Figure 1: Outline of Triboro Line proposed by the Regional Plan Association

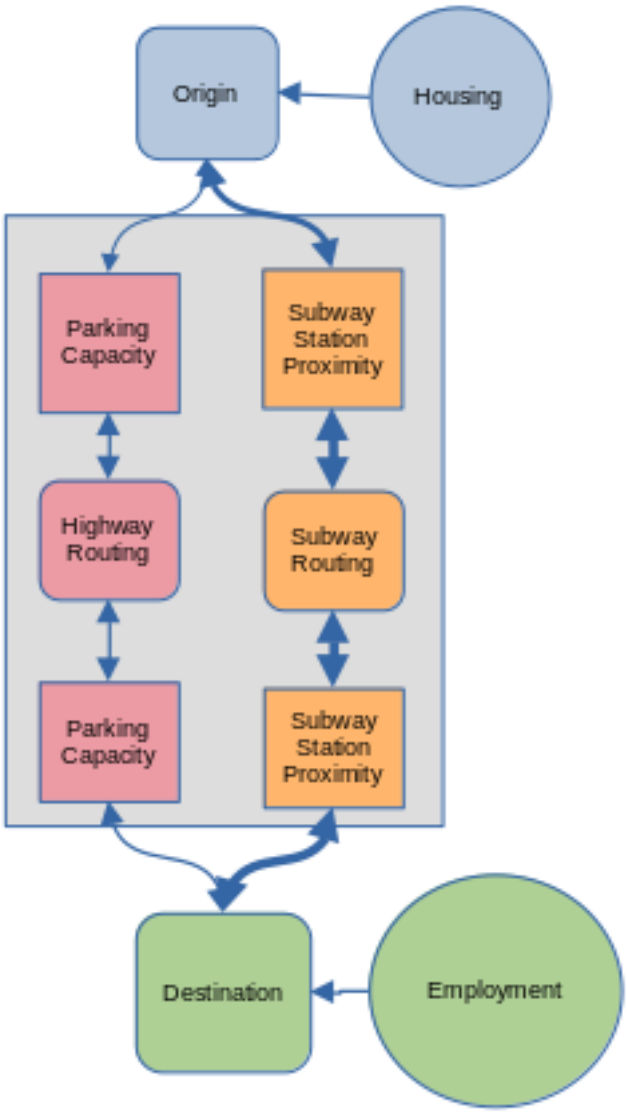

Figure 2: Conceptual model of transportation dynamics

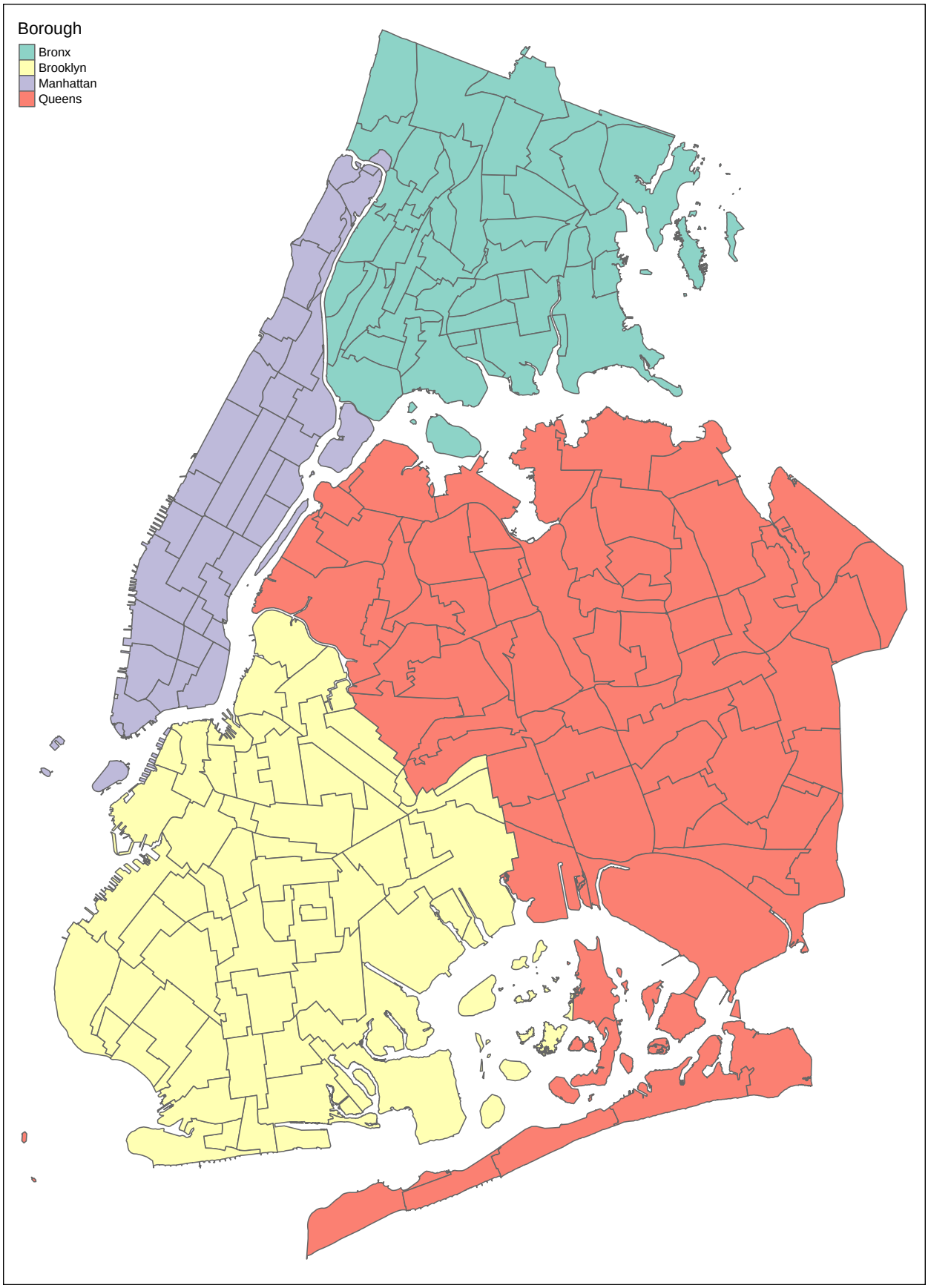

Figure 3: NYC Boroughs served by the MTA subway system

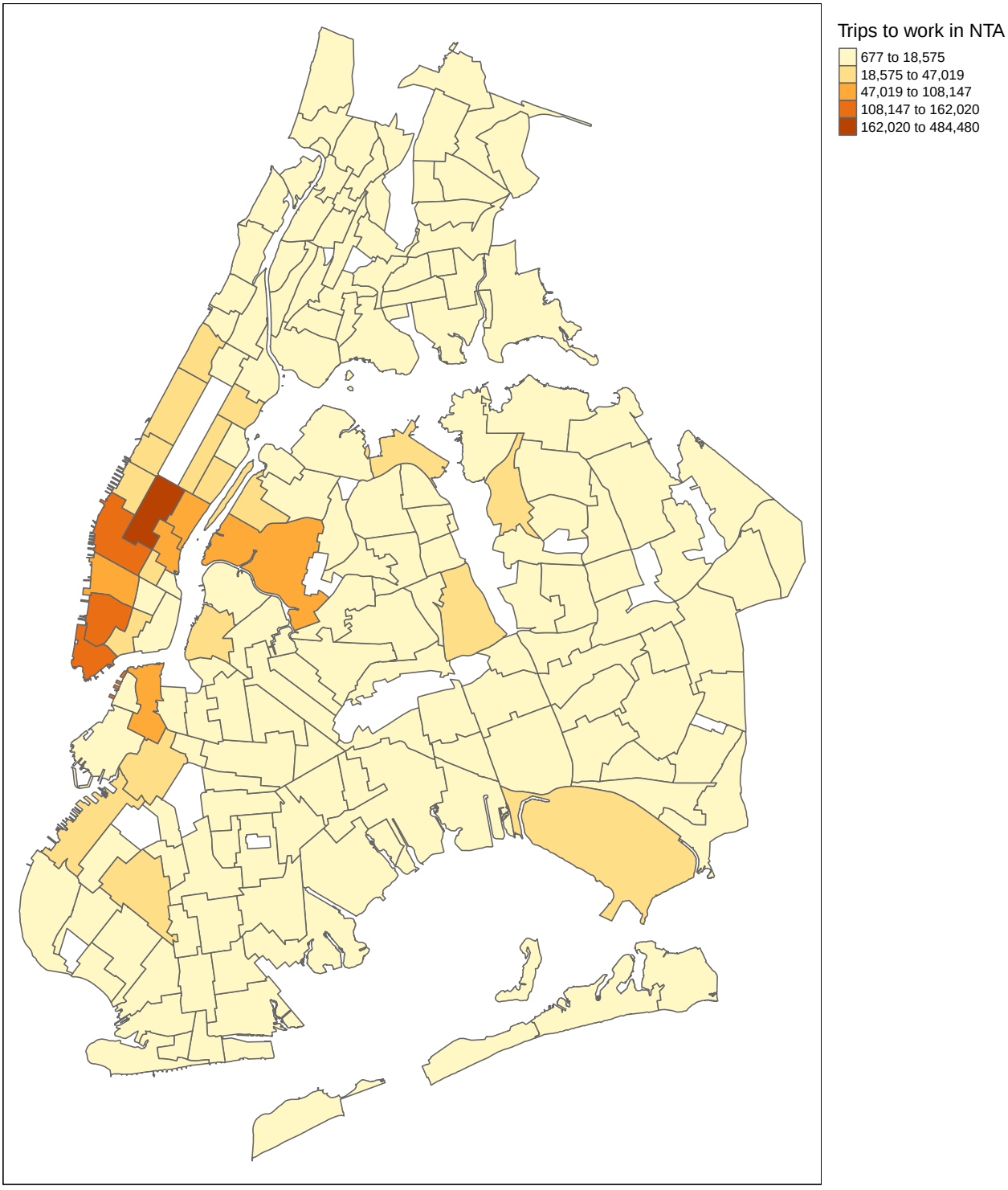

Figure 4: Number of jobs in each NTA across the Boroughs of Interest

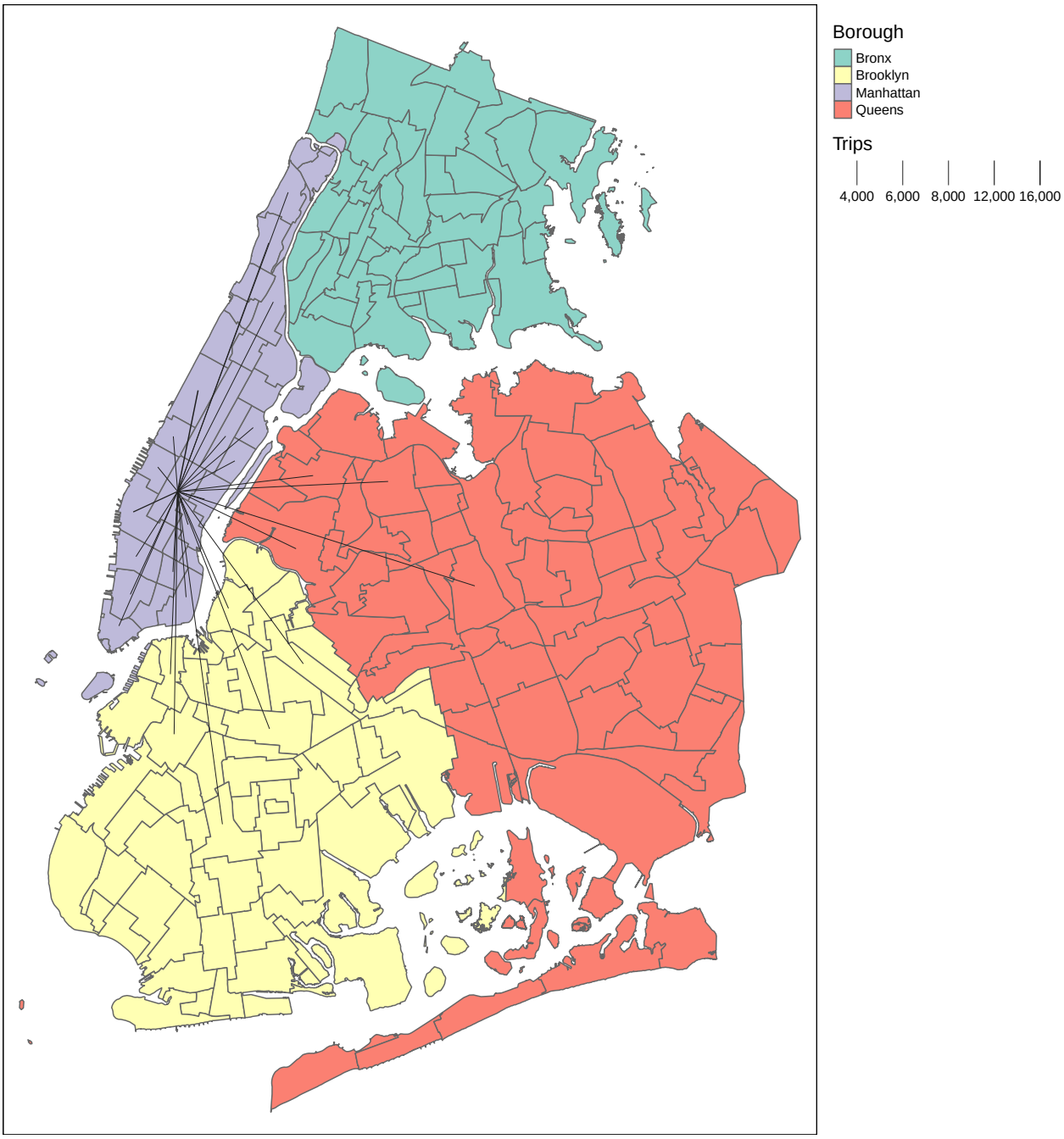

Figure 5: Desire lines for trips across the Boroughs of interest with at least 5000 trips are made

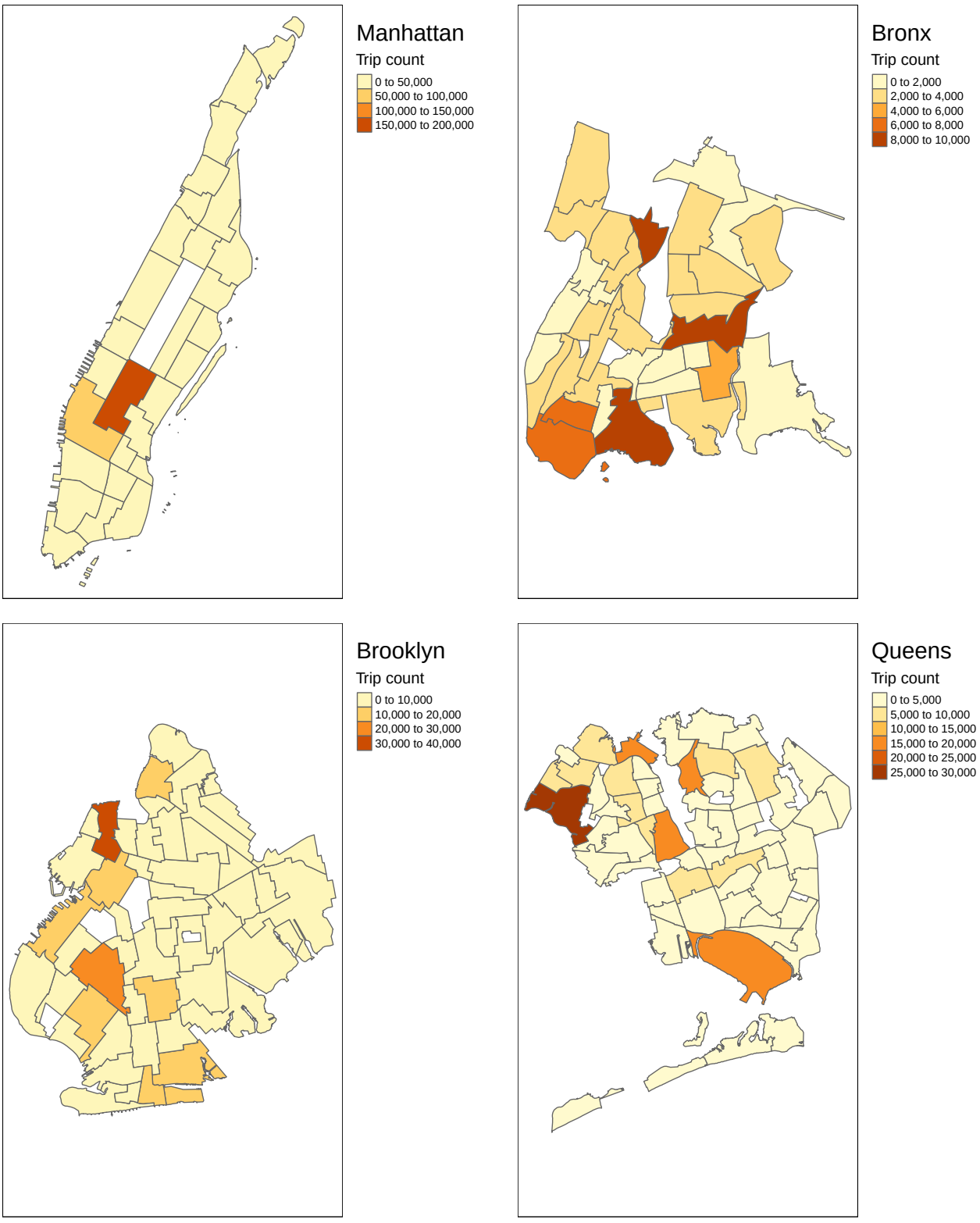

Figure 6: Number of jobs where the trip origin is within the same borough.

Figure 7: Desire lines for the most popular trips that start and end within the borough

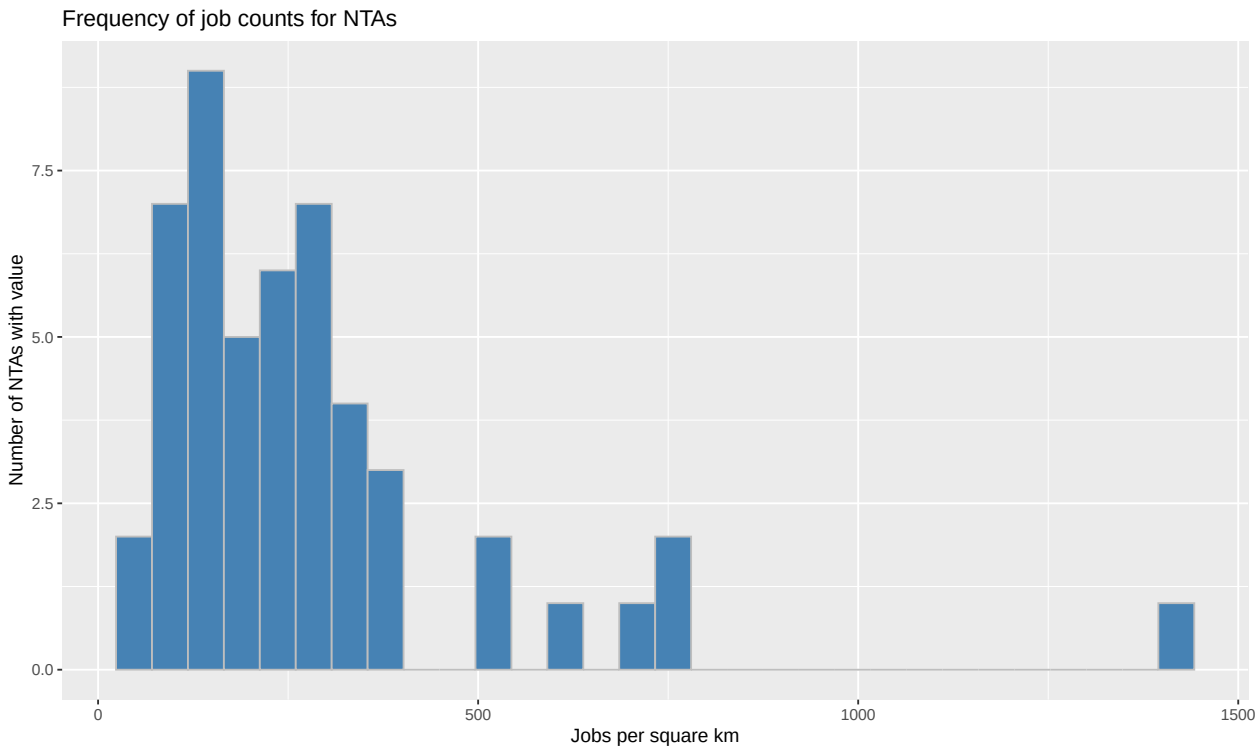

Figure 8: Frequency of job counts in each NTAs, standardized by the area of the NTA.

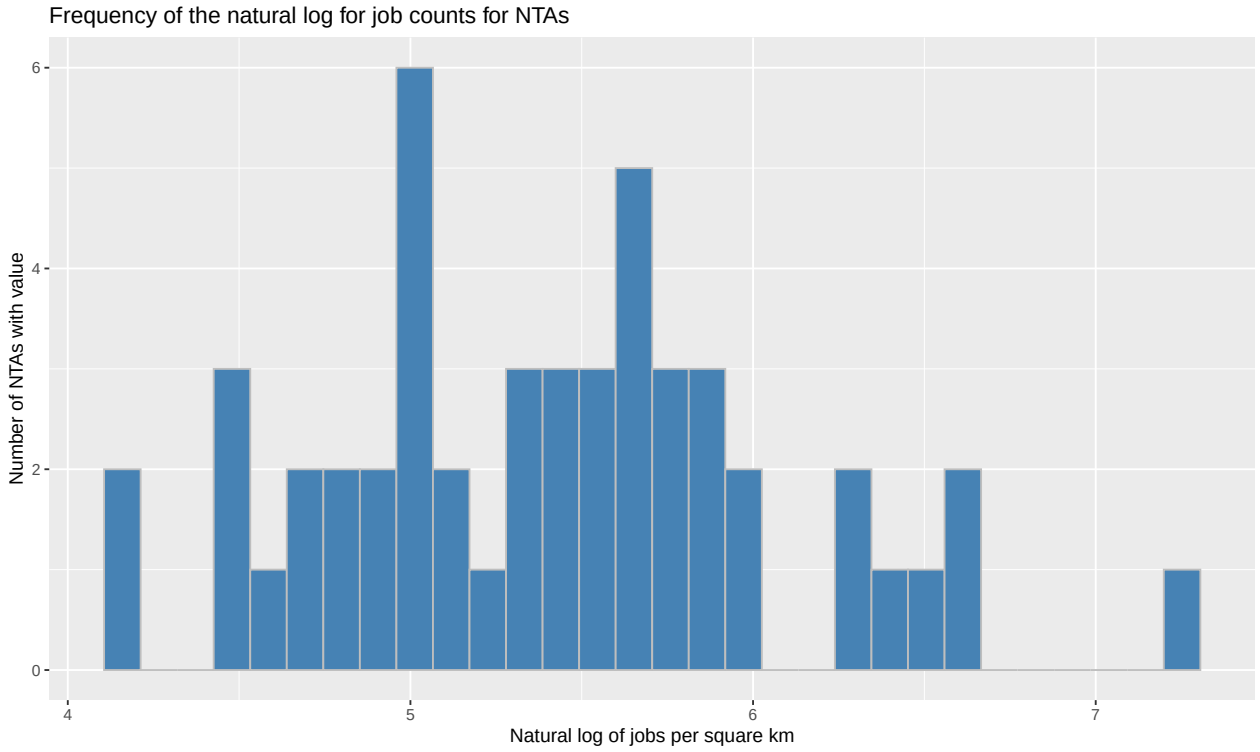

Figure 9: Frequency of job counts in each NTAs, standardized by the area of the NTA and tranformed with a natural log.

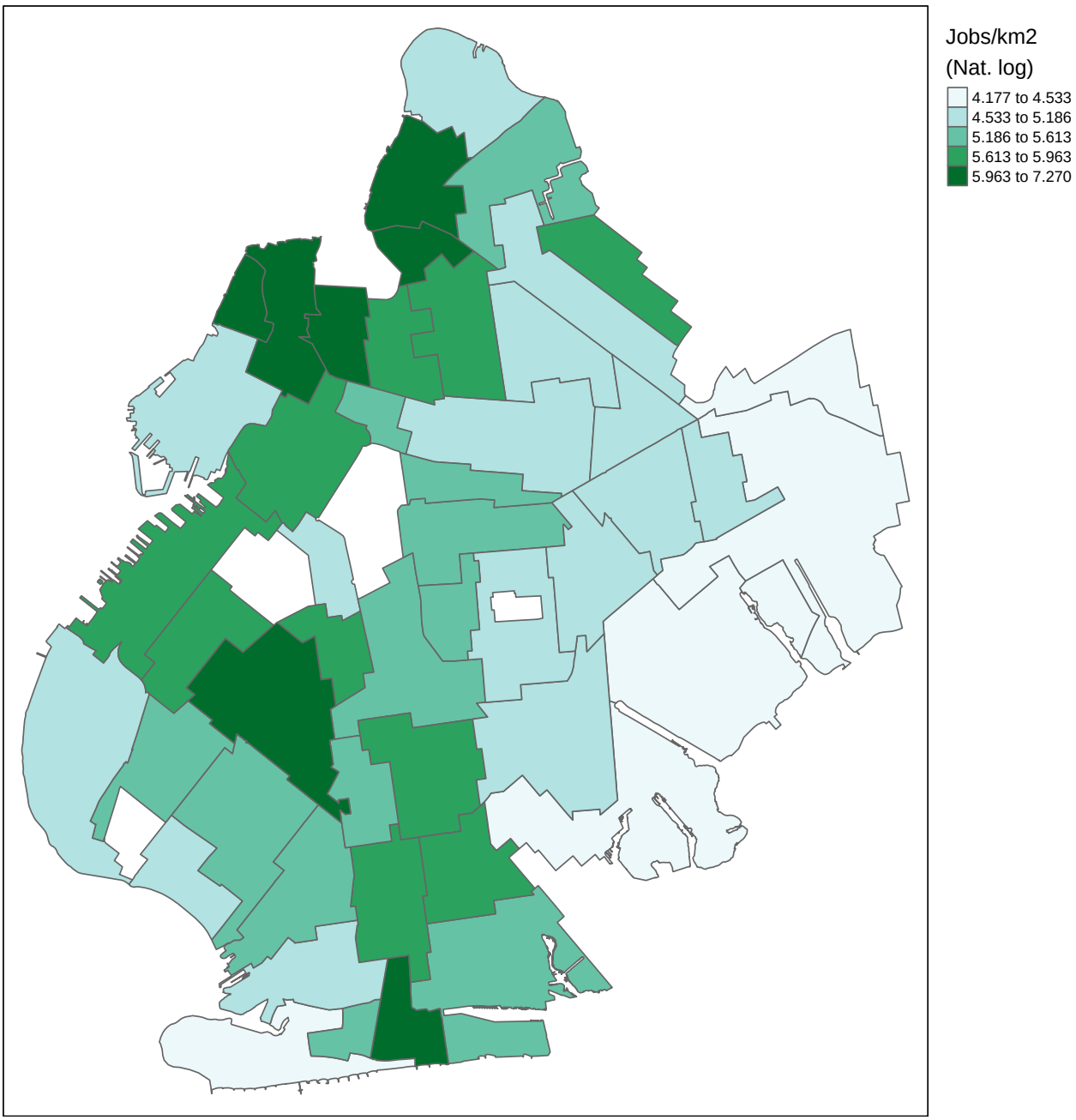

Figure 10: Number of jobs in each NTA tract. Job count is calculated from the sum of all trips which end in that NTA. It is standardized by the total area of the NTA. It is also transformed with a natural log.

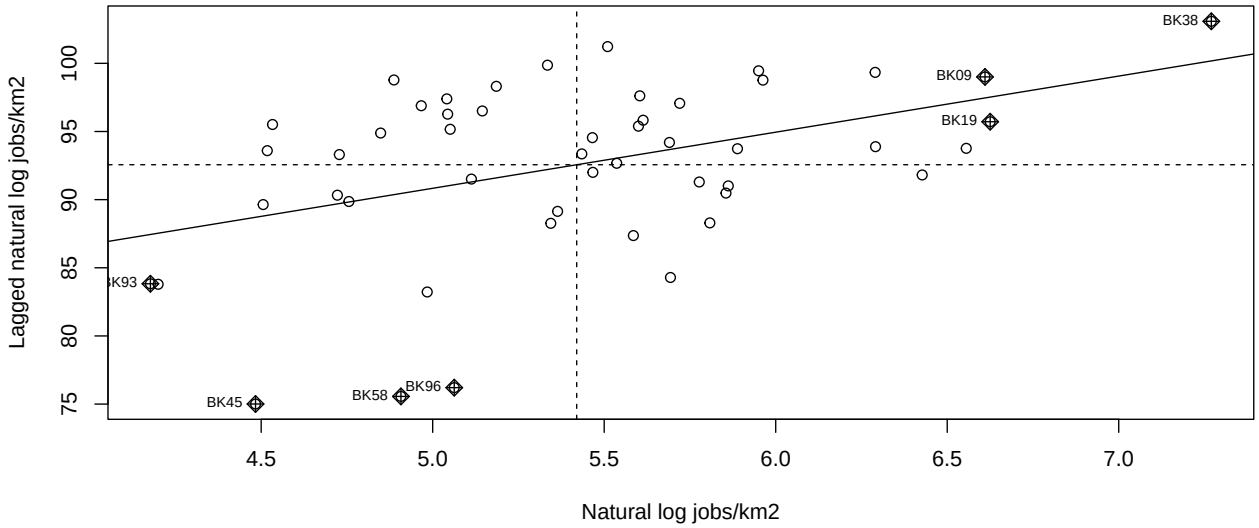

Figure 11: Global auto-correlation of job count using subway transit time for neighborhood wieghts

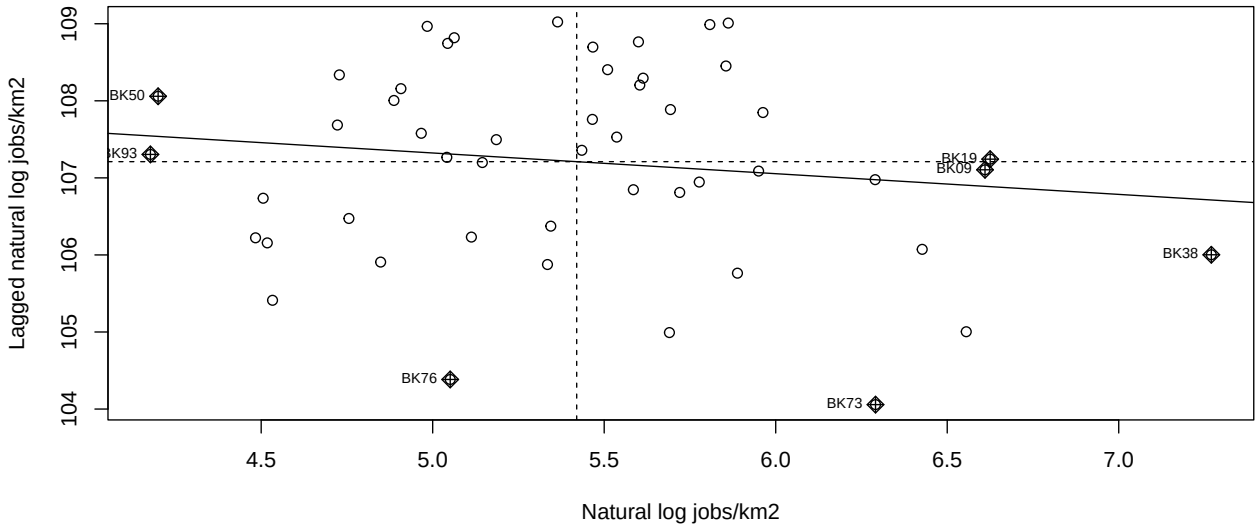

Figure 12: Global auto-correlation of job count using driving time for neighborhood wieghts

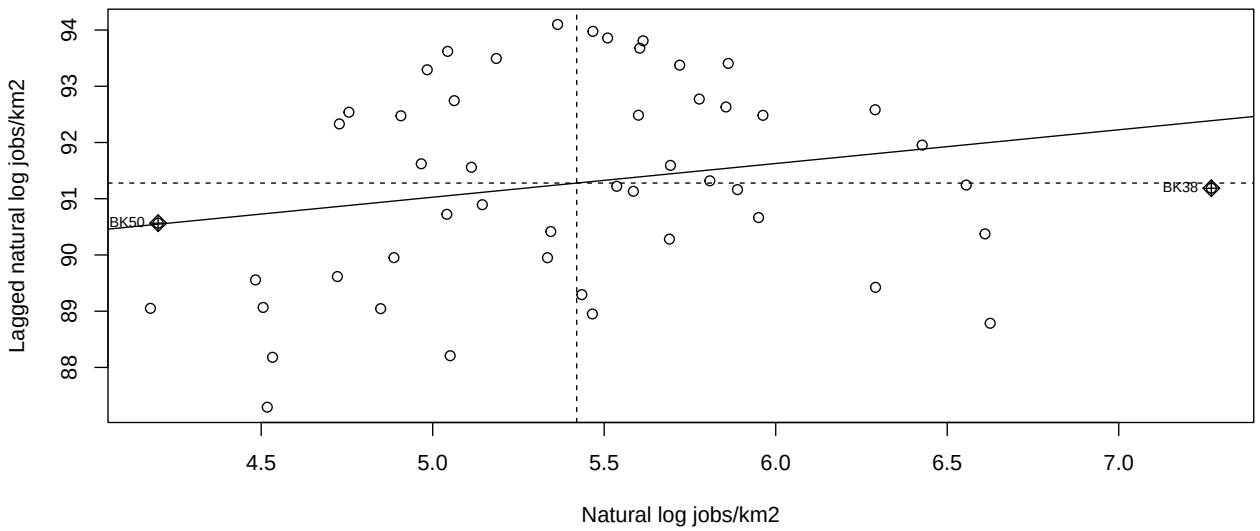

Figure 13: Global auto-correlation of job count using walking time for neighborhood wieghts

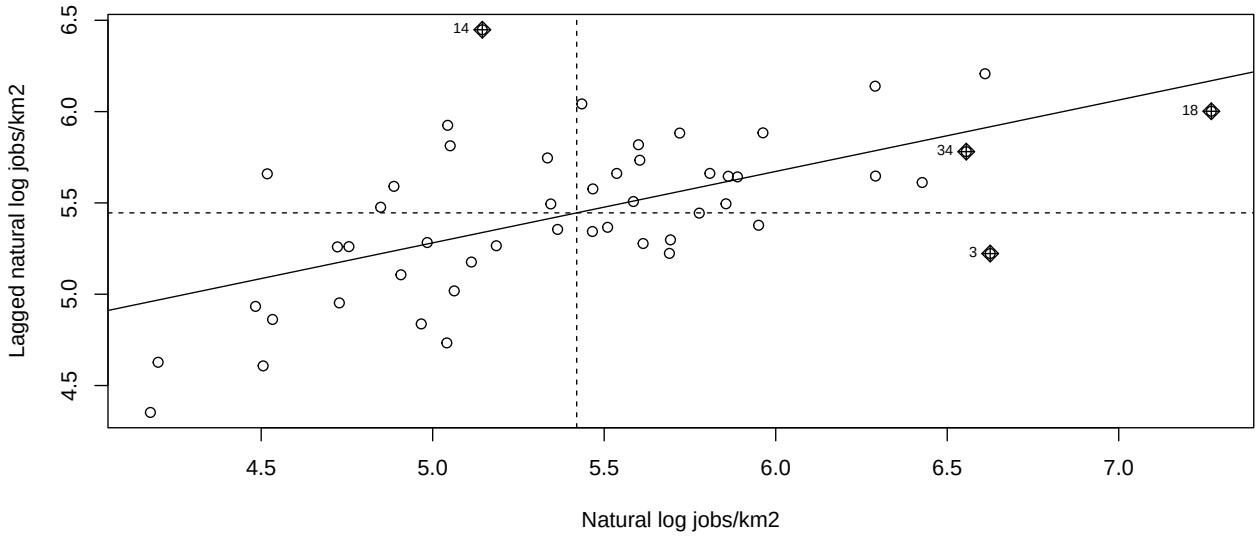

Figure 14: Global auto-correlation of job count using queens contiguity for neighborhood wieghts

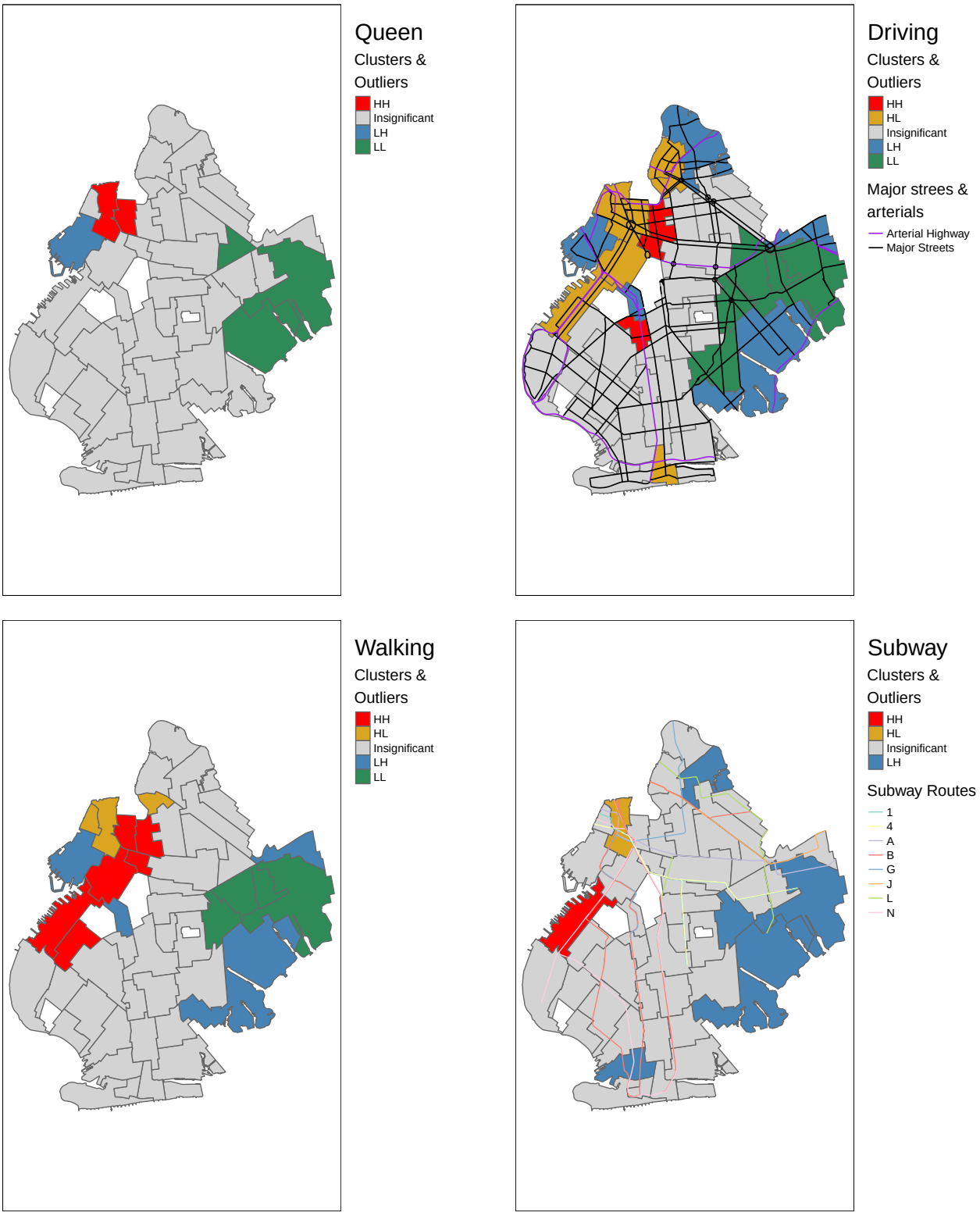

Figure 15: Local auto-correlation for job count of NTAs. Each map utilizes a unique neighborhood weighting. Top left uses queen contiguity. Top right uses driving time in traffic and is overlayed with major roads. Bottom left uses walking time. Bottom right uses transit time on the subway and is overlayed with the subway network.

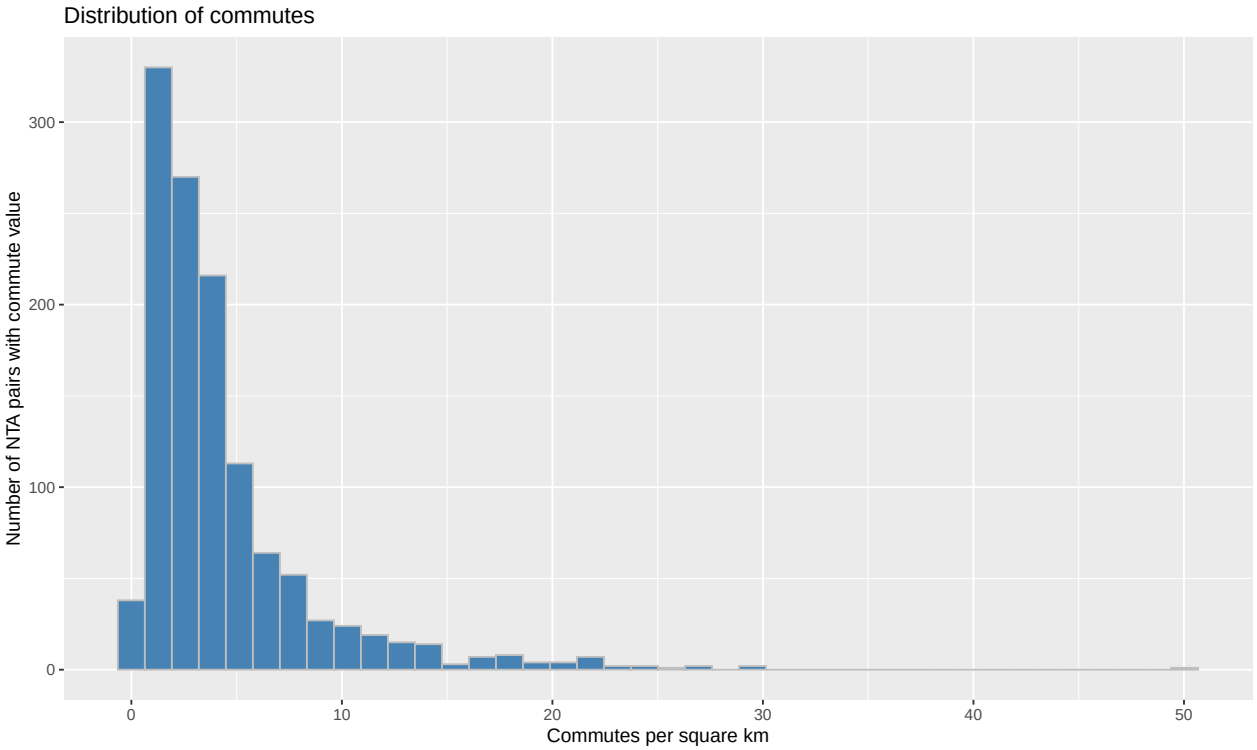

Figure 16: Frequency of commute counts, standardized by the sum of the areas of the commute's origin and destination NTAs

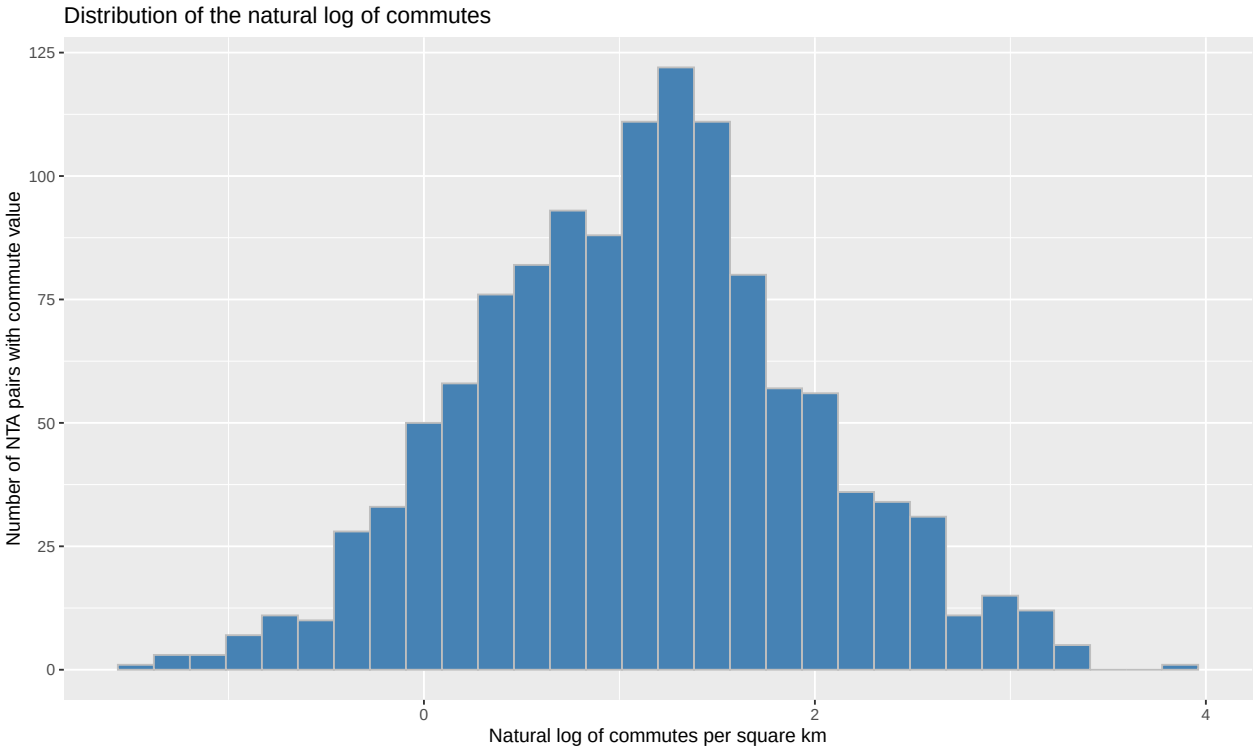

Figure 17: Frequency of the natural log of commute counts, standardized by the sum of the areas of the commute's origin and destination NTAs

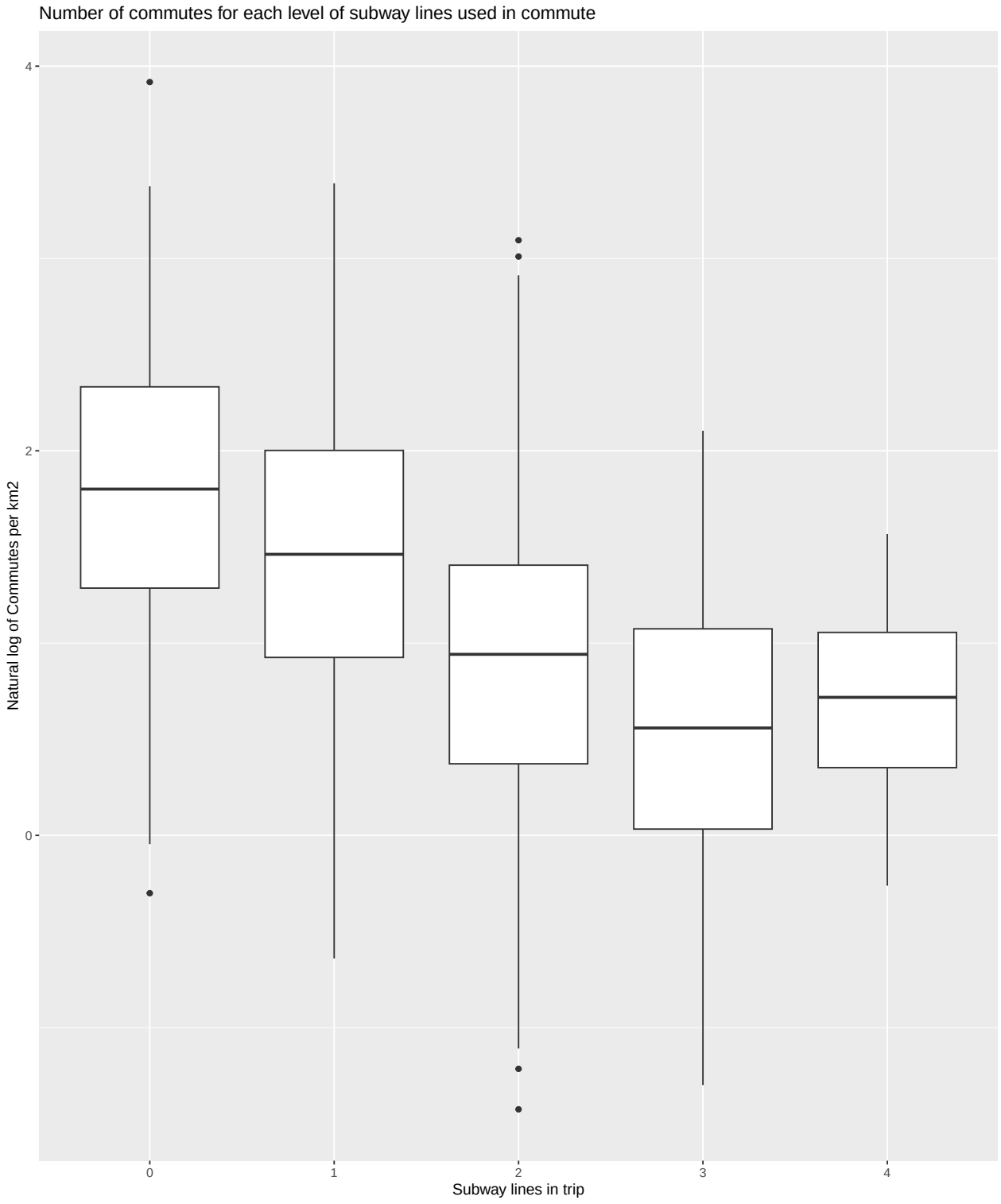

Figure 18: Boxplot for the number of commutes, factored by the number of subway lines used during the commute. Commutes are transformed by a natural log and standardized by area

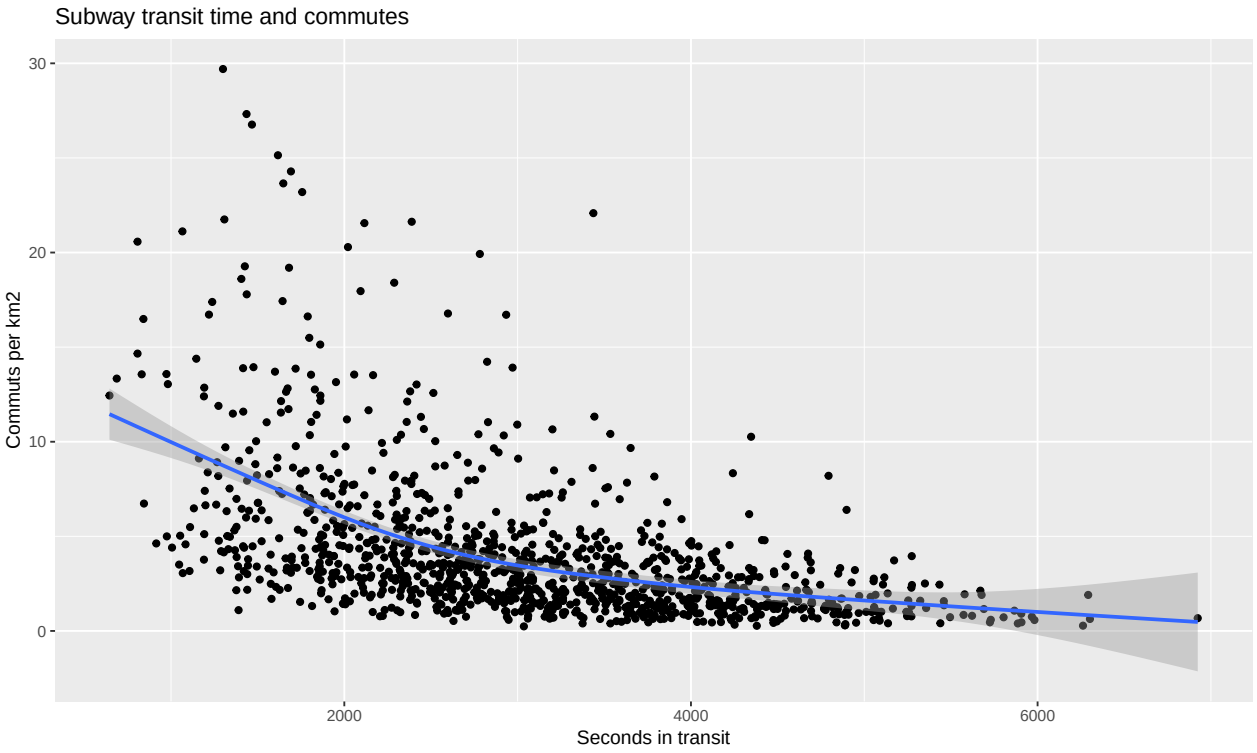

Figure 19: Time in transit on the subway plotted against the number of commutes standardized by area. A smoother line is overlayed in blue.

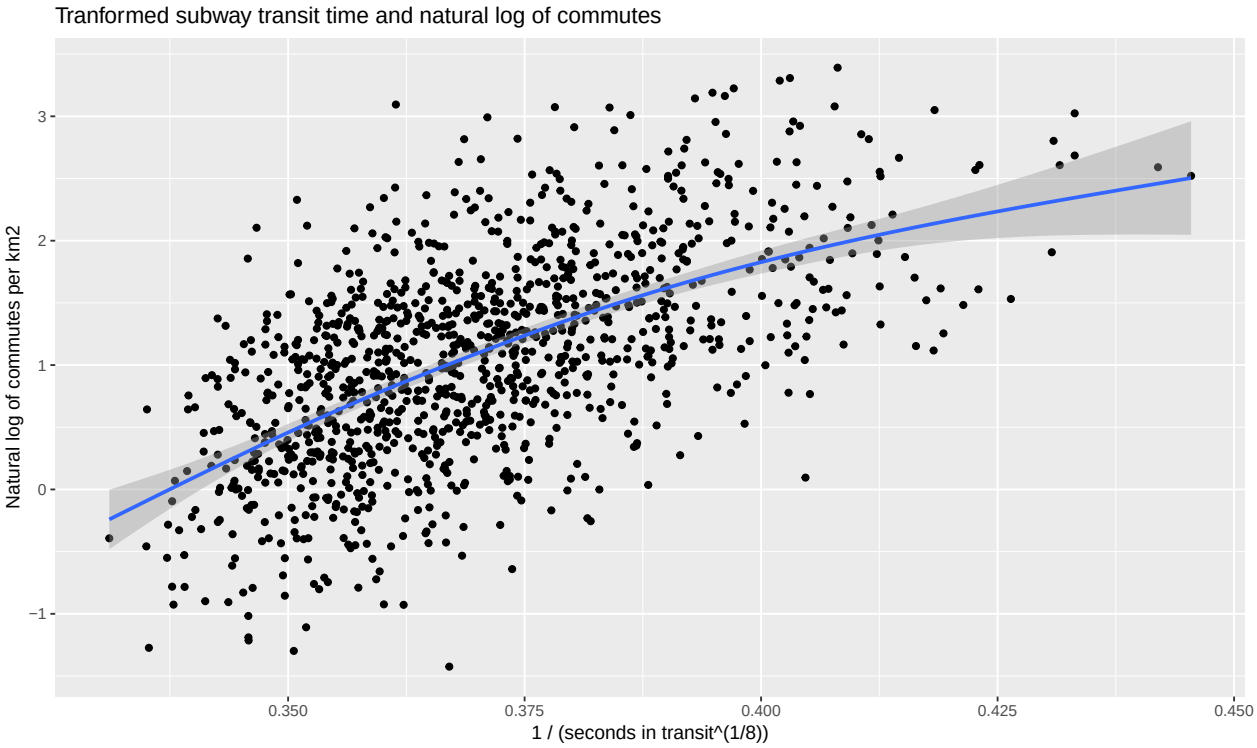

Figure 20: Time in subway transit is transormed by raising it to the power of one-eighth and taking the inverse. Commute count is transformed with the natural log. The values are plotted against each other. A smoother line is overlayed in blue.

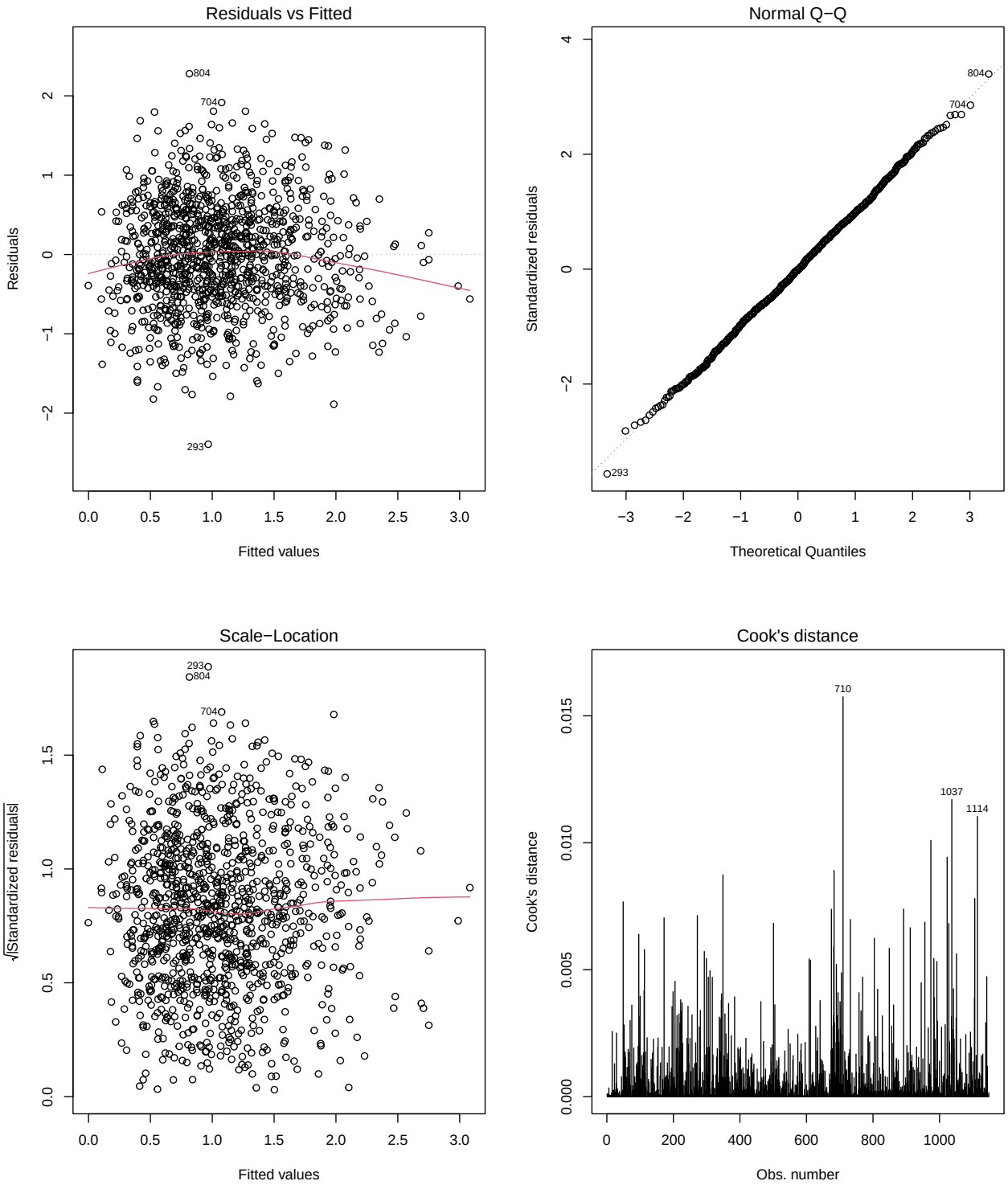

Figure 21: Diagnostic plots for the model of transformed subway transit time

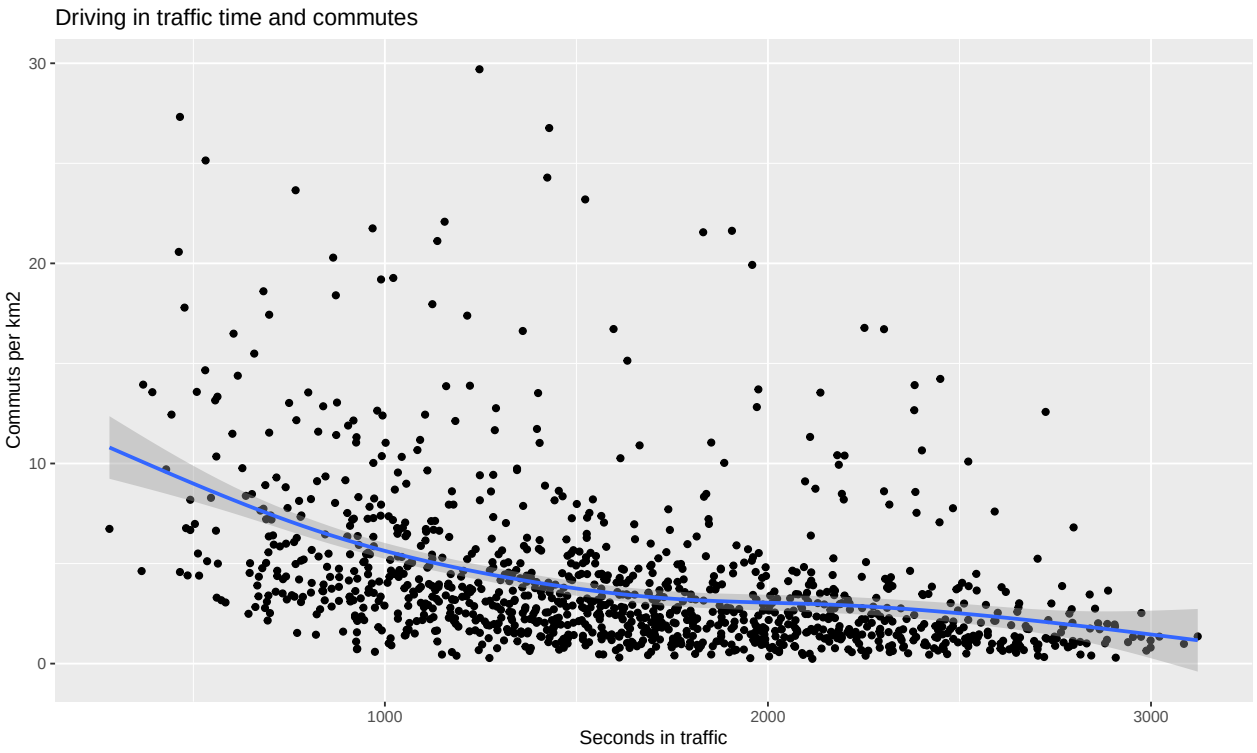

Figure 22: Time driving in traffic plotted against the number of commutes standardized by area. A smoother line is overlayed in blue.

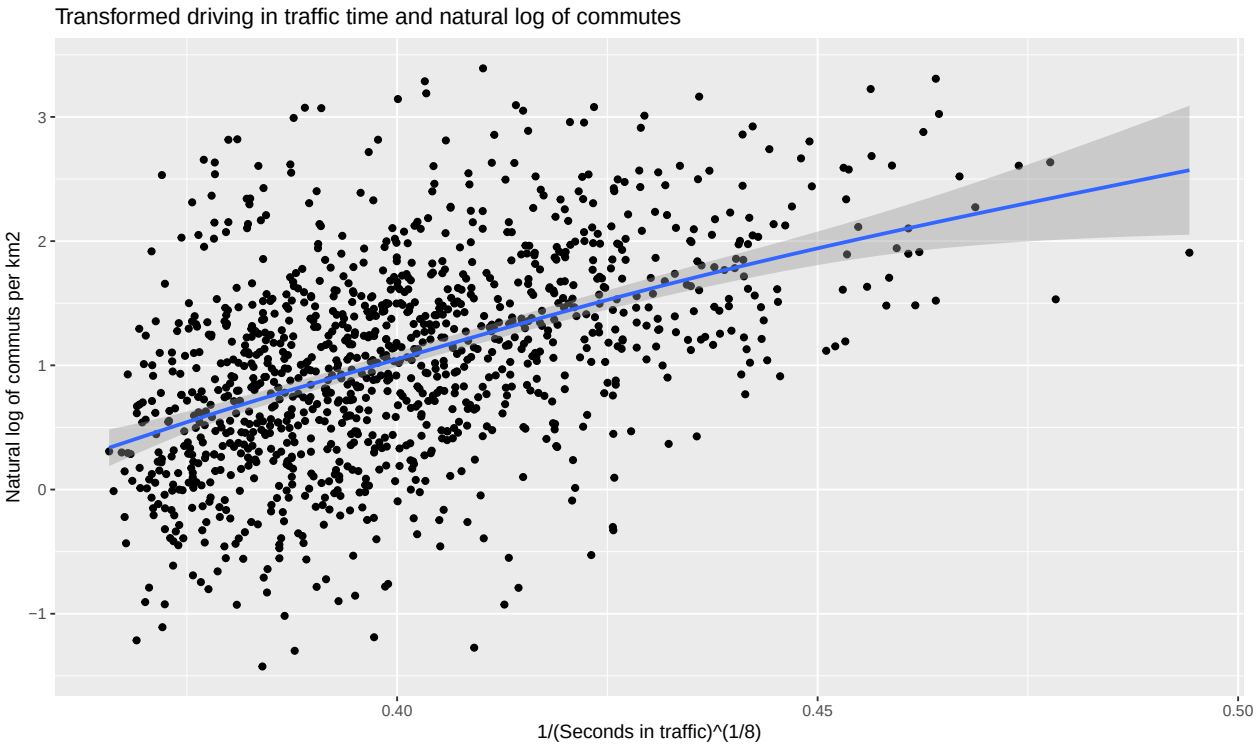

Figure 23: Time driving in traffic is transormed by raising it to the power of one-eighth and taking the inverse. Commute count is transformed with the natural log. The values are plotted against each other. A smoother line is overlayed in blue.

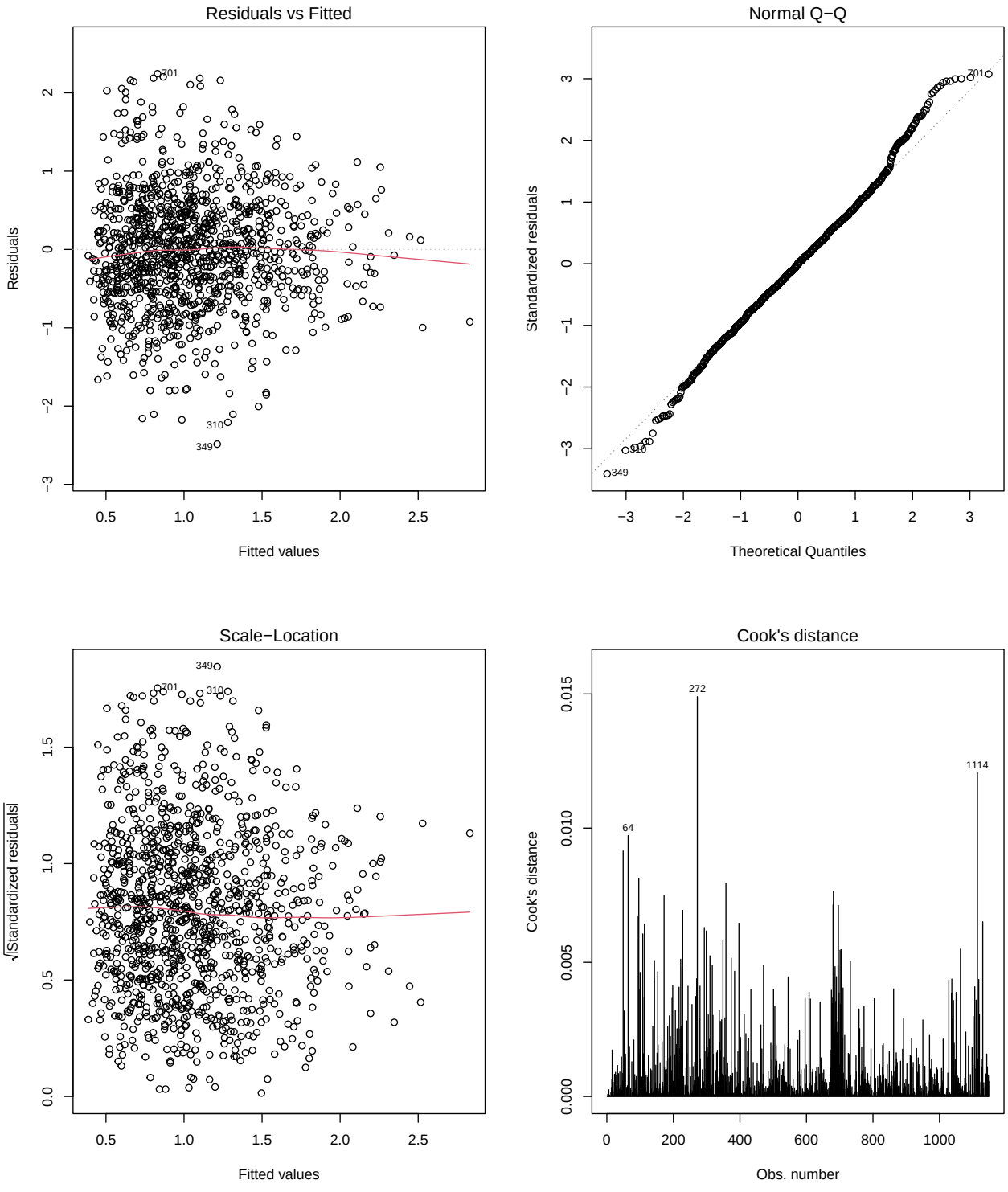

Figure 24: Diagnostic plots for the model of transformed driving time

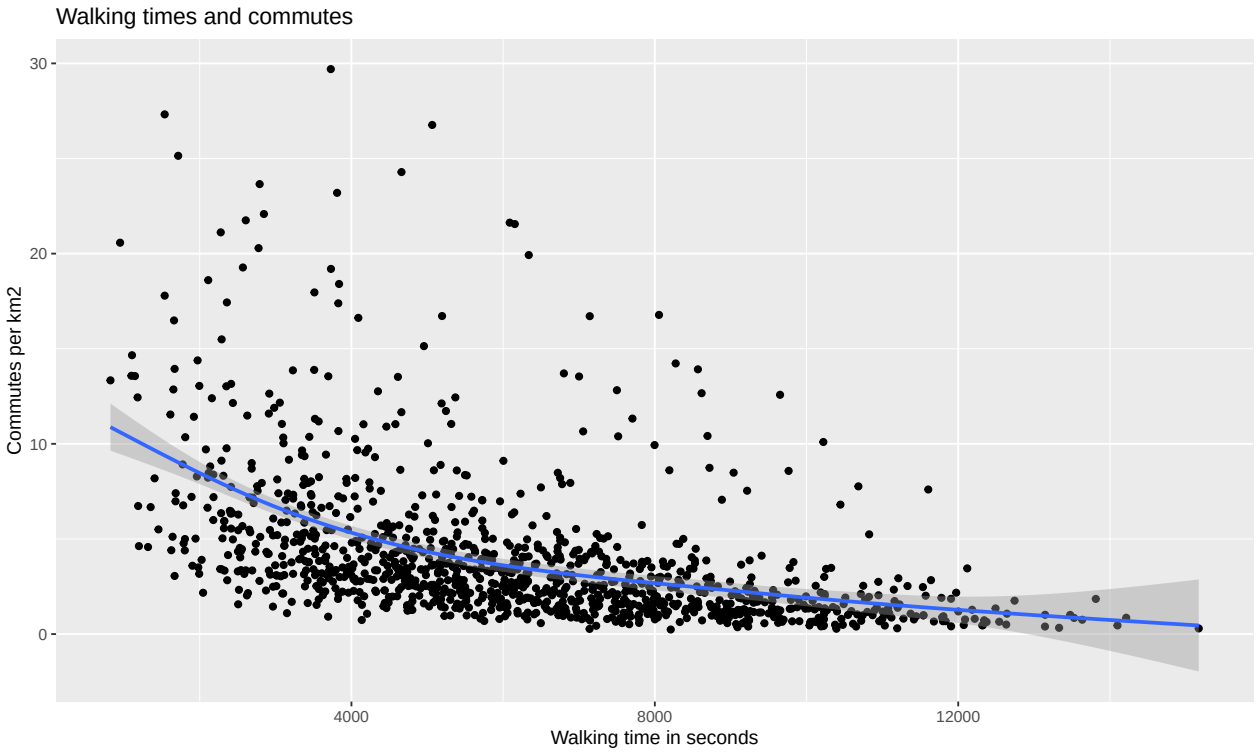

Figure 25: Time spent walking plotted against the number of commutes standardized by area. A smoother line is overlayed in blue.

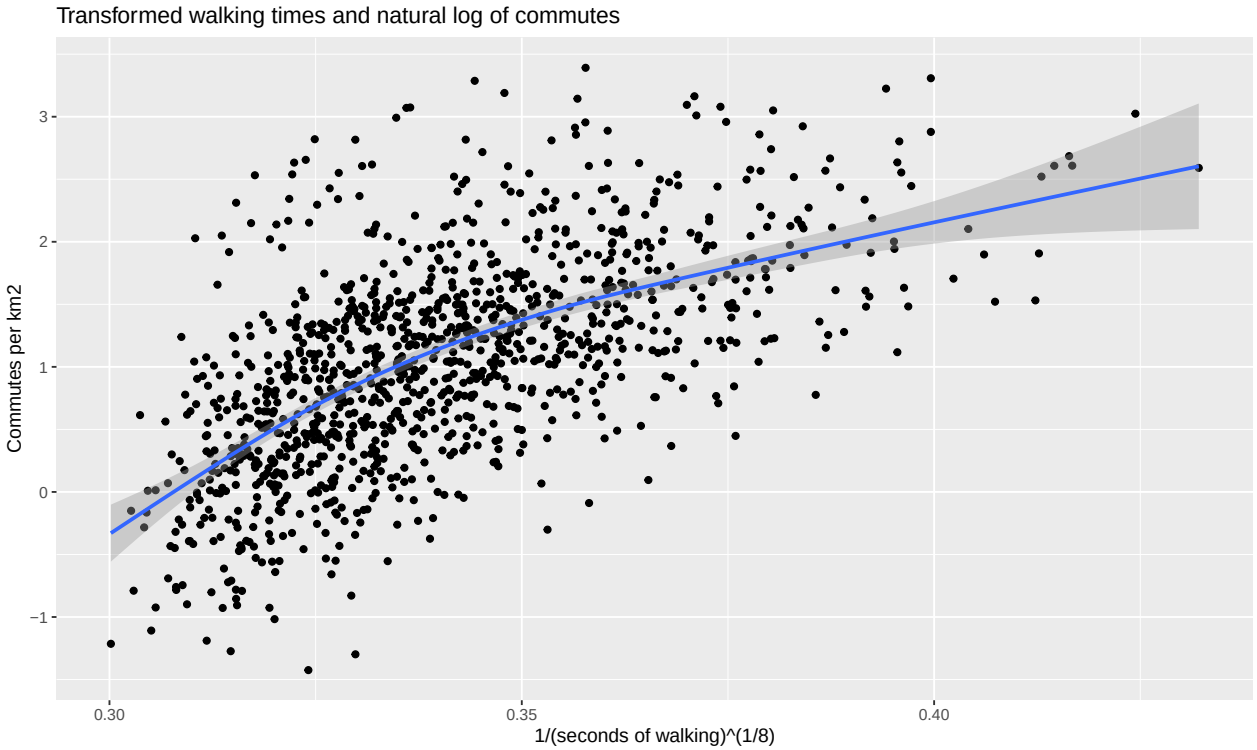

Figure 26: Time spent walking is transormed by raising it to the power of one-eighth and taking the inverse. Commute count is transformed with the natural log. The values are plotted against each other. A smoother line is overlayed in blue.

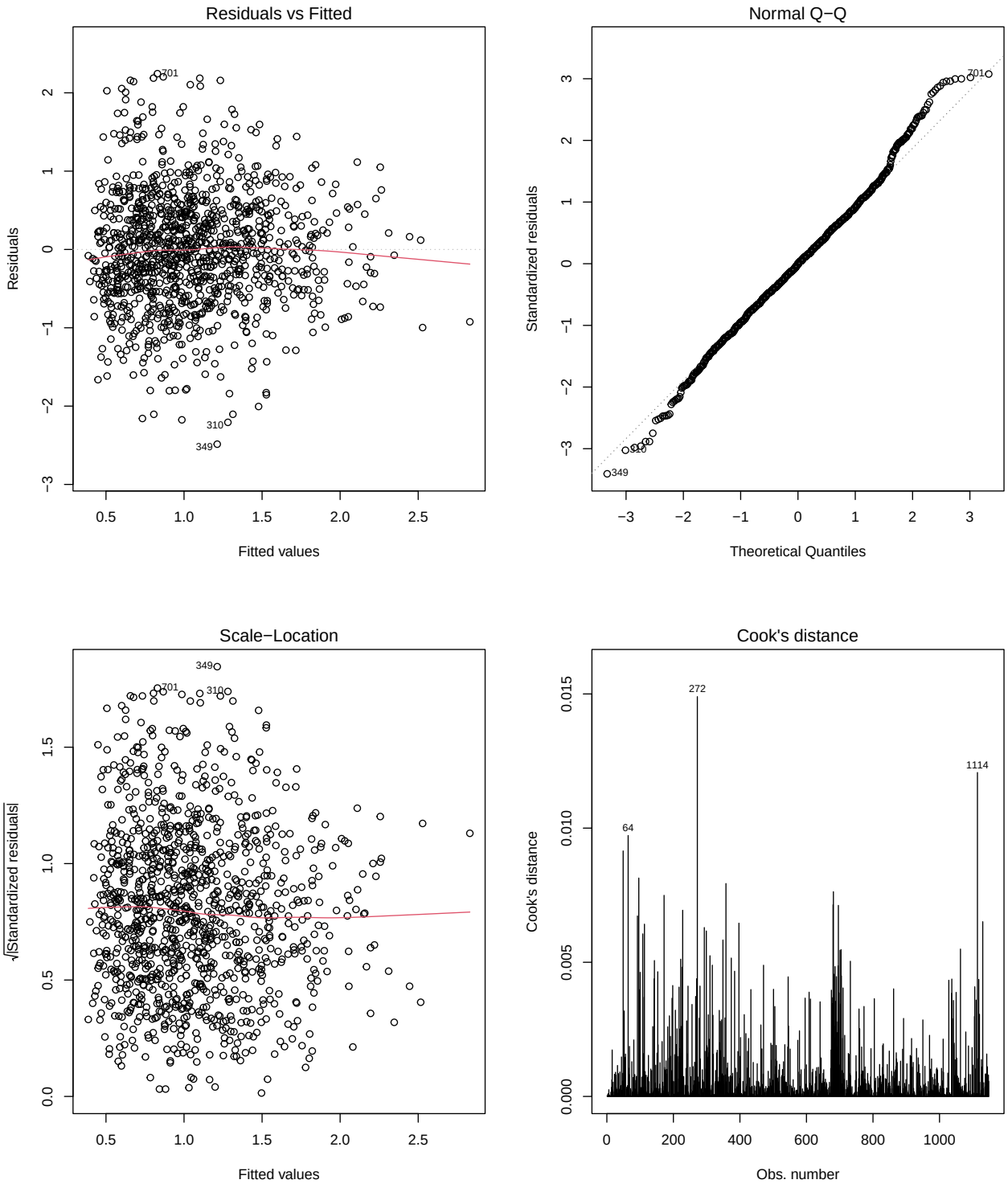

Figure 27: Diagnostic plots for the model of transformed walking time

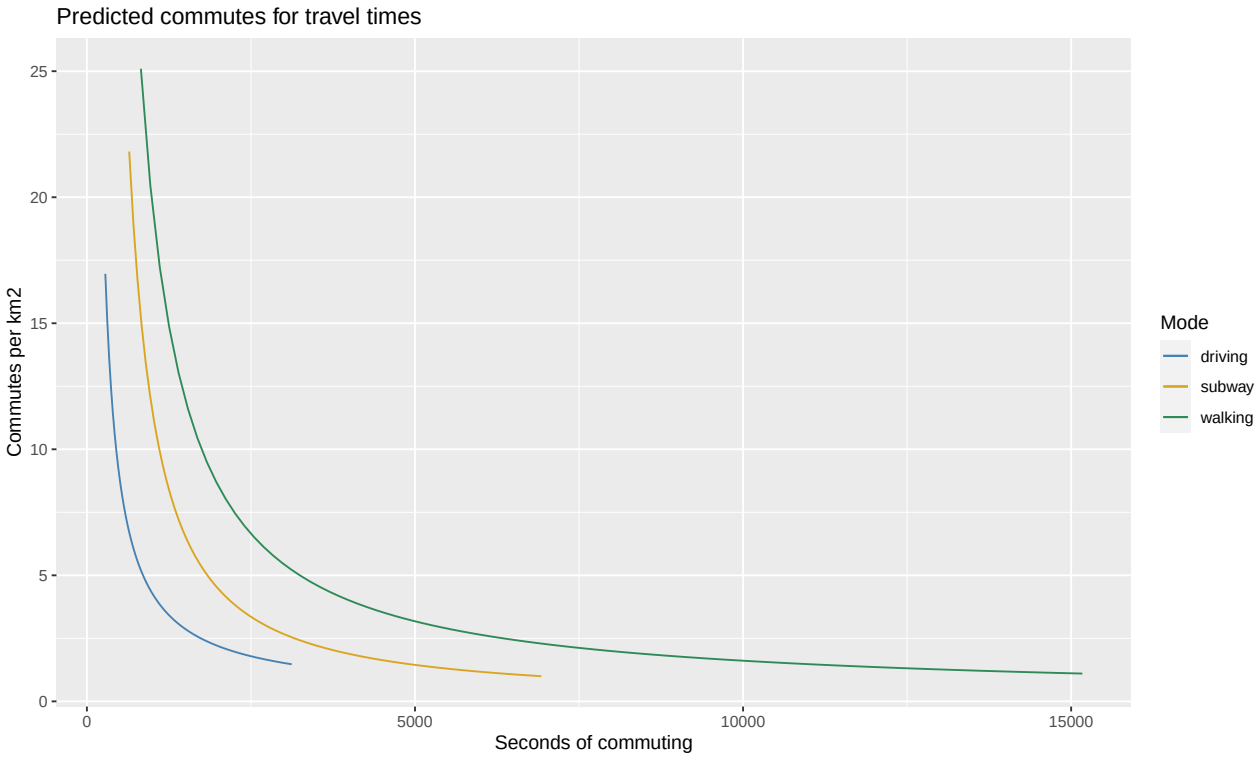

Figure 28: Models for transporation modes. Each model is only plotted from their minimum to maximum observed travel time.

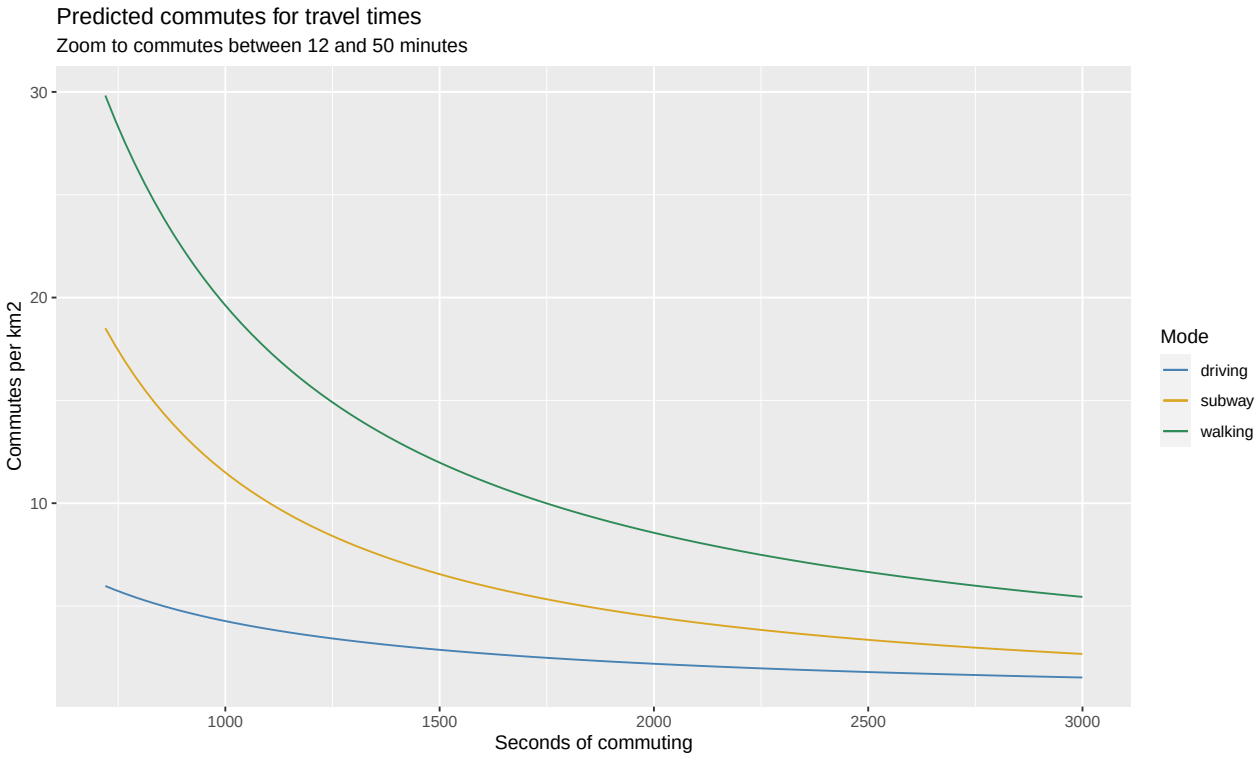

Figure 29: Models of transportation modes, zoomed on the range of 12min to 50mins. This range is seen in the travel time values for each transportation mode.

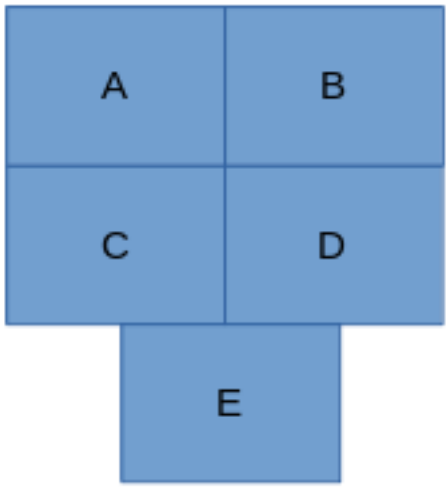

Figure 30: Hypothetical NTA layout

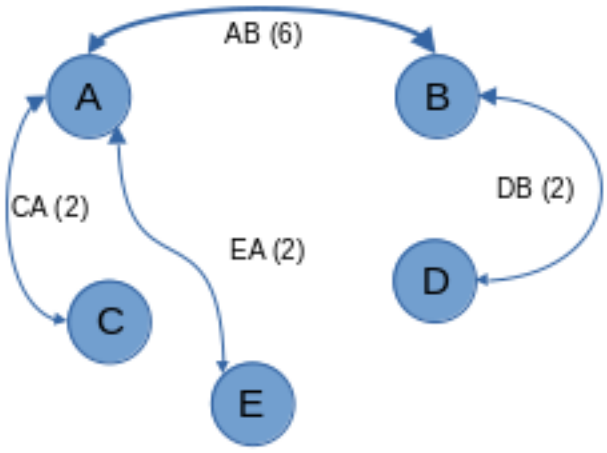

Figure 31: Hypothetical NTA network

	A	B	C	D	E
A	-	6	2	0	2
B	-	-	0	2	0
C	-	-	-	0	0
D	-	-	-	-	0
E	-	-	-	-	-

Figure 32: Matrix for hypothetical NTA network

	AB	AC	AE	BD
AB	-	1	1	1
AC	-	-	1	0
AE	-	-	-	0
BD	-	-	-	-

Figure 33: Complement for hypothetical NTA network

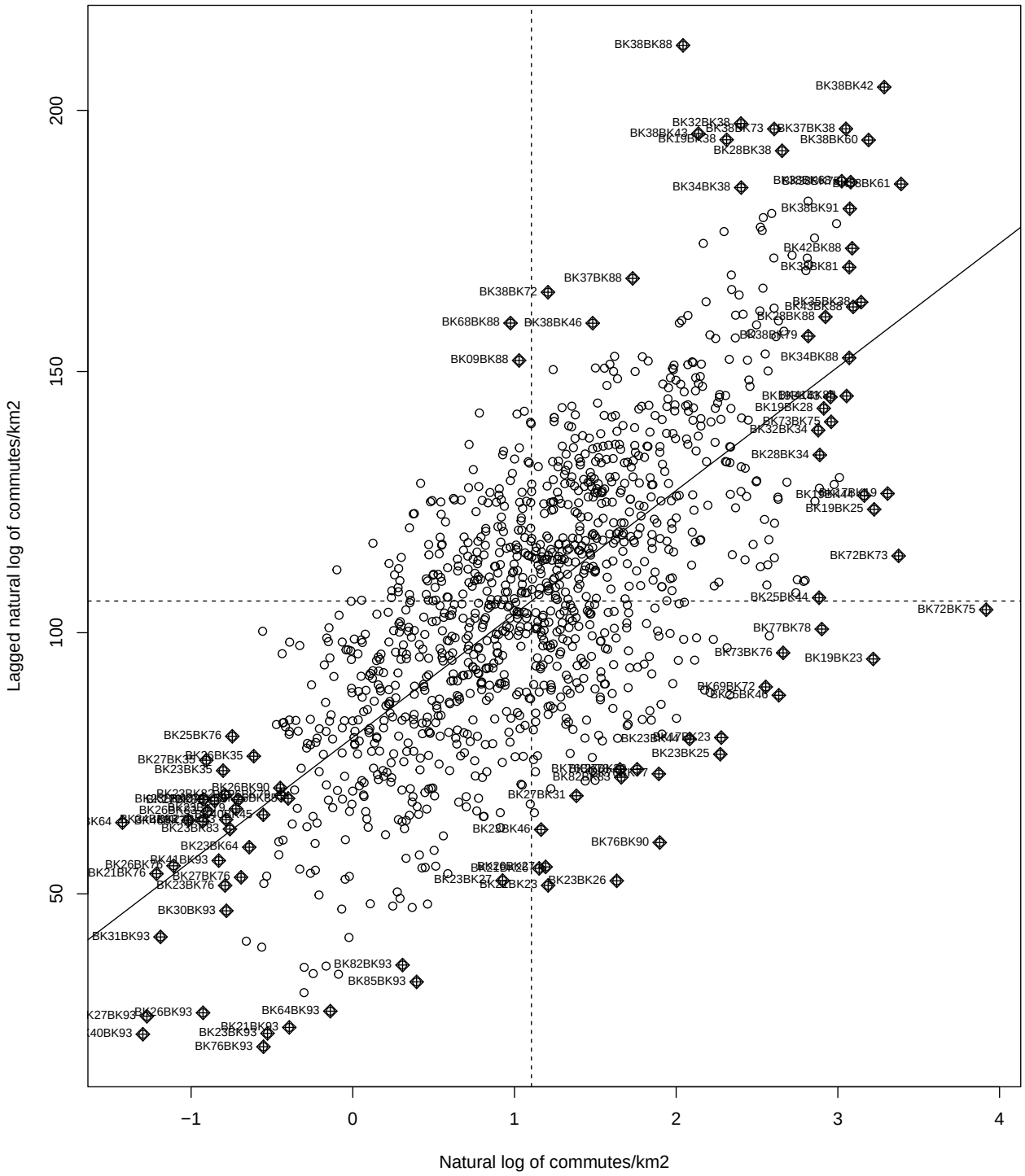

Figure 34: Global auto-correlation of commute network

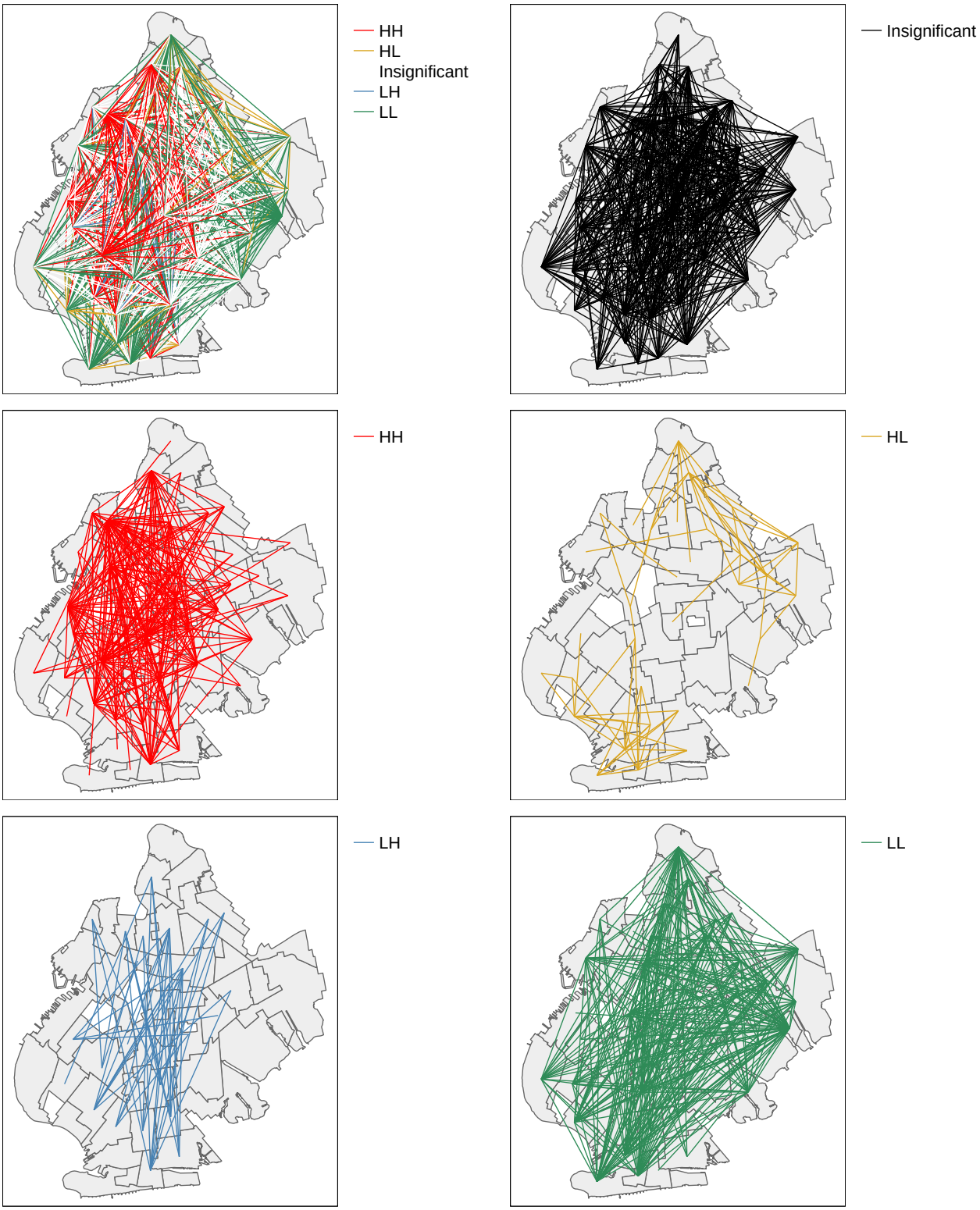

Figure 35: Local autocorrelation for commute network. Top left map shows all confidence types on one map. Top right shows Insignificant clusters. Middle left shows High High clusters. Middle right shows High Low clusters. Bottom left shows Low High clusters. Bottom right shows Low Low clusters

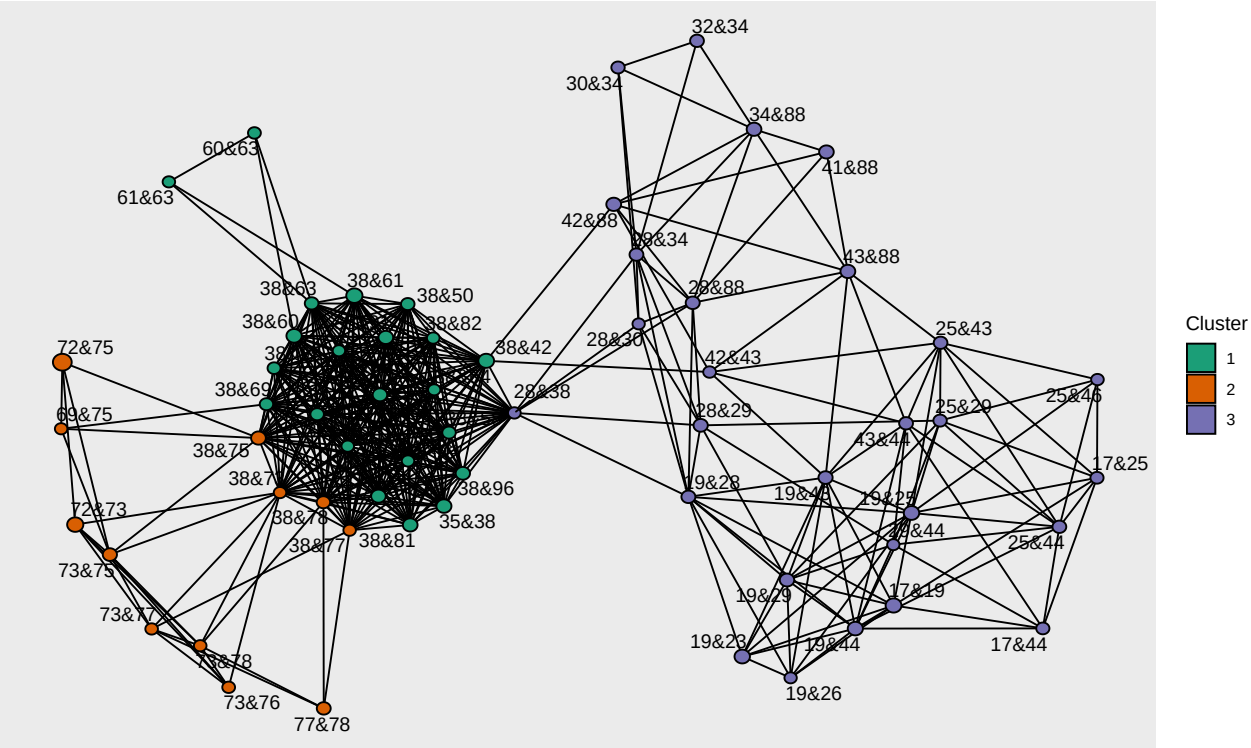

Figure 36: Graph of the top 5% most popular commutes through brooklyn and their interactions with each other. The color of the node reflects its membership in one of three clusters

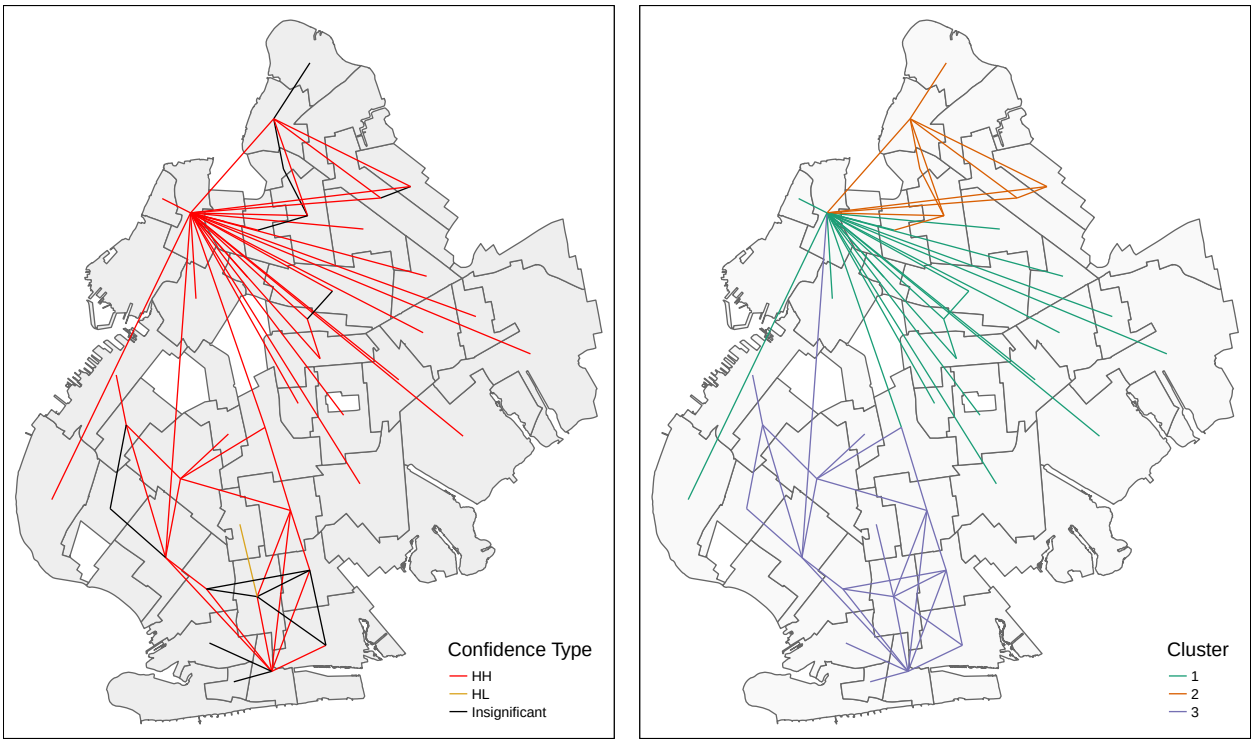

Figure 37: Geospatial distribution of the top 5% most popular commutes through brooklyn. Left diagram is the confidence type of the commute. Right diagram is commute's membership in the network cluster