

Keele Finch Plus Transportation Study Executive Summary

Phase 1: Overview of Existing Conditions



Executive Summary

The City of Toronto is undertaking the Keele Finch Plus Study to build on the opportunities presented by rapid transit investment. The goal is to develop a planning framework to encourage the right kinds of growth and investment in the area, and direct investments into broader community improvements. An examination of transportation conditions in the Keele Street and Finch Avenue West area forms part of the Study's Phase 1 work.

The Keele-Finch area is a “gateway” mobility hub, an interchange of two rapid transit lines where transit-oriented activities and intensification takes place. The first new link is the TTC's future Finch West subway station (Line 1) linking north-south to Downsview and York University. The future Finch West LRT will connect from Keele Street to Humber College. Express buses will link the future Finch West Station eastward to the existing Finch Station. These local and regional connections are expected to draw new transportation demand and offer more convenient transit alternatives, thereby encouraging a modal shift from private automobile usage. This Phase 1 report summarizes existing conditions and identifies areas of future investigation to provide a broader range of mobility options in the Keele Street and Finch Avenue West area.

The transportation core study area is bounded by The Pond Road to the north, CNR Rail corridor to the east, Grandravine Drive and Sheppard Avenue West to the south, and Sentinel Road to the west. To capture overall travel behaviour, an extended area was studied between Steeles Avenue West to the north, Dufferin Street and Allen Road to the east, Sheppard Avenue West to the south, and Jane Street to the west. Smart data sources (i.e. aggregated mobile device, GPS and conventional data) were used in this Study – a first for City Planning. This data, along with the verification of existing databases were used as there was limited transportation information available within the study area.

1.1 Higher Sustainable Transportation Uses

The current transportation network is highly auto-oriented. Despite this, roughly 40% percent of resident and visitors move about by other modes, including transit, walking, cycling and other modes. The presence of institutional and industrial workers, along with residents living in Neighbourhood Improvement Areas (part of the Toronto Strong Neighbourhoods Strategy 2020, NIAs are intended to create healthy communities across Toronto by partnering with residents, businesses and agencies to invest in people, services, programs and facilities in specific neighbourhoods), contribute to the higher usage sustainable transportation modes. Roughly one third trips begin and end within the extended study area (roughly within a 2km by 2km area) while the majority of personal trips in the morning originate in York region (including Vaughan) and GTA west. Due to the large student population and shift work of industrial jobs, the extended study area is the source of a majority of trips during mid-day. In addition, transit use is increasing annually at 2.5% while automobile growth is stagnant over the last decade. Cycling use is relatively higher along Sentinel Road and in the York University area. This higher proportion of sustainable transportation trips and the future transit lines present an excellent opportunity to encourage a further shift toward more transit and active modes of travel.

1.2 Majority of Street Users Originate are Outside of Toronto

Few arterial roads, combined with few through collector or local streets, results in a pattern of heavy vehicular usage on the arterials. This is the source of the main transportation challenges in the study area. The source of more than three-fourths of vehicle trips along Steeles Avenue West and roughly half on Keele Street or Jane Street (north of Finch Avenue West) originate outside of Toronto. The share of outside trips falls to one-third on local or collector streets.

These findings provide strong evidence that the majority of the road investment along peripheral suburban streets are benefitting non-Toronto residents accessing employment opportunities and other activities in Toronto. The nature of this street usage creates several other issues. Major arterials, such as Jane Street, Dufferin Street and Finch Avenue West, are heavily used during peak hours due to a lack of through collector or local streets. The most congested parts of the street network are Finch Avenue West (east of Keele Street) and southbound on Keele Street (south of Finch Avenue West). However, these conditions reflect pre-subway construction and this pattern may change somewhat under future conditions. Smart data reveals that vehicles travelling to and from Downtown Toronto face the highest delays (compared to free-flow conditions) due to a lack of highway connections to the study area. Roughly two-thirds of vehicles pass through the transportation core study area without stopping at any destination. This is 20~25% higher than other areas in the city. This may lessen somewhat by having direct subway access to downtown.

1.3 Slow Moving Commercial Vehicles

Commercial vehicles represent 4.5% of total vehicles, which is similar to other areas of the city. However, slow moving tankers and large trailers consume significant time at area intersections. Data shows slightly higher truck usage to the east of Keele Street and highway access areas to the west on Finch Avenue West. Although one-third of commercial trips begin and end within the extended transportation study area, Vaughan and GTA West contribute the highest share of trip origins at 40%. While more than one-third of commercial trips in the morning originate from the GTA West and Etobicoke, the pattern changes in afternoon. In the afternoon period, roughly half of commercial trips originate in Vaughan and areas north of Highway 401 in Toronto. This is the opposite pattern to personal trips during the rush hour periods. This 'reversible' nature of regular and commercial vehicle sources create an opportunity to consider demand-management and technology-based solutions for commercial vehicles to address existing delays.

1.4 Influence Urban Design and Land-use Mix

The area demonstrated a sensitivity to land uses and the influence of urban design on travel behaviour. For example, the recently opened commercial centre occupied by Walmart at Broadoaks Drive and Keele Street was surveyed for its active transportation usage and parking usage. Compared to conventional design (such as front parking, no street entrance), this project added active street elements, front door access close to transit stops, streetscape improvements, and pedestrian facilities and cycling amenities. The survey reveals that almost half (49%) of the total trips are by sustainable transportation modes (transit, walking and cycling), a surprisingly high share given the auto-oriented nature of large-format retail. Roughly one-third of Walmart patrons who walked to the store were students, living within walking distance. The parking survey reveals only half of the parking spaces are occupied during the site peak hours.

The standard parking supply method did not take into account the nature of the local employment (e.g. shift work) and significant sustainable transportation usage. These findings will help to inform study work and future development review with respect to the proposed uses, site plan design considerations and infrastructure to support transit, walking and cycling.

1.5 Higher Usage of Active Transportation and Transit in the Area

The study area has a high proportion of transit, walking or cycling usage considering its auto-oriented design. This is true for trips within, and to/from the area. Currently, the area is served by four express and seven regular bus services. Although overall 56% of buses are full during peak periods, some routes (such as Sheppard Avenue West and Steeles Avenue West) operate near or over capacity conditions. Conditions on Finch Avenue West improved after the higher capacity articulated bus service was introduced in 2014. Due to a lack of street connectivity and less frequent service, transit service on non-arterial streets are relatively limited, except on streets leading to York University.

Active transportation within the study area is relatively high compared with other rapid transit corridors in the city. Sentinel Road, which connects residential areas to institutional uses, including York University, with a bike lane, emerged as the busiest corridor for walking and cycling activities. Walking and cycling volumes are near or exceed vehicular traffic at The Pond Road and Sentinel Road intersection. Other busy cycling corridors are Dufferin Street (there is a bike lane north of Steeles Avenue West in York region), Finch Avenue West (a bike lane was installed recently west of Keele Street) and the Finch Hydro corridor. However, cyclists experience high traffic speeds, a disconnected network and few cycling amenities.

Active transportation usage is slightly higher than along the higher density Sheppard Avenue East subway corridor where rapid transit is already in place. Pedestrian volume share exceeds 10% at signalized intersections with some exceeding more than 6,500 pedestrians per day. Many informal walking paths were observed along open space areas due to lack of formal walkways or crossing facilities. Area streetscapes generally lack trees or adequate landscaping, resulting in an uncomfortable walking experience. Despite lower collisions during construction periods, safety concerns persist along the busier active transportation corridor at Sentinel Road (between Finch Avenue West and Murray Ross Parkway) and segments of streets leading to the Keele Street and Finch Avenue West intersection.

1.6 Lessons Learned from Subway Construction Periods

The construction period for the Spadina subway extension provides some interesting insights into travel behaviour. Data was compared pre-construction period to current conditions. Due to on-going construction activities, general traffic has diverted as much as one kilometre from the Keele Street and Finch Avenue West intersection (on an average peak periods traffic volume decreased 39% in core area) area to adjacent arterial streets. This has caused congestion on Dufferin Street, Sheppard Street and Jane Street (on an average peak periods traffic volume increased 105%). However, the overall pedestrian volume increased on an average 28% for core area while collisions decreased 17% percent compare to pre-construction period. Relocation of bus stops, trips to new commercial stores and annual walking growth over six years along key arterial streets contributed to a local increase in pedestrian activities. With effective multimodal planning that builds on the lane configurations present during the subway construction period, it is possible that the area could continue to benefit from decreased collisions and a safer pedestrian experience.

1.7 Future Opportunities

Phase 1's examination of existing transportation conditions has identified a number of areas of future investigation to provide a broader range of mobility options in the Keele Street and Finch Avenue West area. Taking advantage of new transit infrastructure through improved access and seamless transportation systems will be the key focus of future transportation solutions.

This includes:

- providing convenient access to public transport interchanges with new streets or pathways that will bring more ridership to existing or future transit facilities;
- introducing complete street design, safer crossing, comfortable walking and cycling experience that will further enhance mobility options for residents and employees;
- advancing intelligent traffic management systems and mobility options with solutions based on smart technologies to provide relief to existing congestion and other transportation challenges;
- capitalizing on additional regional transit services, which are expected to reduce higher usage of automobiles both inside and outside of Toronto;
- exploring smart parking management strategies that could alleviate current nature of shifting usage and surface parking issues;
- adopting a comprehensive multimodal planning approach; and
- promoting creative design ideas that can be advanced to inform approaches to site planning that maximize opportunities for sustainable transportation modes.

Moving forward the transportation study work in support of Keele Finch Plus will look to advance the growing recognition and evolving demand for transportation improvement across a range of outcomes in order to provide for a more coordinated and collaborative approach.