Figure S1: **Visualization of Strava and LTS segments and the matching process for a small section of roadway.** In A, B, E, red lines are LTS segments, blue lines are Strava segments, red '+' symbols are the nodes of the LTS segments, and blue dots are the nodes of the Strava segments. A, E is the network after data preparation (applying Douglas-Peucker algorithm (Douglas & Peucker, 1973) to simplify polylines and converting polylines into multiple smaller segments), B is before. C, D demonstrate the matching process. In C, red '+' symbols are the end nodes for the LTS segment being matched, the shaded blue area is the 33 metre buffer around the segment, light black dots are the Strava segment nodes, red lines are segments that failed the angle test (less than 20° difference from the LTS segment), and blue lines failed the coverage test (overlapping the LTS segment but less than 50% inside the buffer). The yellow segment failed the final matching criteria - it matches multiple LTS segments and was assigned to another closer LTS segment. The green lines are Strava segments accepted as matches to the highlighted LTS segment. D shows the final matching after converting back to the original segment geometries.
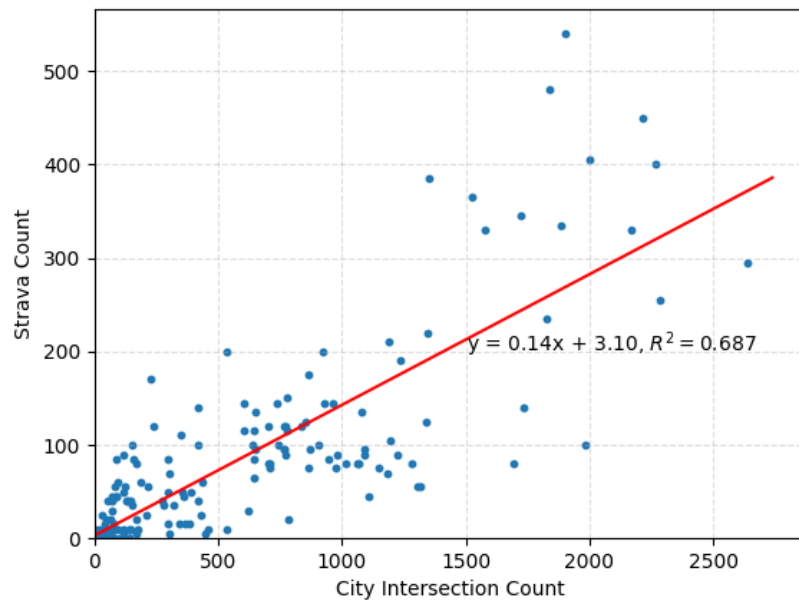
1

Figure S2: Correlation plot of Strava counts and City of Toronto's intersection counts (City of Toronto, 2022) from July 1st 2022 to Sep 30th 2022.

References

City of Toronto. (2022). *Traffic Volumes at Intersections for All Modes.* Author. Retrieved from `https://open.toronto.ca/dataset/traffic-volumes-at-intersections-for-all-modes/`

Douglas, D. H., & Peucker, T. K. (1973). Algorithms for the reduction of the number of points required to represent a digitized line or its caricature. *Cartographica: The International Journal for Geographic Information and Geovisualization*, *10*, 112-122. Retrieved from `https://api.semanticscholar.org/CorpusID:60447873`