Appendix A. Sensitivity test of multilevel models.

To explore the neighborhood scale influence on active travel, while controlling for the influence of individual level factors, we adopted the multilevel modeling techiques. A multilevel modeling approach recoginizes hiearchical clusters and identify and differeiates between-cluster heterogeneity (Habib and Miller, 2008). In addition, a mixed-effects logistic regression model allows for many levels of nested clusters of both fixed and random effects (Stata, 2015). The model also performs optimization using the original metric of variance components (Stata, 2015). A two-level and a three-level model were applied. The models are represented as following:

$$Yij = \beta_{0j} + \beta_1 X_{ij} + \varepsilon ij \qquad (1)$$

$$\beta_{ij} = \beta_0 + \beta_2 Z_j + \mu_{0j} \qquad (2)$$

where Yij is active transport, β_{0j} and β_1 are parameters, εij is the error term, and X_{ij} is the independent variables; *β0, β1, and β2* are the fixed components that represent fixed intercept and parameters for independent variables, and μ_{0j} is the random effects.

In the multilevel models, we assumed that people from each neigborhood were nested in one of the four neighborhood types. The dependent variable was active travel. In the two-level model, we ignored the neighborhood types and fit a a two-level model. In the three-level model, we incorporated invididual neighborhoods nested within each neighborhood types as an additional level. Both the two-level and three-level models showed similar results as the logistic regression models. Travel time, age, carownership, and desity were significant for both work trips and non-worktrips. Gender, education, and household size were only significant for work trips and employment and income were only significant for non-work trips. A likelihood-ratio test comparing to the logistic regression model was provided and was not significant for nonwork trips (Prob >= chibar2 = 0.469) but significant for work trips at the 1% level (Prob >= chibar2 = 0.001). Compared to Model 3, gender became significant, females had a higher chance to choose active travel than male; FAR became significant at the 5% level, higher FAR indicated less chance of choosing active travel; Dissimilarity, intersection, riverfront location, and consruction were not significant anymore.

Table A-1. Results of three-level model for both work and non-work trips.

	Odds Ratio	Coef.	Std. Err.	z	P>|z|	
Work trips (n=1,182)						
Travel time	0.949	-0.053	0.006	-8.85	**0.000**	***
Number of mode options	1.188	0.173	0.144	1.43	0.154	
Female	1.500	0.405	0.222	2.73	**0.006**	**
Age	1.040	0.040	0.009	4.81	**0.000**	***
Education	0.927	-0.076	0.021	-3.35	**0.001**	**
Employment	2.234	0.804	1.648	1.09	0.276	
Household size	1.356	0.304	0.086	4.82	**0.000**	***
Car ownership	0.266	-1.323	0.043	-8.13	**0.000**	***
Income	1.005	0.005	0.007	0.66	0.508	
FAR	0.863	-0.147	0.063	-2.00	**0.045**	*
Dissimilarity	18.592	2.923	34.534	1.57	0.116	
Intersection	1.009	0.009	0.024	0.36	0.715	
Bike lane	1.329	0.285	0.403	0.94	0.348	
Riverfront	0.930	-0.072	0.274	-0.25	0.806	
Construction	0.779	-0.250	0.236	-0.83	0.409	
constant	0.785	-0.243	0.854	-0.22	0.824	
Neighborhood type		0.000	0.00			
Neighborhood		0.393	0.142			
Non-Work (n=1,215)						
Travel time	0.948	-0.053	0.007	-7.02	**0.000**	***
Number of mode options	0.921	-0.082	0.136	-0.56	0.577	
Female	1.374	0.318	0.262	1.67	0.095	
Age	1.062	0.061	0.008	7.63	**0.000**	***
Education	0.961	-0.040	0.027	-1.42	0.155	
Employment	0.205	-1.583	0.042	-7.71	**0.000**	***
Household size	0.897	-0.109	0.074	-1.31	0.190	
Car ownership	0.500	-0.694	0.099	-3.49	**0.000**	***
Income	1.024	0.024	0.006	3.87	0.000	***
FAR	0.827	-0.190	0.048	-3.26	**0.001**	**
Dissimilarity	1.363	0.310	1.879	0.22	0.822	

	Odds Ratio	Coef.	Std. Err.	z	P>|z|
Intersection	1.033	0.032	0.018	1.86	0.063
Bike lane	1.101	0.096	0.264	0.40	0.687
Riverfront	1.136	0.128	0.278	0.52	0.603
Construction	0.700	-0.357	0.166	-1.50	0.133
constant	4.259	1.449	3.537	1.74	0.081
Neighborhood type		0.000	0.000		
Neighborhood		0.007	0.090		