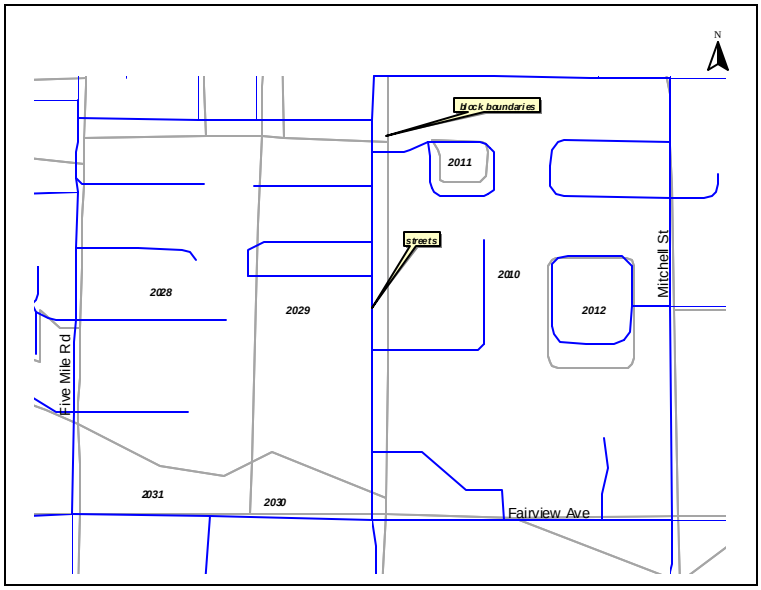
APPENDIX A: DEMOGRAPHIC INFORMATION

The following explains the steps taken to clean up the block level data and creating a block to TAZ equivalency table.

Figure 19



The original block file developed by the Census Bureau needed to be cleaned up and re-projected in order to make the data more useable. The COMPASS Geographic Information System (GIS) Department did this work. Figure 19 shows the original block file and the Ada County street file.

Figure 20

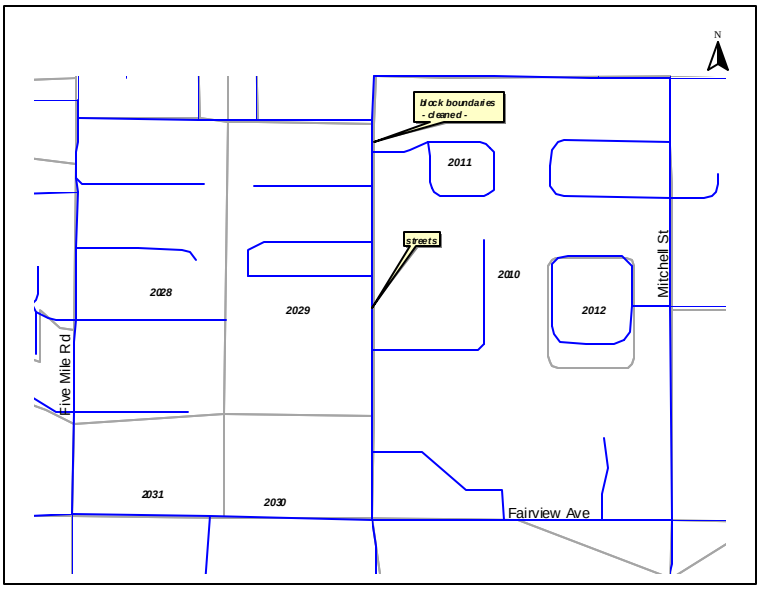
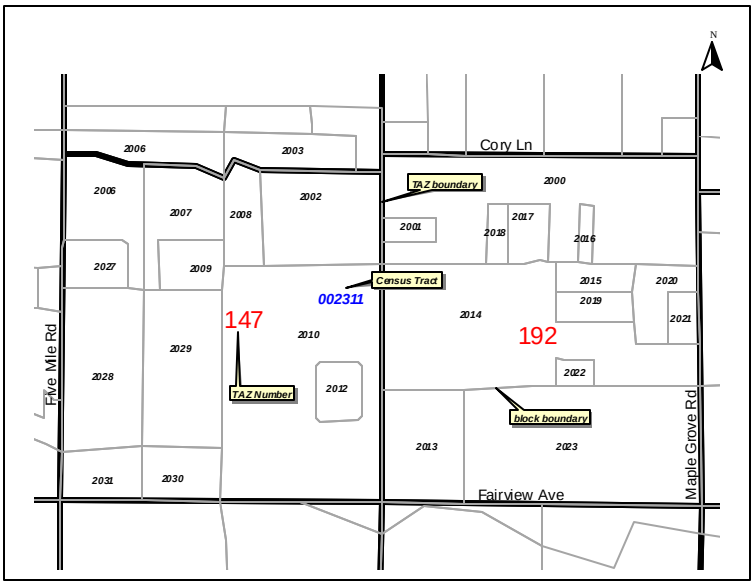


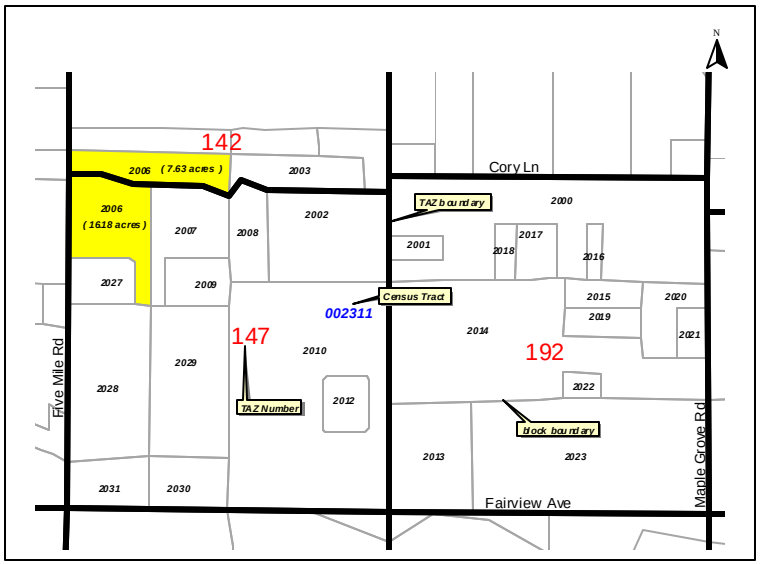
Figure 20 shows the block file after it has been cleaned by the GIS Department. This file fits better with the Ada County street file and other files used to summarize census data. This reduced the number of records from 7,387 to 6,556. The decrease in number of blocks is due to removing slivers of areas that do not contain any information; usually these slivers became part of an adjacent block.

Figure 21



Next a unique number had to be created in the block file because block numbers are used multiple times throughout a county. The unique number created was the "tract block", which was done by merging the tract number with the block number. For example, the area shown in Figure 20 is located within Census Tract 23.11 and by merging 2311 with 2029 results in 23112029. Then, the block file was intersected with the TAZ file as shown in Figure 21. This resulted in a file with each block assigned to a TAZ

Figure 22



Some blocks extend into more than one TAZ and the number of acres in both the TAZ and block were used to determine the split. Figure 22 shows block 2006 in Census Tract 23.11, which is split between TAZ 142 and 147 with 7.63 and 16.18 acres, respectively. The block acres per TAZ were divided by the total acres of the block, resulting in a percent of acres attributable to each TAZ. For example, 7.63 / 23.81 = .32, as a result 32% of the population and households in block 2006 is attributable to TAZ 142

The successful completion of developing a file containing both "tract block" and TAZ allows an easy way to summarize census data. Next, the census table containing population, housing units, and households was opened and again merged the tract and block fields. Then, census table containing "tract block" was joined with the TAZ file. Now, one database contains the tract block, TAZ, population, housing units, households, total acres, and the percent of block acres attributable to each TAZ.

Table 52 shows the raw unadjusted data for TAZ 142 and the adjusted numbers by the percent acres to assure no double counting.

Table 52

Raw Unadjusted Information from the Census						GIS Information		Adjusted Information		
Tract	Block	Tract block	Population	Housing Units	House-holds	TAZ	Percent Acres	2000 Census Population	2000 Census Housing Units	2000 Census House-holds
002310	3000	0023103000	307	137	134	142	7.03%	21.6	9.6	9.4
002311	1011	0023111011	58	18	18	142	100.00%	58.0	18.0	18.0
002311	1026	0023111026	16	12	11	142	100.00%	16.0	12.0	11.0
002311	1019	0023111019	36	17	15	142	3.30%	1.2	0.6	0.5
002311	1018	0023111018	11	8	8	142	100.00%	11.0	8.0	8.0
002311	1017	0023111017	22	15	14	142	100.00%	22.0	15.0	14.0
002311	1016	0023111016	16	11	11	142	100.00%	16.0	11.0	11.0
002311	1015	0023111015	51	18	18	142	100.00%	51.0	18.0	18.0
002311	1014	0023111014	284	116	113	142	99.97%	283.9	116.0	113.0
002311	1027	0023111027	25	10	9	142	100.00%	25.0	10.0	9.0
002311	1012	0023111012	49	17	16	142	100.00%	49.0	17.0	16.0
002311	1009	0023111009	34	11	11	142	95.68%	32.5	10.5	10.5
002311	1010	0023111010	67	24	23	142	100.00%	67.0	24.0	23.0
002311	1008	0023111008	46	13	13	142	86.08%	39.6	11.2	11.2
002311	1006	0023111006	33	11	11	142	100.00%	33.0	11.0	11.0
002311	1005	0023111005	49	18	17	142	89.21%	43.7	16.1	15.2
002310	3037	0023103037	44	29	27	142	5.07%	2.2	1.5	1.4
002310	3036	0023103036	55	30	29	142	7.12%	3.9	2.1	2.1
002310	3035	0023103035	714	334	331	142	0.53%	3.8	1.8	1.8
002310	3035	0023103035	714	334	331	142	1.56%	11.2	5.2	5.2
002311	1013	0023111013	12	5	5	142	100.00%	12.0	5.0	5.0
002311	2026	0023112026	70	24	24	142	100.00%	70.0	24.0	24.0
002311	1007	0023111007	77	27	27	142	99.28%	76.4	26.8	26.8
002311	1028	0023111028	51	17	15	142	100.00%	51.0	17.0	15.0
002311	2000	0023112000	447	192	184	142	0.09%	0.4	0.2	0.2
002311	2024	0023112024	4	2	2	142	5.88%	0.2	0.1	0.1
002311	2025	0023112025	6	3	3	142	100.00%	6.0	3.0	3.0

002311	2008	0023112008	35	11	11	142	7.73%	2.7	0.9	0.9
002311	2007	0023112007	50	22	21	142	12.38%	6.2	2.7	2.6
002311	2002	0023112002	150	59	59	142	12.20%	18.3	7.2	7.2
002311	2005	0023112005	184	73	72	142	100.00%	184.0	73.0	72.0
002311	2004	0023112004	81	31	30	142	100.00%	81.0	31.0	30.0
002311	2003	0023112003	63	23	23	142	100.00%	63.0	23.0	23.0
002311	1029	0023111029	203	76	75	142	100.00%	203.0	76.0	75.0
002311	2006	0023112006	189	66	66	142	32.05%	60.6	21.2	21.2
002311	1030	0023111030	53	18	18	142	100.00%	53.0	18.0	18.0
								1679.5	647.5	633.0

The persons per household ratio was calculated by dividing the 2000 Census adjusted population by the 2000 Census adjusted number of households (the data is shown above in Table 1). The occupancy rate was calculated much the same way by dividing the adjusted number of households by the adjusted number of housing units. The equation used to calculate persons per household for TAZ 402 was 356 / 131 = 2.71 persons per household. The equation used to calculate the occupancy rate for TAZ 402 was 131 / 145 = .90 - 90% of the units are occupied. Occupancy rates are important to calculate and use because empty homes do not create trips. More examples of these calculations for nine TAZ's in Canyon County are shown below in Table 53.

Table 53

Persons per Household and Occupancy Rate Calculations					
TAZ	Adjusted Population	Adjusted Housing Units	Adjusted Households	Persons per household	Occupancy Rate
402	356	145	131	2.71	0.90
403	1458	566	532	2.74	0.94
404	300	102	97	3.08	0.95
405	121	43	41	2.91	0.96
406	372	152	144	2.59	0.95
407	502	180	149	3.37	0.83
408	410	153	145	2.83	0.95
409	670	238	227	2.95	0.95
410	87	28	28	3.10	1.00

Next the persons per household and occupancy rate per TAZ were applied to the number of new residential building permits per TAZ. Lastly, these figures were added to the 2000 Census adjusted population, housing units, and household and the results are a 2002 population, housing units and households per TAZ. Table 54 shows how the persons per household and occupancy rates were applied to the building permit data calculations for ten TAZ's in Canyon County. The equation to estimate the 2002 population for zone 402 was ((16 x .90) x 2.71) + 548 = 564. The equation to estimate the 2002 household for zone 402 was (16 x .90) + 131 = 141.

Table 54

Developing 2002 Population and Household Data								
TAZ	Adjusted Population	Adjusted Housing Units	Adjusted Households	Persons per household	Occupancy Rate	Total Residential Building Permits	2002 Population	2002 Households
402	356	145	131	2.71	0.90	11	383	141
403	1458	566	532	2.74	0.94	17	1502	547

404	300	102	97	3.08	0.95	9	326	106
405	121	43	41	2.91	0.96	5	134	46
406	372	152	144	2.59	0.95	22	426	164
407	502	180	149	3.37	0.83	5	516	153
408	410	153	145	2.83	0.95	10	437	155
409	670	238	227	2.95	0.95	25	740	251
410	87	28	28	3.10	1.00	3	96	31

Once the 2002 population and households were developed one last set of adjustments were needed to "remove" group quarters population. This was done by locating persons per household rates above certain levels and was limited to the prisons, county jails, state hospital, and a few other dwellings. The persons per household rates for these TAZs were adjusted by simply using the same rate for an adjacent zone.

Table 55

2002 Demographic Data, County and TAZ Level								
	Population	Households	Vehicles	Retail	Office	Industrial	Government	Agriculture
Ada County	328,810	124,522	257,043	48,493	81,595	26,784	24,722	64
Canyon County	152,425	52,144	111,391	12,968	18,837	8,124	5,313	813
Total	481,235	176,666	368,434	61,461	100,432	34,908	30,035	877
TAZ	Population	Households	Vehicles	Retail	Office	Industrial	Government	Agriculture
1	243	184	173	74	201	0	1873	0
2	175	124	117	227	153	0	63	0
3	252	148	139	49	308	0	756	0
4	476	300	282	53	262	0	51	0
5	171	87	82	4	55	0	0	0
6	407	260	245	657	440	0	150	0
7	20	13	12	251	2736	0	231	0
8	1	1	1	196	494	0	199	0
9	46	36	34	485	930	0	42	0
10	54	44	41	165	301	0	3462	0
11	179	122	115	89	3965	0	99	0
12	83	14	13	692	1121	0	1950	0
13	24	16	15	776	884	0	11	0
14	0	0	0	142	626	0	75	0
15	6	3	2	154	149	0	0	0
16	3	2	2	58	214	0	0	0
17	4	3	3	89	125	0	2	0
18	0	0	0	300	163	0	6	0
19	283	141	133	286	167	0	198	0
20	Dummy Zone							
21	29	16	15	287	498	79	54	0
22	610	259	243	81	94	0	4	0
23	154	65	61	22	109	0	14	0
24	18	8	8	334	165	15	17	0
25	162	99	93	106	1028	7	105	0
26	105	89	84	219	889	0	129	0

27	183	90	84	418	435	82	11	0
28	347	197	364	15	326	17	6	0
29	876	416	787	13	79	2	2	0
30	419	230	435	7	2	0	0	0
31	1299	646	1221	11	155	0	9	0
32	2837	1119	2115	54	88	2	310	0
33	340	135	256	19	50	0	0	0
34	566	261	494	9	27	2	11	0
35	884	519	981	79	175	0	58	0
36	130	68	128	744	4019	42	436	0
37	1257	720	1332	394	823	17	0	0
38	981	591	1094	238	447	125	102	0
39	834	422	780	137	146	2	2	0
40	1309	265	489	251	542	0	35	0
41	1520	722	1337	321	173	0	6	0
42	1024	485	897	394	188	7	2	0
43	1025	446	826	45	507	0	2	0
44	1072	457	845	375	187	2	4	0
45	1644	687	1270	54	45	2	0	0
46	1483	653	1207	289	36	2	2	0
47	1152	549	1016	156	143	0	0	0
48	2588	1029	1903	114	180	0	2	0
49	660	257	476	8	27	2	0	0
50	57	25	46	0	2	37	0	0
51	Dummy Zone							
52	1092	533	987	0	23	0	0	0
53	351	125	232	15	8	0	286	0
54	767	234	433	2	15	0	0	0
55	781	276	510	2	21	0	0	0
56	1791	708	1310	11	107	0	0	0
57	1033	392	725	2	10	0	0	0
58	558	199	368	6	6	0	0	0
59	1492	523	968	8	10	2	0	0
60	1617	568	1050	16	39	207	0	0
61	296	106	197	250	0	0	0	0
62	144	48	90	37	35	237	0	0
63	6447	2190	4051	76	259	35	0	0
64	184	69	128	140	447	8000	0	0
65	483	230	425	7	36	0	4	0
66	765	286	529	78	50	0	0	0
67	484	208	384	294	279	15	0	0
68	268	91	215	823	728	73	2	0
69	12	5	9	75	329	209	1096	0
70	0	0	0	75	0	2	0	0

71	0	0	0	1107	900	311	7	0
72	0	0	0	1125	1337	766	1180	0
73	Dummy Zone							
74	0	0	0	0	0	0	0	0
75	0	0	0	131	1000	59	3257	0
76	202	79	216	2	11	9	37	0
77	1238	423	1002	54	35	0	0	0
78	709	230	546	54	591	15	39	0
79	135	41	97	331	342	0	259	0
80	178	61	145	961	904	79	15	0
81	955	322	763	196	135	0	4	0
82	3639	1205	2855	544	330	0	0	7
83	2555	785	1861	240	89	2	24	0
84	1446	432	1024	13	23	0	0	0
85	1227	404	957	8	28	0	2	0
86	1461	476	1128	27	92	0	15	0
87	3115	1091	2585	34	179	2	17	0
88	495	181	430	77	427	0	0	0
89	1180	434	1029	15	62	7	0	0
90	940	311	737	7	11	0	0	0
91	722	249	589	4	21	0	0	0
92	1003	333	790	4	83	2	0	0
93	1586	518	1227	23	58	0	0	0
94	1884	593	1406	37	42	2	0	0
95	1797	896	1595	565	900	2	65	0
96	2420	987	1757	4	64	200	0	0
97	807	324	577	297	133	7	0	0
98	3524	1137	2421	350	236	2	7	0
99	0	0	0	0	0	7330	0	0
100	1752	522	929	390	861	0	882	0
101	227	38	67	403	405	126	399	0
102	131	58	103	138	4641	7	44	0
103	2004	797	1418	198	755	45	416	0
104	569	276	491	198	118	15	22	0
105	1114	483	859	560	229	17	27	0
106	814	373	664	30	128	2	0	0
107	945	657	1170	77	196	0	53	0
108	1258	584	1039	40	85	0	9	0
109	1657	687	1223	51	188	0	6	0
110	967	448	797	92	285	0	16	0
111	1141	512	912	99	188	0	227	0
112	1644	750	1336	105	566	0	50	0
113	1464	561	999	350	221	0	37	0
114	2126	813	1447	47	66	35	0	0

115	1779	775	1380	220	219	22	6	0
116	1165	469	834	227	233	2	6	0
117	1072	442	786	317	518	15	21	0
118	711	332	590	139	326	0	44	0
119	496	210	374	70	125	2	0	0
120	1503	633	1127	109	81	0	2	0
121	1439	588	1046	87	184	0	9	0
122	943	381	678	26	121	2	0	0
123	1145	474	844	17	22	0	0	0
124	1974	851	1515	34	37	0	0	0
125	1413	557	992	11	402	0	90	0
126	1645	643	1145	15	94	0	15	0
127	975	372	662	9	177	0	2	0
128	1696	642	1142	418	300	75	31	0
129	1507	510	948	196	180	21	26	0
130	2508	823	1753	66	145	4	6	0
131	2690	778	1658	15	64	4	0	0
132	3303	1093	2329	277	1060	809	463	0
133	3372	1058	2253	217	78	0	0	0
134	2443	797	1697	40	182	0	9	0
135	2814	931	1983	35	67	0	6	0
136	2291	777	1656	10	52	0	0	0
137	1522	531	1131	19	95	0	9	0
138	1276	448	954	217	116	0	37	0
139	1798	689	1467	80	304	2	27	0
140	1380	674	1435	25	330	2	13	0
141	1510	507	1080	6	314	2	0	0
142	1724	650	1384	6	21	2	0	0
143	2100	744	1585	212	189	6	15	0
144	726	236	503	19	34	0	0	0
145	1161	383	817	867	108	42	0	0
146	2156	914	1948	478	496	21	63	0
147	1255	461	982	231	209	2	0	0
148	1004	386	821	12	51	0	0	0
149	770	314	668	417	250	9	863	0
150	2179	931	1982	469	501	0	44	0
151	644	293	625	108	649	17	24	0
152	13	7	15	118	17	0	0	0
153	1152	639	1361	271	1637	0	65	0
154	1716	777	1656	469	669	0	24	0
155	1252	458	975	269	561	7	114	0
156	20	10	21	214	785	375	7	0
157	0	0	0	1547	473	950	35	0
158	31	8	18	2052	604	0	23	0

159	511	194	412	0	8	2	0	0
160	1349	503	1072	2	30	0	0	0
161	2094	670	1427	877	95	0	0	0
162	578	172	367	22	276	0	0	0
163	5	3	6	27	274	827	2	0
164-169	Dummy Zones							
170	1112	403	749	0	22	0	77	0
171	2505	1076	2249	502	395	2	17	7
172	2012	840	1562	8	60	0	0	0
173	1130	556	1162	114	252	15	39	0
174	198	77	143	457	282	0	22	0
175	231	98	182	449	225	48	0	0
176	1124	415	772	134	168	18	24	0
177	1696	623	1158	381	740	142	28	0
178	784	280	521	268	286	73	431	0
179	216	96	179	215	687	70	0	0
180	1104	421	880	14	177	0	0	0
181	2241	816	1705	6	52	0	0	0
182	2606	1086	2270	623	290	0	9	0
183	4235	1619	3383	167	665	0	7	0
184	2487	948	1982	72	457	17	0	0
185	995	395	842	189	180	0	4	0
186	1242	481	1025	19	25	0	81	0
187	3009	1046	2227	80	262	0	0	0
188	644	272	579	2	25	0	0	0
189	854	347	740	4	27	0	2	0
190	1940	821	1749	76	114	0	35	0
191	26	9	20	350	620	529	0	0
192	1107	444	945	446	547	0	4	0
193	961	367	782	9	14	2	0	0
194	1629	805	1714	286	462	0	15	0
195	1832	719	1532	28	66	2	7	0
196	475	203	432	2	26	0	0	0
197	1116	521	1109	6	117	2	9	0
198	1798	827	1761	14	46	2	0	0
199	853	423	901	2	8	0	0	0
200	645	316	673	0	12	0	0	0
201	905	436	928	169	61	0	7	0
202	1716	971	2067	22	38	0	0	0
203	693	365	778	11	19	0	0	0
204	699	299	637	0	29	0	2	0
205	979	442	942	13	87	0	14	0
206	309	163	347	64	88	0	2	0
207	843	417	887	2	57	0	0	0

208	1436	689	1467	11	84	0	2	0
209	782	342	729	135	144	0	0	0
210	1068	356	1069	4	25	2	0	0
211	496	185	386	39	30	0	0	0
212	403	152	318	0	37	0	7	0
213	1419	538	1124	8	78	0	0	0
214	1084	421	880	147	358	0	14	0
215	2042	774	1618	4	64	0	2	0
216	2066	860	1798	4	13	0	0	0
217	346	137	286	0	83	0	7	0
218	1125	402	840	11	32	0	0	0
219	695	272	579	855	814	15	77	0
220	1483	535	1140	53	210	0	15	0
221	13	5	11	578	299	7	22	0
222	546	299	556	14	23	0	0	0
223	27	14	26	465	254	190	22	0
224	50	16	36	0	7	0	0	0
225	225	77	232	4	28	0	2	0
226	14	3	10	0	0	0	0	0
227	4	2	7	0	0	0	0	0
228	182	74	222	0	87	0	2	0
229	404	150	344	47	34	2	0	0
230	1416	438	1007	19	125	0	0	0
231	612	219	503	2	29	0	0	0
232	1785	632	1517	3	22	0	9	15
233	200	76	175	2	22	0	0	15
234	1188	354	773	27	46	0	0	0
235	305	121	264	6	4	0	0	0
236	94	32	78	23	14	0	0	0
237	498	145	317	4	11	0	15	0
238	1006	381	830	77	120	0	2	2
239	965	293	639	2	23	7	0	0
240	2085	714	1556	10	79	0	4	0
241	843	318	693	140	128	0	19	0
242	1469	544	1186	4	24	0	0	0
243	668	312	681	591	615	9	31	0
244	46	16	34	2	82	0	0	0
245	663	219	478	7	0	0	0	0
246	785	280	610	49	79	0	0	0
247	297	104	227	0	11	0	0	0
248	157	61	140	24	34	15	0	2
249	233	83	199	0	13	0	0	0
250	60	22	50	0	2	0	0	0
251	484	144	332	79	85	2	0	0

252	1472	449	978	24	77	7	0	0
253	85	33	72	33	16	0	0	0
254	1418	417	918	4	30	0	2	0
255	86	32	70	2	2	0	0	0
256	103	29	65	0	19	7	0	0
257	362	135	297	6	30	2	0	0
258	77	29	67	0	19	0	0	0
259	1024	337	742	15	16	0	0	0
260	3631	1303	2867	12	97	0	0	0
261	1545	507	1115	15	16	7	0	0
262	4092	1268	2790	92	86	4	0	0
263	2219	843	1855	15	63	0	35	0
264	1795	745	1638	360	439	0	2	0
265	2617	885	1947	767	218	15	0	0
266	62	24	53	363	585	17	0	0
267	29	13	28	16	781	125	0	0
268	227	97	214	198	153	50	9	0
269	1232	560	1232	421	984	215	279	0
270	1247	435	957	248	356	0	114	0
271	1086	425	936	149	730	166	0	0
272	2576	783	1724	10	34	0	4	0
273	1259	374	823	34	24	0	2	2
274	70	22	48	60	35	0	0	0
275	13	6	14	75	24	0	0	0
276	90	32	70	11	13	2	2	0
277	305	95	210	2	11	0	0	4
278	515	180	395	17	18	15	0	0
279	2231	733	1612	160	294	8	81	0
280	754	282	620	11	40	15	214	0
281	65	23	50	1495	825	1496	64	0
282	10	4	9	56	112	235	0	0
283	1041	336	740	65	1095	2	2	0
284	592	205	487	15	95	0	0	0
285	573	187	444	2	23	0	0	0
286	2088	676	1487	26	109	0	0	0
287	2882	913	2009	58	58	2	0	0
288	9	3	7	82	114	82	0	0
289	1002	321	706	39	36	0	7	0
290	908	271	596	9	95	0	0	0
291	481	159	435	11	10	0	0	0
292	103	34	93	2	2	0	0	0
293	138	42	92	0	24	0	2	0
294	1127	360	853	0	15	2	0	0
295	899	300	822	19	21	0	0	0

296	117	34	74	0	10	7	0	0
297	142	44	122	0	19	7	0	0
298	96	34	92	0	2	2	0	0
299	107	34	92	7	2	2	0	0
300	143	52	143	2	39	2	0	0
301	197	52	143	2	2	17	0	0
302	63	23	64	2	2	2	0	2
303	245	77	182	0	52	0	0	0
304	1033	320	877	84	76	0	425	0
305	551	199	546	273	47	0	0	0
306	249	77	186	0	13	0	7	2
307	843	294	708	0	24	0	0	2
308	992	306	738	2	19	0	0	0
309	297	97	267	2	4	17	0	2
310	62	24	66	0	9	0	0	0
311	1433	477	1150	122	48	2	9	0
312	1500	511	1231	16	92	0	0	0
313	369	114	274	92	39	7	0	0
314	321	115	315	4	17	30	0	0
315	169	56	134	0	15	0	0	0
316	167	48	116	2	11	2	0	0
317	893	270	650	6	20	15	24	0
318	327	100	241	2	10	4	0	0
319	958	295	710	0	4	0	0	0
320	425	133	365	4	23	52	0	0
321	982	439	817	6	51	35	0	0
322	233	100	186	82	174	21	0	0
323	1178	430	898	9	73	0	0	0
324	574	242	515	101	77	0	104	0
325	1153	550	1150	58	178	0	0	0
326	274	30	63	2	281	0	304	0
327	1808	605	1331	11	65	0	15	0
328	3100	959	2110	8	41	4	200	0
329	62	26	56	69	219	11	2	0
330	1233	433	952	6	141	15	37	0
331	65	22	48	38	517	30	22	0
332	2479	799	1926	11	24	0	2	0
333	1123	388	854	4	127	312	2	0
334	89	27	59	0	4	2	0	0
335	50	19	42	4	9	0	0	0
336	363	119	262	0	2	2	35	0
337	54	21	46	15	50	0	0	0
338	122	39	86	35	35	0	0	0
339	290	99	218	16	6	0	0	2

340	3195	1092	2402	41	62	0	9	0
341	0	0	0	75	410	0	0	0
342	166	56	120	298	11	0	0	0
343	560	205	493	51	59	0	6	0
344	232	83	197	0	0	0	0	0
345	526	185	310	252	104	400	42	0
346	0	0	0	354	267	600	4	0
347	1278	463	1009	9	6	9	15	0
348	2692	819	1786	11	36	0	0	0
349	15	3	9	0	0	0	425	0
350	30	11	29	0	0	0	0	0
351	1188	419	993	4	48	0	0	0
352	81	30	65	0	79	0	0	0
353-396	Dummy Zones							
397	138	46	126	0	0	0	0	0
398	365	125	342	0	8	7	0	0
399	155	68	187	213	19	35	30	0
400	Dummy Zone							
401	564	213	557	21	65	15	0	7
402	383	141	370	92	2	0	0	0
403	1502	547	1434	94	40	0	18	0
404	326	106	277	2	8	2	2	19
405	134	46	121	0	0	0	0	0
406	426	164	431	0	4	0	0	24
407	516	153	401	323	49	0	22	2
408	437	155	405	23	30	0	0	2
409	740	251	658	7	21	2	0	4
410	96	31	81	0	0	0	0	0
411	733	250	655	11	16	0	0	0
412	961	331	867	12	4	4	0	0
413	1507	497	1302	28	49	2	0	13
414	382	130	340	11	8	15	0	37
415	154	50	130	0	2	0	0	35
416	146	56	147	7	2	0	0	15
417	589	199	521	16	11	0	4	35
418	716	246	644	11	10	2	0	0
419	88	31	82	0	81	0	0	2
420	1287	449	1178	18	76	0	0	0
421	79	27	70	0	0	0	0	0
422	161	62	162	0	2	0	0	0
423	94	36	73	0	0	0	0	0
424	1396	474	971	4	40	0	9	2
425	201	81	166	6	4	0	0	0
426	1245	420	862	9	15	0	0	0

427	1593	523	1371	42	38	2	0	0
428	194	61	160	0	2	0	0	0
429	314	119	312	2	2	2	0	0
430	1170	364	954	13	39	11	6	9
431	233	84	220	4	0	0	0	0
432	16	3	9	0	0	75	0	0
433	295	114	299	42	49	15	70	0
434	931	332	681	126	163	75	11	0
435	28	14	37	0	2	0	0	0
436	481	178	468	2	13	0	0	2
437	92	29	77	2	2	0	0	15
438	Dummy Zone							
439	103	36	66	7	4	0	0	0
440	279	97	254	32	2	84	0	15
441	1	1	1	2	22	132	0	0
442	1148	253	663	13	75	0	2	0
443	428	162	298	6	8	0	0	0
444	678	237	435	15	28	0	0	0
445	3089	1052	1935	8	61	2	2	0
446	41	17	31	17	14	0	0	2
447	982	286	527	2	40	42	7	0
448	177	59	109	7	9	209	15	0
449-450	Dummy Zones							
451	412	144	266	17	805	0	2	0
452	141	45	83	144	464	696	11	0
453	325	145	266	35	117	0	57	0
454	452	177	326	53	217	0	216	0
455	739	216	398	276	278	41	0	0
456	603	174	321	11	13	2	0	0
457	817	320	589	106	127	37	19	0
458	112	40	73	111	161	37	250	0
459	692	200	369	30	34	0	0	0
460	2084	833	1533	4	36	0	0	0
461	463	215	396	38	1120	0	13	0
462	Dummy Zone							
463	182	84	155	204	157	9	220	0
464	1138	442	814	9	72	2	0	2
465	251	81	150	4	24	0	0	0
466	1247	337	619	92	158	26	1785	0
467	404	119	220	206	138	2	4	0
468-469	Dummy Zones							
470	1602	465	856	120	27	0	7	0
471	398	201	369	286	121	0	4	0
472	153	49	91	234	76	0	2	0

473	139	49	90	135	21	0	2	0
474	43	18	34	139	227	250	2	0
475	637	238	439	166	70	70	0	0
476	Dummy Zone							
477	424	146	381	50	8	2	0	0
478	1734	551	1015	2	52	0	0	0
479	677	254	467	2	56	0	0	0
480	1033	377	693	0	19	0	15	2
481	2569	876	1611	4	34	0	7	0
482	1798	727	1338	364	404	52	37	0
483	Dummy Zone							
484	1744	549	1010	72	167	17	35	7
485	Dummy Zone							
486	111	39	72	8	46	0	0	0
487	Dummy Zone							
488	294	104	191	6	32	0	0	15
489	2397	773	1423	2	43	0	0	0
490	911	358	658	2	10	0	7	2
491	1153	408	750	168	155	0	15	0
492	120	45	83	11	67	0	126	2
493	36	12	22	9	7	0	0	0
494-496	Dummy Zones							
497	30	13	26	354	237	379	50	0
498	57	21	38	100	100	100	0	0
499	388	133	349	35	25	4	0	0
500	252	96	251	37	93	425	0	2
501	1066	373	977	0	0	0	0	0
502	1667	468	1227	26	47	6	57	10
503	310	104	273	0	0	0	0	0
504	456	149	389	0	4	7	0	7
505	683	232	607	2	31	2	35	0
506	165	61	161	0	4	0	0	0
507	74	30	79	0	2	0	0	0
508	Dummy Zone							
509	1383	453	1186	9	36	2	2	0
510	1032	346	706	0	19	0	0	0
511	560	177	326	6	2	0	0	0
512	890	287	529	0	39	0	0	2
513	115	36	67	0	2	0	0	0
514	155	61	112	11	21	0	0	0
515	760	255	667	161	101	4	0	0
516	1821	674	1374	1631	494	126	222	0
517	68	19	40	2	2	0	0	0
518	231	97	197	89	86	774	0	0

519	191	68	139	4	21	0	0	0
520	122	44	90	17	95	0	2	0
521	147	56	114	2	0	0	0	0
522	141	51	104	0	13	0	0	0
523	46	18	37	7	2	0	0	0
524	943	326	664	56	943	333	49	0
525	2718	939	1915	59	145	100	15	0
526	531	218	445	0	4	0	0	0
527	420	138	282	8	17	0	200	0
528	348	112	229	6	8	200	0	0
529	457	158	323	9	15	0	2	0
530	1552	797	1627	8	99	2	15	0
531	2254	853	1740	775	791	218	203	0
532	26	9	19	0	30	200	37	0
533	177	56	115	17	148	492	0	0
534	234	89	182	275	619	319	85	0
535	283	98	199	284	160	386	20	0
536	1262	420	858	87	177	15	2	0
537	708	251	512	11	45	19	0	0
538	297	96	195	82	13	2	0	0
539	2102	663	1352	6	37	0	2	0
540	3845	1361	2776	14	459	2	0	0
541	665	239	487	67	194	17	127	0
542	722	230	469	8	34	30	7	0
543	372	146	298	266	238	0	11	0
544	537	265	540	410	448	0	481	0
545	933	339	692	265	348	24	74	0
546	782	312	636	50	16	2	2	0
547	1368	420	857	35	337	0	2	0
548	1256	426	868	132	136	17	2	0
549	158	50	101	4	108	22	2	0
550	816	292	595	20	26	17	0	2
551	247	92	187	0	8	0	0	0
552	2876	950	1939	15	70	6	7	4
553	1409	538	1098	94	28	0	0	0
554	1150	437	891	217	299	2	11	0
555	1068	343	700	42	313	0	0	0
556	3718	1203	2454	50	89	15	17	0
557	205	67	137	0	21	0	0	0
558	462	165	337	0	9	2	0	0
559	3169	1084	2211	72	554	2	2	0
560	2696	953	1944	186	1463	2	261	0
561	3539	1144	2333	56	30	75	9	0
562	302	97	197	7	44	0	2	0

563	2365	823	1679	700	204	0	2	0
564	2487	841	1716	41	148	0	15	0
565	899	272	555	44	15	0	0	2
566	915	284	745	69	71	577	0	4
567	1007	338	886	2	13	0	7	0
568	60	23	59	0	86	200	15	0
569	265	90	237	0	26	7	0	0
570	85	29	77	0	53	2	0	0
571	688	239	626	14	25	2	2	4
572	82	32	84	0	4	15	0	0
573	497	161	422	4	12	2	0	6
574	2092	655	1715	67	93	11	35	0
575	329	121	318	2	2	0	0	0
576	571	174	457	26	21	0	22	0
577	302	100	262	59	80	0	2	9
578	580	183	479	2	21	0	2	4
579	812	249	653	2	23	2	0	15
580	521	163	428	8	12	2	17	4
581	1022	323	847	0	15	0	2	0
582	229	69	181	7	2	2	0	2
583	737	231	606	0	15	0	0	17
584	912	294	772	28	34	11	0	2
585	561	171	447	9	16	7	0	2
586	1249	436	1144	58	55	26	13	61
587	40	15	30	52	126	417	2	0
588	450	9	18	35	42	0	7	0
589	1	0	1	490	37	0	0	0
590	49	19	40	15	7	145	0	0
591	2061	738	1507	6	34	0	0	2
592	1367	427	871	130	78	0	0	0
593	773	264	538	330	69	0	0	375
594	1293	437	891	9	23	0	0	0
595	1611	600	1225	11	59	375	0	0
596	596	273	556	195	271	35	18	0
597	1135	371	756	26	129	2	7	0
598	1731	651	1329	99	80	0	42	0
599	2768	863	1761	6	28	0	2	0
600	1095	315	643	7	66	0	0	0
601	3091	988	2016	37	62	0	82	0
602	509	197	362	35	6	0	0	7

APPENDIX B: ADDITIONAL TRIP GENERATION DETAILS

SCHOOL ENROLLMENT AND LOCATION DATA

The following Table 56 and Table 57 summarize the 2002 student enrollment data by TAZ, type and name(s).

Table 56

2002 Public School Enrollment Data					
TAZ	Elementary	Middle / Junior	Senior High	University	School Name
3	0	0	1,136	0	Boise Senior High School
31	1,035	0	0	0	Roosevelt Elementary School
33	304	0	0	0	Adams Elementary School
35	0	729	0	0	East Junior High School
40	0	0	0	17,714	Boise State University
45	485	0	0	0	Garfield Elementary School
48	540	0	1,097	0	White Pine Elementary School And Timberline
55	630	0	0	0	Riverside Elementary School
57	616	0	0	0	Liberty Elementary School
63	500	848	0	0	Trail Wind Elementary and Les Bois
81	581	0	0	0	Maple Grove Elementary School
86	453	0	0	0	Amity Elementary School
87	293	0	0	0	Silver Sage Elementary School
92	0	1,063	0	0	Lake Hazel Middle School
93	834	0	0	0	Lake Hazel Elementary School
98	635	0	0	0	Frontier Elementary School
103	0	829	0	0	West Junior High School
109	352	0	0	0	Jefferson Elementary School
111	429	0	0	0	Franklin Elementary School
112	353	0	1,531	0	Jackson Elementary School/Borah Senior High School
114	335	0	0	0	McKinley Elementary School
116	279	0	0	0	Monroe Elementary School
117	0	937	0	0	South Junior High School
121	334	0	0	0	Hawthorne Elementary School
124	438	0	0	0	Whitney Elementary School
125	176	0	0	0	Owyhee Elementary School
126	316	0	0	0	Hillcrest Elementary School
131	407	0	0	0	Joplin Elementary School
132	618	1,208	2,210	0	Cecil D Andrus Elementary, Centennial And Lowell
133	141	0	0	0	Pioneer Elementary School
134	465	0	0	0	McMillan Elementary School
136	413	0	0	0	Valley View Elementary School
137	0	0	1,589	0	Capital Senior High School
138	387	0	0	0	Mountain View Elementary School
144	464	0	0	0	Ustick Elementary School
145	0	1,064	0	0	Lewis & Clark Middle School
149	0	808	0	0	Fairmont Junior High School
162	712	0	0	0	Spalding Elementary School
181	462	738	0	0	Shadow Hills Elementary and Riverglen
182	325	0	0	0	Pierce Park Elementary School
183	572	0	0	0	Cynthia Mann Elementary School
184	227	0	0	0	Collister Elementary School
185	379	0	0	0	William Howard Taft Elementary
187	489	0	0	0	Summerwind Elementary School

193	369	0	0	0	Koelsch Elementary School
197	355	0	0	0	Lowell Elementary School
202	213	0	0	0	Longfellow Elementary School
203	197	729	0	0	Washington Elementary School And North
206	142	0	0	0	Madison Elementary School
208	335	0	0	0	Whittier Elementary School
214	0	465	0	0	Hillside Junior High School
219	423	0	0	0	Cole Elementary School
220	645	0	0	0	Horizon Elementary School
232	375	0	0	0	Star Elementary School
234	0	0	2,409	0	Eagle High School
237	0	1,259	0	0	Eagle Middle School
238	428	0	0	0	Eagle Elementary School
240	428	0	0	0	Eagle Hills Elementary School
254	450	0	0	0	Discovery Elementary
260	620	0	0	0	Ponderosa Elementary School
262	563	0	0	0	Linder Elementary School
264	671	0	0	0	Chief Joseph Elementary School
265	897	0	0	0	River Valley Elementary School
270	460	0	0	0	Meridian Elementary School
272	0	0	2,336	0	Meridian High School
273	161	0	0	0	Chaparral Elementary
278	699	0	0	0	Peregrine Elementary School
286	0	0	1,700	0	Mountain View High
293	539	0	0	0	Mary Mc Pherson Elementary
311	689	0	0	0	Indian Creek Elementary School
312	873	768	0	0	Fremont H Teed Elementary School
325	241	0	0	0	Highlands Elementary School
330	0	1,473	0	0	Meridian Middle School
332	0	0	933	0	Kuna High School
348	167	0	0	0	Seven Oaks Elementary
403	499	255	280	0	Maxine Johnson Elementary, Parma Jr And High
408	176	90	67	0	Notus Elementary School And Jr/Sr
412	372	0	0	0	Purple Sage Elementary
422	372	0	0	0	Middleton Heights Elementary
426	372	0	0	0	Middleton Mill Creek Elementary
552	1,154	0	0	0	Owyhee and Franklin D Roosevelt Elementary School
434	0	590	648	0	Middleton High School
445	565	0	0	0	Sacagawea Elementary School
457	1,103	0	0	0	Lincoln Elementary School And Washington
467	507	0	0	0	Van Buren Elementary School
470	0	0	0	778	Albertsons College
479	935	0	0	0	Wilson Elementary School
480	0	1,710	0	0	Jefferson Junior High School
482	0	0	965	0	Caldwell Senior High School
490	0	0	1,180	0	Vallivue High School
499	454	0	0	0	East Canyon Elementary School
502	303	143	100	0	Holmes Elementary School Wilder Mid /High
505	485	0	0	0	West Canyon Elementary School
512	0	959	0	0	Vallivue Middle School
513	520	0	0	0	Central Canyon Elementary School
516	0	0	0	1,784	BSU Canyon

526	486	0	0	0	Birch Elementary School
534	538	0	0	0	Snake River Elementary
540	310	0	0	0	Lincoln Elementary School
544	456	0	0	0	Central Elementary
553	592	0	0	0	Centennial Elementary School
554	0	0	0	1,469	NNU
555	680	0	0	0	Sherman Elementary
556	685	0	0	0	Park Ridge Elementary
559	625	0	1,391	0	Iowa Elementary And Nampa High
561	606	0	0	0	Greenhurst Elementary School
563	0	948	0	0	South Middle School
564	0	0	1,544	0	Skyview High School
565	711	800	0	0	Reagan Elementary School/East Valley Middle
574	579	0	0	0	Sunny Ridge Elementary School
586	289	149	252	0	Melba Elementary Mid / High School
594	0	856	0	0	West Middle School

Table 57

2002 Private School Enrollment Data					
TAZ	Elementary	Middle / Junior	Senior High	University	School Name
2	215	62	0	0	Saint Josephs School
26	114	48	0	0	Anser Charter School And Sheridan Academy
53	108	62	0	0	River Stone Community School
105	71	0	0	0	Boise Christian School
111	80	0	0	0	Good Shepherd Lutheran School
112	0	150	714	0	Bishop Kelly High And Cole Valley Christian Jr High
141	300	0	0	0	Cole Valley Christian Elementary
143	306	0	0	0	Maranatha Christian School
145	64	18	0	0	Boise Valley Adventist School
148	199	57	0	0	Saint Marks School
172	0	0	0	119	Boise Bible College
205	168	48	0	0	Saint Mary's School
211	200	112	0	0	Hidden Springs Charter School
223	0	0	312	0	Cole Valley Christian Senior High
241	0	181	0	0	Eagle Academy
254	0	0	174	0	Meridian Charter High School
266	0	151	0	0	Crossroads Middle School
267	0	147	0	0	Meridian Academy
326	0	178	421	138	Boise Evening School, Mountain Cove, And Fort Boise
332	0	0	0	54	Kuna Evening School
430	121	56	48	0	Greenleaf Friends Academy
470	74	0	0	0	Seventh-Day Adventist Christian Elementary
479	0	0	92	0	Canyon Springs Alternative High School
484	0	84	0	0	Grace Christian Academy
512	0	0	140	0	Gem State Academy
516	0	0	141	0	Nampa Alternative High
531	379	162	162	0	Nampa Christian School
545	148	0	0	0	Parkview Early Childhood Center
560	129	19	0	0	Zion Lutheran School
573	0	38	0	0	Hope Christian Academy
574	0	335	0	0	Liberty Charter School
577	0	0	38	0	Nampa Teen Parent Alternative
588	0	0	141	0	Ridgecrest Alternative High School
597	168	48	0	0	Saint Paul's School

ADA COUNTY CROSS-CLASSIFICATION DATA

The following tables and graphs compare the trip rates per trip type for each category for Ada County. The unadjusted trip rates were developed using the available data from the 2002 household travel survey. For some categories survey data were limited or not available especially in the zero-vehicle category. In these cases "best fit" trip rates were used. Only 16 households surveyed in Ada County stated they did not have a vehicle available and none of these households contained more than two people.

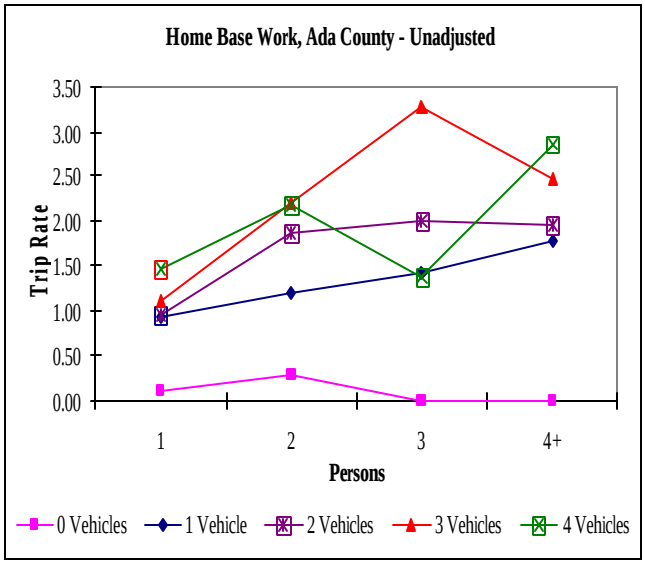
Home Base Work

The home base work trip rates were adjusted in the zero and the 4 or more vehicles category. Overall, five adjustments were made to the home base work cross-classification table.

Figure 23

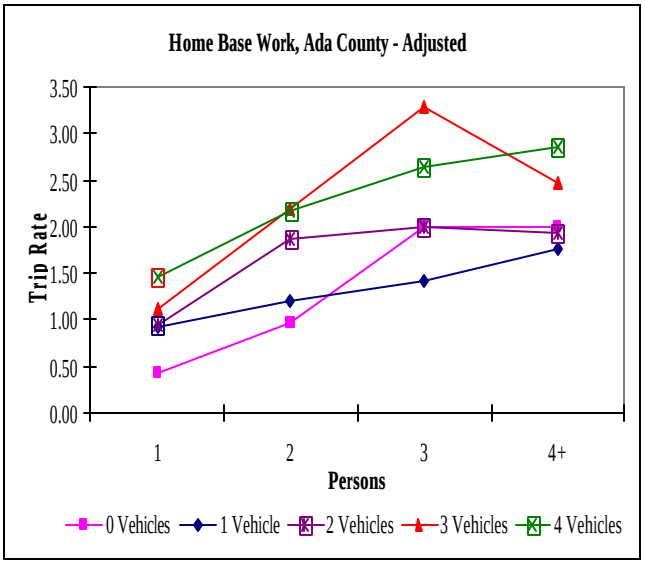
Unadjusted

		Persons			
		1	2	3	4+
Vehicles	0	0.11	0.29	0.00	0.00
	1	0.93	1.20	1.42	1.77
	2	0.95	1.87	1.99	1.94
	3	1.11	2.20	3.28	2.46
	4+	1.45	2.17	1.37	2.86



Adjusted

		Persons			
		1	2	3	4+
Vehicles	0	0.42	0.96	2.00	2.00
	1	0.93	1.20	1.42	1.77
	2	0.95	1.87	1.99	1.94
	3	1.11	2.20	3.28	2.46
	4+	1.45	2.17	2.65	2.86



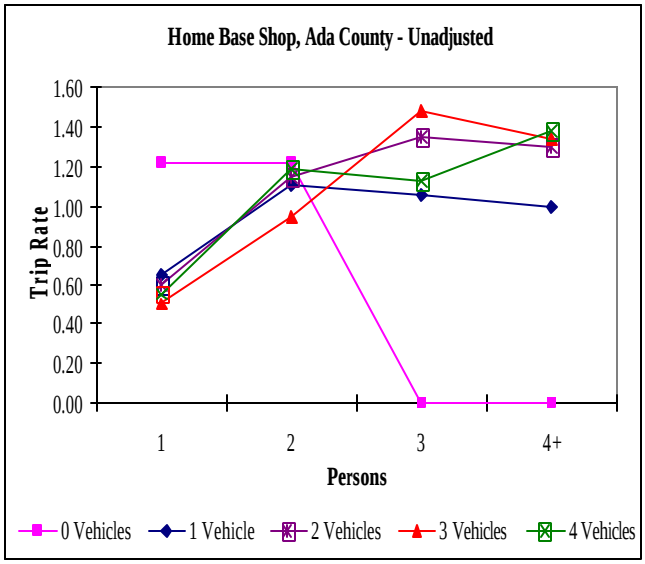
Home Base Shop

Adjustments were made to the home base shop trip rates in the zero-vehicle category for households with more than three people because survey data was unavailable. Overall, two adjustments were made to the home base shop cross-classification table.

Figure 24

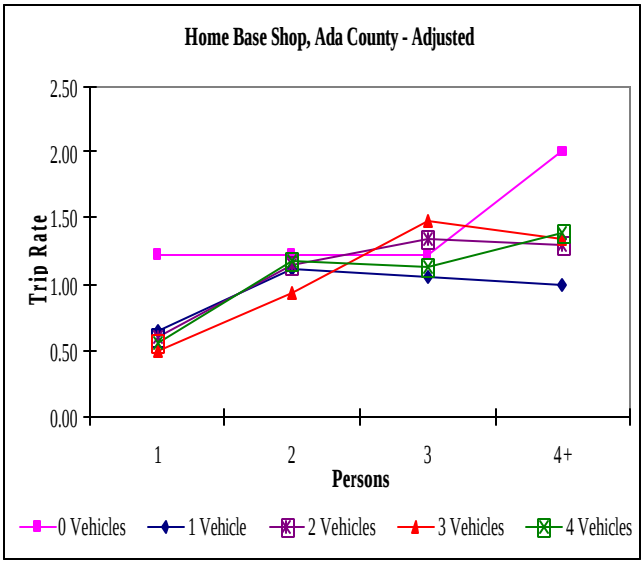
Unadjusted

		Persons			
		1	2	3	4+
Vehicles	0	1.22	1.22	0.00	0.00
	1	0.65	1.11	1.06	1.00
	2	0.60	1.15	1.34	1.30
	3	0.50	0.94	1.48	1.34
	4+	0.55	1.18	1.13	1.38



Adjusted

		Persons			
		1	2	3	4+
Vehicles	0	1.22	1.22	1.22	2.00
	1	0.65	1.11	1.06	1.00
	2	0.60	1.15	1.34	1.30
	3	0.50	0.94	1.48	1.34
	4+	0.55	1.18	1.13	1.38



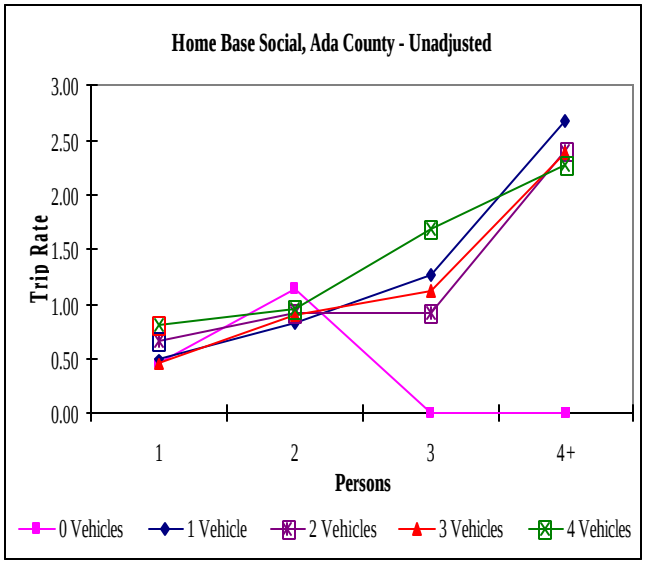
Home Base Social

Adjustments were made to the home base social trip rates in the zero-vehicle category for households with more than three people because survey data was unavailable. Overall, two adjustments were made to the home base social cross-classification table.

Figure 25

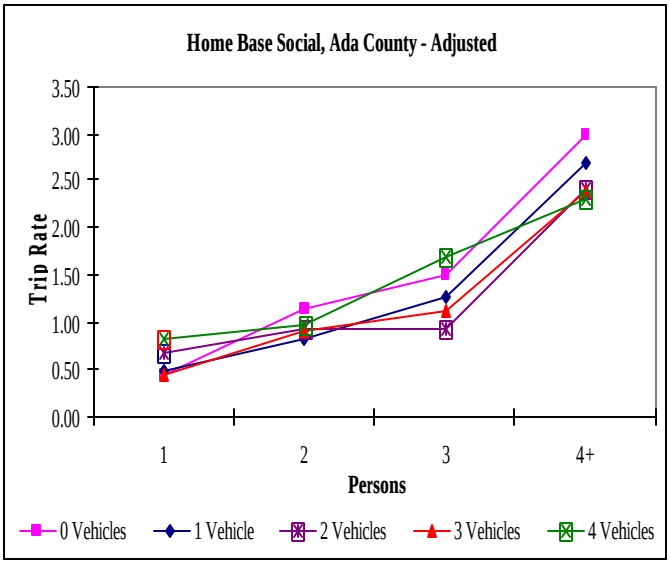
Unadjusted

		Persons			
		1	2	3	4+
Vehicles	0	0.44	1.14	0.00	0.00
	1	0.49	0.82	1.27	2.68
	2	0.67	0.93	0.92	2.40
	3	0.44	0.90	1.12	2.39
	4+	0.82	0.97	1.68	2.29



Adjusted

		Persons			
		1	2	3	4+
Vehicles	0	0.44	1.14	1.50	3.00
	1	0.49	0.82	1.27	2.68
	2	0.67	0.93	0.92	2.40
	3	0.44	0.90	1.12	2.39
	4+	0.82	0.97	1.68	2.29



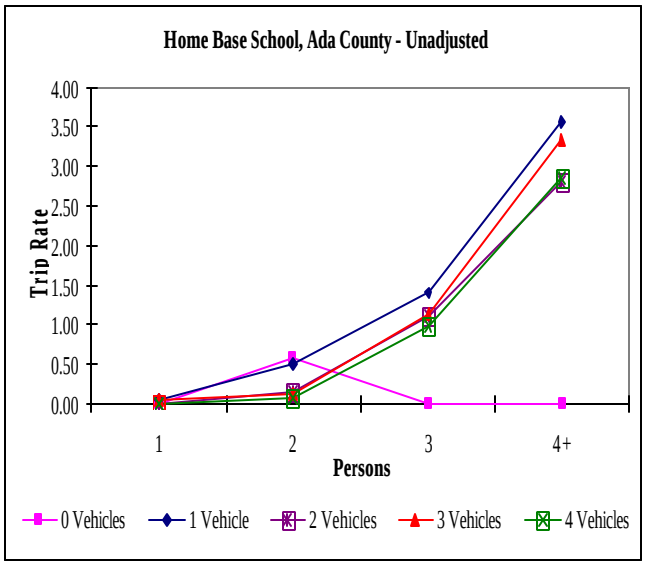
Home Base School

Adjustments were made to the home base school trip rates in the zero-vehicle, one and two-person categories because survey data was unavailable or limited. None of the zero-vehicle households reported school trips. Of the 16 zero-vehicle households surveyed only four school trips were reported. Overall, several adjustments were needed to the home base school cross-classification table. The trips estimated in the trip generation step are based on number of students per school type.

Figure 26

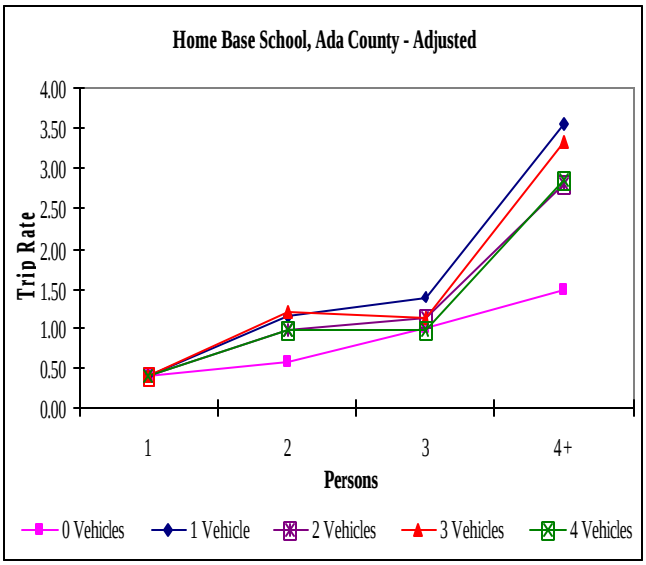
Unadjusted

		Persons			
		1	2	3	4+
Vehicles	0	0.00	0.57	0.00	0.00
	1	0.04	0.49	1.39	3.55
	2	0.01	0.14	1.11	2.81
	3	0.06	0.12	1.13	3.33
	4+	0.00	0.07	0.97	2.86



Adjusted

		Persons			
		1	2	3	4+
Vehicles	0	0.40	0.57	1.00	1.50
	1	0.40	1.15	1.39	3.55
	2	0.40	0.98	1.11	2.81
	3	0.40	1.19	1.13	3.33
	4+	0.40	0.96	0.97	2.86



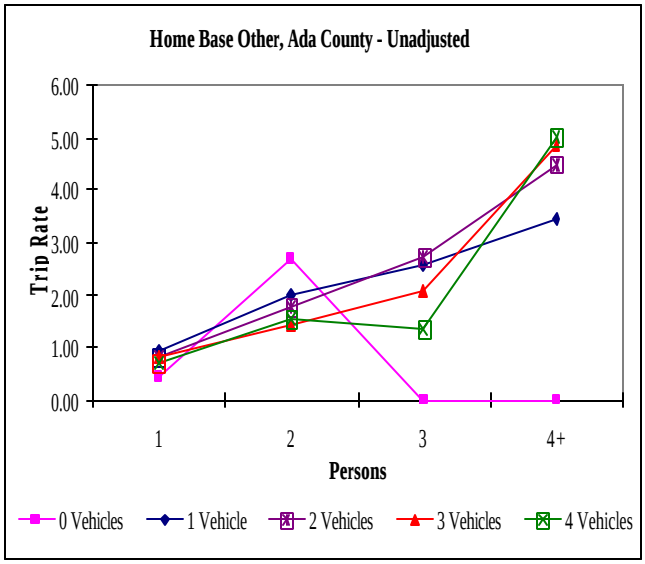
Home Base Other

Adjustments were made to the home base other trip rates in the zero-vehicle category for households with more than three people because survey data was unavailable. Overall, two adjustments were made to this cross-classification table.

Figure 27

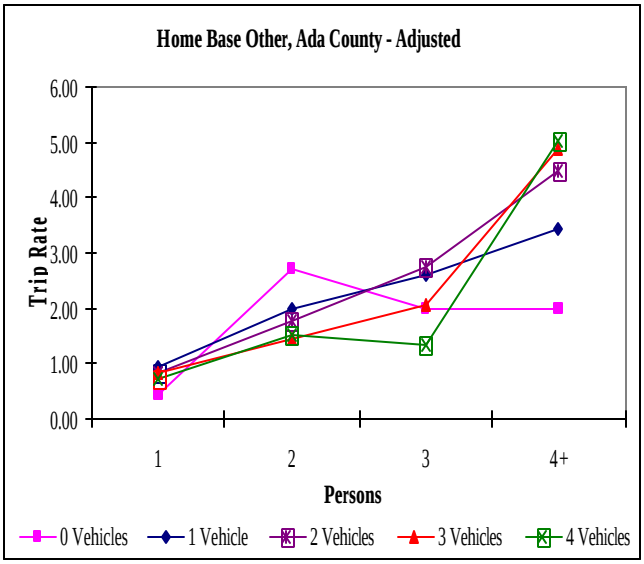
Unadjusted

		Persons			
		1	2	3	4+
Vehicles	0	0.44	2.71	0.00	0.00
	1	0.94	2.00	2.61	3.45
	2	0.82	1.77	2.75	4.50
	3	0.83	1.43	2.07	4.88
	4+	0.73	1.53	1.35	5.04



Adjusted

		Persons			
		1	2	3	4+
Vehicles	0	0.44	2.71	2.00	2.00
	1	0.94	2.00	2.61	3.45
	2	0.82	1.77	2.75	4.50
	3	0.83	1.43	2.07	4.88
	4+	0.73	1.53	1.35	5.04



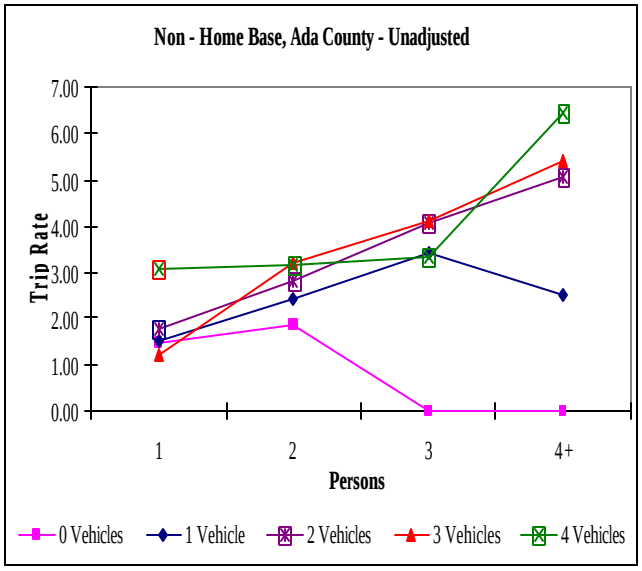
Non - home Base

Adjustments were made to the non-home base trip rates in the zero-vehicle category for households with more than three people because survey data was unavailable. Overall, two adjustments were made to this cross-classification table.

Figure 28

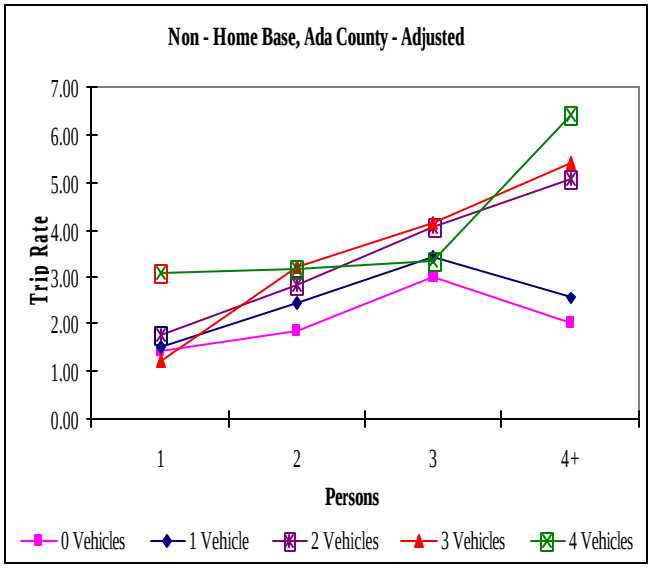
Unadjusted

		Persons			
		1	2	3	4+
Vehicles	0	1.44	1.86	0.00	0.00
	1	1.51	2.44	3.42	2.55
	2	1.75	2.86	4.06	5.08
	3	1.22	3.23	4.13	5.42
	4+	3.09	3.17	3.35	6.43



Adjusted

		Persons			
		1	2	3	4+
Vehicles	0	1.44	1.86	3.00	2.00
	1	1.51	2.44	3.42	2.55
	2	1.75	2.86	4.06	5.08
	3	1.22	3.23	4.13	5.42
	4+	3.09	3.17	3.35	6.43



CANYON COUNTY CROSS-CLASSIFICATION DATA

The following tables and graphs compare the trip rates per trip type for each category for Canyon County. The unadjusted trip rates were developed using the available data from the 2002 household travel survey. For some categories survey data were limited or not available especially in the zero-vehicle category. In these cases "best fit" trip rates were used. Only 11 households surveyed in Canyon County stated they did not have a vehicle available and two of these households contained more than two people.

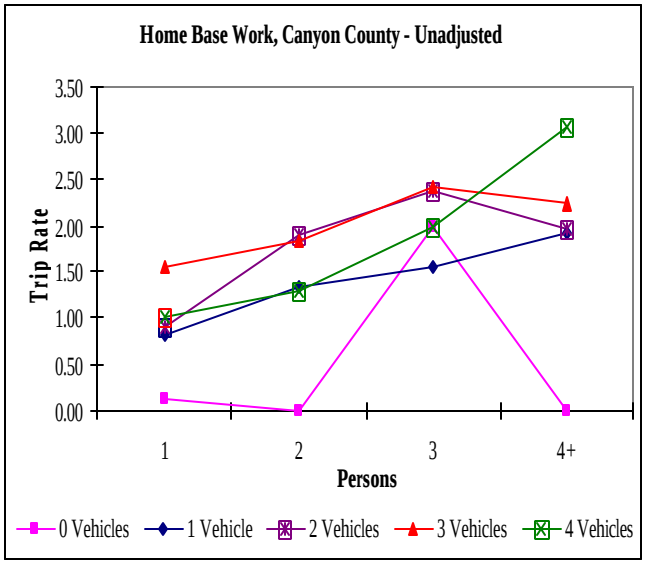
Home Base Work

Adjustments were made to the home base work trip rates in the zero-vehicle category for households with more than three people because survey data was unavailable. Overall, two adjustments were made to this cross-classification table.

Figure 29

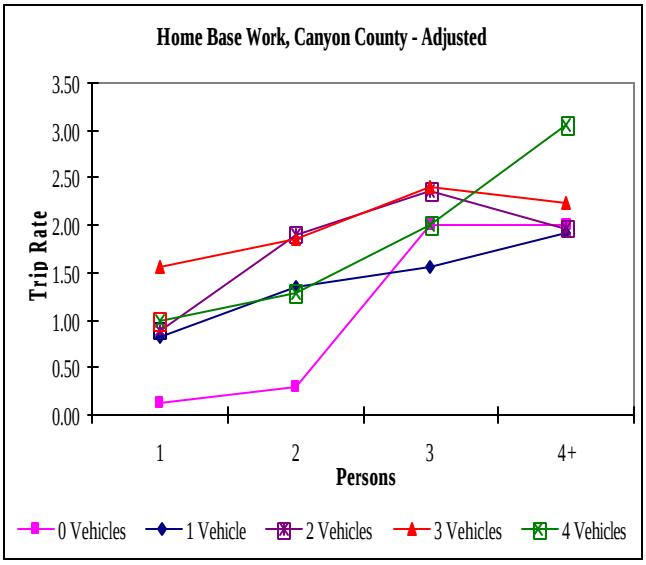
Unadjusted

		Persons			
		1	2	3	4+
Vehicles	0	0.13	0.00	2.00	0.00
	1	0.81	1.34	1.56	1.93
	2	0.90	1.91	2.37	1.96
	3	1.56	1.85	2.40	2.23
	4	1.00	1.29	2.00	3.07



Adjusted

		Persons			
		1	2	3	4+
Vehicles	0	0.13	0.29	2.00	2.00
	1	0.81	1.34	1.56	1.93
	2	0.90	1.91	2.37	1.96
	3	1.56	1.85	2.40	2.23
	4	1.00	1.29	2.00	3.07



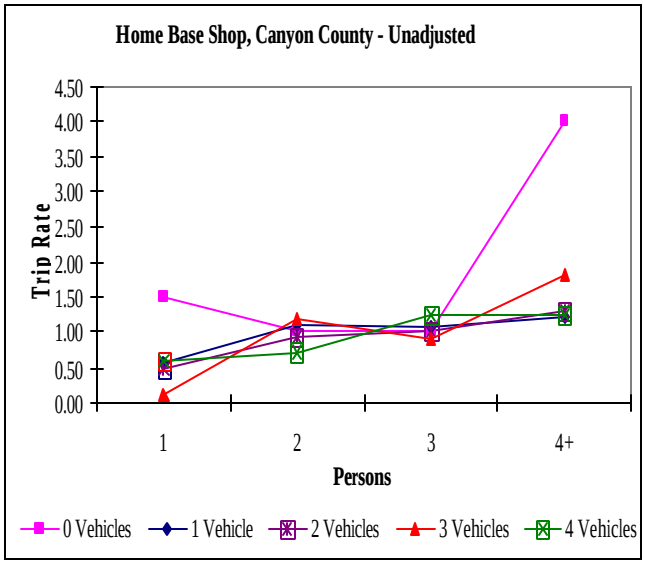
Home Base Shop

No adjustments were needed to the home base shop trip.

Figure 30

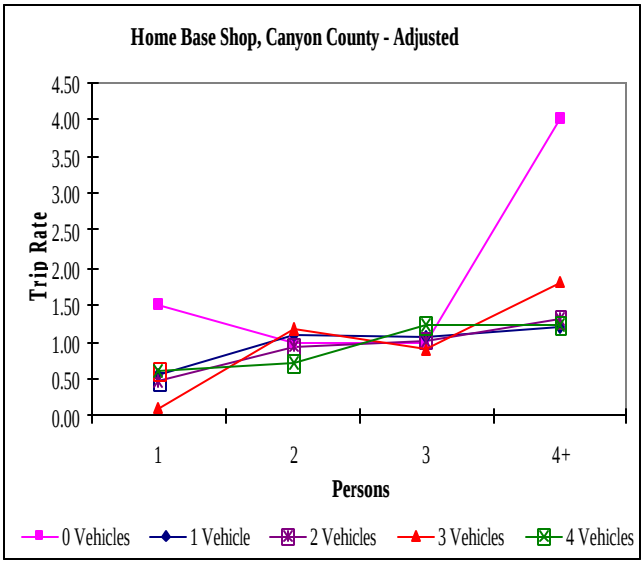
Unadjusted

		Persons			
		1	2	3	4+
Vehicles	0	1.50	1.00	1.00	4.00
	1	0.56	1.10	1.06	1.20
	2	0.48	0.93	1.02	1.30
	3	0.11	1.19	0.88	1.81
	4	0.60	0.71	1.23	1.24



Adjusted

		Persons			
		1	2	3	4+
Vehicles	0	1.50	1.00	1.00	4.00
	1	0.56	1.10	1.06	1.20
	2	0.48	0.93	1.02	1.30
	3	0.11	1.19	0.88	1.81
	4	0.60	0.71	1.23	1.24



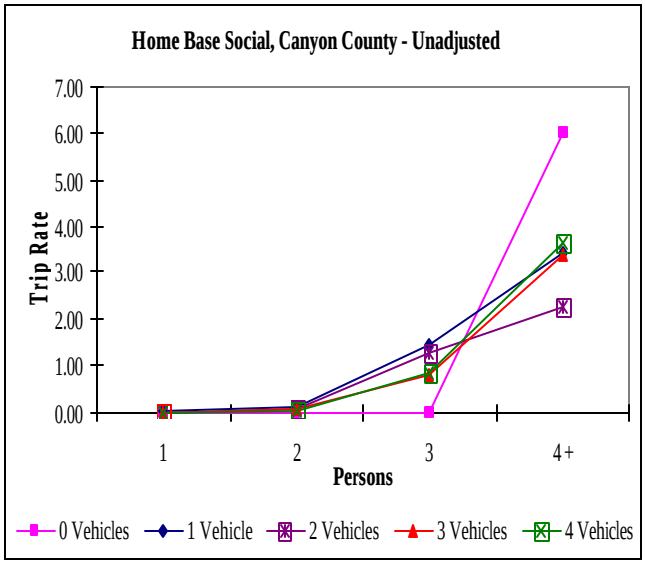
Home Base Social

Several adjustments were made to the home base social trip rates in the zero-vehicle category for households with more than three people because survey data was unavailable. Overall, 12 adjustments were needed to this cross-classification table. Sufficient home base social trip rates from the Ada County data existed and were used in the one and two person categories for these Canyon County cross-classification tables.

Figure 31

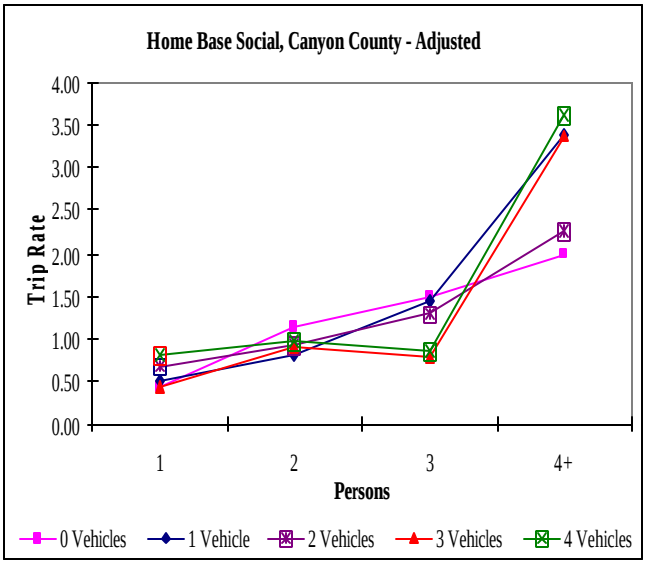
Unadjusted

		Persons			
		1	2	3	4+
Vehicles	0	0.00	0.00	0.00	6.00
	1	0.05	0.15	1.44	3.40
	2	0.00	0.09	1.28	2.27
	3	0.00	0.07	0.80	3.36
	4	0.00	0.04	0.85	3.62



Adjusted

		Persons			
		1	2	3	4+
Vehicles	0	0.44	1.14	1.50	2.00
	1	0.49	0.82	1.44	3.40
	2	0.67	0.93	1.28	2.27
	3	0.44	0.90	0.80	3.36
	4	0.82	0.97	0.85	3.62



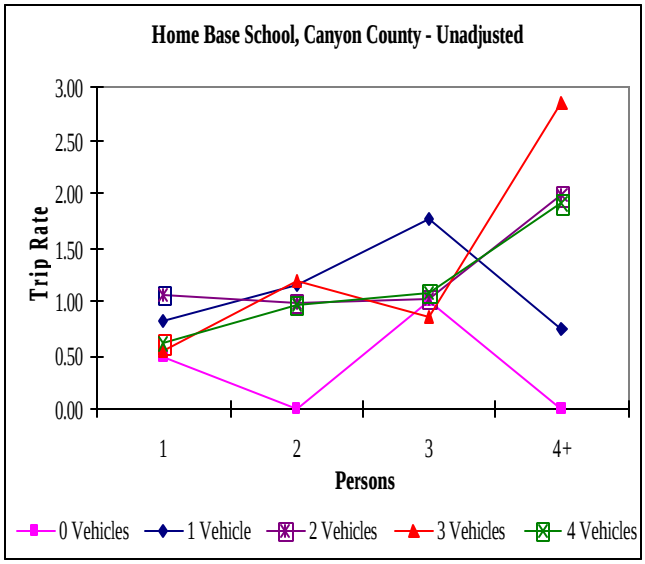
Home Base School

Adjustments were made to the home base school trip rates in the zero-vehicle category for households with 2 and 4 or more people because survey data was unavailable. Overall, two adjustments were made to this cross-classification table.

Figure 32

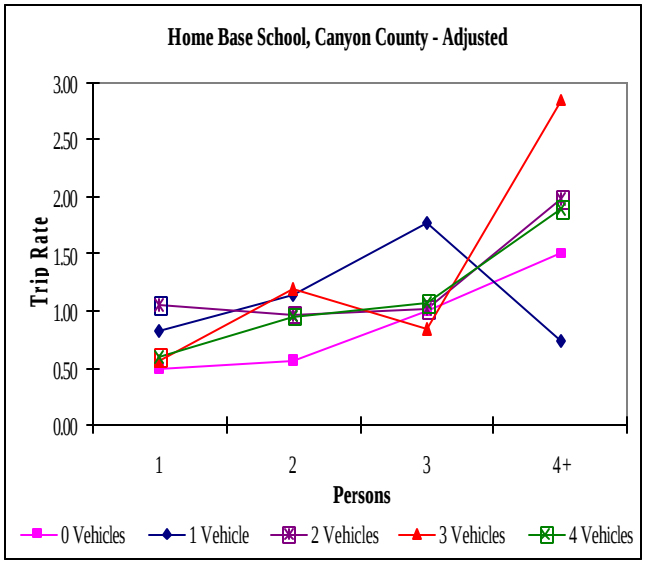
Unadjusted

		Persons			
		1	2	3	4+
Vehicles	0	0.50	0.00	1.00	0.00
	1	0.81	1.15	1.78	0.73
	2	1.05	0.98	1.02	1.98
	3	0.56	1.19	0.84	2.85
	4	0.60	0.96	1.08	1.90



Adjusted

		Persons			
		1	2	3	4+
Vehicles	0	0.50	0.57	1.00	1.50
	1	0.81	1.15	1.78	0.73
	2	1.05	0.98	1.02	1.98
	3	0.56	1.19	0.84	2.85
	4	0.60	0.96	1.08	1.90



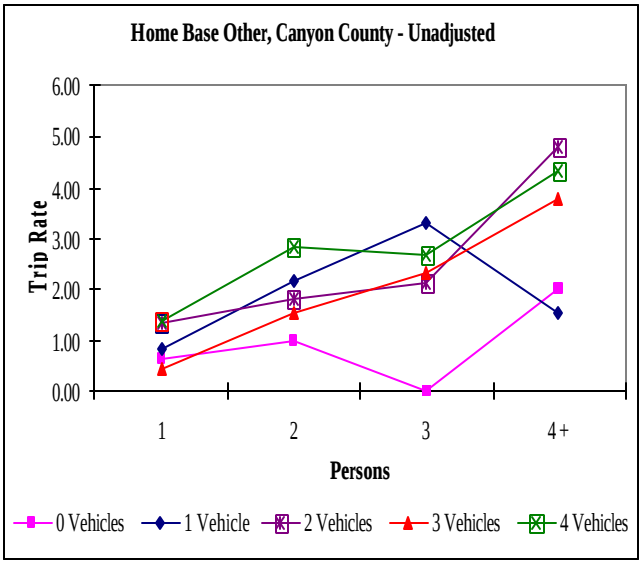
Home Base Other

Adjustments were made to the home base school trip rates in the zero-vehicle category for households with 3 people because survey data was unavailable. Only one adjustment was made to this cross-classification table.

Figure 33

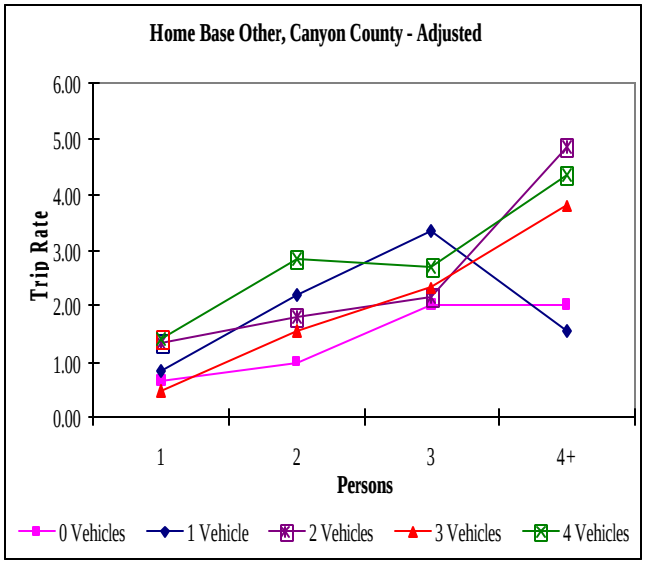
Unadjusted

		Persons			
		1	2	3	4+
Vehicles	0	0.63	1.00	0.00	2.00
	1	0.81	2.17	3.33	1.53
	2	1.33	1.80	2.13	4.84
	3	0.44	1.54	2.32	3.79
	4	1.40	2.83	2.69	4.34



Adjusted

		Persons			
		1	2	3	4+
Vehicles	0	0.63	1.00	2.00	2.00
	1	0.81	2.17	3.33	1.53
	2	1.33	1.80	2.13	4.84
	3	0.44	1.54	2.32	3.79
	4	1.40	2.83	2.69	4.34



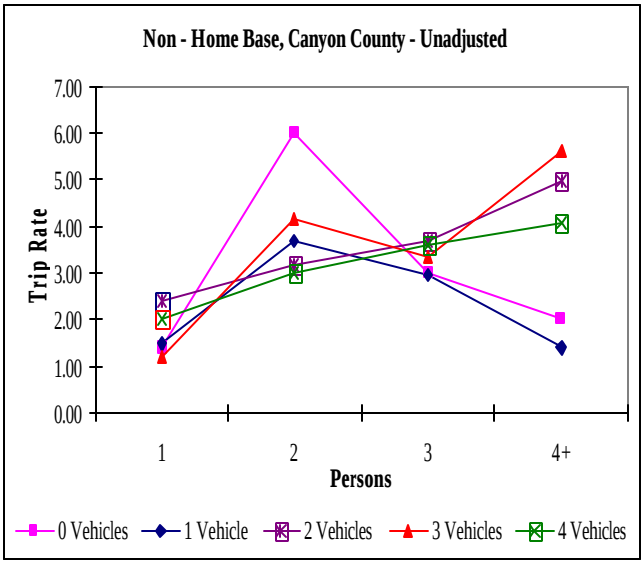
Non - home Base

Adjustments were made to the home base school trip rates in the zero-vehicle category for households with 2 people because survey data was unavailable. Only one adjustment was made to this cross-classification table.

Figure 34

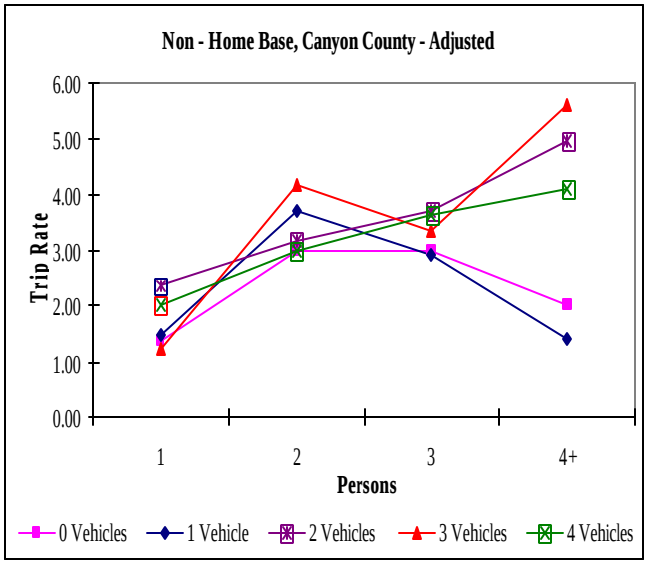
Unadjusted

		Persons			
		1	2	3	4+
Vehicles	0	1.38	6.00	3.00	2.00
	1	1.48	3.71	2.94	1.40
	2	2.38	3.16	3.70	4.97
	3	1.22	4.17	3.36	5.60
	4	2.00	3.00	3.62	4.10



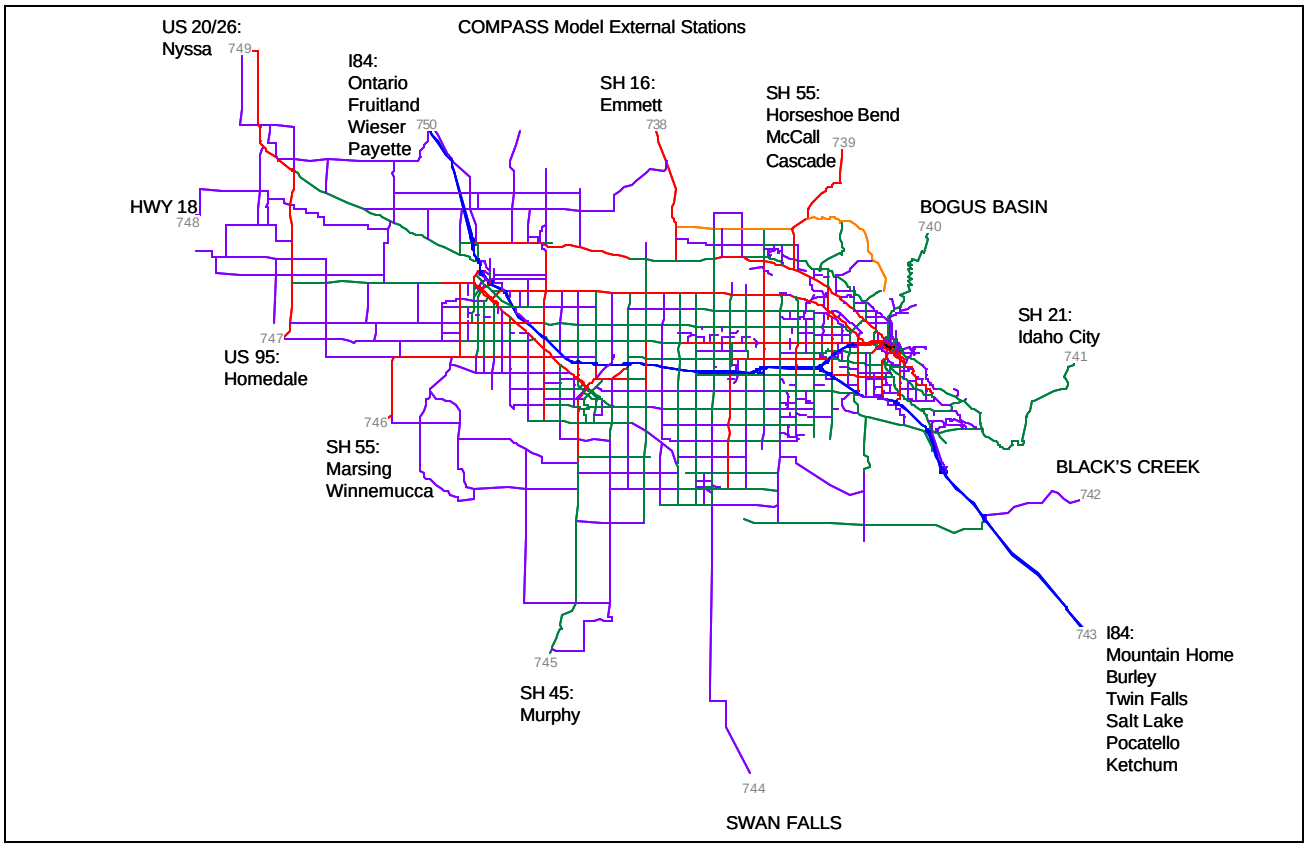
Adjusted

		Persons			
		1	2	3	4+
Vehicles	0	1.38	3.00	3.00	2.00
	1	1.48	3.71	2.94	1.40
	2	2.38	3.16	3.70	4.97
	3	1.22	4.17	3.36	5.60
	4	2.00	3.00	3.62	4.10



EXTERNAL STATION MAP

Figure 35



SPECIAL GENERATORS

The following table of special generators was used to calibrate the 2002 model. The trip attraction distribution rates were estimated using trip data by TAZ from the 2002 household data. The number of trips to and from the list of TAZs ranged from 38 to 382 and provided enough information to determine the distribution rates.

Table 58

Special Generators, 2002 Calibration									
TAZ	P or A	Trips Added	% HBW	% HBS	% HBSO	% HBSC	% HBO	% NHB	Description
3	A	5000	4%	0%	11%	12%	28%	45%	Boise High School and YMCA in Downtown Boise
3	P	5000	0%	0%	0%	0%	0%	100%	
26	A	2000	16%	0%	15%	0%	30%	39%	Main Post Office
162	A	5000	16%	0%	15%	0%	30%	39%	St. Lukes Meridian Hospital on Eagle Road - employment was only recorded at the Downtown Boise site.
162	P	5000	0%	0%	0%	0%	0%	100%	
288	A	5000	0%	0%	30%	0%	30%	40%	Boondocks fun center and Roaring Springs
288	P	5000	0%	0%	0%	0%	0%	100%	
342	A	5000	12%	28%	2%	0%	2%	56%	Crossroads Shopping Center at Eagle Road and Fairview Avenue
342	P	5000	0%	0%	0%	0%	0%	100%	
345	A	2000	26%	16%	11%	0%	5%	42%	Outlet Mall and Ice World

466	A	1000	16%	0%	30%	0%	24%	30%	Canyon County Courthouse and Jail
535	A	2000	16%	0%	15%	0%	30%	39%	Mercy North Health Center on Garrity Boulevard
535	P	2000	0%	0%	0%	0%	0%	100%	
560	A	5000	10%	0%	30%	0%	15%	25%	Commercial Center with Super Walmart, Mercy Medical Hospital, Nampa Recreation Center

APPENDIX C: ADDITIONAL TRIP DISTRIBUTION DETAILS

MODEL NETWORK LINK DESCRIPTIONS

The following table lists the input network's link attributes and descriptions.

Table 59

Link Codes	Definition
INPUT NETWORK – the following link attributes are in the input network	
AX/BX	X Coordinates
AY/BY	Y Coordinates
A	A node number
B	B node number
DISTANCE	Distance of link (in miles)
SPEED	Speed (in miles per hour) – posted speed and verified by site visits
SPDCLASS	Speed classification (lookup table code) - posted speed and verified by site visits
CAPCLASS	Capacity classification (lookup table code)
FTYPE	Facility Type 1 = Interstate or Expressway with urban interchanges (i.e. SH 16) 2 = HOV – not currently in use 3 = Principal Arterial in CBD and / or are one-way 4 = Expressway with at grade intersections (i.e. Chinden Blvd) 5 = Principal Arterials in urban areas (use area of impact) 6 = Principal Arterial in rural areas (use area of impact) 7 = Minor Arterials in CBD and / or are one-way 8 = Minor Arterials (not currently in use) 9 = Minor Arterials in urban areas (use area of impact) 10 = Minor Arterials in rural areas (use area of impact) 11 = Rural Minor Arterials 12 = Collectors in CBD and / or are one-way 13 = Collectors in urban areas (use area of impact) and for subdivision access which allow thru travel 14 = Collectors in rural areas (use area of impact) 15 = Collectors for subdivision access to local roads and no thru travel 16 = Local roads for subdivision access 17 = Local roads in urban areas added for circulation 18 = Local roads in rural areas added for circulation 19 = Interstate ramps 20 = Centroid Connector
THRULANES	Number of through lanes for road – verified by site visits
TTLLANES	Number of total lanes for road - verified by site visits
TIME	Travel time along road segment - Freeflow
DIRECTION	One-way (1) or two-way (2)
COUNTY	County (Ada = 1, Canyon = 2)
ACTUALCNT	Actual traffic count used for calibration (2001, 2002, 2003)
CNTDATE	Traffic count date
ADJCNT	Adjusted traffic count (if data required to be normalized to 2002 traffic count) – not done
CAPACITY	Planning level capacity of the road segment (mid LOS D) calculated to vehicles per lane per lane per hour
ROAD	Road name
LOCATION	Location name of road segment
ACCURACY	Accuracy of screen line (TMAC defined for 1997 calibration)
STATE	State road code (0=Local road, 1=State road)
HWYDIST	Highway district name indicating jurisdiction 1 = Ada County Highway District

	2 = Canyon Highway District 3 = Golden Gate Highway District 4 = Idaho Transportation Department 5 = Nampa Highway District 6 = Notus-Parma Highway District 7 = City (2002 city limits)
DISTCOMP	Carryover from 1997 calibration – not used
SCREENDIR	Screen line direction (north/south/east/west)
SCREENNO	Screen line number
PEAK5PM_6PM	Peak hour traffic count
PEAKCNTDATE	Peak hour traffic count date
GROWTHRATE	Not used
SETTING	Road dust setting for air quality conformity
POSTSPD	Posted speed – data collected in 2002
IMPACTFEE	ACHD Impact Fee District
CMS_ID	Congestion Management System identification number, used to link travel time data to the model network
CMS_Dir	Congestion Management System direction – Ascending=1 and Descending=2
CMS_Area	Congestion Management System Area Type – Urban=1 and Suburban=2 and Interstate=3
ACTUALVC	Volume to Capacity ratio using actual traffic counts and planning capacity

FRICTION FACTORS BY TRIP TYPE

The following table shows the friction factors used in the 2002 model calibration for all trip types.

Table 60

Friction Factors, 2002 Model Calibration								
TIME (minutes)	HBW	HBS	HBSO	HBSC	HBO	NHB	IX	XI
1	1500	40160	1800	1000	1800	1600	508	711
2	1189	30149	1400	680	1400	1460	203	321
3	1025	29603	1399	675	1399	1450	118	198
4	875	16312	980	600	980	800	80	139
5	818	14383	925	450	925	749	59	105
6	651	5791	650	440	650	533	46	83
7	633	5178	475	415	475	475	37	68
8	544	4848	300	360	300	300	31	57
9	468	3163	270	300	270	270	26	48
10	549	2021	218	280	218	218	22	41
11	418	1061	215	270	215	215	19	36
12	428	745	175	260	175	175	17	32
13	406	536	150	250	150	170	15	29
14	391	418	125	240	125	155	14	26
15	470	402	100	225	100	135	12	23
16	337	179	80	203	80	128	11	21
17	317	158	75	174	75	120	10	19
18	307	143	50	170	50	111	9	17
19	267	129	41	150	41	80	8	16
20	341	203	40	140	40	70	8	15
21	252	97	33	135	33	55	7	14

22	231	88	20	115	20	30	7	13
23	221	68	19	110	19	25	6	12
24	196	53	17	105	17	24	6	11
25	266	129	16	95	16	23	5	10
26	172	57	15	85	15	22	5	10
27	158	43	14	80	14	21	5	9
28	169	63	13	75	13	13	4	8
29	148	1	12	70	12	12	4	8
30	249	133	11	65	11	11	4	8
31	124	33	10	60	10	10	4	8
32	138	53	9	55	9	9	4	7
33	129	21	8	50	8	8	3	6
34	100	0.5	8	45	8	8	3	6
35	173	91	7	40	7	7	3	6
36	85	0.3	7	35	7	7	3	6
37	75	19	6	30	6	6	3	6
38	44	19	6	25	6	6	3	5
39	69	0.09	5	20	5	5	2	4
40	132	62	5	15	5	5	2	4
41	57	0.07	5	14	5	5	2	4
42	72	0.06	4	13	4	4	2	4
43	30	0.05	4	12	4	4	2	4
44	54	0.04	3	11	3	3	2	4
45	136	69	3	10	3	3	2	4
46	51	0	2	9	2	2	2	4
47	44	0	2	8	2	2	2	4
48	25	0	2	7	2	2	2	4
49	42	0	1	6	1	1	2	4
50	85	18	1	5	1	1	2	3
51	4	0	1	4	1	1	1	2
52	3	0	1	3	1	1	1	2
53	2	0	1	2	1	1	1	2
54	1	0	1	1	1	1	1	2
55	63	40	1	1	1	1	1	2
56	18	0	1	0.9	1	1	1	2
57	0.8	0	1	0.8	1	1	1	2
58	0.7	0	1	0.7	1	1	1	2
59	0.6	0	1	0.6	1	1	1	2
60	73	56	1	0.5	1	1	1	2
61	0.4	0	1	0.4	1	1	1	2
62	0.3	0	1	0.3	1	1	1	2
63	0.2	0	1	0.2	1	1	1	2
64	0.1	0	1	0.1	1	1	1	2
65	0.1	0	1	0.1	1	1	1	2

66	0.1	0	0.9	0.1	0.9	0.9	1	2
67	0.1	0	0.8	0.1	0.8	0.8	1	2
68	0.1	0	0.7	0.1	0.7	0.7	1	2
69	0.1	0	0.6	0.1	0.6	0.6	1	2
70	0.1	0	0.5	0.1	0.5	0.5	1	2
71	0	0	0.4	0	0.4	0.4	1	2
72	0	0	0.3	0	0.3	0.3	1	2
73	0	0	0.2	0	0.2	0.2	1	2
74	0	0	0.1	0	0.1	0.1	1	1
75	0	16	0	0	0	0	1	1
76	0	0	0	0	0	0	1	1
77	0	0	0	0	0	0	1	1
78	0	0	0	0	0	0	1	1
79	0	0	0	0	0	0	1	1
80	0	0	0	0	0	0	1	1

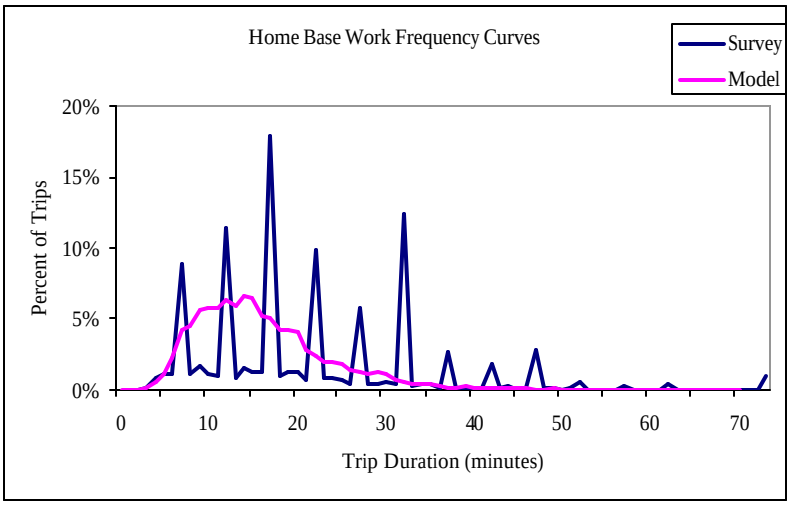
TRIP LENGTH FREQUENCY DISTRIBUTION CURVE DETAILS

The following tables and charts compare the 2002 household survey and 2002 model trip length distribution curves. The survey respondents typically rounded the departure time and arrival time to the nearest 5-minute interval which explains the "jagged" line. However, when the percent of trips from the 2002 survey and model are summarized in 5-minute intervals the model data reasonably reflects actual conditions.

Home base Work

Figure 36

Trip Duration (Minutes)	2002 Household Survey		2002 Model	
	Trips	Percent	Trips	Percent
0	0	0.0%	0	0.0%
1	6	0.1%	0	0.0%
2	34	0.8%	0	0.0%
3	47	1.1%	411	0.1%
4	45	1.1%	1,990	0.6%
5	376	8.9%	3,389	1.1%
6	44	1.0%	7,283	2.3%
7	69	1.6%	13,487	4.2%
8	46	1.1%	14,502	4.5%
9	40	0.9%	17,921	5.6%
10	486	11.5%	18,700	5.8%
11	35	0.8%	18,722	5.8%
12	65	1.5%	20,196	6.3%
13	55	1.3%	19,284	6.0%
14	54	1.3%	21,585	6.7%
15	754	17.8%	20,625	6.4%
16	41	1.0%	16,981	5.3%
17	57	1.3%	16,291	5.1%
18	52	1.2%	13,972	4.3%
19	31	0.7%	13,857	4.3%
20	418	9.9%	12,843	4.0%
21	35	0.8%	9,132	2.8%
22	36	0.9%	7,733	2.4%
23	32	0.8%	6,524	2.0%
24	18	0.4%	6,512	2.0%
25	249	5.9%	5,836	1.8%
26	17	0.4%	4,601	1.4%
27	13	0.3%	3,768	1.2%
28	23	0.5%	3,586	1.1%
29	14	0.3%	4,199	1.3%
30	524	12.4%	3,345	1.0%
31	9	0.2%	2,161	0.7%
32	18	0.4%	2,047	0.6%
33	16	0.4%	1,493	0.5%
34	7	0.2%	1,640	0.5%
35	113	2.7%	1,267	0.4%
36	6	0.1%	748	0.2%
37	5	0.1%	450	0.1%
38	2	0.0%	427	0.1%
39	6	0.1%	656	0.2%
40	75	1.8%	563	0.2%



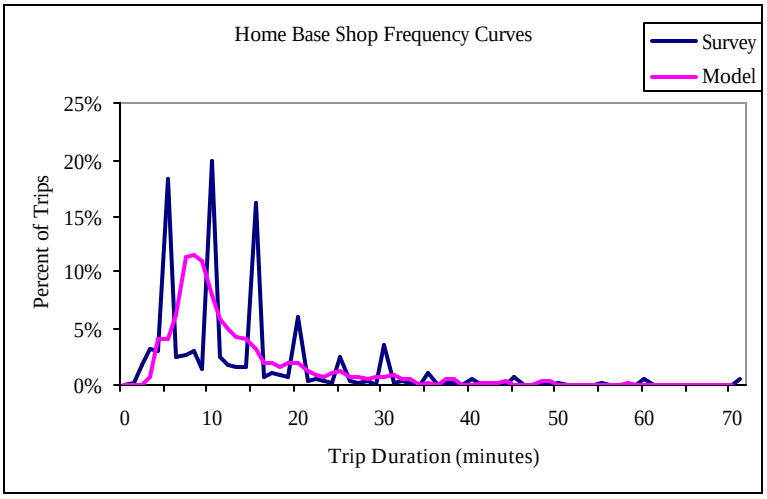
Travel Time (minutes)	Cumulative	
	Survey	Model
1 to 10	28.2%	24.1%
1 to 15	50.9%	55.3%
1 to 20	65.1%	78.3%
1 to 25	73.8%	89.4%
1 to 30	87.8%	95.5%
1 to 35	91.6%	98.2%
Total	100.0%	100.0%

41	5	0.1%	361	0.1%
42	9	0.2%	253	0.1%
43	2	0.0%	215	0.1%
44	5	0.1%	453	0.1%
45	122	2.9%	493	0.2%
46	5	0.1%	250	0.1%
47	4	0.1%	151	0.0%
48	2	0.0%	138	0.0%
49	4	0.1%	269	0.1%
50	23	0.5%	176	0.1%
51	1	0.0%	13	0.0%
52	1	0.0%	8	0.0%
53	1	0.0%	4	0.0%
54	1	0.0%	97	0.0%
55	12	0.3%	89	0.0%
56	2	0.0%	26	0.0%
57	1	0.0%	1	0.0%
58	0	0.0%	1	0.0%
59	0	0.0%	55	0.0%
60	19	0.4%	42	0.0%
61	0	0.0%	1	0.0%
62	0	0.0%	0	0.0%
63	0	0.0%	0	0.0%
64	0	0.0%	0	0.0%
65	1	0.0%	0	0.0%
66	0	0.0%	0	0.0%
67	0	0.0%	0	0.0%
68	0	0.0%	0	0.0%
69	0	0.0%	0	0.0%
70	1	0.0%	0	0.0%
+70	39	1.0%	n/a	
Total	4,233		321,823	

Home base Shop

Figure 37

Trip Duration (Minutes)	2002 Household Survey		2002 Model	
	Trips	Percent	Trips	Percent
0	0	0.0%	0	0.0%
1	5	0.2%	0	0.0%
2	45	1.8%	0	0.0%
3	84	3.3%	1,324	0.6%
4	76	3.0%	8,467	4.0%
5	472	18.4%	8,508	4.0%
6	63	2.5%	13,101	6.2%
7	70	2.7%	24,096	11.4%
8	75	2.9%	24,329	11.5%
9	36	1.4%	22,972	10.9%
10	508	19.8%	16,875	8.0%
11	60	2.3%	12,160	5.8%
12	45	1.8%	10,643	5.0%
13	37	1.4%	8,933	4.2%
14	43	1.7%	8,889	4.2%
15	413	16.1%	6,486	3.1%
16	18	0.7%	3,979	1.9%
17	28	1.1%	3,942	1.9%
18	22	0.9%	3,444	1.6%
19	16	0.6%	4,177	2.0%
20	156	6.1%	3,918	1.9%
21	7	0.3%	2,489	1.2%
22	11	0.4%	2,005	0.9%
23	7	0.3%	1,458	0.7%
24	5	0.2%	2,320	1.1%
25	60	2.3%	2,526	1.2%
26	6	0.2%	1,413	0.7%
27	4	0.2%	1,302	0.6%
28	8	0.3%	782	0.4%
29	0	0.0%	1,610	0.8%
30	90	3.5%	1,904	0.8%
31	3	0.1%	1,027	0.9%
32	6	0.2%	828	0.5%
33	2	0.1%	224	0.4%
34	0	0.0%	861	0.0%
35	25	1.0%	814	0.1%
36	0	0.0%	142	0.0%
37	2	0.1%	292	0.4%
38	2	0.1%	159	0.4%
39	0	0.0%	462	0.0%
40	10	0.4%	513	0.1%
41	1	0.0%	1	0.1%
42	1	0.0%	1	0.1%
43	1	0.0%	1	0.2%
44	1	0.0%	561	0.2%
45	14	0.5%	479	0.0%
46	0	0.0%	0	0.0%

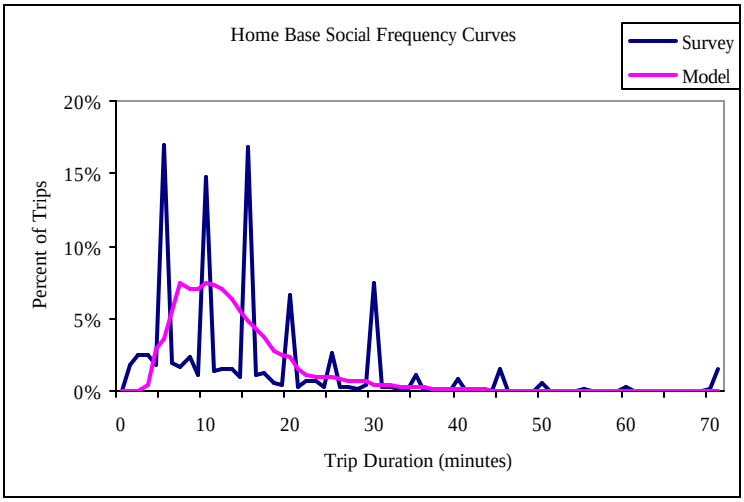


Travel Time (minutes)	Cumulative	
	Survey	Model
1 to 10	55.8%	56.6%
1 to 15	79.0%	78.9%
1 to 20	88.4%	88.2%
1 to 25	91.9%	93.3%
1 to 30	96.1%	96.4%
1 to 35	97.5%	98.3%
Total	100.0%	100.6%

47	0	0.0%	0	0.0%	
48	0	0.0%	0	0.3%	
49	0	0.0%	122	0.2%	
50	2	0.1%	110	0.0%	
51	0	0.0%	0	0.0%	
52	1	0.0%	0	0.0%	
53	0	0.0%	0	0.1%	
54	1	0.0%	205	0.1%	
55	5	0.2%	110	0.0%	
56	0	0.0%	0	0.0%	
57	0	0.0%	0	0.0%	
58	0	0.0%	0	0.1%	
59	0	0.0%	142	0.1%	
60	10	0.4%	163	0.0%	
61	0	0.0%	0	0.0%	
62	0	0.0%	0	0.0%	
63	0	0.0%	0	0.1%	
64	0	0.0%	0	0.0%	
65	1	0.0%	0	0.0%	
66	0	0.0%	0	0.0%	
67	0	0.0%	0	0.0%	
68	0	0.0%	0	0.0%	
69	0	0.0%	0	0.0%	
70	1	0.0%	0	0.0%	
+70	12	0.5%	6	0.0%	
Total	2,571		211,275		

Figure 38

Trip Duration (Minutes)	2002 Household Survey		2002 Model	
	Trips	Percent	Trips	Percent
0	0	0.0%	0	0.0%
1	54	1.8%	0	0.0%
2	72	2.4%	0	0.0%
3	73	2.5%	946	0.5%
4	52	1.8%	5,713	2.9%
5	502	17.0%	7,140	3.6%
6	57	1.9%	11,021	5.5%
7	49	1.7%	14,811	7.4%
8	68	2.3%	14,064	7.1%
9	34	1.2%	14,169	7.1%
10	436	14.8%	14,742	7.4%
11	40	1.4%	14,538	7.3%
12	44	1.5%	14,109	7.1%
13	44	1.5%	12,780	6.4%
14	28	1.0%	11,081	5.6%
15	493	16.7%	9,583	4.8%
16	31	1.1%	8,639	4.3%
17	38	1.3%	7,315	3.7%
18	18	0.6%	5,497	2.8%
19	12	0.4%	4,771	2.4%
20	195	6.6%	4,498	2.3%
21	9	0.3%	3,062	1.5%
22	21	0.7%	2,203	1.1%
23	19	0.6%	1,952	1.0%
24	9	0.3%	1,842	0.9%
25	80	2.7%	1,773	0.9%
26	9	0.3%	1,628	0.8%
27	6	0.2%	1,449	0.7%
28	4	0.1%	1,381	0.7%
29	15	0.5%	1,295	0.6%
30	221	7.5%	1,036	0.5%
31	8	0.3%	937	0.5%
32	6	0.2%	838	0.4%
33	4	0.1%	748	0.4%
34	5	0.2%	618	0.3%
35	35	1.2%	501	0.3%
36	1	0.0%	416	0.2%
37	4	0.1%	332	0.2%
38	2	0.1%	291	0.1%
39	1	0.0%	238	0.1%
40	23	0.8%	226	0.1%
41	0	0.0%	188	0.1%
42	2	0.1%	155	0.1%
43	2	0.1%	138	0.1%
44	1	0.0%	111	0.1%
45	43	1.5%	97	0.0%
46	0	0.0%	70	0.0%



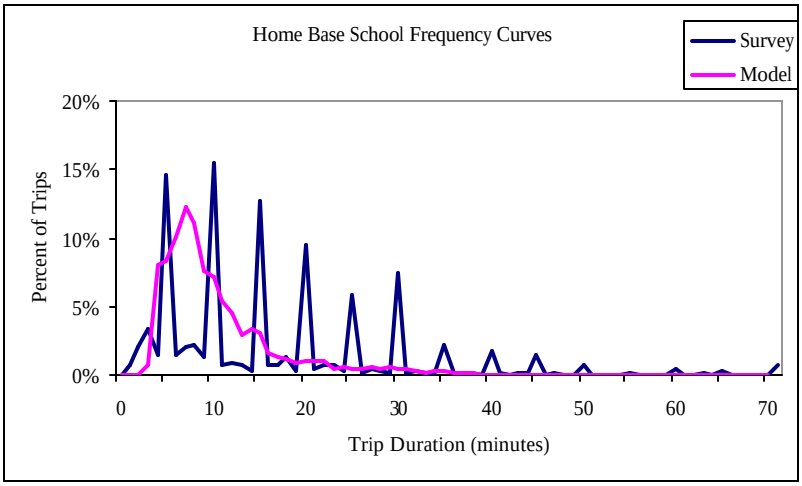
Travel Time (minutes)	Cumulative	
	Survey	Model
1 to 10	47.4%	41.4%
1 to 15	69.5%	72.6%
1 to 20	79.4%	88.0%
1 to 25	84.1%	93.4%
1 to 30	92.8%	96.9%
1 to 35	94.7%	98.7%
Total	100.0%	100.0%

47	0	0.0%	76	0.0%	
48	0	0.0%	49	0.0%	
49	0	0.0%	28	0.0%	
50	16	0.5%	28	0.0%	
51	0	0.0%	24	0.0%	
52	1	0.0%	22	0.0%	
53	0	0.0%	19	0.0%	
54	0	0.0%	20	0.0%	
55	2	0.1%	18	0.0%	
56	0	0.0%	18	0.0%	
57	0	0.0%	13	0.0%	
58	0	0.0%	12	0.0%	
59	0	0.0%	11	0.0%	
60	9	0.3%	9	0.0%	
61	1	0.0%	8	0.0%	
62	0	0.0%	5	0.0%	
63	1	0.0%	4	0.0%	
64	0	0.0%	3	0.0%	
65	0	0.0%	3	0.0%	
66	0	0.0%	2	0.0%	
67	0	0.0%	1	0.0%	
68	0	0.0%	0	0.0%	
69	0	0.0%	0	0.0%	
70	3	0.1%	0	0.0%	
+70	43	1.5%	0	0.0%	
Total	2,946		199,315		

Home base School

Figure 39

Trip Duration (Minutes)	2002 Household Survey		2002 Model	
	Trips	Percent	Trips	Percent
0	0	0.0%	0	0.0%
1	17	0.7%	0	0.0%
2	50	2.2%	0	0.0%
3	79	3.4%	1,702	0.9%
4	36	1.6%	15,916	8.0%
5	335	14.6%	16,378	8.3%
6	33	1.4%	19,929	10.1%
7	49	2.1%	24,289	12.3%
8	53	2.3%	21,914	11.1%
9	29	1.3%	14,926	7.5%
10	356	15.5%	14,385	7.3%
11	19	0.8%	10,735	5.4%
12	21	0.9%	8,880	4.5%
13	20	0.9%	5,853	3.0%
14	7	0.3%	6,516	3.3%
15	291	12.7%	6,199	3.1%
16	19	0.8%	3,373	1.7%
17	16	0.7%	2,509	1.3%
18	30	1.3%	2,255	1.1%
19	7	0.3%	1,839	0.9%
20	218	9.5%	2,140	1.1%
21	10	0.4%	2,179	1.1%
22	19	0.8%	2,168	1.1%
23	17	0.7%	1,013	0.5%
24	8	0.3%	1,103	0.6%
25	133	5.8%	1,000	0.5%
26	5	0.2%	912	0.5%
27	10	0.4%	1,070	0.5%
28	9	0.4%	953	0.5%
29	2	0.1%	1,233	0.6%
30	171	7.4%	997	0.5%
31	6	0.3%	945	0.5%
32	7	0.3%	639	0.3%
33	6	0.3%	412	0.2%
34	1	0.0%	628	0.3%
35	51	2.2%	777	0.4%
36	2	0.1%	585	0.3%
37	2	0.1%	281	0.1%
38	4	0.2%	351	0.2%
39	0	0.0%	113	0.1%
40	40	1.7%	106	0.1%
41	4	0.2%	79	0.0%
42	0	0.0%	35	0.0%
43	3	0.1%	27	0.0%
44	2	0.1%	82	0.0%
45	35	1.5%	84	0.0%
46	0	0.0%	65	0.0%



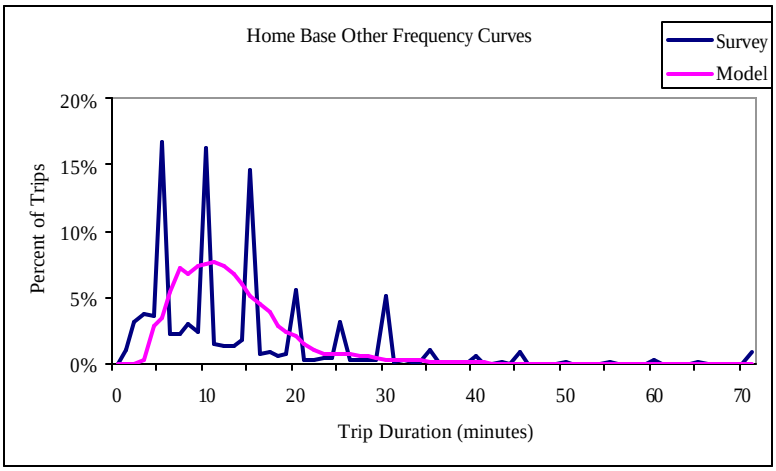
Travel Time (minutes)	Cumulative	
	Survey	Model
1 to 10	45.1%	65.4%
1 to 15	60.7%	84.7%
1 to 20	73.3%	90.9%
1 to 25	81.5%	94.6%
1 to 30	90.0%	97.2%
1 to 35	93.1%	99.0%
Total	100.0%	100.0%

47	3	0.1%	66	0.0%
48	0	0.0%	31	0.0%
49	0	0.0%	9	0.0%
50	17	0.7%	64	0.0%
51	1	0.0%	23	0.0%
52	0	0.0%	8	0.0%
53	1	0.0%	9	0.0%
54	0	0.0%	0	0.0%
55	5	0.2%	4	0.0%
56	0	0.0%	5	0.0%
57	0	0.0%	12	0.0%
58	1	0.0%	0	0.0%
59	0	0.0%	0	0.0%
60	12	0.5%	0	0.0%
61	0	0.0%	0	0.0%
62	0	0.0%	6	0.0%
63	2	0.1%	0	0.0%
64	0	0.0%	0	0.0%
65	7	0.3%	0	0.0%
66	0	0.0%	0	0.0%
67	1	0.0%	0	0.0%
68	0	0.0%	0	0.0%
69	0	0.0%	0	0.0%
70	0	0.0%	0	0.0%
+70	16	0.7%	n/a	
Total	2,298		197,812	

Home base Other

Figure 40

Trip Duration (Minutes)	2002 Household Survey		2002 Model	
	Trips	Percent	Trips	Percent
0	0	0.0%	0	0.0%
1	57	1.0%	0	0.0%
2	180	3.2%	0	0.0%
3	213	3.8%	1,729	0.4%
4	199	3.5%	12,252	2.8%
5	941	16.8%	14,662	3.4%
6	127	2.3%	23,523	5.5%
7	125	2.2%	31,394	7.3%
8	170	3.0%	29,217	6.8%
9	136	2.4%	31,955	7.4%
10	918	16.4%	32,742	7.6%
11	84	1.5%	33,127	7.7%
12	77	1.4%	32,356	7.5%
13	78	1.4%	29,227	6.8%
14	97	1.7%	26,237	6.1%
15	825	14.7%	21,900	5.1%
16	44	0.8%	19,641	4.6%
17	51	0.9%	16,605	3.8%
18	36	0.6%	12,021	2.8%
19	38	0.7%	10,241	2.4%
20	312	5.6%	9,324	2.2%
21	22	0.4%	6,446	1.5%
22	22	0.4%	4,546	1.1%
23	26	0.5%	3,820	0.9%
24	24	0.4%	3,556	0.8%
25	181	3.2%	3,316	0.8%
26	11	0.2%	3,000	0.7%
27	11	0.2%	2,538	0.6%
28	11	0.2%	2,376	0.6%
29	12	0.2%	2,202	0.5%
30	284	5.1%	1,716	0.4%
31	7	0.1%	1,489	0.3%
32	14	0.2%	1,238	0.3%
33	6	0.1%	1,096	0.3%
34	7	0.1%	910	0.2%
35	63	1.1%	718	0.2%
36	1	0.0%	626	0.1%
37	2	0.0%	483	0.1%
38	1	0.0%	451	0.1%
39	3	0.1%	408	0.1%
40	32	0.6%	368	0.1%
41	0	0.0%	310	0.1%
42	3	0.1%	250	0.1%
43	6	0.1%	208	0.0%
44	1	0.0%	207	0.0%
45	54	1.0%	167	0.0%
46	2	0.0%	148	0.0%



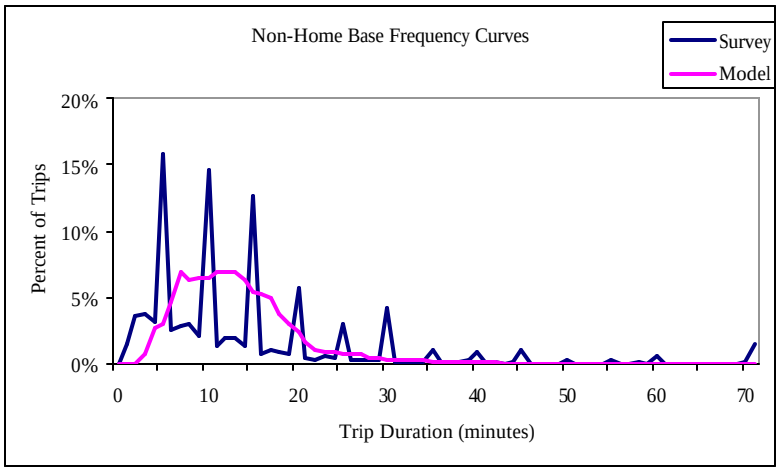
Travel Time (minutes)	Cumulative	
	Survey	Model
1 to 10	54.6%	41.1%
1 to 15	75.3%	74.2%
1 to 20	83.9%	90.0%
1 to 25	88.8%	95.0%
1 to 30	94.6%	97.7%
1 to 35	96.3%	99.0%
Total	100.0%	100.0%

47	1	0.0%	141	0.0%
48	2	0.0%	100	0.0%
49	0	0.0%	62	0.0%
50	8	0.1%	61	0.0%
51	0	0.0%	53	0.0%
52	3	0.1%	46	0.0%
53	0	0.0%	35	0.0%
54	0	0.0%	39	0.0%
55	7	0.1%	28	0.0%
56	0	0.0%	36	0.0%
57	0	0.0%	19	0.0%
58	2	0.0%	26	0.0%
59	0	0.0%	20	0.0%
60	15	0.3%	19	0.0%
61	0	0.0%	19	0.0%
62	0	0.0%	9	0.0%
63	0	0.0%	12	0.0%
64	1	0.0%	13	0.0%
65	8	0.1%	8	0.0%
66	0	0.0%	8	0.0%
67	0	0.0%	5	0.0%
68	0	0.0%	1	0.0%
69	0	0.0%	1	0.0%
70	2	0.0%	1	0.0%
+70	51	0.9%	1	0.0%
Total	5,614		431,509	

Non-home base

Figure 41

Trip Duration (Minutes)	2002 Household Survey		2002 Model	
	Trips	Percent	Trips	Percent
0	0	0.0%	0	0.0%
1	126	1.6%	0	0.0%
2	292	3.7%	0	0.0%
3	304	3.8%	4,483	0.9%
4	252	3.2%	13,790	2.7%
5	1,265	15.9%	15,855	3.1%
6	212	2.7%	24,492	4.7%
7	223	2.8%	36,087	7.0%
8	238	3.0%	32,534	6.3%
9	171	2.1%	33,416	6.5%
10	1,163	14.6%	33,773	6.5%
11	107	1.3%	35,413	6.9%
12	149	1.9%	35,823	6.9%
13	156	2.0%	35,895	7.0%
14	114	1.4%	32,767	6.4%
15	1,005	12.6%	27,842	5.4%
16	65	0.8%	27,284	5.3%
17	84	1.1%	25,376	4.9%
18	72	0.9%	19,711	3.8%
19	59	0.7%	15,220	2.9%
20	461	5.8%	12,543	2.4%
21	35	0.4%	8,403	1.6%
22	32	0.4%	5,209	1.0%
23	44	0.6%	4,591	0.9%
24	33	0.4%	4,618	0.9%
25	247	3.1%	4,559	0.9%
26	21	0.3%	4,378	0.8%
27	20	0.3%	3,396	0.7%
28	32	0.4%	2,602	0.5%
29	23	0.3%	2,453	0.5%
30	344	4.3%	1,992	0.4%
31	9	0.1%	1,777	0.3%
32	12	0.2%	1,471	0.3%
33	11	0.1%	1,284	0.2%
34	8	0.1%	1,083	0.2%
35	81	1.0%	894	0.2%
36	11	0.1%	737	0.1%
37	11	0.1%	593	0.1%
38	10	0.1%	489	0.1%
39	16	0.2%	427	0.1%
40	73	0.9%	415	0.1%
41	8	0.1%	363	0.1%
42	5	0.1%	309	0.1%
43	3	0.0%	245	0.0%
44	10	0.1%	223	0.0%
45	85	1.1%	187	0.0%
46	2	0.0%	157	0.0%



Travel Time (minutes)	Cumulative	
	Survey	Model
1 to 10	53.3%	37.7%
1 to 15	72.5%	70.2%
1 to 20	81.8%	89.6%
1 to 25	86.7%	94.9%
1 to 30	92.3%	97.8%
1 to 35	93.8%	99.0%
Total	100.0%	100.0%

47	3	0.0%	144	0.0%	
48	3	0.0%	105	0.0%	
49	1	0.0%	58	0.0%	
50	20	0.3%	55	0.0%	
51	2	0.0%	48	0.0%	
52	4	0.1%	45	0.0%	
53	1	0.0%	40	0.0%	
54	2	0.0%	38	0.0%	
55	16	0.2%	34	0.0%	
56	1	0.0%	31	0.0%	
57	3	0.0%	26	0.0%	
58	6	0.1%	33	0.0%	
59	1	0.0%	27	0.0%	
60	46	0.6%	20	0.0%	
61	3	0.0%	18	0.0%	
62	3	0.0%	15	0.0%	
63	1	0.0%	13	0.0%	
64	1	0.0%	15	0.0%	
65	4	0.1%	8	0.0%	
66	0	0.0%	5	0.0%	
67	0	0.0%	4	0.0%	
68	2	0.0%	2	0.0%	
69	1	0.0%	1	0.0%	
70	11	0.1%	1	0.0%	
+70	126	1.6%	2	0.0%	
Total	7,965		515,947		

TERMINAL TIME DETAILS

The following Table 61 shows the terminal times per TAZ used in the 2002 model.

Table 61

Terminal Times			
TAZ	Origin Time (minutes)	Destination Time (minutes)	Area Type
1	3	3	cbd
2	3	3	cbd
3	3	3	cbd
4	3	3	cbd
5	3	3	cbd
6	3	3	cbd
7	3	3	cbd
8	3	3	cbd
9	3	3	cbd
10	3	3	cbd
11	3	3	cbd
12	4	4	cbd parking garage
13	4	4	cbd parking garage
14	3	3	cbd
15	3	3	cbd
16	3	3	cbd
17	3	3	cbd
18	4	4	cbd parking garage
19	3	3	cbd
21	3	3	cbd
22	3	3	cbd
23	3	3	cbd
24	3	3	cbd
25	4	4	cbd parking garage
26	3	3	cbd
27	3	3	cbd
28	1.5	1.5	suburban
29	1.5	1.5	suburban
30	2.5	2.5	cbd fringe
31	2.5	2.5	cbd fringe
32	1.5	1.5	suburban
33	1.5	1.5	suburban
34	1.5	1.5	suburban
35	2.5	2.5	cbd fringe
36	2.5	2.5	cbd fringe
37	1.5	1.5	suburban
38	1.5	1.5	suburban
39	2.5	2.5	cbd fringe
40	5	5	cbd fringe / BSU

41	5	5	cbd fringe / BSU
42	1.5	1.5	suburban
43	1.5	1.5	suburban
44	1.5	1.5	suburban
45	1.5	1.5	suburban
46	1.5	1.5	suburban
47	1.5	1.5	suburban
48	1.5	1.5	suburban
49	1.5	1.5	suburban
50	1.5	1.5	suburban
52	1.5	1.5	suburban
53	1.5	1.5	suburban
54	1.5	1.5	suburban
55	1.5	1.5	suburban
56	1.5	1.5	suburban
57	1.5	1.5	suburban
58	1.5	1.5	suburban
59	1.5	1.5	suburban
60	1.5	1.5	suburban
61	1.5	1.5	suburban
62	1.5	1.5	suburban
63	1.5	1.5	suburban
64	1.5	1.5	suburban
65	1.5	1.5	suburban
66	1.5	1.5	suburban
67	1.5	1.5	suburban
68	1.5	1.5	suburban
69	1.5	1.5	suburban
70	1.5	1.5	suburban
71	1.5	1.5	suburban
72	1.5	1.5	suburban
74	1.5	1.5	suburban
75	1.5	1.5	suburban
76	1.5	1.5	suburban
77	1.5	1.5	suburban
78	1.5	1.5	suburban
79	1.5	1.5	suburban
80	1.5	1.5	suburban
81	1.5	1.5	suburban
82	1.5	1.5	suburban
83	1.5	1.5	suburban
84	1.5	1.5	suburban
85	1.5	1.5	suburban
86	1.5	1.5	suburban
87	1.5	1.5	suburban

88	1.5	1.5	suburban
89	1.5	1.5	suburban
90	1.5	1.5	suburban
91	1.5	1.5	suburban
92	1.5	1.5	suburban
93	1.5	1.5	suburban
94	1.5	1.5	suburban
95	1.5	1.5	suburban
96	1.5	1.5	suburban
97	1.5	1.5	suburban
98	1.5	1.5	suburban
99	1.5	1.5	suburban
100	2.5	2.5	cbd fringe
101	1.5	1.5	suburban
102	1.5	1.5	suburban
103	1.5	1.5	suburban
104	1.5	1.5	suburban
105	1.5	1.5	suburban
106	1.5	1.5	suburban
107	2.5	2.5	cbd fringe
108	1.5	1.5	suburban
109	1.5	1.5	suburban
110	1.5	1.5	suburban
111	1.5	1.5	suburban
112	1.5	1.5	suburban
113	1.5	1.5	suburban
114	1.5	1.5	suburban
115	1.5	1.5	suburban
116	1.5	1.5	suburban
117	1.5	1.5	suburban
118	1.5	1.5	suburban
119	1.5	1.5	suburban
120	1.5	1.5	suburban
121	1.5	1.5	suburban
122	1.5	1.5	suburban
123	1.5	1.5	suburban
124	1.5	1.5	suburban
125	1.5	1.5	suburban
126	1.5	1.5	suburban
127	1.5	1.5	suburban
128	1.5	1.5	suburban
129	1.5	1.5	suburban
130	1.5	1.5	suburban
131	1.5	1.5	suburban
132	1.5	1.5	suburban

133	1.5	1.5	suburban
134	1.5	1.5	suburban
135	1.5	1.5	suburban
136	1.5	1.5	suburban
137	1.5	1.5	suburban
138	1.5	1.5	suburban
139	1.5	1.5	suburban
140	1.5	1.5	suburban
141	1.5	1.5	suburban
142	1.5	1.5	suburban
143	1.5	1.5	suburban
144	1.5	1.5	suburban
145	1.5	1.5	suburban
146	1.5	1.5	suburban
147	1.5	1.5	suburban
148	1.5	1.5	suburban
149	1.5	1.5	suburban
150	1.5	1.5	suburban
151	1.5	1.5	suburban
152	1.5	1.5	suburban
153	1.5	1.5	suburban
154	1.5	1.5	suburban
155	1.5	1.5	suburban
156	1.5	1.5	suburban
157	1.5	1.5	suburban
158	1.5	1.5	suburban
159	1.5	1.5	suburban
160	1.5	1.5	suburban
161	1.5	1.5	suburban
162	1.5	1.5	suburban
163	1.5	1.5	suburban
170	1.5	1.5	suburban
171	1.5	1.5	suburban
172	1.5	1.5	suburban
173	1.5	1.5	suburban
174	1.5	1.5	suburban
175	1.5	1.5	suburban
176	1.5	1.5	suburban
177	1.5	1.5	suburban
178	1.5	1.5	suburban
179	2.5	2.5	cbd fringe
180	1.5	1.5	suburban
181	1.5	1.5	suburban
182	1.5	1.5	suburban
183	1.5	1.5	suburban

184	1.5	1.5	suburban
185	1.5	1.5	suburban
186	1.5	1.5	suburban
187	1.5	1.5	suburban
188	1.5	1.5	suburban
189	1.5	1.5	suburban
190	1.5	1.5	suburban
191	1.5	1.5	suburban
192	1.5	1.5	suburban
193	1.5	1.5	suburban
194	1.5	1.5	suburban
195	1.5	1.5	suburban
196	1.5	1.5	suburban
197	1.5	1.5	suburban
198	1.5	1.5	suburban
199	1.5	1.5	suburban
200	1.5	1.5	suburban
201	1.5	1.5	suburban
202	2.5	2.5	cbd fringe
203	2.5	2.5	cbd fringe
204	2.5	2.5	cbd fringe
205	2.5	2.5	cbd fringe
206	2.5	2.5	cbd fringe
207	2.5	2.5	cbd fringe
208	2.5	2.5	cbd fringe
209	1.5	1.5	suburban
210	1.5	1.5	suburban
211	1.5	1.5	suburban
212	1	1	rural
213	1.5	1.5	suburban
214	1.5	1.5	suburban
215	1.5	1.5	suburban
216	1.5	1.5	suburban
217	1.5	1.5	suburban
218	1.5	1.5	suburban
219	1.5	1.5	suburban
220	1.5	1.5	suburban
221	1.5	1.5	suburban
222	1.5	1.5	suburban
223	1.5	1.5	suburban
224	1.5	1.5	suburban
225	1	1	rural
226	1	1	rural
227	1	1	rural
228	1	1	rural

229	1	1	rural
230	1	1	rural
231	1	1	rural
232	1.5	1.5	suburban
233	1.5	1.5	suburban
234	1.5	1.5	suburban
235	1.5	1.5	suburban
236	1.5	1.5	suburban
237	1.5	1.5	suburban
238	1.5	1.5	suburban
239	1.5	1.5	suburban
240	1.5	1.5	suburban
241	2	2	urban
242	1.5	1.5	suburban
243	2	2	urban
244	1.5	1.5	suburban
245	1.5	1.5	suburban
246	1.5	1.5	suburban
247	1.5	1.5	suburban
248	1.5	1.5	suburban
249	1.5	1.5	suburban
250	1.5	1.5	suburban
251	1.5	1.5	suburban
252	1.5	1.5	suburban
253	1.5	1.5	suburban
254	1.5	1.5	suburban
255	1.5	1.5	suburban
256	1.5	1.5	suburban
257	1.5	1.5	suburban
258	1.5	1.5	suburban
259	1.5	1.5	suburban
260	1.5	1.5	suburban
261	1.5	1.5	suburban
262	1.5	1.5	suburban
263	1.5	1.5	suburban
264	1.5	1.5	suburban
265	1.5	1.5	suburban
266	1.5	1.5	suburban
267	1.5	1.5	suburban
268	2	2	urban
269	2	2	urban
270	2	2	urban
271	2	2	urban
272	1.5	1.5	suburban
273	1.5	1.5	suburban

274	1.5	1.5	suburban
275	1.5	1.5	suburban
276	1.5	1.5	suburban
277	1.5	1.5	suburban
278	1.5	1.5	suburban
279	1.5	1.5	suburban
280	1.5	1.5	suburban
281	1.5	1.5	suburban
282	1.5	1.5	suburban
283	1.5	1.5	suburban
284	1.5	1.5	suburban
285	1.5	1.5	suburban
286	1.5	1.5	suburban
287	1.5	1.5	suburban
288	1.5	1.5	suburban
289	1.5	1.5	suburban
290	1.5	1.5	suburban
291	1.5	1.5	suburban
292	1.5	1.5	suburban
293	1.5	1.5	suburban
294	1.5	1.5	suburban
295	1.5	1.5	suburban
296	1.5	1.5	suburban
297	1.5	1.5	suburban
298	1.5	1.5	suburban
299	1.5	1.5	suburban
300	1.5	1.5	suburban
301	1.5	1.5	suburban
302	1.5	1.5	suburban
303	1.5	1.5	suburban
304	1.5	1.5	suburban
305	1.5	1.5	suburban
306	1.5	1.5	suburban
307	1.5	1.5	suburban
308	1.5	1.5	suburban
309	1.5	1.5	suburban
310	1.5	1.5	suburban
311	2	2	urban
312	1.5	1.5	suburban
313	1.5	1.5	suburban
314	1.5	1.5	suburban
315	1.5	1.5	suburban
316	1.5	1.5	suburban
317	1.5	1.5	suburban
318	1.5	1.5	suburban

319	1.5	1.5	suburban
320	1	1	rural
321	1.5	1.5	suburban
322	1.5	1.5	suburban
323	1.5	1.5	suburban
324	2.5	2.5	cbd fringe
325	1.5	1.5	suburban
326	2.5	2.5	cbd fringe
327	1.5	1.5	suburban
328	1.5	1.5	suburban
329	1.5	1.5	suburban
330	1.5	1.5	suburban
331	2	2	urban
332	1.5	1.5	suburban
333	1.5	1.5	suburban
334	1.5	1.5	suburban
335	1.5	1.5	suburban
336	1.5	1.5	suburban
337	1.5	1.5	suburban
338	1.5	1.5	suburban
339	1.5	1.5	suburban
340	1.5	1.5	suburban
341	1.5	1.5	suburban
342	1.5	1.5	suburban
343	1.5	1.5	suburban
344	1.5	1.5	suburban
345	1.5	1.5	suburban
346	1.5	1.5	suburban
347	1.5	1.5	suburban
348	1.5	1.5	suburban
349	1.5	1.5	suburban
350	1.5	1.5	suburban
351	1.5	1.5	suburban
352	1.5	1.5	suburban
397	1	1	rural
398	1	1	rural
399	1	1	rural
401	1	1	rural
402	1	1	rural
403	1	1	rural
404	1	1	rural
405	1	1	rural
406	1	1	rural
407	1	1	rural
408	1	1	rural

409	1	1	rural
410	1	1	rural
411	1	1	rural
412	1	1	rural
413	1	1	rural
414	1	1	rural
415	1	1	rural
416	1	1	rural
417	1	1	rural
418	1	1	rural
419	1	1	rural
420	1	1	rural
421	1.5	1.5	suburban
422	1.5	1.5	suburban
423	1.5	1.5	suburban
424	1.5	1.5	suburban
425	1.5	1.5	suburban
426	1.5	1.5	suburban
427	1	1	rural
428	1	1	rural
429	1	1	rural
430	1	1	rural
431	1	1	rural
432	1	1	rural
433	1.5	1.5	suburban
434	1.5	1.5	suburban
435	1.5	1.5	suburban
436	1	1	rural
437	1.5	1.5	suburban
439	1.5	1.5	suburban
440	1	1	rural
441	1.5	1.5	suburban
442	1.5	1.5	suburban
443	1.5	1.5	suburban
444	1.5	1.5	suburban
445	1.5	1.5	suburban
446	1.5	1.5	suburban
447	1.5	1.5	suburban
448	1.5	1.5	suburban
451	1.5	1.5	suburban
452	1.5	1.5	suburban
453	2	2	urban
454	2	2	urban
455	1.5	1.5	suburban
456	1.5	1.5	suburban

457	2	2	urban
458	2	2	urban
459	1.5	1.5	suburban
460	1.5	1.5	suburban
461	1.5	1.5	suburban
463	2	2	urban
464	1.5	1.5	suburban
465	2	2	urban
466	2	2	urban
467	1.5	1.5	suburban
470	1.5	1.5	suburban
471	1.5	1.5	suburban
472	2	2	urban
473	1.5	1.5	suburban
474	1.5	1.5	suburban
475	1.5	1.5	suburban
477	1	1	rural
478	1.5	1.5	suburban
479	1.5	1.5	suburban
480	1.5	1.5	suburban
481	1.5	1.5	suburban
482	1.5	1.5	suburban
484	1.5	1.5	suburban
486	1.5	1.5	suburban
488	1.5	1.5	suburban
489	1.5	1.5	suburban
490	1.5	1.5	suburban
491	1.5	1.5	suburban
492	1.5	1.5	suburban
493	1.5	1.5	suburban
497	1.5	1.5	suburban
498	1.5	1.5	suburban
499	1.5	1.5	suburban
500	1	1	rural
501	1	1	rural
502	1	1	rural
503	1	1	rural
504	1	1	rural
505	1	1	rural
506	1	1	rural
507	1	1	rural
509	1	1	rural
510	1.5	1.5	suburban
511	1.5	1.5	suburban
512	1.5	1.5	suburban

513	1.5	1.5	suburban
514	1.5	1.5	suburban
515	1.5	1.5	suburban
516	1.5	1.5	suburban
517	1.5	1.5	suburban
518	1.5	1.5	suburban
519	1.5	1.5	suburban
520	1.5	1.5	suburban
521	1.5	1.5	suburban
522	1.5	1.5	suburban
523	1.5	1.5	suburban
524	1.5	1.5	suburban
525	1.5	1.5	suburban
526	1.5	1.5	suburban
527	1.5	1.5	suburban
528	1.5	1.5	suburban
529	1.5	1.5	suburban
530	1.5	1.5	suburban
531	1.5	1.5	suburban
532	1.5	1.5	suburban
533	1.5	1.5	suburban
534	1.5	1.5	suburban
535	1.5	1.5	suburban
536	1.5	1.5	suburban
537	1.5	1.5	suburban
538	1.5	1.5	suburban
539	1.5	1.5	suburban
540	1.5	1.5	suburban
541	2	2	urban
542	1.5	1.5	suburban
543	2	2	urban
544	2	2	urban
545	1.5	1.5	suburban
546	2	2	urban
547	1.5	1.5	suburban
548	1.5	1.5	suburban
549	1.5	1.5	suburban
550	1.5	1.5	suburban
551	1.5	1.5	suburban
552	1.5	1.5	suburban
553	1.5	1.5	suburban
554	1.5	1.5	suburban
555	1.5	1.5	suburban
556	1.5	1.5	suburban
557	1.5	1.5	suburban

558	1.5	1.5	suburban
559	1.5	1.5	suburban
560	1.5	1.5	suburban
561	1.5	1.5	suburban
562	1.5	1.5	suburban
563	1.5	1.5	suburban
564	1.5	1.5	suburban
565	1.5	1.5	suburban
566	1	1	rural
567	1	1	rural
568	1	1	rural
569	1	1	rural
570	1	1	rural
571	1	1	rural
572	1	1	rural
573	1	1	rural
574	1	1	rural
575	1	1	rural
576	1	1	rural
577	1	1	rural
578	1	1	rural
579	1	1	rural
580	1	1	rural
581	1	1	rural
582	1	1	rural
583	1	1	rural
584	1	1	rural
585	1	1	rural
586	1	1	rural
587	1.5	1.5	suburban
588	1.5	1.5	suburban
589	1.5	1.5	suburban
590	1.5	1.5	suburban
591	1.5	1.5	suburban
592	1.5	1.5	suburban
593	1.5	1.5	suburban
594	1.5	1.5	suburban
595	2	2	urban
596	2	2	urban
597	2	2	urban
598	1.5	1.5	suburban
599	1.5	1.5	suburban
600	1.5	1.5	suburban
601	1.5	1.5	suburban
602	1.5	1.5	suburban

TRIP DISTRIBUTION COMPARISONS

Table 62 summarizes the county-to-county trip distribution estimated by the 2002 household travel survey data and were the basis for determining the reasonable Canyon to Ada County split.

Table 62

2002 Household Survey County to County Trip Distributions by Trip Type						
Origin to Destination	HBW	HBS	HBSO	HBSC	HBO	NHB
Ada County to Ada County	92.3%	97.2%	94.4%	97.7%	95.9%	95.5%
Ada County to Canyon County	7.4%	2.7%	4.6%	2.3%	3.6%	3.7%
Canyon County to Ada County	23.1%	5.5%	10.8%	6.9%	9.8%	10.5%
Canyon County to Canyon County	74.6%	94.1%	87.3%	92.0%	89.6%	87.3%

Table 63 through Table 65 show the county-to-county trips distribution estimates for home base work, social and other before and after the percent splits were added in the model. The home base work was the most challenging due to the need to reduce Canyon to Ada by half and it then, effected the Ada to Canyon. Based on the traffic count to volume comparisons along I-84, screelines in Table 66, that these three fixes were "as good as it was going to get".

Table 63

Home Base Work Person Trip Tables, County Level Summary

Before

1 WORK | 2 SHOP | 3 SOC | 4 SCH | 5 OTHER | 6 NONI

	Sum	1	2	3
	321823.82	241489.19	80334.63	0.00
1	219408.24	186695.42	32712.82	0.00
2	102415.58	54793.77	47621.81	0.00
3	0.00	0.00	0.00	0.00

	Ada County (1)	Canyon County (2)
Ada County (1)	85%	15%
Canyon County (2)	54%	46%

After

1 WORK | 2 SHOP | 3 SOC | 4 SCH | 5 OTHER | 6 NON

	Sum	1	2	3
	321802.43	240893.70	80908.73	0.00
1	219390.23	217342.07	2048.16	0.00
2	102412.20	23551.63	78860.57	0.00
3	0.00	0.00	0.00	0.00

	Ada County (1)	Canyon County (2)
Ada County (1)	99%	1%
Canyon County (2)	23%	77%

Table 64

Home Base Social Person Trip Tables, County Level Summary

Before

1 WORK | 2 SHOP | 3 SOC | 4 SCH | 5 OTHER | 6 NONH

	Sum	1	2	3
	199316.63	130742.96	68573.67	0.00
1	130714.14	120042.98	10671.16	0.00
2	68602.49	10699.98	57902.51	0.00
3	0.00	0.00	0.00	0.00

	Ada County (1)	Canyon County (2)
Ada County (1)	92%	8%
Canyon County (2)	16%	84%

After

1 WORK | 2 SHOP | 3 SOC | 4 SCH | 5 OTHER | 6 NONH

	Sum	1	2	3
	199307.60	130736.74	68570.86	0.00
1	130708.20	123879.40	6828.80	0.00
2	68599.40	6857.34	61742.06	0.00
3	0.00	0.00	0.00	0.00

	Ada County (1)	Canyon County (2)
Ada County (1)	95%	5%
Canyon County (2)	10%	90%

Table 65

Home Base Other Person Trip Tables, County Level Summary

Before

1 WORK | 2 SHOP | 3 SOC | 4 SCH | 5 OTHER | 6 NONHOME

	Sum	1	2	3
	431521.96	319675.94	111846.02	0.00
1	312916.27	293945.98	18970.29	0.00
2	118605.69	25729.96	92875.73	0.00
3	0.00	0.00	0.00	0.00

	Ada County (1)	Canyon County (2)
Ada County (1)	94%	6%
Canyon County (2)	22%	78%

After

1 WORK | 2 SHOP | 3 SOC | 4 SCH | 5 OTHER | 6 NONHOME

	Sum	1	2	3
	431510.66	319467.31	112043.35	0.00
1	312907.61	307606.43	5301.18	0.00
2	118603.05	11860.88	106742.17	0.00
3	0.00	0.00	0.00	0.00

	Ada County (1)	Canyon County (2)
Ada County (1)	98%	2%
Canyon County (2)	10%	90%

APPENDIX D: ADDITIONAL VALIDATION/CALIBRATION DETAILS

List of screenlines used in the validation of the 24-hour model. These were established prior to full operation of the model and before all traffic counts were entered in the network. Therefore, five screenlines were without count data.

Table 66

Screenline Descriptions and Results						
Screenline #	**Travel Direction**	**Location**	**Description**	**Model Volume to Actual Count**	**Goal**	**Status**
1	north / south	s/o US 20/26	Wamstad Rd River Crossing	10%	within +/- 50%	PASS
2	north / south	s/o Market Rd	Gotsch Rd, Conway Rd		no actual counts	N/A
3	north / south	s/o US 20/26	US 95 River Crossing	-33%	within +/- 53%	PASS
4	north / south	n/o SH 44	Emmett Rd, Cemetery Rd, Middleton Rd, Lansing Rd	-19%	within +/- 52%	PASS
5	north / south	s/o Boise River Rd	Wamstad Rd, Rodeo Ln, US 95	-28%	within +/- 52%	PASS
6	north / south	s/o US 20/26	Notus Rd River Crossing	-31%	within +/- 63%	PASS
7	east / west	w/o Emmett Rd	SH 44, Purple Sage Rd, Galloway Rd	1%	within +/- 62%	PASS
8	north / south	s/o SH 44	Middleton Rd River Crossing	30%	within +/- 47%	PASS
9	east / west	e/o Lansing Ln	SH 44, Purple Sage Rd, Galloway Rd	-25%	within +/- 42%	PASS
10	east / west	w/o Warmstad Rd	Peckham Rd, Red Top Rd, Dixie Rd, SH 18	-70%	within +/- 64%	NO
11	east / west	w/o KCID Rd	Marble Front Rd, Lincoln St	-49%	within +/- 63%	PASS
12	east / west	e/o Chicago St	10th Ave	8%	within +/- 27%	PASS
13	north / south	s/o 10th Ave	Clevland Blvd, Blaine St, Chicago St	-27%	within +/- 23%	NO
14	north / south	w/o Chicago St	21st St	-34%	within +/- 33%	NO
15	east / west	n/o Linden Rd	I-84	37%	within +/- 23%	NO
16	north / south	w/o Northside Blvd	Linden St, US 20/26	37%	within +/- 36%	NO
17	east / west	s/o Homedale Rd	US 95	-9%	within +/- 41%	PASS
18	north / south	w/o Middleton Rd	Orchard Rd, Caldwell Blvd	24%	within +/- 24%	PASS
19	east / west	s/o I-84	Northside Blvd, Franklin Blvd	3%	within +/- 21%	PASS
20	east / west	w/o Garrity IC	I-84	-3%	within +/- 18%	PASS
21	north / south	e/o Nampa Blvd	3rd St, 2nd St	-4%	within +/- 26%	PASS
22	north / south	s/o Garrity Blvd	16th Ave, 11th Ave	-2%	within +/- 23%	PASS
23	north / south	s/o 7th St	7th Ave, 11th Ave, 12th Ave, 16th Ave	-4%	within +/- 20%	PASS
24	north / south	n/o Amity Rd / Lake Lowell Ave	Canyon St, 12th Ave, Fern St, S. Powerline Rd	4%	within +/- 30%	PASS
25	east / west	s/o SH 55	Sunny Slope Rd, Riverside Rd, Perch Rd	8%	within +/- 44%	PASS
26	east / west	w/o Middleton Rd	Greenhurst Rd, Roosevelt Ave, Lone Star Rd, Smith Ave, Orchard Rd	-13%	within +/- 50%	PASS

27	north / south	n/o Marsing Rd	SH 55 River Crossing	-4%	within +/- 39%	PASS
28	north / south	n/o Klahr Rd	Apple Valley Rd, US 95	-10%	within +/- 50%	PASS
29	north / south	s/o Payette County Line	I-84	6%	within +/- 29%	PASS
30	north / south	s/o Gem County Line	SH 16	-8%	within +/- 36%	PASS
31	north / south	s/o Boise County Line	SH 55	-3%	within +/- 44%	PASS
32	north / south	n/o Hill Rd	SH 55, Horseshoe Bend Rd	12%	within +/- 30%	PASS
33	east / west	e/o SH 16	SH 44, Beacon Light Rd, Floating Feather Rd	-13%	within +/- 28%	PASS
34	north / south	n/o Hill Rd	Seaman's Gulch Rd, Pierce Park Rd	-7%	within +/- 64%	PASS
35	east / west	w/o SH 55	SH 44, Hill Rd, Floating Feather Rd, Beacon Light Rd	12%	within +/- 23%	PASS
36	north / south	s/o SH 44	Star Rd	-6%	within +/- 45%	PASS
37	north / south	s/o SH 44	Linder Rd	8%	within +/- 42%	PASS
38	east / west	e/o Horseshoe Bend Rd	SH 44, Hill Rd	20%	within +/- 23%	PASS
39	north / south	n/o US 20/26	Eagle Rd	5%	within +/- 24%	PASS
40	north / south	s/o Hill Rd	Gary Ln, Pierce Park Ln	-35%	within +/- 33%	NO
41	north / south	n/o Braemere Rd	Bogus Basin Rd	-14%	within +/- 59%	PASS
42	north / south	s/o Riverside Dr	Glenwood St	12%	within +/- 23%	PASS
43	east / west	e/o Collister Dr	Catalpa Dr, Hill Rd	-27%	within +/- 38%	PASS
44	north / south	n/o McMillan Rd	Cloverdale Rd, Five Mile Rd, Mitchell St	-16%	within +/- 29%	PASS
45	north / south	s/o McMillan Rd	Eagle Rd	-26%	within +/- 22%	NO
46	north / south	w/o Cloverdale Rd	Eagle Rd	-1%	within +/- 22%	PASS
47	east / west	e/o Eagle Rd	Franklin Rd, Fairview Ave, Ustick Rd, McMillan Rd, Chinden Blvd	-13%	within +/- 14%	PASS
48	north / south	n/o Overland Rd	Cole Rd, Curtis Rd	-3%	within +/- 33%	PASS
49	east / west	e/o Cloverdale Rd	I-84	1%	within +/- 14%	PASS
50	east / west	w/o Ten Mile Rd Rd	I-84	-11%	within +/- 17%	PASS
51	east / west	e/o Cole Rd	I-84	-10%	within +/- 16%	PASS
52	north / south	s/o Warm Springs Ave	Eckert Rd River Crossing	-9%	within +/- 53%	PASS
53	north / south	s/o Amity Rd	Federal Way	14%	within +/- 34%	PASS
54	north / south	s/o Broadway IC	I-84	17%	within +/- 22%	PASS
55	east / west	w/o Production St	Gowen Rd		no actual counts	N/A
56	east / west	e/o Federal Way	SH 21, Grand Forest Dr, Lake Forest Dr, Amity Rd, Boise Ave	-6%	within +/- 23%	PASS
57	east / west	w/o Warms Springs Ave	SH 21 River Crossing	-33%	within +/- 49%	PASS
58	north / south	n/o Ten Mile Creek Rd	Cole Rd, Pleasant Valley Rd	-29%	within +/- 35%	PASS
59	north / south	s/o Isaacs Canyon	I-84		no actual counts	N/A
60	north / south	n/o Beacon Light Rd	Chaparral Rd, Emmett Rd	7%	within +/- 36%	PASS
61	east / west	w/o Black Cat Rd	Kuna Rd, Deer Flat Rd, Greenhurst Rd, Columbia Rd, Lake Hazel Rd, Amity Rd, Victory Rd	10%	within +/- 29%	PASS

62	east / west	w/o Veterans Memorial Pkwy	Chinden Blvd, Adams St	-10%	within +/- 23%	PASS
63	north / south	n/o Adams St	Veterans Memorial Pkwy	-16%	within +/- 25%	PASS
64	east / west	w/o 28th St	State St, Sunset St, Taft St, Hill Rd	6%	within +/- 21%	PASS
65	north / south	s/o Irene St	Harrison Blvd, 15th St, 13th St, 8th St	-14%	within +/- 23%	PASS
66	north / south	n/o Fairview Ave	Curtis Rd, Orchard St	-6%	within +/- 21%	PASS
67	east / west	w/o 27th St	I-84, Fairview Ave, Main St	9%	within +/- 14%	PASS
68	north / south	s/o 27th St / Shoreline Dr	Americana Blvd	-16%	within +/- 30%	PASS
69	east / west	w/o Broadway Ave	Myrtle St, Front St	3%	within +/- 21%	PASS
70	north / south	s/o Myrtle St	Broadway Ave	21%	within +/- 25%	PASS
71	north / south	s/o Park Blvd	West ParkCenter Bridge	26%	within +/- 27%	PASS
72	east / west	w/o Roosevelt St	Franklin Rd, Emerald St	3%	within +/- 25%	PASS
73	east / west	e/o Penitentiary Dr	Warm Springs Ave	-39%	within +/- 35%	NO
74	north / south	n/o Kootenai St	Vista Ave, Federal Way	-11%	within +/- 24%	PASS
75	north / south	n/o River Run Dr	Parkcenter Blvd	-5%	within +/- 26%	PASS
76	north / south	s/o Boise Ave	Broadway Ave	-18%	within +/- 25%	PASS
77	east / west	w/o Vista Ave	Nez Perce St, Overland Rd, Kootenai St, Rose Hill St	12%	within +/- 23%	PASS
78	north / south	w/o Broadway Ave	Federal Way	-1%	within +/- 30%	PASS
79	east / west	e/o Broadway Ave	Linden Ave, Boise Ave	-31%	within +/- 33%	PASS
80	north / south	n/o I-84	Orchard St, Roosevelt St, Owyhee St, Elder St, Vista Ave	-23%	within +/- 20%	NO
81	east / west	w/o Broadway Ave	Highland St, Beacon St	13%	within +/- 31%	PASS
82	east / west	e/o Avenue B	Warm Springs Ave, Jefferson St, Reserve St	-7%	within +/- 57%	PASS
83	north / south	n/o I-84	Broadway Ave	-4%	within +/- 22%	PASS
84	east / west	e/o Allumbaugh St	I-184		no actual counts	N/A
85	north / south	s/o Boise County Line	SH 21	29%	within +/- 57%	PASS
86	east / west	w/o Pleasant Valley Rd	Kuna Mora Rd, Ten Mile Creek Rd	30%	within +/- 58%	PASS
87	north / south	s/o Orchard Access Rd	I-84	6%	within +/- 27%	PASS
88	north / south	s/o Kuna-Mora Rd	Swan Falls Rd	26%	within +/- 64%	PASS
89	north / south	n/o Melba Rd	Rim Rd, SH 45, Southside Blvd	44%	within +/- 53%	PASS
90	north / south	s/o Ferry Rd	SH 45	-32%	within +/- 58%	PASS
91	north / south	s/o SH 44	I-84	4%	within +/- 25%	PASS
92	north / south	s/o US20/26	KCID Rd, Ward Ln, Middleton Rd	14%	within +/- 46%	PASS
93	east / west	e/o Farmway Rd	Linden St, Logan St, Simplot Blvd	-2%	within +/- 29%	PASS
94	east / west	e/o Weitz Rd	Karcher Rd, Homedale Rd, Ustick Rd, Simplot Blvd	69%	within +/- 36%	NO

95	east / west	w/o Happy Valley Rd	Greenhurst Rd, Amity Rd, Powerline Rd, Airport Rd, Garrity Blvd	6%	within +/- 30%	PASS
96	east / west	e/o Conway Rd	US 20/26, Purple Sage Rd, Galloway Rd, Market Rd	35%	within +/- 42%	PASS
97	east / west	e/o Allendale Rd	Hoskins Rd, Homedale Rd, Ustick Rd, SH 19, Peckham Rd, Boise River Rd	27%	within +/- 31%	PASS
98	east / west	w/o 10th Ave	Orchard Rd, Karcher Rd, Homedale Rd, Ustick Rd	15%	within +/- 29%	PASS
99	east / west	e/o Florida Ave	Orchard Rd, Karcher Rd, Homedale Rd, Ustick Rd, Cleveland Blvd	1%	within +/- 22%	PASS
100	east / west	w/o SH 69	King Rd, Kuna Rd, Deer Flat Rd, Hubbard Rd	14%	within +/- 27%	PASS
101	east / west	w/o Ballantyne Ln	State St, Floating Feather Rd, Beacon Light Rd, Homer Rd	-44%	within +/- 53%	PASS
102	east / west	e/o Star Rd	Franklin Rd, Cherry Ln, Ustick Rd, McMillan Rd, US 20/26, SH 44	13%	within +/- 23%	PASS
103	east / west	e/o Ten Mile Rd	Franklin Rd, Pine Ave, Cherry Ln, Ustick Rd, McMillan Rd, US 20/26	-5%	within +/- 22%	PASS
104	east / west	e/o Ten Mile Rd	Hubbard Rd, Columbia Rd, Lake Hazel Rd, Amity Rd, Victory Rd, Overland Rd	27%	within +/- 29%	PASS
105	east / west	w/o S Locust Grove Rd	Columbia Rd, Lake Hazel Rd, Amity Rd, Victory Rd	79%	within +/- 36%	NO
106	east / west	e/o Eagle Rd	Columbia Rd, Lake Hazel Rd, Amity Rd, Victory Rd, Overland Rd	22%	within +/- 26%	PASS
107	east / west	w/o Southside Blvd	Deer Flat Rd, Lewis Ln, Locust Ln	-13%	within +/- 50%	PASS
108	east / west	e/o Apple St	Bergeson St, Boise Ave	-25%	within +/- 30%	PASS
109	north / south	s/o Cherry Ln	Midland Blvd, Northside Blvd, Franklin Blvd, 11th Ave N Ext, Can Ada Rd, Star Rd	-8%	within +/- 28%	PASS
110	north / south	s/o Purple Sage Rd	Conway Rd, Stafford Rd, Farmway Rd	-56%	within +/- 59%	PASS
111	north / south	s/o Beacon Light Rd	Linder Rd, Park Ln, Ballantyne Ln	203%	within +/- 59%	NO
112	north / south	e/o Weitz Rd	Weitz Rd, Farmway Rd	-21%	within +/- 49%	PASS
113	north / south	n/o Linden Rd	Farmway Rd, Kimball Ave, 10th Ave, Montana Ave, Indiana Ave	-27%	within +/- 25%	NO
114	north / south	n/o Ustick Rd	US 95, Allendale Rd, Friends Rd	-6%	within +/- 45%	PASS

115	north / south	s/o McMillan Rd	Can Ada Rd, Star Rd, McDermott Rd	-68%	within +/- 38%	NO
116	north / south	s/o Ustick Rd	Black Cat Rd, Ten Mile Rd, Linder Rd, Meridian Rd, Locust Grove Rd	-32%	within +/- 24%	NO
117	north / south	n/o Homedale Rd	Farmway Rd, Airport Ave, 10th Ave, Montana Ave, Indiana Ave, Florida Ave, Lake Ave	-39%	within +/- 29%	NO
118	north / south	s/o State St	27th St, 23rd St	34%	within +/- 28%	NO
119	north / south	s/o Fairview Ave	Cloverdale Rd, Five Mile Rd, Maple Grove Rd, Milwaukee St, Cole Rd	-17%	within +/- 14%	NO
120	north / south	s/o Boise Ave	Geckler Ln, Apple St, Law Ave, Holcomb Rd	-15%	within +/- 26%	PASS
121	north / south	n/o Amity Rd	Black Cat Rd, Ten Mile Rd, Linder Rd, Meridian Rd, Locust Grove Rd, Eagle Rd, Cloverdale Rd, Five Mile Rd, Maple Grove Rd, Cole Rd	1%	within +/- 19%	PASS
122	north / south	s/o Amity Rd	Southside Blvd, Happy Valley Rd, Robinson Rd, McDermott Rd	21%	within +/- 31%	PASS
123	north / south	n/o Deer Flat Rd	Ten Mile Rd, Linder Rd, SH 69, Locust Grove Rd	1%	within +/- 28%	PASS
124	north / south	s/o Deer Flat Rd	Rim Rd, SH 45, Southside Blvd, Happy Valley Rd, Robinson Blvd		no actual counts	N/A
125	east / west	w/o 16th St	Main St, Fairview Ave, I-184	18%	within +/- 14%	NO
126	east / west	w/o 16th St	State St	-16%	within +/- 25%	PASS
127	north / south	n/o University Dr	9th St River Crossing	12%	within +/- 27%	PASS
128	north / south	n/o University Dr	Capitol Blvd River Crossing	16%	within +/- 27%	PASS
129	east / west	e/o Mitchell St	Franklin Rd, Emerald St, Fairview Ave, Cory Ln, Ustick Rd, Edna St, McMillan Rd, Mountain View Dr, Marigold Dr	1%	within +/- 14%	PASS
130	east / west	e/o 16th Ave	2nd St, 3rd St, 7th St	12%	within +/- 30%	PASS
			Total	**-1%**	**within +/- 14%**	**PASS**

Figure 42

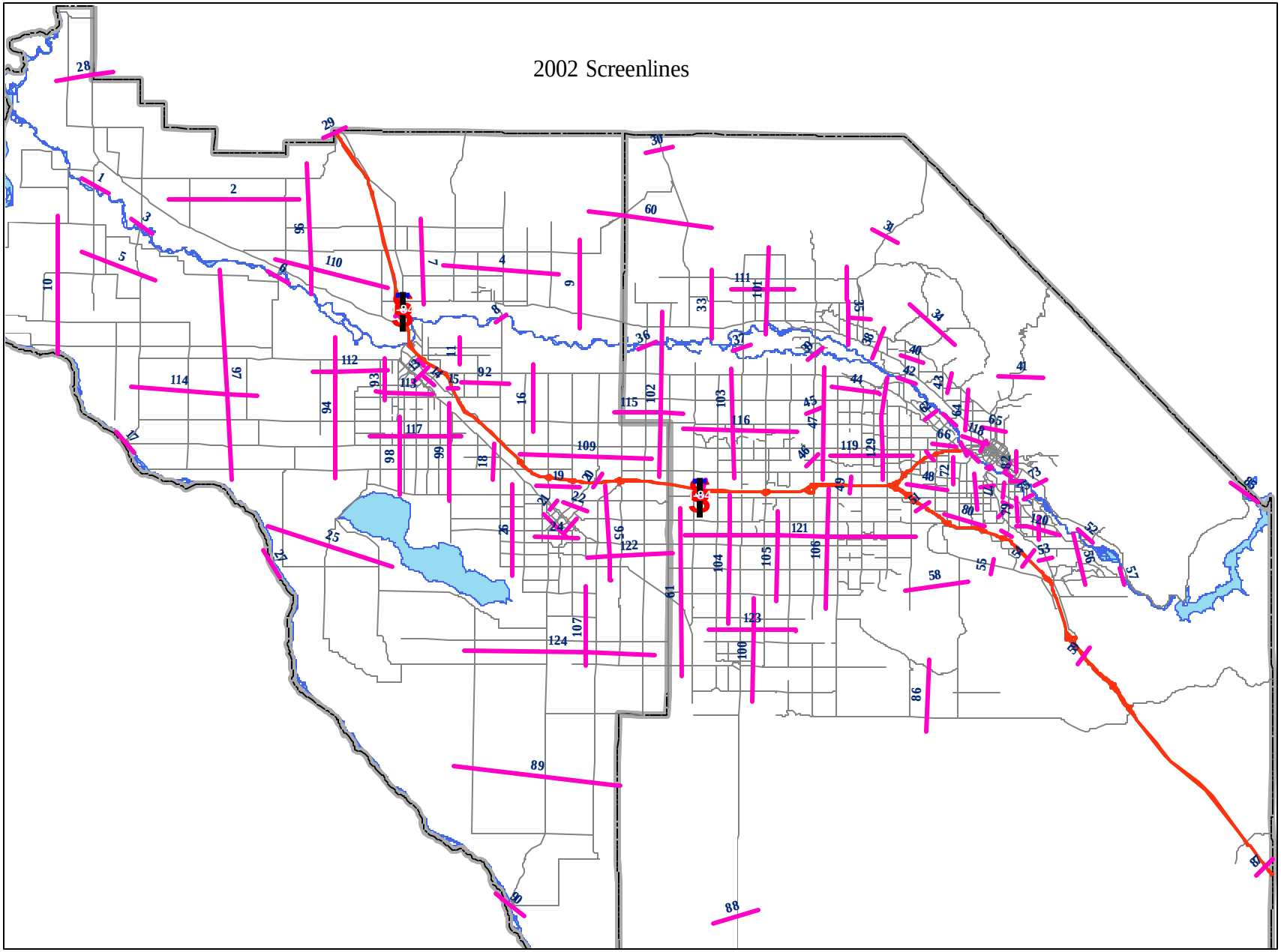


Figure 43

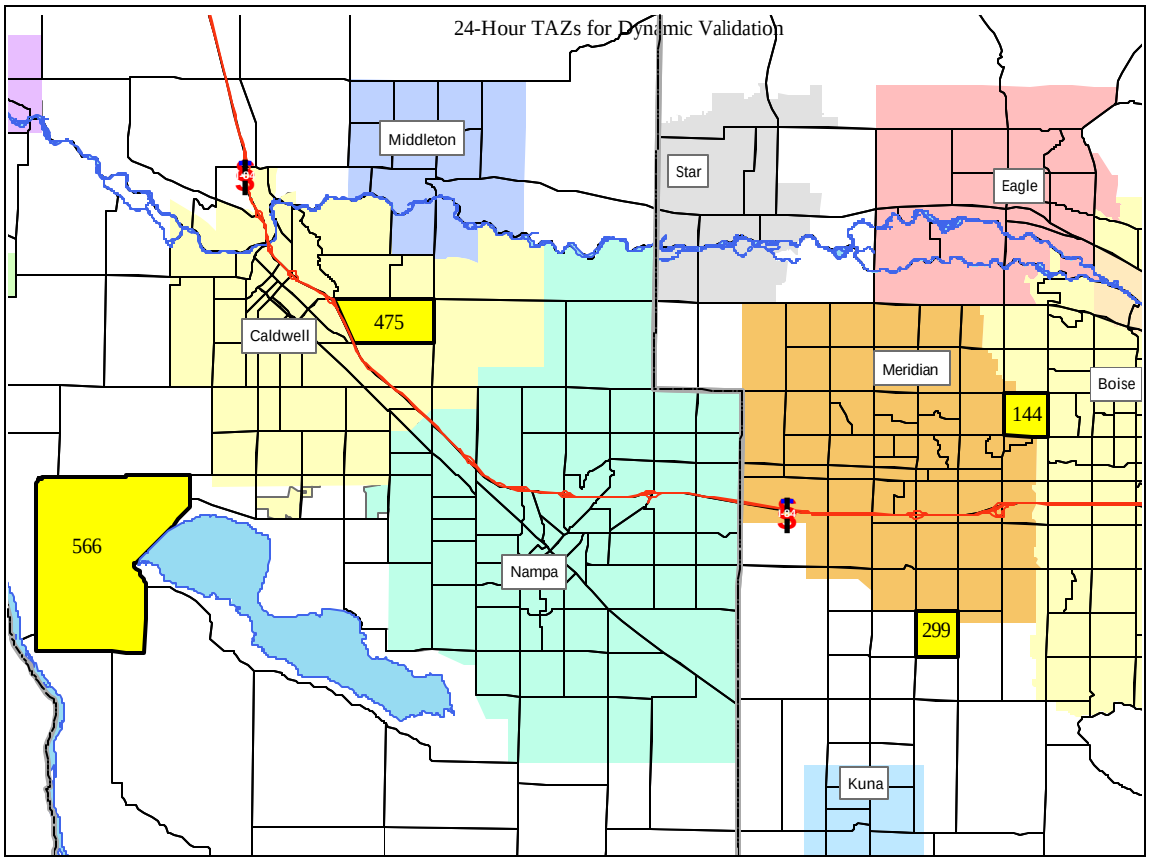
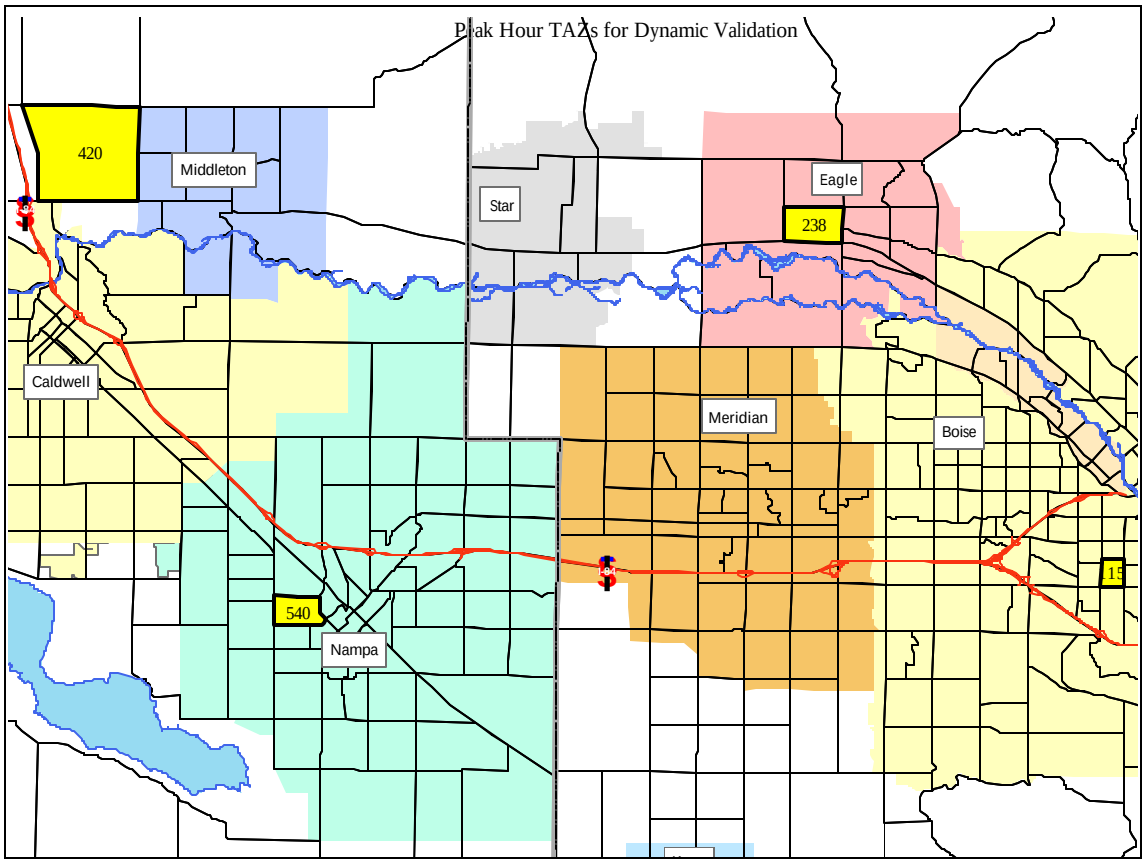


Figure 44



APPENDIX E: FULL MODEL SCRIPT

The following information is a complete TP+ script for both the 24-hour and peak hour models and also includes the validation scripts used for the 2002 model.

```
RUN PGM=MATRIX

  RECI=TRATEADA.CSV, VEH=1,PER=2,HBW=3,HBSH=4,HBSO=5,HBSC=6,HBO=7,NHB=8
  _CNT=_CNT+1
  IF (_CNT==1)
    PRINT LIST='; TRIP RATES BY PPHH TABLE 1 ( 0  VEH) FOR ADA COUNTY', FILE=TR_A_PP1.DAT
    PRINT LIST='; TRIP RATES BY PPHH TABLE 2 ( 1  VEH) FOR ADA COUNTY', FILE=TR_A_PP2.DAT
    PRINT LIST='; TRIP RATES BY PPHH TABLE 3 ( 2  VEH) FOR ADA COUNTY', FILE=TR_A_PP3.DAT
    PRINT LIST='; TRIP RATES BY PPHH TABLE 4 ( 3  VEH) FOR ADA COUNTY', FILE=TR_A_PP4.DAT
    PRINT LIST='; TRIP RATES BY PPHH TABLE 5 ( 4+ VEH) FOR ADA COUNTY', FILE=TR_A_PP5.DAT
  ENDIF

  IF (RI.VEH==0)
    PRINT LIST=RI.PER(8.2),RI.HBW(8.2),RI.HBSH(8.2),RI.HBSO(8.2),RI.HBSC(8.2),RI.HBO(8.2),RI.NHB(8.2), FILE=TR_A_PP1.DAT
  ELSEIF (RI.VEH==1)
    PRINT LIST=RI.PER(8.2),RI.HBW(8.2),RI.HBSH(8.2),RI.HBSO(8.2),RI.HBSC(8.2),RI.HBO(8.2),RI.NHB(8.2), FILE=TR_A_PP2.DAT
  ELSEIF (RI.VEH==2)
    PRINT LIST=RI.PER(8.2),RI.HBW(8.2),RI.HBSH(8.2),RI.HBSO(8.2),RI.HBSC(8.2),RI.HBO(8.2),RI.NHB(8.2), FILE=TR_A_PP3.DAT
  ELSEIF (RI.VEH==3)
    PRINT LIST=RI.PER(8.2),RI.HBW(8.2),RI.HBSH(8.2),RI.HBSO(8.2),RI.HBSC(8.2),RI.HBO(8.2),RI.NHB(8.2), FILE=TR_A_PP4.DAT
  ELSEIF (RI.VEH==4)
    PRINT LIST=RI.PER(8.2),RI.HBW(8.2),RI.HBSH(8.2),RI.HBSO(8.2),RI.HBSC(8.2),RI.HBO(8.2),RI.NHB(8.2), FILE=TR_A_PP5.DAT
  ENDIF
ENDRUN

RUN PGM=MATRIX

  RECI=TRATECAN.CSV, VEH=1,PER=2,HBW=3,HBSH=4,HBSO=5,HBSC=6,HBO=7,NHB=8

  _CNT=_CNT+1

  IF (_CNT==1)
    PRINT LIST='; TRIP RATES BY PPHH TABLE 1 ( 0  VEH) FOR CAN COUNTY', FILE=TR_C_PP1.DAT
    PRINT LIST='; TRIP RATES BY PPHH TABLE 2 ( 1  VEH) FOR CAN COUNTY', FILE=TR_C_PP2.DAT
    PRINT LIST='; TRIP RATES BY PPHH TABLE 3 ( 2  VEH) FOR CAN COUNTY', FILE=TR_C_PP3.DAT
    PRINT LIST='; TRIP RATES BY PPHH TABLE 4 ( 3  VEH) FOR CAN COUNTY', FILE=TR_C_PP4.DAT
    PRINT LIST='; TRIP RATES BY PPHH TABLE 5 ( 4+ VEH) FOR CAN COUNTY', FILE=TR_C_PP5.DAT
  ENDIF

  IF (RI.VEH==0)
    PRINT LIST=RI.PER(8.2),RI.HBW(8.2),RI.HBSH(8.2),RI.HBSO(8.2),RI.HBSC(8.2),RI.HBO(8.2),RI.NHB(8.2), FILE=TR_C_PP1.DAT
  ELSEIF (RI.VEH==1)
    PRINT LIST=RI.PER(8.2),RI.HBW(8.2),RI.HBSH(8.2),RI.HBSO(8.2),RI.HBSC(8.2),RI.HBO(8.2),RI.NHB(8.2), FILE=TR_C_PP2.DAT
  ELSEIF (RI.VEH==2)
    PRINT LIST=RI.PER(8.2),RI.HBW(8.2),RI.HBSH(8.2),RI.HBSO(8.2),RI.HBSC(8.2),RI.HBO(8.2),RI.NHB(8.2), FILE=TR_C_PP3.DAT
  ELSEIF (RI.VEH==3)
    PRINT LIST=RI.PER(8.2),RI.HBW(8.2),RI.HBSH(8.2),RI.HBSO(8.2),RI.HBSC(8.2),RI.HBO(8.2),RI.NHB(8.2), FILE=TR_C_PP4.DAT
  ELSEIF (RI.VEH==4)
    PRINT LIST=RI.PER(8.2),RI.HBW(8.2),RI.HBSH(8.2),RI.HBSO(8.2),RI.HBSC(8.2),RI.HBO(8.2),RI.NHB(8.2), FILE=TR_C_PP5.DAT
  ENDIF
ENDRUN
;
; ********************************************************************
;
; 1. TRIP GENERATION
;
; ********************************************************************
;
RUN PGM=TRIPGEN

ZONES=750
 FILEI ZDATI[1]=DEMOLU.DBF, Z=TAZ
 FILEI ZDATI[2]=SPECIAL.DAT,  ; SPECIAL GENERATOR FOR ATTRACTION
       SELECT=P,8,
       Z=#1, STRIPS_P=3, WORKPCT_P=4, SHOPPCT_P=5, SOCPCT_P=6,
       SCPCT_P=7, OTHERPCT_P=8, NONHOMEPCT_P=9
```

```
  FILEI ZDATI[3]=SPECIAL.DAT,  ; SPECIAL GENERATOR FOR PRODUCTION
        SELECT=A,8,
        Z=#1, STRIPS_A=3, WORKPCT_A=4, SHOPPCT_A=5, SOCPCT_A=6,
        SCPCT_A=7, OTHERPCT_A=8, NONHOMEPCT_A=9
  FILEI ZDATI[4]=PRSCHOOL.DBF, Z=TAZ  ; PRIVATE SCHOOLS ENROLLMENT
  FILEI ZDATI[5]=PUBSCHOOL.DBF, Z=TAZ ; PUBLIC SCHOOLS ENROLLMENT
  FILEO PAO=GEN.DAT, FORM=9.0,         ; output file
              LIST = Z(7),
              P[1], P[2], P[3], P[4], P[5], P[6], P[7], P[8],
               A[1], A[2], A[3], A[4], A[5], A[6], A[7], A[8]

;         PURPOSE 1: HBWORK
;         PURPOSE 2: HBSHOP
;         PURPOSE 3: HBSOCIAL
;         PURPOSE 4: HBSCHOOL
;         PURPOSE 5: HBOTHER
;         PURPOSE 6: NHB
;         PURPOSE 7: EXTERNAL PIAX TRIPS
;         PURPOSE 8: EXTERNAL STATION TRIPS
;
   ;
   ; IX fractions by trip purposes and county from the 2002 household survey
   ;
   AX_HBW  = 0.014  ; HBW      trips from ADA    county to External
   AX_HBSH = 0.001  ; HBSHOP   trips from ADA    county to External
   AX_HBSO = 0.006  ; HBSOCIAL trips from ADA    county to External
   AX_HBSC = 0.003  ; HBSCHOOL trips from ADA    county to External
   AX_HBO  = 0.015  ; HBOTHER  trips from ADA    county to External
   AX_NHB  = 0.018  ; NHB      trips from ADA    county to External
   CX_HBW  = 0.023  ; HBW      trips from CANYON county to External
   CX_HBSH = 0.004  ; HBSHOP   trips from CANYON county to External
   CX_HBSO = 0.018  ; HBSOCIAL trips from CANYON county to External
   CX_HBSC = 0.011  ; HBSCHOOL trips from CANYON county to External
   CX_HBO  = 0.018  ; HBOTHER  trips from CANYON county to External
   CX_NHB  = 0.025  ; NHB      trips from CANYON county to External
   ;
   ; XI fractions by trip purposes and county from 2000 CTPP data County work flows
   ;
   XA_HBW  = 0.04709  ; HBW      trips from External to ADA    county
   XA_HBSH = 0.05810  ; HBSHOP   trips from External to ADA    county
   XA_HBSO = 0.041810 ; HBSOCIAL trips from External to ADA    county
   XA_HBSC = 0.04810  ; HBSCHOOL trips from External to ADA    county
   XA_HBO  = 0.041810 ; HBOTHER  trips from External to ADA    county
   XA_NHB  = 0.041810 ; NHB      trips from External to ADA    county
   XC_HBW  = 0.06440  ; HBW      trips from External to CANYON county
   XC_HBSH = 0.04810  ; HBSHOP   trips from External to CANYON county
   XC_HBSO = 0.043810 ; HBSOCIAL trips from External to CANYON county
   XC_HBSC = 0.043810 ; HBSCHOOL trips from External to CANYON county
   XC_HBO  = 0.04510  ; HBOTHER  trips from External to CANYON county
   XC_NHB  = 0.048810 ; NHB      trips from External to CANYON county
;***** END OF NEW CODE *****

   TOTEMP = RET+OFF+IND+GOVT+AGRI  ; TOTAL EMPLOYMENT

   ; TOTAL ENROLLMENT
   ELEM   = ELEM_PR + ELEM_PUB
   MIDSCH  = JR_PR   + JR_PUB
   HIGHSCH = HIGH_PR + HIGH_PUB
   UNIV    = UNIV_PR + UNIV_PUB

   IF (HH>0)
     PPHH = POP / HH
     VPHH = VEH / HH
   ELSE
     PPHH = 0.0
     VPHH = 0.0
   ENDIF

   IF (VPHH>=0.5 && VPHH<1) VPHH=1.00
   ; ********************************************************************************
```

```
; LOOKUP TAZ TRIP RATES (A = ADA COUNTY; C = CANYON COUNTY)
; ********************************************************************************
; PPHH TRIP RATE TABLE # BY VPHH FOR ADA COUNTY
LOOKUP, NAME=PP_A, LOOKUP[1]=1, RESULT=2, FILE=TR_A_VP.DAT, SETUPPER=T, LIST=T
; TRIP RATES BY PPHH TABLE 1 FOR ADA COUNTY
LOOKUP, NAME=TR1_A,
        LOOKUP[1]=1, RESULT=2,
        LOOKUP[2]=1, RESULT=3,
        LOOKUP[3]=1, RESULT=4,
        LOOKUP[4]=1, RESULT=5,
        LOOKUP[5]=1, RESULT=6,
        LOOKUP[6]=1, RESULT=7,
        FILE=TR_A_PP1.DAT, INTERPOLATE=T, LIST=T
; TRIP RATES BY PPHH TABLE 2 FOR ADA COUNTY
LOOKUP, NAME=TR2_A,
        LOOKUP[1]=1, RESULT=2,
        LOOKUP[2]=1, RESULT=3,
        LOOKUP[3]=1, RESULT=4,
        LOOKUP[4]=1, RESULT=5,
        LOOKUP[5]=1, RESULT=6,
        LOOKUP[6]=1, RESULT=7,
        FILE=TR_A_PP2.DAT, INTERPOLATE=T, LIST=T
; TRIP RATES BY PPHH TABLE 3 FOR ADA COUNTY
LOOKUP, NAME=TR3_A,
        LOOKUP[1]=1, RESULT=2,
        LOOKUP[2]=1, RESULT=3,
        LOOKUP[3]=1, RESULT=4,
        LOOKUP[4]=1, RESULT=5,
        LOOKUP[5]=1, RESULT=6,
        LOOKUP[6]=1, RESULT=7,
        FILE=TR_A_PP3.DAT, INTERPOLATE=T, LIST=T
; TRIP RATES BY PPHH TABLE 4 FOR ADA COUNTY
LOOKUP, NAME=TR4_A,
        LOOKUP[1]=1, RESULT=2,
        LOOKUP[2]=1, RESULT=3,
        LOOKUP[3]=1, RESULT=4,
        LOOKUP[4]=1, RESULT=5,
        LOOKUP[5]=1, RESULT=6,
        LOOKUP[6]=1, RESULT=7,
        FILE=TR_A_PP4.DAT, INTERPOLATE=T, LIST=T
; TRIP RATES BY PPHH TABLE 5 FOR ADA COUNTY
LOOKUP, NAME=TR5_A,
        LOOKUP[1]=1, RESULT=2,
        LOOKUP[2]=1, RESULT=3,
        LOOKUP[3]=1, RESULT=4,
        LOOKUP[4]=1, RESULT=5,
        LOOKUP[5]=1, RESULT=6,
        LOOKUP[6]=1, RESULT=7,
        FILE=TR_A_PP5.DAT, INTERPOLATE=T, LIST=T
;
;
; PPHH TRIP RATE TABLE # BY VPHH FOR CANYON COUNTY
LOOKUP, NAME=PP_C, LOOKUP[1]=1, RESULT=2, FILE=TR_C_VP.DAT, SETUPPER=T, LIST=T
; TRIP RATES BY PPHH TABLE 1 FOR CANYON COUNTY
LOOKUP, NAME=TR1_C,
        LOOKUP[1]=1, RESULT=2,
        LOOKUP[2]=1, RESULT=3,
        LOOKUP[3]=1, RESULT=4,
        LOOKUP[4]=1, RESULT=5,
        LOOKUP[5]=1, RESULT=6,
        LOOKUP[6]=1, RESULT=7,
        FILE=TR_C_PP1.DAT, INTERPOLATE=T, LIST=T
; TRIP RATES BY PPHH TABLE 2 FOR CANYON COUNTY
LOOKUP, NAME=TR2_C,
        LOOKUP[1]=1, RESULT=2,
        LOOKUP[2]=1, RESULT=3,
        LOOKUP[3]=1, RESULT=4,
        LOOKUP[4]=1, RESULT=5,
        LOOKUP[5]=1, RESULT=6,
        LOOKUP[6]=1, RESULT=7,
```

```
        FILE=TR_C_PP2.DAT, INTERPOLATE=T, LIST=T
; TRIP RATES BY PPHH TABLE 3 FOR CANYON COUNTY
LOOKUP, NAME=TR3_C,
        LOOKUP[1]=1, RESULT=2,
        LOOKUP[2]=1, RESULT=3,
        LOOKUP[3]=1, RESULT=4,
        LOOKUP[4]=1, RESULT=5,
        LOOKUP[5]=1, RESULT=6,
        LOOKUP[6]=1, RESULT=7,
        FILE=TR_C_PP3.DAT, INTERPOLATE=T, LIST=T
; TRIP RATES BY PPHH TABLE 4 FOR CANYON COUNTY
LOOKUP, NAME=TR4_C,
        LOOKUP[1]=1, RESULT=2,
        LOOKUP[2]=1, RESULT=3,
        LOOKUP[3]=1, RESULT=4,
        LOOKUP[4]=1, RESULT=5,
        LOOKUP[5]=1, RESULT=6,
        LOOKUP[6]=1, RESULT=7,
        FILE=TR_C_PP4.DAT, INTERPOLATE=T, LIST=T
; TRIP RATES BY PPHH TABLE 5 FOR CANYON COUNTY
LOOKUP, NAME=TR5_C,
        LOOKUP[1]=1, RESULT=2,
        LOOKUP[2]=1, RESULT=3,
        LOOKUP[3]=1, RESULT=4,
        LOOKUP[4]=1, RESULT=5,
        LOOKUP[5]=1, RESULT=6,
        LOOKUP[6]=1, RESULT=7,
        FILE=TR_C_PP5.DAT, INTERPOLATE=T, LIST=T

IF (I < 400) ; ADA COUNTY
  TR_TBL = PP_A(1,VPHH)
  IF (TR_TBL==1)    ; TRATE TABLE 1
        TRHBW=TR1_A(1,PPHH)
                TRHBS=TR1_A(2,PPHH)
        TRHBSO=TR1_A(3,PPHH)
        TRHBSC=TR1_A(4,PPHH)
                TRHBO=TR1_A(5,PPHH)
                TRNHB=TR1_A(6,PPHH)
  ELSEIF (TR_TBL==2) ; TRATE TABLE 2
        TRHBW=TR2_A(1,PPHH)
                TRHBS=TR2_A(2,PPHH)
        TRHBSO=TR2_A(3,PPHH)
        TRHBSC=TR2_A(4,PPHH)
                TRHBO=TR2_A(5,PPHH)
                TRNHB=TR2_A(6,PPHH)
  ELSEIF (TR_TBL==3) ; TRATE TABLE 3
        TRHBW=TR3_A(1,PPHH)
                TRHBS=TR3_A(2,PPHH)
        TRHBSO=TR3_A(3,PPHH)
        TRHBSC=TR3_A(4,PPHH)
                TRHBO=TR3_A(5,PPHH)
                TRNHB=TR3_A(6,PPHH)
  ELSEIF (TR_TBL==4)   ; TRATE TABLE 4
        TRHBW=TR4_A(1,PPHH)
                TRHBS=TR4_A(2,PPHH)
        TRHBSO=TR4_A(3,PPHH)
        TRHBSC=TR4_A(4,PPHH)
                TRHBO=TR4_A(5,PPHH)
                TRNHB=TR4_A(6,PPHH)
  ELSE (TR_TBL==5)    ; TRATE TABLE 5
        TRHBW=TR5_A(1,PPHH)
                TRHBS=TR5_A(2,PPHH)
        TRHBSO=TR5_A(3,PPHH)
        TRHBSC=TR5_A(4,PPHH)
                TRHBO=TR5_A(5,PPHH)
                TRNHB=TR5_A(6,PPHH)
          ENDIF

ELSE        ; CANYON COUNTY
  TR_TBL = PP_C(1,VPHH)
```

```
  IF (TR_TBL==1)    ; TRATE TABLE 1
   TRHBW=TR1_C(1,PPHH)
                    TRHBS=TR1_C(2,PPHH)
        TRHBSO=TR1_C(3,PPHH)
        TRHBSC=TR1_C(4,PPHH)
                    TRHBO=TR1_C(5,PPHH)
                    TRNHB=TR1_C(6,PPHH)
  ELSEIF (TR_TBL==2) ; TRATE TABLE 2
   TRHBW=TR2_C(1,PPHH)
                    TRHBS=TR2_C(2,PPHH)
        TRHBSO=TR2_C(3,PPHH)
        TRHBSC=TR2_C(4,PPHH)
                    TRHBO=TR2_C(5,PPHH)
                    TRNHB=TR2_C(6,PPHH)
  ELSEIF (TR_TBL==3) ; TRATE TABLE 3
   TRHBW=TR3_C(1,PPHH)
                    TRHBS=TR3_C(2,PPHH)
        TRHBSO=TR3_C(3,PPHH)
        TRHBSC=TR3_C(4,PPHH)
                    TRHBO=TR3_C(5,PPHH)
                    TRNHB=TR3_C(6,PPHH)
  ELSEIF (TR_TBL==4)  ; TRATE TABLE 4
   TRHBW=TR4_C(1,PPHH)
                    TRHBS=TR4_C(2,PPHH)
        TRHBSO=TR4_C(3,PPHH)
        TRHBSC=TR4_C(4,PPHH)
                    TRHBO=TR4_C(5,PPHH)
                    TRNHB=TR4_C(6,PPHH)
  ELSE (TR_TBL==5)  ; TRATE TABLE 5
   TRHBW=TR5_C(1,PPHH)
                    TRHBS=TR5_C(2,PPHH)
        TRHBSO=TR5_C(3,PPHH)
        TRHBSC=TR5_C(4,PPHH)
                    TRHBO=TR5_C(5,PPHH)
                    TRNHB=TR5_C(6,PPHH)
          ENDIF
 ENDIF

 IF (PPHH==0 && VPHH==0)
        TRHBW=0
                    TRHBS=0
        TRHBSO=0
        TRHBSC=0
                    TRHBO=0
                    TRNHB=0
 ENDIF

 ; CALCULATE TAZ RAW PRODUCTIONS BY TRIP PURPOSE

IF (I==28-29,37-61) ;TRATEADJ=1.50 SOUTHEAST BOISE DEMOG AREA
  P[1] = (HH * TRHBW)  * 1.50
  P[2] = (HH * TRHBS)  * 1.50
  P[3] = (HH * TRHBSO) * 1.50
  P[4] = (HH * TRHBSC) * 1.50
  P[5] = (HH * TRHBO)  * 1.50
  P[6] = (HH * TRNHB)  * 1.50
ELSEIF (I=423-426,434) ;MIDDLETON DEMOG AREA AND SOME RURAL ZONES
  P[1] = (HH * TRHBW)  * 0.70
  P[2] = (HH * TRHBS)  * 0.90
  P[3] = (HH * TRHBSO) * 0.90
  P[4] = (HH * TRHBSC) * 0.90
  P[5] = (HH * TRHBO)  * 0.70
  P[6] = (HH * TRNHB)  * 0.70
ELSEIF (I==401-422,442) ;,427-433,435-437,440,442,477,499,500-509,566-586);TRATEADJ RURAL AREA
  P[1] = (HH * TRHBW)  * 0.60
  P[2] = (HH * TRHBS)  * 1.00
  P[3] = (HH * TRHBSO) * 1.00
  P[4] = (HH * TRHBSC) * 1.00
  P[5] = (HH * TRHBO)  * 0.60
  P[6] = (HH * TRNHB)  * 0.60
```

```
ELSE
  P[1] = (HH * TRHBW)  * 1.00
  P[2] = (HH * TRHBS)  * 1.00
  P[3] = (HH * TRHBSO) * 1.00
  P[4] = (HH * TRHBSC) * 1.00
  P[5] = (HH * TRHBO)  * 1.00
  P[6] = (HH * TRNHB)  * 1.00
ENDIF
  ; CALCUATE TAZ ATTRACTION BY TRIP TYPE, THE %TRIPS CAME FROM 2002 HH SURVEY RESULTS
  /* TRIP GENERATION MANUAL,
    - RET:
    - OFF:
    - IND:
    - GOVT:
    - AGRI:  */
  ALLEMP = (RET + OFF + IND + GOVT + AGRI)

  IF (I==1-27) ; DOWNTOWN ZONES
      A[1] = 1.25 * ALLEMP
      A[2] = (1.10 * RET)
      A[3] = (0.90 * OFF) + (0.25 * GOVT)+ (0.30 * HH)
      A[5] = (0.70 * RET) + (0.80 * OFF) + (0.25 * (IND + GOVT + AGRI)) + (0.70 * HH)
      A[6] = (1.60 * RET) + (1.10 * OFF) + (0.50 * (IND + GOVT + AGRI)) + (0.70 * HH)
  ELSEIF (I==28-399)
      A[1] = 1.35 * ALLEMP
      A[2] = (5.80 * RET)
      A[3] = (0.90 * OFF) + (0.50 * GOVT)+ (0.30 * HH)
      A[5] = (2.60 * RET) + (0.70 * OFF) + (0.25 * (IND + GOVT + AGRI)) + (0.70 * HH)
      A[6] = (4.50 * RET) + (1.00 * OFF) + (0.25 * (IND + GOVT + AGRI)) + (0.70 * HH)
  ELSE (I==400-602)
      A[1] = 1.75 * ALLEMP
      A[2] = (5.80 * RET)
      A[3] = (1.80 * OFF) + (0.60 * GOVT)+ (0.50 * HH)
      A[5] = (3.00 * RET) + (0.90 * OFF) + (0.25 * (IND + GOVT + AGRI)) + (0.70 * HH)
      A[6] = (4.50 * RET) + (1.00 * OFF) + (0.25 * (IND + GOVT + AGRI)) + (0.70 * HH)

  ENDIF
  A[4] = (1.18 * ELEM) + (1.68 * MIDSCH) + (2.08 * HIGHSCH) + (2.76 * UNIV) ; SCHOOL TRIPS 9%

  ; ADD SPECIAL GENERATORS TO RAW PRODUCTIONS & ATTRACTIONS
  P[1] = P[1] + (STRIPS_P * (WORKPCT_P    / 100))
  P[2] = P[2] + (STRIPS_P * (SHOPPCT_P    / 100))
  P[3] = P[3] + (STRIPS_P * (SOCPCT_P   / 100))
  P[4] = P[4] + (STRIPS_P * (SCPCT_P / 100))
  P[5] = P[5] + (STRIPS_P * (OTHERPCT_P   / 100))
  P[6] = P[6] + (STRIPS_P * (NONHOMEPCT_P / 100))
  A[1] = A[1] + (STRIPS_A * (WORKPCT_A    / 100))
  A[2] = A[2] + (STRIPS_A * (SHOPPCT_A    / 100))
  A[3] = A[3] + (STRIPS_A * (SOCPCT_A   / 100))
  A[4] = A[4] + (STRIPS_A * (SCPCT_A / 100))
  A[5] = A[5] + (STRIPS_A * (OTHERPCT_A   / 100))
  A[6] = A[6] + (STRIPS_A * (NONHOMEPCT_A / 100))


  /* CALCULATE EXTERNAL PRODUCTION INTERNAL ATTRACTION EXTERNAL
   TRIPS BY PURPOSE BY FACTORING BY PURPOSE
   MULTIPLY PRODUCTIONS USING A USER DEFINED FACTOR */

;***** START OF NEW CODE *****
P7_A = 0, P7_C = 0
IF  (I=1-399)     ; ADA county
     P7_A = P[1] * AX_HBW  +
          P[2] * AX_HBSH +
          P[3] * AX_HBSO +
          P[4] * AX_HBSC +
          P[5] * AX_HBO  +
          P[6] * AX_NHB
  ELSEIF (I=401-602) ; CANYON county
     P7_C = P[1] * CX_HBW  +
          P[2] * CX_HBSH +
```

```
          P[3] * CX_HBSO +
          P[4] * CX_HBSC +
          P[5] * CX_HBO  +
          P[6] * CX_NHB
  ENDIF

  P[7] = P7_A + P7_C
;***** END OF NEW CODE *****

  A[7] = RPIAX
  P[8] = RPXAI
  ; END OF INTERNAL I LOOP

  PHASE=ADJUST

    ; CALCULATE INTERMEDIATE TOTALS
    PTOT1A=PTOT(1)  ;  TOTAL HBWORK PRODUCTION
    PTOT2A=PTOT(2)  ;  TOTAL HBSHOP PRODUCTION
    PTOT3A=PTOT(3)  ;  TOTAL HBSOCIAL PRODUCTION
    PTOT4A=PTOT(4)  ;  TOTAL HBSCHOOL PRODUCTION
    PTOT5A=PTOT(5)  ;  TOTAL HBOTHER PRODUCTION
    PTOT6A=PTOT(6)  ;  TOTAL NONHOMEB PRODUCTION
    PTOT7A=PTOT(7)  ;  TOTALPIAX
    PTOT8A=PTOT(8)  ;  TOTALRPXAI

    ATOT1A=ATOT(1)  ;  TOTAL HBWORK ATTRACTION
    ATOT2A=ATOT(2)  ;  TOTAL HBSHOP ATTRACTION
    ATOT3A=ATOT(3)  ;  TOTAL HBSOCIAL ATTRACTION
    ATOT4A=ATOT(4)  ;  TOTAL HBSCHOOL ATTRACTION
    ATOT5A=ATOT(5)  ;  TOTAL HBOTHER ATTRACTION
    ATOT6A=ATOT(6)  ;  TOTAL NONEHOMEB ATTRACTION
    ATOT7A=ATOT(7)  ;  TOTALRPIAX

    LOOP CNT=1,750
      ; Reset temp variables
      P1_A = 0, P2_A = 0, P3_A = 0, P4_A = 0, P5_A = 0, P6_A = 0
      P1_C = 0, P2_C = 0, P3_C = 0, P4_C = 0, P5_C = 0, P6_C = 0

      IF  (CNT=1-399)     ; ADA county
        P1_A = P[1][CNT] * (1 - AX_HBW )
        P2_A = P[2][CNT] * (1 - AX_HBSH)
        P3_A = P[3][CNT] * (1 - AX_HBSO)
        P4_A = P[4][CNT] * (1 - AX_HBSC)
        P5_A = P[5][CNT] * (1 - AX_HBO )
        P6_A = P[6][CNT] * (1 - AX_NHB )
      ELSEIF (CNT=401-602) ; CANYON county
        P1_C = P[1][CNT] * (1 - CX_HBW )
        P2_C = P[2][CNT] * (1 - CX_HBSH)
        P3_C = P[3][CNT] * (1 - CX_HBSO)
        P4_C = P[4][CNT] * (1 - CX_HBSC)
        P5_C = P[5][CNT] * (1 - CX_HBO )
        P6_C = P[6][CNT] * (1 - CX_NHB )
      ENDIF

      P[1][CNT] = P1_A + P1_C
      P[2][CNT] = P2_A + P2_C
      P[3][CNT] = P3_A + P3_C
      P[4][CNT] = P4_A + P4_C
      P[5][CNT] = P5_A + P5_C
      P[6][CNT] = P6_A + P6_C
    ENDLOOP
;***** END OF NEW CODE *****

    ; FINAL HBW, HBS, HBSO, HBSC, HBO, NHB ATTRACTIONS
    A[1] = PTOT1A / ATOT1A * A[1]
    A[2] = PTOT2A / ATOT2A * A[2]
    A[3] = PTOT3A / ATOT3A * A[3]
    A[5] = PTOT5A / ATOT5A * A[5]

;***** START OF NEW CODE *****
```

```
   ; FINAL HBW, HBS, HBSO, HBSC, HBO AND NHB PRODUCTIONS
   LOOP CNT=1,750
      ; Reset temp variables
      A1_A = 0, A2_A = 0, A3_A = 0, A4_A = 0, A5_A = 0, A6_A = 0
      A1_C = 0, A2_C = 0, A3_C = 0, A4_C = 0, A5_C = 0, A6_C = 0

      IF  (CNT=1-399)     ; ADA county
         A1_A = A[1][CNT] * XA_HBW
         A2_A = A[2][CNT] * XA_HBSH
         A3_A = A[3][CNT] * XA_HBSO
         A4_A = A[4][CNT] * XA_HBSC
         A5_A = A[5][CNT] * XA_HBO
         A6_A = A[6][CNT] * XA_NHB
      ELSEIF (CNT=401-602) ; CANYON county
         A1_C = A[1][CNT] * XC_HBW
         A2_C = A[2][CNT] * XC_HBSH
         A3_C = A[3][CNT] * XC_HBSO
         A4_C = A[4][CNT] * XC_HBSC
         A5_C = A[5][CNT] * XC_HBO
         A6_C = A[6][CNT] * XC_NHB
      ENDIF

      A[8][CNT] = A1_A + A1_C +
                  A2_A + A2_C +
                  A3_A + A3_C +
                  A4_A + A4_C +
                  A5_A + A5_C +
                  A6_A + A6_C
   ENDLOOP
;***** END OF NEW CODE *****
   ATOT8A=ATOT(8)  ; TOTALPXAI

   ; FINAL SCHOOL PRODUCTIONS
   P[4] = ATOT4A / PTOT4A * P[4]

   PTOT1B=PTOT(1)  ; Total Production Work
   PTOT2B=PTOT(2)  ; TPShop
   PTOT3B=PTOT(3)  ; TPSOcial
   PTOT4B=PTOT(4)  ; TPSCholl
   PTOT5B=PTOT(5)  ; TPOther

   ATOT1B=ATOT(1)  ; Total Attraction Work
   ATOT2B=ATOT(2)  ; TAShop
   ATOT3B=ATOT(3)  ; TASOcial
   ATOT4B=ATOT(4)  ; TASChool
   ATOT5B=ATOT(5)  ; TAOther


   ; FINAL BALANCE OF ATTRACTIONS TO PRODUCTIONS

   A[1] = PTOT1B / ATOT1B * A[1]
   A[2] = PTOT2B / ATOT2B * A[2]
   A[3] = PTOT3B / ATOT3B * A[3]
   A[4] = PTOT4B / ATOT4B * A[4]
   A[5] = PTOT5B / ATOT5B * A[5]
   ; SET PRODUCTIONS EQUAL TO FINAL NHB ATTRACTIONS (CONTROL TOTAL)
   P[6] = A[6];
   ; FINAL FXSTATA (EXTERNAL STATION ATTRACTIONS)

    A[7] = PTOT7A / ATOT7A * A[7]
   ; FINAL FXSTATP (EXTERNAL STATION PRODUCTIONS)

    P[8] = ATOT8A / PTOT8A * P[8]

; ********************************************************************************
; THE FOLLOWING STATEMENTS ARE OPTIONAL
; THEY CREATE A NEWGEN.DAT FILE WHICH CAN BE USED TO COMPARE WITH OLD RESULTS
; ********************************************************************************
   ; SUM TOTAL PRODUCTIONS
```

```
   TOTALHBWPROD=PTOT(1)
   TOTALHBSPROD=PTOT(2)
   TOTALHBSOPROD=PTOT(3)
   TOTALHBSCPROD=PTOT(4)
   TOTALHBOPROD=PTOT(5)
   TOTALNHBPROD=PTOT(6)
   TOTALPIAXP  =PTOT(7)
   TOTALPXAIP  =PTOT(8)

   ; SUM TOTAL ATTRACTIONS
   TOTALHBWATT=ATOT(1)
   TOTALHBSATT=ATOT(2)
   TOTALHBSOATT=ATOT(3)
   TOTALHBSCATT=ATOT(4)
   TOTALHBOATT=ATOT(5)
   TOTALNHBATT=ATOT(6)
   TOTALPIAXA =ATOT(7)
   TOTALPXAIA =ATOT(8)

   ; SUM UP & PRINT OUT TOTALS

   TOTALPROD = TOTALHBWPROD + TOTALHBSPROD + TOTALHBSOPROD + TOTALHBSCPROD +
       TOTALHBOPROD + TOTALNHBPROD + TOTALPIAXP + TOTALPXAIP
   TOTALATT =  TOTALHBWATT + TOTALHBSATT + TOTALHBSOATT + TOTALHBSCATT +
       TOTALHBOATT + TOTALNHBATT + TOTALPIAXA + TOTALPXAIA

   PRINT FORM=8.0, FILE=NEWGEN.OUT,
     LIST = 'TOTAL PRODUCTIONS: ','   ',TOTALPROD,'\n',
            '   ','TOTAL HBW PRODUCTIONS: ',TOTALHBWPROD,'\n',
            '   ','TOTAL HBS PRODUCTIONS: ',TOTALHBSPROD,'\n',
            '   ','TOTAL HBSO PRODUCTIONS: ',TOTALHBSOPROD,'\n',
            '   ','TOTAL HBSC PRODUCTIONS: ',TOTALHBSCPROD,'\n',
            '   ','TOTAL HBO PRODUCTIONS: ',TOTALHBOPROD,'\n',
            '   ','TOTAL NHB PRODUCTIONS: ',TOTALNHBPROD,'\n',
            '   ','TOTAL IAXP: ',TOTALPIAXP,'\n','\n',
            '   ','TOTAL XAIP: ',TOTALPXAIP,'\n','\n',
           'TOTAL ATTRACTIONS: ','   ',TOTALATT,'\n',
            '   ','TOTAL HBW ATTRACTIONS: ',TOTALHBWATT,'\n',
            '   ','TOTAL HBS ATTRACTIONS: ',TOTALHBSATT,'\n',
            '   ','TOTAL HBSO ATTRACTIONS: ',TOTALHBSOATT,'\n',
            '   ','TOTAL HBSC ATTRACTIONS: ',TOTALHBSCATT,'\n',
            '   ','TOTAL HBO ATTRACTIONS: ',TOTALHBOATT,'\n',
            '   ','TOTAL NHB ATTRACTIONS: ',TOTALNHBATT,'\n',
            '   ','TOTAL IAXA: ',TOTALPIAXA,'\n','\n',
            '   ','TOTAL XAIA: ',TOTALPXAIA,'\n','\n'

ENDPHASE
ENDRUN

;*********************************************************************
RUN PGM=HWYNET

ZONES=750                          ; nodes 1-750 are considered zones

FILEI NETI= 2002c.net                    ; TP+ input file format

fileo linko= dbf\link02.dbf fileform="dbf"    ; output links to dBase format
fileo nodeo= dbf\node02.dbf fileform="dbf"    ; output nodes to dBase format

ENDRUN

;************************************
;
; This script reads node and link data store in dBase files and builds a TP+
; network file.
;

RUN PGM=HWYNET

ZONES=750                          ; nodes 1-750 are considered zones
```

```
FILEI NODEI[1]= dbf\node02.dbf                  ; node data file
FILEI LINKI[1]= dbf\link02.dbf                  ; link data file

FILEO NETO= 2002c.net                           ; output network in TP+ format

    speed= speedfor(thrulanes,spdclass)         ; lookup speed
    time= (distance/speed)*60                   ; recalculate times
    if (direction==2)
       capacity=(thrulanes*capclass)*10  ; 2-way streets
    else (direction==1)
      capacity=(thrulanes*capclass)*10   ; 1-way streets
    endif
    report speed=yes
    report capacity=yes

ENDRUN
; BUILD SKIM MATRIX -- DEVELOPS SHORTEST TIME
;                PATHS BETWEEN EACH AND EVERY ZONE
;
RUN PGM=HWYLOAD

   FILEI NETI= 2002C.NET            ; 2002 NETWORK
   FILEI TURNPENI= TURNP.DAT        ; TURN PENALTY FILE
   FILEO MATO= TIME.DAT,            ; OUTPUT MATRIX FILE
           MO=1,                    ; WRITE MW[1] TO TABLE 1
           NAME= TIME               ; NAME TABLE 1 "TIME"


   PHASE=ILOOP
      ; LOOP THROUGH ALL ZONES & CALCULATE SHORTEST PATH
      PATHLOAD PATH=TIME, PENI=1, MW[1]=PATHTRACE(TIME)

      ; CALCULATE INTRAZONAL TRAVEL TIME (50% TIME TO THE NEAREST ZONE)
      COMP MW[1][I] = LOWEST(1,1,0.01,999,I)/2
   ENDPHASE
ENDRUN

;*****************************************************************
;
; ADD TERMINAL TIMES TO THE SHORTEST PATH MATRIX
;

RUN PGM=MATRIX

   FILEI MATI[1]  = TIME.DAT
   FILEI ZDATI[1] = TERMINAL2.TXT, Z=#1, OTERM=#2, DTERM=#3
   FILEO MATO     = TIME1.DAT, MO=1, NAME=TIME

   MW[1] = MI.1.1 + ZI.1.OTERM + ZI.1.DTERM

   ; TERMINAL TIMES (ADDED AT EACH END OF THE TRIP

   ; SET ALL PATHS TO DUMMY ZONES TO 1000000 (CAN'T GET THERE)
   JLOOP
      IF ((J=20) | | (J=73) | | (J>=164 && J<=169) | |(J>=353 && J<=396) | |
        (J=400) | | (J=438) | | (J=449) | | (J=450) | | (J=462) | | (J>=468 && J<=469) | | (J=476) | |
        (J=483) | | (J=485) | | (J=487) | | (J>=494 && J<=496) | | (J=508) | | (J>=603 && J<=737))
          MW[1]=1000000
      ENDIF
   ENDJLOOP

   IF ((I=20) | | (I>=73 && I<=74) | | (I>=164 && I<=169) | |(I>=353 && I<=396) | |
     (I=400) | | (I=438) | | (I=449) | | (I=450) | | (I=462) | | (I>=468 && I<=469) | | (I=476) | |
     (I=483) | | (I=485) | | (I=487) | | (I>=494 && I<=496) | | (I=508) | | (I>=603 && I<=737))
       MW[1]=1000000
   ENDIF

ENDRUN
```

```
;************************************
;
; THIS SCRIPT READS THE EXTERNAL DATA AND CREATES AN
;   EXTERNAL TRIP TABLE (EXTERNAL-TO-EXTERNAL)
;
RUN PGM=MATRIX

   FILEI MATI[1]= X2X_2.CSV, PATTERN=IJ:V, FIELDS=#1-3       ; FIELDS=#1-3 MEANS READ IN 3 FIELDS BEFORE EOL
   FILEO MATO= X2X1.DAT, MO=1, NAME=XX

   ZONES = 750

   MW[1] = MI.1.1

ENDRUN

;*********************************************************************
;
; FRATAR -- ADJUST X2X TRIPENDS TO CONTROL TOTALS
;
RUN PGM=FRATAR

   MATI=X2X1.DAT
   MATO=TTLX.DAT, MO=1, NAME=X2X

   ZONES=750
   MAXRMSE=0.01
   MAXITERS=50

   LOOKUP,
      FAIL=0,0, NAME=TOT,
      LOOKUP[1]=1,RESULT=2,
      LOOKUP[2]=1,RESULT=3,
      R='738  460  460',
        '739  340  340',
        '740    5    5',
        '741  112  112',
        '742    1    1',
        '743 2363 2363',
        '744    2    2',
        '745    3    3',
        '746  525  525',
        '747  292  292',
        '748    1    1',
        '749  273  273',
        '750 1969 1969'

   SETPA P[1]=TOT(1,J) A[1]=TOT(2,J) MW[1]=MI.1.1 CONTROL=A

   ACOMP=1, PCOMP=1

ENDRUN
;
; ***************************************************************************
; 2. TRIP DISTRIBUTION
; ***************************************************************************
;
; CALCULATE FRICTION FACTORS BASED ON ACCESSIBLE ZONE LIST
;
RUN PGM=MATRIX

   FILEI MATI = TIME1.DAT                    ; TRAVEL TIMES

   FILEO MATO = SCHOOLFF_TMP.MAT, MO=10          ; SCHOOL TRIP FF IN A-P FORMAT

   LOOKUP FILE=FRICTION13.TXT, INTERPOLATE=Y,
      FAIL=0,0,
      NAME=SCHFF,    ; FRICTION FACTOR FILE
      LOOKUP[4]=1, RESULT=5                  ; FF: HBSC
```

```
   MW[1]=MI.1.1.T  ; GET DEST TO ORIG TRAVEL TIME

   MW[10] = 0     ; MW[104] IS THE SCHOOL FRICTION FACTOR MATRIX

   READ FILE=SCHOOL.TXT ; SCHOOL DIST LIST

ENDRUN

RUN PGM=MATRIX

   FILEI MATI = SCHOOLFF_TMP.MAT                  ; SCHOOL TRIP FF IN A-P FORMAT
   FILEO MATO = SCHOOLFF.MAT, MO=1, NAME=SCHOOLFF      ; SCHOOL TRIP FF IN P-A FORMAT
   MW[1]=MI.1.1.T

ENDRUN

; TRIP DISTRIBUTION (PHASE #1)
; PERFORMS THE GRAVITY MODEL TRIP DISTRIBUTION
;
RUN PGM=TRIPDIST

   FILEI ZDATI = gen.dat,                         ; TRIP GENERATION FROM TEST DATA SET
      Z=#1, HBWP=#2, HBSP=#3, HBSOP=#4, HBSCP=#5, HBOP=#6, NHBP=#7, PIAX=#8,
         XSTAP=#9,HBWA=#10, HBSA=#11, HBSOA=#12, HBSCA=#13, HBOA=#14, NHBA=#15,
         PXAI=#16, XSTAA=#17

   FILEI MATI = TIME1.DAT                         ; TRAVEL TIMES
   FILEI MATI[2] = SCHOOLFF.MAT                   ; SCHOOL TRIP FF

   FILEO MATO = GEN.OUT, MO=1-8,
            NAME=HBW, HBS, HBSO, HBSC, HBO, NHB, PIAX, XSTA     ; OUTPUT MATRIX FILE

   LOOKUP FILE=FRICTION13.TXT, INTERPOLATE=Y,
      FAIL=0,0,
      NAME=FF,    ; FRICTION FACTOR FILE
      LOOKUP[1]=1, RESULT=2,                      ; FF: HBW
      LOOKUP[2]=1, RESULT=3,                      ; FF: HBS
      LOOKUP[3]=1, RESULT=4,                      ; FF: HBSO
      LOOKUP[4]=1, RESULT=5,                      ; FF: HBSC
      LOOKUP[5]=1, RESULT=6,                      ; FF: HBO
      LOOKUP[6]=1, RESULT=7,                      ; FF: NHB
      LOOKUP[7]=1, RESULT=8,                      ; FF: PIAX
      LOOKUP[8]=1, RESULT=9                       ; FF: XSTA

   SETPA INCLUDE=1-750, ; INTERNAL ZONES+ EXTERNAL ZONES
       P[1]=HBWP P[2]=HBSP P[3]=HBSOP P[4]=HBSCP P[5]=HBOP P[6]=NHBP P[7]=PIAX P[8]=XSTAP,
       A[1]=HBWA A[2]=HBSA A[3]=HBSOA A[4]=HBSCA A[5]=HBOA A[6]=NHBA A[7]=PXAI A[8]=XSTAA

   MAXITERS=50, MAXRMSE=.5                        ; SET MAX ITERATIONS AND CLOSURE CRITERIA
REPORT  ACOMP=1, ITERATIONS=1,50
   MW[11]=MI.1.TIME                               ; USE TRAVEL TIME FOR MATRIX CALCULATIONS

   GRAVITY PURPOSE=1, LOS=MW[11], FFACTORS=FF      ; HB-WORK
   GRAVITY PURPOSE=2, LOS=MW[11], FFACTORS=FF      ; HB-SHOP
   GRAVITY PURPOSE=3, LOS=MW[11], FFACTORS=FF      ; HB-SOCREC
   GRAVITY PURPOSE=4, LOS=MW[11], FFACTORS=FF      ; HB-SCHOOL
   GRAVITY PURPOSE=5, LOS=MW[11], FFACTORS=FF      ; HB-OTHER
   GRAVITY PURPOSE=6, LOS=MW[11], FFACTORS=FF      ; NON-HOME BASED
   GRAVITY PURPOSE=7, LOS=MW[11], FFACTORS=FF      ; INTERNAL-EXTERNAL
   GRAVITY PURPOSE=8, LOS=MW[11], FFACTORS=FF      ; EXTERNAL-INTERNAL

   ; HBW TRIP DISTRIBUTION
   ; SPLIT CANYON COUNTY HBW TRIPS INTO 77% CANYON AND 23% ADA
   IF (I==400-602)
      MW[112]=P[1] * 0.77  ; TO CANYON
      MW[122]=P[1] * 0.23  ; TO ADA

      ; CANYON TO ALL BUT ADA ZONES
      MW[111] = A[1] * FF(1,MW[11]), EXCLUDE=1-399
      RSUM111=ROWSUM(111)
```

```
   IF (RSUM111>0)
      PAF=MW[112]/RSUM111
   ELSE
      PAF=0
   ENDIF
   MW[111]=PAF * MW[111]

   ; CANYON TO ADA ZONES ONLY
   MW[121] = A[1] * FF(1,MW[11]), INCLUDE=1-399
   RSUM121=ROWSUM(121)
   IF (RSUM121>0)
      PAF=MW[122]/RSUM121
   ELSE
      PAF=0
   ENDIF
   MW[121]=PAF * MW[121]

   MW[1]=MW[111]+MW[121]          ; GET TOTAL HBW TRIPS
; OTHER ZONES DISTRIBUTED NORMALLY
ELSE
   MW[1] = A[1] * FF(1,MW[11])
   RSUM1=ROWSUM(1)
   IF (RSUM1>0)
      PAF=P[1]/RSUM1
   ELSE
      PAF=0
   ENDIF
   MW[1]=PAF * MW[1]
ENDIF

; HBSO TRIP DISTRIBUTION
; SPLIT CANYON COUNTY HBW TRIPS INTO 90% CANYON AND 10% ADA
IF (I==400-602)
   MW[117]=P[3] * 0.90  ; 90% TO CANYON
   MW[127]=P[3] * 0.10  ; 10% TO ADA

   ; CANYON TO ALL BUT ADA ZONES
   MW[116] = A[3] * FF(3,MW[11]), EXCLUDE=1-399
   RSUM116=ROWSUM(116)
   IF (RSUM116>0)
      PAF=MW[117]/RSUM116
   ELSE
      PAF=0
   ENDIF
   MW[116]=PAF * MW[116]

   ; CANYON TO ADA ZONES ONLY
   MW[126] = A[3] * FF(3,MW[11]), INCLUDE=1-399
   RSUM126=ROWSUM(126)
   IF (RSUM126>0)
      PAF=MW[127]/RSUM126
   ELSE
      PAF=0
   ENDIF
   MW[126]=PAF * MW[126]

   MW[3]=MW[116]+MW[126]          ; GET TOTAL HBSO TRIPS
; OTHER ZONES DISTRIBUTED NORMALLY
ELSE
   MW[3] = A[3] * FF(3,MW[11])
   RSUM3=ROWSUM(3)
   IF (RSUM3>0)
      PAF=P[3]/RSUM3
   ELSE
      PAF=0
   ENDIF
   MW[3]=PAF * MW[3]
ENDIF

; SCHOOL TRIP DISTRIBUTION
```

```
MW[104] = MI.2.SCHOOLFF     ; SCHOOL TRIP FF FOR ACCESSIBLE ZONES ONLY
; SPLIT SCHOOL TRIPS INTO 75% PUBLIC AND 25% ALL OTHERS (PVT, UNIV, ALT)

MW[115]=P[4] * 0.75  ; 75% PUBLIC

MW[125]=P[4] * 0.25  ; 25% ALL OTHERS (PVT, UNIV, ALT)

MW[114] = A[4] * MW[104]      ; USE FF FOR ACCESSIBLE ZONES ONLY
RSUM114=ROWSUM(114)
IF (RSUM114>0)
   PAF=MW[115]/RSUM114
ELSE
   PAF=0
ENDIF
MW[114]=PAF * MW[114]

MW[124] = A[4] * FF(4,MW[11]) ; USE NORMAL FF FOR ALL ZONES
RSUM124=ROWSUM(124)
IF (RSUM124>0)
   PAF=MW[125]/RSUM124
ELSE
   PAF=0
ENDIF
MW[124]=PAF * MW[124]

MW[4]=MW[114]+MW[124]          ; GET TOTAL SCHOOL TRIPS

; HBO TRIP DISTRIBUTION
; SPLIT CANYON COUNTY HB0 TRIPS INTO 90% CANYON AND 10% ADA
IF (I==400-602)
   MW[119]=P[5] * 0.90  ; 90% TO CANYON
   MW[129]=P[5] * 0.10  ; 10% TO ADA

   ; CANYON TO ALL BUT ADA ZONES
   MW[118] = A[5] * FF(5,MW[11]), EXCLUDE=1-399
   RSUM118=ROWSUM(118)
   IF (RSUM118>0)
      PAF=MW[119]/RSUM118
   ELSE
      PAF=0
   ENDIF
   MW[118]=PAF * MW[118]

   ; CANYON TO ADA ZONES ONLY
   MW[128] = A[5] * FF(5,MW[11]), INCLUDE=1-399
   RSUM128=ROWSUM(128)
   IF (RSUM128>0)
      PAF=MW[129]/RSUM128
   ELSE
      PAF=0
   ENDIF
   MW[128]=PAF * MW[128]

   MW[5]=MW[118]+MW[128]          ; GET TOTAL HBO TRIPS
; OTHER ZONES DISTRIBUTED NORMALLY
ELSE
   MW[5] = A[5] * FF(5,MW[11])
   RSUM5=ROWSUM(5)
   IF (RSUM5>0)
      PAF=P[5]/RSUM5
   ELSE
      PAF=0
   ENDIF
   MW[5]=PAF * MW[5]
ENDIF

; TRIP LENGTH FREQUENCY REPORT
FREQUENCY VALUEMW=1, BASEMW=11, RANGE=1-80       ; FREQUENCY DISTRIBUTION
FREQUENCY VALUEMW=2, BASEMW=11, RANGE=1-80       ; FREQUENCY DISTRIBUTION
FREQUENCY VALUEMW=3, BASEMW=11, RANGE=1-80       ; FREQUENCY DISTRIBUTION
```

```
   FREQUENCY VALUEMW=4, BASEMW=11, RANGE=1-80       ; FREQUENCY DISTRIBUTION
   FREQUENCY VALUEMW=5, BASEMW=11, RANGE=1-80       ; FREQUENCY DISTRIBUTION
   FREQUENCY VALUEMW=6, BASEMW=11, RANGE=1-80       ; FREQUENCY DISTRIBUTION
   FREQUENCY VALUEMW=7, BASEMW=11, RANGE=1-80       ; FREQUENCY DISTRIBUTION
   FREQUENCY VALUEMW=8, BASEMW=11, RANGE=1-80       ; FREQUENCY DISTRIBUTION

   ;REPORT ZDAT=Y
   ;REPORT ACOMP=1-8, ITERATIONS=99              ; REPORT COMPARISON ON LAST ITERATION

ENDRUN

;************************************
;
; TRIP DISTRIBUTION (PHASE #2)
; SPLIT RAW PRODUCTIONS AND ATTRACTIONS FROM THE TRIP DISTRIBUTION
; PROGRAM TO CONVERT TO AN ORIGIN-DESTINATION MATRIX
; (TRANSPOSE THE MATRIX)
; AND CONVERT TO A VEHICLE TRIP TABLE VERSUS PERSON TRIP TABLE
; BY FACTORING AUTO OCCUPANCY
;

RUN PGM=MATRIX

   FILEI MATI[1] = GEN.OUT                  ; RAW OUTPUT PRODUCTIONS/ATTRACTIONS

   FILEI MATI[2] = TTLX.DAT                 ; EXTERNAL-TO-EXTERNAL TRIP TABLE

   FILEO MATO = TTFIN.DAT, MO=1-10,
          NAME=HBW,HBS,HBSO,HBSC,HBO,NHB,I2X,X2I,X2X,TOTAL ; ORIGIN-DESTINATION TRIP TABLE (MULTIPLE)
IF (I==1-399)
   HBW_OCC  = 1.08 ;NCHRP 1.12
   HBS_OCC  = 1.60 ;NCHRP 1.48
   HBSO_OCC = 2.15 ;NCHRP 1.72
   HBSC_OCC = 1.00 ;N/A
   HBSC_OCC_U = 1.50 ;FOR BSU
   HBO_OCC  = 1.82 ;NCHRP 1.65
   NHB_OCC  = 1.57 ;NCHRP 1.66
   IX_OCC = 1.67
ELSEIF (I==400-602)
   HBW_OCC  = 1.11 ;NCHRP 1.12
   HBS_OCC  = 1.96 ;NCHRP 1.48
   HBSO_OCC = 2.47 ;NCHRP 1.72
   HBSC_OCC = 1.00 ;N/A
   HBSC_OCC_U = 1.50 ;FOR BSU
   HBO_OCC  = 2.07 ;NCHRP 1.65
   NHB_OCC  = 1.84 ;NCHRP 1.66
   IX_OCC = 1.67
ELSE (I=40)
   HBSC_OCC=1.50
ENDIF

   ; DEVELOP A MULTIPLE PURPOSE TRIP TABLE (START HERE)

   MW[1]= (MI.1.HBW+MI.1.HBW.T )*.5 / HBW_OCC   ; HBW TRIP MATRIX
   MW[2]= (MI.1.HBS+MI.1.HBS.T)*.5/HBS_OCC      ; HBS TRIP MATRIX
   MW[3]= (MI.1.HBSO+MI.1.HBSO.T)*.5/HBSO_OCC   ; HBSO TRIP MATRIX
   MW[4]= (MI.1.HBSC+MI.1.HBSC.T)*.5/HBSC_OCC, EXCLUDE=40   ; HBSC TRIP MATRIX NOT BSU DEST. TRIPS
   MW[4]= (MI.1.HBSC+MI.1.HBSC.T)*.5/HBSC_OCC_U, INCLUDE=40 ; HBSC TRIP MATRIX BSU DEST. TRIPS ONLY
   MW[5]= (MI.1.HBO+MI.1.HBO.T)*.5/HBO_OCC      ; HBO TRIP MATRIX
   MW[6]= (MI.1.NHB+MI.1.NHB.T)*.5/NHB_OCC      ; NHB TRIP MATRIX
   MW[7]= (MI.1.PIAX+MI.1.PIAX.T)*.5/IX_OCC     ; I-2-X TRIP MATRIX
   MW[8]= (MI.1.XSTA+MI.1.XSTA.T)*.5/IX_OCC     ; X-2-I TRIP MATRIX
   MW[9]= MI.2.X2X                  ; EXTERNAL -TO- EXTERNAL MATRIX

   MW[10]=MW[1]+MW[2]+MW[3]+MW[4]+MW[5]+MW[6]+MW[7]+MW[8]+MW[9]
ENDRUN

;
; ********************************************************************************
; 3. AVERAGE DAILY TRIP ASSIGNMENT
```

```
; ********************************************************************************
;
; THIS SCRIPT LOADS THE TRIPS DEVELOPED IN THE PREVIOUS TASK ONTO THE NETWORK
; AND WRITES A LOADED NETWORK.  THE PATHS ARE BUILT BASED UPON TIME.
; (GOOD EXAMPLE OF HOW TO INCLUDE TURN PENALTIES AND PROHIBITIONS)
;

RUN PGM=HWYLOAD

   FILEI MATI= TTFIN.DAT                    ; TRIPS TO BE ASSIGNED
   FILEI NETI= 2002C.NET                    ; INPUT NETWORK
   FILEI TURNPENI = TURNP.DAT               ; TURN PENALTIES AND PROHIBITIONS

   FILEO NETO= ASSIGN.NET                   ; OUTPUT NETWORK

   PARAMETERS GAP = 0.0001                  ; CLOSURE GAP
   PARAMETERS MAXITERS = 50                 ; MAXIMUM NUMBER OF ITERATIONS
   PARAMETERS COMBINE=EQUI                  ; EQUILIBRIUM LOAD

   ;;;;; BEGIN MULTI-FUNCTIONS FOR BPR EXPONENT
   FUNCTION {
     TC[1] = T0 * (1 + 0.56 * (V/C)^4)      ; INTERSTATE CONGESTED SPEED CALCULATION FOR ADA
     TC[7] = T0 * (1 + 0.56 * (V/C)^3.6)    ; INTERSTATE CONGESTED SPEED CALCULATION FOR CANYON
     TC[2] = T0 * (1 + 0.15 * (V/C)^5)      ; PRINCIPAL ARTERIAL CONGESTED SPEED CALCULATION, chg from 6 to 4 4/12/04
     TC[3] = T0 * (1 + 0.15 * (V/C)^5)      ; MINOR ARTERIAL CONGESTED SPEED CALCULATION
     TC[8] = T0 * (1 + 0.15 * (V/C)^5)      ; RURAL SPEED CALCULATION
     TC[4] = T0 * (1 + 0.15 * (V/C)^5)      ; COLLECTOR CONGESTED SPEED CALCULATION
     TC[5] = T0 * (1 + 0.15 * (V/C)^5)      ; LOCAL CONGESTED SPEED CALCULATION
     TC[6] = T0 * (1 + 0.15 * (V/C)^5)      ; CENTROID CONGESTED SPEED CALCULATION

     V=VOL[1] }                             ; SET EQUI CONSTRAINT VOLUME SET

   PHASE=LINKREAD
     SPEED= SPEEDFOR(LI.THRULANES,LI.SPDCLASS)      ; LOOKUP SPEED
     T0= (LI.DISTANCE/SPEED)*60                     ; RECALCULATE TIMES
     IF (LI.DIRECTION==2)
       CAPACITY=CAPACITYFOR(LI.THRULANES,LI.CAPCLASS)    ; 2-WAY STREETS <=== DIFFERENT FROM ADT
ASSIGNMENT
     ELSEIF (LI.DIRECTION==1)
       CAPACITY=CAPACITYFOR(LI.THRULANES,LI.CAPCLASS)    ; 1-WAY STREETS <=== DIFFERENT FROM ADT
ASSIGNMENT
     ENDIF

     IF (LI.FTYPE==1 || LI.FTYPE==19)
       IF (LI.COUNTY=1)
         LINKCLASS = 1                      ; INTERSTATE AND RAMPS FOR ADA COUNTY
       ELSE
         LINKCLASS = 7
       ENDIF
     ENDIF
;    IF (LI.FTYPE==2)
;      LINKCLASS = 2                        ; (FTYPE=2 RESERVED FOR HOV)
;    ENDIF
     IF (LI.FTYPE>=3 && LI.FTYPE<=5)
       LINKCLASS = 2                        ; PRINCIPAL ARTERIALS
     ENDIF
     IF (LI.FTYPE>=7 && LI.FTYPE<=10)
       LINKCLASS = 3                        ; MINOR ARTERIALS AND  MINOR ARTERIALS
     ENDIF
     IF (LI.FTYPE=6 || LI.FTYPE=11)
       LINKCLASS = 8                        ; RURAL  ARTERIALS
     ENDIF
     IF (LI.FTYPE>=12 && LI.FTYPE<=15)
       LINKCLASS = 4                        ; COLLECTORS
     ENDIF
     IF (LI.FTYPE>=16 && LI.FTYPE<=18)
       LINKCLASS = 5                        ; LOCALS ADDED FOR CIRCULATION
     ENDIF
     IF (LI.FTYPE==20)
       LINKCLASS = 6                        ; CENTROID CONNECTORS
```

```
    ENDIF
  ENDPHASE

  PHASE=ILOOP                          ; MAIN LOOP FOR LOADING TRIPS (MULTIPLE PURPOSES)
    PATHLOAD PATH = TIME, PENI=1,
      VOL[1]=MI.1.TOTAL,
      VOL[2]=MI.1.HBW,
      VOL[3]=MI.1.HBS,
      VOL[4]=MI.1.HBSO,
      VOL[5]=MI.1.HBSC,
      VOL[6]=MI.1.HBO,
      VOL[7]=MI.1.NHB,
      VOL[8]=MI.1.I2X+MI.1.X2I+MI.1.X2X      ; TOTAL EXTERNAL TRIPS
      VOL[9]=MI.1.HBW+MI.1.HBS+MI.1.HBSO+MI.1.HBSC+MI.1.HBO+MI.1.NHB ;TOTAL INTERNAL TRIPS
  ENDPHASE

  ;REPORT CAPACITY=YES,
  ;      SPEED=YES
ENDRUN

; *********************************************************************
;
;  <<<   F&P TRAVEL DEMAND FORECASTING MODEL  VALIDATION SCRIPT   >>>
;
; *********************************************************************
;
;  TOLERENCE is the Caltrans standard tolerence file with the following format:
;
;        Count   Max Dev
;       ------- --------
;           0     0.683
;        1250     0.630
;
TOLERENCE = 'tolerence.txt'
;
;  LOADEDNET is a loaded network file name with the following link attributes:
;
LOADEDNET = 'ASSIGN.NET'
COUNT     = 'ACTUALCNT'
VOL       = 'V_1'
LINKCLASS = 'FTYPE'
;
RUN PGM=HWYNET

  FILEI  NETI=@LOADEDNET@
  FILEO  NETO=VALIDATE.NET
  ;
  ;  Lookup function for Caltrans TDM Validation Standards
  ;
  LOOKUP,  NAME=CALTRANS_STD,
    LOOKUP=1,  RESULT=2, FILE=@TOLERENCE@,
    INTERPOLATE=TRUE

  PHASE=LINKMERGE
    ; Only check links with count
    IF (@COUNT@>100)
      _LINKCNT = _LINKCNT + 1
      ; Print header -- only once
      IF (_LINKCNT==1)
        PRINT,
          LIST="F&P TRAVEL DEMAND FORECASTING MODEL VALIDATION","\n","\n",
          LIST="      A      B  COUNT     VOL     V-C (V-C)/C     MAX  <MAX    DEVS","\n",
          LIST=" -------- -------- ------- ------- ------- -------- -------- ----- -------",
          FILE=VALIDATE.PRN
      ENDIF
      ; Calculate error variables
      VC_ERR  = (V_1-@COUNT@)
      VC_ABSERR  = ABS(V_1-@COUNT@)
      ERR_RATIO = (V_1-@COUNT@)/@COUNT@
      MAX_ERR = CALTRANS_STD(1,@COUNT@)
```

```
      DEVS=ERR_RATIO/MAX_ERR
      ; Calculate accumulated totals
      IF (_LINKCNT != 0)
         _SSE = _SSE + VC_ERR^2
         _CNT_TOT = _CNT_TOT + @COUNT@
         _VOL_TOT = _VOL_TOT + @VOL@
         ; Link class specific totals
         IF    (@LINKCLASS@==1 | | @LINKCLASS@==19)
            _SSE_1 = _SSE_1 + VC_ERR^2
            _VOL_TOT_1 = _VOL_TOT_1 + @VOL@
            _CNT_TOT_1 = _CNT_TOT_1 + @COUNT@
            _LINKCNT_1 = _LINKCNT_1 + 1
         ELSEIF (@LINKCLASS@>=3 && @LINKCLASS@<=6)
            _SSE_2 = _SSE_2 + VC_ERR^2
            _VOL_TOT_2 = _VOL_TOT_2 + @VOL@
            _CNT_TOT_2 = _CNT_TOT_2 + @COUNT@
            _LINKCNT_2 = _LINKCNT_2 + 1
         ELSEIF (@LINKCLASS@>=7 && @LINKCLASS@<=11)
            _SSE_3 = _SSE_3 + VC_ERR^2
            _VOL_TOT_3 = _VOL_TOT_3 + @VOL@
            _CNT_TOT_3 = _CNT_TOT_3 + @COUNT@
            _LINKCNT_3 = _LINKCNT_3 + 1
         ELSEIF (@LINKCLASS@>=12 && @LINKCLASS@<=15)
            _SSE_4 = _SSE_4 + VC_ERR^2
            _VOL_TOT_4 = _VOL_TOT_4 + @VOL@
            _CNT_TOT_4 = _CNT_TOT_4 + @COUNT@
            _LINKCNT_4 = _LINKCNT_4 + 1
         ELSEIF (@LINKCLASS@>=16 && @LINKCLASS@<=18)
            _SSE_5 = _SSE_5 + VC_ERR^2
            _VOL_TOT_5 = _VOL_TOT_5 + @VOL@
            _CNT_TOT_5 = _CNT_TOT_5 + @COUNT@
            _LINKCNT_5 = _LINKCNT_5 + 1
         ENDIF
      ENDIF
      ; Set validation flag
      IF (ABS(ERR_RATIO)<MAX_ERR)
         VALIDATED='   YES'    ; Passed validation standard
      ELSE
         VALIDATED='   ---'    ; Failed validation standard
      ENDIF
      ; List all links with count
      PRINT,
         LIST=A(8),B(8),@COUNT@(8),@VOL@(8),VC_ERR(8),ERR_RATIO(8.2),MAX_ERR(8.2),VALIDATED(6),DEVS(8.2),
         FILE=VALIDATE.PRN
  ; List all screenline links with count
      IF (SCREENNO>0) PRINT,

     LIST=A(8),',',B(8),',',SCREENNO(8),',',@COUNT@(8),',',@VOL@(8),
         FILE=VALIDATE_SL.CSV

   ENDIF
ENDPHASE

PHASE=SUMMARY
   IF (_LINKCNT>0)
      ; Calculate %RMSE
      PCT_RMSE_1 = SQRT(_SSE_1/(_LINKCNT_1))/(_CNT_TOT_1/(_LINKCNT_1))*100
      PCT_RMSE_2 = SQRT(_SSE_2/(_LINKCNT_2))/(_CNT_TOT_2/(_LINKCNT_2))*100
      PCT_RMSE_3 = SQRT(_SSE_3/(_LINKCNT_3))/(_CNT_TOT_3/(_LINKCNT_3))*100
      PCT_RMSE_4 = SQRT(_SSE_4/(_LINKCNT_4))/(_CNT_TOT_4/(_LINKCNT_4))*100
      PCT_RMSE_5 = SQRT(_SSE_5/(_LINKCNT_5))/(_CNT_TOT_5/(_LINKCNT_5))*100
      PCT_RMSE = SQRT(_SSE/(_LINKCNT))/(_CNT_TOT/(_LINKCNT))*100
      PCT_RMSEWO_LOCAL = SQRT((_SSE-_SSE_5)/(_LINKCNT-_LINKCNT_5))/
                  ((_CNT_TOT-_CNT_TOT_5)/((_LINKCNT-_LINKCNT_5)))*100
      PCT_RMSEWO_LOCCOLL = SQRT((_SSE-_SSE_4-_SSE_5)/(_LINKCNT-_LINKCNT_4-_LINKCNT_5))/
                  ((_CNT_TOT-_CNT_TOT_4-_CNT_TOT_5)/((_LINKCNT-_LINKCNT_4-_LINKCNT_5)))*100

      ; Validate
      IF (ABS(PCT_RMSE_1)<40.0)
         RMSE_CHK_1='PASS'
```

```
ELSE
   RMSE_CHK_1="
ENDIF
IF (ABS(PCT_RMSE_2)<40.0)
   RMSE_CHK_2='PASS'
ELSE
   RMSE_CHK_2="
ENDIF
IF (ABS(PCT_RMSE_3)<40.0)
   RMSE_CHK_3='PASS'
ELSE
   RMSE_CHK_3="
ENDIF
IF (ABS(PCT_RMSE_4)<40.0)
   RMSE_CHK_4='PASS'
ELSE
   RMSE_CHK_4="
ENDIF
IF (ABS(PCT_RMSE_5)<40.0)
   RMSE_CHK_5='PASS'
ELSE
   RMSE_CHK_5="
ENDIF
IF (ABS(PCT_RMSE)<40.0)
   RMSE_CHK='PASS'
ELSE
   RMSE_CHK="
ENDIF
IF (ABS(PCT_RMSEWO_LOCAL)<40.0)
   RMSE_CHKWO_LOCAL='PASS'
ELSE
   RMSE_CHKWO_LOCAL="
ENDIF
IF (ABS(PCT_RMSEWO_LOCCOLL)<40.0)
   RMSE_CHKWO_LOCCOLL='PASS'
ELSE
   RMSE_CHKWO_LOCCOLL="
ENDIF

; List %RMSE
PRINT,
   LIST="\n","\n","\n","\n",
       "  *** %RMSE by Link Class Test ***","\n","\n",
       "  Facility Type             %RMSE     MAX     Validation","\n",
       "  ----------------          -----   ------   -----------","\n",
       "  INTERSTATE&RAMPS       ",PCT_RMSE_1(8.1),"%   < 40%  ","     ",RMSE_CHK_1,"\n","\n",
       "  PRINCIPAL ARTERL       ",PCT_RMSE_2(8.1),"%   < 40%  ","     ",RMSE_CHK_2,"\n","\n",
       "  MINOR ARTERIALS        ",PCT_RMSE_3(8.1),"%   < 40%  ","     ",RMSE_CHK_3,"\n","\n",
       "  COLLECTORS             ",PCT_RMSE_4(8.1),"%   < 40%  ","     ",RMSE_CHK_4,"\n","\n",
       "  LOCALS                 ",PCT_RMSE_5(8.1),"%   < 40%  ","     ",RMSE_CHK_5,"\n","\n",
       "  ----------              -----   ------ "%,"\n",
       "  Overall                ",PCT_RMSE(8.1),  "     < 40%  ","     ",RMSE_CHK,  "\n",
       "  WO LOCAL               ",PCT_RMSEWO_LOCAL(8.1), "%   < 40%  ","     ",RMSE_CHKWO_LOCAL,  "\n",
       "  WO LOCAL_COLL          ",PCT_RMSEWO_LOCCOLL(8.1), "%   < 40%  ","     ",RMSE_CHKWO_LOCCOLL,  "\n",
   FILE=VALIDATE.PRN
;
; Calculate %Error by Functional Classification
; (per Travel Forecasting Guidelines, Caltrans, Nov. 1992)
;
;   Functional Classification           Pct Err
;   -------------------------          ---------
;       Freeways                        <  7%
;       Principal Arterials             < 10%
;       Minor Arterials                 < 15%
;       Collectors                      < 25%
;       Frontage Roads                  < 25%
;
PCT_ERR_1 = (((_VOL_TOT_1)/(_CNT_TOT_1))-1)*100
PCT_ERR_2 = (((_VOL_TOT_2)/(_CNT_TOT_2))-1)*100
PCT_ERR_3 = (((_VOL_TOT_3)/(_CNT_TOT_3))-1)*100
```

```
      PCT_ERR_4 = (((_VOL_TOT_4)/(_CNT_TOT_4))-1)*100
      PCT_ERR_5 = (((_VOL_TOT_5)/(_CNT_TOT_5))-1)*100
      PCT_ERR_ALL = (((_VOL_TOT)/(_CNT_TOT))-1)*100
      ; Validate
      IF (ABS(PCT_ERR_1)<7.0)
        FCTCLS_1='PASS'
      ELSE
        FCTCLS_1=''
      ENDIF
      IF (ABS(PCT_ERR_2)<10.0)
        FCTCLS_2='PASS'
      ELSE
        FCTCLS_2=''
      ENDIF
      IF (ABS(PCT_ERR_3)<15.0)
        FCTCLS_3='PASS'
      ELSE
        FCTCLS_3=''
      ENDIF
      IF (ABS(PCT_ERR_4)<25.0)
        FCTCLS_4='PASS'
      ELSE
        FCTCLS_4=''
      ENDIF
      IF (ABS(PCT_ERR_5)<25.0)
        FCTCLS_5='PASS'
      ELSE
        FCTCLS_5=''
      ENDIF

      ; List %ERR by Fct Class
      PRINT,
        LIST="\n","\n","\n","\n",
          "  *** %ERR by Functional Class Test ***","\n","\n",
          "  Function Class          V/C %Err    MAX    Validation","\n",
          "  --------------         ---------  ------ -----------","\n",
          "  INTERSTATE&RAMPS       ",PCT_ERR_1(8.1),"%  <  7%  ","     ",FCTCLS_1,"\n","\n",
          "  PRINCIPAL ARTERL       ",PCT_ERR_2(8.1),"%  < 10%  ","     ",FCTCLS_2,"\n","\n",
          "  MINOR ARTERIALS        ",PCT_ERR_3(8.1),"%  < 15%  ","     ",FCTCLS_3,"\n","\n",
          "  COLLECTORS             ",PCT_ERR_4(8.1),"%  < 25%  ","     ",FCTCLS_4,"\n","\n",
          "  LOCALS                 ",PCT_ERR_5(8.1),"%  < 25%  ","     ",FCTCLS_5,"\n",
          "  --------------         ---------  ------ -----------","\n",
          "  OVERALL                ",PCT_ERR_ALL(8.1),"\n","\n",
        FILE=VALIDATE.PRN
    ENDIF
    ; Log SSE and MEAN of VOL for subsequent R-squared and Correlation Coefficient calculations
    SSE=_SSE
    VOL_MEAN=_VOL_TOT/_LINKCNT
    CNT_MEAN=_CNT_TOT/_LINKCNT
    LOG  PREFIX=VALID, VAR=SSE, VOL_MEAN, CNT_MEAN
  ENDPHASE
ENDRUN
; Calculate R-squared and Correlation Coefficient
;
RUN PGM=HWYNET

  FILEI  NETI=@LOADEDNET@

  PHASE=LINKMERGE
    ; Only check links with count
    IF (@COUNT@>100)
      ; Accumulate sum of squared values
      _SS_VOL = _SS_VOL + (@VOL@-@VALID.VOL_MEAN@)^2
      _SS_CNT = _SS_CNT + (@COUNT@-@VALID.CNT_MEAN@)^2
      _SS_V_C = _SS_V_C + (@VOL@-@VALID.VOL_MEAN@)*(@COUNT@-@VALID.CNT_MEAN@)
    ENDIF
  ENDPHASE

  PHASE=SUMMARY
    R_SQUARED = 1 - @VALID.SSE@/_SS_VOL
```

```
    CORR_COE = SQRT(_SS_V_C^2/(_SS_VOL*_SS_CNT))
    PRINT,
      LIST="\n\n  *** R-SQUARED = ", R_SQUARED(4.2)," ***\n\n",
          "\n\n  *** CORRELATION COEFFICIENT = ", CORR_COE(4.2)," ***\n\n",
      FILE=VALIDATE.PRN, APPEND=TRUE
  ENDPHASE
ENDRUN

!RUN PGM=HWYNET
;THIS SCRIPT WILL ROUND V_1 TO THE NEAREST TENTH OR HUNDREDTH

  FILEI NETI=ASSIGN.NET                    ; INPUT LOADED NETWORK FILE
  FILEO NETO=ROUNDED.NET                       ; OUTPUT LOADED NETWORK

  IF (V_1>=100)
    V_1=ROUND(V_1/100)*100
  ELSE
    V_1=ROUND(V_1/10)*10
  ENDIF
ENDRUN
; ********************************************************************************
;                       PEAK HOUR OD TRIP TABLE
; ********************************************************************************
;
; SET THE PEAK HOUR TO CALCULATE
;
PEAKHOUR = 17   ; PM 5 TO 6
PH_NAME= '5PM'

RUN PGM=MATRIX

  FILEI MATI[1] = GEN.OUT          ; INTERNAL PA TRIP MATRIX
  FILEI MATI[2] = TTLX.DAT         ; EXTERNAL PA TRIP MATRIX
  FILEO MATO[1] = peak\@PH_NAME@_OD.MAT,   ; PEAK HOUR TRIP TABLE

            MO=1-10, ; NEED TO OUTPUT TRIP TABLES FOR ALL PURPOSES
            NAME=HBW,HBS,HBSO,HBSC,HBO,NHB,PIAX,XSTA,X2X,@PH_NAME@TRIPS

  LOOKUP,                      ; PEAK HOUR FACTOR LOOKUP
    FILE=peak\regphf.CSV,
    NAME=PHFAC,
    LOOKUP[1] =1, RESULT= 2,       ; DEP_HBW
    LOOKUP[2] =1, RESULT= 3,       ; RET_HBW
    LOOKUP[3] =1, RESULT= 4,       ; DEP_HBS
    LOOKUP[4] =1, RESULT= 5,       ; RET_HBS
    LOOKUP[5] =1, RESULT= 6,       ; DEP_HBSO
    LOOKUP[6] =1, RESULT= 7,       ; RET_HBSO
    LOOKUP[7] =1, RESULT= 8,       ; DEP_HBSC
    LOOKUP[8] =1, RESULT= 9,       ; RET_HBSC
    LOOKUP[9] =1, RESULT=10,       ; DEP_HBO
    LOOKUP[10]=1, RESULT=11,       ; RET_HBO
    LOOKUP[11]=1, RESULT=12,       ; DEP_NHB
    LOOKUP[12]=1, RESULT=13,       ; RET_NHB
    LOOKUP[13]=1, RESULT=14,       ; DEP_IX
    LOOKUP[14]=1, RESULT=15,       ; RET_IX
    LOOKUP[15]=1, RESULT=16,       ; DEP_XI
    LOOKUP[16]=1, RESULT=17,       ; RET_XI
    LOOKUP[17]=1, RESULT=18,       ; DEP_XX
    LOOKUP[18]=1, RESULT=19        ; RET_XX
  ;-------------------------------------------------------------------------
  ;
  ; PEAK HOUR TRIPS
  ;
  MW[1]=MI.1.HBW  *PHFAC( 1,@PEAKHOUR@)/100+MI.1.HBW.T  *PHFAC( 2,@PEAKHOUR@)/100  ; Home-Work
  MW[2]=MI.1.HBS  *PHFAC( 3,@PEAKHOUR@)/100+MI.1.HBS.T  *PHFAC( 4,@PEAKHOUR@)/100  ; Home-Shop
  MW[3]=MI.1.HBSO *PHFAC( 5,@PEAKHOUR@)/100+MI.1.HBSO.T *PHFAC( 6,@PEAKHOUR@)/100  ; Home-Social
  MW[4]=MI.1.HBSC *PHFAC( 7,@PEAKHOUR@)/100+MI.1.HBSC.T *PHFAC( 8,@PEAKHOUR@)/100  ; Home-School
  MW[5]=MI.1.HBO  *PHFAC( 9,@PEAKHOUR@)/100+MI.1.HBO.T  *PHFAC(10,@PEAKHOUR@)/100  ; Home-Other
  MW[6]=MI.1.NHB  *PHFAC(11,@PEAKHOUR@)/100+MI.1.NHB.T  *PHFAC(12,@PEAKHOUR@)/100  ; NonHome Base
  MW[7]=MI.1.PIAX*PHFAC(13,@PEAKHOUR@)/100+MI.1.PIAX.T*PHFAC(14,@PEAKHOUR@)/100    ; Int-Ext
```

```
   MW[8]=MI.1.XSTA*PHFAC(15,@PEAKHOUR@)/100+MI.1.XSTA.T*PHFAC(16,@PEAKHOUR@)/100   ; Ext-Int
   MW[9]=MI.2.X2X  *PHFAC(17,@PEAKHOUR@)/100+MI.2.X2X.T  *PHFAC(18,@PEAKHOUR@)/100  ; Ext-Ext
   ;
   MW[10]=MW[1]+MW[2]+MW[3]+MW[4]+MW[5]+MW[6]+MW[7]+MW[8]+MW[9]+MW[10] ; Total 1-@PEAKHOUR@ vehicle trips

ENDRUN

;
; ********************************************************************************
;                        PEAK HOUR TRIP ASSIGNMENT
; ********************************************************************************
;
;
RUN PGM=HWYNET
ZONES=750                          ; nodes 1-750 are considered zones

FILEI NETI= 2002c.net                    ; TP+ input file format

fileo linko= peak\dbf\phlink02.dbf format="dbf"    ; output links to dBase format, UPDATED BY LL, 07/30/04
fileo nodeo= peak\dbf\phnode02.dbf format="dbf"    ; output nodes to dBase format, UPDATED BY LL, 07/30/04

ENDRUN

RUN PGM=HWYNET
ZONES=750
FILEI NODEI[1]= peak\dbf\phnode02.dbf                ; node data file
FILEI LINKI[1]= peak\dbf\phlink02.dbf                ; link data file

FILEO NETO= peak\2002phc.net                         ; output network in TP+ format
    speed= speedfor(thrulanes,spdclass)          ; lookup speed
    time= (distance/speed)*60                    ; recalculate times
    if (direction==2)
       capacity=(thrulanes*capclass)  ; 2-way streets
    else (direction==1)
      capacity=(thrulanes*capclass)   ; 1-way streets
    endif

    report speed=yes
    report capacity=yes

ENDRUN
RUN PGM=HWYLOAD

   FILEI MATI= peak\@PH_NAME@_OD.MAT              ; TRIPS TO BE ASSIGNED
   FILEI NETI= peak\2002phc.NET                   ; INPUT NETWORK
   FILEI TURNPENI = TURNP.DAT                     ; TURN PENALTIES AND PROHIBITIONS
   FILEO NETO= peak\PH_ASSIGN.NET                 ; OUTPUT NETWORK

   PARAMETERS GAP = 0.0001                        ; CLOSURE GAP
   PARAMETERS MAXITERS = 50                       ; MAXIMUM NUMBER OF ITERATIONS
   PARAMETERS COMBINE=EQUI                        ; EQUILIBRIUM LOAD

    ;;;;; BEGIN MULTI-FUNCTIONS FOR BPR EXPONENT
   FUNCTION {
     TC[1] = T0 * (1 + 0.56 * (V/C)^4)            ; INTERSTATE CONGESTED SPEED CALCULATION FOR ADA
     TC[7] = T0 * (1 + 0.56 * (V/C)^3.6)          ; INTERSTATE CONGESTED SPEED CALCULATION FOR CANYON
     TC[2] = T0 * (1 + 0.15 * (V/C)^5)            ; PRINCIPAL ARTERIAL CONGESTED SPEED CALCULATION, chg from 6 to 4 4/12/04
     TC[3] = T0 * (1 + 0.15 * (V/C)^5)            ; MINOR ARTERIAL CONGESTED SPEED CALCULATION
     TC[8] = T0 * (1 + 0.15 * (V/C)^5)            ; RURAL SPEED CALCULATION
     TC[4] = T0 * (1 + 0.15 * (V/C)^5)            ; COLLECTOR CONGESTED SPEED CALCULATION
     TC[5] = T0 * (1 + 0.15 * (V/C)^5)            ; LOCAL CONGESTED SPEED CALCULATION
     TC[6] = T0 * (1 + 0.15 * (V/C)^5)            ; CENTROID CONGESTED SPEED CALCULATION

     V=VOL[1]                                     ; SET EQUI CONSTRAINT VOLUME SET
     }

   PHASE=LINKREAD
      SPEED= SPEEDFOR(LI.THRULANES,LI.SPDCLASS)          ; LOOKUP SPEED
      T0= (LI.DISTANCE/SPEED)*60                         ; RECALCULATE TIMES
      IF (LI.DIRECTION==2)
```

```
        CAPACITY=CAPACITYFOR(LI.THRULANES,LI.CAPCLASS)     ; 2-WAY STREETS <=== DIFFERENT FROM ADT
ASSIGNMENT
      ELSEIF (LI.DIRECTION==1)
        CAPACITY=CAPACITYFOR(LI.THRULANES,LI.CAPCLASS)     ; 1-WAY STREETS <=== DIFFERENT FROM ADT
ASSIGNMENT
      ENDIF

      IF (LI.FTYPE==1 | | LI.FTYPE==19)
        IF (LI.COUNTY=1)
          LINKCLASS = 1                    ; INTERSTATE AND RAMPS FOR ADA COUNTY
        ELSE
          LINKCLASS = 7
        ENDIF
      ENDIF
;     IF (LI.FTYPE==2)
;       LINKCLASS = 2                    ; (FTYPE=2 RESERVED FOR HOV)
;     ENDIF
      IF (LI.FTYPE>=3 && LI.FTYPE<=5)
        LINKCLASS = 2                    ; PRINCIPAL ARTERIALS
      ENDIF
      IF (LI.FTYPE>=7 && LI.FTYPE<=10)
        LINKCLASS = 3                    ; MINOR ARTERIALS AND  MINOR ARTERIALS
      ENDIF
      IF (LI.FTYPE=6 | | LI.FTYPE=11)
        LINKCLASS = 8                    ; RURAL  ARTERIALS
      ENDIF
      IF (LI.FTYPE>=12 && LI.FTYPE<=15)
        LINKCLASS = 4                    ; COLLECTORS
      ENDIF
      IF (LI.FTYPE>=16 && LI.FTYPE<=18)
        LINKCLASS = 5                    ; LOCALS ADDED FOR CIRCULATION
      ENDIF
      IF (LI.FTYPE==20)
        LINKCLASS = 6                    ; CENTROID CONNECTORS
      ENDIF
    ENDPHASE


    PHASE=ILOOP
      MW[1]=MI.1.@PH_NAME@TRIPS                    ; <=== DIFFERENT FROM ADT ASSIGNMENT
      PATHLOAD PATH = TIME, VOL[1]=MW[1] , PENI=1
    ENDPHASE

ENDRUN

; ************************************************************
;
;  <<<   F&P TRAVEL DEMAND FORECASTING MODEL  VALIDATION SCRIPT   >>>
;
; ************************************************************
;
;   TOLERENCE is the Caltrans standard tolerence file with the following format:
;
;         Count   Max Dev
;        -------  --------
;            0     0.683
;         1250     0.630
;
TOLERENCE = 'tolerence.txt'
;
;   LOADEDNET is a loaded network file name with the following link attributes:
;
LOADEDNET = 'peak\PH_ASSIGN.NET'
COUNT     = 'PEAK5PM_6PMN'
VOL       = 'V_1'
LINKCLASS = 'FTYPE'
;
RUN PGM=HWYNET

    FILEI  NETI=@LOADEDNET@
```

```
FILEO  NETO=peak\PHVALIDATE.NET
;
;   Lookup function for Caltrans TDM Validation Standards
;
LOOKUP,  NAME=CALTRANS_STD,
   LOOKUP=1,  RESULT=2, FILE=@TOLERENCE@,
   INTERPOLATE=TRUE

PHASE=LINKMERGE
   ; Only check links with count
   IF (@COUNT@>10)
      _LINKCNT = _LINKCNT + 1
      ; Print header -- only once
      IF (_LINKCNT==1)
         PRINT,
            LIST="F&P TRAVEL DEMAND FORECASTING MODEL VALIDATION","\n","\n",
            LIST="      A      B   COUNT     VOL     V-C (V-C)/C     MAX  <MAX    DEVS","\n",
            LIST=" ------- ------- ------- ------- ------- ------- ------- ----- -------",
            FILE=peak\PHVALIDATE.PRN
      ENDIF
      ; Calculate error variables
      VC_ERR  = (V_1-@COUNT@)
      VC_ABSERR  = ABS(V_1-@COUNT@)
      ERR_RATIO = (V_1-@COUNT@)/@COUNT@
      MAX_ERR = CALTRANS_STD(1,@COUNT@)
      DEVS=ERR_RATIO/MAX_ERR
      ; Calculate accumulated totals
      IF (_LINKCNT != 0)
         _SSE = _SSE + VC_ERR^2
         _CNT_TOT = _CNT_TOT + @COUNT@
         _VOL_TOT = _VOL_TOT + @VOL@
         ; Link class specific totals
         IF     (@LINKCLASS@==1 | | @LINKCLASS@==19)
            _SSE_1 = _SSE_1 + VC_ERR^2
            _VOL_TOT_1 = _VOL_TOT_1 + @VOL@
            _CNT_TOT_1 = _CNT_TOT_1 + @COUNT@
            _LINKCNT_1 = _LINKCNT_1 + 1
         ELSEIF (@LINKCLASS@>=3 && @LINKCLASS@<=6)
            _SSE_2 = _SSE_2 + VC_ERR^2
            _VOL_TOT_2 = _VOL_TOT_2 + @VOL@
            _CNT_TOT_2 = _CNT_TOT_2 + @COUNT@
            _LINKCNT_2 = _LINKCNT_2 + 1
         ELSEIF (@LINKCLASS@>=7 && @LINKCLASS@<=11)
            _SSE_3 = _SSE_3 + VC_ERR^2
            _VOL_TOT_3 = _VOL_TOT_3 + @VOL@
            _CNT_TOT_3 = _CNT_TOT_3 + @COUNT@
            _LINKCNT_3 = _LINKCNT_3 + 1
         ELSEIF (@LINKCLASS@>=12 && @LINKCLASS@<=15)
            _SSE_4 = _SSE_4 + VC_ERR^2
            _VOL_TOT_4 = _VOL_TOT_4 + @VOL@
            _CNT_TOT_4 = _CNT_TOT_4 + @COUNT@
            _LINKCNT_4 = _LINKCNT_4 + 1
         ELSEIF (@LINKCLASS@>=16 && @LINKCLASS@<=18)
            _SSE_5 = _SSE_5 + VC_ERR^2
            _VOL_TOT_5 = _VOL_TOT_5 + @VOL@
            _CNT_TOT_5 = _CNT_TOT_5 + @COUNT@
            _LINKCNT_5 = _LINKCNT_5 + 1
         ENDIF
         ;
         ; ACHD Link totals, ADDED by LL, 7/26/04
         ;
         IF ((STATE = 0) && (FTYPE == 1-11,19) && (COUNTY=1)) ; ACHD roads, minor arterials or higher
            _SSE_ACHD = _SSE_ACHD + VC_ERR^2
            _VOL_TOT_ACHD = _VOL_TOT_ACHD + @VOL@
            _CNT_TOT_ACHD = _CNT_TOT_ACHD + @COUNT@
            _LINKCNT_ACHD = _LINKCNT_ACHD + 1
         ENDIF
      ENDIF
      ; Set validation flag
      IF (ABS(ERR_RATIO)<MAX_ERR)
```

```
      VALIDATED='  YES'   ; Passed validation standard
    ELSE
      VALIDATED='  ---'   ; Failed validation standard
    ENDIF
    ; List all links with count
    PRINT,
      LIST=A(8),B(8),@COUNT@(8),@VOL@(8),VC_ERR(8),ERR_RATIO(8.2),MAX_ERR(8.2),VALIDATED(6),DEVS(8.2),
      FILE=peak\PHVALIDATE.PRN
; List all screenline links with count
    IF (SCREENNO>0) PRINT,

    LIST=A(8),',',B(8),',',SCREENNO(8),',',@COUNT@(8),',',@VOL@(8),
      FILE=peak\PHVALIDATE_SL.CSV

  ENDIF
ENDPHASE

PHASE=SUMMARY
  IF (_LINKCNT>0)
    ; Calculate %RMSE
    PCT_RMSE_1 = SQRT(_SSE_1/(_LINKCNT_1))/(_CNT_TOT_1/(_LINKCNT_1))*100
    PCT_RMSE_2 = SQRT(_SSE_2/(_LINKCNT_2))/(_CNT_TOT_2/(_LINKCNT_2))*100
    PCT_RMSE_3 = SQRT(_SSE_3/(_LINKCNT_3))/(_CNT_TOT_3/(_LINKCNT_3))*100
    PCT_RMSE_4 = SQRT(_SSE_4/(_LINKCNT_4))/(_CNT_TOT_4/(_LINKCNT_4))*100
    PCT_RMSE_5 = SQRT(_SSE_5/(_LINKCNT_5))/(_CNT_TOT_5/(_LINKCNT_5))*100
    PCT_RMSE = SQRT(_SSE/(_LINKCNT))/(_CNT_TOT/(_LINKCNT))*100
    PCT_RMSEWO_LOCAL = SQRT((_SSE-_SSE_5)/(_LINKCNT-_LINKCNT_5))/
              ((_CNT_TOT-_CNT_TOT_5)/((_LINKCNT-_LINKCNT_5)))*100
    PCT_RMSEWO_LOCCOLL = SQRT((_SSE-_SSE_4-_SSE_5)/(_LINKCNT-_LINKCNT_4-_LINKCNT_5))/
              ((_CNT_TOT-_CNT_TOT_4-_CNT_TOT_5)/((_LINKCNT-_LINKCNT_4-_LINKCNT_5)))*100
    ;
    ; ACHD Link RMSE, ADDED by LL, 7/26/04
    ;
    PCT_RMSE_ACHD = SQRT(_SSE_ACHD/(_LINKCNT_ACHD))/(_CNT_TOT_ACHD/(_LINKCNT_ACHD))*100

    ; Validate
    IF (ABS(PCT_RMSE_1)<40.0)
      RMSE_CHK_1='PASS'
    ELSE
      RMSE_CHK_1=''
    ENDIF
    IF (ABS(PCT_RMSE_2)<40.0)
      RMSE_CHK_2='PASS'
    ELSE
      RMSE_CHK_2=''
    ENDIF
    IF (ABS(PCT_RMSE_3)<40.0)
      RMSE_CHK_3='PASS'
    ELSE
      RMSE_CHK_3=''
    ENDIF
    IF (ABS(PCT_RMSE_4)<40.0)
      RMSE_CHK_4='PASS'
    ELSE
      RMSE_CHK_4=''
    ENDIF
    IF (ABS(PCT_RMSE_5)<40.0)
      RMSE_CHK_5='PASS'
    ELSE
      RMSE_CHK_5=''
    ENDIF
    IF (ABS(PCT_RMSE)<40.0)
      RMSE_CHK='PASS'
    ELSE
      RMSE_CHK=''
    ENDIF
    IF (ABS(PCT_RMSEWO_LOCAL)<40.0)
      RMSE_CHKWO_LOCAL='PASS'
    ELSE
      RMSE_CHKWO_LOCAL=''
```

```
ENDIF
IF (ABS(PCT_RMSEWO_LOCCOLL)<40.0)
   RMSE_CHKWO_LOCCOLL='PASS'
ELSE
   RMSE_CHKWO_LOCCOLL="
ENDIF
;
; ACHD Link RMSE, ADDED by LL, 7/26/04
;
IF (ABS(PCT_RMSE_ACHD)<40.0)
   RMSE_CHK_ACHD='PASS'
ELSE
   RMSE_CHK_ACHD="
ENDIF

; List %RMSE
PRINT,
   LIST="\n","\n","\n","\n",
        "  *** %RMSE by Link Class Test ***","\n","\n",
        "  Facility Type             %RMSE     MAX     Validation","\n",
        "  ----------------          -----   ------   ----------","\n",
        "  INTERSTATE&RAMPS       ",PCT_RMSE_1(8.1),"%   < 40%  ","     ",RMSE_CHK_1,"\n","\n",
        "  PRINCIPAL ARTERL       ",PCT_RMSE_2(8.1),"%   < 40%  ","     ",RMSE_CHK_2,"\n","\n",
        "  MINOR ARTERIALS        ",PCT_RMSE_3(8.1),"%   < 40%  ","     ",RMSE_CHK_3,"\n","\n",
        "  COLLECTORS             ",PCT_RMSE_4(8.1),"%   < 40%  ","     ",RMSE_CHK_4,"\n","\n",
        "  LOCALS                 ",PCT_RMSE_5(8.1),"%   < 40%  ","     ",RMSE_CHK_5,"\n",
        "  ----------------          -----   ------   ----------","\n",
        "  Overall              ",PCT_RMSE(8.1),  "%   < 40%  ","     ",RMSE_CHK,  "\n",
        "  WO LOCAL               ",PCT_RMSEWO_LOCAL(8.1),  "%   < 40%  ","     ",RMSE_CHKWO_LOCAL,  "\n",
        "  WO LOCAL_COLL          ",PCT_RMSEWO_LOCCOLL(8.1),  "%   < 40%  ","     ",RMSE_CHKWO_LOCCOLL,  "\n","\n",
        "  ----------------          -----   ------   ----------","\n",
        "  ACHD SYSTEM LINKS      ",PCT_RMSE_ACHD(8.1),  "%   < 40%  ","     ",RMSE_CHK_ACHD,  "\n",
   FILE=peak\PHVALIDATE.PRN
;
; Calculate %Error by Functional Classification
; (per Travel Forecasting Guidelines, Caltrans, Nov. 1992)
;
;   Functional Classification            Pct Err
;   -------------------------          ---------
;       Freeways                        <  7%
;       Principal Arterials               < 10%
;       Minor Arterials                   < 15%
;       Collectors                      < 25%
;       Frontage Roads                    < 25%
;
PCT_ERR_1 = (((_VOL_TOT_1)/(_CNT_TOT_1))-1)*100
PCT_ERR_2 = (((_VOL_TOT_2)/(_CNT_TOT_2))-1)*100
PCT_ERR_3 = (((_VOL_TOT_3)/(_CNT_TOT_3))-1)*100
PCT_ERR_4 = (((_VOL_TOT_4)/(_CNT_TOT_4))-1)*100
PCT_ERR_5 = (((_VOL_TOT_5)/(_CNT_TOT_5))-1)*100
PCT_ERR_ALL = (((_VOL_TOT)/(_CNT_TOT))-1)*100
;
; ACHD Links , ADDED by LL, 7/26/04
PCT_ERR_ACHD = (((_VOL_TOT_ACHD)/(_CNT_TOT_ACHD))-1)*100

; Validate
IF (ABS(PCT_ERR_1)<7.0)
   FCTCLS_1='PASS'
ELSE
   FCTCLS_1="
ENDIF
IF (ABS(PCT_ERR_2)<10.0)
   FCTCLS_2='PASS'
ELSE
   FCTCLS_2="
ENDIF
IF (ABS(PCT_ERR_3)<15.0)
   FCTCLS_3='PASS'
ELSE
   FCTCLS_3="
```

```
      ENDIF
      IF (ABS(PCT_ERR_4)<25.0)
        FCTCLS_4='PASS'
      ELSE
        FCTCLS_4=''
      ENDIF
      IF (ABS(PCT_ERR_5)<25.0)
        FCTCLS_5='PASS'
      ELSE
        FCTCLS_5=''
      ENDIF
      ;
      ; ACHD Links , ADDED by LL, 7/26/04
      IF (ABS(PCT_ERR_ACHD)<25.0)
        FCTCLS_ACHD='PASS'
      ELSE
        FCTCLS_ACHD=''
      ENDIF

      ; List %ERR by Fct Class
      PRINT,
        LIST="\n","\n","\n","\n",
          "  *** %ERR by Functional Class Test ***","\n","\n",
          "  Function Class          V/C %Err    MAX    Validation","\n",
          "  --------------          ---------  ------ -----------","\n",
          "  INTERSTATE&RAMPS       ",PCT_ERR_1(8.1),"%  <  7%  ","     ",FCTCLS_1,"\n","\n",
          "  PRINCIPAL ARTERL       ",PCT_ERR_2(8.1),"%  < 10%  ","     ",FCTCLS_2,"\n","\n",
          "  MINOR ARTERIALS        ",PCT_ERR_3(8.1),"%  < 15%  ","     ",FCTCLS_3,"\n","\n",
          "  COLLECTORS             ",PCT_ERR_4(8.1),"%  < 25%  ","     ",FCTCLS_4,"\n","\n",
          "  LOCALS                 ",PCT_ERR_5(8.1),"%  < 25%  ","     ",FCTCLS_5,"\n",
          "  --------------          ---------  ------ -----------","\n",
          "  OVERALL                ",PCT_ERR_ALL(8.1),"\n","\n",
          "  --------------          ---------  ------ -----------","\n",
          "  ACHD SYSTEM LINKS      ",PCT_ERR_ACHD(8.1),"%  < 15%  ","     ",FCTCLS_ACHD,"\n",
        FILE=peak\PHVALIDATE.PRN
    ENDIF
    ; Log SSE and MEAN of VOL for subsequent R-squared and Correlation Coefficient calculations
    SSE=_SSE
    VOL_MEAN=_VOL_TOT/_LINKCNT
    CNT_MEAN=_CNT_TOT/_LINKCNT
    LOG  PREFIX=VALID, VAR=SSE, VOL_MEAN, CNT_MEAN
  ENDPHASE
ENDRUN
; Calculate R-squared and Correlation Coefficient
RUN PGM=HWYNET
  FILEI  NETI=@LOADEDNET@
  PHASE=LINKMERGE
    ; Only check links with count
    IF (@COUNT@>10)
      ; Accumulate sum of squared values
      _SS_VOL = _SS_VOL + (@VOL@-@VALID.VOL_MEAN@)^2
      _SS_CNT = _SS_CNT + (@COUNT@-@VALID.CNT_MEAN@)^2
      _SS_V_C = _SS_V_C + (@VOL@-@VALID.VOL_MEAN@)*(@COUNT@-@VALID.CNT_MEAN@)
    ENDIF
  ENDPHASE
  PHASE=SUMMARY
    R_SQUARED = 1 - @VALID.SSE@/_SS_VOL
    CORR_COE = SQRT(_SS_V_C^2/(_SS_VOL*_SS_CNT))
    PRINT,
      LIST="\n\n  *** R-SQUARED = ", R_SQUARED(4.2)," ***\n\n",
        "\n\n  *** CORRELATION COEFFICIENT = ", CORR_COE(4.2)," ***\n\n",
      FILE=peak\PHVALIDATE.PRN, APPEND=TRUE
  ENDPHASE
ENDRUN
```