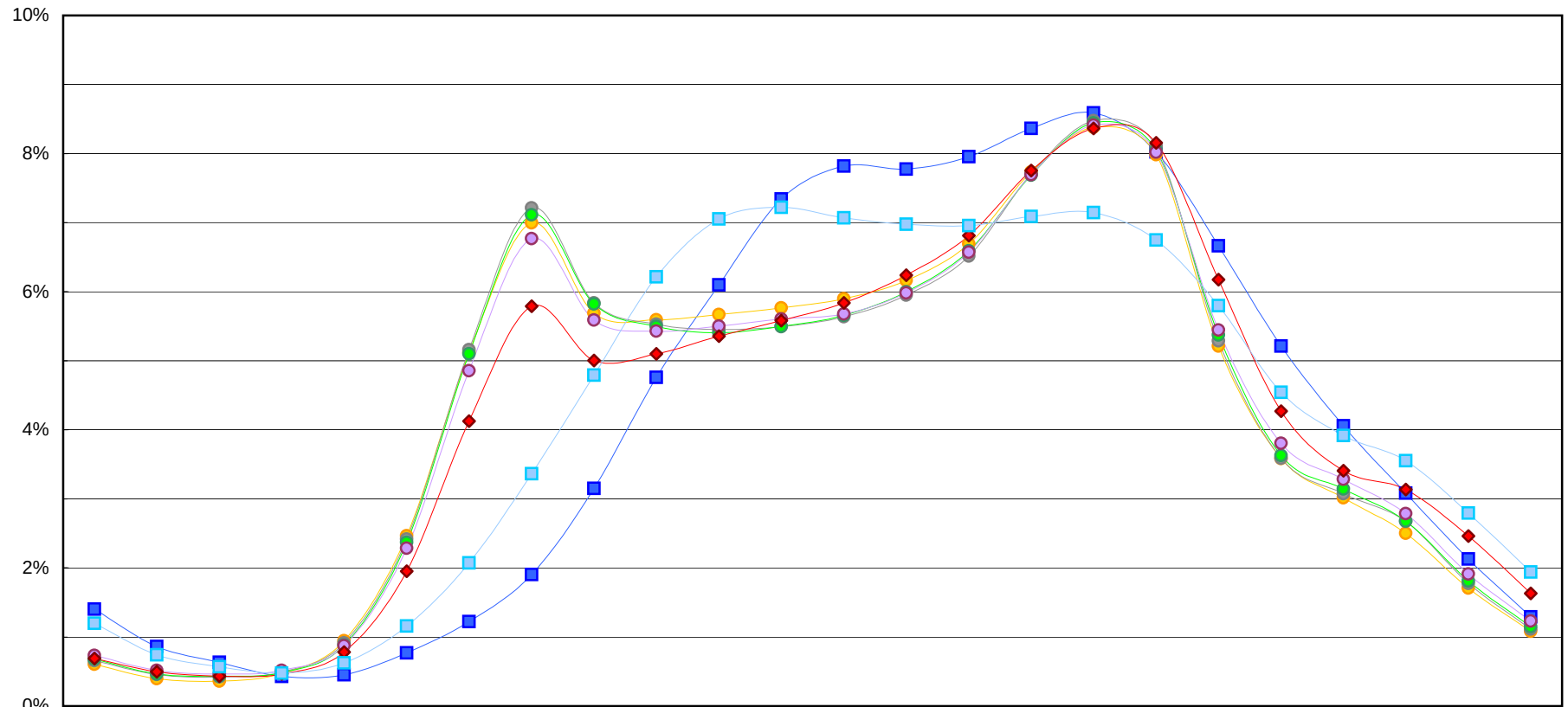


	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
SUN	1.40%	1.01%	0.79%	0.67%	0.65%	0.82%	1.23%	1.94%	3.05%	4.48%	5.92%	6.87%	7.21%	7.49%	7.90%	8.26%	8.35%	7.81%	6.70%	5.51%	4.40%	3.38%	2.44%	1.72%
MON	1.29%	0.98%	0.84%	0.85%	1.12%	1.99%	3.94%	5.41%	5.07%	5.41%	5.78%	5.98%	6.02%	6.24%	6.64%	7.19%	7.60%	7.18%	5.41%	4.22%	3.64%	3.08%	2.37%	1.77%
TUE	1.32%	1.05%	0.96%	0.99%	1.23%	2.08%	4.15%	5.77%	5.38%	5.46%	5.55%	5.59%	5.64%	5.87%	6.32%	7.02%	7.60%	7.21%	5.40%	4.18%	3.65%	3.21%	2.50%	1.87%
WED	1.35%	1.08%	1.00%	1.02%	1.24%	2.06%	4.04%	5.61%	5.25%	5.31%	5.44%	5.51%	5.56%	5.86%	6.35%	7.08%	7.67%	7.29%	5.51%	4.28%	3.75%	3.27%	2.55%	1.91%
THU	1.39%	1.10%	1.01%	1.03%	1.25%	1.98%	3.83%	5.31%	5.09%	5.31%	5.51%	5.61%	5.64%	5.93%	6.44%	7.09%	7.59%	7.24%	5.61%	4.41%	3.84%	3.31%	2.56%	1.91%
FRI	1.24%	0.98%	0.89%	0.89%	1.07%	1.68%	3.16%	4.39%	4.39%	4.85%	5.32%	5.59%	5.79%	6.28%	6.84%	7.43%	7.92%	7.73%	6.43%	5.01%	4.04%	3.39%	2.69%	1.97%
SAT	1.67%	1.23%	1.03%	0.93%	1.00%	1.34%	2.18%	3.44%	4.87%	6.18%	6.99%	7.10%	6.80%	6.72%	6.74%	6.75%	6.72%	6.29%	5.44%	4.54%	3.91%	3.42%	2.72%	1.99%

HOURLY

HOURLY DISTRIBUTION OF DAILY TRAFFIC 2004 RURAL PRIMARY

PERCENT

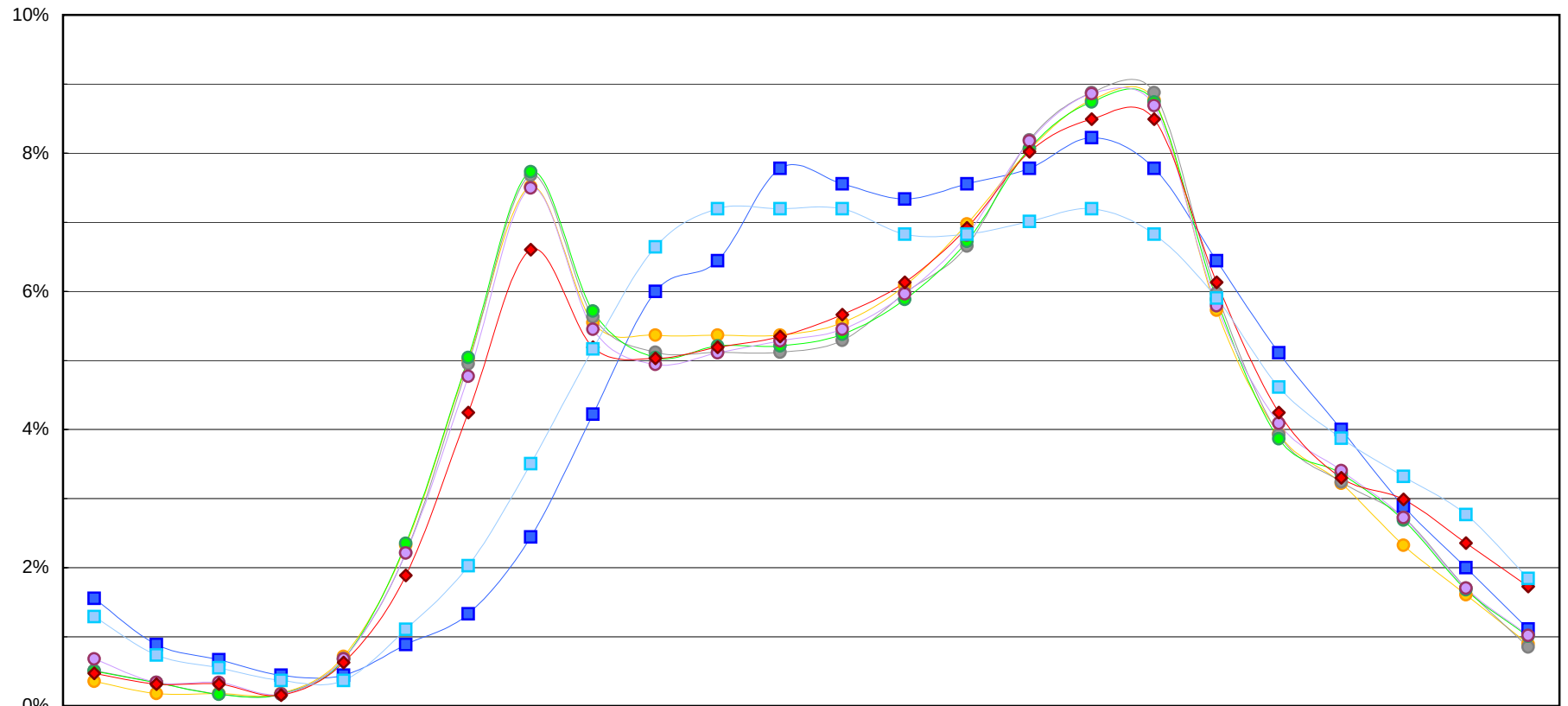


	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
SUN	1.41%	0.86%	0.63%	0.43%	0.45%	0.77%	1.22%	1.90%	3.15%	4.76%	6.10%	7.34%	7.82%	7.77%	7.96%	8.36%	8.59%	8.02%	6.66%	5.21%	4.06%	3.08%	2.13%	1.29%
MON	0.61%	0.40%	0.36%	0.47%	0.95%	2.46%	5.12%	7.00%	5.69%	5.59%	5.67%	5.76%	5.90%	6.16%	6.69%	7.74%	8.38%	7.98%	5.21%	3.58%	3.01%	2.50%	1.71%	1.08%
TUE	0.66%	0.46%	0.42%	0.49%	0.92%	2.42%	5.16%	7.21%	5.84%	5.53%	5.45%	5.49%	5.64%	5.95%	6.52%	7.71%	8.48%	8.11%	5.29%	3.59%	3.08%	2.67%	1.78%	1.12%
WED	0.68%	0.47%	0.43%	0.49%	0.88%	2.37%	5.10%	7.11%	5.82%	5.50%	5.41%	5.50%	5.66%	6.00%	6.59%	7.69%	8.44%	8.05%	5.37%	3.63%	3.14%	2.68%	1.81%	1.15%
THU	0.73%	0.52%	0.46%	0.52%	0.88%	2.29%	4.86%	6.77%	5.59%	5.43%	5.50%	5.61%	5.68%	5.98%	6.57%	7.70%	8.41%	8.02%	5.45%	3.80%	3.29%	2.79%	1.91%	1.23%
FRI	0.69%	0.50%	0.43%	0.46%	0.78%	1.95%	4.13%	5.79%	5.01%	5.10%	5.36%	5.58%	5.84%	6.24%	6.81%	7.76%	8.36%	8.16%	6.17%	4.27%	3.41%	3.13%	2.46%	1.63%
SAT	1.20%	0.74%	0.57%	0.48%	0.63%	1.16%	2.07%	3.36%	4.79%	6.22%	7.05%	7.22%	7.07%	6.98%	6.96%	7.09%	7.15%	6.75%	5.80%	4.54%	3.92%	3.55%	2.79%	1.94%

HOUR

HOURLY DISTRIBUTION OF DAILY TRAFFIC 2004 RURAL SECONDARY

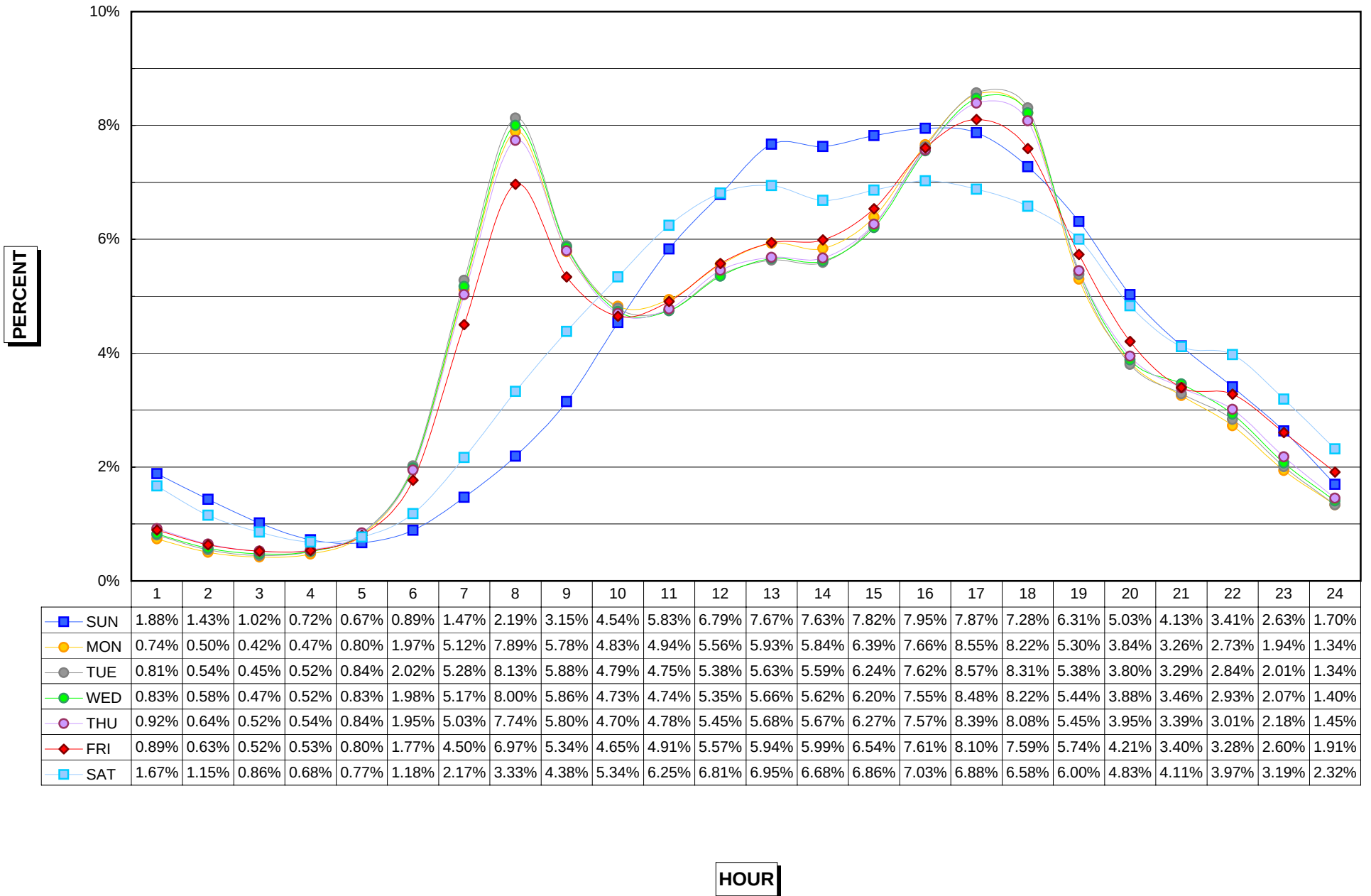
PERCENT



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
SUN	1.56%	0.89%	0.67%	0.44%	0.44%	0.89%	1.33%	2.44%	4.22%	6.00%	6.44%	7.78%	7.56%	7.33%	7.56%	7.78%	8.22%	7.78%	6.44%	5.11%	4.00%	2.89%	2.00%	1.11%
MON	0.36%	0.18%	0.18%	0.18%	0.72%	2.33%	5.01%	7.51%	5.55%	5.37%	5.37%	5.37%	5.55%	6.08%	6.98%	8.05%	8.77%	8.77%	5.72%	3.94%	3.22%	2.33%	1.61%	0.89%
TUE	0.51%	0.34%	0.17%	0.17%	0.68%	2.22%	4.95%	7.68%	5.63%	5.12%	5.12%	5.12%	5.29%	5.97%	6.66%	8.19%	8.87%	8.87%	5.97%	3.92%	3.24%	2.73%	1.71%	0.85%
WED	0.50%	0.34%	0.17%	0.17%	0.67%	2.35%	5.04%	7.73%	5.71%	5.04%	5.21%	5.21%	5.38%	5.88%	6.72%	8.07%	8.74%	8.74%	5.88%	3.87%	3.36%	2.69%	1.68%	1.01%
THU	0.68%	0.34%	0.34%	0.17%	0.68%	2.21%	4.77%	7.50%	5.45%	4.94%	5.11%	5.28%	5.45%	5.96%	6.81%	8.18%	8.86%	8.69%	5.79%	4.09%	3.41%	2.73%	1.70%	1.02%
FRI	0.47%	0.31%	0.31%	0.16%	0.63%	1.89%	4.25%	6.60%	5.19%	5.03%	5.19%	5.35%	5.66%	6.13%	6.92%	8.02%	8.49%	8.49%	6.13%	4.25%	3.30%	2.99%	2.36%	1.73%
SAT	1.29%	0.74%	0.55%	0.37%	0.37%	1.11%	2.03%	3.51%	5.17%	6.64%	7.20%	7.20%	7.20%	6.83%	6.83%	7.01%	7.20%	6.83%	5.90%	4.61%	3.87%	3.32%	2.77%	1.85%

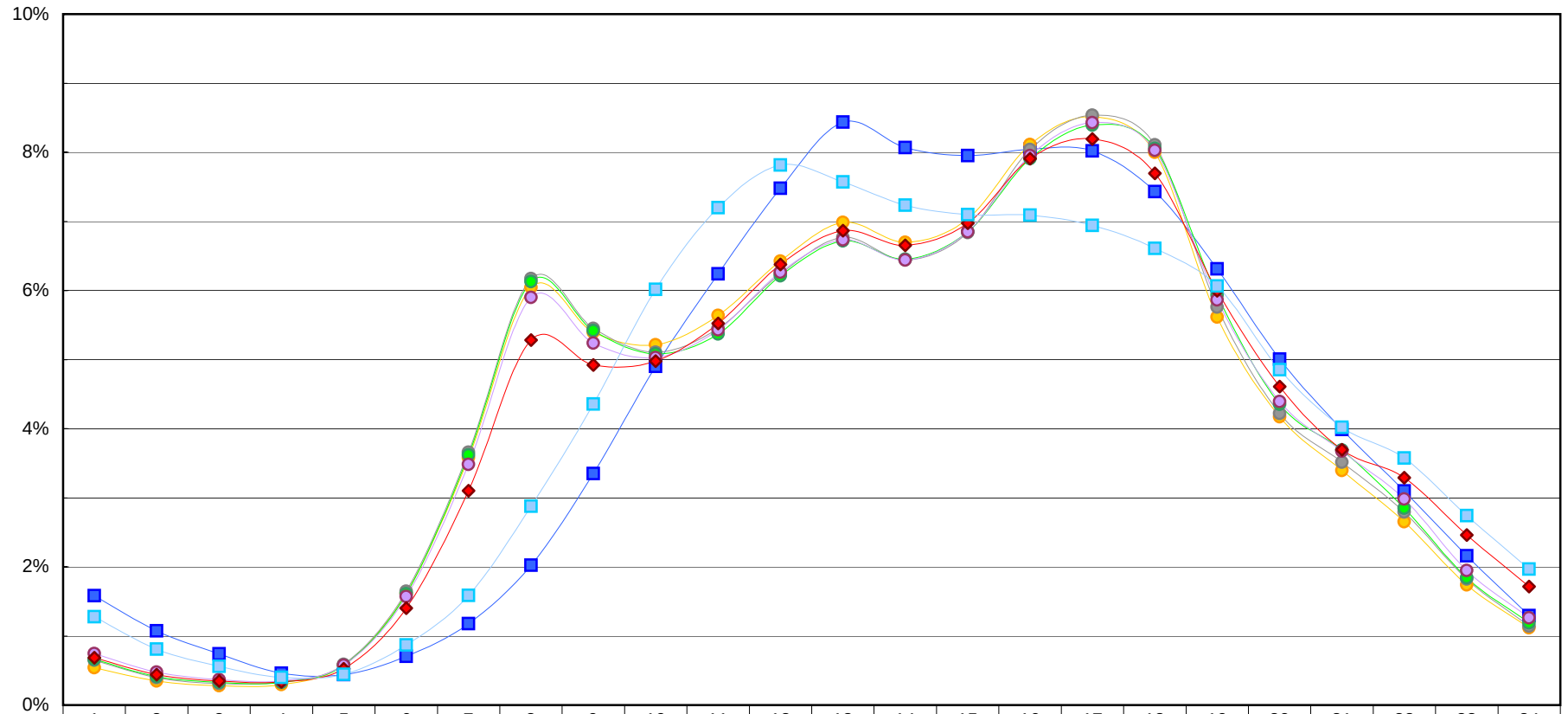
HOUR

HOURLY DISTRIBUTION OF DAILY TRAFFIC 2004 MUNICIPAL INTERSTATE



HOURLY DISTRIBUTION OF DAILY TRAFFIC 2004 MUNICIPAL PRIMARY

PERCENT

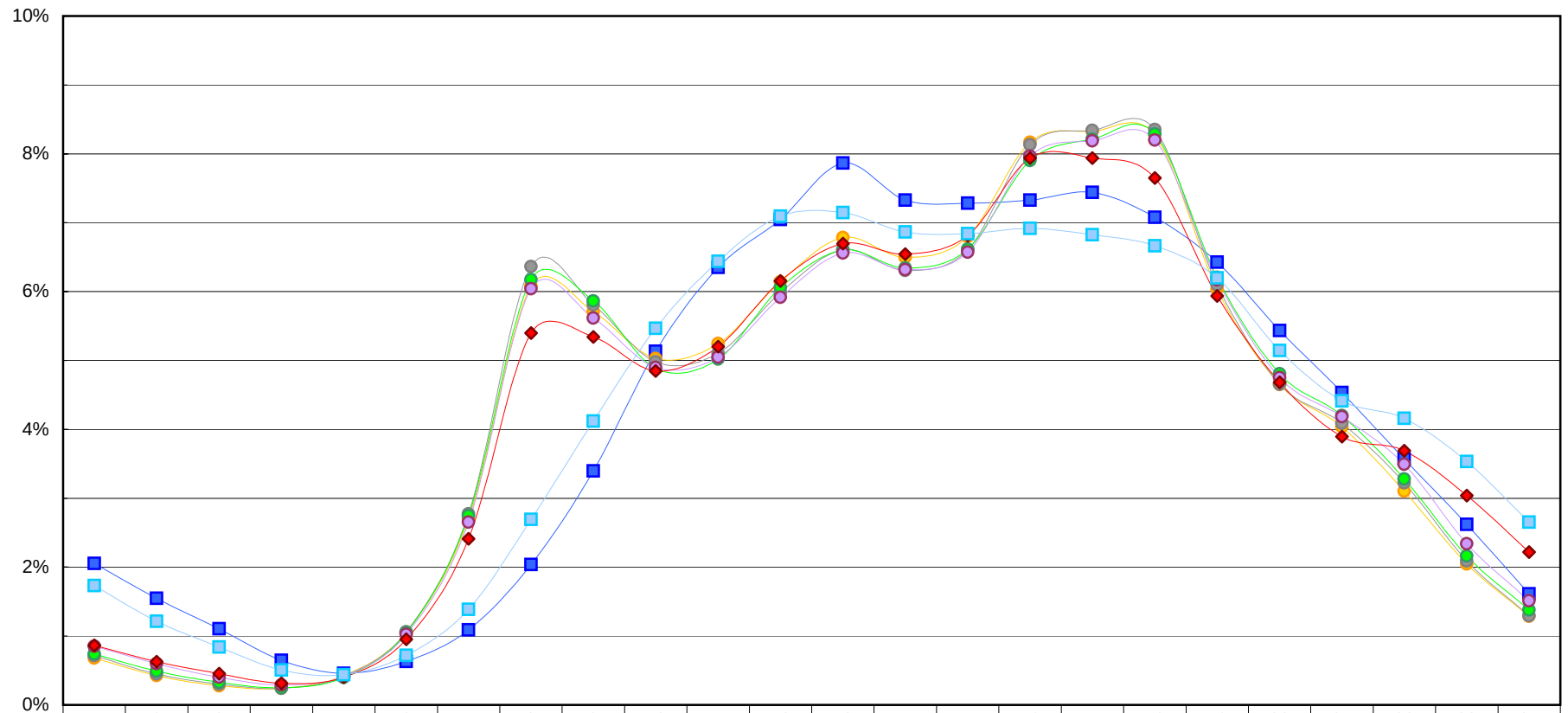


	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
SUN	1.58%	1.07%	0.74%	0.46%	0.44%	0.71%	1.18%	2.02%	3.35%	4.90%	6.24%	7.48%	8.44%	8.07%	7.95%	8.04%	8.02%	7.43%	6.31%	5.00%	3.99%	3.10%	2.16%	1.29%
MON	0.54%	0.35%	0.28%	0.30%	0.58%	1.62%	3.58%	6.04%	5.40%	5.21%	5.64%	6.43%	6.99%	6.70%	7.04%	8.11%	8.51%	8.00%	5.61%	4.17%	3.40%	2.65%	1.74%	1.12%
TUE	0.65%	0.40%	0.31%	0.34%	0.59%	1.65%	3.66%	6.17%	5.45%	5.10%	5.45%	6.24%	6.77%	6.44%	6.84%	8.04%	8.54%	8.11%	5.76%	4.22%	3.52%	2.79%	1.82%	1.14%
WED	0.66%	0.41%	0.33%	0.33%	0.58%	1.61%	3.62%	6.13%	5.42%	5.08%	5.37%	6.21%	6.72%	6.45%	6.85%	7.91%	8.39%	8.05%	5.93%	4.35%	3.69%	2.85%	1.84%	1.19%
THU	0.74%	0.48%	0.37%	0.35%	0.58%	1.57%	3.48%	5.90%	5.24%	5.03%	5.43%	6.27%	6.73%	6.44%	6.85%	7.95%	8.43%	8.03%	5.87%	4.39%	3.68%	2.98%	1.95%	1.26%
FRI	0.69%	0.44%	0.35%	0.34%	0.53%	1.40%	3.10%	5.28%	4.92%	4.98%	5.52%	6.38%	6.87%	6.65%	6.97%	7.91%	8.19%	7.70%	6.00%	4.61%	3.70%	3.29%	2.46%	1.71%
SAT	1.28%	0.81%	0.56%	0.40%	0.44%	0.87%	1.59%	2.88%	4.36%	6.02%	7.20%	7.81%	7.57%	7.23%	7.10%	7.09%	6.94%	6.61%	6.06%	4.86%	4.02%	3.58%	2.74%	1.97%

HOUR

HOURLY DISTRIBUTION OF DAILY TRAFFIC 2004 MUNICIPAL STREETS

PERCENT



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
SUN	2.05%	1.55%	1.11%	0.65%	0.46%	0.63%	1.09%	2.04%	3.40%	5.13%	6.35%	7.04%	7.87%	7.33%	7.28%	7.33%	7.44%	7.08%	6.43%	5.43%	4.53%	3.57%	2.62%	1.61%
MON	0.68%	0.42%	0.28%	0.24%	0.42%	1.05%	2.70%	6.08%	5.71%	5.03%	5.25%	6.14%	6.78%	6.49%	6.80%	8.17%	8.32%	8.27%	6.03%	4.65%	4.03%	3.10%	2.05%	1.28%
TUE	0.72%	0.45%	0.30%	0.24%	0.42%	1.06%	2.77%	6.36%	5.81%	4.98%	5.11%	5.98%	6.61%	6.31%	6.61%	8.13%	8.34%	8.35%	6.10%	4.65%	4.09%	3.22%	2.09%	1.29%
WED	0.74%	0.49%	0.33%	0.25%	0.40%	1.05%	2.74%	6.17%	5.86%	4.88%	5.02%	6.06%	6.60%	6.34%	6.62%	7.90%	8.21%	8.29%	6.21%	4.81%	4.20%	3.28%	2.16%	1.38%
THU	0.85%	0.60%	0.40%	0.29%	0.42%	1.03%	2.65%	6.04%	5.62%	4.90%	5.05%	5.91%	6.56%	6.32%	6.57%	7.97%	8.19%	8.20%	6.17%	4.75%	4.19%	3.49%	2.34%	1.51%
FRI	0.87%	0.63%	0.45%	0.31%	0.40%	0.95%	2.41%	5.40%	5.34%	4.85%	5.20%	6.15%	6.70%	6.54%	6.81%	7.94%	7.94%	7.65%	5.94%	4.68%	3.89%	3.69%	3.04%	2.22%
SAT	1.73%	1.21%	0.84%	0.51%	0.44%	0.72%	1.39%	2.69%	4.12%	5.47%	6.44%	7.09%	7.15%	6.87%	6.84%	6.92%	6.83%	6.67%	6.20%	5.15%	4.41%	4.16%	3.53%	2.65%

HOUR

SUMMARY OF ANALYSIS

Analysis of the Thirtieth Highest Hour at the Permanent Continuous Automatic Traffic Recorder Stations 1995 - 2004

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, 1995 through 2004.

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	12.24	10.45	378.02	9.66	5.80	11.92	-	-
Municipal	68.07	9.72	292.07	9.77	-	-	62.50	9.84

ANNUAL AVERAGE DAILY TRAFFIC BY STATIONS FOR THE YEARS 1994 TO 2004

RURAL INTERSTATE

STATION	ROUTE	LOCATION	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
100	I 29	3.0 MI N OF S JCT I 680 HONEY CREEK	18893	19696	19092	19300	19983	20419	20202	20192	21070	20906	21319
102	I 29	4.0 MI S OF US 34 PACIFIC JCT	9402	9596	10232	9708	10487	11247	11221	11402	11917	12010	12101
103	I 80	5.0 MI E OF IA 146 GRINNELL	22852	23077	22751	23892	25114	26366	26178	26249	27346	26917	26726
104	I 35	3.0 MI N OF IA 175 JEWELL	14472	14915	15811	16345	17177	17411	17547	17848	18596	18996	20269
105	I 29	3.8 MI S OF IA 175 ONAWA	11751	10865	10361	10011	10316	11200	11016	11092	11346	12031	12171
106	I 35	1.5 MI N OF IA 2 LEON	10175	10334	10683	11076	11907	12271	12486	12659	13234	13265	13233
109	I 35	3.0 MI N OF CO B20 HANLONTOWN	12651	12752	13550	13664	14534	14965	15221	15880	16575	17046	17556
110	I 80	1.5 MI W OF CO M16 SHELBY	17632	18427	19163	19791	20777	21572	21441	21468	22379	22254	22496
111	I 80	2.0 MI E OF IA 149 WILLIAMSBURG	24396	25004	25570	26002	28844	29838	29808	29952	31092	31021	31258
113	I 380	3.75 MI NW OF IA 150 BRANDON	9782	10132	10462	10914	11465	11854	12029	12224	12934	13422	14156
115	I 80	2.0 MI E OF US 71 ATLANTIC	14880	16001	16593	17001	17722	18365	18339	18377	19018	19013	19324
116	I 80	0.8 MI W OF 74TH ST WAUKEE		26808	28581	28235	31267	31937	34507	32492	34059	33413	33870
117	I 80	1.75 MI E OF E JCT I 35/80/235 ALTOONA			52053	52840	58151	60719	60851	62242	65755	66846	69050
119	I 80	1.5 MI E OF MIDDLE RD LECLAIRE								25685	28206	29720	29201
120	I 80	2.5 MI E OF CO RD X40 TIPTON						29391	29329	30323	31234	31513	32318

2004 EXPANSION FACTORS

RURAL INTERSTATE

MON - THU		MON	TUE	WED	THU	FRI	SAT	SUN
1.253	Jan	1.351	1.273	1.212	1.193	1.051	1.228	1.358
1.235	Feb	1.369	1.219	1.171	1.205	1.021	1.167	1.306
1.103	Mar	1.197	1.125	1.070	1.020	0.860	1.028	1.032
1.024	Apr	1.043	1.081	1.039	0.962	0.825	1.027	0.973
0.989	May	0.984	1.046	0.997	0.939	0.799	0.946	0.937
0.919	Jun	0.934	0.958	0.922	0.861	0.744	0.881	0.838
0.896	Jul	0.919	0.943	0.897	0.837	0.722	0.831	0.828
0.866	Aug	0.870	0.909	0.867	0.824	0.716	0.809	0.756
1.007	Sep	1.043	1.047	1.010	0.953	0.788	0.936	0.907
1.020	Oct	1.050	1.068	1.018	0.953	0.806	0.993	0.940
1.089	Nov	1.150	1.133	1.069	1.016	0.844	0.987	1.054
1.120	Dec	1.196	1.118	1.110	1.067	0.932	1.083	1.206

ANNUAL AVERAGE DAILY TRAFFIC BY STATIONS FOR THE YEARS 1994 TO 2004
MUNICIPAL INTERSTATE

STATION	ROUTE	LOCATION	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
701	I 380	BTWN WILSON AND 33RD CEDAR RAPIDS	50302	53207	53950	55762	58581	60722	60803	61973	63391	63338	64289
703	I 380	AT J AVE S OF COLDSTREAM CEDAR RAPIDS	68504	70745	73819	75550	77246	78696	78969	79802	81023	81222	82356
704	I 29/80	0.6 MI W OF IA 192 COUNCIL BLUFFS	51299	53891	58802	59356	65887	68638	69496	70860	76024	74081	75623
705	I 74	0.6 MI S OF US 6 BETTENDORF	38099	37738	39192	38593	39730	41466	43683	47438	48380	48022	47671

2004 EXPANSION FACTORS
MUNICIPAL INTERSTATE

MON - THU		MON	TUE	WED	THU	FRI	SAT	SUN
1.027	Jan	1.102	1.026	0.997	0.995	0.924	1.218	1.586
1.008	Feb	1.121	0.985	0.959	0.986	0.906	1.147	1.542
0.956	Mar	0.990	0.961	0.935	0.938	0.861	1.114	1.387
0.907	Apr	0.927	0.919	0.901	0.887	0.843	1.134	1.372
0.932	May	1.012	0.912	0.904	0.889	0.849	1.084	1.304
0.884	Jun	0.910	0.893	0.876	0.862	0.822	1.108	1.267
0.882	Jul	0.907	0.893	0.877	0.853	0.824	1.099	1.288
0.888	Aug	0.903	0.898	0.885	0.868	0.826	1.096	1.255
0.895	Sep	0.918	0.903	0.891	0.877	0.818	1.100	1.294
0.906	Oct	0.927	0.919	0.898	0.885	0.831	1.112	1.322
0.927	Nov	0.956	0.936	0.914	0.905	0.832	1.104	1.393
0.915	Dec	0.948	0.921	0.903	0.893	0.834	1.092	1.404

ANNUAL AVERAGE DAILY TRAFFIC BY STATIONS FOR THE YEARS 1994 TO 2004

RURAL PRIMARY

STATION	ROUTE	LOCATION	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
201	US 65	2.7 MI N OF IA 3 HAMPTON	3415	3416	3350	3535	3492	3152	2958	2869	3005	2981	2959
202	US 71	2.0 MI N OF IA 44 HAMLIN	3283	3313	3363	3480	3295	3082	3238	3162	3458	3416	3544
204	US 75	1.3 MI N OF CO C60 HINTON	9238	9601	9888	9812	9565	9934	9960	10003	11049	11440	11718
205	US 218	2.7 MI S OF IA 78 SWEDESBURG	6133	6303	6380	6615	7290	8018	8144	8930	9346	9671	10174
206	US 30	AT BOONE/STORY CO LINE NAPIER	7381	7538	8210	8843	9748	10479	10431	10920	11746	12011	12366
207	US 18	2.2 MI E OF US 169 ALGONA	2643	2881	2937	3118	3177	3186	3158	3220	3363	3353	3381
208	US 6	3.0 MI E OF CO V66 MARENGO	3103	3143	3183	3297	3439	3511	3386	3404	3511	3437	3466
209	US 67	1.5 MI S OF CO F45 PRINCETON	4329	4134	3903	4044	4532	4690	4575	4436	4380	4305	4433
210	US 18	4.2 MI E OF IA 60 SHELTON	3499	3470	3513	3679	3777	3800	3702	3736	3771	3776	3939
211	US 20	2.8 MI E OF CO N57 ROCKWELL CITY	2664	2629	2735	2783	2951	2888	2845	2862	2929	2984	3152
212	IA 92	0.6 MI W OF CO V45 SIGOURNEY	2750	2772	2840	3007	3053	2954	2832	2849	2868	2821	2792
213	US 30	1.8 MI E OF US 65 COLO	4713	4840	4894	5173	5303	5666	5753	5765	5988	5431	5332
214	US 61	3.8 MI N OF US 34 BURLINGTON	6972	7064	7222	7167	7574	7532	7275	7101	7234	7200	7183
216	US 34/169	2.5 MI E OF W JCT US 169 AFTON	3183	3193	3178	3364	3520	3491	3647	3651	3690	3913	3835
217	US 18	2.5 MI E OF I-35 CLEAR LAKE	14145	14741	14886	15646	15833	15625	13978	14089	14615	14916	14876
218	IA 44	0.2 MI W OF US 169 ADEL	3388	3443	3291	3227	3239	3382	3478	3466	3528	3645	3707
219	US 34	1.0 MI W OF I-35 OSCEOLA	4120	4056	4235	4414	4527	4612	4675	4618	4650	4742	4762
220	US 52	1.0 MI NW OF US 18 POSTVILLE	1626	1723	1686	1682	1744	1762	1656	1698	1793	1746	1746
221	IA 9	2.5 MI W OF CO N52 ARMSTRONG	1815	1700	1751	1805	1829	1788	1780	1750	1760	1748	1768
222	IA 3	0.1 MI W OF CO P66 HUMBOLDT	2375	2378	2376	2390	2578	2569	2483	2443	2323	2235	2183
223	IA 48	4.0 MI S OF IA 92 GRISWOLD	1367	1306	1292	1285	1427	1402	1366	1306	1309	1297	1209
224	US 59	0.5 MI S OF CO F16 DEFIANCE	2290	2267	2366	2477	2664	2676	2552	2572	2577	2557	2635
226	US 18	3.8 MI E OF CO W14 WEST UNION	2214	2375	2439	2428	2479	2525	2539	2380	2385	2431	2358
228	IA 117	2.5 MI S OF US 65 MINGO	945	856	864	908	915	987	958	965	1189	946	948
229	IA 78	1.2 MI W OF CO X23 WINFIELD	800	795	799	823	885	879	813	829	798	775	733
230	US 169	3.5 MI S OF S JCT IA 92 WINTERSET	1819	1888	1855	1831	1919	1985	2032	1858	1770	1837	1795
231	IA 148	9.3 MI N OF IA 92 ANITA	715	674	703	717	758	780	812	769	761	756	776
233	IA 110	1.5 MI S OF CO C65 SCHALLER	1364	1422	1380	1356	1378	1321	1284	1299	1299	1301	1337
234	IA 12	2.5 MI N OF CO K18 AKRON	1509	1496	1618	1605	1577	1596	1637	1589	1555	1548	1469
235	IA 143	3.4 MI S OF IA 10 MARCUS	717	755	754	749	880	866	821	831	825	800	795
236	IA 196	3.0 MI S OF US 20 SAC CITY	983	1013	1078	1140	1117	1139	1079	1106	1109	1082	1094
238	IA 149	2.1 MI N OF IA 78 MARTINSBURG	982	1164	999	995	998	1013	1014	1096	1153	1175	1216
240	IA 2	3.0 MI E OF US 275 SIDNEY	1884	1821	1900	1864	1935	1969	1840	1841	1882	1887	1936
241	IA 13	5.0 MI S OF US 20 RYAN	4042	4114	4259	4520	4793	5051	5058	5118	5048	4979	4694
242	US 61	3.8 MI N OF CO F41 ELDRIDGE	11358	11681	12668	13008	13960	14614	14483	15108	15911	16104	16459
243	US 30	0.3 MI E OF CO Z24 DEWITT	6915	7163	7959	8428	8528	8387	8477	8723	9222	9295	9413
244	IA 1	0.8 MI S OF CO F67 KALONA	5615	5799	6047	5925	5932	6293	5798	5804	5948	5950	5969
245	US 20	1.5 MI E OF CO V62 JESUP	7070	7252	7777	8231	8686	9105	9115	9185	9538	10032	10392
246	IA 141	1.0 MI E OF WILLIS AVE PERRY	8217	8517	8496	9058	9473	9701	9598	9630	9805	9785	9940
247	US 20	3.0 MI E OF E JCT IA 17 WEBSTER CITY	5220	5407	5650	6000	6415	6537	6560	6685	6848	6995	7827
248	IA 21	2.8 MI N OF US 6 BELLE PLAINE						1303	1248	1260	1297	1283	1318
249	US 218	0.5 MI N OF HILLS INTERCHANGE HILLS								15447	16116	16404	16852
250	US 65	1.5 MI N OF IA 163 PLEASANT HILL						15690	16724	18451	20559	22221	23923

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

2004 EXPANSION FACTORS RURAL PRIMARY

MON - THU		MON	TUE	WED	THU	FRI	SAT	SUN
1.095	Jan	1.172	1.098	1.068	1.054	0.945	1.123	1.486
1.077	Feb	1.185	1.046	1.027	1.065	0.959	1.050	1.443
1.010	Mar	1.057	1.017	0.988	0.977	0.869	1.025	1.270
0.933	Apr	0.947	0.946	0.940	0.909	0.817	0.987	1.161
0.940	May	0.977	0.938	0.933	0.906	0.811	0.934	1.100
0.891	Jun	0.906	0.906	0.887	0.864	0.779	0.934	1.047
0.887	Jul	0.903	0.903	0.884	0.860	0.780	0.939	1.064
0.897	Aug	0.911	0.909	0.898	0.873	0.783	0.932	1.030
0.916	Sep	0.939	0.927	0.923	0.889	0.783	0.927	1.081
0.948	Oct	0.965	0.958	0.952	0.921	0.814	0.995	1.162
0.973	Nov	1.000	0.981	0.963	0.951	0.840	1.025	1.265
0.974	Dec	1.022	0.973	0.965	0.940	0.850	1.006	1.311

ANNUAL AVERAGE DAILY TRAFFIC BY STATIONS FOR THE YEARS 1994 TO 2004

MUNICIPAL PRIMARY

STATION	ROUTE	LOCATION	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
801	US 34	E OF HARRISON ST MT PLEASANT	14565	14598	14415	14245	15316	16087	14866	14032	13998	13942	13728
** 802	US 71	W OF MEMPHIS AVE SPIRIT LAKE	15019	16103	15391	13768	13090	13207	12667	12948	12038	11884	12408
803	IA 12	ON VIADUCT E OF COURT ST SIOUX CITY	26877	27471	27859	27939	28682	27834	26772	27293	26866	26579	25631
804	IA 4	N OF 4TH AVE NW POCAHONTAS	3220	3027	3089	3230	3480	3213	3059	3049	3019	2962	3012
805	IA 148	S OF 11TH ST CORNING	3465	3513	3383	3360	3389	3351	3256	3208	3325	3230	3223
806	US 6	E OF SHASTA WINDSOR HEIGHTS	21651	21377	22286	22545	22960	22551	22199	21766	21952	21382	22129
808	US 71	S OF BIRCH ST AUDUBON	5422	5737	5813	5705	6305	6862	5177	4592	4811	4757	4992
809	IA 14	N OF WOODLAND ST MARSHALLTOWN	6288	6514	6956	6709	6771	6736	6729	6401	6636	6604	6540
810	IA 92	W OF N ST INDIANOLA	8991	9824	9835	9966	10830	11109	10513	11077	11793	11634	11725
811	IA 192	S OF AVE N COUNCIL BLUFFS	11214	10071	10252	10754	10431	10419	10474	10792	10061	9665	9442
812	IA 122	W OF VIRGINIA AVE MASON CITY	15987	16255	16094	15996	15697	15650	12925	13941	13489	13326	13052
813	US 6	E OF PINE ST DAVENPORT	20465	20865	21037	21055	20998	21129	20440	20584	19789	19891	21888
815	IA 922	BTWN WILEY BLVD & WESTDALE CDR RPDS	7267	7564	8033	8062	8136	8107	8044	8249	8560	8783	9027
816	US 34	W OF US 61 WEST BURLINGTON	11472	12174	12599	12557	13117	13716	13015	13036	13162	13096	13085
819	IA 9	EAST OF 14TH ST OSAGE	5575	5640	5810	6299	6900	7047	6750	6024	5857	5627	5546
820	IA 17	N OF NW 11TH ST EAGLE GROVE	3283	3392	3381	3491	3591	3609	3443	3151	2970	2934	2902
821	IA 4	S OF EDGEWOOD AVE E JEFFERSON	4397	4353	4459	4504	4796	4790	4548	4405	4285	4206	4343
823	US 6	BETWEEN SYCAMORE & 1ST AVE IOWA CITY	20630	20512	20619	21396	21554	21880	20968	21027	21564	21677	21858
824	US 69	BETWEEN 15TH AND 16TH ST AMES	17403	17509	17393	18458	19802	19468	19214	19331	19624	19394	19737
826	US 65	1.5 MI NE OF I-80 BONDURANT	9121	9496	9498	9956	10509	10708	10710	10863	11068	11293	11824
827	US 61/151	W OF MISSISSIPPI R DUBUQUE		16534	17266	17003	17629	18001	18133	18270	18716	19036	19188
828	IA 150	S OF 12TH ST OELWEIN						6928	6840	6652	6600	6470	6555
829	US 59	S OF 5TH AVE SHENANDOAH							10383	9688	9842	9697	9964
830	IA 23	S OF IA 92 OSKALOOSA									3622	3506	3279

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

2004 EXPANSION FACTORS

MUNICIPAL PRIMARY

MON - THU		MON	TUE	WED	THU	FRI	SAT	SUN
1.068	Jan	1.118	1.081	1.039	1.041	0.938	1.124	1.537
1.040	Feb	1.116	1.019	0.995	1.040	0.936	1.063	1.502
0.998	Mar	1.031	1.005	0.973	0.984	0.884	1.046	1.368
0.925	Apr	0.932	0.926	0.922	0.922	0.844	0.982	1.277
0.936	May	0.999	0.924	0.909	0.901	0.822	0.947	1.206
0.907	Jun	0.925	0.912	0.905	0.889	0.831	1.003	1.222
0.921	Jul	0.937	0.932	0.913	0.906	0.844	1.010	1.250
0.928	Aug	0.939	0.937	0.927	0.913	0.845	1.014	1.216
0.931	Sep	0.951	0.943	0.927	0.912	0.839	1.005	1.245
0.950	Oct	0.966	0.959	0.946	0.932	0.846	1.010	1.268
0.957	Nov	0.977	0.956	0.949	0.949	0.857	1.032	1.325
0.943	Dec	0.975	0.947	0.933	0.923	0.850	0.995	1.337

ANNUAL AVERAGE DAILY TRAFFIC BY STATIONS FOR THE YEARS 1994 TO 2004

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

1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
256	246	275	297	297	302	294	288	292	286	303
1006	881	942	964	1005	1043	964	931	1005	985	1001
930	975	948	976	963	923	943	975	936	875	845
1147	1166	1174	1230	1189	1177	1138	1107	1115	1075	1005
595	596	616	583	630	646	623	572	599	614	643
510	538	526	524	531	572	558	568	625	595	575
1128	1204	1232	1317	1315	1316	1230	1257	1308	1309	1341
318	329	343	335	357	364	369	353	360	360	361
664	700	705	699	748	803	959	972	998	992	999
569	576	578	570	588	559	526	518	533	531	529
742	782	835	869	856	795	758	800	861	847	864
1311	1348	1316	1259	1295	1438	1386	1364	1405	1383	1406
557	583	606	627	545	659	675	682	734	746	707
730	720	712	721	781	740	697	675	647	638	667
649	656	661	655	716	743	706	706	721	734	712

GRAVEL

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

1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
29	29	28	28	28	25	22	24	26	27	28
32	34	31	31	28	30	29	36	33	36	52
49	48	39	37	40	42	39	38	38	40	51
94	106	99	90	78	87	75	77	91	103	115
71	74	67	62	54	57	54	43	60	57	56
64	70	81	81	93	86	80	73	68	67	76
68	69	68	61	73	66	69	62	62	73	75

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

2004 EXPANSION FACTORS

SECONDARY

MON - THU		MON	TUE	WED	THU	FRI	SAT	SUN
1.157	Jan	1.267	1.165	1.104	1.104	1.011	1.260	1.627
1.205	Feb	1.340	1.151	1.137	1.209	1.145	1.261	1.698
1.053	Mar	1.115	1.052	1.015	1.022	0.933	1.131	1.394
0.923	Apr	0.943	0.937	0.910	0.912	0.843	0.990	1.230
0.912	May	0.964	0.894	0.888	0.892	0.833	0.960	1.144
0.877	Jun	0.887	0.871	0.873	0.874	0.804	0.968	1.116
0.878	Jul	0.884	0.886	0.877	0.864	0.831	0.979	1.125
0.939	Aug	0.946	0.942	0.940	0.927	0.858	1.033	1.175
0.896	Sep	0.913	0.900	0.899	0.879	0.826	0.977	1.165
0.893	Oct	0.899	0.889	0.888	0.896	0.817	0.947	1.122
0.931	Nov	0.959	0.914	0.916	0.938	0.863	1.009	1.253
1.000	Dec	1.060	1.040	0.956	0.950	0.888	1.067	1.364

ANNUAL AVERAGE DAILY TRAFFIC BY STATIONS FOR THE YEARS 1994 TO 2004

MUNICIPAL STREETS

STATION	ROUTE	LOCATION	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
900	LAKE ST	N OF 3RD ST STORM LAKE	3931	3858	3562	3284	3511	3662	3508	3502	3266	3128	3046
901	2ND AVE N	E OF 15TH ST FORT DODGE	7042	6913	6870	6932	7331	7264	7211	7368	6681	6471	6795
902	LOCUST ST	E OF SPRING ST DAVENPORT	20893	21191	21731	21483	22938	23322	22415	22498	23162	22986	22382
903	JEFFERSON	NE OF E 5TH ST OTTUMWA	6997	7721	7392	7203	7030	6905	6678	6768	6935	6862	6901
904	JOHNSON	W OF JANICE DR CEDAR RAPIDS	10091	10020	10221	9965	10036	9527	9821	10174	9499	10202	10381
905	N'WESTERN	N OF 20TH ST AMES	2528	2719	3092	2854	2910	2842	2727	2741	2791	2797	2652
906	DUBUQUE	S OF DAVENPORT ST IOWA CITY	13480	13573	13976	13572	14484	15358	15324	15899	16201	15593	15615
907	COLLEGE	S OF 23RD ST CEDAR FALLS	9008	9258	8978	8963	9454	9469	9564	9973	9272	9036	8440
908	LIND'WOOD	S OF 35TH ST SIOUX CITY	1112	1115	1176	1138	1177	1171	1193	1139	1171	1134	1129
909	HAMILTON	N OF CLIFTON AVE SIOUX CITY	13153	12044	14688	14675	14979	15700	15280	15448	15596	15335	14789
910	GRANDVIEW	SE OF PLYMOUTH CT DUBUQUE	9926	9313	9158	9940	8982	9020	8973	9090	9218	9272	9402
911	HUMBOLDT	S OF 4TH ST BODE	961	1096	939	926	916	942	886	898	869	794	773
912	ELM ST	N OF LUCAS ST CRESTON					4301	4207	4066	4024	4054	4081	4422

2004 EXPANSION FACTORS MUNICIPAL STREETS

MON - THU		MON	TUE	WED	THU	FRI	SAT	SUN
1.057	Jan	1.111	1.051	1.034	1.037	0.960	1.189	1.450
1.027	Feb	1.104	1.009	0.987	1.016	0.941	1.138	1.411
0.998	Mar	1.029	1.002	0.973	0.989	0.924	1.152	1.374
0.902	Apr	0.925	0.915	0.885	0.888	0.840	1.049	1.279
0.941	May	1.025	0.917	0.908	0.902	0.853	0.980	1.211
0.950	Jun	0.968	0.944	0.950	0.944	0.913	1.111	1.301
0.950	Jul	0.968	0.951	0.945	0.937	0.894	1.105	1.304
0.951	Aug	0.964	0.958	0.953	0.930	0.877	1.072	1.258
0.910	Sep	0.931	0.919	0.907	0.892	0.836	1.040	1.192
0.928	Oct	0.947	0.935	0.919	0.913	0.857	1.054	1.211
0.942	Nov	0.968	0.936	0.932	0.937	0.866	1.075	1.298
0.961	Dec	1.013	0.981	0.934	0.926	0.875	1.078	1.359

ANNUAL AVERAGE DAILY TRAFFIC BY STATIONS FOR THE YEARS 1994 TO 2004

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

1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
		7488	7712	7823	7985	8197	8178	8174	8358	8497
3247	3233	3264	3264	3434	3557	3292	3328	3437	3492	3650
3796	3780	3945	4178	4207	4540	4531	4344	4544	4926	5541

SECONDARY

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.

1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
275	264	277	248	250	250	250	260	223	203	210
		1274	1222	1319	1170	1200	1032	994	937	826
				329	324	257	256	301	346	348

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.

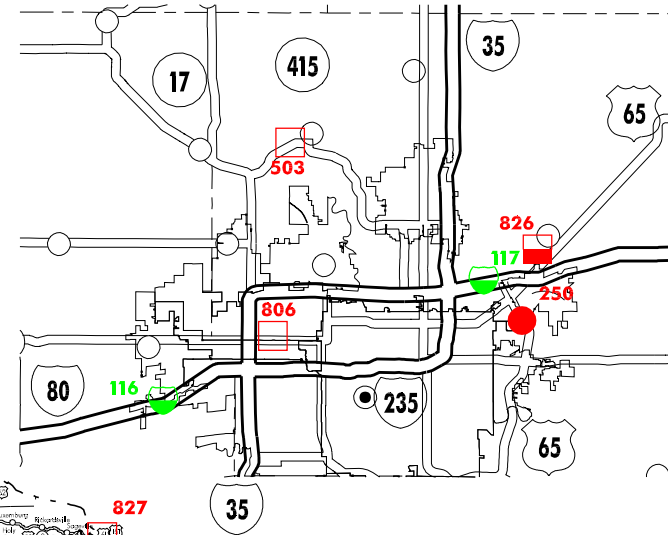
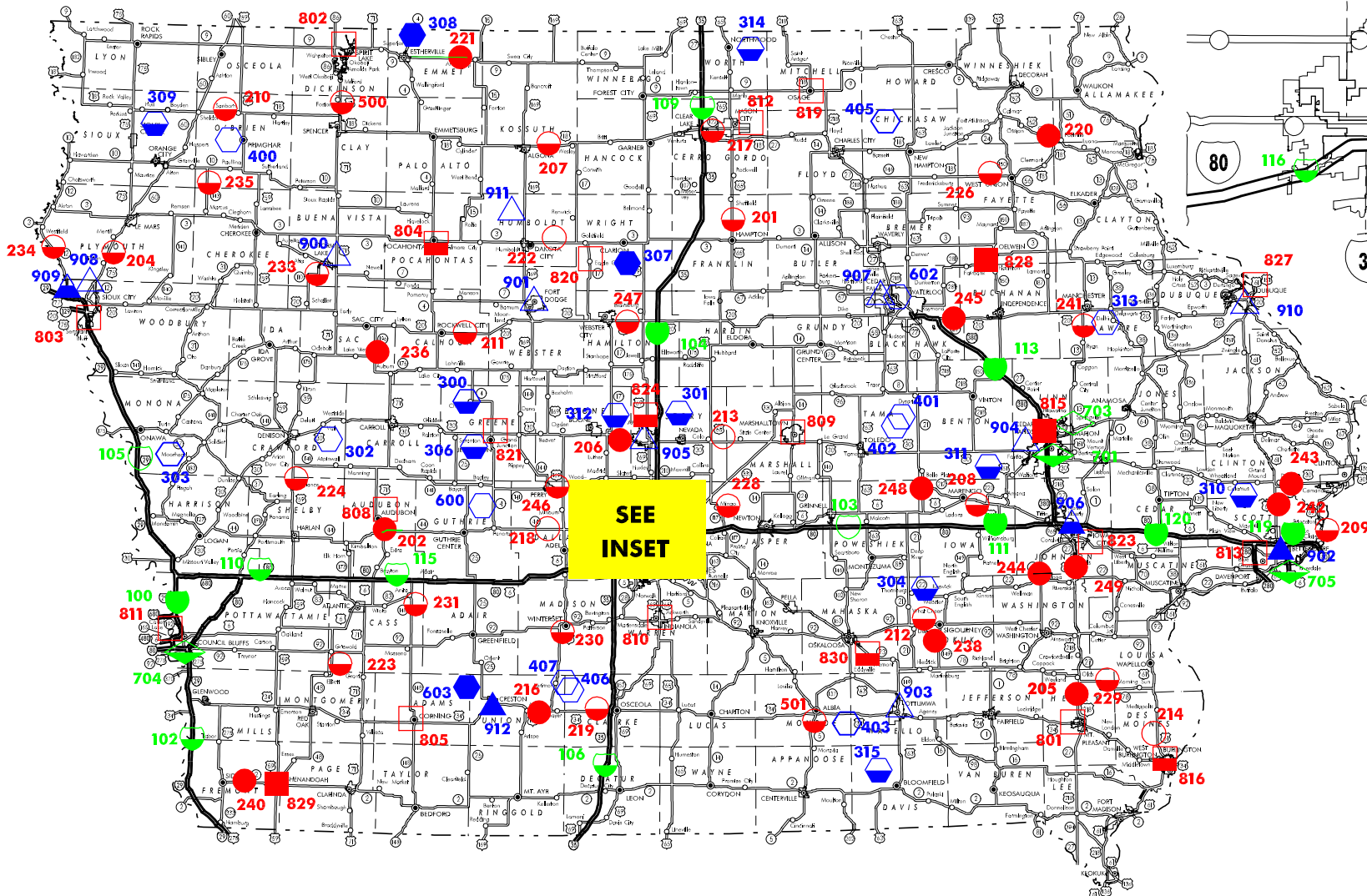
2004 EXPANSION FACTORS

RECREATIONAL

MON - THU		MON	TUE	WED	THU	FRI	SAT	SUN
1.212	Jan	1.283	1.209	1.201	1.165	1.054	1.233	1.811
1.178	Feb	1.273	1.121	1.161	1.173	1.080	1.191	1.696
1.090	Mar	1.124	1.091	1.082	1.063	0.976	1.154	1.547
0.966	Apr	0.991	0.971	0.967	0.946	0.867	1.012	1.316
0.919	May	0.924	0.919	0.936	0.901	0.823	0.888	1.098
0.827	Jun	0.835	0.834	0.828	0.811	0.722	0.761	0.882
0.799	Jul	0.807	0.818	0.803	0.772	0.692	0.750	0.865
0.851	Aug	0.855	0.865	0.859	0.827	0.736	0.803	0.891
0.918	Sep	0.929	0.946	0.929	0.884	0.779	0.815	0.990
1.011	Oct	1.035	1.009	1.019	0.987	0.895	1.090	1.331
1.051	Nov	1.073	1.039	1.055	1.039	0.962	1.185	1.539
1.061	Dec	1.132	1.028	1.063	1.030	0.967	1.151	1.615

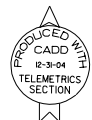
AUTOMATIC TRAFFIC RECORDER LOCATIONS

JANUARY 1, 2004



 Iowa Department
of Transportation

Office of
Transportation Data
Phone 515-239-1526



	13 CLASSES AND SPEED BY AXLE	3 CLASSES AND SPEED BY LENGTH	VOLUME ONLY
RURAL INTERSTATE		6 	7 
MUNICIPAL INTERSTATE		0 	3 
RURAL PRIMARY		16 	25 
MUNICIPAL PRIMARY		3 	5 
RURAL SECONDARY		3 	10 
MUNICIPAL STREETS		2 	2 
TOTAL	127	30	52