

Appendix III. Cycling Network Analysis

Cycling network planning was guided by the vision and goals of the 2018 Cycling Master Plan, and informed by an investigation that included an analysis of existing conditions, needs and opportunities, best practices research and input from technical stakeholders and community members. Six route selection principles were developed during this process and used to review the existing cycling network and guide recommended changes.

Route Selection Principles:

- Integrate new facilities with the existing cycling network
- Provide continuous and barrier-free routes
- Provide connections to key destinations
- Prioritize connections to public transit
- Provide access to all neighborhoods
- Provide safe and comfortable routes

In addition, GIS-based tools were developed using available cycling-related data to assist with the evaluation and update of the 2010 proposed cycling network. Data categories are illustrated in **Figure III-1**.

The figures on the following pages illustrate the information from each of these data categories as it was applied to the existing cycling network. Applying this information to the cycling network helped to determine the relative benefit that candidate routes could provide based on the route selection principles.

Figure III-2 illustrates **Population and Employment Density** (Canada Census data). This analysis maps the number of residents and jobs per square kilometre to help determine how cycling network routes serve the areas of the city where the greatest number of people live and work.

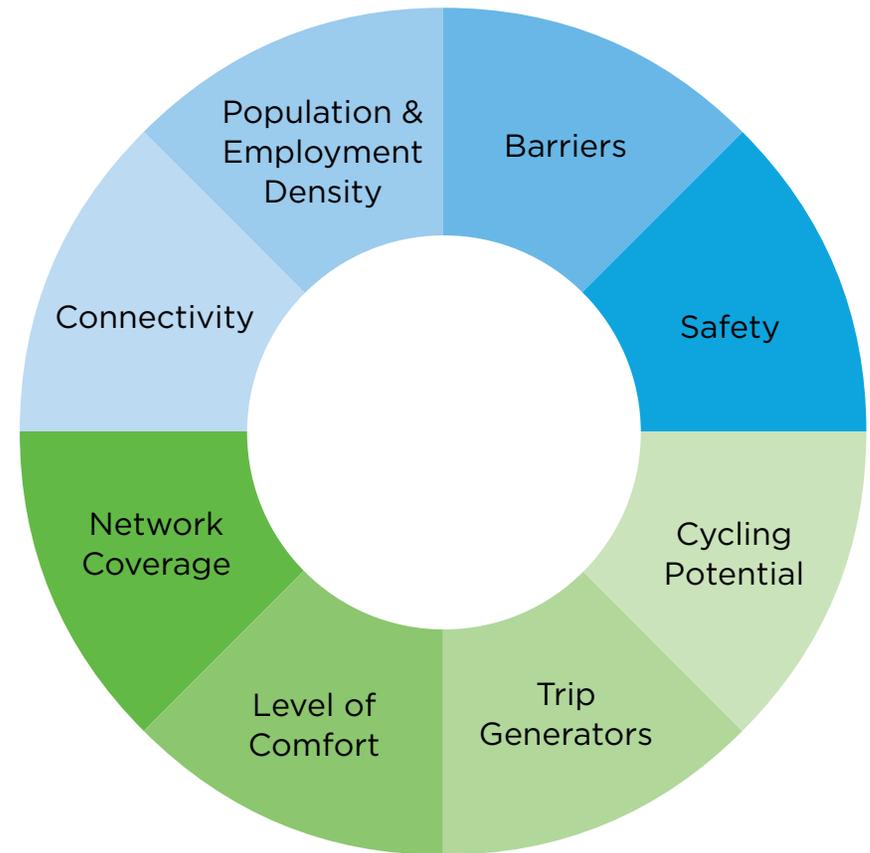


Figure III-1: Data categories for the cycling network analysis

Connectivity of the existing and 2010 proposed cycling network was evaluated through:

- a gap analysis review undertaken by project staff and informed by provincial and regional cycling network planning processes;
- a gap assessment provided by the Mississauga Cycling Advisory Committee; and
- input received from stakeholders and community members, both in-person and through an interactive mapping tool on the project website.

Figure III-3 shows **Network Coverage**. This analysis uses a buffer (250m) around the existing cycling network routes which helps to determine the number of residences and businesses that are served by existing bike routes and could be served by new bike routes.

A **Level of Comfort** (or traffic stress) analysis of the existing and proposed cycling routes was carried out to determine what types of cyclists would be comfortable riding on existing facilities, where upgrades may be needed to improve access for cyclists of all ages and abilities, and which types of cyclists would be comfortable on proposed new facilities. This analysis also shows where the gaps are between parts of the cycling network that already provide a comfortable cycling environment. This helps to prioritize critical connections that can significantly expand opportunities for cycling among cyclists of all ages and abilities. **Figure III-4** shows the results of a traffic stress analysis on the existing cycling network. For more information on the traffic stress analysis see main report, section 5.7 and **Appendix VIII**.

Trip Generators is a term to describe important destinations that generate transportation activity. These could include schools, transit stations, major shopping centres, community centres and other important locations. By mapping these destinations it is possible to see which destinations are served by the existing cycling network and where connections are needed to encourage cycling for all different types of trips. **Figure III-5** shows the existing cycling network and key cycling destinations across the city.

Approximately 86% of all cycling trips in Mississauga are 5km or less. **Cycling Potential**, as mapped in **Figure III-6**, is the location of short auto trips (5 km or less) in Mississauga based on Transportation Tomorrow Survey data. Locations where there are high concentrations of short auto trips have the potential to generate more cycling trips if comfortable cycling routes are available.

Peel Regional Police collision data for Mississauga and Region of Peel roads was analyzed to include consideration for **Safety** of the existing and proposed cycling network. Analyzed data was available over a four-year period (2010-2013). Collisions during this time period are mapped in **Figure III-7**. The locations were included in the cycling network analysis as was a more detailed look at the types of collisions and any patterns in the data. (For more information see main report, section 5.5.)

There are many geographical and human-made barriers that must be addressed in order to achieve a connected, comfortable and convenient cycling network. These include river valleys, highways, major arterials, and rail corridors. These **Barriers** are mapped in **Figure III-8** to identify where safe crossings are needed.

Figure III-2: Population and employment density (Source: City of Mississauga Geomatics)

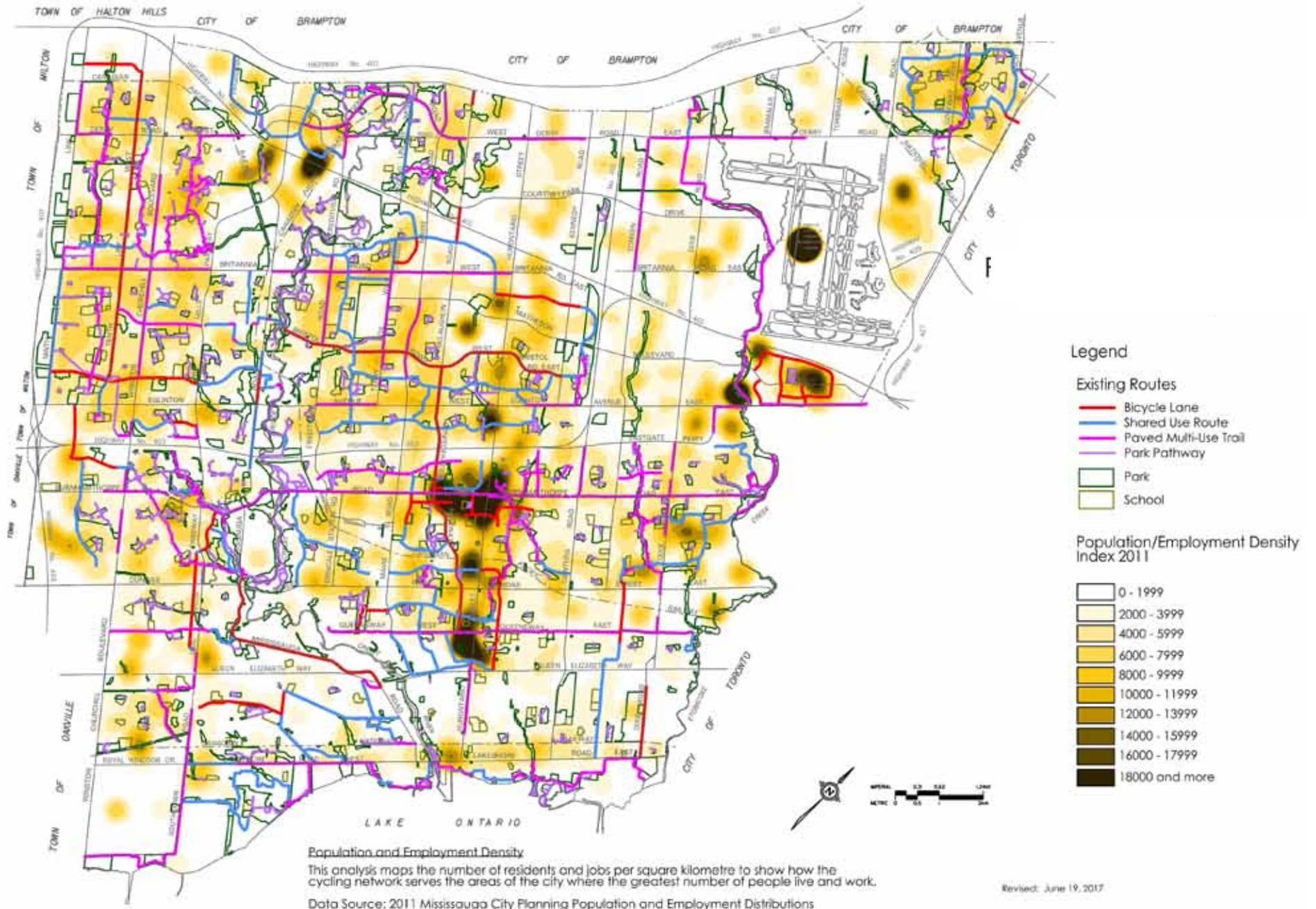


Figure III-3: Network coverage

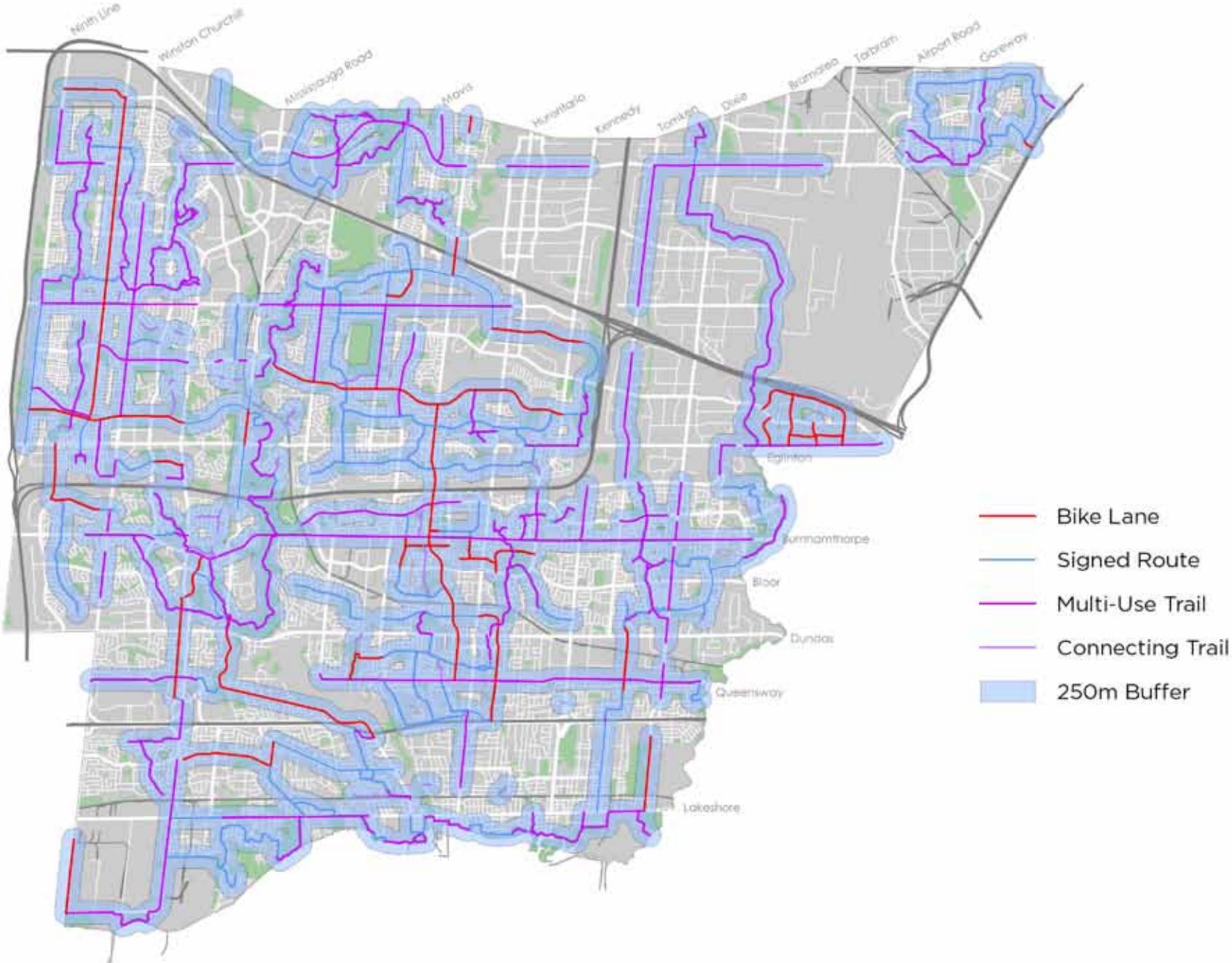


Figure III-4: Traffic stress analysis on existing cycling network

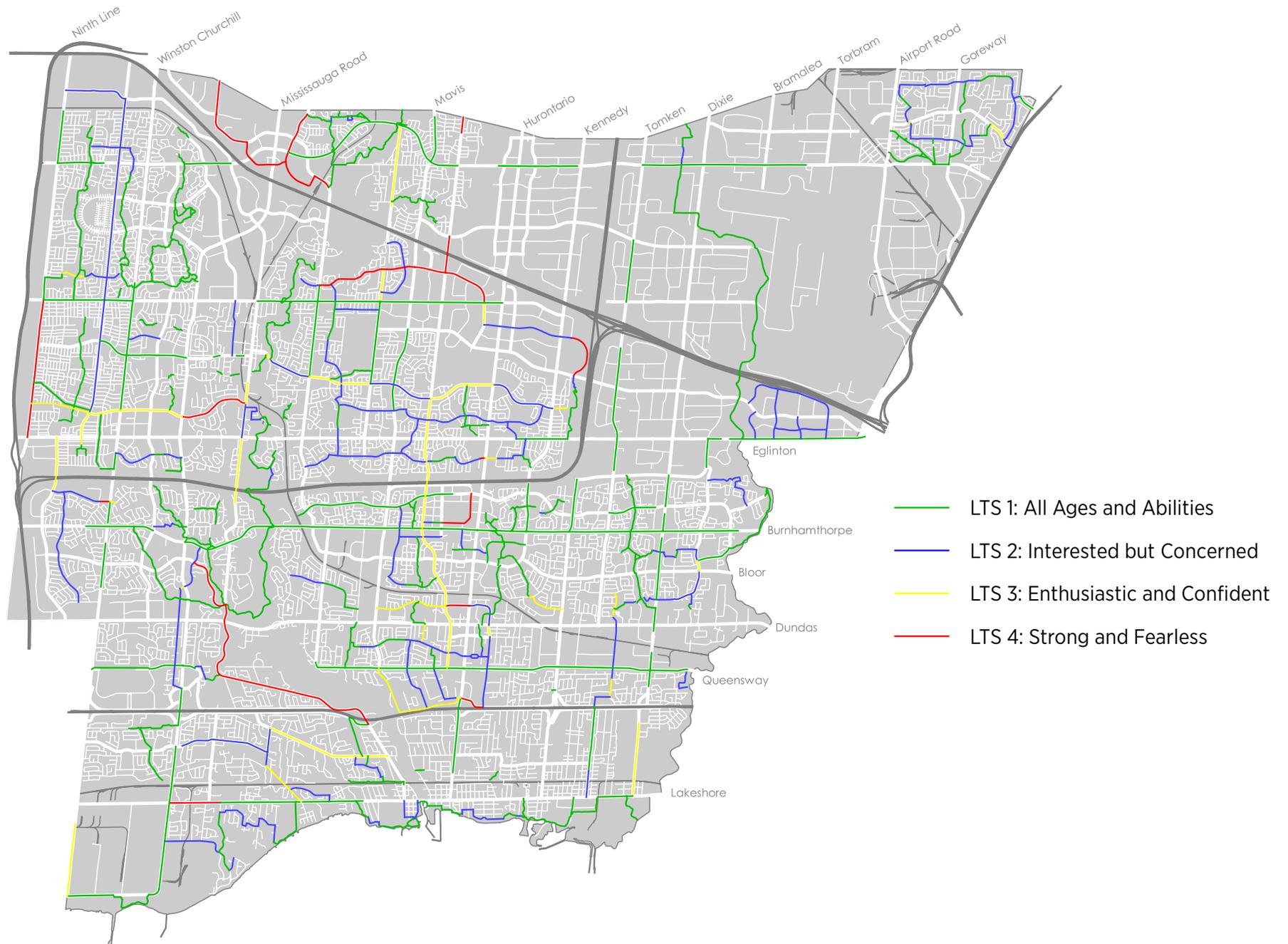


Figure III-5: Trip generators (Source: City of Mississauga Geomatics)

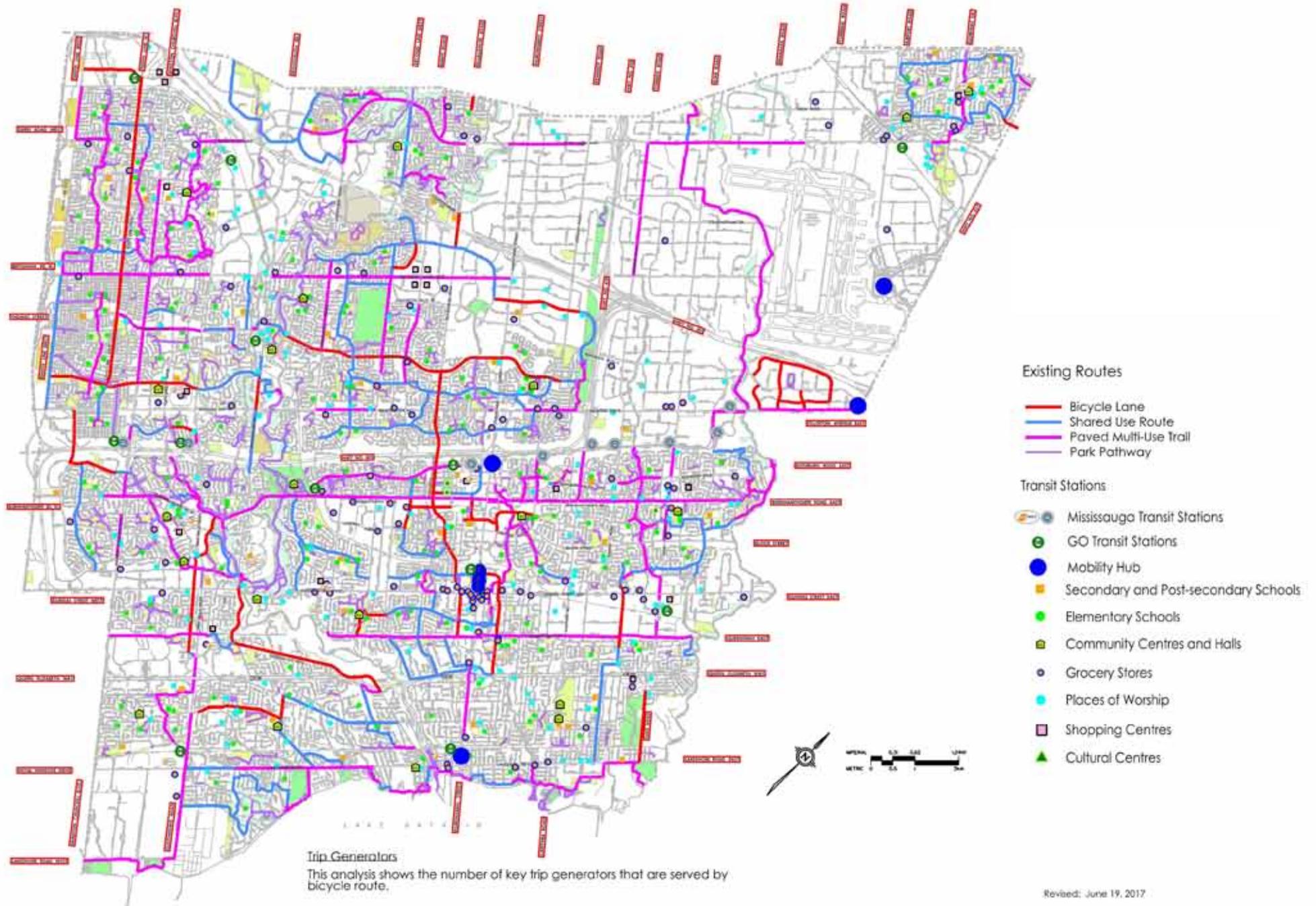


Figure III-6: Potential cycling demand (Source: City of Mississauga Geomatics)

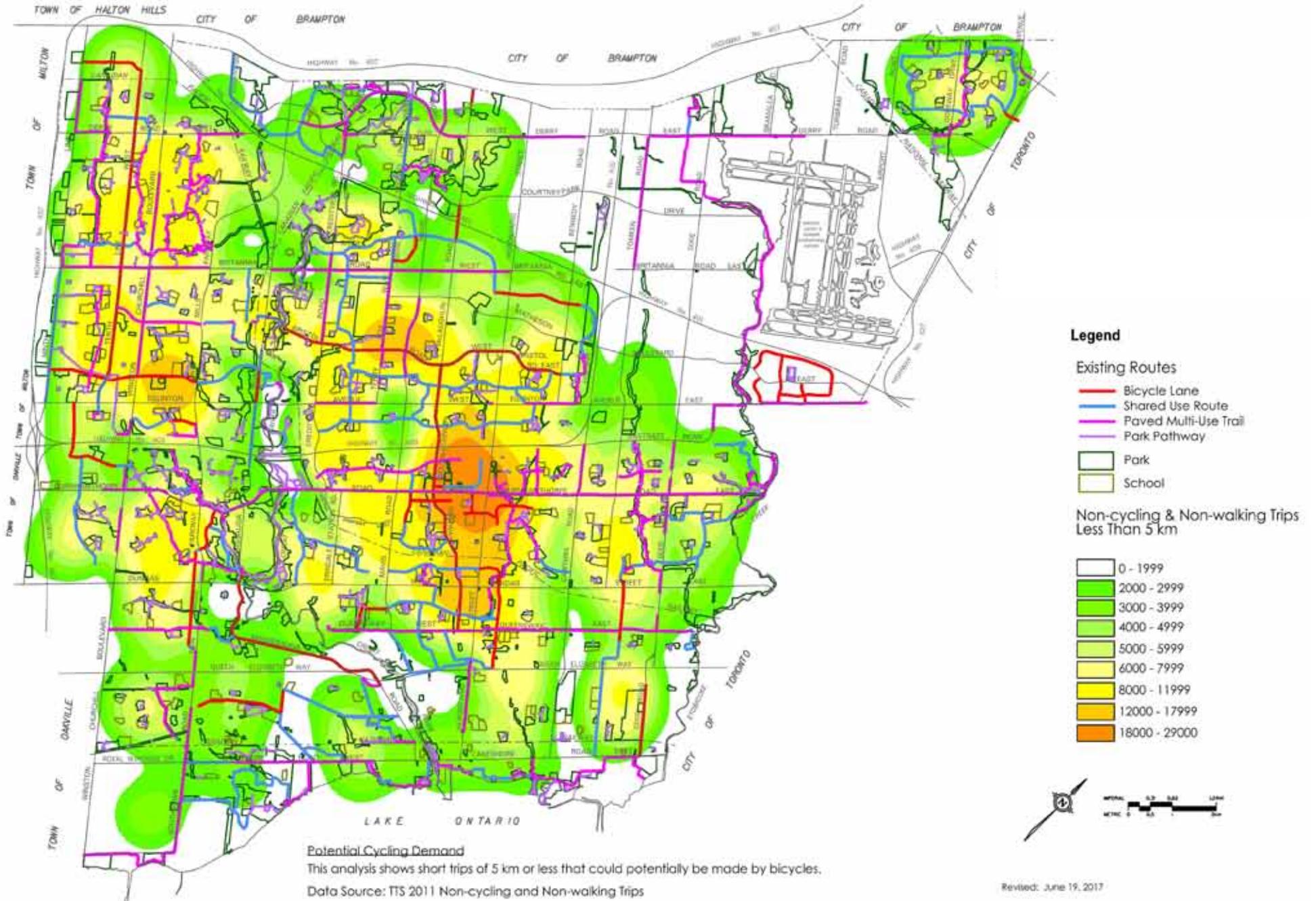
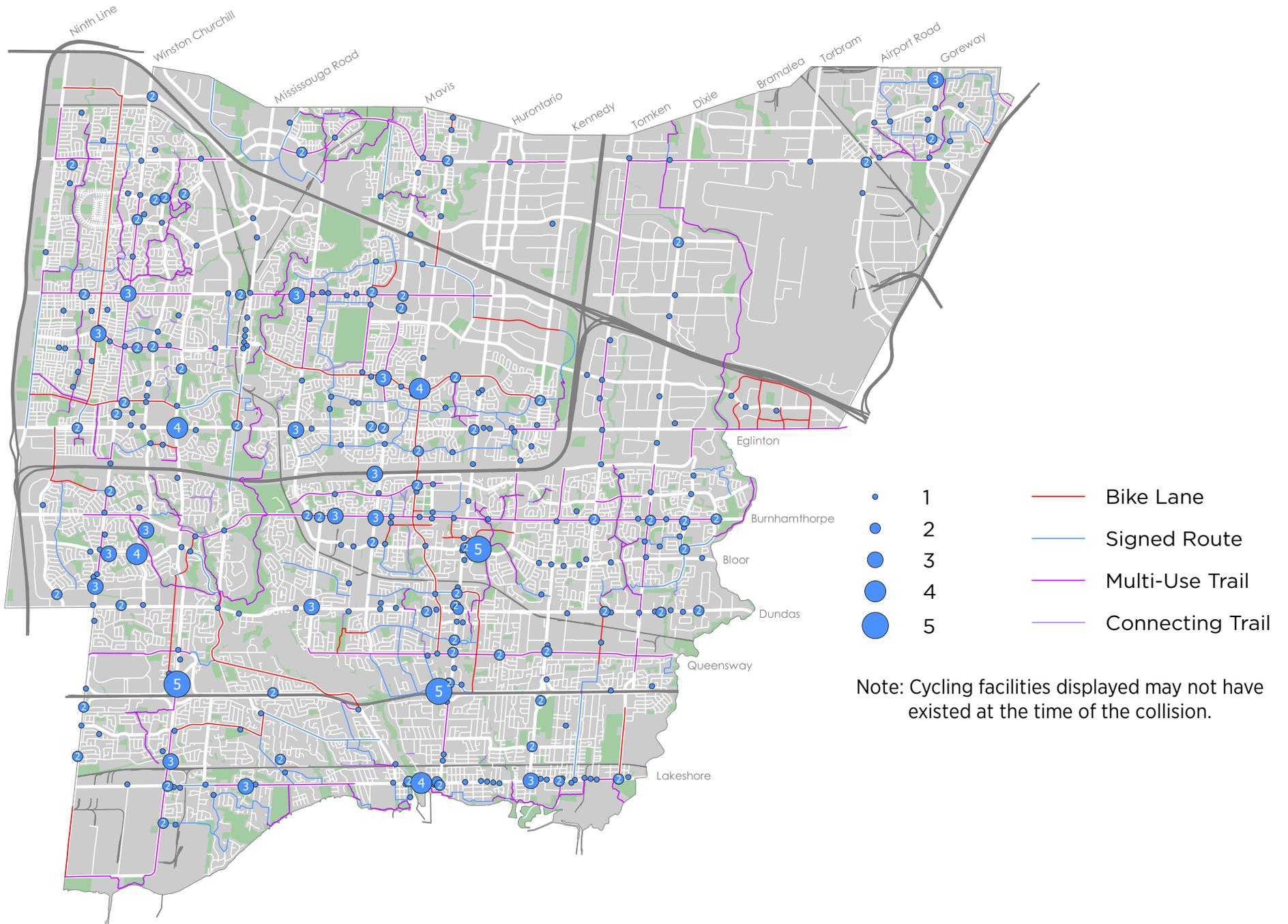


Figure III-7: Collisions



Note: Cycling facilities displayed may not have existed at the time of the collision.

Figure III-8: Barriers (Source: City of Mississauga Geomatics)

