

1. PURPOSE

The purpose of this note is to document the procedure followed to calculate the Household Trip Rates for Trip Generation, and to report the values derived during that process.

2. INTRODUCTION

The database was supplied by Opus on 24th November 2008, and updated on 9th January 2009. During January and February 2009, the data was 'cleaned' to the extent that the geo-coding was corrected, expansion factors applied, and inconsistent trip records corrected. The final data set was dated 14th April 2009. The data issues are described in Technical Note 5, and the expansion factor calculation described in Technical Note 4.

As a result of the expansion factor process, the original 18 household categories were reduced to 10. This occurred because the number of households in several of the categories was too small.

Secondly, these categories were cross-classified against four vehicle ownership categories (0,1,2,3+vehicles), but where the number of vehicles available exceeded the number of adults in a household, the number of vehicles was capped at the number of adults.

Accordingly, the revised household category model structure is shown in Table 1, with the cells containing the number of households in each category.

Number of Households in Household Categories (raw)						Table 1
		Vehicle Availability				
Households with		0	1	2	3+	Total
One Adult working	1	829	13,040	3,080	71	17019
One adult not working	2	4,283	12,538	484	373	17678
2 Adults working	3	333	5,193	16,872	4,216	26614
2 adults not working	4	409	6,857	4,796	318	12380
2 adults one working	5	99	2,698	5,170	1,060	9027
3+ adults	6	93	760	2,348	2,889	6090
One Parent with children	7	967	5,255	1,597	0	15333
Multi parent with older	8	300	6,611	7,637	2,023	8763
Multi parent with younger	9	425	5,235	10,892	3,595	24640
Multi parent with both	10	185	1,381	8,192	4,140	9699
Total		8111	63387	63101	12647	147243

As described in Technical Note 8 – Household Distribution model, it proved impossible to calibrate distribution curves for the four categories of households with children (categories 7-10). Accordingly, the decision was taken to redefine the categories firstly according to whether there were children in the household, and then by household size. The same rules in relation to car availability being limited to the number of adults in the categories were retained. The affected cells are shaded in Tables 1 and 2.

The resulting distribution of households in each category is shown in Table 2.

Number of Households in Household Categories (adjusted for new definitions)						Table 2
		Vehicle Availability				
Households with		0	1	2	3+	Total
One Adult working	1	829	16190			17019
One adult not working	2	4283	13395			17678
Two Adults working	3	333	5193	21088		26614
Two adults not working	4	409	6857	5115		12380
Two adults one working	5	99	2698	6230		9027
Three + adults	6	93	760	2349	2889	6090
Two Person Family	7	967	5255	1597		7819
Three Person Family	8	300	6611	9659		16571
Four Person Family	9	426	5235	10892	3595	20147
Five + Person Family	10	185	1381	8192	4140	13898
Total		7923	63575	65124	10624	147243

During the calibration of the household distribution model, a discrepancy in definition used by the Stats Department was discovered and the data was re-issued by them. Table 3 contains the final data.

Number of Households in Household Categories (Revised following Stats redefinition)						Table 3
		Vehicle Availability				
Households with		0	1	2	3+	Total
One Adult working	1	805	15,015	0	0	15,820
One adult not working	2	3,848	12,378	0	0	16,226
Two Adults working	3	191	5,168	21,127	0	26,486
Two adults not working	4	384	6,503	5,420	0	12,307
Two adults one working	5	129	2,970	5,980	0	9,079
Three + adults	6	151	1,171	2,780	5,686	9,788
Two Person Family	7	631	3,439	922	0	4,992
Three Person Family	8	310	5,287	8,025	2,575	16,197
Four Person Family	9	453	4,407	10,860	3,871	19,591
Five + Person Family	10	227	1,704	9,724	4,959	16,614
Total		7,129	58,042	64,838	17,091	147,100

With the addition of the vehicle availability categories, there are a number that have few households. Later, it may be necessary to aggregate some of the categories, and in particular larger households with no cars, but this can be dealt with should it be necessary.

3. TRIP PURPOSES

The model specification report outlined the trip purposes to be used, and these have been carried through into this analysis. The thirteen trip purposes are

From Home

1. Home to work
2. Home to education
3. Home to business
4. Home to shop
5. Home to social/recreation
6. Home to other

Non Home Based

7. Non home based

To Home

8. Work to home
9. Education to home
10. Business to home
11. Shopping to home
12. Social/recreation to home
13. Other to home

Not all purposes are relevant in all time periods, but all will be included in the model for consistency of structure over the three periods.

4. ALL DAY TRIP RATES

Person Trips

The first model to be calibrated was for person trips per household by all modes with the mean trip rates shown in Table 4. Truck driver non home based, school bus trips and driver trips of 'other vehicle' (tractors, mobility scooters etc), and external trips were excluded from the generation as these were not to be included in the model.¹

Mean person trip rates per Household – all modes						Table 4
		Vehicle Availability				
Households with		0	1	2	3+	Total
One Adult working	1	3.442	4.057	0	0	4.03
One adult not working	2	2.17	3.552	0	0	3.22
Two Adults working	3	6.254	7.634	7.973	0	7.89
Two adults not working	4	4.239	6.034	7.063	0	6.43
Two adults one working	5	0.789	7.152	7.947	0	7.59
Three + adults	6	0	8.818	11.592	12.281	11.48
Two Person Family	7	7.411	7.619	9.495	0	7.94
Three person Family	8	3.476	13.226	12.884	13.191	12.86
Four Person Family	9	9.637	14.493	17.359	18.441	16.75
Five + Person Family	10	9.67	20.288	21.509	26.039	22.57
Total		3.70	7.06	12.28	17.81	10.45

The 90% Confidence Intervals are shown in Table 5 below. Note that if the confidence interval is zero, then there are less than two observations for that cell in the data (for example Household category 5 with no cars).

90% Confidence Interval – person trip rates						Table 5
		Vehicle Availability				
Households with		0	1	2	3+	
One Adult working	1	1.00	0.27			
One adult not working	2	0.97	0.31			
Two Adults working	3	0.65	0.61	0.37		
Two adults not working	4	1.05	0.48	0.54		
Two adults one working	5	0.00	0.58	0.56		
Three + adults	6	0.00	2.04	1.19	0.85	
Two Person Family	7	1.43	0.60	1.79		
Three person Family	8	1.60	0.98	0.74	1.25	
Four Person Family	9	2.18	1.18	0.75	1.17	
Five + Person Family	10	3.58	3.04	1.31	2.31	

¹ When the school bus and external trips are included, the 24 hour trip rate is 11.06 trips/household. This is higher than that from most other HIS surveys, and no adjustment for underreporting was needed.

Car driver trips

The second model to be calibrated was for all day car driver trips. These trips exclude drivers of heavy goods vehicles, external trips, motorcycles, and drivers of 'Other vehicles' such as quad bikes and mobility scooters².

The Trip rates for households in each category are shown in Table 6.

Mean Car Driver trip rates per Household						Table 6
		Vehicle Availability				
Households with		0	1	2	3+	Total
One Adult working	1	0.988	3.551	0	0	3.42
One adult not working	2	0	2.744	0	0	2.09
Two Adults working	3	2.759	4.692	6.837	0	6.39
Two adults not working	4	0	3.125	5.445	0	4.05
Two adults one working	5	0	4.352	6.927	0	5.99
Three + adults	6	0	3.679	6.934	10.063	8.26
Two Person Family	7	0.199	4.699	6.266	0	4.42
Three person Family	8	0	6.106	8.87	9.57	7.91
Four Person Family	9	0	5.911	9.541	11.561	8.90
Five + Person Family	10	0	7.127	9.54	14.025	10.50
Total		0.20	4.06	7.83	11.48	6.40

The 90% Confidence Intervals are shown in Table 7 below

90% Confidence Interval – Car driver trip rates						Table 7
		Vehicle Availability				
Households with		0	1	2	3+	
One Adult working	1	0.00	0.27			
One adult not working	2	0.00	0.33			
Two Adults working	3	0.00	0.47	0.33		
Two adults not working	4	0.00	0.33	0.45		
Two adults one working	5	0.00	0.54	0.54		
Three + adults	6	0.00	1.58	0.71	0.66	
Two Person Family	7	0.00	0.50	1.40		
Three person Family	8	0.00	0.44	0.50	0.89	
Four Person Family	9	0.00	0.69	0.47	0.80	
Five + Person Family	10	0.00	1.44	0.61	1.27	

5. URBAN AND RURAL SEGREGATION

² When external trips are included, the rate is 6.72 trips per household.

During the course of validation, the issue as to whether there are different trip rates between the originally define Hamilton Urban Model Area (including Cambridge and Te Awamutu etc) and the rest of the region.

This work has not been reported in detail as it led to a null conclusion, but for completeness, key results are given in Tables 8 for the urban/rural split

Urban v Rural trip rates 24 hour Car Drivers			Table 8
	<i>Trips</i>	<i>Houses</i>	<i>Trip rate</i>
<i>Urban</i>	563,916	91,101	6.19
<i>Rural</i>	377,461	56,000	6.74
<i>All</i>	941,334	147,100	6.40

The Rural trip rate is 9% higher than the urban rate, and that was, in part, the reason to test differential rates. The reasons are that the rural zones have a higher proportion of houses in the 2 and 3+ car ownership categories and in the larger family households.

The trip ends were amalgamated prior to distribution and at that end of that step, A comparison of the modelled matrix against the surveyed matrix using differential rates and grouped rates showed very little difference as shown in Table 8.

In the validation process, separate rates for urban and rural households were tested and some additional sensitivity tests around specific definitions of urban and rural households were also considered. The conclusion from this validation testing was that there were no improvements in the quality of the model validation resulting from the application of two sets of trip rates. Further to this, by keeping one set of trip rates across the entire study area the model form remains simpler and becomes easier to use in application.

6. PERIOD TRIP RATES

Introduction

The next level of disaggregation was to calibrate trip rates for the three model periods, namely Morning Peak (0700 hrs to 0900 hrs), Interpeak (0900 hrs to 1600 hrs or 1100hrs to 1300hrs³) and Evening Peak (1600 hrs to 1800 hrs). The time period definition is for trips with a mid point within the specified time. These have been calibrated for all purposes, and for each purpose, and for person trips and vehicle driver trips. The rates for the combined purposes are shown in this section of the report, while the rates by individual purposes have been included as tables in the Appendices.

It may be noted that at the all day level, the confidence intervals are relatively tight for most cells. As further disaggregation occurs, and the number of observations in each cell decreases, the confidence interval increases correspondingly.

Disaggregation to period level is about as far as the data can be taken and still have reasonable confidence intervals. However calibration to purpose level within each period has been included as this is one means of undertaking the final level of disaggregation.

Morning Peak Period Person Trip Rates

The Morning peak period trips rates are shown in Table 9. Total Person trips by all purposes are 264,760 for the HIS zones.

Mean Morning peak person trip rates per Household					Table 9	
		Vehicle Availability				
Households with		0	1	2	3+	Total
One Adult working	1	0.536	0.658	0	0	0.65
One adult not working	2	0.137	0.208	0	0	0.19
Two Adults working	3	0.605	1.076	1.233	0	1.20
Two adults not working	4	0.126	0.345	0.571	0	0.44
Two adults one working	5	0.374	1.036	0.757	0	0.84
Three + adults	6	0	0.395	1.475	1.651	1.43
Two Person Family	7	0.957	1.854	1.615	0	1.70
Three person Family	8	0.624	2.51	2.607	2.386	2.50
Four Person Family	9	2.014	2.961	3.52	3.27	3.31
Five + Person Family	10	3.742	3.574	4.767	5.003	4.70
Total		0.52	1.08	2.23	3.10	1.80

³ The original intention was to build a 7 hour Interpeak model, but that was changed to a two hour model for consistency with other periods. The two hour detail is included in the appendix tables.

Inter Peak Period Person Trip Rates

The Inter peak period trips rates are shown in Table 10 for the seven-hour period between 0900 hrs and 1600 hrs. Total Person trips by all purposes are 788,172

Mean Inter-peak person trip rates per Household						Table 10
		Vehicle Availability				
Households with		0	1	2	3+	Total
One Adult working	1	1.58	1.852	0	0	1.84
One adult not working	2	1.779	2.672	0	0	2.46
Two Adults working	3	4.153	3.009	3.878	0	3.71
Two adults not working	4	3.613	4.802	4.99	0	4.85
Two adults one working	5	0	3.289	4.658	0	4.14
Three + adults	6	0	6.051	5.409	5.618	5.52
Two Person Family	7	4.311	3.036	3.094	0	3.21
Three person Family	8	1.28	6.66	5.867	6.78	6.18
Four Person Family	9	5.243	7.088	8.467	9.664	8.32
Five + Person Family	10	2.023	11.638	11.418	12.658	11.68
Total		2.28	3.81	6.24	8.75	5.38

Evening Peak Period Person Trip Rates

The Evening peak period trips rates are shown in Table 11 Total Person trips by all purposes are 256,809.

Mean Evening Peak person trip rates per Household						Table 11
		Vehicle Availability				
Households with		0	1	2	3+	Total
One Adult working	1	0.937	0.879	0	0	0.88
One adult not working	2	0.061	0.386	0	0	0.31
Two Adults working	3	1.496	1.829	1.517	0	1.58
Two adults not working	4	0.219	0.441	0.836	0	0.61
Two adults one working	5	0.415	1.439	1.37	0	1.38
Three + adults	6	0	1.194	2.388	2.401	2.22
Two Person Family	7	1.655	1.483	3.351	0	1.85
Three person Family	8	0	2.062	2.566	2.682	2.37
Four Person Family	9	1.888	2.488	2.858	2.734	2.73
Five + Person Family	10	1.418	2.28	2.74	4.352	3.16
Total		0.51	1.15	2.05	3.08	1.74

Morning Peak Period Vehicle Driver Trip Rates

The Morning peak period trips rates are shown in Table 12. Total driver trips by all purposes are 149,825.

Mean Morning peak driver trip rates per Household						Table 12
		Vehicle Availability				
Households with		0	1	2	3+	Total
One Adult working	1	0.151	0.607	0	0	0.58
One adult not working	2	0	0.154	0	0	0.12
Two Adults working	3	0.605	0.537	1.099	0	0.99
Two adults not working	4	0	0.149	0.453	0	0.28
Two adults one working	5	0	0.629	0.7	0	0.67
Three + adults	6	0	0.25	1.154	1.485	1.22
Two Person Family	7	0	1.063	0.74	0	0.87
Three person Family	8	0	0.94	1.682	1.793	1.43
Four Person Family	9	0	1.04	1.88	1.995	1.67
Five + Person Family	10	0	1.082	1.727	2.265	1.80
Total		0.03	0.55	1.30	1.87	1.01

Inter Peak Period Vehicle Driver Trip Rates

The Inter peak period trips rates are shown in Table 13. Total driver trips by all purposes are 466,725.

Mean Interpeak driver trip rates per Household Urban Zones						Table 13
		Vehicle Availability				
Households with		0	1	2	3+	Total
One Adult working	1	0.52	1.601	0	0	1.55
One adult not working	2	0	2.068	0	0	1.58
Two Adults working	3	1.475	2.108	3.342	0	3.09
Two adults not working	4	0	2.424	3.747	0	2.93
Two adults one working	5	0	1.765	4.127	0	3.30
Three + adults	6	0	2.668	2.513	4.228	3.49
Two Person Family	7	0	1.921	2.386	0	1.76
Three person Family	8	0	3.073	4.098	4.647	3.77
Four Person Family	9	0	2.836	4.582	5.763	4.32
Five + Person Family	10	0	4.194	5.025	6.985	5.46
Total		0.10	2.19	3.95	5.44	3.24

Evening Peak Period Vehicle driver Trip Rates

The Evening peak period trips rates are shown in Table 14. Total driver trips by all purposes are 166,556.

Mean Evening Peak driver trip rates per Household Urban Zones						Table 14
		Vehicle Availability				
Households with		0	1	2	3+	Total
One Adult working	1	0.166	0.778	0	0	0.75
One adult not working	2	0	0.285	0	0	0.22
Two Adults working	3	0.679	0.965	1.281	0	1.22
Two adults not working	4	0	0.284	0.687	0	0.45
Two adults one working	5	0	0.943	1.106	0	1.04
Three + adults	6	0	0.28	1.757	2.157	1.79
Two Person Family	7	0.199	0.976	2.183	0	1.10
Three person Family	8	0	1.036	1.816	1.976	1.55
Four Person Family	9	0	1.159	1.648	1.811	1.53
Five + Person Family	10	0	0.856	1.291	2.516	1.59
Total		0.05	0.70	1.38	2.16	1.14

7. GENERATION TRIP END VALIDATION

The validation test for trips ends is the comparison of modelled against surveyed trip ends for the Private purposes. Scatter plots of model trip ends against HIS trip ends for each trip purpose are included in **Figure 1** to **Figure 7**. The scatter plots have been prepared by comparing the trip ends at local authority level.

Each of the plots included an R-squared statistic, which measures goodness of fit. In general terms an R-squared of over 0.5 indicates there is a significant level of correlation between the two variables. Note that in those instances where there are some outliers, it is due to the fact that there are small numbers of trips sampled for the corresponding trip purpose and time period.

In **Table 15** below, the total number of expanded trips per period is published, for each trip purpose. Those purposes and periods for which the sample sizes are small are shaded in to indicate where the total number of sampled trips is approximately less than 100 (noting that an average expansion factor of 100 is applied across the study areas in the HIS). These are generally consistent with those plots in **Figure 1** through **Figure 7** with noteworthy outliers.

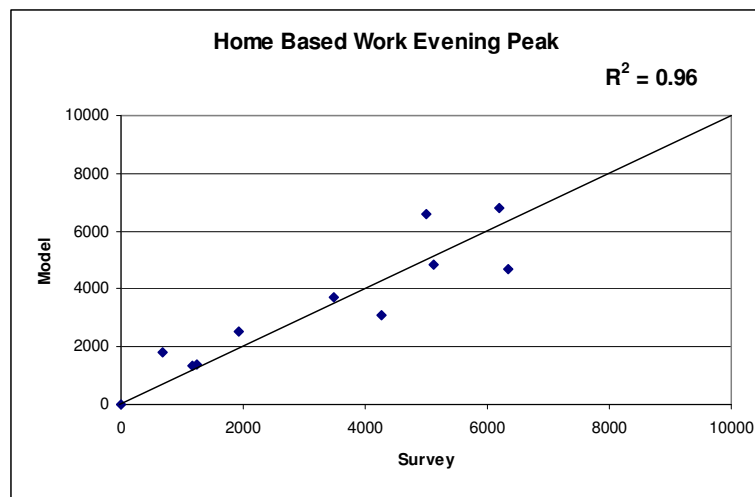
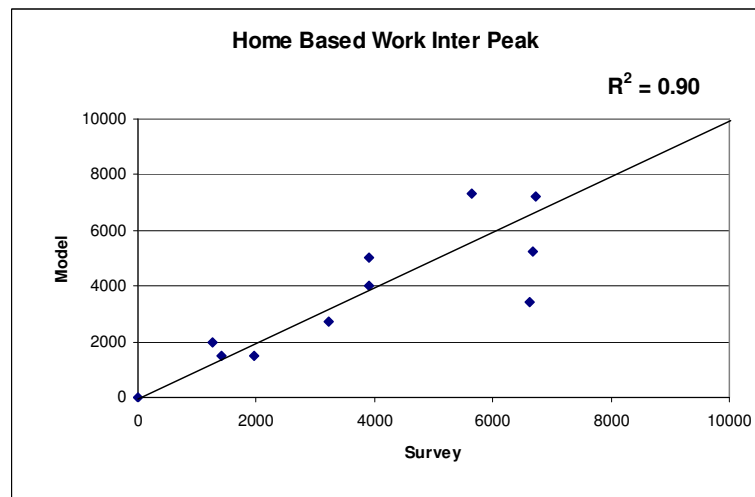
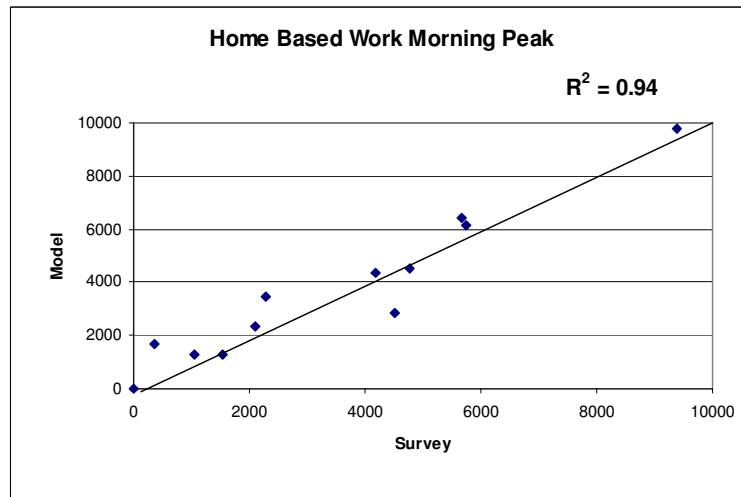
Total Expanded HIS Trips by Trip Purpose and Time Period							Table 15	
Trip Purpose	PERSON TRIPS				VEHICLE TRIPS			
	24 HR	AM Peak	INT Peak	PM Peak	24 HR	AM Peak	INT Peak	PM Peak
Home to Work	141444	61770	8014	3614	119193	52096	6430	3029
Home to Education	78975	55836	2322	907	7692	3720	609	565
Home to Business	39395	4822	5453	2864	29393	4180	4230	2242
Home to Shop	63710	5639	10156	7840	47509	4188	8196	5799
Home to Social/Rec	85341	8932	8110	17584	45981	3780	4726	8598
Home to Other	122919	50302	9046	10069	66867	28260	3181	5463
Non Home Based	540529	56343	97194	63678	347227	37546	63731	41333
Work to Home	138178	2877	15301	65966	115685	2282	13522	55376
Education to Home	80889	291	3119	8456	7820	291	721	1702
Business to Home	33354	1139	6403	5614	24690	842	4807	3731
Shop to Home	92376	1812	18394	23337	70270	1321	14316	17220
Soc/Rec to Home	96149	2593	10420	23470	51369	1493	5692	10681
Other to Home	113234	11719	10959	22536	55913	8679	3765	11402
Total All Purposes	1626493	264075	204891	255935	989609	148678	133926	16714

With the exception of morning peak home based shopping trips (0.74) and morning peak home based recreational trips (0.64) all R² values are within the range 0.83 to 0.97. By means of comparison the North Shore calibration and validation of trip ends (from Auckland 1991 Household Interview Survey and reported in "North Shore 3 Stage and 4 Stage Model Build – Trip Generation and Trip Distribution Calibration Report" prepared by Gabites Porter in April 2006), yielded R-squared values for Home Based Work in the range of 0.6-0.9 for the same three modelled periods.

Other trip purposes in the North Shore Calibration process differed from those reported herein so a direct comparison is not possible, however R-squared values for other purposes were in the range of 0.2-0.8.

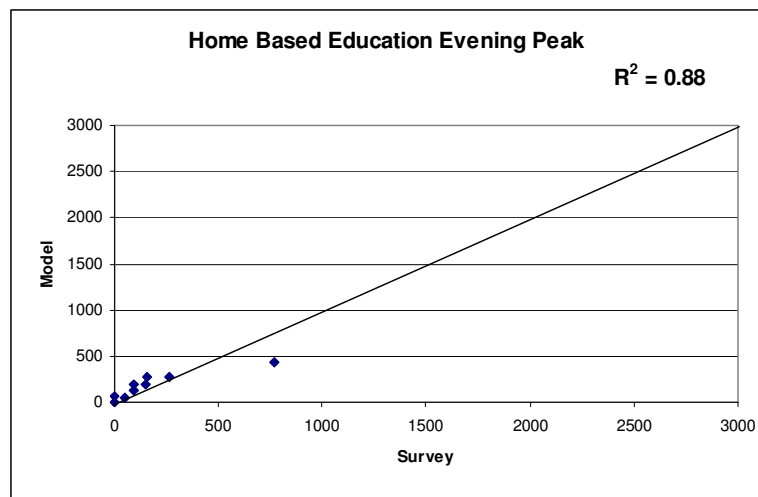
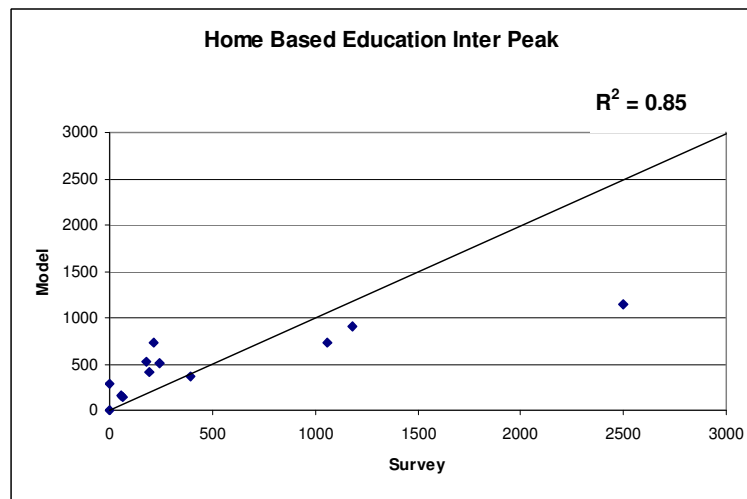
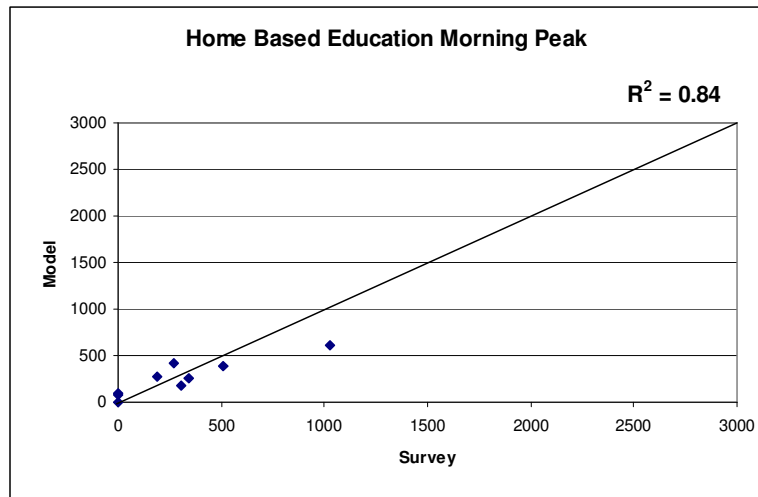
At time of writing the Christchurch Transport Model (CTM) equivalent trip end calibration and validation results (although requested) had not been made available for comparison.

Figure 1 through **Figure 7** represents all trip purposes combined with R^2 value of 0.95 through 0.97 for each of the three periods. These compare to values in the order of 0.8-0.9 from the North Shore model calibration.



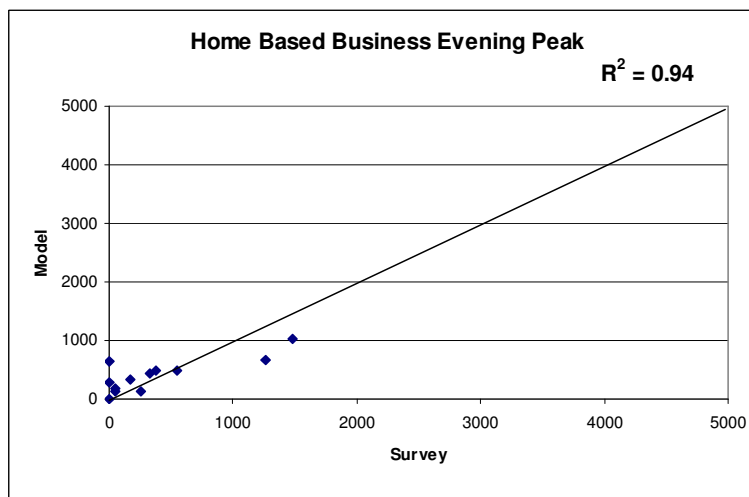
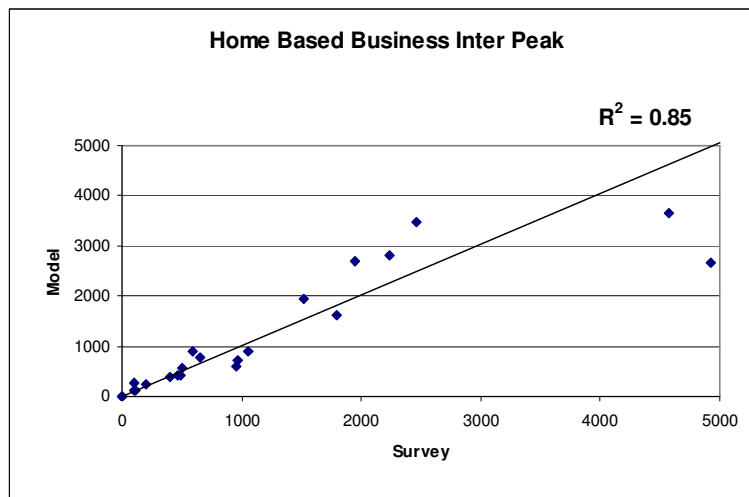
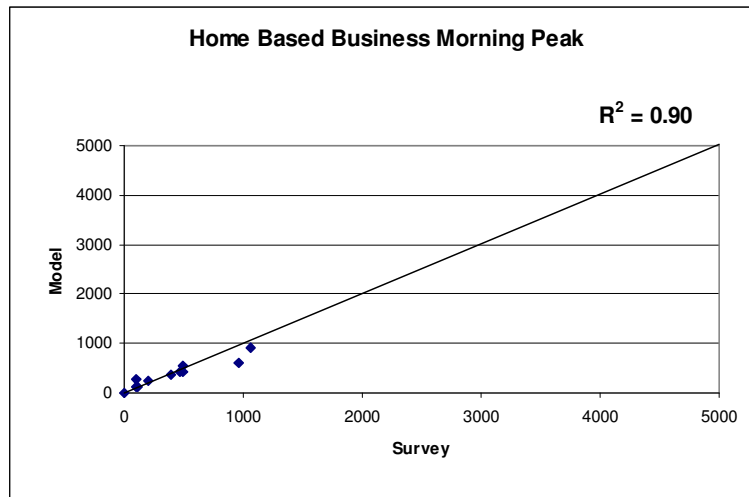
Home Based Work Production Trip End Validation

Figure 1



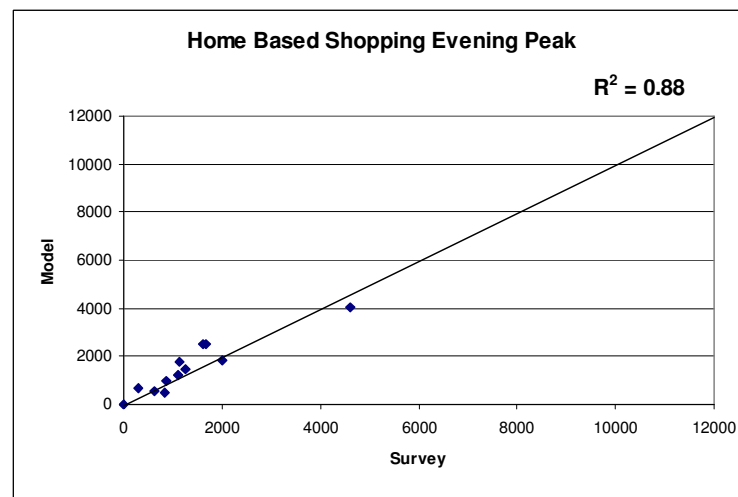
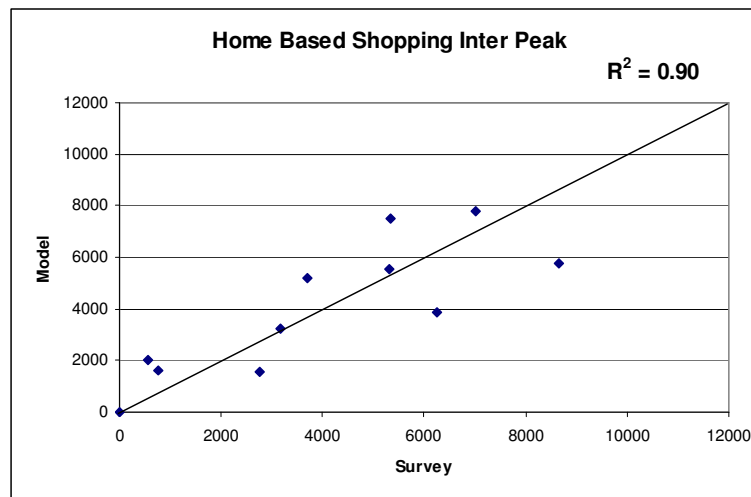
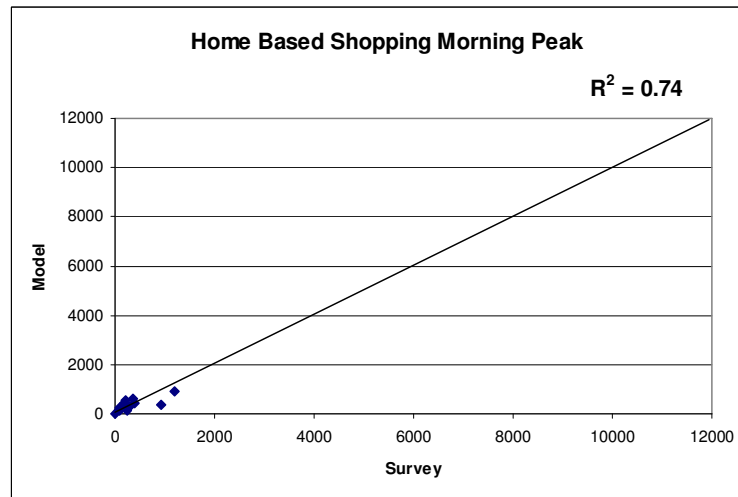
Home Based Education Production Trip End Validation

Figure 2



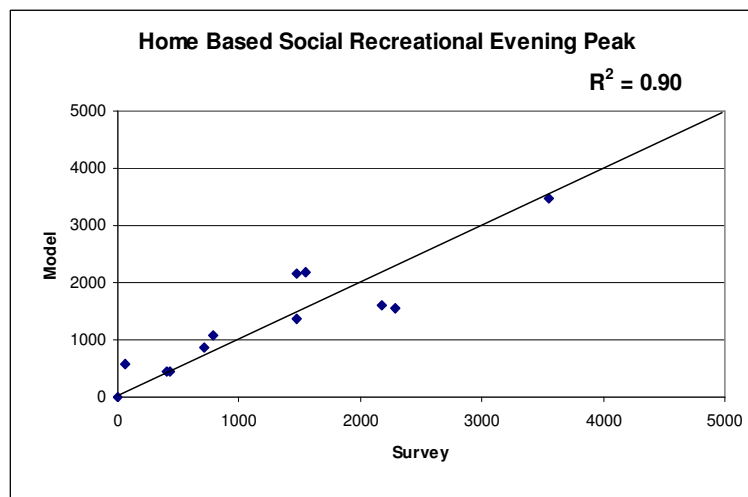
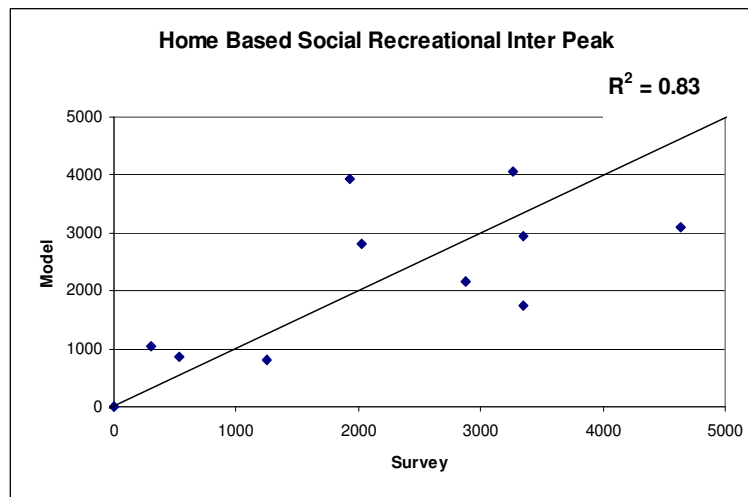
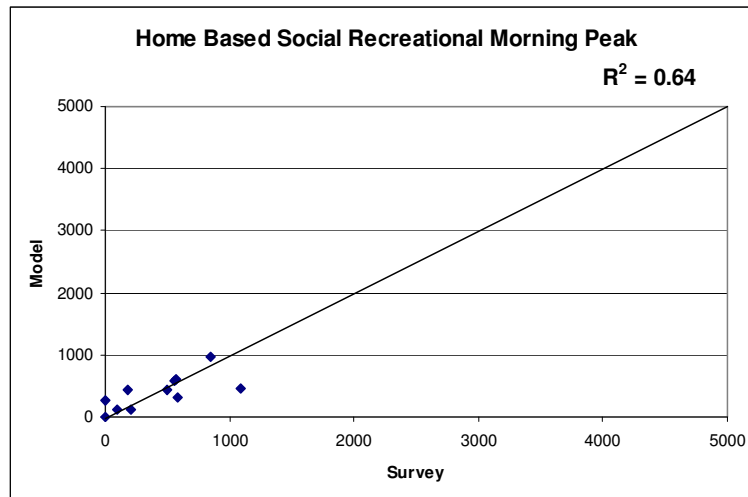
Home Based Business Production Trip End Validation

Figure 3



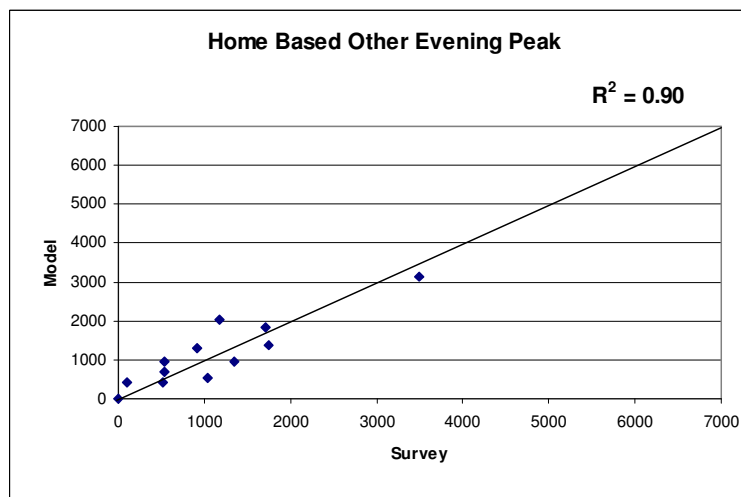
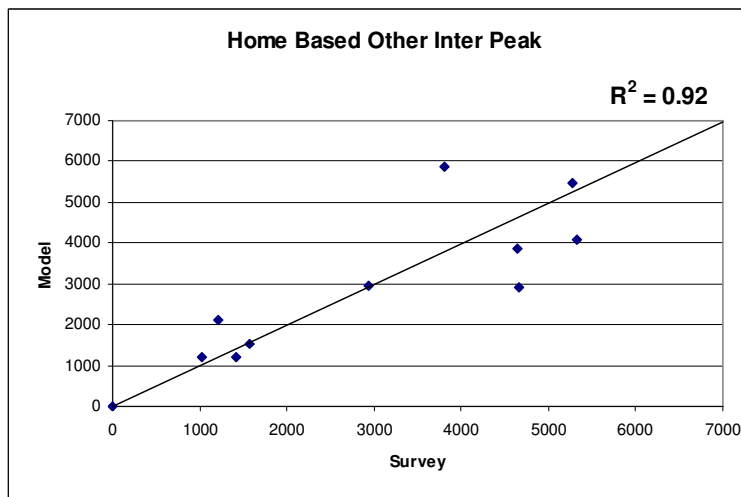
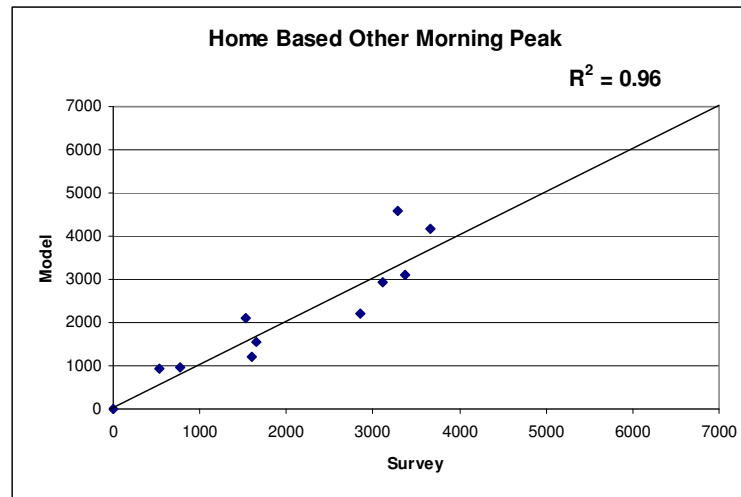
Home Based Shopping Production Trip End Validation

Figure 4



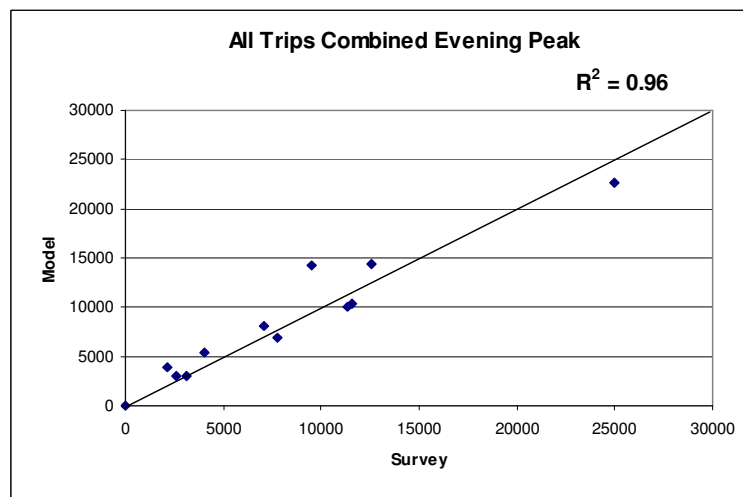
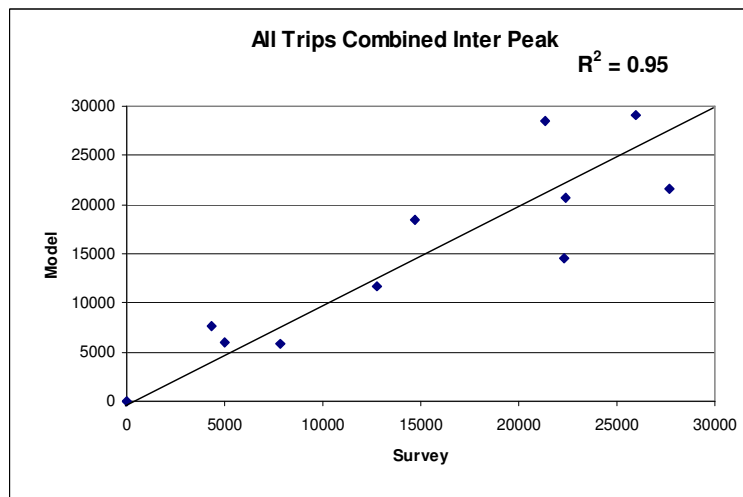
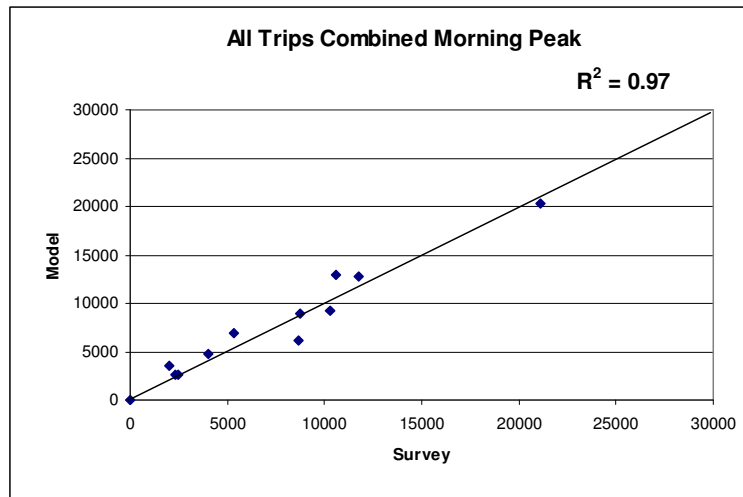
Home Based Social Recreational Production Trip End Validation

Figure 5



Home Based Other Production Trip End Validation

Figure 6



All Trips Combined Production Trip End Validation

Figure 7

Appendix One

Morning Peak Person Trip Rates by Purpose

<i>Home to work</i>					<i>Work to home</i>				
1	0.385	0.433	0	0	1	0.151	0.022	0	0
2	0.019	0	0	0	2	0	0	0	0
3	0.605	0.6	0.751	0	3	0	0	0.02	0
4	0	0	0.037	0	4	0	0	0	0
5	0.374	0.343	0.346	0	5	0	0	0.015	0
6	0	0.073	0.845	1.106	6	0	0	0	0.037
7	0	0.256	0.331	0	7	0	0.017	0	0
8	0	0.18	0.561	1.014	8	0	0.026	0	0.023
9	0	0.268	0.496	0.495	9	0	0.065	0.016	0.1
10	0	0.252	0.386	0.368	10	0	0	0.038	0.046

<i>Home to education</i>					<i>Education to home</i>				
1	0	0	0	0	1	0	0	0	0
2	0	0.012	0	0	2	0	0	0	0
3	0	0.015	0.004	0	3	0	0	0	0
4	0.126	0.031	0	0	4	0	0	0	0
5	0	0.02	0.019	0	5	0	0	0	0
6	0	0.073	0.085	0.068	6	0	0	0	0
7	0.326	0.484	0.445	0	7	0	0	0	0
8	0.233	0.677	0.511	0.46	8	0	0.013	0	0
9	1.694	0.876	0.937	0.882	9	0	0	0	0
10	2.002	1.406	1.589	1.348	10	0	0	0.023	0

<i>Home to business</i>					<i>Business to home</i>				
1	0	0.017	0	0	1	0	0.005	0	0
2	0	0.034	0	0	2	0	0	0	0
3	0	0.016	0.071	0	3	0	0	0.004	0
4	0	0.015	0.093	0	4	0	0.015	0.014	0
5	0	0.05	0.05	0	5	0	0.03	0.014	0
6	0	0.062	0.044	0.011	6	0	0	0	0
7	0	0.018	0	0	7	0	0.018	0	0
8	0	0	0.017	0.075	8	0	0.026	0	0.03
9	0	0	0.026	0.055	9	0	0	0	0.016
10	0	0	0	0.073	10	0	0	0	0.062

<i>Home to shop</i>					<i>Shopping to home</i>				
1	0	0.034	0	0	1	0	0	0	0
2	0.028	0.02	0	0	2	0.028	0.02	0	0
3	0	0.036	0.035	0	3	0	0.052	0.004	0
4	0	0.045	0.029	0	4	0	0.028	0.018	0
5	0	0.088	0.028	0	5	0	0.066	0.014	0
6	0	0	0.028	0.053	6	0	0	0.028	0
7	0	0.06	0.219	0	7	0	0	0	0
8	0.392	0.013	0.058	0.054	8	0	0	0.008	0

9	0.32	0.049	0.033	0.017	9	0	0.015	0	0
10	0	0	0.04	0.043	10	0	0	0.034	0

Home to soc/rec

1	0	0.005	0	0
2	0.045	0.058	0	0
3	0	0.015	0.045	0
4	0	0.129	0.13	0
5	0	0.037	0.068	0
6	0	0	0.116	0.036
7	0	0.077	0.113	0
8	0	0.078	0.117	0
9	0	0.075	0.117	0.031
10	0	0.142	0.043	0.051

Soc/rec to home

1	0	0.023	0	0
2	0.017	0.014	0	0
3	0	0.015	0.017	0
4	0	0.028	0.052	0
5	0	0	0.016	0
6	0	0	0	0.011
7	0	0.019	0	0
8	0	0.013	0	0.026
9	0	0.06	0.03	0
10	0	0	0	0.032

Home to other

1	0	0.005	0	0
2	0	0.011	0	0
3	0	0.106	0.034	0
4	0	0.039	0.046	0
5	0	0.119	0.027	0
6	0	0	0.045	0.026
7	0.221	0.439	0	0
8	0	0.67	0.548	0.306
9	0	0.788	0.955	0.716
10	1.74	0.823	1.303	1.224

Other to home

1	0	0.005	0	0
2	0	0.006	0	0
3	0	0	0.003	0
4	0	0	0.008	0
5	0	0.066	0	0
6	0	0	0.045	0
7	0	0.151	0.07	0
8	0	0.231	0.09	0.072
9	0	0.24	0.122	0.185
10	0	0.357	0.379	0.21

Non home based

1	0	0.108	0	0
2	0	0.033	0	0
3	0	0.222	0.247	0
4	0	0.016	0.144	0
5	0	0.217	0.16	0
6	0	0.187	0.24	0.302
7	0.409	0.315	0.438	0
8	0	0.584	0.697	0.326
9	0	0.525	0.788	0.773
10	0	0.595	0.932	1.545

Appendix Two

Inter Peak Person Trip Rates by Purpose – (0900-1600)

<i>Home to work</i>					<i>Work to home</i>				
1	0.347	0.243	0	0	1	0.267	0.26	0	0
2	0	0.005	0	0	2	0	0.005	0	0
3	1.54	0.211	0.33	0	3	0.737	0.231	0.443	0
4	0	0.023	0	0	4	0	0	0	0
5	0	0.179	0.281	0	5	0	0.192	0.323	0
6	0	0.268	0.134	0.374	6	0	0.194	0.352	0.393
7	0	0.163	0.22	0	7	0	0.106	0.086	0
8	0	0.199	0.338	0.586	8	0.282	0.259	0.407	0.769
9	0.196	0.364	0.23	0.404	9	0.196	0.399	0.393	0.515
10	0.386	0.159	0.305	0.417	10	0.386	0.154	0.33	0.523
<i>Home to education</i>					<i>Education to home</i>				
1	0	0	0	0	1	0	0	0	0
2	0	0.007	0	0	2	0	0.007	0	0
3	0	0.031	0.004	0	3	0	0.019	0.009	0
4	0	0.016	0.019	0	4	0.149	0.044	0.01	0
5	0	0.065	0.026	0	5	0	0.065	0.02	0
6	0	0.308	0.102	0.204	6	0	0.067	0.067	0.159
7	0	0.08	0	0	7	0.231	0.321	0.328	0
8	0	0.066	0.051	0	8	0.434	0.748	0.314	0.312
9	0	0.137	0.103	0.146	9	1.627	0.89	0.881	0.711
10	0	0.174	0.077	0.215	10	0.866	1.587	1.65	1.324
<i>Home to business</i>					<i>Business to home</i>				
1	0	0.043	0	0	1	0	0.02	0	0
2	0.042	0.233	0	0	2	0.098	0.152	0	0
3	0	0.125	0.17	0	3	0	0.104	0.116	0
4	0.147	0.344	0.388	0	4	0	0.281	0.331	0
5	0	0.143	0.376	0	5	0	0.102	0.242	0
6	0	0.229	0.226	0.24	6	0	0.311	0.202	0.083
7	0.33	0.067	0	0	7	0.208	0.067	0	0
8	0	0.185	0.096	0.134	8	0	0.142	0.096	0.084
9	0	0.219	0.098	0.278	9	0	0.154	0.079	0.146
10	0	0.284	0.051	0.33	10	0	0.502	0.125	0.281
<i>Home to shop</i>					<i>Shopping to home</i>				
1	0.196	0.113	0	0	1	0.103	0.118	0	0
2	0.152	0.353	0	0	2	0.224	0.393	0	0
3	0	0.168	0.176	0	3	0	0.179	0.239	0
4	1.108	0.518	0.594	0	4	0.873	0.626	0.748	0
5	0	0.212	0.324	0	5	0	0.189	0.372	0
6	0	0.701	0.34	0.283	6	0	0.615	0.315	0.432
7	0.208	0.061	0.287	0	7	0.104	0.199	0.287	0
8	0	0.374	0.23	0.512	8	0	0.422	0.329	0.441

9	0.698	0.207	0.25	0.393	9	0.369	0.202	0.358	0.624
10	0	0.661	0.31	0.37	10	0	0.455	0.479	0.475
	0	0.374	0.23	0.512					

Home to soc/rec

1	0	0.065	0	0
2	0.213	0.277	0	0
3	0	0.068	0.124	0
4	0.114	0.639	0.579	0
5	0	0.255	0.293	0
6	0	0.494	0.285	0.387
7	0.231	0.063	0.623	0
8	0	0.339	0.164	0.185
9	0.558	0.324	0.261	0.301
10	0	0.275	0.319	0.285

Soc/rec to home

1	0	0.048	0	0
2	0.145	0.275	0	0
3	0	0.105	0.118	0
4	0.114	0.528	0.471	0
5	0	0.384	0.21	0
6	0	0.221	0.206	0.367
7	0.231	0.062	0.481	0
8	0	0.259	0.178	0.214
9	0	0.269	0.304	0.237
10	0	0.109	0.359	0.137

Home to other

1	0	0.02	0	0
2	0	0.013	0	0
3	0	0.033	0.048	0
4	0	0.129	0.087	0
5	0	0.143	0.09	0
6	0	0.273	0.166	0.077
7	0.232	0.262	0	0
8	0	0.712	0.325	0.321
9	0.164	0.824	0.844	0.826
10	0	0.655	1.264	1.006

Other to home

1	0	0.036	0	0
2	0	0.033	0	0
3	0	0.052	0.06	0
4	0.145	0.107	0.088	0
5	0	0.128	0.102	0
6	0	0.141	0.208	0.056
7	0.231	0.366	0	0
8	0.282	0.842	0.366	0.262
9	0	1.056	0.973	0.884
10	0.386	0.955	1.618	1.486

Non home based

1	0.668	0.888	0	0
2	0.905	0.919	0	0
3	1.876	1.681	2.041	0
4	0.963	1.546	1.675	0
5	0	1.232	2	0
6	0	2.231	2.807	2.562
7	2.302	1.219	0.783	0
8	0.282	2.112	2.972	2.961
9	1.436	2.043	3.694	4.2
10	0	5.667	4.532	5.81

Appendix Three

Inter Peak Person Trip Rates by Purpose – (1100-1300)

Home to work

1	0	0.044	0	0
2	0	0	0	0
3	1.54	0.017	0.073	0
4	0	0.014	0	0
5	0	0.077	0.107	0
6	0	0	0.027	0.069
7	0	0.02	0	0
8	0	0.03	0.075	0.096
9	0	0.061	0.079	0.048
10	0	0	0.093	0.142

Work to home

1	0.173	0.084	0	0
2	0	0	0	0
3	0.737	0.047	0.143	0
4	0	0	0	0
5	0	0.09	0.137	0
6	0	0.067	0.145	0.161
7	0	0.043	0	0
8	0	0.129	0.203	0.169
9	0.196	0.093	0.09	0.223
10	0	0.052	0.15	0.246

Home to education

1	0	0	0	0
2	0	0.007	0	0
3	0	0	0.004	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0.047
7	0	0	0	0
8	0	0.032	0.02	0
9	0	0	0.047	0.083
10	0	0.116	0.009	0.087

Education to home

1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0.028	0.01	0
5	0	0	0.011	0
6	0	0	0	0.076
7	0	0	0	0
8	0	0.016	0.02	0
9	0	0.072	0.055	0.142
10	0	0	0.059	0.02

Home to business

1	0	0.009	0	0
2	0	0.065	0	0
3	0	0.086	0.03	0
4	0	0.086	0.098	0
5	0	0.058	0.07	0
6	0	0.067	0	0.025
7	0	0.024	0	0
8	0	0.029	0.021	0.055
9	0	0.072	0.007	0.07
10	0	0	0.018	0.031

Business to home

1	0	0.015	0	0
2	0.076	0.052	0	0
3	0	0.043	0.022	0
4	0	0.086	0.082	0
5	0	0.039	0.108	0
6	0	0.074	0	0.031
7	0	0.024	0	0
8	0	0.018	0.01	0
9	0	0.074	0.021	0.016
10	0	0.456	0.016	0.143

Home to shop

1	0.103	0.031	0	0
2	0.02	0.116	0	0
3	0	0.028	0.071	0
4	0	0.075	0.097	0
5	0	0.059	0.075	0
6	0	0	0.027	0.056
7	0	0.025	0	0
8	0	0.103	0.053	0.15

Shopping to home

1	0.103	0.037	0	0
2	0.055	0.179	0	0
3	0	0.043	0.096	0
4	0.292	0.209	0.336	0
5	0	0.062	0.146	0
6	0	0.23	0.185	0.219
7	0	0.023	0.134	0
8	0	0.191	0.116	0.116

9	0.185	0.111	0.053	0.169	9	0.185	0.056	0.078	0.176
10	0	0	0.094	0.052	10	0	0.11	0.17	0.108

Home to soc/rec

1	0	0.014	0	0
2	0.069	0.063	0	0
3	0	0.035	0.034	0
4	0.114	0.158	0.08	0
5	0	0.075	0.084	0
6	0	0.198	0.097	0.063
7	0	0	0.212	0
8	0	0.05	0.022	0
9	0.558	0.029	0.076	0.06
10	0	0.109	0.052	0.02

Soc/rec to home

1	0	0.015	0	0
2	0.102	0.04	0	0
3	0	0.045	0.053	0
4	0.114	0.107	0.112	0
5	0	0.108	0.043	0
6	0	0.154	0.033	0.212
7	0	0	0	0
8	0	0.099	0.089	0.102
9	0	0.152	0.067	0.042
10	0	0.058	0.103	0.08

Home to other

1	0	0.015	0	0
2	0	0	0	0
3	0	0	0.019	0
4	0	0.025	0.019	0
5	0	0.022	0.017	0
6	0	0.067	0.03	0.051
7	0	0.024	0	0
8	0	0.113	0.061	0
9	0	0.145	0.134	0.208
10	0	0.091	0.286	0.105

Other to home

1	0	0.011	0	0
2	0	0	0	0
3	0	0	0.012	0
4	0.145	0.031	0.019	0
5	0	0.022	0.042	0
6	0	0	0.138	0.025
7	0	0.024	0	0
8	0	0.186	0.125	0
9	0	0.141	0.226	0.04
10	0	0.09	0.208	0.378

Non home based

1	0.508	0.309	0	0
2	0.282	0.297	0	0
3	0	0.626	0.748	0
4	0.436	0.517	0.637	0
5	0	0.601	0.649	0
6	0	1.08	0.386	0.849
7	0.619	0.292	0	0
8	0	0.579	0.815	0.881
9	0	0.218	0.86	1.606
10	0	0.949	1.13	1.241

Appendix Four

Evening Peak Person Trip Rates by Purpose

<i>Home to work</i>					<i>Work to home</i>				
1	0	0.013	0	0	1	0.408	0.392	0	0
2	0	0	0	0	2	0	0	0	0
3	0	0.04	0.043	0	3	1.496	0.761	0.755	0
4	0	0	0	0	4	0	0.014	0.024	0
5	0	0.018	0	0	5	0.415	0.368	0.467	0
6	0	0	0	0.053	6	0	0.067	0.679	0.969
7	0	0.022	0	0	7	0.199	0.198	0.434	0
8	0	0.028	0	0	8	0	0.166	0.618	0.968
9	0	0.033	0.049	0.075	9	0	0.528	0.549	0.521
10	0	0	0.043	0.068	10	0.354	0.279	0.52	0.507

<i>Home to education</i>					<i>Education to home</i>				
1	0	0	0	0	1	0	0	0	0
2	0	0	0	0	2	0	0.012	0	0
3	0	0.018	0.004	0	3	0	0	0.008	0
4	0	0	0	0	4	0	0.008	0.009	0
5	0	0	0.033	0	5	0	0	0.01	0
6	0	0	0	0	6	0	0.068	0.093	0.056
7	0	0	0.072	0	7	0	0.198	0.074	0
8	0	0	0.009	0	8	0	0.118	0.22	0.025
9	0	0.029	0.007	0.016	9	0.356	0.041	0.087	0.097
10	0	0	0.014	0	10	1.063	0.055	0.101	0.227

<i>Home to business</i>					<i>Business to home</i>				
1	0	0.004	0	0	1	0	0.014	0	0
2	0	0.011	0	0	2	0	0.011	0	0
3	0	0.034	0.02	0	3	0	0.059	0.033	0
4	0	0.047	0.026	0	4	0.219	0.062	0.047	0
5	0	0.018	0.031	0	5	0	0	0.059	0
6	0	0	0	0.013	6	0	0	0	0.052
7	0	0.041	0.259	0	7	0.116	0.041	0.087	0
8	0	0	0	0.028	8	0	0.066	0.034	0.085
9	0	0	0.014	0.066	9	0.308	0.121	0.028	0.057
10	0	0	0.037	0.017	10	0	0	0.045	0.019

<i>Home to shop</i>					<i>Shopping to home</i>				
1	0.088	0.02	0	0	1	0.189	0.09	0	0
2	0.021	0.026	0	0	2	0.021	0.039	0	0
3	0	0.085	0.022	0	3	0	0.081	0.136	0
4	0	0.017	0.026	0	4	0	0.061	0.173	0
5	0	0.078	0.04	0	5	0	0.169	0.195	0
6	0	0	0.076	0.088	6	0	0.581	0.352	0.293
7	0	0.056	0.153	0	7	0.116	0.145	0.491	0
8	0	0.082	0.053	0.056	8	0	0.11	0.16	0.266

9	0	0.129	0.077	0.069	9	0.356	0.096	0.275	0.253
10	0	0.157	0.103	0.089	10	0	0.406	0.177	0.225

Home to soc/rec

1	0.15	0.094	0	0
2	0	0.081	0	0
3	0	0.199	0.077	0
4	0	0.033	0.121	0
5	0	0.096	0.106	0
6	0	0	0.121	0.096
7	0.298	0.09	0.123	0
8	0	0.146	0.182	0.08
9	0	0.197	0.118	0.249
10	0	0.346	0.203	0.2

Soc/rec to home

1	0	0.056	0	0
2	0	0.115	0	0
3	0	0.116	0.075	0
4	0	0.096	0.174	0
5	0	0.057	0.124	0
6	0	0.202	0.12	0.181
7	0	0.12	0.628	0
8	0	0.155	0.211	0.179
9	0	0.33	0.245	0.316
10	0	0.402	0.39	0.235

Home to other

1	0	0.008	0	0
2	0.02	0	0	0
3	0	0.045	0.011	0
4	0	0.014	0.009	0
5	0	0.016	0.015	0
6	0	0	0	0.016
7	0	0.116	0.072	0
8	0	0.193	0.119	0.032
9	0.356	0.162	0.116	0.114
10	0	0.246	0.236	0.248

Other to home

1	0	0.01	0	0
2	0	0	0	0
3	0	0.095	0.019	0
4	0	0.014	0.01	0
5	0	0.133	0.051	0
6	0	0	0.09	0.047
7	0.315	0.152	0.072	0
8	0	0.405	0.298	0.146
9	0.51	0.291	0.38	0.253
10	0	0.246	0.415	0.682

Non home based

1	0.102	0.177	0	0
2	0	0.089	0	0
3	0	0.296	0.316	0
4	0	0.076	0.217	0
5	0	0.485	0.238	0
6	0	0.276	0.858	0.537
7	0.611	0.304	0.886	0
8	0	0.593	0.661	0.816
9	0	0.533	0.914	0.646
10	0	0.143	0.456	1.835

Morning Peak Car Driver Trip Rates by Purpose**Home to work**

1	0	0.412	0	0
2	0	0	0	0
3	0.605	0.183	0.678	0
4	0	0	0.037	0
5	0	0.22	0.322	0
6	0	0	0.794	1.008
7	0	0.177	0.149	0
8	0	0.081	0.514	0.811
9	0	0.19	0.46	0.443
10	0	0.252	0.304	0.299

Work to home

1	0.151	0.011	0	0
2	0	0	0	0
3	0	0	0.02	0
4	0	0	0	0
5	0	0	0.015	0
6	0	0	0	0.037
7	0	0.017	0	0
8	0	0.015	0	0.023
9	0	0.015	0.011	0.1
10	0	0	0.03	0.046

Home to education

1	0	0	0	0
2	0	0.012	0	0
3	0	0.015	0	0
4	0	0.007	0	0
5	0	0	0.019	0
6	0	0	0	0.056
7	0	0	0.08	0
8	0	0.013	0.055	0.203
9	0	0	0.017	0.172
10	0	0.049	0.033	0.133

Education to home

1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
7	0	0	0	0
8	0	0.013	0	0
9	0	0	0	0
10	0	0	0.023	0

Home to business

1	0	0.017	0	0
2	0	0.028	0	0
3	0	0.016	0.065	0
4	0	0.008	0.085	0
5	0	0.02	0.05	0
6	0	0.062	0.044	0.011
7	0	0.018	0	0
8	0	0	0.017	0
9	0	0	0.026	0.037
10	0	0	0	0.073

Business to home

1	0	0.005	0	0
2	0	0	0	0
3	0	0	0.004	0
4	0	0.007	0.014	0
5	0	0	0.014	0
6	0	0	0	0
7	0	0.018	0	0
8	0	0.026	0	0
9	0	0	0	0.016
10	0	0	0	0.046

Home to shop

1	0	0.03	0	0
2	0	0.015	0	0
3	0	0.036	0.032	0
4	0	0.019	0.029	0
5	0	0.039	0.028	0
6	0	0	0.028	0.053
7	0	0.041	0.109	0
8	0	0	0.044	0.054

Shopping to home

1	0	0	0	0
2	0	0.015	0	0
3	0	0.052	0.004	0
4	0	0.008	0.01	0
5	0	0.018	0.014	0
6	0	0	0.028	0
7	0	0	0	0
8	0	0	0.008	0

9	0	0	0.033	0.017	9	0	0.015	0	0
10	0	0	0.04	0.043	10	0	0	0.034	0

Home to soc/rec

1	0	0.005	0	0
2	0	0.035	0	0
3	0	0	0.024	0
4	0	0.054	0.095	0
5	0	0.017	0.052	0
6	0	0	0.028	0.021
7	0	0.037	0.113	0
8	0	0.014	0.026	0
9	0	0.015	0.029	0.015
10	0	0.047	0.007	0.051

Soc/rec to home

1	0	0.019	0	0
2	0	0	0	0
3	0	0	0.011	0
4	0	0.007	0.039	0
5	0	0	0.008	0
6	0	0	0	0.011
7	0	0	0	0
8	0	0.013	0	0.026
9	0	0.028	0.018	0
10	0	0	0	0.032

Home to other

1	0	0.005	0	0
2	0	0.011	0	0
3	0	0.089	0.031	0
4	0	0.031	0.039	0
5	0	0.099	0.027	0
6	0	0	0.045	0.011
7	0	0.328	0	0
8	0	0.355	0.413	0.306
9	0	0.383	0.598	0.433
10	0	0.301	0.594	0.529

Other to home

1	0	0.005	0	0
2	0	0.006	0	0
3	0	0	0.003	0
4	0	0	0.008	0
5	0	0.066	0	0
6	0	0	0.045	0
7	0	0.151	0.07	0
8	0	0.149	0.052	0.072
9	0	0.146	0.104	0.167
10	0	0.215	0.261	0.163

Non home based

1	0	0.099	0	0
2	0	0.033	0	0
3	0	0.145	0.227	0
4	0	0.008	0.098	0
5	0	0.15	0.151	0
6	0	0.187	0.143	0.276
7	0	0.276	0.219	0
8	0	0.262	0.553	0.298
9	0	0.249	0.585	0.596
10	0	0.217	0.401	0.85

Appendix Six

Inter Peak Car Driver Trip Rates by Purpose -(0900 to 1600)

<i>Home to work</i>					<i>Work to home</i>				
1	0.347	0.207	0	0	1	0.173	0.219	0	0
2	0	0	0	0	2	0	0	0	0
3	0.737	0.166	0.295	0	3	0.737	0.142	0.408	0
4	0	0.014	0	0	4	0	0	0	0
5	0	0.116	0.264	0	5	0	0.147	0.323	0
6	0	0.268	0.054	0.349	6	0	0.194	0.191	0.354
7	0	0.163	0.22	0	7	0	0.063	0	0
8	0	0.154	0.317	0.46	8	0	0.162	0.375	0.643
9	0	0.179	0.194	0.381	9	0	0.229	0.328	0.515
10	0	0.159	0.279	0.302	10	0	0.154	0.307	0.377

<i>Home to education</i>					<i>Education to home</i>				
1	0	0	0	0	1	0	0	0	0
2	0	0.007	0	0	2	0	0.007	0	0
3	0	0	0	0	3	0	0.019	0.005	0
4	0	0	0.019	0	4	0	0.01	0.01	0
5	0	0	0.015	0	5	0	0	0.02	0
6	0	0.067	0.033	0.104	6	0	0.067	0.033	0.109
7	0	0.019	0	0	7	0	0	0	0
8	0	0.066	0	0	8	0	0.016	0.01	0.146
9	0	0.03	0.013	0.069	9	0	0.03	0.047	0.24
10	0	0	0.03	0	10	0	0.058	0.039	0.087

<i>Home to business</i>					<i>Business to home</i>				
1	0	0.043	0	0	1	0	0.02	0	0
2	0	0.202	0	0	2	0	0.139	0	0
3	0	0.097	0.147	0	3	0	0.086	0.098	0
4	0	0.232	0.302	0	4	0	0.206	0.251	0
5	0	0.097	0.324	0	5	0	0.079	0.207	0
6	0	0.081	0.086	0.128	6	0	0.229	0.087	0.083
7	0	0.067	0	0	7	0	0.067	0	0
8	0	0.145	0.085	0.077	8	0	0.099	0.085	0.049
9	0	0.095	0.076	0.201	9	0	0.049	0.059	0.146
10	0	0.136	0.032	0.161	10	0	0.229	0.087	0.231

<i>Home to shop</i>					<i>Shopping to home</i>				
1	0	0.108	0	0	1	0	0.112	0	0
2	0	0.295	0	0	2	0	0.334	0	0
3	0	0.108	0.162	0	3	0	0.119	0.221	0
4	0	0.269	0.474	0	4	0	0.331	0.619	0
5	0	0.111	0.292	0	5	0	0.108	0.329	0
6	0	0.156	0.217	0.251	6	0	0.163	0.248	0.374
7	0	0.061	0.287	0	7	0	0.176	0.287	0
8	0	0.256	0.194	0.372	8	0	0.302	0.23	0.382

9	0	0.126	0.206	0.34	9	0	0.122	0.283	0.53
10	0	0.453	0.257	0.35	10	0	0.398	0.414	0.455

Home to soc/rec

1	0	0.045	0	0
2	0	0.205	0	0
3	0	0.033	0.096	0
4	0	0.248	0.434	0
5	0	0	0.212	0
6	0	0.362	0.185	0.258
7	0	0.022	0.485	0
8	0	0.161	0.101	0.035
9	0	0.135	0.107	0.165
10	0	0.165	0.195	0.204

Soc/rec to home

1	0	0.033	0	0
2	0	0.194	0	0
3	0	0.075	0.083	0
4	0	0.172	0.31	0
5	0	0.056	0.184	0
6	0	0.149	0.1	0.205
7	0	0.041	0.481	0
8	0	0.099	0.099	0.096
9	0	0.13	0.169	0.117
10	0	0.051	0.196	0.089

Home to other

1	0	0.011	0	0
2	0	0.013	0	0
3	0	0.033	0.03	0
4	0	0.066	0.061	0
5	0	0.125	0.055	0
6	0	0.074	0.128	0.038
7	0	0.168	0	0
8	0	0.238	0.161	0.226
9	0	0.345	0.448	0.446
10	0	0.2	0.56	0.666

Other to home

1	0	0.027	0	0
2	0	0.033	0	0
3	0	0.052	0.047	0
4	0	0.065	0.052	0
5	0	0.086	0.084	0
6	0	0.074	0.064	0.017
7	0	0.192	0	0
8	0	0.322	0.205	0.167
9	0	0.345	0.452	0.317
10	0	0.263	0.536	0.658

Non home based

1	0	0.778	0	0
2	0	0.641	0	0
3	0	1.18	1.752	0
4	0	0.811	1.213	0
5	0	0.837	1.817	0
6	0	0.784	1.086	1.958
7	0	0.883	0.627	0
8	0	1.052	2.237	1.994
9	0	1.02	2.202	2.294
10	0	1.927	2.09	3.405

Appendix Seven

Inter Peak Car Driver Trip Rates by Purpose -(1100 to 1300)

<i>Home to work</i>					<i>Work to home</i>				
1	0	0.03	0	0	1	0.173	0.079	0	0
2	0	0	0	0	2	0	0	0	0
3	0.737	0.017	0.059	0	3	0.737	0.047	0.134	0
4	0	0.014	0	0	4	0	0	0	0
5	0	0.055	0.107	0	5	0	0.067	0.137	0
6	0	0	0	0.069	6	0	0.067	0.091	0.148
7	0	0.02	0	0	7	0	0.043	0	0
8	0	0.015	0.075	0.06	8	0	0.098	0.203	0.169
9	0	0.033	0.067	0.048	9	0	0.045	0.071	0.223
10	0	0	0.087	0.08	10	0	0.052	0.135	0.166

<i>Home to education</i>					<i>Education to home</i>				
1	0	0	0	0	1	0	0	0	0
2	0	0.007	0	0	2	0	0	0	0
3	0	0	0	0	3	0	0	0	0
4	0	0	0	0	4	0	0	0.01	0
5	0	0	0	0	5	0	0	0.011	0
6	0	0	0	0.03	6	0	0	0	0.043
7	0	0	0	0	7	0	0	0	0
8	0	0.032	0	0	8	0	0	0	0
9	0	0	0.007	0.028	9	0	0.018	0	0.046
10	0	0	0	0	10	0	0	0.01	0

<i>Home to business</i>					<i>Business to home</i>				
1	0	0.009	0	0	1	0	0.015	0	0
2	0	0.065	0	0	2	0	0.052	0	0
3	0	0.058	0.03	0	3	0	0.043	0.022	0
4	0	0.055	0.073	0	4	0	0.058	0.072	0
5	0	0.035	0.063	0	5	0	0.039	0.101	0
6	0	0	0	0	6	0	0.074	0	0.031
7	0	0.024	0	0	7	0	0.024	0	0
8	0	0.016	0.011	0.055	8	0	0.018	0.01	0
9	0	0.036	0.007	0.07	9	0	0.018	0.015	0.016
10	0	0	0.009	0.031	10	0	0.183	0.016	0.094

<i>Home to shop</i>					<i>Shopping to home</i>				
1	0	0.031	0	0	1	0	0.037	0	0
2	0	0.086	0	0	2	0	0.145	0	0
3	0	0.028	0.057	0	3	0	0.015	0.087	0
4	0	0.04	0.088	0	4	0	0.109	0.298	0
5	0	0.018	0.075	0	5	0	0.039	0.136	0
6	0	0	0.027	0.056	6	0	0.082	0.152	0.176
7	0	0.025	0	0	7	0	0	0.134	0

8	0	0.103	0.053	0.083	8	0	0.121	0.106	0.116
9	0	0.092	0.039	0.153	9	0	0.028	0.058	0.176
10	0	0	0.075	0.052	10	0	0.052	0.134	0.108

Home to soc/rec

1	0	0.009	0	0
2	0	0.037	0	0
3	0	0	0.034	0
4	0	0.094	0.062	0
5	0	0	0.057	0
6	0	0.067	0.067	0.031
7	0	0	0.212	0
8	0	0.033	0.011	0
9	0	0.029	0.04	0.018
10	0	0.051	0.042	0.02

Soc/rec to home

1	0	0.01	0	0
2	0	0.033	0	0
3	0	0.014	0.046	0
4	0	0.052	0.104	0
5	0	0	0.043	0
6	0	0.082	0.033	0.111
7	0	0	0	0
8	0	0.049	0.041	0.035
9	0	0.082	0.052	0
10	0	0	0.028	0.049

Home to other

1	0	0.006	0	0
2	0	0	0	0
3	0	0	0.008	0
4	0	0.009	0.019	0
5	0	0.022	0.017	0
6	0	0	0.03	0.025
7	0	0	0	0
8	0	0.042	0.03	0
9	0	0.033	0.061	0.04
10	0	0.046	0.053	0.073

Other to home

1	0	0.011	0	0
2	0	0	0	0
3	0	0	0.004	0
4	0	0.014	0	0
5	0	0.022	0.034	0
6	0	0	0.03	0
7	0	0	0	0
8	0	0.059	0.052	0
9	0	0.078	0.081	0.04
10	0	0	0.054	0.086

Non home based

1	0	0.262	0	0
2	0	0.15	0	0
3	0	0.4	0.611	0
4	0	0.304	0.453	0
5	0	0.451	0.607	0
6	0	0.406	0.147	0.581
7	0	0.235	0	0
8	0	0.302	0.64	0.656
9	0	0.106	0.6	0.778
10	0	0.181	0.552	0.901

Evening Peak Car Driver Trip Rates by Purpose

Home to work					Work to home				
1	0	0.013	0	0	1	0.166	0.374	0	0
2	0	0	0	0	2	0	0	0	0
3	0	0.014	0.043	0	3	0.679	0.318	0.673	0
4	0	0	0	0	4	0	0.014	0.024	0
5	0	0.018	0	0	5	0	0.201	0.424	0
6	0	0	0	0.053	6	0	0.067	0.647	0.856
7	0	0.022	0	0	7	0.199	0.159	0.311	0
8	0	0	0	0	8	0	0.119	0.596	0.784
9	0	0.033	0.038	0.075	9	0	0.351	0.498	0.505
10	0	0	0.033	0.05	10	0	0.231	0.408	0.379

Home to education					Education to home				
1	0	0	0	0	1	0	0	0	0
2	0	0	0	0	2	0	0.012	0	0
3	0	0.018	0.004	0	3	0	0	0.008	0
4	0	0	0	0	4	0	0	0.009	0
5	0	0	0.033	0	5	0	0	0	0
6	0	0	0	0	6	0	0	0.031	0.026
7	0	0	0	0	7	0	0	0.074	0
8	0	0	0	0	8	0	0	0.055	0.025
9	0	0.014	0.007	0.016	9	0	0	0.007	0.039
10	0	0	0	0	10	0	0	0.009	0.043

Home to business					Business to home				
1	0	0.004	0	0	1	0	0.014	0	0
2	0	0.011	0	0	2	0	0.011	0	0
3	0	0.034	0.02	0	3	0	0.034	0.033	0
4	0	0.034	0.026	0	4	0	0.03	0.047	0
5	0	0	0.023	0	5	0	0	0.052	0
6	0	0	0	0.013	6	0	0	0	0.028
7	0	0.021	0.129	0	7	0	0.041	0.087	0
8	0	0	0	0.028	8	0	0.033	0.034	0.032
9	0	0	0.014	0.066	9	0	0.024	0.021	0.057
10	0	0	0.011	0.017	10	0	0	0.018	0.019

Home to shop					Shopping to home				
1	0	0.02	0	0	1	0	0.08	0	0
2	0	0.016	0	0	2	0	0.029	0	0
3	0	0.085	0.018	0	3	0	0.054	0.121	0
4	0	0.017	0.026	0	4	0	0.046	0.146	0
5	0	0.06	0.04	0	5	0	0.132	0.176	0
6	0	0	0.076	0.088	6	0	0.068	0.256	0.28
7	0	0.038	0.153	0	7	0	0.127	0.282	0
8	0	0.082	0.044	0.056	8	0	0.11	0.121	0.221

9	0	0.059	0.046	0.053	9	0	0.064	0.161	0.223
10	0	0.105	0.032	0.089	10	0	0.202	0.091	0.196

Home to soc/rec

1	0	0.075	0	0
2	0	0.047	0	0
3	0	0.084	0.037	0
4	0	0.016	0.096	0
5	0	0.02	0.051	0
6	0	0	0.06	0.096
7	0	0.039	0.123	0
8	0	0.074	0.066	0.029
9	0	0.083	0.046	0.118
10	0	0.129	0.064	0.111

Soc/rec to home

1	0	0.051	0	0
2	0	0.075	0	0
3	0	0.026	0.053	0
4	0	0.059	0.139	0
5	0	0.018	0.079	0
6	0	0.077	0.031	0.181
7	0	0.038	0.376	0
8	0	0.043	0.093	0.063
9	0	0.076	0.072	0.125
10	0	0.096	0.079	0.145

Home to other

1	0	0.008	0	0
2	0	0	0	0
3	0	0.03	0.005	0
4	0	0.007	0	0
5	0	0.016	0	0
6	0	0	0	0.016
7	0	0.075	0.072	0
8	0	0.043	0.11	0.032
9	0	0.049	0.065	0.038
10	0	0.047	0.144	0.17

Other to home

1	0	0.004	0	0
2	0	0	0	0
3	0	0.095	0.011	0
4	0	0.007	0.01	0
5	0	0.115	0.02	0
6	0	0	0.09	0.023
7	0	0.112	0.072	0
8	0	0.183	0.23	0.085
9	0	0.094	0.169	0.088
10	0	0.047	0.195	0.325

Non home based

1	0	0.133	0	0
2	0	0.083	0	0
3	0	0.173	0.256	0
4	0	0.055	0.164	0
5	0	0.363	0.206	0
6	0	0.068	0.566	0.496
7	0	0.304	0.505	0
8	0	0.348	0.466	0.62
9	0	0.313	0.505	0.409
10	0	0	0.207	0.974