APPENDIX C

LOGIT COEFFICIENTS FOR MULTINOMIAL LOGIT MODEL IN 1998 AND 2004

Using equation (3.17) for estimation, each sampled household was firstly assigned to one of the six income groups ranged from the lowest income group to the highest income group. However, some income groups are combined following Wald test for combining categories (shown in Appendix D) to achieve higher efficiency of estimation. Three scenarios of income group classification are shown as follows;

		1998		2004	
		Scenario 1		Scenario 1	
Group	Monthly Income	Hourly Income	Frequency	Hourly Income	Frequency
1	0 - 5,000	19.49	520	19.67	431
2	5,000 - 10,000	40.39	490	38.82	573
3	10,000 - 15,000	68.81	208	65.38	224
4	15,000 - 25,000	110.74	149	101.6	182
5	25,000 - 35,000	167.44	31	158.87	45
6	35,000 up	280.43	47	258.3	57
		Scenario 2		Scenario 2	
Group	Monthly Income	Hourly Income	Frequency	Hourly Income	Frequency
1	0 - 5,000	19.49	520	19.67	431
2	5,000 - 15,000	48.85	1010	46.29	797
3	15,000 - 25,000	110.74	149	101.6	182
4	25,000 - 35,000	167.44	31	158.87	45
5	35,000 up	280.43	47	258.3	57
		Scenario 3		Scenario 3	
Group	Monthly Income	Hourly Income	Frequency	Hourly Income	Frequency
1	0 - 15,000	36.32	1530	36.95	1228
2	15,000 - 25,000	110.74	149	101.6	182
3	25,000 - 35,000	167.44	31	158.87	45
4	35,000 up	280.43	47	258.3	57

All scenarios and all cases are estimated with setting the 1st income group as the reference group. Notice that * is significant at 99% level of confidence and ** is significant at 95% level of confidence.

Table C.1

Scenario 1 in 1998 Six Income Groups

Variable	2	3	4	5	6
dist	-1.3101	-9.4521	-40.8312	-92.8398	-153.4953
	(0.2850)*	(2.0831)*	(6.4794)*	(11.2589)*	(16.0579)*
difdistx	18.7194	27.2512	58.8029	110.7975	171.4418
	(4.1072)*	(4.6432)*	(7.7063)*	(12.0055)*	(16.5908)*
constant	1.8113	9.2145	25.4445	41.4665	52.7766
	(0.6582)*	(1.4901)*	(3.6744)*	(5.0724)*	(5.5903)*
Observation					1445
L(0) Intercept Only					-2083.168
L(1) Full Model					(unidentify convergence)
Pseudo R2 (McFadden's R2)					-
McFadden's Adj R2					-
Count R2					-
Adj Count R2					-

Table C.2

Scenario 2 in 1998 Five Income Groups

Variable	2	3	4	5
dist	-3.8832	-30.0543	-95.5919	-175.1345
	(1.2585)*	(8.1690)*	(17.8434)*	(25.4187)*
difdistx	20.7622	47.5746	113.0975	192.6295
	(5.2914)*	(9.8389)*	(18.6634)*	(26.0025)*
constant	5.0426	17.4310	37.8391	52.5702
	(1.9604)*	(4.2790)*	(7.4523)*	(8.3328)*
Observation				1445
L(0) Intercept Only				-1657.978
L(1) Full Model				-24.734
Pseudo R2 (McFadden's R2)				0.985
McFadden's Adj R2				0.978
Count R2				0.991
Adj Count R2				0.983

Table C.3

Scenario 3 in 1998 Four Income Groups

Variable	2	3	4
dist	-0.5389	-147.2655	-349.9803
	(47.0863)	(269.0957)	(385.1139)
difdistx	18.6023	165.3202	368.0276
	(154.9493)	(306.9592)	(412.5168)
constant	-14.1689	31.8939	68.8902
	(171.4771)	(199.3634)	(207.0229)
Observation			1445
L(0) Intercept Only			-826.778
L(1) Full Model			(unidentify convergence)
Pseudo R2 (McFadden's R2)			-
McFadden's Adj R2			-
Count R2			-
Adj Count R2			-

Note: Coefficient tolerance 0.1

Table C.4

Scenario 1 in 2004 Six Income Groups

Case 1 Bus versus Automobile

Variable	2	3	4	5	6
dist	-0.2627	-0.1576	-0.5651	-7.6226	-31.9050
	(0.0092)*	(0.0118)	(0.1091)*	(3.0624)*	(7.3837)*
difdistx	-0.7799	-0.4871	27.9933	35.8661	60.4261
	(21.9171)	(28.3438)	(18.3352)	(18.6474)*	(19.8404)*
constant	0.6230	-0.4476	0.5889	5.6213	18.2782
	(0.1352)*	(0.1739)*	(0.4699)	(1.9142)*	(3.9458)*
Observation					1512
L(0) Intercept Only					-2254.995
L(1) Full Model					-1347.129
Pseudo R2 (McFadden's R2)					0.403
McFadden's Adj R2					0.396
Count R2					0.553
Adj Count R2					0.280

Table C.5

Scenario 2 in 2004 Five Income Groups

Case 1 Bus versus Automobile

Variable	2	3	4	5
dist	-0.0232	-0.5649	-7.6214	-31.8991
	(0.0085)*	(0.1091)*	(3.0616)*	(7.3896)*
difdistx	-0.6974	27.9915	35.8632	60.4184
	(20.6950)	(18.3298)	(18.6420)*	(19.8378)*
constant	0.9156	0.5875	5.6192	18.2739
	(0.1269)*	(0.4699)	(1.9138)*	(3.9476)*
Observation				1512
L(0) Intercept Only				-1781.620
L(1) Full Model				-874.169
Pseudo R2 (McFadden's R2)				0.509
McFadden's Adj R2				0.503
Count R2				0.697
Adj Count R2				0.359

Table C.6

Scenario 3 in 2004 Four Income Groups

Case 1 Bus versus Automobile

Variable	2	3	4
dist	-0.5487	-7.5452	-31.5397
	(0.1088)*	(3.0136)*	(7.1171)*
difdistx	28.0585	35.8628	60.1304
	(11.7665)**	(12.2319)*	(13.8500)*
constant	-0.6638	4.3299	16.8521
	(0.4609)**	(1.8840)**	(3.8252)*
Observation			1512
L(0) Intercept Only			-985.816
L(1) Full Model			-82.166
Pseudo R2 (McFadden's R2)			0.917
McFadden's Adj R2			0.908
Count R2			0.984
Adj Count R2			0.915

Table C.7

Scenario 1 in 2004 Six Income Groups

Case 2 Bus versus Rapid Rail Transit

Variable	2	3	4	5	6
dist	-0.0252	-0.0089	-0.0011	-0.1507	-0.9978
	(0.0092)*	(0.0118)	(0.0130)	(0.0511)*	(0.1636)*
difdistx	29.6011	31.3674	31.8821	32.3302	33.3071
	(1114.4480)	(1114.4480)	(1114.4480)	(1114.4480)	(1114.4480)
constant	0.5937	-0.6172	-1.0840	-2.1928	0.0738
	(0.1356)*	(0.1768)*	(0.1969)*	(0.4382)*	(0.5199)*
Observation					1512
L(0) Intercept Only					-2254.995
L(1) Full Model					-1902.358
Pseudo R2 (McFadden's R2)					0.156
McFadden's Adj R2					0.150
Count R2					0.442
Adj Count R2					0.102

Table C.8

Scenario 2 in 2004 Five Income Groups

Case 2 Bus versus Rapid Transit

Variable	2	3	4	5
dist	-0.0211	-0.0081	-0.1777	-0.9969
	(0.0085)*	(0.0130)	(0.0536)*	(0.1608)*
difdistx	31.2180	31.8778	32.3481	33.2958
	(35.6669)	(35.6669)	(35.6670)	(35.6674)
constant	0.8593	-0.9460	-1.9060	0.2809
	(0.1272)*	(0.1941)*	(0.4417)*	(0.5020)
Observation				1512
L(0) Intercept Only				-1781.620
L(1) Full Model				-1454.841
Pseudo R2 (McFadden's R2)				0.183
McFadden's Adj R2				0.177
Count R2				0.574
Adj Count R2				0.099

Table C.9

Scenario 3 in 2004 Four Income Groups

Case 2 Bus versus Rapid Transit

Variable	2	3	4
dist	0.0103	-0.1285	-0.9615
	(0.0120)	(0.0489)*	(0.1662)*
difdistx	26.4003	26.8414	27.8079
	(0.1971)*	(0.1894)*	(0.1999)*
constant	-2.2448	-3.4453	-1.2843
	(0.1786)*	(0.4254)*	(0.5188)*
Observation			1512
L(0) Intercept Only			-985.816
L(1) Full Model			-636.231
Pseudo R2 (McFadden's R2)			0.355
McFadden's Adj R2			0.345
Count R2			0.870
Adj Count R2			0.310

Table C.10

Scenario 1 in 2004 Six Income Groups Case 3

Automobile versus Rapid Rail Transit

Variable	2	3	4	5	6
dist	-0.0033	0.0004	0.0121	0.0167	0.0041
	(0.0095)	(0.0121)	(0.0130)	(0.0229)	(0.0210)
difdistx	67.9553	67.8502	67.9977	68.0290	67.9934
	(354.3987)	(354.3987)	(354.3987)	(354.3988)	(354.3988)
constant	0.1512	-0.7684	-1.2276	-2.7180	-2.2833
	(0.1433)	(0.1820)*	(0.2004)*	(0.3577)*	(0.3163)*
observation					1512
L(0) Intercept Only					-2254.995
L(1) Full Model					-2187.8365
Pseudo R2 (McFadden's R2)					-
McFadden's Adj R2					-
Count R2					-
Adj Count R2					-

Table C.11

Scenario 2 in 2004 Five Income Groups Case 3

Automobile versus Rapid Rail Transit

Variable	2	3	4	5
dist	-0.0022	0.0119	0.0165	0.0040
	(0.0089)	(0.0130)	(0.0229)	(0.0210)
difdistx	74.8857	74.9507	74.9818	74.9464
	(382.9729)	(382.9729)	(382.9729)	(382.9729)
constant	0.4855	-1.2248	-2.7149	-2.2806
	(0.1342)*	(0.2002)*	(0.3571)*	(0.3158)*
observation				1512
L(0) Intercept Only				-1781.620
L(1) Full Model				-1717.740
Pseudo R2 (McFadden's R2)				0.036
McFadden's Adj R2				0.029
Count R2				0.517
Adj Count R2				0.021

Note: estimation is set tolerance at 0.1

Table C.12

Scenario 3 in 2004 Four Income Groups Case 3

Automobile versus Rapid Rail Transit

Variable	2	3	4
dist	0.0251	0.0292	0.0175
	(0.0117)**	(0.0217)	(0.0199)
difdistx	68.0962	68.1262	68.0925
	(344.4525)	(344.4525)	(344.4525)
constant	-2.4377	-3.9213	-3.4993
	(0.1826)*	(0.3419)*	(0.3007)*
observation			1512
L(0) Intercept Only			-985.816
L(1) Full Model			-893.414
Pseudo R2 (McFadden's R2)			0.094
McFadden's Adj R2			0.085
Count R2			0.833
Adj Count R2			0.113