



AUTOMATIC TRAFFIC RECORDERS 1993 - 2003

Prepared by

OFFICE OF TRANSPORTATION DATA

In Cooperation With

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

PHONE 515-239-1526

JANUARY 2004

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INTRODUCTION

This report contains graphic comparisons of daily and monthly traffic collected on Iowa's highway system at 128 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-seven (47) are on the Rural Primary system, twenty-four (24) 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 25 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 1994 - 2003.

Information from the permanent traffic recorders indicates no change in statewide travel from 2002 to 2003. The estimated vehicle miles of travel for 2003 is 31.36 billion. Final 2003 traffic figures will be published near June 2004, when all traffic data collected during 2003 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

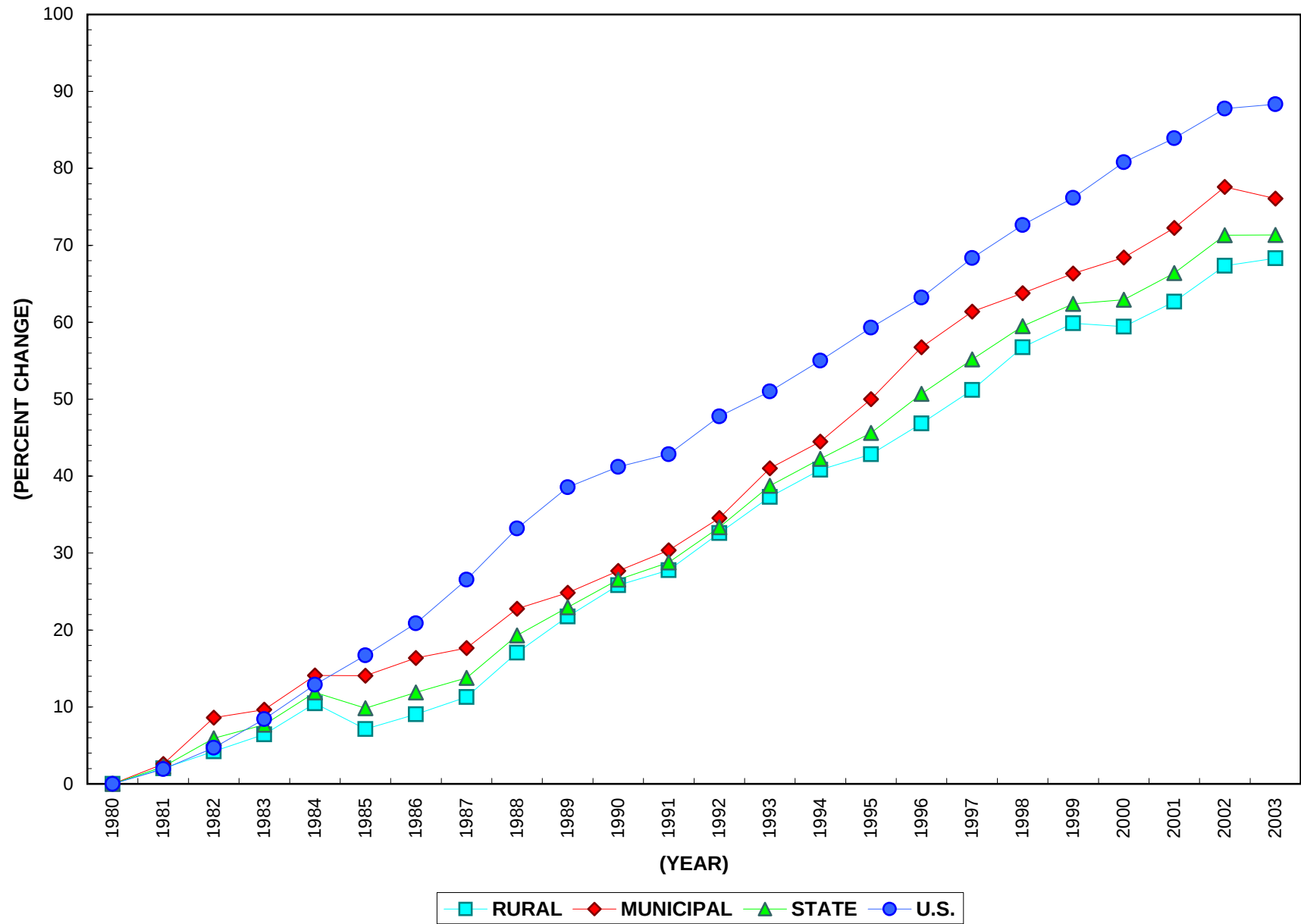
IOWA ROAD SYSTEMS

	2003 COMPARED TO 2002
RURAL INTERSTATE	+ 1%
RURAL PRIMARY	+1%
RURAL SECONDARY	-1%
RURAL TOTAL	+ 1%
MUNICIPAL INTERSTATE	-1%
MUNICIPAL PRIMARY	-1%
MUNICIPAL STREETS	-1%
MUNICIPAL TOTAL	-1%
STATE TOTAL	NO CHANGE

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.

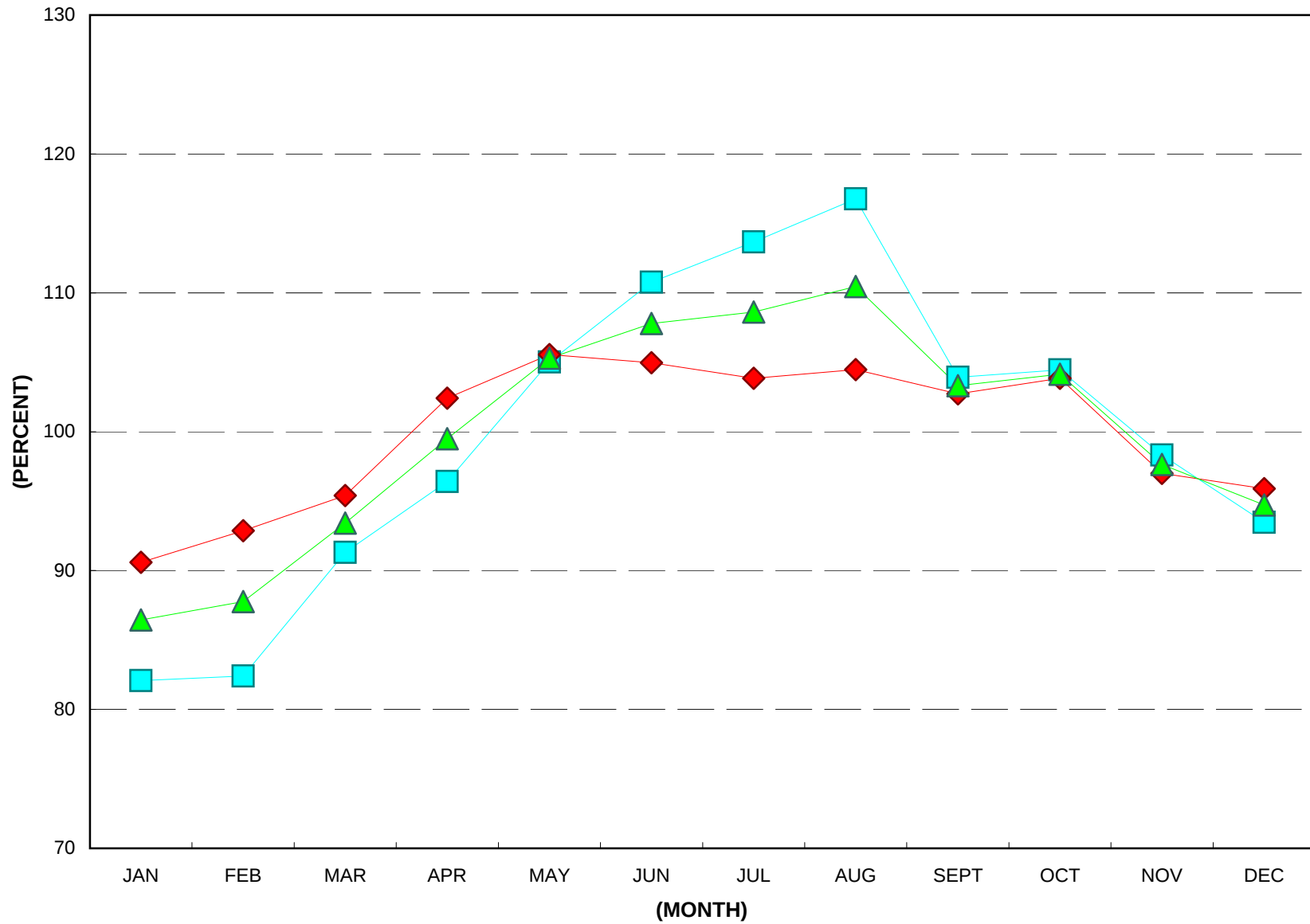
PERCENT CHANGE IN TRAFFIC

BASE YEAR 1980



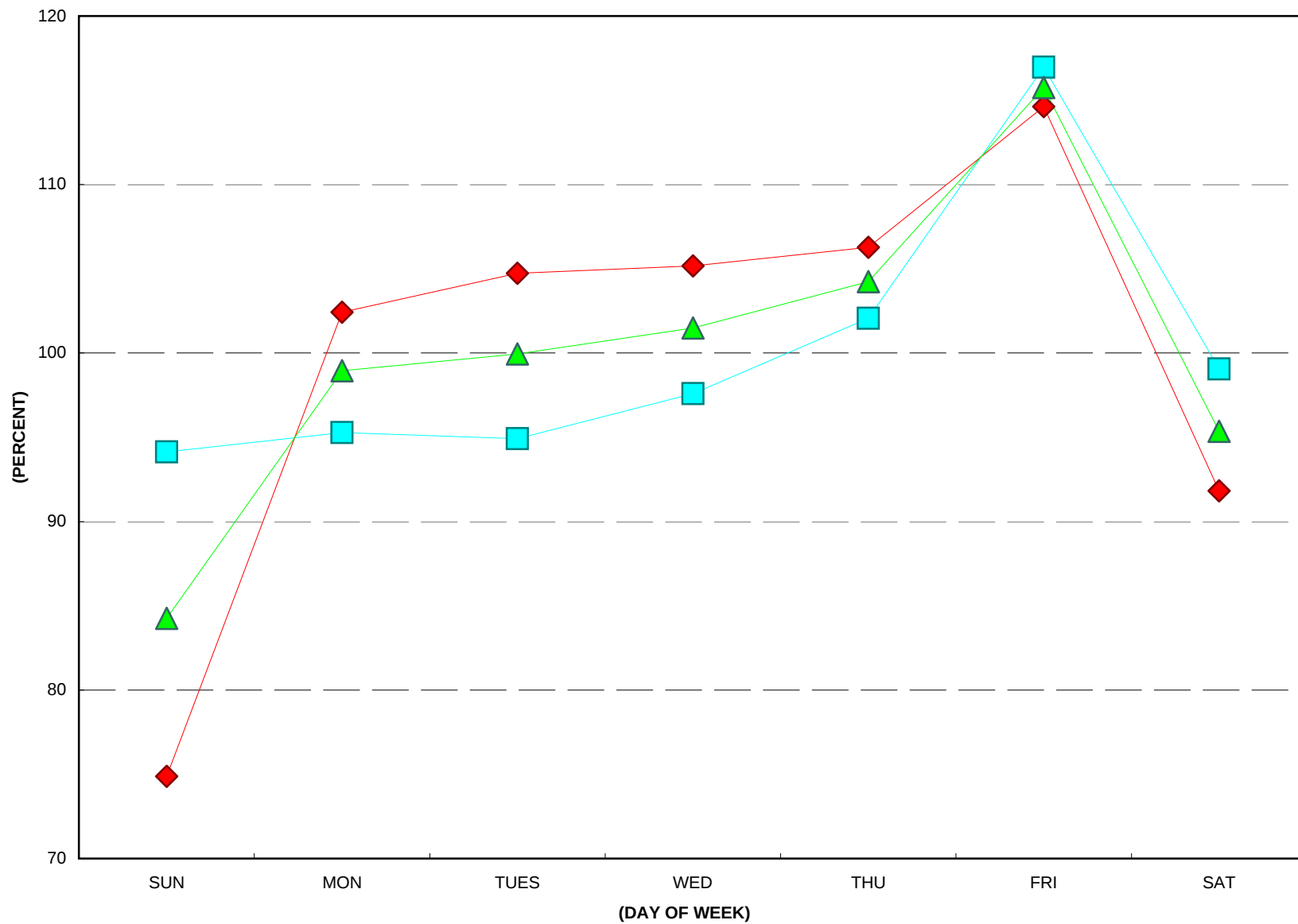
2003 MONTHLY TRAFFIC

AS A % OF ANNUAL AVERAGE DAILY TRAFFIC



2003 DAY OF WEEK TRAFFIC

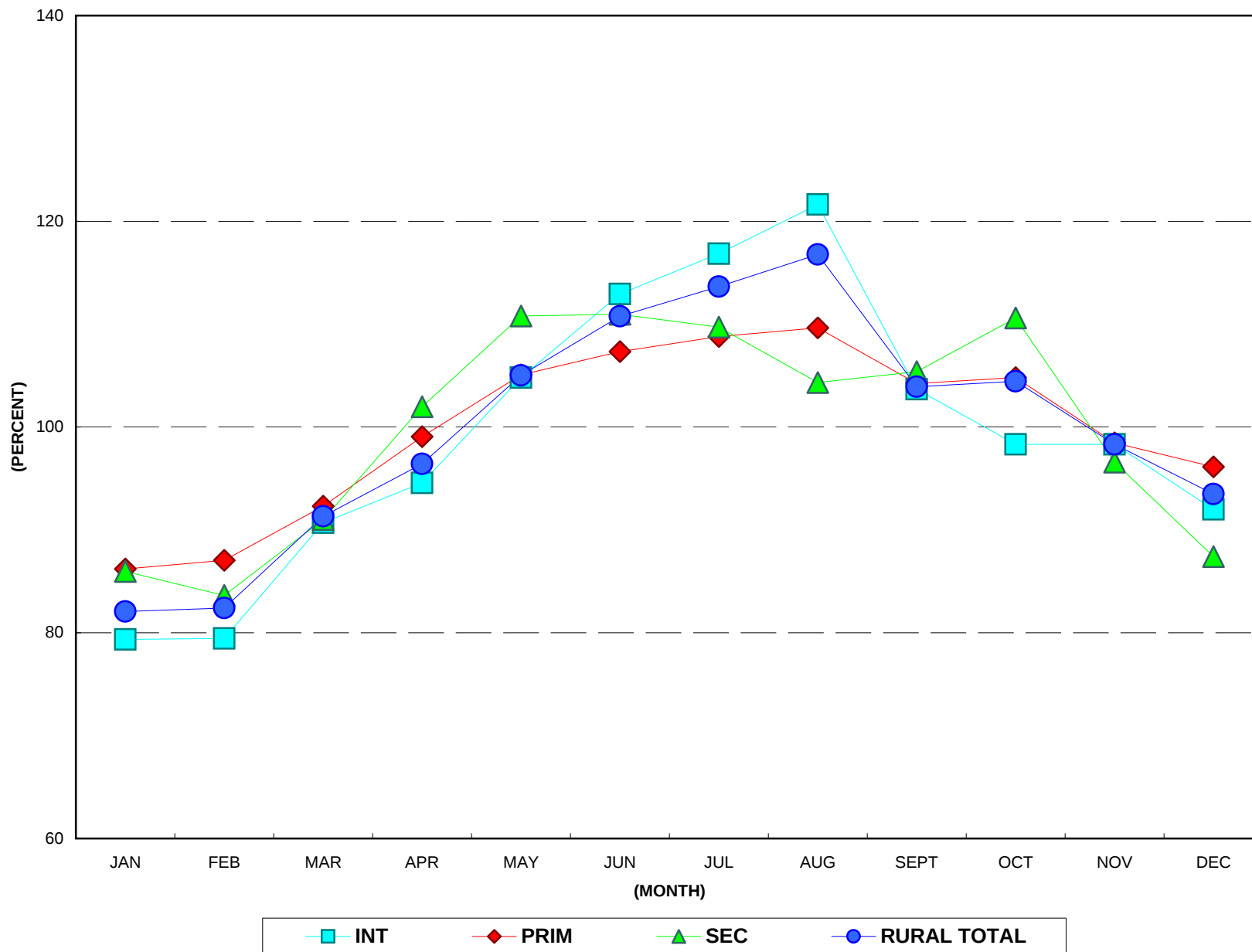
AS A % OF ANNUAL AVERAGE DAILY TRAFFIC



—■— RUR TOTAL —◆— MUNI TOTAL —▲— STATE TOTAL

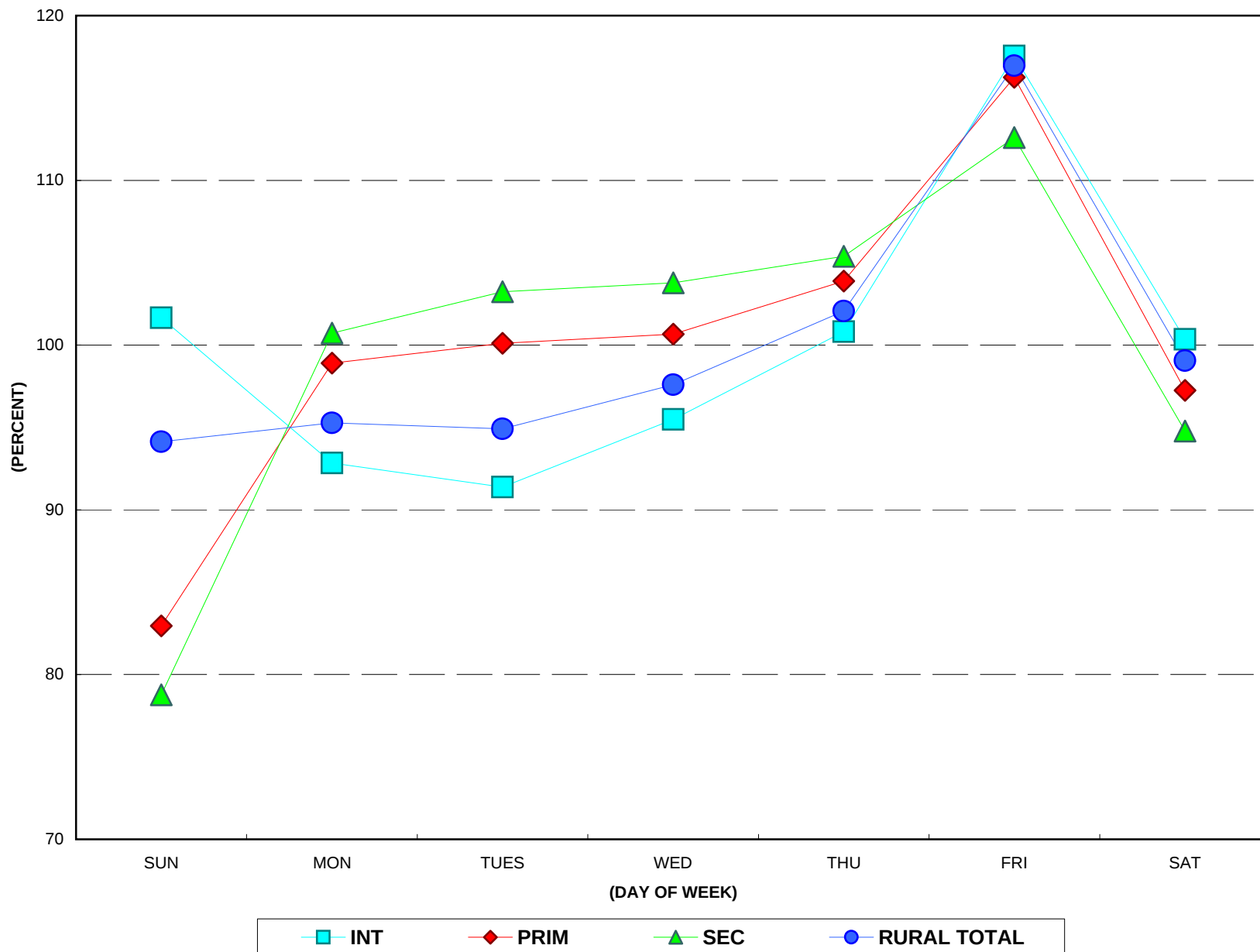
2003 RURAL MONTHLY TRAFFIC

AS A % OF ANNUAL AVERAGE DAILY TRAFFIC



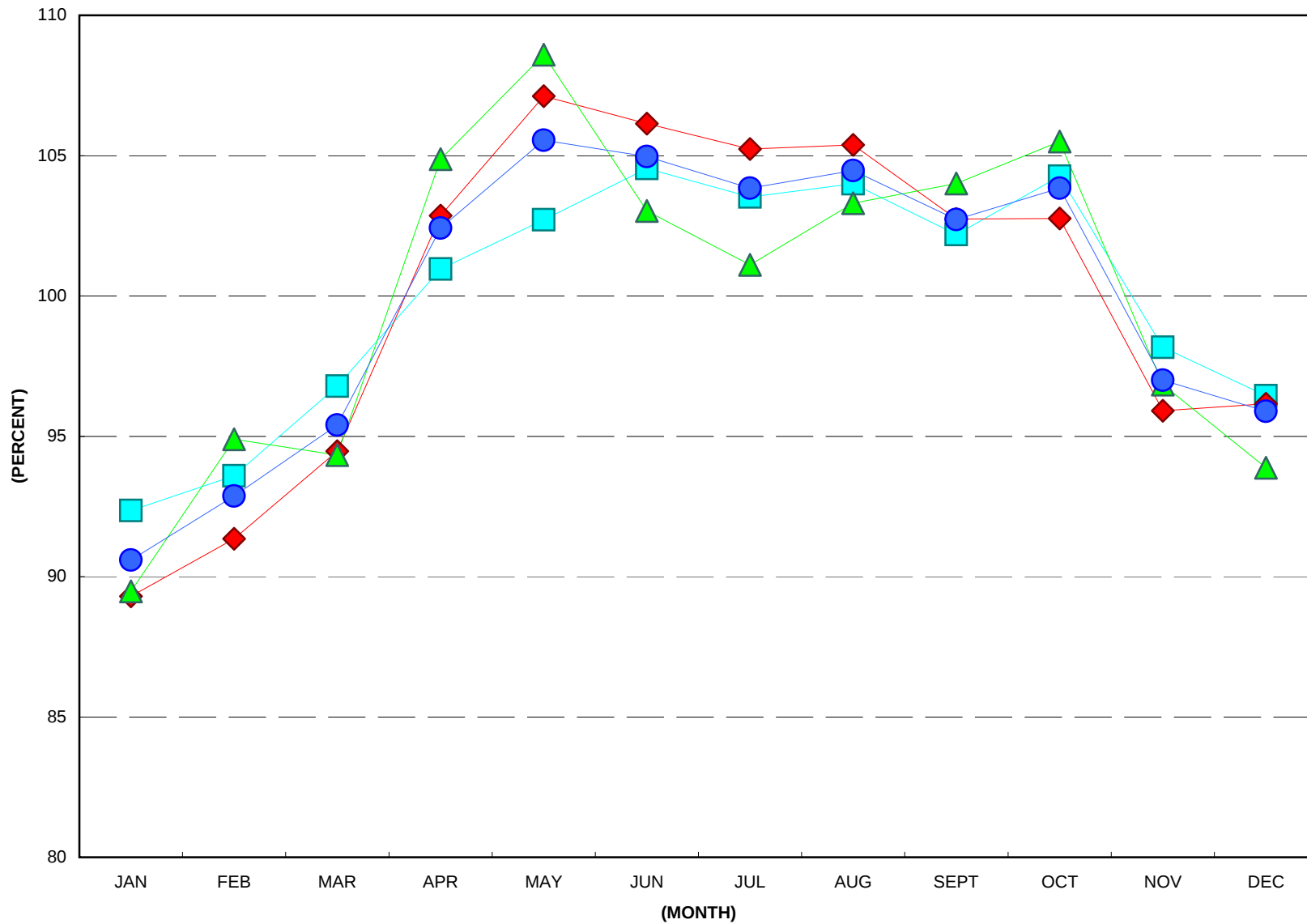
2003 RURAL DAY OF WEEK TRAFFIC

AS A % OF ANNUAL AVERAGE DAILY TRAFFIC



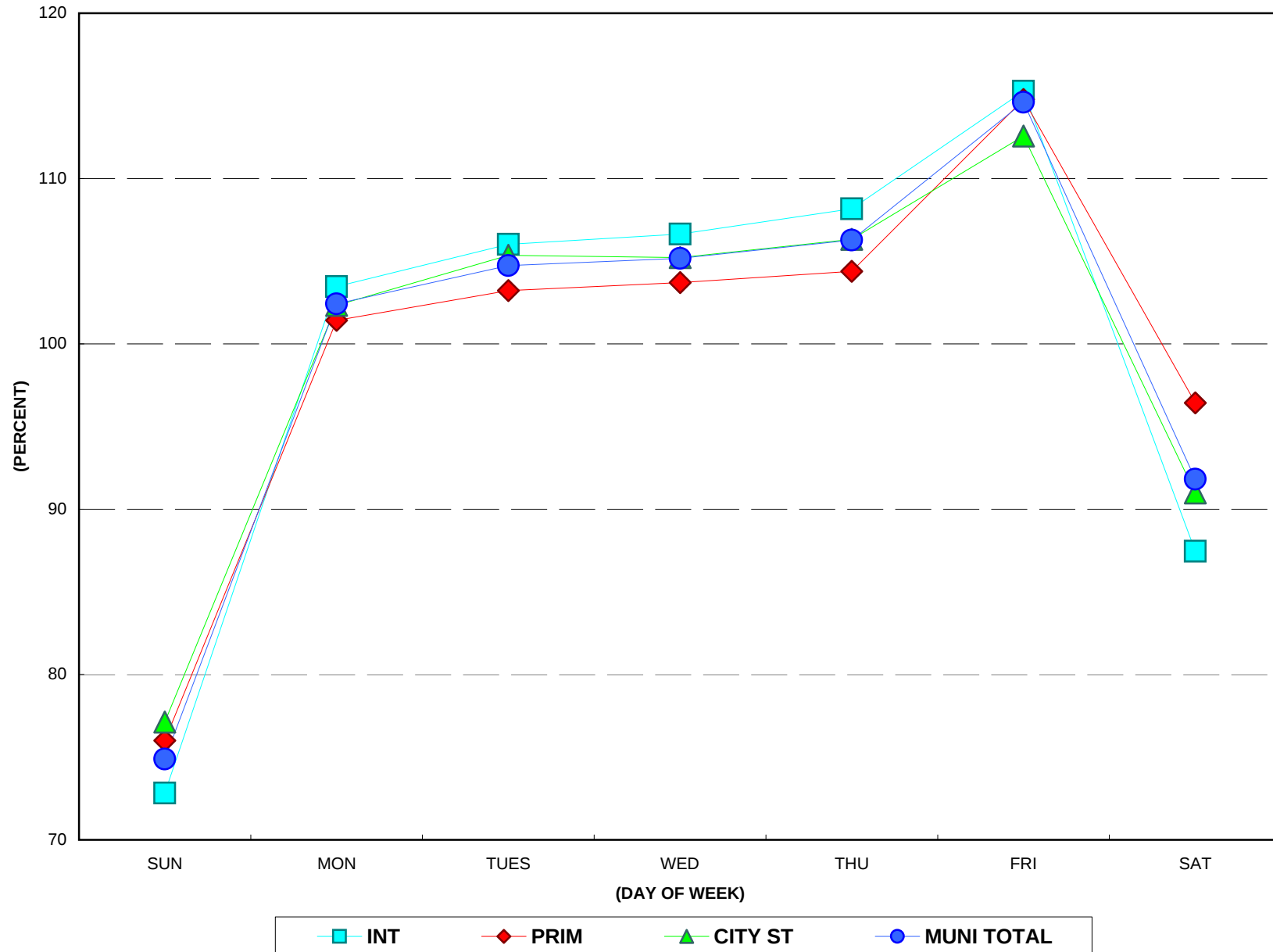
2003 MUNICIPAL MONTHLY TRAFFIC

AS A % OF ANNUAL AVERAGE DAILY TRAFFIC



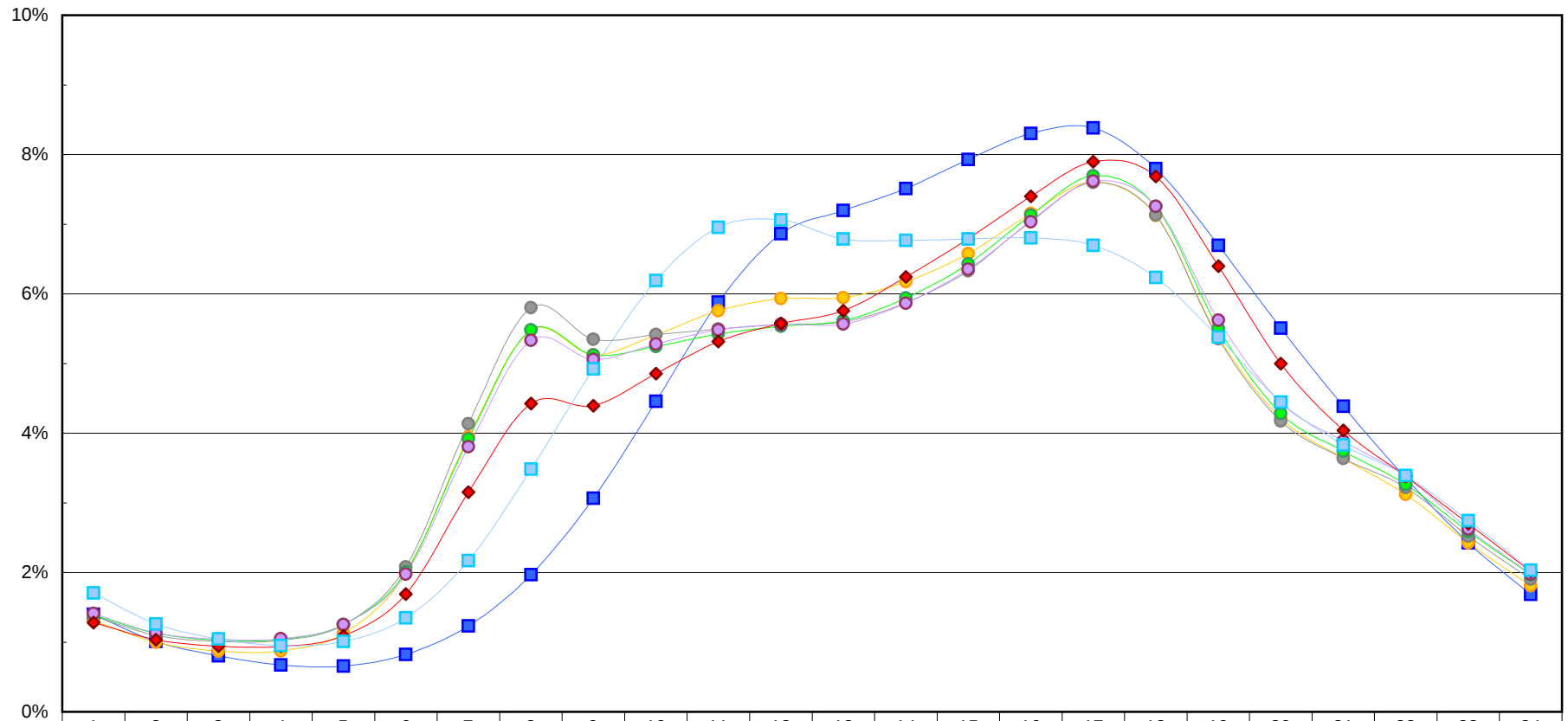
2003 MUNICIPAL DAY OF WEEK TRAFFIC

AS A % OF ANNUAL AVERAGE DAILY TRAFFIC



HOURLY DISTRIBUTION OF DAILY TRAFFIC 2003 RURAL INTERSTATE

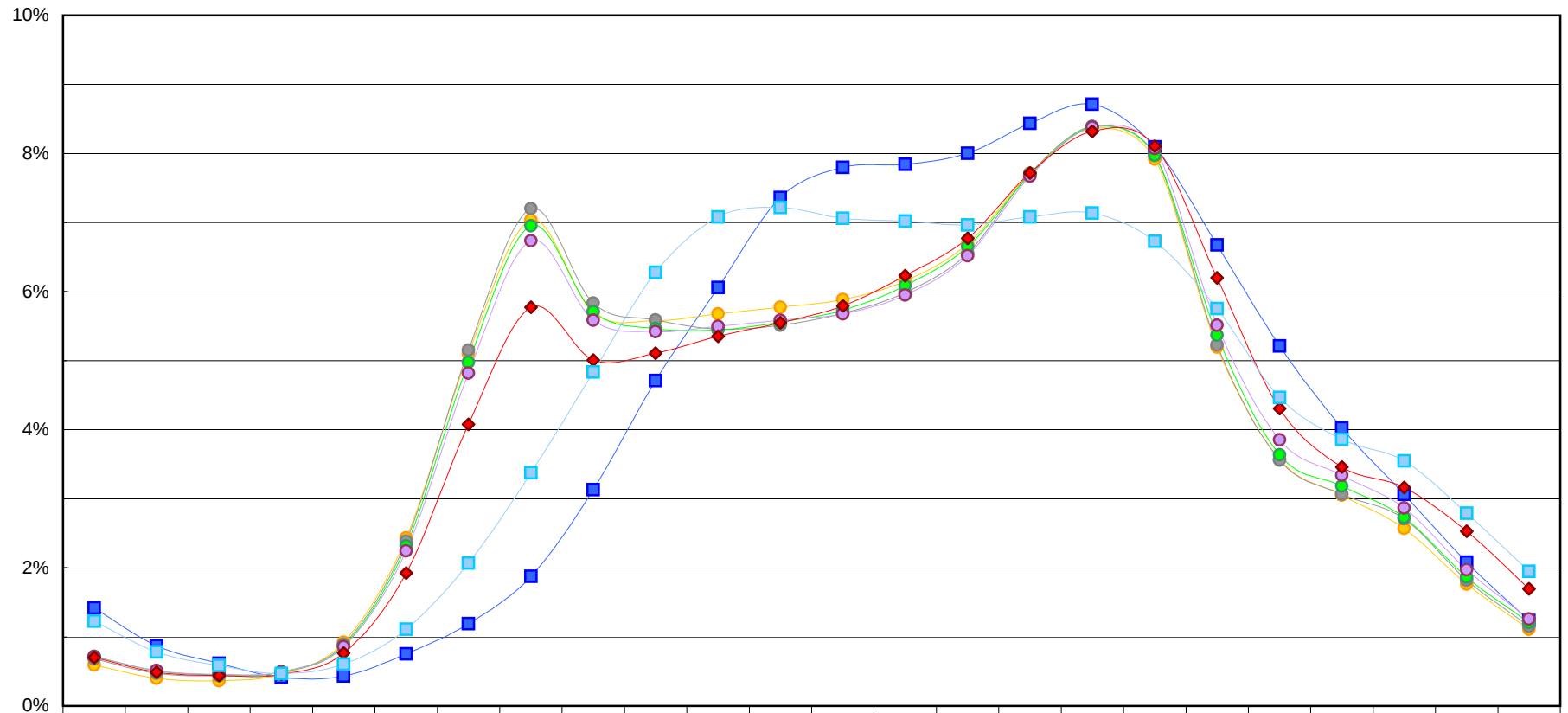
PERCENT



HOURLY

HOURLY DISTRIBUTION OF DAILY TRAFFIC 2003 RURAL PRIMARY

PERCENT

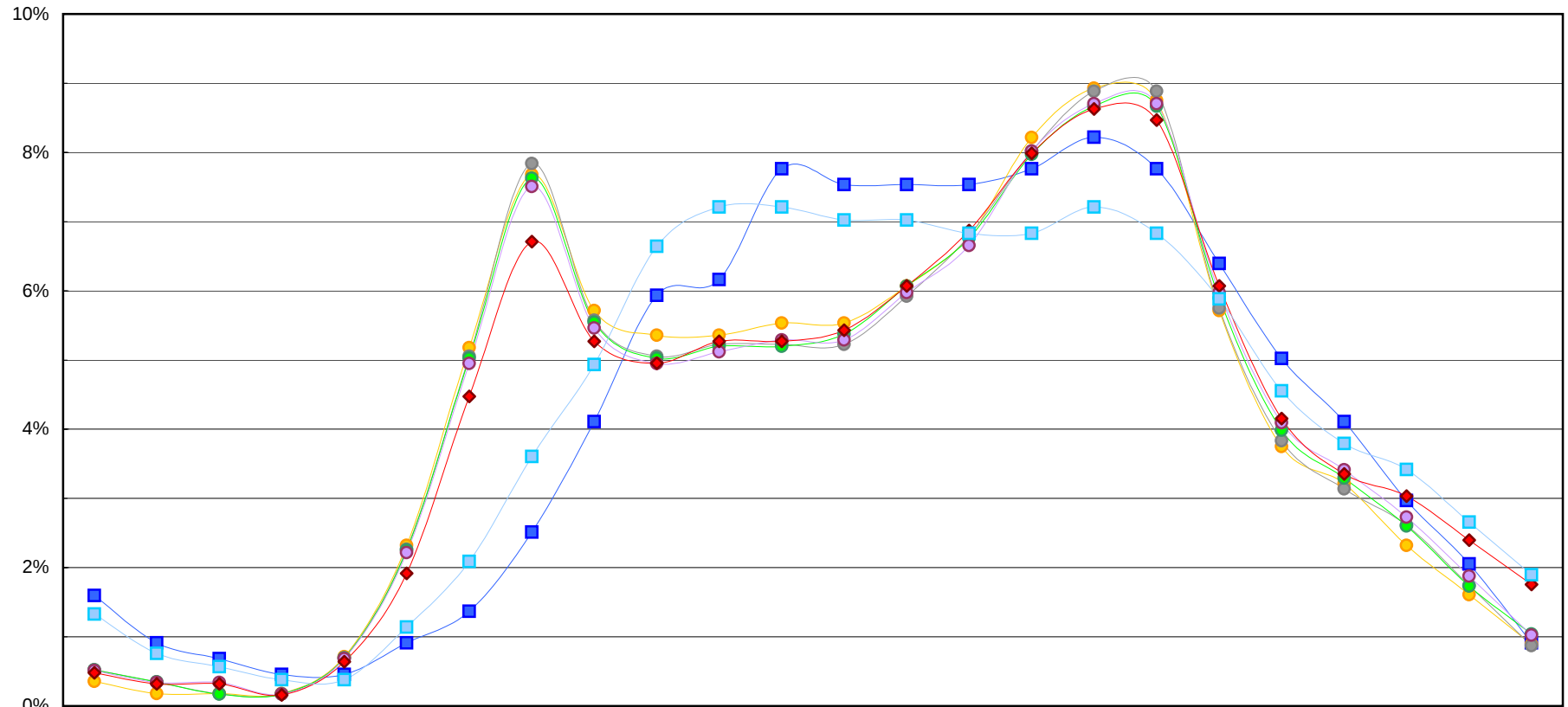


	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
SUN	1.42%	0.87%	0.62%	0.41%	0.43%	0.75%	1.19%	1.88%	3.13%	4.71%	6.06%	7.36%	7.80%	7.84%	8.00%	8.44%	8.71%	8.10%	6.68%	5.21%	4.02%	3.06%	2.08%	1.23%
MON	0.59%	0.40%	0.36%	0.46%	0.92%	2.44%	5.10%	7.04%	5.70%	5.58%	5.68%	5.77%	5.89%	6.16%	6.69%	7.71%	8.36%	7.92%	5.20%	3.57%	3.05%	2.57%	1.76%	1.11%
TUE	0.68%	0.47%	0.44%	0.49%	0.89%	2.39%	5.15%	7.20%	5.84%	5.59%	5.46%	5.51%	5.68%	5.99%	6.56%	7.71%	8.39%	7.98%	5.23%	3.56%	3.07%	2.71%	1.82%	1.16%
WED	0.72%	0.51%	0.45%	0.49%	0.87%	2.32%	4.97%	6.95%	5.71%	5.46%	5.45%	5.56%	5.73%	6.09%	6.65%	7.69%	8.39%	7.97%	5.37%	3.64%	3.18%	2.73%	1.87%	1.21%
THU	0.71%	0.51%	0.46%	0.49%	0.86%	2.25%	4.82%	6.74%	5.59%	5.42%	5.50%	5.59%	5.68%	5.95%	6.52%	7.67%	8.38%	8.07%	5.51%	3.85%	3.34%	2.87%	1.97%	1.26%
FRI	0.70%	0.49%	0.44%	0.46%	0.77%	1.93%	4.08%	5.78%	5.01%	5.11%	5.35%	5.55%	5.79%	6.23%	6.77%	7.72%	8.32%	8.11%	6.20%	4.31%	3.46%	3.17%	2.53%	1.70%
SAT	1.23%	0.78%	0.59%	0.47%	0.60%	1.11%	2.07%	3.37%	4.84%	6.28%	7.08%	7.22%	7.06%	7.02%	6.96%	7.08%	7.14%	6.73%	5.75%	4.47%	3.86%	3.55%	2.79%	1.95%

HOUR

HOURLY DISTRIBUTION OF DAILY TRAFFIC 2003 RURAL SECONDARY

PERCENT

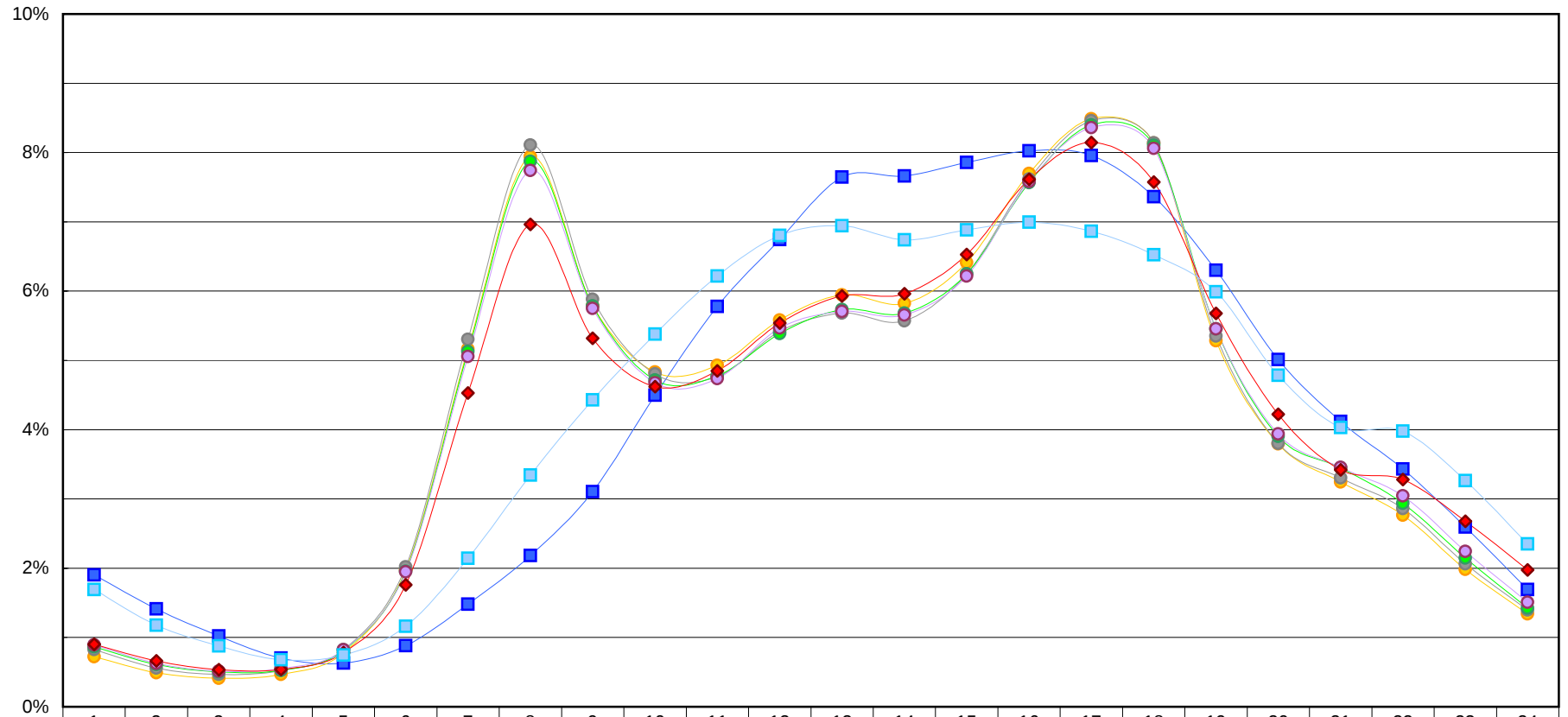


	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
SUN	1.60%	0.91%	0.68%	0.46%	0.46%	0.91%	1.37%	2.51%	4.11%	5.94%	6.16%	7.76%	7.53%	7.53%	7.53%	7.76%	8.22%	7.76%	6.39%	5.02%	4.11%	2.97%	2.05%	0.91%
MON	0.36%	0.18%	0.18%	0.18%	0.71%	2.32%	5.18%	7.68%	5.71%	5.36%	5.36%	5.54%	5.54%	6.07%	6.79%	8.21%	8.93%	8.75%	5.71%	3.75%	3.21%	2.32%	1.61%	0.89%
TUE	0.52%	0.35%	0.17%	0.17%	0.70%	2.26%	5.05%	7.84%	5.57%	5.05%	5.23%	5.23%	5.23%	5.92%	6.79%	8.01%	8.89%	8.89%	5.75%	3.83%	3.14%	2.61%	1.74%	0.87%
WED	0.52%	0.35%	0.17%	0.17%	0.69%	2.25%	5.03%	7.63%	5.55%	5.03%	5.20%	5.20%	5.37%	6.07%	6.76%	7.97%	8.67%	8.67%	5.89%	3.99%	3.29%	2.60%	1.73%	1.04%
THU	0.51%	0.34%	0.34%	0.17%	0.68%	2.22%	4.95%	7.51%	5.46%	4.95%	5.12%	5.29%	5.29%	5.97%	6.66%	8.02%	8.70%	8.70%	5.97%	4.10%	3.41%	2.73%	1.88%	1.02%
FRI	0.48%	0.32%	0.32%	0.16%	0.64%	1.92%	4.47%	6.71%	5.27%	4.95%	5.27%	5.27%	5.43%	6.07%	6.87%	7.99%	8.63%	8.47%	6.07%	4.15%	3.35%	3.04%	2.40%	1.76%
SAT	1.33%	0.76%	0.57%	0.38%	0.38%	1.14%	2.09%	3.61%	4.93%	6.64%	7.21%	7.21%	7.02%	7.02%	6.83%	6.83%	7.21%	6.83%	5.88%	4.55%	3.80%	3.42%	2.66%	1.90%

HOURLY

HOURLY DISTRIBUTION OF DAILY TRAFFIC 2003 MUNICIPAL INTERSTATE

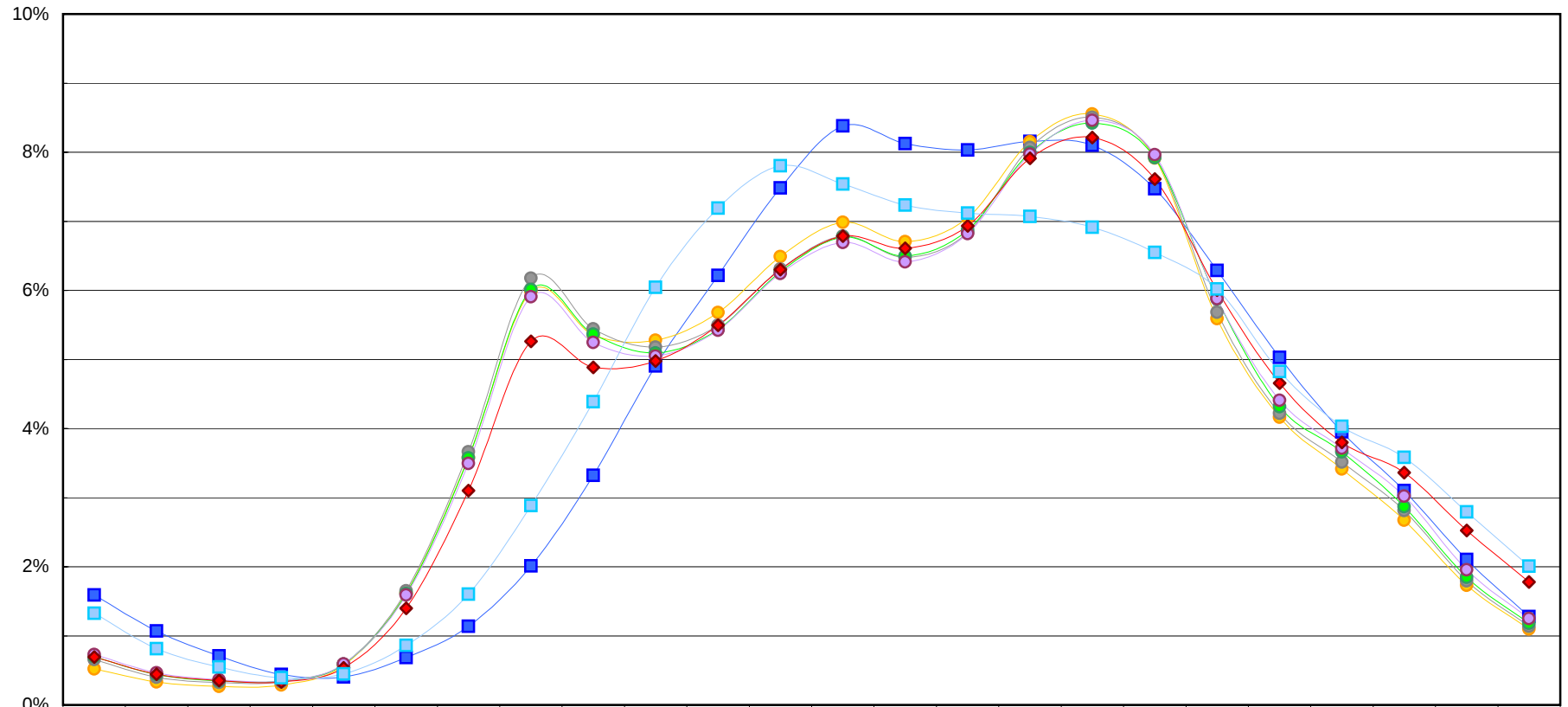
PERCENT



HOURLY

HOURLY DISTRIBUTION OF DAILY TRAFFIC 2003 MUNICIPAL PRIMARY

PERCENT

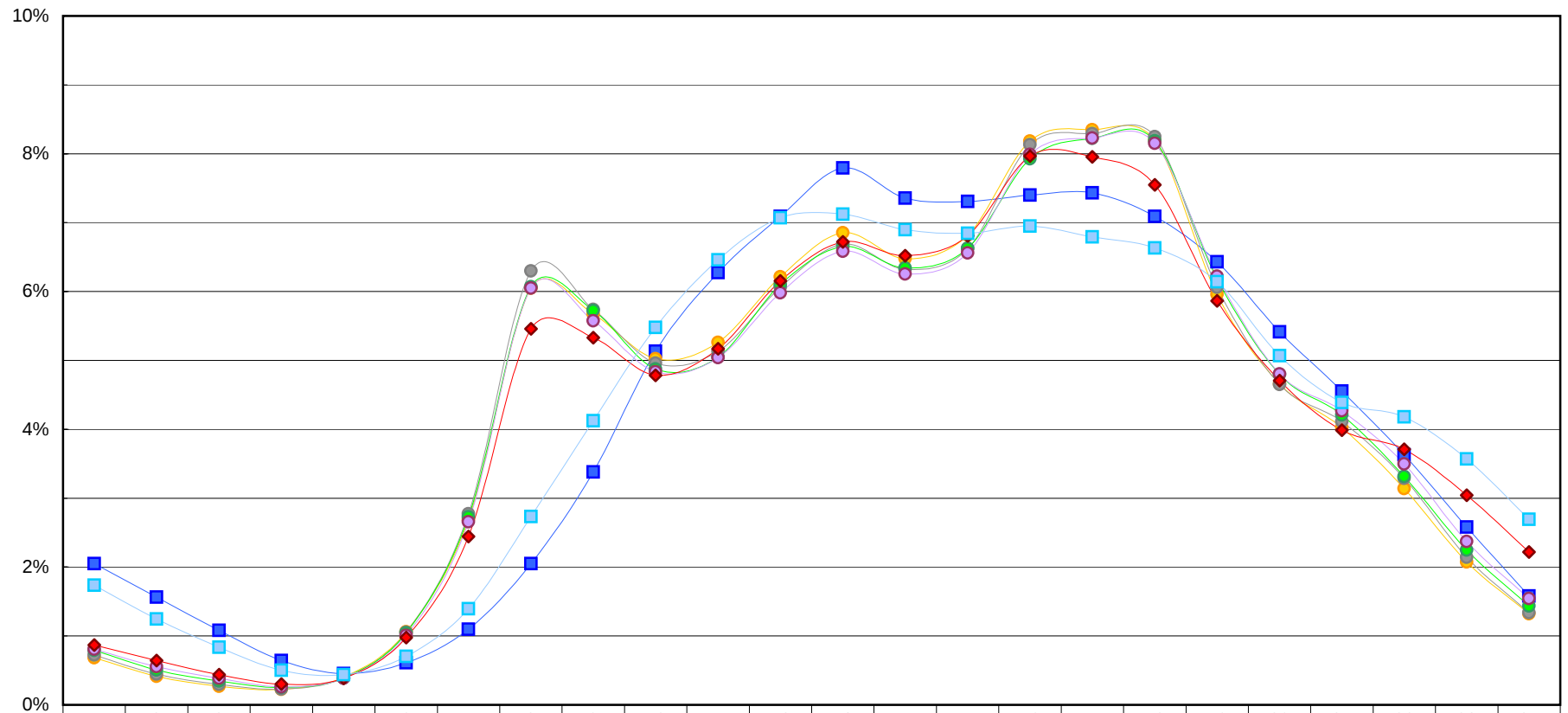


	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
SUN	1.59%	1.07%	0.71%	0.44%	0.41%	0.69%	1.14%	2.01%	3.32%	4.90%	6.22%	7.48%	8.38%	8.12%	8.03%	8.16%	8.10%	7.47%	6.29%	5.03%	3.95%	3.10%	2.10%	1.28%
MON	0.52%	0.33%	0.27%	0.29%	0.57%	1.62%	3.58%	5.98%	5.36%	5.28%	5.68%	6.49%	6.98%	6.71%	7.05%	8.15%	8.55%	7.92%	5.59%	4.16%	3.41%	2.67%	1.73%	1.10%
TUE	0.66%	0.40%	0.33%	0.33%	0.59%	1.65%	3.66%	6.18%	5.44%	5.18%	5.49%	6.31%	6.79%	6.48%	6.84%	8.07%	8.51%	7.94%	5.68%	4.22%	3.52%	2.82%	1.80%	1.14%
WED	0.70%	0.44%	0.35%	0.35%	0.59%	1.61%	3.58%	6.01%	5.37%	5.09%	5.43%	6.27%	6.77%	6.50%	6.87%	8.00%	8.42%	7.92%	5.88%	4.32%	3.66%	2.87%	1.85%	1.18%
THU	0.73%	0.47%	0.36%	0.35%	0.59%	1.59%	3.49%	5.91%	5.25%	5.05%	5.42%	6.24%	6.69%	6.41%	6.82%	7.97%	8.46%	7.96%	5.88%	4.41%	3.71%	3.02%	1.95%	1.25%
FRI	0.69%	0.45%	0.35%	0.33%	0.54%	1.40%	3.10%	5.26%	4.89%	4.98%	5.49%	6.30%	6.79%	6.61%	6.93%	7.91%	8.21%	7.61%	6.00%	4.66%	3.80%	3.36%	2.52%	1.78%
SAT	1.33%	0.82%	0.55%	0.39%	0.45%	0.86%	1.60%	2.89%	4.39%	6.05%	7.19%	7.80%	7.54%	7.24%	7.12%	7.07%	6.92%	6.55%	6.02%	4.83%	4.03%	3.58%	2.79%	2.01%

HOUR

HOURLY DISTRIBUTION OF DAILY TRAFFIC 2003 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%	1.56%	1.08%	0.64%	0.45%	0.61%	1.10%	2.05%	3.38%	5.13%	6.27%	7.09%	7.79%	7.35%	7.31%	7.40%	7.43%	7.09%	6.43%	5.41%	4.55%	3.63%	2.58%	1.58%
MON	0.68%	0.41%	0.27%	0.22%	0.40%	1.06%	2.69%	6.05%	5.67%	5.02%	5.26%	6.22%	6.85%	6.47%	6.82%	8.18%	8.35%	8.20%	5.96%	4.66%	4.02%	3.14%	2.08%	1.32%
TUE	0.72%	0.45%	0.30%	0.23%	0.39%	1.05%	2.77%	6.30%	5.74%	4.96%	5.13%	6.06%	6.69%	6.32%	6.62%	8.13%	8.29%	8.25%	6.06%	4.65%	4.11%	3.29%	2.14%	1.34%
WED	0.79%	0.50%	0.34%	0.25%	0.39%	1.04%	2.73%	6.07%	5.72%	4.87%	5.05%	6.10%	6.65%	6.34%	6.63%	7.93%	8.22%	8.19%	6.18%	4.79%	4.21%	3.31%	2.25%	1.43%
THU	0.81%	0.56%	0.39%	0.26%	0.39%	1.01%	2.66%	6.05%	5.57%	4.84%	5.04%	5.98%	6.58%	6.25%	6.56%	7.99%	8.23%	8.15%	6.22%	4.80%	4.27%	3.50%	2.37%	1.54%
FRI	0.87%	0.64%	0.44%	0.30%	0.39%	0.98%	2.44%	5.46%	5.33%	4.78%	5.17%	6.15%	6.72%	6.52%	6.81%	7.97%	7.95%	7.55%	5.86%	4.71%	3.99%	3.71%	3.04%	2.22%
SAT	1.74%	1.25%	0.84%	0.50%	0.44%	0.70%	1.39%	2.73%	4.13%	5.48%	6.46%	7.07%	7.12%	6.90%	6.84%	6.95%	6.79%	6.63%	6.14%	5.07%	4.39%	4.18%	3.57%	2.69%

HOUR

SUMMARY OF ANALYSIS

Analysis of the Thirtieth Highest Hour at the Permanent Continuous Automatic Traffic Recorder Stations 1994 - 2003

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, 1994 through 2003.

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	14.12	10.40	381.44	9.66	5.85	11.91	-	-
Municipal	71.56	9.68	297.55	9.81	-	-	61.60	9.85

ANNUAL AVERAGE DAILY TRAFFIC BY STATIONS FOR THE YEARS 1993 TO 2003

RURAL INTERSTATE

STATION	ROUTE	LOCATION	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
100	I 29	3.0 MI N OF S JCT I 680 HONEY CREEK	17803	18893	19696	19092	19300	19983	20419	20202	20192	21070	20906
102	I 29	4.0 MI S OF US 34 PACIFIC JCT	8876	9402	9596	10232	9708	10487	11247	11221	11402	11917	12010
103	I 80	5.0 MI E OF IA 146 GRINNELL	21672	22852	23077	22751	23892	25114	26366	26178	26249	27346	26917
104	I 35	3.0 MI N OF IA 175 JEWELL	13956	14472	14915	15811	16345	17177	17411	17547	17848	18596	18996
105	I 29	3.8 MI S OF IA 175 ONAWA	10690	11751	10865	10361	10011	10316	11200	11016	11092	11346	12031
106	I 35	1.5 MI N OF IA 2 LEON	9557	10175	10334	10683	11076	11907	12271	12486	12659	13234	13265
109	I 35	3.0 MI N OF CO B20 HANLONTOWN	12124	12651	12752	13550	13664	14534	14965	15221	15880	16575	17046
110	I 80	1.5 MI W OF CO M16 SHELBY	16772	17632	18427	19163	19791	20777	21572	21441	21468	22379	22254
111	I 80	2.0 MI E OF IA 149 WILLIAMSBURG	23165	24396	25004	25570	26002	28844	29838	29808	29952	31092	31021
113	I 380	3.75 MI NW OF IA 150 BRANDON	9267	9782	10132	10462	10914	11465	11854	12029	12224	12934	13422
115	I 80	2.0 MI E OF US 71 ATLANTIC	14282	14880	16001	16593	17001	17722	18365	18339	18377	19018	19013
116	I 80	0.8 MI W OF 74TH ST WAUKEE			26808	28581	28235	31267	31937	34507	32492	34059	33413
117	I 80	1.75 MI E OF E JCT I 35/80/235 ALTOONA				52053	52840	58151	60719	60851	62242	65755	66846
119	I 80	1.5 MI E OF MIDDLE RD LECLAIRE									25685	28206	29720
120	I 80	2.5 MI E OF CO RD X40 TIPTON							29391	29329	30323	31234	31513

2003 EXPANSION FACTORS

RURAL INTERSTATE

MON - THU		MON	TUE	WED	THU	FRI	SAT	SUN
1.204	Jan	1.217	1.251	1.179	1.179	1.017	1.237	1.327
1.181	Feb	1.298	1.230	1.144	1.078	1.009	1.349	1.291
1.111	Mar	1.141	1.175	1.105	1.032	0.862	1.053	1.082
1.076	Apr	1.129	1.119	1.080	0.982	0.843	1.049	1.018
1.014	May	1.049	1.053	1.000	0.964	0.803	0.935	0.952
0.913	Jun	0.925	0.963	0.921	0.848	0.721	0.836	0.819
0.871	Jul	0.898	0.918	0.881	0.814	0.712	0.820	0.791
0.862	Aug	0.875	0.902	0.863	0.813	0.680	0.764	0.748
1.010	Sep	1.036	1.044	1.001	0.949	0.780	0.929	0.891
1.005	Oct	1.039	1.057	1.004	0.946	0.791	0.927	0.878
1.088	Nov	1.150	1.126	1.078	1.012	0.838	1.003	1.034
1.171	Dec	1.157	1.284	1.205	1.063	0.926	1.054	1.146

ANNUAL AVERAGE DAILY TRAFFIC BY STATIONS FOR THE YEARS 1993 TO 2003

MUNICIPAL INTERSTATE

STATION	ROUTE	LOCATION	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
701	I 380	BTWN WILSON AND 33RD CEDAR RAPIDS	46238	50302	53207	53950	55762	58581	60722	60803	61973	63391	63338
703	I 380	AT J AVE S OF COLDSTREAM CEDAR RAPIDS	66030	68504	70745	73819	75550	77246	78696	78969	79802	81023	81222
704	I 29/80	0.6 MI W OF IA 192 COUNCIL BLUFFS	48979	51299	53891	58802	59356	65887	68638	69496	70860	76024	74081
705	I 74	0.6 MI S OF US 6 BETTENDORF	33358	38099	37738	39192	38593	39730	41466	43683	47438	48380	48022

2003 EXPANSION FACTORS

MUNICIPAL INTERSTATE

MON - THU		MON	TUE	WED	THU	FRI	SAT	SUN
0.991	Jan	1.004	1.008	0.976	0.981	0.907	1.220	1.559
0.984	Feb	1.043	1.001	0.960	0.939	0.905	1.263	1.510
0.958	Mar	0.966	0.991	0.952	0.924	0.858	1.124	1.379
0.915	Apr	0.956	0.918	0.908	0.885	0.846	1.127	1.404
0.898	May	0.921	0.903	0.891	0.881	0.815	1.080	1.330
0.882	Jun	0.901	0.892	0.882	0.854	0.815	1.082	1.264
0.884	Jul	0.910	0.890	0.883	0.864	0.846	1.112	1.282
0.886	Aug	0.903	0.894	0.883	0.866	0.825	1.084	1.262
0.907	Sep	0.924	0.912	0.900	0.886	0.825	1.108	1.308
0.907	Oct	0.930	0.920	0.900	0.889	0.825	1.089	1.292
0.920	Nov	0.952	0.930	0.910	0.892	0.818	1.095	1.370
0.958	Dec	0.944	0.986	0.989	0.921	0.854	1.129	1.384

ANNUAL AVERAGE DAILY TRAFFIC BY STATIONS FOR THE YEARS 1993 TO 2003

RURAL PRIMARY

STATION	ROUTE	LOCATION	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
201	US 65	2.7 MI N OF IA 3 HAMPTON	3308	3415	3416	3350	3535	3492	3152	2958	2869	3005	2981
202	US 71	2.0 MI N OF IA 44 HAMLIN	3419	3283	3313	3363	3480	3295	3082	3238	3162	3458	3416
203	US 63	3.0 MI N OF IA 3 DENVER	4612	4623	4672	4717	5013	5085	5132	4862	4673	4768	4545
204	US 75	1.3 MI N OF CO C60 HINTON	8993	9238	9601	9888	9812	9565	9934	9960	10003	11049	11440
205	US 218	2.7 MI S OF IA 78 SWEDESBURG	6017	6133	6303	6380	6615	7290	8018	8144	8930	9346	9671
206	US 30	AT BOONE/STORY CO LINE NAPIER	6846	7381	7538	8210	8843	9748	10479	10431	10920	11746	12011
207	US 18	2.2 MI E OF US 169 ALGONA	2662	2643	2881	2937	3118	3177	3186	3158	3220	3363	3353
208	US 6	3.0 MI E OF CO V66 MARENGO	2964	3103	3143	3183	3297	3439	3511	3386	3404	3511	3437
209	US 67	1.5 MI S OF CO F45 PRINCETON	4442	4329	4134	3903	4044	4532	4690	4575	4436	4380	4305
210	US 18	4.2 MI E OF IA 60 SHELDON	3346	3499	3470	3513	3679	3777	3800	3702	3736	3771	3776
211	US 20	2.8 MI E OF CO N57 ROCKWELL CITY	2508	2664	2629	2735	2783	2951	2888	2845	2862	2929	2984
212	IA 92	0.6 MI W OF CO V45 SIGOURNEY	2650	2750	2772	2840	3007	3053	2954	2832	2849	2868	2821
213	US 30	1.8 MI E OF US 65 COLO	4262	4713	4840	4894	5173	5303	5666	5753	5765	5988	5431
214	US 61	3.8 MI N OF US 34 BURLINGTON	6701	6972	7064	7222	7167	7574	7532	7275	7101	7234	7200
216	US 34/169	2.5 MI E OF W JCT US 169 AFTON	3115	3183	3193	3178	3364	3520	3491	3647	3651	3690	3913
217	US 18	2.5 MI E OF I-35 CLEAR LAKE	13933	14145	14741	14886	15646	15833	15625	13978	14089	14615	14916
218	IA 44	0.2 MI W OF US 169 ADEL	3332	3388	3443	3291	3227	3239	3382	3478	3466	3528	3645
219	US 34	1.0 MI W OF I-35 OSCEOLA	4094	4120	4056	4235	4414	4527	4612	4675	4618	4650	4742
220	US 52	1.0 MI NW OF US 18 POSTVILLE	1428	1626	1723	1686	1682	1744	1762	1656	1698	1793	1746
221	IA 9	2.5 MI W OF CO N52 ARMSTRONG	1761	1815	1700	1751	1805	1829	1788	1780	1750	1760	1748
222	IA 3	0.1 MI W OF CO P66 HUMBOLDT	2283	2375	2378	2376	2390	2578	2569	2483	2443	2323	2235
223	IA 48	4.0 MI S OF IA 92 GRISWOLD	1324	1367	1306	1292	1285	1427	1402	1366	1306	1309	1297
224	US 59	0.5 MI S OF CO F16 DEFIANCE	2207	2290	2267	2366	2477	2664	2676	2552	2572	2577	2557
226	US 18	3.8 MI E OF CO W14 WEST UNION	2134	2214	2375	2439	2428	2479	2525	2539	2380	2385	2431
228	IA 117	2.5 MI S OF US 65 MINGO	941	945	856	864	908	915	987	958	965	1189	946
229	IA 78	1.2 MI W OF CO X23 WINFIELD	763	800	795	799	823	885	879	813	829	798	775
230	US 169	3.5 MI S OF S JCT IA 92 WINTERSET	1705	1819	1888	1855	1831	1919	1985	2032	1858	1770	1837
231	IA 148	9.3 MI N OF IA 92 ANITA	685	715	674	703	717	758	780	812	769	761	756
233	IA 110	1.5 MI S OF CO C65 SCHALLER	1346	1364	1422	1380	1356	1378	1321	1284	1299	1299	1301
234	IA 12	2.5 MI N OF CO K18 AKRON	1437	1509	1496	1618	1605	1577	1596	1637	1589	1555	1548
235	IA 143	3.4 MI S OF IA 10 MARCUS	748	717	755	754	749	880	866	821	831	825	800
236	IA 196	3.0 MI S OF US 20 SAC CITY	994	983	1013	1078	1140	1117	1139	1079	1106	1109	1082
238	IA 149	2.1 MI N OF IA 78 MARTINSBURG	982	982	1164	999	995	998	1013	1014	1096	1153	1175
240	IA 2	3.0 MI E OF US 275 SIDNEY	1701	1884	1821	1900	1864	1935	1969	1840	1841	1882	1887
241	IA 13	5.0 MI S OF US 20 RYAN	3891	4042	4114	4259	4520	4793	5051	5058	5118	5048	4979
242	US 61	3.8 MI N OF CO F41 ELDRIDGE	11166	11358	11681	12668	13008	13960	14614	14483	15108	15911	16104
243	US 30	0.3 MI E OF CO Z24 DEWITT	6443	6915	7163	7959	8428	8528	8387	8477	8723	9222	9295
244	IA 1	0.8 MI S OF CO F67 KALONA	5542	5615	5799	6047	5925	5932	6293	5798	5804	5948	5950
245	US 20	1.5 MI E OF CO V62 JESUP	6833	7070	7252	7777	8231	8686	9105	9115	9185	9538	10032
246	IA 141	1.0 MI E OF WILLIS AVE PERRY	8229	8217	8517	8496	9058	9473	9701	9598	9630	9805	9785
247	US 20	3.0 MI E OF E JCT IA 17 WEBSTER CITY	5223	5220	5407	5650	6000	6415	6537	6560	6685	6848	6995
248	IA 21	2.8 MI N OF US 6 BELLE PLAINE							1303	1248	1260	1297	1283
249	US 218	0.5 MI N OF HILLS INTERCHANGE HILLS									15447	16116	16404
250	US 65	1.5 MI N OF IA 163 PLEASANT HILL							15690	16724	18451	20559	22221

Note: The 3 "500" series ATR's located on page 23, are RURAL PRIMARY as well as RECREATIONAL.

2003 EXPANSION FACTORS RURAL PRIMARY

MON - THU		MON	TUE	WED	THU	FRI	SAT	SUN
1.076	Jan	1.080	1.108	1.058	1.063	0.942	1.140	1.490
1.062	Feb	1.129	1.088	1.041	1.001	0.971	1.217	1.438
1.033	Mar	1.039	1.066	1.041	0.993	0.879	1.054	1.277
0.963	Apr	1.023	0.962	0.957	0.920	0.835	0.991	1.187
0.922	May	0.946	0.923	0.918	0.906	0.785	0.926	1.120
0.886	Jun	0.898	0.901	0.891	0.853	0.767	0.903	1.027
0.871	Jul	0.893	0.889	0.874	0.842	0.759	0.903	1.020
0.879	Aug	0.896	0.893	0.877	0.853	0.753	0.897	1.002
0.925	Sep	0.938	0.928	0.932	0.900	0.780	0.948	1.100
0.936	Oct	0.952	0.946	0.944	0.911	0.798	0.947	1.091
0.972	Nov	1.003	0.985	0.972	0.933	0.831	0.997	1.234
1.025	Dec	0.977	1.095	1.090	0.955	0.865	1.021	1.257

ANNUAL AVERAGE DAILY TRAFFIC BY STATIONS FOR THE YEARS 1993 TO 2003

MUNICIPAL PRIMARY

STATION	ROUTE	LOCATION	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
801	US 34	E OF HARRISON ST MT PLEASANT	14443	14565	14598	14415	14245	15316	16087	14866	14032	13998	13942
802	US 71	W OF MEMPHIS AVE SPIRIT LAKE	14318	15019	16103	15391	13768	13090	13207	12667	12948	12038	11884
803	IA 12	ON VIADUCT E OF COURT ST SIOUX CITY	25624	26877	27471	27859	27939	28682	27834	26772	27293	26866	26579
804	IA 4	N OF 4TH AVE NW POCAHONTAS	3140	3220	3027	3089	3230	3480	3213	3059	3049	3019	2962
805	IA 148	S OF 11TH ST CORNING	3382	3465	3513	3383	3360	3389	3351	3256	3208	3325	3230
806	US 6	E OF SHASTA WINDSOR HEIGHTS	21397	21651	21377	22286	22545	22960	22551	22199	21766	21952	21382
808	US 71	S OF BIRCH ST AUDUBON	5451	5422	5737	5813	5705	6305	6862	5177	4592	4811	4757
809	IA 14	N OF WOODLAND ST MARSHALLTOWN	6467	6288	6514	6956	6709	6771	6736	6729	6401	6636	6604
810	IA 92	W OF N ST INDIANOLA	8441	8991	9824	9835	9966	10830	11109	10513	11077	11793	11634
811	IA 192	S OF AVE N COUNCIL BLUFFS	11560	11214	10071	10252	10754	10431	10419	10474	10792	10061	9665
812	IA 122	W OF VIRGINIA AVE MASON CITY	16405	15987	16255	16094	15996	15697	15650	12925	13941	13489	13326
813	US 6	E OF PINE ST DAVENPORT	20000	20465	20865	21037	21055	20998	21129	20440	20584	19789	19891
815	IA 922	BTWN WILEY BLVD & WESTDALE CDR RPDS	6671	7267	7564	8033	8062	8136	8107	8044	8249	8560	8783
816	US 34	W OF US 61 WEST BURLINGTON	11005	11472	12174	12599	12557	13117	13716	13015	13036	13162	13096
819	IA 9	EAST OF 14TH ST OSAGE	5422	5575	5640	5810	6299	6900	7047	6750	6024	5857	5627
820	IA 17	N OF NW 11TH ST EAGLE GROVE	3176	3283	3392	3381	3491	3591	3609	3443	3151	2970	2934
821	IA 4	S OF EDGEWOOD AVE E JEFFERSON	4417	4397	4353	4459	4504	4796	4790	4548	4405	4285	4206
823	US 6	BETWEEN SYCAMORE & 1ST AVE IOWA CITY	20491	20630	20512	20619	21396	21554	21880	20968	21027	21564	21677
824	US 69	BETWEEN 15TH AND 16TH ST AMES	17029	17403	17509	17393	18458	19802	19468	19214	19331	19624	19394
826	US 65	1.5 MI NE OF I-80 BONDURANT		9121	9496	9498	9956	10509	10708	10710	10863	11068	11293
827	US 61/151	W OF MISSISSIPPI R DUBUQUE			16534	17266	17003	17629	18001	18133	18270	18716	19036
828	IA 150	S OF 12TH ST OELWEIN							6928	6840	6652	6600	6470
829	US 59	S OF 5TH AVE SHENANDOAH								10383	9688	9842	9697
830	IA 23	S OF IA 92 OSKALOOSA										3622	3506

2003 EXPANSION FACTORS

MUNICIPAL PRIMARY

MON - THU		MON	TUE	WED	THU	FRI	SAT	SUN
1.077	Jan	1.078	1.097	1.055	1.077	0.960	1.162	1.538
1.047	Feb	1.111	1.071	1.022	0.994	0.945	1.194	1.501
1.029	Mar	1.020	1.055	1.041	1.008	0.905	1.067	1.373
0.945	Apr	0.990	0.945	0.935	0.917	0.848	0.989	1.324
0.920	May	0.930	0.924	0.917	0.912	0.809	0.951	1.246
0.915	Jun	0.926	0.925	0.918	0.893	0.826	0.985	1.215
0.916	Jul	0.934	0.926	0.915	0.899	0.836	1.009	1.252
0.921	Aug	0.932	0.929	0.918	0.907	0.837	1.004	1.220
0.940	Sep	0.948	0.946	0.934	0.929	0.841	1.017	1.261
0.953	Oct	0.975	0.961	0.948	0.937	0.846	1.016	1.272
0.976	Nov	1.001	0.981	0.970	0.957	0.872	1.051	1.357
0.995	Dec	0.964	1.045	1.024	0.955	0.877	1.033	1.326

ANNUAL AVERAGE DAILY TRAFFIC BY STATIONS FOR THE YEARS 1993 TO 2003

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

1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
267	256	246	275	297	297	302	294	288	292	286
958	1006	881	942	964	1005	1043	964	931	1005	985
928	930	975	948	976	963	923	943	975	936	875
1114	1147	1166	1174	1230	1189	1177	1138	1107	1115	1075
537	595	596	616	583	630	646	623	572	599	614
516	510	538	526	524	531	572	558	568	625	595
1015	1128	1204	1232	1317	1315	1316	1230	1257	1308	1309
329	318	329	343	335	357	364	369	353	360	360
655	664	700	705	699	748	803	959	972	998	992
519	569	576	578	570	588	559	526	518	533	531
674	742	782	835	869	856	795	758	800	861	847
1200	1311	1348	1316	1259	1295	1438	1386	1364	1405	1383
529	557	583	606	627	545	659	675	682	734	746
702	730	720	712	721	781	740	697	675	647	638
599	649	656	661	655	716	743	706	706	721	734

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

1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
36	29	29	28	28	28	25	22	24	26	27
29	32	34	31	31	28	30	29	36	33	36
40	49	48	39	37	40	42	39	38	38	40
78	94	106	99	90	78	87	75	77	91	103
57	71	74	67	62	54	57	54	43	60	57
69	64	70	81	81	93	86	80	73	68	67
60	68	69	68	61	73	66	69	62	62	73

Note: The 3 "600" series ATR's located on page 23, are SECONDARY as well as RECREATIONAL.

2003 EXPANSION FACTORS

SECONDARY

MON - THU		MON	TUE	WED	THU	FRI	SAT	SUN
1.140	Jan	1.133	1.174	1.097	1.153	1.022	1.253	1.592
1.142	Feb	1.265	1.173	1.090	1.061	1.081	1.404	1.617
1.081	Mar	1.066	1.116	1.077	1.066	0.969	1.136	1.317
0.951	Apr	1.012	0.930	0.945	0.932	0.880	0.979	1.178
0.883	May	0.913	0.861	0.853	0.908	0.792	0.865	1.133
0.849	Jun	0.867	0.864	0.850	0.813	0.766	0.838	0.980
0.838	Jul	0.871	0.837	0.831	0.823	0.765	0.849	1.035
0.919	Aug	0.930	0.937	0.909	0.901	0.825	1.000	1.172
0.908	Sep	0.924	0.897	0.914	0.903	0.813	0.978	1.182
0.884	Oct	0.895	0.897	0.888	0.863	0.813	0.930	1.084
0.969	Nov	1.028	0.973	0.960	0.923	0.866	1.012	1.271
1.162	Dec	1.008	1.261	1.318	1.112	1.037	1.192	1.422

ANNUAL AVERAGE DAILY TRAFFIC BY STATIONS FOR THE YEARS 1993 TO 2003

MUNICIPAL STREETS

STATION	ROUTE	LOCATION	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
900	LAKE ST	N OF 3RD ST STORM LAKE	3818	3931	3858	3562	3284	3511	3662	3508	3502	3266	3128
901	2ND AVE N	E OF 15TH ST FORT DODGE	6791	7042	6913	6870	6932	7331	7264	7211	7368	6681	6471
902	LOCUST ST	E OF SPRING ST DAVENPORT	20894	20893	21191	21731	21483	22938	23322	22415	22498	23162	22986
903	JEFFERSON	NE OF E 5TH ST OTTUMWA	7286	6997	7721	7392	7203	7030	6905	6678	6768	6935	6862
904	JOHNSON	W OF JANICE DR CEDAR RAPIDS	10493	10091	10020	10221	9965	10036	9527	9821	10174	9499	10202
905	N'WESTERN	N OF 20TH ST AMES	2577	2528	2719	3092	2854	2910	2842	2727	2741	2791	2797
906	DUBUQUE	S OF DAVENPORT ST IOWA CITY	13260	13480	13573	13976	13572	14484	15358	15324	15899	16201	15593
907	COLLEGE	S OF 23RD ST CEDAR FALLS	9057	9008	9258	8978	8963	9454	9469	9564	9973	9272	9036
908	LIND'WOOD	S OF 35TH ST SIOUX CITY	1232	1112	1115	1176	1138	1177	1171	1193	1139	1171	1134
909	HAMILTON	N OF CLIFTON AVE SIOUX CITY	13202	13153	12044	14688	14675	14979	15700	15280	15448	15596	15335
910	GRANDVIEW	SE OF PLYMOUTH CT DUBUQUE	9743	9926	9313	9158	9940	8982	9020	8973	9090	9218	9272
911	HUMBOLDT	S OF 4TH ST BODE	962	961	1096	939	926	916	942	886	898	869	794
912	ELM ST	N OF LUCAS ST CRESTON						4301	4207	4066	4024	4054	4081

2003 EXPANSION FACTORS MUNICIPAL STREETS

MON - THU		MON	TUE	WED	THU	FRI	SAT	SUN
1.055	Jan	1.070	1.073	1.037	1.043	0.964	1.231	1.498
1.001	Feb	1.055	1.008	0.990	0.958	0.942	1.216	1.414
1.016	Mar	1.011	1.040	1.021	0.997	0.940	1.158	1.331
0.920	Apr	0.967	0.914	0.908	0.901	0.855	1.037	1.260
0.880	May	0.901	0.889	0.880	0.853	0.781	0.968	1.201
0.920	Jun	0.935	0.922	0.929	0.893	0.877	1.087	1.259
0.933	Jul	0.950	0.939	0.935	0.916	0.886	1.093	1.316
0.926	Aug	0.937	0.935	0.924	0.910	0.873	1.057	1.244
0.923	Sep	0.940	0.924	0.916	0.909	0.851	1.074	1.235
0.924	Oct	0.947	0.932	0.921	0.904	0.845	1.061	1.219
0.936	Nov	0.969	0.940	0.924	0.914	0.865	1.092	1.300
0.971	Dec	0.960	0.998	0.988	0.941	0.890	1.119	1.353

ANNUAL AVERAGE DAILY TRAFFIC BY STATIONS FOR THE YEARS 1993 TO 2003

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

1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
			7488	7712	7823	7985	8197	8178	8174	8358
3062	3247	3233	3264	3264	3434	3557	3292	3328	3437	3492
3641	3796	3780	3945	4178	4207	4540	4531	4344	4544	4926

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.

1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
255	275	264	277	248	250	250	250	260	223	203
			1274	1222	1319	1170	1200	1032	994	937
					329	324	257	256	301	346

2003 EXPANSION FACTORS

RECREATIONAL

MON - THU		MON	TUE	WED	THU	FRI	SAT	SUN
1.219	Jan	1.233	1.234	1.203	1.211	1.086	1.316	1.812
1.203	Feb	1.270	1.227	1.192	1.136	1.153	1.364	1.796
1.155	Mar	1.160	1.168	1.166	1.129	1.026	1.174	1.465
1.030	Apr	1.077	1.009	1.033	1.012	0.928	1.019	1.309
0.942	May	0.964	0.939	0.923	0.946	0.810	0.850	1.174
0.847	Jun	0.858	0.864	0.853	0.813	0.719	0.740	0.880
0.826	Jul	0.847	0.838	0.830	0.801	0.713	0.741	0.880
0.887	Aug	0.898	0.895	0.896	0.861	0.739	0.784	0.910
0.962	Sep	0.959	0.965	0.978	0.946	0.826	0.909	1.149
1.039	Oct	1.059	1.040	1.052	1.014	0.930	1.073	1.327
1.085	Nov	1.131	1.085	1.095	1.037	0.982	1.209	1.574
1.158	Dec	1.115	1.327	1.169	1.057	1.000	1.159	1.581