ARIZONA DEPARTMENT OF TRANSPORTATION

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A STUDY OF TRAVEL BEHAVIOR FOR RETIREMENT COMMUNITIES

Volume II: Appendices and Procedures

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JULY 1986

Prepared for:
Arizona Department of Transportation
206 South 17th Avenue
Phoenix, Arizona 85007
in cooperation with
U.S. Department of Transportation
Federal Highway Administration

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A STUDY OF TRAVEL BEHAVIOR FOR RETIREMENT COMMUNITIES

VOLUME II -

APPENDICES AND SURVEY PROCEDURES

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The Arizona Department of Transportation
Phoenix, Arizona

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16. Abstract

The purpose of this survey, conducted for the Arizona Department of Transportation, was to identify how travel characteristics of the residents of a retirement community, particularly Green Valley Arizona, are different from those of the surrounding metropolitan area. Of particular interest was how trip generation, trip distribution, and vehicle occupancy might be different from those currently assumed in the regional modeling process. The Final Report for "A Study of Travel Behavior for Retirement Communities" has two volumes. Volume I summarizes the final results of the project including the survey results and the model modifications. This volume (II) includes more detailed tabulations of the survey responses, some statistical analyses of results, and detailed descriptions of the survey methodology.

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PREFACE

The Final Report for "A Study of Travel Behavior for Retirement Communities" has two volumes. Volume I summarizes the final results of the project including the survey results and the model modifications. This volume (II) includes more detailed tabulations of the survey responses, some statistical analyses of results, and detailed descriptions of the survey methodology.

Green Valley, Arizona is a growing retirement community located approximately 25 miles south of Tucson along Interstate 19. The purpose of this survey, conducted for the Arizona Department of Transportation, was to identify how the travel characteristics of the residents of a retirement community, particularly Green Valley, are different from those of the surrounding metropolitan area. Of particular interest was how trip generation trip distribution and vehicle occupancy might be different from those currently assumed in the regional modeling process.

The Green Valley travel diary survey was completed by 668 households between March 6 and March 21, 1985.

The survey data indicates the following:

- The average Green Valley household made 7.7 vehicle person trips as compared to the 7.48 trips per household generated by the regional models for a medium income household in 1980.

- The average vehicle occupancy is 1.38 persons/vehicle as compared to 1.51 persons/vehicle that would be predicted by the regional models.

- As would be expected, a much smaller percentage of trips by Green Valley residents are home based work trips (less than 5%) than would be predicted by the regional models. Nearly one-half of trips made by Green Valley residents are home based other trips, nearly 20 percent home based shop and 30 percent are non-home based trips.

- In general, the average length of trips made by Green Valley residents is considerably shorter than would be predicted by the regional models. The average trip length for work trips is 15.7

minutes compared to 34.5 minutes, for shop trips 15.7 compared to 14.1 minutes, and for other and non-home based trips, approximately 14 minutes compared to 20 minutes.

- Less than 6 percent of Green Valley residents are under 60 years of age, 36 percent are in their 60's, 45 percent are in their 70's and 10 percent are over 80.

Other findings of the survey include:

- 87 percent of Green Valley residents are retired and 11 percent worked either full or part time.
- An average of 1.30 walk trips were made per household.
- Less than 0.1 bicycle trip was made per household.
- 87 percent of the trips made by Green Valley residents are to destinations within Green Valley, over 10 percent are to destinations in Tucson and 3 percent are to other places.
- Over 64 percent of the households have one automobile or truck, and over 26 percent have more than one.
- Golf carts are an insignificant means of travel for Green Valley residents. Only 16 percent of Green Valley households own a golf cart, and those that do make an average of 0.3 trip per day in a golf cart.
- Over three-quarters of Green Valley households (78%) have two residents, almost one in five (19%) have one resident and 3 percent have more than two residents.

The implications of the survey findings on the regional travel demand forecasting process are to take the following actions:

- Treat Green Valley zones as a special generator through the application of unique household size and household trip rates.
- Apply vehicle occupancy rates unique to trips originating in the retirement community.
- Reclassify employment in the retirement community to community shopping center rather than other non-retail.

The authors and the Arizona Department of Transportation would like to thank the following individuals for their assistance on this project: William Sapper, Mark Peterson, Dave Wolfson, Paul Klooz, Terry Rosapep, and Ben Goff and the following Green Valley officials and Project Committee members--Jack Shacklett, John Locke, James Cole, and Louise Gordon.

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APPENDIX A

TABULATIONS OF SURVEY RESPONSES

This appendix includes tabulations of the responses to most of the questions asked in the survey. The appendix is divided into three sections corresponding to the three data files created from the survey. First is the Household File which contains appropriate data regarding each household; second is the Person File containing data regarding each individual who completed a travel diary; and third is the Trip File containing data regarding each individual trip reported.

Each section of the appendix begins with a description of the file format. Each of the tabulations of responses is identified by the field number on the file format.

HOUSEHOLD FILE

Programmer's Initials __PSS FILE Name __GNVLHH DATE: DECEMBER 12, 1985

Description of Contents __DISPOSITION LOG PLUS HOUSEHOLD INFORMATION FOR GREEN VALLEY RETIREMENT COMMUNITY TRAVEL SURVEY

RECORD FORMAT

Field #	CHARACTERS 1st	Last	# of	Code NorA	Field Description
1	1	4	4	N	HOUSEHOLD ID NUMBER
2	6	11	6	A	INTERVIEWER PHASE 1
3	12	12	1	N	STATUS CODE PHASE 1
4	14	19	6	A	INTERVIEWER PHASE 2
5	20	20	1	N	STATUS CODE PHASE 2
6	22	22	1	N	TOTAL VEHICLES
7	23	23	1	N	AUTOS
8	24	24	1	N	TRUCKS OR VANS
9	25	25	1	N	GOLF CART
10	26	30	5	A	OTHER
11	31	31	1	N	HOUSEHOLD MEMBERS
12	33	33	1	N	TYPE OF DWELLING UNIT
13	35	36	2	N	TRIPS BY RESPONDENT
14	38	39	2	N	OTHER HOUSEHOLD MEMBER TRIPS
15	41	42	2	N	YEARS IN GREEN VALLEY
16	44	45	2	N	BEGINNING MONTH OF STAY
17	47	48	2	N	ENDING MONTH OF STAY
18	50	50	1	N	INCOME(THOSE WHO REFUSE PHASE
19	52	52	1	N	NUMBER OF GUESTS
20	54	54	1	N	IF '1', ONE OR MORE PIECES OF
					DATA ON RECORD QUESTIONABLE
21	56	57	2	N	# OF AUTO TRIPS
22	59	60	2	N	TOTAL # TRIPS
23	62	63	2	N	# OF AUTOS AND TRUCKS
24	65	65	1	N	# WALKING TRIPS
25	67	67	1	N	# BICYCLE TRIPS
26	69	69	1	N	HOUSEHOLD INCOME
27	71	73	3	N	AGE OLDEST HH MEMBER
28	75	76	2	N	NUMBER OF PERSONS IN HH (INCL.
					GUESTS)
29	78	78	1	N	# HBW VEHICLE PERSON TRIPS
30	79	79	1	N	# HBS VEHICLE PERSON TRIPS
31	80	80	1	N	# HBO VEHICLE PERSON TRIPS
32	81	81	1	N	# NHB VEHICLE PERSON TRIPS
33	82	82	1	N	TOTAL VEHICLE PERSON TRIPS
34	83	83	1	N	# HBW VEHICLE CRIVER TRIPS
35	84	84	1	N	# HBS VEHICLE DRIVER TRIPS
36	85	85	1	N	# HBO VEHICLE DRIVER TRIPS
37	86	86	1	N	# NHB VEHICLE DRIVER TRIPS
38	87	87	1	N	TOTAL VEHICLE DRIVER TRIPS
39	88	88	1	N	# HBW GOLF CART TRIPS
40	89	89	1	N	# HBS GOLF CART TRIPS
41	90	90	1	N	# HBO GOLF CART TRIPS
42	91	91	1	N	# NHB GOLF CART TRIPS
43	92	92	1	N	TOTAL GOLF CART TRIPS

FIELDS 6, 7, 8 AND 9

NUMBER OF VEHICLES IN HOUSEHOLD

TOT_VEH	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	2	.	.	.
0	7	7	1.051	1.051
1	380	387	57.057	58.108
2	239	626	35.886	93.994
3	40	666	6.006	100.000

AUTOS	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	61	.	.	.
0	1	1	0.165	0.165
1	471	472	77.595	77.759
2	127	599	20.923	98.682
3	8	607	1.318	100.000

TRUCKS	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	614	.	.	.
1	50	50	92.593	92.593
2	4	54	7.407	100.000

GOLF_CRT	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	558	.	.	.
1	109	109	99.091	99.091
2	1	110	0.909	100.000

FIELD 11

HH_MEMS	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	2	.	.	.
1	128	128	19.219	19.219
2	517	645	77.628	96.847
3	18	663	2.703	99.550
4	3	666	0.450	100.000

FIELD 19

GUESTS	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	79	.	.	.
0	525	525	89.134	89.134
1	29	554	4.924	94.058
2	23	577	3.905	97.963
3	3	580	0.509	98.472
4	7	587	1.188	99.660
5	1	588	0.170	99.830
6	1	589	0.170	100.000

FIELD 12

DWELLING UNIT TYPE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	2	.	.	.
0	1	1	0.150	0.150
1	355	356	53.303	53.453
2	124	480	18.619	72.072
3	148	628	22.222	94.294
4	31	659	4.655	98.949
6	7	666	1.051	100.000

1 = Single Family House

2 = Duplex (Townhouse) (MF)

3 = Apartments or Condominiums

4 = Mobile Home

6 = Other

FIELD 13

TRIPS[1]	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	6	.	.	.
0	103	103	15.559	15.559
1	9	112	1.360	16.918
2	268	380	40.483	57.402
3	12	392	1.813	59.215
4	141	533	21.299	80.514
5	3	536	0.453	80.967
6	63	599	9.517	90.483
7	2	601	0.302	90.785
8	34	635	5.136	95.921
10	12	647	1.813	97.734
12	5	652	0.755	98.489
13	5	657	0.755	99.245
14	5	662	0.755	100.000

[1]These are estimates of the household tripmaking prior to the conduct of the travel diary survey.

FIELD 14

HH_TRIPS[1]	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	92	.	.	.
0	228	228	39.583	39.583
1	192	420	33.333	72.917
2	1	421	0.174	73.090
3	86	507	14.931	88.021
6	50	557	8.681	96.701
9	13	570	2.257	98.958
13	5	575	0.868	99.826
19	1	576	0.174	100.000

[1]These are estimates of the household tripmaking prior to the conduct of the travel diary survey.

FIELD 15

YEARS	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	47	.	.	.
1	52	52	8.374	8.374
2	47	99	7.568	15.942
3	48	147	7.729	23.671
4	38	185	6.119	29.791
5	67	252	10.789	40.580
6	65	317	10.467	51.047
7	69	386	11.111	62.158
8	55	441	8.857	71.014
9	29	470	4.670	75.684
10	33	503	5.314	80.998
11	16	519	2.576	83.575
12	13	532	2.093	85.668
13	16	548	2.576	88.245
14	14	562	2.254	90.499
15	21	583	3.382	93.881
16	7	590	1.127	95.008
17	10	600	1.610	96.618
18	10	610	1.610	98.229
19	1	611	0.161	98.390
20	4	615	0.644	99.034
21	2	617	0.322	99.356
22	1	618	0.161	99.517
26	2	620	0.322	99.839
70	1	621	0.161	100.000

FIELD 16

MON_BEG	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	128	.	.	.
1	437	437	80.926	80.926
2	5	442	0.926	81.852
3	3	445	0.556	82.407
5	1	446	0.185	82.593
6	2	448	0.370	82.963
8	1	449	0.185	83.148
9	2	451	0.370	83.519
10	20	471	3.704	87.222
11	45	516	8.333	95.556
12	24	540	4.444	100.000

FIELD 17

MON_END	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	132	.	.	.
1	9	9	1.679	1.679
2	5	14	0.933	2.612
3	18	32	3.358	5.970
4	57	89	10.634	16.604
5	24	113	4.478	21.082
6	4	117	0.746	21.828
12	419	536	78.172	100.000

FIELD 23

NUMBER OF AUTOS AND TRUCKS IN HOUSEHOLD

AUT_TRK	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	61	.	.	.
0	1	1	0.165	0.165
1	430	431	70.840	71.005
2	166	597	27.348	98.353
3	9	606	1.483	99.835
4	1	607	0.165	100.000

FIELD 24

NUM_WALK	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	22	.	.	.
0	373	373	57.740	57.740
1	21	394	3.251	60.991
2	128	522	19.814	80.805
3	6	528	0.929	81.734
4	74	602	11.455	93.189
5	5	607	0.774	93.963
6	22	629	3.406	97.368
7	2	631	0.310	97.678
8	7	638	1.084	98.762
10	4	642	0.619	99.381
11	1	643	0.155	99.536
12	2	645	0.310	99.845
13	1	646	0.155	100.000

FIELD 25

NUM_BIKE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	47	.	.	.
0	599	599	96.457	96.457
1	4	603	0.644	97.101
2	13	616	2.093	99.195
3	1	617	0.161	99.356
4	4	621	0.644	100.000

FIELD 26

HOUSEHOLD INCOME

HH_INC	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	27	.	.	.
1	24	24	3.744	3.744
2	86	110	13.417	17.161
3	122	232	19.033	36.193
4	98	330	15.289	51.482
5	92	422	14.353	65.835
6	58	480	9.048	74.883
7	161	641	25.117	100.000

1 = 0 - $9,999
2 = $10,000 - $19,999
3 = $20,000 - $29,999
4 = $30,000 - $39,999
5 = $40,000 +
6 - Don't know
7 - Refused

FIELD 27

AGE OF OLDEST HOUSEHOLD MEMBER

OLD_AGE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	11	.	.	.
21	1	1	0.152	0.152
33	1	2	0.152	0.304
38	1	3	0.152	0.457
39	2	5	0.304	0.761
43	2	7	0.304	1.065
46	5	12	0.761	1.826
47	1	13	0.152	1.979
50	1	14	0.152	2.131
52	1	15	0.152	2.283
53	3	18	0.457	2.740
55	5	23	0.761	3.501
56	2	25	0.304	3.805
57	4	29	0.609	4.414
58	7	36	1.065	5.479
59	6	42	0.913	6.393
60	16	58	2.435	8.828
61	8	66	1.218	10.046
62	13	79	1.979	12.024
63	18	97	2.740	14.764
64	24	121	3.653	18.417
65	28	149	4.262	22.679
66	30	179	4.566	27.245
67	29	208	4.414	31.659
68	29	237	4.414	36.073
69	46	283	7.002	43.075
70	41	324	6.240	49.315
71	35	359	5.327	54.642
72	40	399	6.088	60.731
73	43	442	6.545	67.275
74	27	469	4.110	71.385
75	25	494	3.805	75.190
76	22	516	3.349	78.539
77	20	536	3.044	81.583
78	29	565	4.414	85.997
79	23	588	3.501	89.498
80	18	606	2.740	92.237
81	12	618	1.826	94.064
82	11	629	1.674	95.738
83	5	634	0.761	96.499
84	5	639	0.761	97.260
85	2	641	0.304	97.565
86	4	645	0.609	98.174
87	6	651	0.913	99.087
88	4	655	0.609	99.696
90	1	656	0.152	99.848
96	1	657	0.152	100.000

PERSON FILE

Programmer's Initial PSS | FILE NAME: H-GNVLPE.310 | DATE: JUNE 20,1985

Description of Contents _GREEN VALLEY TRAVEL SURVEY CHARACTERISTICS OF INDIVIDUALS FROM TRIP LOGS

RECORD FORMAT

Field #	CHARACTERS 1st	Last	# of	Code NorA	Field Description
1	1	4	4	N	HOUSEHOLD ID
2	6	6	1	A	PERSON ID (A,B,C,ETC)
3	8	17	10	A	FIRST NAME
4	19	22	4	N	SURVEY DATE
5	24	24	1	N	RESIDENT (1) OR GUEST (2)
6	26	27	2	N	AGE
7	29	29	1	N	DRIVERS LICENSE YES(1) NO(2)
8	31	31	1	N	WORK STATUS
9	33	46	14	N	TYPE OF OTHER WORK STATUS
10	48	48	1	N	INCOME
11	50	51	2	N	WALK TRIPS
12	53	54	2	N	BICYCLE TRIPS
13	56	56	1	N	1 = NO TRIPS IN MOTORIZED VEH.
14	58	66	9	A	INTERVIEWER
15	68	68	1	N	ONE OR MORE ENTRIES ON RECORD QUESTIONABLE DATA
16	70	70	1	N	OLDEST HH MEM YES(1) NO(0)
17	72	72	1	N	HOUSEHOLD INCOME

FIELD 5

RES	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	34	.	.	.
1	1200	1200	96.931	96.931
2	38	1238	3.069	100.000

1 = Resident
2 = Guest

FIELD 7

LIC_DRIV	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	11	.	.	.
1	1192	1192	94.528	94.528
2	69	1261	5.472	100.000

1 = Yes
2 = No

FIELD 8

WORK	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	23	.	.	.
1	1084	1084	86.789	86.789
2	87	1171	6.966	93.755
3	51	1222	4.083	97.838
4	27	1249	2.162	100.000

1 = Retired
2 = Employed, Full Time
3 = Employed, Part Time
4 = Other

FIELD 6

AGE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	25	.	.	.
4	1	1	0.080	0.080
7	1	2	0.080	0.160
10	1	3	0.080	0.241
12	2	5	0.160	0.401
14	2	7	0.160	0.561
15	2	9	0.160	0.722
17	2	11	0.160	0.882
18	2	13	0.160	1.043
21	5	18	0.401	1.443
22	1	19	0.080	1.524
23	1	20	0.080	1.604
25	1	21	0.080	1.684
26	2	23	0.160	1.844
28	1	24	0.080	1.925
30	2	26	0.160	2.085
33	2	28	0.160	2.245
34	1	29	0.080	2.326
35	1	30	0.080	2.406
36	2	32	0.160	2.566
37	2	34	0.160	2.727
38	1	35	0.080	2.807
39	2	37	0.160	2.967
40	1	38	0.080	3.047
42	2	40	0.160	3.208
43	3	43	0.241	3.448
44	1	44	0.080	3.528
45	1	45	0.080	3.609
46	7	52	0.561	4.170
47	4	56	0.321	4.491
48	2	58	0.160	4.651
49	5	63	0.401	5.052
50	10	73	0.802	5.854
51	3	76	0.241	6.095
52	3	79	0.241	6.335
53	6	85	0.481	6.816
54	4	89	0.321	7.137
55	14	103	1.123	8.260
56	10	113	0.802	9.062
57	14	127	1.123	10.184
58	19	146	1.524	11.708
59	18	164	1.443	13.152
60	42	206	3.368	16.520
61	23	229	1.844	18.364
62	32	261	2.566	20.930
63	39	300	3.128	24.058
64	49	349	3.929	27.987
65	58	407	4.651	32.638
66	57	464	4.571	37.209
67	54	518	4.330	41.540
68	64	582	5.132	46.672
69	87	669	6.977	53.649
70	83	752	6.656	60.305
71	51	803	4.090	64.395
72	63	866	5.052	69.447

AGE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
73	62	928	4.972	74.419
74	51	979	4.090	78.508
75	44	1023	3.528	82.037
76	41	1064	3.288	85.325
77	32	1096	2.566	87.891
78	40	1136	3.208	91.099
79	32	1168	2.566	93.665
80	22	1190	1.764	95.429
81	14	1204	1.123	96.552
82	11	1215	0.882	97.434
83	6	1221	0.481	97.915
84	6	1227	0.481	98.396
85	2	1229	0.160	98.557
86	6	1235	0.481	99.038
87	6	1241	0.481	99.519
88	4	1245	0.321	99.840
90	1	1246	0.080	99.920
96	1	1247	0.080	100.000

FIELD 10

PER_INC	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	78	.	.	.
1	45	45	3.769	3.769
2	148	193	12.395	16.164
3	222	415	18.593	34.757
4	192	607	16.080	50.838
5	174	781	14.573	65.410
6	113	894	9.464	74.874
7	300	1194	25.126	100.000

1 = 0 - $9,999
2 = $10,000 - $19,999
3 = $20,000 - $29,999
4 = $30,000 - $39,999
5 = $40,000 +
6 = Don't know
7 = Refused

FIELD 11

WALK	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	23	.	.	.
0	874	874	69.976	69.976
1	47	921	3.763	73.739
2	236	1157	18.895	92.634
3	8	1165	0.641	93.275
4	62	1227	4.964	98.239
5	9	1236	0.721	98.959
6	12	1248	0.961	99.920
12	1	1249	0.080	100.000

FIELD 12

BIKE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	55	.	.	.
0	1192	1192	97.946	97.946
1	4	1196	0.329	98.274
2	19	1215	1.561	99.836
3	1	1216	0.082	99.918
4	1	1217	0.082	100.000

TRIP FILE

Programmer's Initial PSS | FILE NAME: H-GNVLTP.310 | DATE: JUNE 20,1985

Description of Contents GREEN VALLEY TRAVEL SURVEY TRIP RECORDS
INDIVIDUALS FROM TRIP LOGS

RECORD FORMAT

Field #	CHARACTERS 1st	Last	# of	Code NorA	Field Description
1	1	4	4	N	HOUSEHOLD ID #
2	6	6	1	A	PERSON ID (A,B,C,ETC.)
3	8	9	2	N	TRIP NUMBER
4	11	22	12	A	DESTINATION
5	23	23	1	N	LOCATED IN GRNVL=1;TUC=2;OTH=3
6	25	25	1	N	VEHICLE TRAVELLED IN
7	27	36	10	A	TYPE OF OTHER VEH.
8	38	38	1	N	DRIVER=1 PASSENGER =2
9	40	49	10	A	OTHER HH MEMBER WITH
10	50	50	1	N	NUMBER OF NONHOUSEHOLD WITH
11	51	51	1	N	IF '1', ONE OR MORE PIECES OF
					DATA ON RECORD QUESTIONABLE
12	52	53	2	N	ORIGIN TRIP PURPOSE
13	54	55	2	N	DESTINATION TRIP PURPOSE
14	57	60	4	N	DEPARTURE TIME
15	61	61	1	A	DEPART AM OR PM
16	63	66	4	N	ARRIVAL TIME
17	67	67	1	A	ARRIVE AM OR PM
18	69	71	4	N	TRIP DURATION
19	72	72	1	N	ORIGIN/DESTINATION PURPOSE
20	74	74	1	N	ORIGIN/DESTINATION

FIELD 2

PER_ID	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
	84	.	.	.
A	2996	2996	57.827	57.827
B	1999	4995	38.583	96.410
C	140	5135	2.702	99.112
D	39	5174	0.753	99.865
E	7	5181	0.135	100.000

FIELD 3

TRIP_NO	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
1	1098	1098	20.855	20.855
2	1084	2182	20.589	41.443
3	837	3019	15.897	57.341
4	734	3753	13.941	71.282
5	510	4263	9.687	80.969
6	401	4664	7.616	88.585
7	251	4915	4.767	93.352
8	161	5076	3.058	96.410
9	81	5157	1.538	97.949
10	45	5202	0.855	98.803
11	25	5227	0.475	99.278
12	15	5242	0.285	99.563
13	9	5251	0.171	99.734
14	4	5255	0.076	99.810
15	2	5257	0.038	99.848
16	1	5258	0.019	99.867
17	1	5259	0.019	99.886
18	1	5260	0.019	99.905
19	1	5261	0.019	99.924
20	1	5262	0.019	99.943
21	1	5263	0.019	99.962
22	1	5264	0.019	99.981
23	1	5265	0.019	100.000

FIELD 5

LOC	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
1	4564	4564	86.686	86.686
2	557	5121	10.579	97.265
3	142	5263	2.697	99.962
9	2	5265	0.038	100.000

1 = Green Valley
2 = Tucson
3 = Other Location

FIELD 6

VEHICLE	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	29	.	.	.
1	4770	4770	91.100	91.100
2	257	5027	4.908	96.008
3	180	5207	3.438	99.446
4	29	5236	0.554	100.000

1 = Auto
2 = Truck
3 = Golf Cart
4 = Other

FIELD 8

DRIVER	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	17	.	.	.
1	3860	3860	73.552	73.552
2	1387	5247	26.429	99.981
4	1	5248	0.019	100.000

1 = Driver
2 = Passenger

FIELD 12

O_PURP	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	92	.	.	.
0	4	4	0.077	0.077
1	1905	1909	36.826	36.903
2	133	2042	2.571	39.474
3	67	2109	1.295	40.769
4	965	3074	18.655	59.424
5	13	3087	0.251	59.675
6	923	4010	17.843	77.518
7	308	4318	5.954	83.472
8	612	4930	11.831	95.303
9	175	5105	3.383	98.685
10	68	5173	1.315	100.000

FIELD 13

D_PURP	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
.	106	.	.	.
0	4	4	0.078	0.078
1	1865	1869	36.150	36.228
2	135	2004	2.617	38.845
3	67	2071	1.299	40.143
4	971	3042	18.821	58.965
5	13	3055	0.252	59.217
6	929	3984	18.007	77.224
7	310	4294	6.009	83.233
8	616	4910	11.940	95.173
9	179	5089	3.470	98.643
10	70	5159	1.357	100.000

FIELD 18

DURATION	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
0	17	17	0.323	0.323
1	39	56	0.741	1.064
2	96	152	1.823	2.887
3	122	274	2.317	5.204
4	80	354	1.519	6.724
5	1534	1888	29.136	35.859
6	70	1958	1.330	37.189
7	81	2039	1.538	38.727
8	83	2122	1.576	40.304
9	39	2161	0.741	41.045
10	1326	3487	25.185	66.230
11	16	3503	0.304	66.534
12	22	3525	0.418	66.952
13	26	3551	0.494	67.445
14	16	3567	0.304	67.749
15	585	4152	11.111	78.860
16	6	4158	0.114	78.974
17	9	4167	0.171	79.145
18	9	4176	0.171	79.316
19	1	4177	0.019	79.335
20	174	4351	3.305	82.640
21	3	4354	0.057	82.697
22	4	4358	0.076	82.773
23	2	4360	0.038	82.811
24	7	4367	0.133	82.944
25	69	4436	1.311	84.255
26	2	4438	0.038	84.292
28	7	4445	0.133	84.425
29	5	4450	0.095	84.520
30	236	4686	4.482	89.003
31	1	4687	0.019	89.022
32	4	4691	0.076	89.098
33	2	4693	0.038	89.136
34	1	4694	0.019	89.155
35	65	4759	1.235	90.389
37	2	4761	0.038	90.427
38	1	4762	0.019	90.446
39	1	4763	0.019	90.465
40	73	4836	1.387	91.852
41	3	4839	0.057	91.909
43	4	4843	0.076	91.985
45	164	5007	3.115	95.100
46	3	5010	0.057	95.157
48	1	5011	0.019	95.176
50	52	5063	0.988	96.163
52	3	5066	0.057	96.220
53	4	5070	0.076	96.296
54	2	5072	0.038	96.334
55	15	5087	0.285	96.619
57	2	5089	0.038	96.657
58	2	5091	0.038	96.695
60	73	5164	1.387	98.082
65	15	5179	0.285	98.367
69	2	5181	0.038	98.405
70	5	5186	0.095	98.500

DURATION	FREQUENCY	CUM FREQ	PERCENT	CUM PERCENT
74	1	5187	0.019	98.519
75	8	5195	0.152	98.670
76	1	5196	0.019	98.689
80	4	5200	0.076	98.765
85	4	5204	0.076	98.841
90	8	5212	0.152	98.993
93	2	5214	0.038	99.031
94	2	5216	0.038	99.069
95	2	5218	0.038	99.107
105	2	5220	0.038	99.145
110	4	5224	0.076	99.221
112	1	5225	0.019	99.240
115	2	5227	0.038	99.278
125	1	5228	0.019	99.297
130	1	5229	0.019	99.316
150	5	5234	0.095	99.411
180	4	5238	0.076	99.487
210	1	5239	0.019	99.506
9999	26	5265	0.494	100.000

APPENDIX B: SURVEY CROSSTABULATIONS

TABLE B-1. VEHICLE PERSON TRIPS BY AGE OF OLDEST HOUSEHOLD MEMBER

			HBW			HBS			HBO			NHB			TOTAL		
	# HH	% HH	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV
AGE																	
LESS THAN 50	13	1.9	31	2.38	1.98	6	0.46	0.78	44	3.38	3.10	21	1.62	2.79	102	7.85	5.97
50-54	5	0.7	8	1.60	1.67	18	3.60	2.61	12	2.40	4.34	15	3.00	2.83	53	10.60	5.46
55-59	24	3.6	25	1.04	1.73	44	1.83	1.81	66	2.75	2.29	67	2.79	3.74	202	8.42	5.55
60-64	79	11.8	51	0.65	1.40	122	1.54	1.97	284	3.59	2.95	220	2.78	2.77	677	8.57	5.29
65-69	162	24.3	65	0.40	1.10	238	1.47	1.62	582	3.59	3.27	348	2.15	2.62	1235	7.62	5.05
70-74	186	27.8	22	0.12	0.58	270	1.45	1.67	710	3.82	3.11	474	2.55	3.26	1477	7.94	5.18
75-79	119	17.8	15	0.13	0.70	179	1.50	1.71	411	3.45	3.43	267	2.24	4.33	874	7.34	7.18
OVER 80	69	10.3	10	0.14	0.60	83	1.20	1.61	246	3.57	3.29	108	1.57	2.12	447	6.48	4.36
UNKNOWN	11	1.6	5	0.45	1.04	17	1.55	1.75	34	3.09	2.77	16	1.45	2.02	72	6.55	4.99
ALL	668	100.0	232	0.35	1.04	977	1.46	1.71	2389	3.58	3.18	1536	2.30	3.19	5139	7.69	5.53

HBW - Home-Based Work
HBS - Home-Based Shop
HBO - Home-Based Other
HNB - Non-Home Based
HH - Households
TR/HH - Trips per Household

TABLE B-2. VEHICLE PERSON TRIPS BY HOUSEHOLD INCOME

HOUSEHOLD INCOME	# HH	% HH	HBW			HBS			HBO			NHB			TOTAL		
			TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV
LESS THAN $10,000	24	3.6	2	0.08	0.41	18	0.75	0.94	68	2.83	2.43	25	1.04	1.68	115	4.79	3.90
$10,000-19,999	86	12.9	53	0.62	1.43	126	1.47	1.83	293	3.41	2.85	176	2.05	2.42	648	7.53	4.90
$20,000-29,999	122	18.3	38	0.31	0.90	204	1.67	1.75	412	3.38	2.76	295	2.42	2.91	949	7.78	4.93
$30,000-39,999	98	14.7	14	0.14	0.54	125	1.28	1.60	389	3.97	3.50	271	2.77	3.17	799	8.15	5.66
OVER $40,000	92	13.8	33	0.36	1.14	135	1.47	1.39	412	4.48	3.48	259	2.82	4.51	839	9.12	6.85
DON"T KNOW	58	8.7	20	0.34	1.25	94	1.62	1.86	242	4.17	3.67	161	2.78	3.57	519	8.95	6.35
REFUSED	188	28.1	72	0.38	1.04	275	1.46	1.83	573	3.05	3.07	349	1.86	2.82	1270	6.76	5.02
ALL	668	100.0	232	0.35	1.04	977	1.46	1.71	2389	3.58	3.18	1536	2.30	3.19	5139	7.69	5.53

HBW - Home-Based Work
HBS - Home-Based Shop
HBO - Home-Based Other
HNB - Non-Home Based
HH - Households
TR/HH - Trips per Household

TABLE B-3. VEHICLE PERSON TRIPS BY AUTO AND TRUCK OWNERSHIP

VEHICLE OWNERSHIP	# HH	% HH	HBW			HBS			HBO			NHB			TOTAL		
			TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV
NOT REPORTING	62	9.3	10	0.16	0.52	106	1.71	1.61	197	3.18	3.43	105	1.69	2.07	420	6.77	5.13
1	430	64.4	152	0.35	1.09	623	1.45	1.73	1577	3.67	3.21	1038	2.41	3.35	3393	7.89	5.70
2 OR MORE	176	26.3	70	0.40	1.07	248	1.41	1.69	615	3.49	3.00	393	2.23	3.08	1326	7.53	5.22
ALL	668	100.0	232	0.35	1.04	977	1.46	1.71	2389	3.58	3.18	1536	2.30	3.19	5139	7.69	5.53

HBW - Home-Based Work
HBS - Home-Based Shop
HBO - Home-Based Other

HNB - Non-Home Based
HH - Households
TR/HH - Trips per Household

TABLE B-4. VEHICLE PERSON TRIPS BY NUMBER OF HOUSEHOLD OCCUPANTS

HOUSEHOLD SIZE	# HH	% HH	HBW			HBS			HBO			NHB			TOTAL		
			TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV
1 PERSON	128	19.2	38	0.30	0.88	213	1.66	1.78	457	3.57	3.36	300	2.34	2.99	1008	7.88	5.21
2 PERSONS	517	77.6	192	0.37	1.10	721	1.39	1.69	1847	3.57	3.15	1186	2.29	3.26	3951	7.64	5.63
3 OR MORE PERSONS	21	3.2	0	0.00	0.00	41	1.95	1.60	83	3.95	2.89	50	2.38	2.73	174	8.29	5.00
ALL	666	100.0	230	0.35	1.04	975	1.46	1.71	2387	3.58	3.18	1536	2.31	3.19	5133	7.71	5.53

HBW - Home-Based Work
HBS - Home-Based Shop
HBO - Home-Based Other

HNB - Non-Home Based
HH - Households
TR/HH - Trips per Household

TABLE B-5. VEHICLE PERSON TRIPS BY TYPE OF DWELLING UNIT

TYPE OF DWELLING UNIT	# HH	% HH	HBW			HBS			HBO			NHB			TOTAL		
			TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV
SINGLE FAMILY HOUSE (SF)	355	53.1	150	0.42	1.17	519	1.46	1.73	1318	3.71	3.31	851	2.40	3.40	2839	8.00	5.88
DUPLEX (TOWNHOUSE) (MF)	124	18.6	17	0.14	0.62	181	1.46	1.73	405	3.27	2.95	248	2.00	3.01	853	6.88	4.95
APARTMENT/ CONDOMINIUMS	148	22.2	52	0.35	1.03	215	1.45	1.63	536	3.62	3.14	357	2.41	3.11	1160	7.84	5.35
MOBILE HOME (SF)	31	4.6	9	0.29	0.94	49	1.58	1.93	93	3.00	2.68	62	2.00	1.67	215	6.94	4.30
OTHER	7	1.0	2	0.29	0.76	10	1.43	1.40	33	4.71	3.55	16	2.29	2.21	61	8.71	5.35
UNKNOWN	3	0.4	2	0.67	1.15	3	1.00	1.00	4	1.33	1.15	2	0.67	1.15	11	3.67	3.21
ALL	668	100.0	232	0.35	1.04	977	1.46	1.71	2389	3.58	3.18	1536	2.30	3.19	5139	7.69	5.53

HBW - Home-Based Work
HBS - Home-Based Shop
HBO - Home-Based Other

HNB - Non-Home Based
HH - Households
TR/HH - Trips per Household

TABLE B-6. GOLF CART TRIPS BY GOLF CART OWNERSHIP

GOLF CARTS OWNED	# HH	% HH	HBW			HBS			HBO			NHB			TOTAL		
			TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV
0	558	83.5	2	0.00	0.08	15	0.03	0.21	112	0.20	0.71	20	0.04	0.23	149	0.27	0.86
1	109	16.3	2	0.02	0.19	0	0.00	0.00	24	0.22	0.74	7	0.06	0.48	33	0.30	1.08
2	1	0.1	0	0.00	.	0	0.00	.	0	0.00	.	0	0.00	.	0	0.00	.
ALL	668	100.0	4	0.01	0.11	15	0.02	0.19	136	0.20	0.71	27	0.04	0.28	182	0.27	0.90

HBW - Home-Based Work
HBS - Home-Based Shop
HBO - Home-Based Other
HNB - Non-Home Based
HH - Households
TR/HH - Trips per Household

TABLE B-7. VEHICLE TRIPS BY AGE OF OLDEST HOUSEHOLD MEMBER

			HBW			HBS			HBO			NHB			TOTAL		
AGE	# HH	% HH	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV
LESS THAN 50	13	1.9	30	2.31	1.97	6	0.46	0.78	29	2.23	2.31	20	1.54	2.82	85	6.54	5.29
50-54	5	0.7	8	1.60	1.67	14	2.80	2.95	6	1.20	2.17	9	1.80	1.30	37	7.40	2.88
55-59	24	3.6	23	0.96	1.52	35	1.46	1.32	52	2.17	1.86	61	2.54	3.48	171	7.13	4.60
60-64	79	11.8	47	0.59	1.30	89	1.13	1.49	205	2.59	2.06	167	2.11	2.12	508	6.43	4.05
65-69	162	24.3	57	0.35	0.99	193	1.19	1.31	433	2.67	2.68	263	1.62	2.06	948	5.85	4.18
70-74	186	27.8	18	0.10	0.54	206	1.11	1.27	500	2.69	2.19	318	1.71	2.13	1043	5.61	3.61
75-79	119	17.8	14	0.12	0.68	138	1.16	1.28	276	2.32	2.14	152	1.28	2.07	582	4.89	3.80
OVER 80	69	10.3	9	0.13	0.59	60	0.87	1.20	169	2.45	2.18	69	1.00	1.24	307	4.45	2.87
UNKNOWN	11	1.6	5	0.45	1.04	10	0.91	0.94	20	1.82	2.18	12	1.09	1.45	47	4.27	4.08
ALL	668	100.0	211	0.32	0.98	751	1.12	1.32	1690	2.53	2.28	1071	1.60	2.11	3728	5.58	3.89

HBW - Home-Based Work
HBS - Home-Based Shop
HBO - Home-Based Other
HNB - Non-Home Based
HH - Households
TR/HH - Trips per Household

TABLE B-8. VHEICLE TRIPS BY HOUSEHOLD INCOME

HOUSEHOLD INCOME	# HH	% HH	HBW			HBS			HBO			NHB			TOTAL		
			TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV
LESS THAN $10,000	24	3.6	0	0.00	0.00	13	0.54	0.78	51	2.13	1.83	15	0.63	1.01	81	3.38	2.83
$10,000-19,999	86	12.9	49	0.57	1.33	104	1.21	1.52	210	2.44	2.06	143	1.66	2.03	506	5.88	3.78
$20,000-29,999	122	18.3	31	0.25	0.72	147	1.20	1.23	294	2.41	2.05	204	1.67	2.05	676	5.54	3.56
$30,000-39,999	98	14.7	13	0.13	0.49	101	1.03	1.21	275	2.81	2.65	191	1.95	2.19	580	5.92	4.19
OVER $40,000	92	13.8	31	0.34	1.12	110	1.20	1.14	289	3.14	2.58	167	1.82	2.44	597	6.49	4.17
DON"T KNOW	58	8.7	18	0.31	1.23	66	1.14	1.37	156	2.69	2.17	105	1.81	2.20	347	5.98	4.05
REFUSED	188	28.1	69	0.37	1.00	210	1.12	1.44	415	2.21	2.20	246	1.31	2.00	941	5.01	3.78
ALL	668	100.0	211	0.32	0.98	751	1.12	1.32	1690	2.53	2.28	1071	1.60	2.11	3728	5.58	3.89

HBW - Home-Based Work
HBS - Home-Based Shop
HBO - Home-Based Other

HNB - Non-Home Based
HH - Households
TR/HH - Trips per Household

TABLE B-9. VEHICLE TRIPS BY AUTO AND TRUCK OWNERSHIP

VEHICLES OWNED	# HH	% HH	HBW			HBS			HBO			NHB			TOTAL		
			TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV
NO RESPONSE	62	9.3	10	0.16	0.52	88	1.42	1.45	143	2.31	2.55	75	1.21	1.58	318	5.13	3.79
1	430	64.4	136	0.32	1.00	468	1.09	1.29	1093	2.54	2.24	712	1.66	2.19	2412	5.61	3.88
2 OR MORE	176	26.3	65	0.37	1.05	195	1.11	1.33	454	2.58	2.29	284	1.61	2.07	998	5.67	3.98
ALL	668	100.0	211	0.32	0.98	751	1.12	1.32	1690	2.53	2.28	1071	1.60	2.11	3728	5.58	3.89

HBW - Home-Based Work
HBS - Home-Based Shop
HBO - Home-Based Other

HNB - Non-Home Based
HH - Households
TR/HH - Trips per Household

TABLE B-10. VEHICLE TRIPS BY NUMBER OF HOUSEHOLD OCCUPANTS

HOUSEHOLD MEMBERS	# HH	% HH	HBW			HBS			HBO			NHB			TOTAL		
			TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV
1	128	19.2	34	0.27	0.81	157	1.23	1.35	316	2.47	2.22	202	1.58	2.06	709	5.54	3.67
2	517	77.6	175	0.34	1.03	562	1.09	1.32	1309	2.53	2.29	834	1.61	2.12	2885	5.58	3.94
3 OR MORE	21	3.2	0	0.00	0.00	30	1.43	1.12	65	3.10	2.59	35	1.67	2.33	130	6.19	4.15
ALL	666	100.0	209	0.31	0.98	749	1.12	1.32	1690	2.54	2.28	1071	1.61	2.11	3724	5.59	3.89

HBW - Home-Based Work
HBS - Home-Based Shop
HBO - Home-Based Other
HNB - Non-Home Based
HH - Households
TR/HH - Trips per Household

TABLE B-11. VEHICLE TRIPS BY TYPE OF DWELLING UNIT

HOUSING TYPE	# HH	% HH	HBW			HBS			HBO			NHB			TOTAL		
			TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV
SINGLE FAMILY HOUSE (SF)	355	53.1	136	0.38	1.10	411	1.16	1.34	955	2.69	2.44	608	1.71	2.27	2111	5.95	4.10
DUPLEX (TOWNHOUSE) (MF)	124	18.6	15	0.12	0.53	133	1.07	1.37	276	2.23	1.98	159	1.28	1.83	585	4.72	3.28
APARTMENT/ CONDOMINIUM	148	22.2	47	0.32	0.96	159	1.07	1.25	368	2.49	2.15	249	1.68	2.11	823	5.56	3.82
MOBILE HOME (SF)	31	4.6	9	0.29	0.94	38	1.23	1.36	64	2.06	1.65	41	1.32	1.22	154	4.97	3.24
OTHER	7	1.0	2	0.29	0.76	7	1.00	0.82	26	3.71	3.45	12	1.71	1.60	47	6.71	5.35
UNKNOWN	3	0.4	2	0.67	1.15	3	1.00	1.00	1	0.33	0.58	2	0.67	1.15	8	2.67	2.31
ALL	668	100.0	211	0.32	0.98	751	1.12	1.32	1690	2.53	2.28	1071	1.60	2.11	3728	5.58	3.89

HBW - Home-Based Work
HBS - Home-Based Shop
HBO - Home-Based Other

HNB - Non-Home Based
HH - Households
TR/HH - Trips per Household

TABLE B-12. VEHICLE PERSON TRIPS BY HOUSEHOLD INCOME AND NUMBER OF HOUSEHOLD OCCUPANTS

HOUSEHOLD MEMBERS	# HH	% HH	HOUSEHOLD MEMBERS														
			1 PERSON														
			HBW			HBS			HBO			NHB			TOTAL		
			TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV
LESS THAN $10,000	24	3.6	0	0.00	0.00	6	1.20	1.10	12	2.40	0.89	7	1.40	1.95	25	5.00	2.83
$10,000-19,999	86	12.9	8	0.53	1.19	21	1.40	2.20	60	4.00	3.21	35	2.33	2.13	124	8.27	3.94
$20,000-29,999	122	18.3	7	0.32	0.95	32	1.45	1.84	54	2.45	2.32	55	2.50	3.19	148	6.73	4.77
$30,000-39,999	96	14.4	5	0.26	0.73	34	1.79	1.81	89	4.68	3.27	53	2.79	2.92	181	9.53	5.46
OVER $40,000	92	13.8	4	0.20	0.89	25	1.25	0.85	91	4.55	3.62	62	3.10	3.67	182	9.10	4.81
DONT KNOW	58	8.7	0	0.00	0.00	37	3.08	2.50	53	4.42	4.19	28	2.33	3.14	118	9.83	7.02
REFUSED	188	28.2	14	0.40	0.98	58	1.66	1.61	98	2.80	3.55	60	1.71	2.93	230	6.57	5.25
ALL	666	100.0	38	0.30	0.88	213	1.66	1.78	457	3.57	3.36	300	2.34	2.99	1008	7.88	5.21

HOUSEHOLD MEMBERS	2 PERSONS														
	HBW			HBS			HBO			NHB			TOTAL		
	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV
LESS THAN $10,000	2	0.11	0.47	10	0.56	0.86	46	2.56	2.15	18	1.00	1.68	78	4.33	3.93
$10,000-19,999	45	0.64	1.49	105	1.50	1.77	232	3.31	2.78	138	1.97	2.51	520	7.43	5.11
$20,000-29,999	31	0.33	0.92	163	1.72	1.74	340	3.58	2.84	223	2.35	2.80	757	7.97	4.84
$30,000-39,999	7	0.09	0.44	85	1.13	1.52	292	3.89	3.57	210	2.80	3.23	594	7.92	5.71
OVER $40,000	29	0.43	1.25	98	1.46	1.50	297	4.43	3.53	186	2.78	4.90	610	9.10	7.55
DONT KNOW	20	0.45	1.42	51	1.16	1.43	181	4.11	3.62	129	2.93	3.75	383	8.70	6.28
REFUSED	58	0.39	1.07	209	1.41	1.89	459	3.10	2.98	282	1.91	2.84	1009	6.82	5.03
ALL	192	0.37	1.10	721	1.39	1.69	1847	3.57	3.15	1186	2.29	3.26	3951	7.64	5.63

HOUSEHOLD MEMBERS	3 OR MORE PERSONS														
	HBW			HBS			HBO			NHB			TOTAL		
	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV
LESS THAN $10,000	0	0.00	.	2	2.00	.	10	10.00	.	0	0.00	.	12	12.00	.
$10,000-19,999	0	0.00	.	0	0.00	.	1	1.00	.	3	3.00	.	4	4.00	.
$20,000-29,999	0	0.00	0.00	9	1.80	1.79	18	3.60	2.70	17	3.40	4.22	44	8.80	7.46
$30,000-39,999	0	0.00	0.00	4	2.00	2.83	6	3.00	4.24	8	4.00	5.66	18	9.00	7.07
OVER $40,000	0	0.00	0.00	12	2.40	1.52	24	4.80	2.77	11	2.20	1.48	47	9.40	4.04
DONT KNOW	0	0.00	0.00	6	3.00	1.41	8	4.00	2.83	4	2.00	2.83	18	9.00	7.07
REFUSED	0	0.00	0.00	8	1.60	1.67	16	3.20	2.59	7	1.40	1.34	31	6.20	3.49
ALL	0	0.00	0.00	41	1.95	1.60	83	3.95	2.89	50	2.38	2.73	174	8.29	5.00

HBW - Home-Based Work
HBS - Home-Based Shop
HBO - Home-Based Other
HNB - Non-Home Based
HH - Households
TR/HH - Trips per Household

TABLE B-13. VEHICLE PERSON TRIPS BY DURATION AND PURPOSE

DURATION	HBW	HBS	NBO	NHB	UNKNOWN	TOTAL
0-4	12 0.23 3.43 5.13	31 0.59 8.86 3.10	133 2.53 38.00 5.29	173 3.29 49.43 11.43	1 0.02 0.29 20.00	350 6.65
5-9	72 1.37 4.00 30.77	322 6.12 17.91 32.20	898 17.06 49.94 35.73	505 9.59 28.09 33.38	1 0.02 0.06 20.00	1798 34.15
10-14	68 1.29 4.86 29.06	349 6.63 24.95 34.90	670 12.73 47.89 26.66	312 5.93 22.30 20.62	0 0.00 0.00 0.00	1399 26.57
15-19	29 0.55 4.76 12.39	98 1.86 16.09 9.80	281 5.34 46.14 11.18	198 3.76 32.51 13.09	3 0.06 0.49 60.00	609 11.57
20-24	5 0.09 2.65 2.14	23 0.44 12.17 2.30	81 1.54 42.86 3.22	80 1.52 42.33 5.29	0 0.00 0.00 0.00	189 3.59
25-29	1 0.02 1.20 0.43	11 0.21 13.25 1.10	32 0.61 38.55 1.27	39 0.74 46.99 2.58	0 0.00 0.00 0.00	83 1.58
30-34	15 0.28 6.17 6.41	36 0.68 14.81 3.60	108 2.05 44.44 4.30	84 1.60 34.57 5.55	0 0.00 0.00 0.00	243 4.62
35-39	5 0.09 7.46 2.14	8 0.15 11.94 0.80	37 0.70 55.22 1.47	17 0.32 25.37 1.12	0 0.00 0.00 0.00	67 1.27
40-44	6 0.11 7.50 2.56	26 0.49 32.50 2.60	33 0.63 41.25 1.31	15 0.28 18.75 0.99	0 0.00 0.00 0.00	80 1.52
45-49	6 0.11 3.57 2.56	40 0.76 23.81 4.00	100 1.90 59.52 3.98	22 0.42 13.10 1.45	0 0.00 0.00 0.00	168 3.19
50-54	0 0.00 0.00 0.00	7 0.13 11.48 0.70	42 0.80 68.85 1.67	12 0.23 19.67 0.79	0 0.00 0.00 0.00	61 1.16
55-59	0 0.00 0.00 0.00	4 0.08 21.05 0.40	8 0.15 42.11 0.32	7 0.13 36.84 0.46	0 0.00 0.00 0.00	19 0.36
OVER 60	10 0.19 6.80 4.27	40 0.76 27.21 4.00	54 1.03 36.73 2.15	43 0.82 29.25 2.84	0 0.00 0.00 0.00	147 2.79
UNKNOWN	5 0.09 9.62 2.14	5 0.09 9.62 0.50	36 0.68 69.23 1.43	6 0.11 11.54 0.40	0 0.00 0.00 0.00	52 0.99
TOTAL	234 4.44	1000 18.99	2513 47.73	1513 28.74	5 0.09	5265 100.00

DURATION

FREQUENCY
PERCENT
ROW PCT
COL PCT

HBW - Home-Based Work
HBS - Home-Based Shop
HBO - Home-Based Other
HNB - Non-Home Based

TABLE B-14. VEHICLE PERSON TRIPS BY DEPARTURE TIME AND PURPOSE

DEPARTURE TIME	HBW	HBS	HBO	NHB	UNKNOWN	TOTAL
BEFORE 6:00 AM	13 0.25 26.00 5.56	4 0.08 8.00 0.40	22 0.42 44.00 0.88	11 0.21 22.00 0.73	0 0.00 0.00 0.00	50 0.95
6:00-6:29 AM	3 0.06 23.08 1.28	0 0.00 0.00 0.00	10 0.19 76.92 0.40	0 0.00 0.00 0.00	0 0.00 0.00 0.00	13 0.25
6:30-6:59 AM	11 0.21 27.50 4.70	1 0.02 2.50 0.10	25 0.47 62.50 0.99	2 0.04 5.00 0.13	1 0.02 2.50 20.00	40 0.76
7:00-7:29 AM	10 0.19 21.28 4.27	9 0.17 19.15 0.90	27 0.51 57.45 1.07	1 0.02 2.13 0.07	0 0.00 0.00 0.00	47 0.89
7:30-7:59 AM	20 0.38 20.83 8.55	5 0.09 5.21 0.50	63 1.20 65.63 2.51	8 0.15 8.33 0.53	0 0.00 0.00 0.00	96 1.82
8:00-8:29 AM	12 0.23 9.76 5.13	17 0.32 13.82 1.70	78 1.48 63.41 3.10	16 0.30 13.01 1.06	0 0.00 0.00 0.00	123 2.34
8:30-8:59 AM	13 0.25 7.88 5.56	14 0.27 8.48 1.40	105 1.99 63.64 4.18	33 0.63 20.00 2.18	0 0.00 0.00 0.00	165 3.13
9:00-9:29 AM	5 0.09 2.21 2.14	39 0.74 17.26 3.90	126 2.39 55.75 5.01	56 1.06 24.78 3.70	0 0.00 0.00 0.00	226 4.29
9:30-9:59 AM	5 0.09 2.03 2.14	50 0.95 20.33 5.00	121 2.30 49.19 4.81	70 1.33 28.46 4.63	0 0.00 0.00 0.00	246 4.67
10:00-10:29 AM	4 0.08 1.35 1.71	85 1.61 28.72 8.50	122 2.32 41.22 4.85	85 1.61 28.72 5.62	0 0.00 0.00 0.00	296 5.62
10:30-10:59 AM	5 0.09 1.85 2.14	52 0.99 19.19 5.20	108 2.05 39.85 4.30	104 1.98 38.38 6.87	2 0.04 0.74 40.00	271 5.15
11:00-11:29 AM	11 0.21 3.45 4.70	76 1.44 23.82 7.60	122 2.32 38.24 4.85	109 2.07 34.17 7.20	1 0.02 0.31 20.00	319 6.06
11:30-11:59 AM	8 0.15 2.93 3.42	57 1.08 20.88 5.70	113 2.15 41.39 4.50	95 1.80 34.80 6.28	0 0.00 0.00 0.00	273 5.19
12:00-12:29 PM	7 0.13 3.26 2.99	42 0.80 19.53 4.20	93 1.77 43.26 3.70	72 1.37 33.49 4.76	1 0.02 0.47 20.00	215 4.08
12:30-12:59 PM	7 0.13 3.30 2.99	32 0.61 15.09 3.20	97 1.84 45.75 3.86	76 1.44 35.85 5.02	0 0.00 0.00 0.00	212 4.03
1:00-1:29 PM	7 0.13 2.87 2.99	47 0.89 19.26 4.70	97 1.84 39.75 3.86	93 1.77 38.11 6.15	0 0.00 0.00 0.00	244 4.63
1:30-1:59 PM	4 0.08 1.51 1.71	46 0.87 17.36 4.60	108 2.05 40.75 4.30	107 2.03 40.38 7.07	0 0.00 0.00 0.00	265 5.03
2:00-2:29 PM	9 0.17 3.26 3.85	56 1.06 20.29 5.60	101 1.92 36.59 4.02	110 2.09 39.86 7.27	0 0.00 0.00 0.00	276 5.24

FREQUENCY
PERCENT
ROW PCT
COL PCT

DEPARTURE TIME	HBW	HBS	HBO	NHB	UNKNOWN	TOTAL
2:30-2:59 PM	2	59	77	82	0	220
	0.04	1.12	1.46	1.56	0.00	4.18
	0.91	26.82	35.00	37.27	0.00	
	0.85	5.90	3.06	5.42	0.00	
3:00-3:29 PM	5	63	97	62	0	227
	0.09	1.20	1.84	1.18	0.00	4.31
	2.20	27.75	42.73	27.31	0.00	
	2.14	6.30	3.86	4.10	0.00	
3:30-3:59 PM	10	48	93	71	0	222
	0.19	0.91	1.77	1.35	0.00	4.22
	4.50	21.62	41.89	31.98	0.00	
	4.27	4.80	3.70	4.69	0.00	
4:00-4:29 PM	10	54	122	67	0	253
	0.19	1.03	2.32	1.27	0.00	4.81
	3.95	21.34	48.22	26.48	0.00	
	4.27	5.40	4.85	4.43	0.00	
4:30-4:59 PM	13	36	91	42	0	182
	0.25	0.68	1.73	0.80	0.00	3.46
	7.14	19.78	50.00	23.08	0.00	
	5.56	3.60	3.62	2.78	0.00	
5:00-5:29 PM	15	40	91	32	0	178
	0.28	0.76	1.73	0.61	0.00	3.38
	8.43	22.47	51.12	17.98	0.00	
	6.41	4.00	3.62	2.12	0.00	
5:30-5:59 PM	6	17	59	15	0	97
	0.11	0.32	1.12	0.28	0.00	1.84
	6.19	17.53	60.82	15.46	0.00	
	2.56	1.70	2.35	0.99	0.00	
6:00-6:29 PM	3	11	49	21	0	84
	0.06	0.21	0.93	0.40	0.00	1.60
	3.57	13.10	58.33	25.00	0.00	
	1.28	1.10	1.95	1.39	0.00	
6:30-6:59 PM	3	9	46	12	0	70
	0.06	0.17	0.87	0.23	0.00	1.33
	4.29	12.86	65.71	17.14	0.00	
	1.28	0.90	1.83	0.79	0.00	
7:00-7:29 PM	0	9	43	11	0	63
	0.00	0.17	0.82	0.21	0.00	1.20
	0.00	14.29	68.25	17.46	0.00	
	0.00	0.90	1.71	0.73	0.00	
7:30-7:59 PM	0	7	31	6	0	44
	0.00	0.13	0.59	0.11	0.00	0.84
	0.00	15.91	70.45	13.64	0.00	
	0.00	0.70	1.23	0.40	0.00	
8:00-8:29 PM	3	4	32	8	0	47
	0.06	0.08	0.61	0.15	0.00	0.89
	6.38	8.51	68.09	17.02	0.00	
	1.28	0.40	1.27	0.53	0.00	
8:30-8:59 PM	1	2	20	11	0	34
	0.02	0.04	0.38	0.21	0.00	0.65
	2.94	5.88	58.82	32.35	0.00	
	0.43	0.20	0.80	0.73	0.00	
9:00-9:29 PM	1	3	38	8	0	50
	0.02	0.06	0.72	0.15	0.00	0.95
	2.00	6.00	76.00	16.00	0.00	
	0.43	0.30	1.51	0.53	0.00	
9:30-9:59 PM	0	0	20	2	0	22
	0.00	0.00	0.38	0.04	0.00	0.42
	0.00	0.00	90.91	9.09	0.00	
	0.00	0.00	0.80	0.13	0.00	
AFTER 10:00 PM	3	1	30	9	0	43
	0.06	0.02	0.57	0.17	0.00	0.82
	6.98	2.33	69.77	20.93	0.00	
	1.28	0.10	1.19	0.59	0.00	
UNKNOWN	5	5	36	6	0	52
	0.09	0.09	0.68	0.11	0.00	0.99
	9.62	9.62	69.23	11.54	0.00	
	2.14	0.50	1.43	0.40	0.00	
TOTAL	234	1000	2513	1513	5	5265
	4.44	18.99	47.73	28.74	0.09	100.00

HBW - Home-Based Work
HBS - Home-Based Shop
HNB - Non-Home Based
HBO - Home-Based Other

TABLE B-15. VEHICLE TRIPS BY DURATION AND PURPOSE

DURATION	HBW	NHS	HBO	NHB	UNKNOWN	TOTAL
0-4	11	27	107	136	1	282
	0.28	0.70	2.77	3.52	0.03	7.31
	3.90	9.57	37.94	48.23	0.35	
	5.07	3.47	5.94	12.84	20.00	
5-9	69	274	665	370	1	1379
	1.79	7.10	17.23	9.59	0.03	35.73
	5.00	19.87	48.22	26.83	0.07	
	31.80	35.22	36.92	34.94	20.00	
10-14	62	278	511	226	0	1077
	1.61	7.20	13.24	5.85	0.00	27.90
	5.76	25.81	47.45	20.98	0.00	
	28.57	35.73	28.37	21.34	0.00	
15-19	29	80	206	137	3	455
	0.75	2.07	5.34	3.55	0.08	11.79
	6.37	17.58	45.27	30.11	0.66	
	13.36	10.28	11.44	12.94	60.00	
20-24	5	17	54	54	0	130
	0.13	0.44	1.40	1.40	0.00	3.37
	3.85	13.08	41.54	41.54	0.00	
	2.30	2.19	3.00	5.10	0.00	
25-29	1	6	19	20	0	46
	0.03	0.16	0.49	0.52	0.00	1.19
	2.17	13.04	41.30	43.48	0.00	
	0.46	0.77	1.05	1.89	0.00	
30-34	10	22	61	41	0	134
	0.26	0.57	1.58	1.06	0.00	3.47
	7.46	16.42	45.52	30.60	0.00	
	4.61	2.83	3.39	3.87	0.00	
35-39	5	4	23	11	0	43
	0.13	0.10	0.60	0.28	0.00	1.11
	11.63	9.30	53.49	25.58	0.00	
	2.30	0.51	1.28	1.04	0.00	
40-44	6	15	19	9	0	49
	0.16	0.39	0.49	0.23	0.00	1.27
	12.24	30.61	38.78	18.37	0.00	
	2.76	1.93	1.05	0.85	0.00	
45-49	6	19	58	16	0	99
	0.16	0.49	1.50	0.41	0.00	2.56
	6.06	19.19	58.59	16.16	0.00	
	2.76	2.44	3.22	1.51	0.00	
50-54	0	4	21	7	0	32
	0.00	0.10	0.54	0.18	0.00	0.83
	0.00	12.50	65.63	21.88	0.00	
	0.00	0.51	1.17	0.66	0.00	
55-59	0	4	7	4	0	15
	0.00	0.10	0.18	0.10	0.00	0.39
	0.00	26.67	46.67	26.67	0.00	
	0.00	0.51	0.39	0.38	0.00	
OVER 60	8	25	28	24	0	85
	0.21	0.65	0.73	0.62	0.00	2.20
	9.41	29.41	32.94	28.24	0.00	
	3.69	3.21	1.55	2.27	0.00	
UNKNOWN	5	3	22	4	0	34
	0.13	0.08	0.57	0.10	0.00	0.88
	14.71	8.82	64.71	11.76	0.00	
	2.30	0.39	1.22	0.38	0.00	
TOTAL	217	778	1801	1059	5	3860
	5.62	20.16	46.66	27.44	0.13	100.00

FREQUENCY
PERCENT
ROW PCT
COL PCT

HBW - Home-Based Work
HBS - Home-Based Shop
HNB - Non-Home Based
HBO - Home-Based Other

TABLE B-16. VEHICLE TRIPS BY DEPARTURE TIME AND PURPOSE

DEPARTURE TIME	HBW	HBS	HBO	NHB	UNKNOWN	TOTAL
BEFORE 6:00 AM	11 0.28 28.95 5.07	4 0.10 10.53 0.51	14 0.36 36.84 0.78	9 0.23 23.68 0.85	0 0.00 0.00 0.00	38 0.98
6:00-6:29 AM	3 0.08 30.00 1.38	0 0.00 0.00 0.00	7 0.18 70.00 0.39	0 0.00 0.00 0.00	0 0.00 0.00 0.00	10 0.26
6:30-6:59 AM	9 0.23 31.03 4.15	1 0.03 3.45 0.13	16 0.41 55.17 0.89	2 0.05 6.90 0.19	1 0.03 3.45 20.00	29 0.75
7:00-7:29 AM	9 0.23 24.32 4.15	6 0.16 16.22 0.77	21 0.54 56.76 1.17	1 0.03 2.70 0.09	0 0.00 0.00 0.00	37 0.96
7:30-7:59 AM	17 0.44 23.29 7.83	5 0.13 6.85 0.64	44 1.14 60.27 2.44	7 0.18 9.59 0.66	0 0.00 0.00 0.00	73 1.89
8:00-8:29 AM	10 0.26 9.90 4.61	13 0.34 12.87 1.67	64 1.66 63.37 3.55	14 0.36 13.86 1.32	0 0.00 0.00 0.00	101 2.62
8:30-8:59 AM	13 0.34 9.49 5.99	12 0.31 8.76 1.54	84 2.18 61.31 4.66	28 0.73 20.44 2.64	0 0.00 0.00 0.00	137 3.55
9:00-9:29 AM	5 0.13 2.78 2.30	35 0.91 19.44 4.50	98 2.54 54.44 5.44	42 1.09 23.33 3.97	0 0.00 0.00 0.00	180 4.66
9:30-9:59 AM	5 0.13 2.63 2.30	43 1.11 22.63 5.53	93 2.41 48.95 5.16	49 1.27 25.79 4.63	0 0.00 0.00 0.00	190 4.92
10:00-10:29 AM	4 0.10 1.72 1.84	70 1.81 30.17 9.00	93 2.41 40.09 5.16	65 1.68 28.02 6.14	0 0.00 0.00 0.00	232 6.01
10:30-10:59 AM	5 0.13 2.53 2.30	39 1.01 19.70 5.01	83 2.15 41.92 4.61	69 1.79 34.85 6.52	2 0.05 1.01 40.00	198 5.13
11:00-11:29 AM	10 0.26 3.98 4.61	57 1.48 22.71 7.33	93 2.41 37.05 5.16	90 2.33 35.86 8.50	1 0.03 0.40 20.00	251 6.50
11:30-11:59 AM	8 0.21 4.02 3.69	41 1.06 20.60 5.27	81 2.10 40.70 4.50	69 1.79 34.67 6.52	0 0.00 0.00 0.00	199 5.16
12:00-12:29 PM	7 0.18 4.05 3.23	37 0.96 21.39 4.76	72 1.87 41.62 4.00	56 1.45 32.37 5.29	1 0.03 0.58 20.00	173 4.48
12:30-12:59 PM	7 0.18 4.43 3.23	24 0.62 15.19 3.08	71 1.84 44.94 3.94	56 1.45 35.44 5.29	0 0.00 0.00 0.00	158 4.09
1:00-1:29 PM	7 0.18 3.87 3.23	38 0.98 20.99 4.88	72 1.87 39.78 4.00	64 1.66 35.36 6.04	0 0.00 0.00 0.00	181 4.69
1:30-1:59 PM	3 0.08 1.60 1.38	33 0.85 17.65 4.24	78 2.02 41.71 4.33	73 1.89 39.04 6.89	0 0.00 0.00 0.00	187 4.84
2:00-2:29 PM	8 0.21 3.96 3.69	44 1.14 21.78 5.66	79 2.05 39.11 4.39	71 1.84 35.15 6.70	0 0.00 0.00 0.00	202 5.23

FREQUENCY
PERCENT
ROW PCT
COL PCT

2:30-2:59 PM	2	43	64	54	0	163
	0.05	1.11	1.66	1.40	0.00	4.22
	1.23	26.38	39.26	33.13	0.00	
	0.92	5.53	3.55	5.10	0.00	
3:00-3:29 PM	5	51	69	45	0	170
	0.13	1.32	1.79	1.17	0.00	4.40
	2.94	30.00	40.59	26.47	0.00	
	2.30	6.56	3.83	4.25	0.00	
3:30-3:59 PM	9	39	66	47	0	161
	0.23	1.01	1.71	1.22	0.00	4.17
	5.59	24.22	40.99	29.19	0.00	
	4.15	5.01	3.66	4.44	0.00	
4:00-4:29 PM	10	39	81	46	0	176
	0.26	1.01	2.10	1.19	0.00	4.56
	5.68	22.16	46.02	26.14	0.00	
	4.61	5.01	4.50	4.34	0.00	
4:30-4:59 PM	13	27	65	29	0	134
	0.34	0.70	1.68	0.75	0.00	3.47
	9.70	20.15	48.51	21.64	0.00	
	5.99	3.47	3.61	2.74	0.00	
5:00-5:29 PM	14	26	63	20	0	123
	0.36	0.67	1.63	0.52	0.00	3.19
	11.38	21.14	51.22	16.26	0.00	
	6.45	3.34	3.50	1.89	0.00	
5:30-5:59 PM	6	13	31	8	0	58
	0.16	0.34	0.80	0.21	0.00	1.50
	10.34	22.41	53.45	13.79	0.00	
	2.76	1.67	1.72	0.76	0.00	
6:00-6:29 PM	2	9	28	9	0	48
	0.05	0.23	0.73	0.23	0.00	1.24
	4.17	18.75	58.33	18.75	0.00	
	0.92	1.16	1.55	0.85	0.00	
6:30-6:59 PM	3	7	29	6	0	45
	0.08	0.18	0.75	0.16	0.00	1.17
	6.67	15.56	64.44	13.33	0.00	
	1.38	0.90	1.61	0.57	0.00	
7:00-7:29 PM	0	7	22	7	0	36
	0.00	0.18	0.57	0.18	0.00	0.93
	0.00	19.44	61.11	19.44	0.00	
	0.00	0.90	1.22	0.66	0.00	
7:30-7:59 PM	0	5	20	3	0	28
	0.00	0.13	0.52	0.08	0.00	0.73
	0.00	17.86	71.43	10.71	0.00	
	0.00	0.64	1.11	0.28	0.00	
8:00-8:29 PM	3	3	18	3	0	27
	0.08	0.08	0.47	0.08	0.00	0.70
	11.11	11.11	66.67	11.11	0.00	
	1.38	0.39	1.00	0.28	0.00	
8:30-8:59 PM	1	2	9	4	0	16
	0.03	0.05	0.23	0.10	0.00	0.41
	6.25	12.50	56.25	25.00	0.00	
	0.46	0.26	0.50	0.38	0.00	
9:00-9:29 PM	1	1	22	4	0	28
	0.03	0.03	0.57	0.10	0.00	0.73
	3.57	3.57	78.57	14.29	0.00	
	0.46	0.13	1.22	0.38	0.00	
9:30-9:59 PM	0	0	11	1	0	12
	0.00	0.00	0.28	0.03	0.00	0.31
	0.00	0.00	91.67	8.33	0.00	
	0.00	0.00	0.61	0.09	0.00	
AFTER 10:00 PM	2	1	18	4	0	25
	0.05	0.03	0.47	0.10	0.00	0.65
	8.00	4.00	72.00	16.00	0.00	
	0.92	0.13	1.00	0.38	0.00	
UNKNOWN	5	3	22	4	0	34
	0.13	0.08	0.57	0.10	0.00	0.88
	14.71	8.82	64.71	11.76	0.00	
	2.30	0.39	1.22	0.38	0.00	
TOTAL	217	778	1801	1059	5	3860
	5.62	20.16	46.66	27.44	0.13	100.00

HBW - Home-Based Work
HBS - Home-Based Shop
HNB - Non-Home Based
HBO - Home-Based Other

TABLE B-17. VEHICLE TRIPS BY HOUSEHOLD INCOME AND NUMBER OF HOUSEHOLD OCCUPANTS

HOUSEHOLD MEMBERS	# HH	% HH	HOUSEHOLD MEMBERS: 1 PERSON														
			HBW			HBS			HBO			NHB			TOTAL		
			TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV
LESS THAN $10,000	24	3.6	0	0.00	0.00	3	0.60	0.89	9	1.80	0.45	2	0.40	0.89	14	2.80	1.10
$10,000-19,999	86	12.9	8	0.53	1.19	18	1.20	1.61	45	3.00	2.30	28	1.87	1.81	99	6.60	3.07
$20,000-29,999	122	18.3	4	0.18	0.50	21	0.95	1.13	37	1.68	1.52	38	1.73	1.98	100	4.55	3.28
$30,000-39,999	96	14.4	5	0.26	0.73	27	1.42	1.22	61	3.21	2.18	43	2.26	2.33	136	7.16	4.05
OVER $40,000	92	13.8	4	0.20	0.89	19	0.95	0.83	55	2.75	2.34	32	1.60	2.04	110	5.50	2.95
DONT KNOW	58	8.7	0	0.00	0.00	26	2.17	1.99	32	2.67	1.30	17	1.42	1.88	75	6.25	3.44
REFUSED	188	28.2	13	0.37	0.94	43	1.23	1.37	77	2.20	2.77	42	1.20	2.25	175	5.00	4.26
ALL	666	100.0	34	0.27	0.81	157	1.23	1.35	316	2.47	2.22	202	1.58	2.06	709	5.54	3.67

HOUSEHOLD MEMBERS	2 PERSONS														
	HBW			HBS			HBO			NHB			TOTAL		
	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV
LESS THAN $10,000	0	0.00	0.00	8	0.44	0.70	36	2.00	1.88	13	0.72	1.07	59	3.28	3.03
$10,000-19,999	41	0.59	1.38	86	1.23	1.51	164	2.34	2.01	112	1.60	2.09	403	5.76	3.94
$20,000-29,999	27	0.28	0.78	121	1.27	1.27	242	2.55	2.10	154	1.62	1.97	544	5.73	3.45
$30,000-39,999	6	0.08	0.36	68	0.91	1.15	209	2.79	2.77	142	1.89	2.14	425	5.67	4.20
OVER $40,000	27	0.40	1.22	81	1.21	1.23	216	3.22	2.62	131	1.96	2.61	455	6.79	4.50
DONT KNOW	18	0.41	1.40	36	0.82	1.02	118	2.68	2.40	84	1.91	2.30	258	5.86	4.27
REFUSED	56	0.38	1.03	162	1.09	1.47	324	2.19	2.04	198	1.34	1.96	741	5.01	3.68
ALL	175	0.34	1.03	562	1.09	1.32	1309	2.53	2.29	834	1.61	2.12	2885	5.58	3.94

HOUSEHOLD MEMBERS	3 OR MORE PERSONS														
	HBW			HBS			HBO			NHB			TOTAL		
	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV
LESS THAN $10,000	0	0.00	.	2	2.00	.	6	6.00	.	0	0.00	.	8	8.00	.
$10,000-19,999	0	0.00	.	0	0.00	.	1	1.00	.	3	3.00	.	4	4.00	.
$20,000-29,999	0	0.00	0.00	5	1.00	1.00	15	3.00	2.65	12	2.40	3.78	32	6.40	6.35
$30,000-39,999	0	0.00	0.00	4	2.00	2.83	5	2.50	3.54	6	3.00	4.24	15	7.50	4.95
OVER $40,000	0	0.00	0.00	10	2.00	0.71	18	3.60	3.36	4	0.80	0.84	32	6.40	3.78
DONT KNOW	0	0.00	0.00	4	2.00	0.00	6	3.00	1.41	4	2.00	2.83	14	7.00	4.24
REFUSED	0	0.00	0.00	5	1.00	1.00	14	2.80	2.77	6	1.20	1.30	25	5.00	4.00
ALL	0	0.00	0.00	30	1.43	1.12	65	3.10	2.59	35	1.67	2.33	130	6.19	4.15

HBW - Home-Based Work
HBS - Home-Based Shop
HBO - Home-Based Other
HNB - Non-Home Based
HH - Households
TR/HH - Trips per Household

TABLE B-18. VEHICLE PERSON TRIPS BY HOUSEHOLD INCOME AND AUTO AND TRUCK OWNERSHIP

HOUSEHOLD INCOME	# HH	% HH	VEHICLES OWNED: 1 VEHICLE														
			HBW			HBS			HBO			NHB			TOTAL		
			TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV
LESS THAN $10,000	24	3.6	0	0.00	0.00	2	1.00	1.41	6	3.00	1.41	6	3.00	4.24	14	7.00	7.07
$10,000-19,999	86	12.9	2	0.25	0.71	14	1.75	1.67	24	3.00	3.51	22	2.75	3.81	62	7.75	7.36
$20,000-29,999	122	18.3	1	0.10	0.32	17	1.70	1.64	24	2.40	2.41	14	1.40	1.43	56	5.60	3.47
$30,000-39,999	98	14.7	2	0.20	0.63	15	1.50	2.07	32	3.20	2.86	12	1.20	1.75	61	6.10	3.03
OVER $40,000	92	13.8	0	0.00	0.00	15	1.88	0.83	45	5.63	5.24	7	0.88	0.99	67	8.38	5.45
DON"T KNOW	58	8.7	0	0.00	0.00	11	2.20	1.64	27	5.40	5.68	15	3.00	1.41	55	11.00	8.31
REFUSED	188	28.1	5	0.26	0.65	32	1.68	1.77	39	2.05	2.12	29	1.53	1.68	105	5.53	4.31
ALL	668	100.0	10	0.16	0.52	106	1.71	1.61	197	3.18	3.43	105	1.69	2.07	420	6.77	5.13

HOUSEHOLD INCOME	VEHICLES OWNED: 2 OR MORE VEHICLES														
	HBW			HBS			HBO			NHB			TOTAL		
	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV
LESS THAN $10,000	2	0.25	0.71	5	0.63	0.92	23	2.88	2.59	4	0.50	0.93	34	4.25	4.20
$10,000-19,999	18	0.86	1.74	24	1.14	1.49	64	3.05	2.46	46	2.19	2.46	152	7.24	4.89
$20,000-29,999	10	0.31	0.90	42	1.31	1.28	98	3.06	2.51	50	1.56	2.24	200	6.25	4.43
$30,000-39,999	2	0.08	0.40	29	1.16	1.46	87	3.48	2.82	80	3.20	3.46	198	7.92	5.13
OVER $40,000	15	0.58	1.50	44	1.69	1.72	122	4.69	3.40	60	2.31	2.19	241	9.27	4.41
DON"T KNOW	4	0.33	0.78	23	1.92	1.98	51	4.25	3.49	55	4.58	5.60	133	11.08	7.73
REFUSED	19	0.37	0.86	81	1.56	2.07	170	3.27	3.26	98	1.88	3.10	368	7.08	5.25
ALL	70	0.40	1.07	248	1.41	1.69	615	3.49	3.00	393	2.23	3.08	1326	7.53	5.22

HBW - Home-Based Work
HBS - Home-Based Shop
HBO - Home-Based Other
HNB - Non-Home Based
HH - Households
TR/HH - Trips per Household

TABLE B-19. VEHICLE TRIPS BY HOUSEHOLD INCOME ANDAUTO AND TRUCK OWNERSHIP

HOUSEHOLD INCOME	# HH	% HH	VEHICLES OWNED														
			1 VEHICLE														
			HBW			HBS			HBO			NHB			TOTAL		
			TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV
LESS THAN $10,000	24	3.6	0	0.00	0.00	1	0.50	0.71	5	2.50	0.71	3	1.50	2.12	9	4.50	3.54
$10,000-19,999	86	12.9	2	0.25	0.71	13	1.63	1.60	17	2.13	2.70	17	2.13	2.90	49	6.13	5.59
$20,000-29,999	122	18.3	1	0.10	0.32	11	1.10	1.10	22	2.20	2.49	10	1.00	0.94	44	4.40	3.27
$30,000-39,999	98	14.7	2	0.20	0.63	12	1.20	1.62	24	2.40	2.12	11	1.10	1.73	49	4.90	2.28
OVER $40,000	92	13.8	0	0.00	0.00	14	1.75	0.89	36	4.50	4.72	6	0.75	0.89	56	7.00	4.99
DON"T KNOW	58	8.7	0	0.00	0.00	9	1.80	1.79	11	2.20	1.10	8	1.60	0.55	30	6.00	2.55
REFUSED	188	28.1	5	0.26	0.65	28	1.47	1.71	28	1.47	1.43	20	1.05	1.43	81	4.26	3.66
ALL	668	100.0	10	0.16	0.52	88	1.42	1.45	143	2.31	2.55	75	1.21	1.58	318	5.13	3.79

HOUSEHOLD INCOME	2 OR MORE VEHICLES														
	HBW			HBS			HBO			NHB			TOTAL		
	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV	TRIPS	TR/HH	STDEV
LESS THAN $10,000	0	0.00	0.00	5	0.63	0.92	19	2.38	2.26	4	0.50	0.93	28	3.50	3.34
$10,000-19,999	18	0.86	1.74	17	0.81	1.03	52	2.48	2.16	37	1.76	1.95	124	5.90	4.01
$20,000-29,999	9	0.28	0.85	33	1.03	0.90	71	2.22	1.93	40	1.25	1.87	153	4.78	3.54
$30,000-39,999	2	0.08	0.40	24	0.96	1.21	67	2.68	2.34	53	2.12	2.07	146	5.84	3.56
OVER $40,000	14	0.54	1.48	35	1.35	1.26	89	3.42	2.56	45	1.73	2.09	183	7.04	3.92
DON"T KNOW	4	0.33	0.78	15	1.25	1.22	33	2.75	2.34	34	2.83	3.21	86	7.17	5.22
REFUSED	18	0.35	0.84	66	1.27	1.76	123	2.37	2.39	71	1.37	1.94	278	5.35	4.07
ALL	65	0.37	1.05	195	1.11	1.33	454	2.58	2.29	284	1.61	2.07	998	5.67	3.98

HBW - Home-Based Work
HBS - Home-Based Shop
HBO - Home-Based Other
HNB - Non-Home Based
HH - Households
TR/HH - Trips per Household

APPENDIX C

ANALYSIS OF VARIANCE

The candidate trip generation variables of household size, household income, auto ownership, age of head of household, and type of residence were examined utilizing analysis of variance procedures. In multivariate statistical analysis, the F distribution is used for significance testing. This involves the testing of the null hypothesis of independence, which is that none of the variables chosen as predictors is associated in the population with the predicted variable. This implies that the regression equation is hypothesized to do no better than the sample mean as a predictor.

The F-test for the null hypothesis is defined as:

$$\alpha = \text{Prob } [F_{df=k,n-k-1} \geq F_{obs} | \text{null hypothesis is true}]$$

α = level of significance

k = number of predictor variables

n = number of cases

F_{obs} = mean square between groups/mean square within groups

At the 95th percentile of the F distribution (=0.05), the F distribution value for 1 predictor variable and 120 cases is:

$$F_{df=1,120} = 3.92$$

while the F distribution value for 1 predictor variable and ∞ cases is:

$$F_{df=1,\infty} = 3.84$$

Therefore, one can say that F_{obs} values greater 4.00 are hard to explain as sampling accidents.

As seen in the following tables developed with the SAS general linear model procedure, the F_{obs} values for all of the predictor variables tested were less than 4. This implies that the null hypothesis of independence is true and that the regression equation is no better than the sample mean as a predictor.

SAS 15:23 WEDNESDAY, JUNE 19, 1985

GENERAL LINEAR MODELS PROCEDURE

CLASS LEVEL INFORMATION

CLASS	LEVELS	VALUES
HH_MEMS	3	1 2 3 OR MORE

NUMBER OF OBSERVATIONS IN DATA SET = 666

SAS 15:23 WEDNESDAY, JUNE 19, 1985

GENERAL LINEAR MODELS PROCEDURE

DEPENDENT VARIABLE: TOT_VP

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	
MODEL	2	12.81891743	6.40945871	0.21	0.8113	0.000631	71.
ERROR	663	20313.08648798	30.63813950		ROOT MSE		TOT_VP
CORRECTED TOTAL	665	20325.90540541			5.53517294		7.7072

SOURCE	DF	TYPE I SS	F VALUE	PR > F	DF	TYPE III SS	F VALUE	PR
HH_MEMS	2	12.81891743	0.21	0.8113	2	12.81891743	0.21	0.

C
8
M
0
8

SAS 15:42 MONDAY, JUNE 17, 1985

GENERAL LINEAR MODELS PROCEDURE

CLASS LEVEL INFORMATION

CLASS	LEVELS	VALUES
HH_INC	5	$10,000-19,999 $20,000-29,999 $30,000-39,999 LESS THAN $10,00 OVER $40,000

NUMBER OF OBSERVATIONS IN DATA SET = 422

SAS 15:42 MONDAY, JUNE 17, 1985

GENERAL LINEAR MODELS PROCEDURE

DEPENDENT VARIABLE: TOT_VP

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	
MODEL	4	387.63096769	96.90774192	3.18	0.0137	0.029594	69.
ERROR	417	12710.76713658	30.48145596		ROOT MSE		TOT_VP
CORRECTED TOTAL	421	13098.39810427			5.52100136		7.9383

SOURCE	DF	TYPE I SS	F VALUE	PR > F	DF	TYPE III SS	F VALUE	PR
HH_INC	4	387.63096769	3.18	0.0137	4	387.63096769	3.18	0.

SAS 15:23 WEDNESDAY, JUNE 19, 1985

GENERAL LINEAR MODELS PROCEDURE

CLASS LEVEL INFORMATION

CLASS	LEVELS	VALUES
AUT_TRK	3	NO RESPONSE 1 2 OR MORE

NUMBER OF OBSERVATIONS IN DATA SET = 666

SAS 15:23 WEDNESDAY, JUNE 19, 1985

GENERAL LINEAR MODELS PROCEDURE

DEPENDENT VARIABLE: TOT_VP

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	
MODEL	2	58.84716016	29.42358008	0.96	0.3825	0.002895	71.
ERROR	663	20267.05824524	30.56871530		ROOT MSE		TOT_VP
CORRECTED TOTAL	665	20325.90540541			5.52889820		7.7072

SOURCE	DF	TYPE I SS	F VALUE	PR > F	DF	TYPE III SS	F VALUE	PR
AUT_TRK	2	58.84716016	0.96	0.3825	2	58.84716016	0.96	0.

C
7
M
0
3

SAS 16:21 WEDNESDAY, JUNE 19, 1985

GENERAL LINEAR MODELS PROCEDURE

CLASS LEVEL INFORMATION

CLASS	LEVELS	VALUES
TYPE	5	APARTMENT/CONDO DUPLEX (TOWNHOUS MOBILE HOME (SF) SINGLE FAMILY HO

NUMBER OF OBSERVATIONS IN DATA SET = 661

NOTE: ALL DEPENDENT VARIABLES ARE CONSISTENT WITH RESPECT TO THE PRESENCE OR ABSENCE OF MISSING VALUES. HOWEVER, ONLY 659 OBSERVATIONS IN DATA SET CAN BE USED IN THIS ANALYSIS.

SAS 16:21 WEDNESDAY, JUNE 19, 1985

GENERAL LINEAR MODELS PROCEDURE

DEPENDENT VARIABLE: TOT_VP

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	
MODEL	4	143.14022987	35.78505747	1.17	0.3228	0.007105	71.
ERROR	654	20004.16174282	30.58740328		ROOT MSE		TOT_VP
CORRECTED TOTAL	658	20147.30197269			5.53058797		7.6965

SOURCE	DF	TYPE I SS	F VALUE	PR > F	DF	TYPE III SS	F VALUE	PR
TYPE	4	143.14022987	1.17	0.3228	4	143.14022987	1.17	0.

C
8
M
0
3

SAS 15:37 WEDNESDAY, JUNE 19, 1985

GENERAL LINEAR MODELS PROCEDURE

CLASS LEVEL INFORMATION

CLASS	LEVELS	VALUES
OLD_AGE	8	LESS THAN 50 OVER 80 50-54 55-59 60-64 65-69 70-74 75-79

NUMBER OF OBSERVATIONS IN DATA SET = 657

SAS 15:37 WEDNESDAY, JUNE 19, 1985

GENERAL LINEAR MODELS PROCEDURE

DEPENDENT VARIABLE: TOT_VP

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F	R-SQUARE	
MODEL	7	244.06573991	34.86653427	1.14	0.3368	0.012128	71.
ERROR	649	19880.56439708	30.63261078		ROOT MSE		TOT_VP
CORRECTED TOTAL	656	20124.63013699			5.53467350		7.7123

SOURCE	DF	TYPE I SS	F VALUE	PR > F	DF	TYPE III SS	F VALUE	PR
OLD_AGE	7	244.06573991	1.14	0.3368	7	244.06573991	1.14	0.

C
7
M
2
3

Appendix D

Detailed Description of Survey Editing Process

The Green Valley Travel Survey data sets required a great deal of editing to be able to use them to produce accurate statistics. The programs listed below are most of the edits that were made to the data sets, although many individual records had to be recoded by hand using the original surveys.

STEP1: This program deleted duplicate and incorrect records from the person and trip data sets.

STEP2: Trip durations were calculated in minutes using the departure and arrival times from the surveys.

STEP3: Created O_PURP variable on the trip file. O_PURP represents the purpose of the person's previous trip.

STEP4: Created OD_PURP variable on the trip file. OD_PURP is a combination of the present and previous trip purposes. It indicates whether a trip was begun from home or not.

STEP5: Corrected errors made during the survey to the household data set. Also divided the household data set into two parts, those households that completed only phase one of the survey, and those that completed both phase one and two.

STEP6: Added new variables to the household data set. AUT_TRK is the number of autos and trucks per household, NUM_WALK is the number of walking trips per household, NUM_BIKE is the number of bicycle trips per household, TOT_TRIP is the total number of trips per household, and AUT_TRIP is the number of auto and truck trips per household. Also, the oldest member in each household was determined and an indicator was saved on the person file.

STEP7: The age of the oldest household member in each household was added to the household file.

STEP8: Calculated the number of vehicle person trips per household, vehicle driver trips per household, and golf cart trips per household by purpose. These variables were used extensively in the cross tabulations.

STEP9: Recoded blank records and corrected other erroneous data.

STEP10: Converted trip departure and arrival times into military time.

STEP11: Added OD_DEST variable, which indicates the origin and destination of each trip, to the trip file.

Program STEP1: Deleted duplicate records from person and trip data steps.

```
DATA TEMP1 ; SET SASDATA.PER3 ;
  IF HH_ID=2127 THEN HH_ID=27 ;
  IF HH_ID=. THEN DELETE ;
  IF HH_ID=358 THEN DELETE ;

PROC SORT ; BY HH_ID PER_ID ;

DATA TEMP2 ; SET SASDATA.TRIP3 ;
  IF HH_ID=. THEN DELETE ;
  IF HH_ID=88 THEN DELETE ;
  IF HH_ID=129 THEN DELETE ;
  IF HH_ID=132 THEN DELETE ;
  IF HH_ID=838 THEN DELETE ;
  IF HH_ID=988 THEN DELETE ;

PROC SORT ; BY HH_ID PER_ID TRIP_NO ;

DATA SASDATA.PER3 ; SET TEMP1 ;
DATA SASDATA.TRIP3 ; SET TEMP2 ;
```

Program STEP2: Calculated the duration of trips in minutes using the departure and arrival time.

```
OPTIONS NOCENTER ;
DATA TRIP ; SET SASDATA.TRIP3 ;
  DROP DURATION ;

DATA TRIPS ; SET TRIP ;
  TEMP1=ARRIVE ;
  TEMP2=DEPART ;
  IF AMPM_D='A' AND (ARRIVE>DEPART) THEN AMPM_A='A' ;
  IF AMPM_D='P' AND AMPM_A='A' THEN AMPM_A='P' ;
  IF ARRIVE =. OR DEPART=. THEN DURATION=9999 ;
  ELSE IF ARRIVE=9999 OR DEPART=9999 THEN DURATION=9999 ;
  ELSE DO ;
  IF AMPM_A='P' AND AMPM_D NE ' ' THEN DO ;
    IF ARRIVE <1200 THEN ARRIVE=ARRIVE+1200 ;
  END ;
  IF AMPM_D='P' AND AMPM_A NE ' ' THEN DO ;
    IF DEPART<1200 THEN DEPART=DEPART+1200 ;
  END ;
  D_HRS=INT(DEPART/100)*60 ;
  D_MINS=DEPART-(D_HRS/60*100) ;
  D_TIME=D_HRS+D_MINS ;
  A_HRS=INT(ARRIVE/100)*60 ;
  A_MINS=ARRIVE-(A_HRS/60*100) ;
  A_TIME=A_HRS+A_MINS ;
  DURATION=A_TIME-D_TIME ;
  END ;
  ARRIVE=TEMP1 ;
  DEPART=TEMP2 ;
  IF DURATION < 0 THEN DURATION=9999 ;
  DROP TEMP1 TEMP2 D_TIME D_HRS D_MINS A_TIME A_MINS A_HRS ;

DATA SASDATA.TRIP3 ; SET TRIPS ;
```

Program STEP3: Added O_PURP variable to trip records. O_PURP is the origin purpose of the trip (the destination purpose of the previous trip).

```
OPTIONS NOCENTER ;

DATA TEMP1; SET SASDATA.TRIP3 ;
  DROP O_PURP ;

DATA TRIP ; SET TEMP1;
  BY HH_ID PER_ID TRIP_NO ;
  RETAIN TEMP ;
  IF TRIP_NO=1 THEN TEMP=1 ;
  O_PURP=TEMP ;
  TEMP=D_PURP ;
  DROP TEMP ;

DATA SASDATA.TRIP3 ; SET TRIP ;
```

Program STEP4: Added OD_PURP variable to the trip records. OD_PURP is a combination of the origin and destination trip purposes.

```
OPTIONS NOCENTER ;
%INC FORMATS ;

DATA TEMP ; SET SASDATA.TRIP3 ;
  DROP OD_PURP ;

DATA TRIP ; SET TEMP ;
  IF O_PURP=1 THEN DO ;
    IF D_PURP=2 OR D_PURP=3 THEN OD_PURP=1 ;
    IF D_PURP=4 THEN OD_PURP=2 ;
    IF D_PURP=6 THEN OD_PURP=3 ;
    IF D_PURP=7 OR D_PURP=8 THEN OD_PURP=4 ;
    IF D_PURP=5 OR D_PURP=9 OR D_PURP=10 OR D_PURP=1 THEN OD_PURP=5 ;
    IF D_PURP=. THEN OD_PURP=5 ;
  END ;
  ELSE IF D_PURP=1 THEN DO ;
    IF O_PURP=2 OR O_PURP=3 THEN OD_PURP=1 ;
    IF O_PURP=4 THEN OD_PURP=2 ;
    IF O_PURP=6 THEN OD_PURP=3 ;
    IF O_PURP=7 OR O_PURP=8 THEN OD_PURP=4 ;
    IF O_PURP=5 OR O_PURP=9 OR O_PURP=10 THEN OD_PURP=5 ;
    IF O_PURP=. THEN OD_PURP=5 ;
  END ;
  ELSE OD_PURP=6 ;

PROC FREQ ;
  TABLES OD_PURP O_PURP D_PURP ;
  FORMAT OD_PURP ODFMT. ;

DATA SASDATA.TRIP3 ; SET TRIP ;
```

Program STEP5: Divided household file into two data sets, those households that completed only phase one of the survey and those households that completed both phases. Also corrected errors on household records made during the survey process.

```
PROC SORT DATA=SASDATA.HH3 ;
  BY HH_ID ;

DATA HH ; SET SASDATA.HH3 ;
  BY HH_ID ;
  IF INT_1='GARY' THEN DO ;
    IF MON_BEG=12 AND MON_END=1 THEN DO ;
      MON_BEG=1 ;
      MON_END=12 ;
    END ;
  END ;

DATA PER ; SET SASDATA.PER3 ;
  BY HH_ID PER_ID ;
  IF FIRST.HH_ID ;
  KEEP HH_ID ;

DATA TEMP1 TEMP2 ; MERGE HH (IN=A) PER (IN=B) ;
  IF A AND NOT B THEN OUTPUT TEMP1 ;
  IF A AND B THEN OUTPUT TEMP2 ;

DATA SASDATA.HH3_PH1 ; SET TEMP1 ;

DATA SASDATA.HH3_PH2 ; SET TEMP2 ;

DATA SASDATA.HH3 ; SET HH ;
```

Program STEP6: Added the following variables to the household records: AUT_TRK, NUM_WALK, NUM_BIKE, HH_INC, TOT_TRIP and AUT_TRIP.

```
OPTIONS NOCENTER ;

DATA HOUSE ; SET SASDATA.HH3_PH2 ;
  IF TRUCKS NE . THEN AUT_TRK=AUTOS+TRUCKS ;
  ELSE AUT_TRK=AUTOS ;
  LABEL AUT_TRK='NUMBER OF AUTOS AND TRUCKS IN HOUSEHOLD'
        TOT_VEH='NUMBER OF VEHCILES IN HOUSEHOLD' ;

PROC SORT ;
  BY HH_ID ;

DATA PERSON ; SET SASDATA.PER3 ;
  BY HH_ID PER_ID ;
  RETAIN NUM_WALK NUM_BIKE ;
  IF FIRST.HH_ID THEN DO ;
    NUM_WALK=0 ;
    NUM_BIKE=0 ;
  END ;
  NUM_WALK=NUM_WALK+WALK ;
  NUM_BIKE=NUM_BIKE+BIKE ;
  IF LAST.HH_ID THEN OUTPUT ;
  KEEP HH_ID NUM_WALK NUM_BIKE ;

DATA HOUSE ; MERGE HOUSE (IN=A) PERSON (IN=B) ;
  BY HH_ID ;
  IF A ;

DATA PER1 ; SET SASDATA.PER3 ;

PROC SORT ;
  BY HH_ID DESCENDING AGE ;

DATA PERSON TEMP ; SET PER1 ;
  BY HH_ID ;
  IF FIRST.HH_ID THEN OLDEST=1 ;
  ELSE OLDEST=0 ;
  IF OLDEST=1 THEN HH_INC=PER_INC ;
  LABEL HH_INC='HOUSEHOLD INCOME'
        OLDEST='OLDEST MEMBER OF HOUSEHOLD' ;
  IF OLDEST=1 THEN OUTPUT PERSON ;
  OUTPUT TEMP ;

DATA PERSON ; SET PERSON ;
  KEEP HH_ID HH_INC ;

DATA HOUSE ;          MERGE HOUSE (IN=A) PERSON (IN=B) ;
  IF A ;

PROC SORT DATA=TEMP ;
  BY HH_ID PER_ID ;
```

```
DATA SASDATA.PER3 ; SET TEMP ;

DATA TRIP ; SET SASDATA.TRIP3 ;
  BY HH_ID PER_ID TRIP_NO ;
  RETAIN AUT_TRIP TOT_TRIP ;
  IF FIRST.HH_ID  THEN DO ;
    TOT_TRIP=0 ;
    AUT_TRIP=0 ;
  END ;
  TOT_TRIP=TOT_TRIP+1 ;
  IF VEHICLE=1 OR VEHICLE=2 THEN AUT_TRIP=AUT_TRIP+1 ;
  KEEP HH_ID AUT_TRIP TOT_TRIP ;
  IF LAST.HH_ID THEN OUTPUT ;

PROC SORT DATA=HOUSE ;
  BY HH_ID ;

DATA SASDATA.HH3_PH2; MERGE TRIP (IN=A) HOUSE (IN=B) ;
  BY HH_ID ;
  IF B ;

PROC FREQ ;
  TABLES TOT_TRIP AUT_TRIP HH_INC AUT_TRK NUM_BIKE NUM_WALK ;
```

Program STEP7: Continuation of STEP6, added OLD_AGE, the age of the oldest household member, to the household records.

```
OPTIONS NOCENTER ;

DATA PERSON ; SET SASDATA.PER3 ;
  OLD_AGE=AGE ;
  LABEL OLD_AGE='AGE OF OLDEST HOUSEHOLD MEMBER' ;
  KEEP OLD_AGE HH_ID ;
  IF OLDEST=1 THEN OUTPUT ;

DATA HOUSE ; MERGE SASDATA.HH3_PH2(IN=A) PERSON (IN=B) ;
  BY HH_ID ;
  IF A ;

PROC FREQ ;
  TABLES OLD_AGE ;

DATA SASDATA.HH3_PH2 ; SET HOUSE ;
```

Program STEP8: Calculated variables to count the number of trips by purpose for vehicle person trips, vehicle driver trips, and golf cart trips. These variables were added to the household records.

```
OPTIONS NOCENTER ;

DATA HOUSE ; SET SASDATA.HH3_PH2 ;
  DROP NUM_HBW NUM_HBS NUM_NHB NUM_HBO ;

DATA PERSON ; SET SASDATA.PER3 ;
  BY HH_ID PER_ID ;
  RETAIN NUM_PER ;
  IF FIRST.HH_ID THEN NUM_PER=0 ;
  NUM_PER=NUM_PER+1 ;
  IF LAST.HH_ID THEN OUTPUT ;
  KEEP HH_ID NUM_PER ;

DATA HOUSE2 ; MERGE HOUSE (IN=A) PERSON (IN=B) ;
  BY HH_ID ;
  IF A ;
  IF A AND NOT B THEN NUM_PER=0 ;

DATA TRIP ; SET SASDATA.TRIP ;
  BY HH_ID PER_ID TRIP_NO ;
  RETAIN HBW_VP HBS_VP HBO_VP NHB_VP TOT_VP
         HBW_VD HBS_VD HBO_VD NHB_VD TOT_VD
         HBW_GC HBS_GC HBO_GC NHB_GC TOT_GC ;
  ARRAY ALLVARS HBW_VP--TOT_GC ;
  IF FIRST.HH_ID THEN DO OVER ALLVARS ;
    ALLVARS=0 ;
  END ;
  IF VEHICLE=3 THEN DO ;
    IF OD_PURP=1 THEN HBW_GC=HBW_GC+1 ;
    IF OD_PURP=2 THEN HBS_GC=HBS_GC+1 ;
    IF OD_PURP=3 OR OD_PURP=4 OR OD_PURP=5 THEN HBO_GC=HBO_GC+1 ;
    IF OD_PURP=6 THEN NHB_GC=NHB_GC+1 ;
    TOT_GC=TOT_GC+1 ;
  END ;
  IF VEHICLE NE 3 AND VEHICLE NE . THEN DO ;
    IF OD_PURP=1 THEN HBW_VP=HBW_VP+1 ;
    IF OD_PURP=2 THEN HBS_VP=HBS_VP+1 ;
    IF OD_PURP=3 OR OD_PURP=4 OR OD_PURP=5 THEN HBO_VP=HBO_VP+1 ;
    IF OD_PURP=6 THEN NHB_VP=NHB_VP+1 ;
    TOT_VP=TOT_VP+1 ;
    IF DRIVER=1 THEN DO ;
      IF OD_PURP=1 THEN HBW_VD=HBW_VD+1 ;
      IF OD_PURP=2 THEN HBS_VD=HBS_VD+1 ;
      IF OD_PURP=3 OR OD_PURP=4 OR OD_PURP=5 THEN HBO_VD=HBO_VD+1 ;
      IF OD_PURP=6 THEN NHB_VD=NHB_VD+1 ;
      TOT_VD=TOT_VD+1 ;
    END ;
  END ;
  IF LAST.HH_ID THEN OUTPUT ;
  KEEP HH_ID HBW_VP--TOT_GC ;
```

```
DATA HOUSE3 ; MERGE HOUSE2 (IN=A) TRIP (IN=B) ;
  BY HH_ID ;
  IF A ;
  ARRAY ALLVARS HBW_VP--TOT_GC ;
  IF A AND NOT B THEN DO OVER ALLVARS ;
    ALLVARS=0 ;
  END ;

PROC FREQ ;
  TABLES HBW_VP--TOT_GC NUM_PER ;

DATA SASDATA.HH3_PH2 ; SET HOUSE3 ;
```

Program STEP9: Recoded missing and erroneous responses on the household data set.

```
DATA HOUSE ; SET SASDATA.HH3_PH2 ;
  IF HH_INC=. THEN HH_INC=7 ;
  IF OLD_AGE=. THEN OLD_AGE=999 ;
  IF AUT_TRK=99 THEN AUT_TRK=0 ;
  IF GOLF_CRT=. THEN GOLF_CRT=0 ;
  IF TOT_TRIP=. THEN TOT_TRIP=0 ;
  IF AUTOS=. THEN AUTOS=0 ;
  IF TRUCKS=. THEN TRUCKS=0 ;
  IF AUT_TRIP=. THEN AUT_TRIP=0 ;
  IF TOT_VEH=. THEN TOT_VEH=99 ;
  LABEL TOT_VEH=' '
        AUT_TRK=' '
        HH_INC=' '
        OLD_AGE=' ' ;
DATA SASDATA.HH3_PH2 ; SET HOUSE ;
```

Program STEP10: Converted the trip departure and arrival times on the trips records to military time.

```
%INC FORMATS ;

DATA TRIP ; SET SASDATA.TRIP3 ;
  IF (ARRIVE=.) OR (DEPART=.) OR (DURATION=9999) OR
     (ARRIVE=9999) OR (DEPART=9999) THEN DO ;
    ARRIVE=9999 ;
    DEPART=9999 ;
   AMPM_A='U' ;
  TRP_CHK=2 ;
   AMPM_D='U' ;
   DURATION=9999 ;
  END ;
  IF AMPM_D='A' AND AMPM_A=' ' THEN AMPM_A='A' ;
  IF AMPM_D='P' AND AMPM_A=' ' THEN AMPM_A='P' ;
  IF AMPM_D=' ' AND AMPM_A='A' THEN AMPM_D='A' ;
  IF AMPM_D=' ' AND AMPM_A='P' THEN AMPM_D='P' ;
  IF AMPM_A=' ' AND AMPM_D=' ' THEN DO ;
  IF DEPART<700 THEN AMPM_D='P' ;
  IF ARRIVE<700 THEN AMPM_A='P' ;
  IF 1000<=DEPART<=1159 THEN AMPM_D='A' ;
  IF 1000<=ARRIVE<=1159 THEN AMPM_A='A' ;
  IF 1200<=DEPART<=1259 THEN AMPM_D='P' ;
  IF 1200<=ARRIVE<=1259 THEN AMPM_A='P' ;
    IF (700<=DEPART<=959) OR (700<=ARRIVE<=959) THEN DO ;
      ARRIVE=9999 ;
      DEPART=9999 ;
      DURATION=9999 ;
      AMPM_A='U' ;
      AMPM_D='U' ;
     TRP_CHK=2 ;
    END ;
  END ;
  IF AMPM_D='P' AND DEPART<1200 THEN DEPART=DEPART+1200 ;
  IF AMPM_A='P' AND ARRIVE<1200 THEN ARRIVE=ARRIVE+1200 ;
  IF AMPM_D='A' THEN DO ;
    IF DEPART=1200 THEN DEPART=2400 ;
    IF 1201<=DEPART<=1259 THEN DEPART=DEPART-1200 ;
  END ;
  IF AMPM_A='A' THEN DO ;
    IF ARRIVE=1200 THEN ARRIVE=2400 ;
    IF 1201<=ARRIVE<=1259 THEN ARRIVE=ARRIVE-1200 ;
  END ;
  IF ARRIVE=1360 THEN ARRIVE=1400 ;
  IF ARRIVE<700 AND DEPART>=700 THEN DO ;
    ARRIVE=ARRIVE+1200 ;
    AMPM_A='P' ;
  END ;
  IF ARRIVE>=2200 AND DEPART <=2200 THEN DO ;
    ARRIVE=ARRIVE-1200 ;
    AMPM_A='A' ;
  END ;
  IF DEPART>=2200 AND ARRIVE<=2200 THEN DO ;
```

```
    DEPART=DEPART-1200 ;
    AMPM_D='A' ;
    IF DEPART>=1200 THEN AMPM_D='P' ;
  END ;

PROC FREQ ;
  TABLES AMPM_D DEPART AMPM_A ARRIVE DURATION ;
  FORMAT DURATION DURFMT.  DEPART ARRIVE TIMEFMT. ;

DATA SASDATA.TRIP3 ; SET TRIP ;
```

Program STEP11: Added OD_DEST, a combination of the origin and destination of the trip, to the trip records.

```
DATA TRIP ; SET SASDATA.TRIP3 ;
  BY HH_ID PER_ID TRIP_NO ;
  RETAIN TEMP ;
  IF FIRST.PER_ID THEN TEMP=1 ;
  IF TEMP=1 THEN DO ;
    IF LOC=1 THEN OD_DEST=1 ;
    IF LOC=2 THEN OD_DEST=2 ;
    IF LOC=3 THEN OD_DEST=3 ;
  END ;
  ELSE IF TEMP=2 THEN DO ;
    IF LOC=1 THEN OD_DEST=4 ;
    IF LOC=2 THEN OD_DEST=5 ;
    IF LOC=3 THEN OD_DEST=6 ;
  END ;
  ELSE IF TEMP=3 THEN DO ;
    IF LOC=1 THEN OD_DEST=7 ;
    IF LOC=2 THEN OD_DEST=8 ;
    IF LOC=3 THEN OD_DEST=9 ;
  END ;
  ELSE OD_DEST=99 ;
  IF OD_DEST=. THEN OD_DEST=99 ;
  TEMP=LOC ;
  DROP TEMP ;

DATA SASDATA.TRIP3 ; SET TRIP ;
```