

Transit Equity: Retrofitting Inner Suburban Corridors

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Foreword

The role of my paper is to consolidate the research from my area of concentration. While my area of concentration is “Transportation Planning and Equity in Suburban Communities,” the focus of my research was on transit planning within inner suburban communities, particularly Scarborough, Ontario. My paper fulfills the objectives listed in my plan of study. My plan of study explores the relationship between transit provision and urban planning, and focuses on suburban development and transit provision in the context of transit equity and community development. Transit equity is defined in my major paper as the distribution of transit investments and resource allotment that is reactive to the changing socioeconomic needs of the majority of individuals, especially those considered disadvantaged.

The courses that I have taken during my MES program have been the foundation of my major paper. The themes of the courses I took covered the three key learning objectives in my area of concentration: transportation planning (ENVS 5121 Introduction to Planning, ENVS 6128 Transportation Planning, and ENVS 6165 Land Use Planning Law), suburban development and urbanization (ENVS 5021 Urban Development Process, ENVS 6325 Critical Urban Planning Workshop and ENVS 6124 Urban Regional Planning), and environmental and social justice (ENVS 6180 Policy and Regulatory Studies, and ENVS 6599 Individual Directed Study – on equity, transit planning, and development of Toronto). I also had the opportunity to broaden my perspective through various experiences, allowing me better understand the effects of different planning systems on development within cities, whether in suburban, inner suburban or urban environments. These experiences included both employment at a transportation oriented consultation firm, BA Consulting Group, and the attendance of a workshop focused on Shanghai’s planning system and its urban development.

My experience at BA and in Shanghai also helped me realize the potential impacts of transit oriented developments (TODs) on communities. If strategically placed and supported by different levels of government, TODs can attract and spur similar developments within the corridor, and region. Together, my experiences and research helped fulfill my learning objectives: understanding of transportation planning policies and current discussions on transportation planning in Ontario (Learning objective 1.1), the implications of past planning decisions on current transportation planning (Learning objective 2.1), and how transportation planning related policies have impacted the provision of transit in Scarborough (Learning objective 3.1).

Abstract

Scarborough has been the site of transit expansion debate over the past decade. As Toronto developed into a global city, the gap in transit provision and socioeconomic status emerged between the City of Toronto and Scarborough. Although various transit expansion plans have been proposed Scarborough, there has been little to no action from the City of Toronto, nor commitment from consecutive Provincial governments. In the mid to late 20th century, the development and policies of Toronto were largely influenced by mobility-based planning. This has manifested an environment centered around the private automobile, and has negatively impacted the development of transit in Scarborough, causing problems of inaccessibility and transit inequity. The relationship between the provision of transit and transit expansion in Scarborough and accessibility and transit equity are examined. Accessibility and transit equity are defined to reflect this relationship. Only after defining these terms can we discuss how transit development in Toronto and Scarborough has created an environment of inaccessibility and transit inequity in Scarborough. Efforts made by the Province of Ontario, namely “The Big Move” regional transit plan (2008), have been made to remedy the situation. However, the projects that are prioritized under The Big Move have focused on improving the competitiveness of the Greater Toronto and Hamilton Region in the global market. The list of projects anticipated under The Big Move, was the Sheppard Light Rail Technology (LRT). Researching the proposed LRT plan, I utilise ArcGIS to create visual maps to examine and compare the socioeconomics of Scarborough and the City of Toronto. I also investigated Eglinton Crosstown as a case study to understand the impacts of an LRT system on a corridor and use Eglinton Crosstown to forecast the impacts of LRT on Sheppard Avenue East. I suggest utilising transit oriented development (TODs) as the method of intensification under the main street intensification approach to justify the implementation of an LRT system, and overall improve transit equity.

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Introduction

Scarborough has been an area of transit debate over the past ten years in Toronto. In 2007 a light rail transit (LRT) was proposed for Sheppard Avenue East, which was, at the time, part of the so-called Transit City proposal (Bow, 2015). Originally, the Province of Ontario's MoveOntario 2020 proposal integrated the Transit City proposal and provided approval and funding for portions of the plan (Bow, 2015). However, political changes in Toronto resulted in cancellation of many parts of the project and leaving only several LRT routes. Three individuals occupied The City of Toronto's mayoral office during this decade of debate, with each mayor adopting different stances regarding how to improve transit in Scarborough. Transit plan changes over these ten years have caused uncertainty and anxiety amongst the residents of Scarborough. As it stands, Scarborough is considered to be locked in a stalemate, waiting for a proposal that can implement an improved transit system. With the city and region still growing, it is important to invest and improve public transit as it enables mobility and accessibility.

North American cities grew rapidly through much of the 20th century. Due to their large sizes, private automobiles and public transit have become essential tools for mobility and accessibility in many North American cities, especially in the suburbs. The physical landscape is reflective of policies that have focused on mobility for growth and development. In addition, the lack of funding for urban transportation, specifically public transit, is very evident. Mobility-based planning policies influenced our culture such that we are much more reliant on private automobiles, and has entrenched the private automobile as the primary mode of transportation for most individuals (Levine, Grengs, Shen & Shen, 2012). Historically, transportation planning adopted a perspective that "transportation problems and solutions can be treated without

considering non-transport aspects of urban life” (Morris, Dumble, Wigan, 1979, p 91). Adopting this perspective has resulted in policies shifting towards relying on private automobiles. This in turn has caused congestion on roads and degradation of health and the environment. The following quote by Rosenbloom and Altshuler (1977) summarises the increased use of private vehicles over the past few decades and helps highlight our increasing dependence on them: “from 1950 to 1972 the proportion of American households owning automobiles rose from 52 percent to 79 percent, and the proportion owning two or more cars rose from 7 percent to 30 percent” (p 30). Between 1950 and 1972, oil was cheap and abundant, but as we entered the 21st century, environmental concerns over pollution, increased oil prices, and changing socioeconomics have made mobility and equity a social justice challenge (Mercier, 2009). In other words, it is argued that the transportation system itself is mainly private. This is exemplified by the fact that the automobiles owned and operated are private, and that the organizations that make, sell, fuel, and maintain them are almost all private, which is then carried over into politics (Altshuler, 2010). However, the public tax money pays the clear majority of road infrastructure.

While not an issue for those who can afford their own private vehicle, mobility and accessibility to parts within the city becomes an issue for those who cannot, especially for residents of inner suburbs. The mobility-centric view of transportation has been criticised in literature for creating inaccessible landscapes for those without access to the private automobile (Rosenbloom & Altshuler, 1977), resulting in uneven landscapes of power (Farmer, 2011), and fostering the Spatial Mismatch Hypothesis (Fan, 2012). Low-income and new immigrant groups without access to private automobiles must rely on public transit as their source of mobility and accessibility within the city. While public transportation provides service to all ages and ranges

of groups, accessibility becomes a challenge when cities are sprawled out, as it is for many North American cities (Sanchez & Wolf, 2007). In the suburbs, land use is monopolistic, fragmented, and disconnected from the larger fabric of the city.

Policies regarding transportation planning in the post-war period were advantageous for the private automobile and the inherent mobility it possesses. These policies have since been criticized for fostering an urban environment that is automobile-centric. When we compare Canada and the USA's transportation planning history, Canada is not much different from the USA. Both countries have heavily favoured policies that are inherently mobility-based, such as investing in large capital freeway infrastructures for the transportation of goods and people. Investments made into expressways have made a significant impact on Canada's economy, and is highlighted in the following quote by Andrey (2000, p 388): "the transport industries account for 3.9 percent of Canada's gross domestic product and approximately 6.4 percent of all jobs in Canada". This quote demonstrates the impacts made by expressways in Canada. The current sprawled built environment is argued to be a paradox in that increased mobility, which in the long run, can be associated with more time and money spent in travel. For example, travelling to distant shopping or work locations might be viable due to higher speeds of travel, but demands more distance travelled as opposed to a compact and clustered urban form that is less speed dependent due to shorter distances (Levine, et al., 2012). Furthermore, because destinations are sprawled across the city, travelling to these destinations become a challenge for individuals that do not have access to a private automobile because taking transit may require multiple transfers or the destination simply not connected to the system. In this sense, it would be considered social exclusion due to the number of resources needed to be able to access these distant destinations (Litman, 2003b). The shift to accessibility-based planning policies is thought to be able to solve

issues caused by mobility based planning policies. Improving the provision and efficiency of mass transit through the promotion of public transit, implementation of congestion tolls, and rethinking urban designs of communities are examples of how might accessibility based planning policies solve problems caused by mobility based planning policies. Accessibility-based planning extends further than solving mobility-based planning problems - it considers how just and equitable current transportation systems are. Equity is defined in various ways and will be discussed in the following sections.

My research focused on accessibility and transit equity in relation to land uses in Toronto, specifically, Scarborough. I consulted numerous secondary sources on the topics of accessibility, transit equity, and land use and urban design. I will discuss the various ways accessibility and transit equity are defined and their relation to The Big Move (2008) and transit developments such as the Eglinton Crosstown and Sheppard LRT. As previously mentioned, Scarborough has been the site for transit development discussions for the past decade. The conflicting political agendas is considered part of the reason why Scarborough's transit development has been so intensely discussed in the past decade and the reason for the current standstill in development.

I will discuss and compare the current LRT development on Eglinton Avenue (Eglinton Crosstown) with the Sheppard LRT to understand how the Sheppard LRT will impact communities along its corridor. To compare the two LRTs, I have used site visits, satellite and aerial photos of the corridor, census data, and ArcGIS for my analysis of the LRTs on Eglinton and Sheppard. The two LRT corridors were used to understand the impacts of an LRT on the communities along the corridor. Although there are differences in population density and demographics between the two corridors, this comparison provides some basis for how the two

corridors might transform. By understanding the impacts of LRT, I will discuss ways Scarborough can improve accessibility through land uses such as TODs and intensifying by node retrofitting.

Understanding Transit Equity and Accessibility in Transportation

Policies regarding transportation planning have traditionally been mobility-based, focusing on the most efficient way to mobilise people and goods through the usage of automobiles. As a result of mobility-based planning policies, highway developments went rampant in the United States Post-World War Two, molding a landscape that is best suited for the private automobile. Arguably, investing in mobility-based planning has created and entrenched the culture of the private automobile. The private automobile provided unprecedented mobility when compared to any other forms of transportation for those who could afford it (Krumholz, 1982), but posed as a problem to those who could not. A more equitable approach to planning was called for to address the disparaging difference in mobility. Equitable planning is the theory where planners should advocate for what is just and equitable (Davidoff, 1965). Equitable planning is applicable to other forms of city planning and governance. Thus, planning policies have shifted towards accessibility-based planning. This shift towards accessibility-based planning changed how transport problems are perceived and how potential solutions are evaluated (Litman, 2014).

Planners should determine what serves the public interest and should be able to engage in the political process to make a more equitable society (Krumholz, 1982). In the case of equity in transit, transit should be able to provide the most basic service and access throughout the city regardless of socioeconomic status, and the provision and accessibility of transit service should

be allocated appropriately throughout the city. This however, raises the question of what accessibility and transit equity means in the discourse of social justice. I argue that transit equity is a larger concept that encompasses many elements of accessibility, and understanding how accessibility is discussed in both politics and academia will shed light on how communities in the inner suburbs can improve transit provision.

Within the three pillars of sustainability goals (environment, economic, and social equity), transit equity, is relevant to the goal of social equity. Within the decision-making process, sustainability goals often compete against each other. Balancing these objectives and goals is often difficult, and simply focusing on one objective would disrupt the balance. Transportation infrastructure decisions, whether on transit or highway development, impacts different groups differently (Manaugh, Badami, and El-Geneidy, 2015). For example, policies using market-based solutions to decrease the amount of emissions during peak travel demand periods can limit private automobile usage via congestion tolls, but this would disproportionately affect low income groups who, arguably, will be “priced out” of their preferred mode of travel (Manaugh, Badami, and El-Geneidy, 2015, p 6). In this case, the adopted economic stance is inequitable for low-income individuals. Since Post World-War Two, petroleum prices have gradually increased, resulting in significantly increased transportation costs. Environmental problems, such as air pollution, and finite fossil fuels have also contributed to the criticism of cities’ planning methodologies with regards to their transportation infrastructure.

Rising costs to operate, maintain, and own a private automobile poses as a significant problem for individuals with low-income. In United States, the “poorest households spend up to 40% of their net income on transportation, compared to the 19% the average American spends” (Wellman, 2014, p 335). Kawabata and Shen (2007) argued that, between 1990 and 2000, there

was a growing inequality in job accessibility between those with private automobiles and those that used public transit in San Francisco. This may be due to a variety of factors including lack of public transit, jobs being out of reach without a private automobile, or even the inability to access transit due to unusual work hours. Other implications outside of job accessibility include access to health care, social services, and basic mobility. Public transit has the potential to close the socioeconomic gap, considering the provision of transit can increase individual accessibility to other parts of the city such as distant job opportunities, and specialized health care. The division between different socioeconomic groups exacerbates when public transit is inadequate. Additional resources must be invested into a private automobile to increase an individual's mobility and accessibility. These resources will put a financial strain on low-income households.

While the private automobile has become an essential tool in allowing individuals to partake in various activities and take advantage of opportunities, it has also been thought of as a tool to bring individuals residing in the inner city out of poverty in America (Cervero, Sandoval, and Landis, 2002). Cheaper land rent in the suburbs due to cities sprawling, attracted large production and manufacturing facilities to relocate to the suburbs. The transit services at the time was configured to meet the travel demands of workers commuting into the central city where there was a high concentration of jobs. The central city also had adequate transit services, providing reliable transit service to the individuals living in the central city. However, once the jobs were relocated to the suburbs, many of these individuals living in the central city, often low-income, had to commute to the suburbs. Unlike in the central city where public transit is adequate, the suburbs do not have an adequate public transit system, and the transit system often did not reach the desired destinations. In response, reverse commuting transit services were provided, but became obsolete once participants bought their own private automobile, greatly

increasing their own mobility and accessibility to destinations (Cervero, Sandoval, and Landis, 2002). While not inherently bad, this situation illustrates a shift towards mobility-based policies.

This mobility problem was first observed in America and was termed the spatial mismatch hypothesis. The hypothesis examined why poverty was growing in many central-city African American neighbourhoods (Blumenberg, 2004). Proponents of the hypothesis argued that intergenerational poverty and unemployment of those residing in the inner-city was due to jobs having shifted to the suburbs, along with racial discrimination in housing markets resulting in inaccessibility to these jobs (Cervero, Sandoval, and Landis, 2002; Blumenberg, 2004). Therefore, it can be argued that higher rates of unemployment and longer commutes of low-income individuals are a result of socio-spatial inequities, which includes housing discrimination and inadequate public transit (Boschmann and Kwan, 2008).

Toronto experienced the spatial mismatch hypothesis differently compared to American cities. In Toronto, there is a basic level of public transit provided, but the sprawled built environment has made mobility within the GTHA region a challenge without the private automobile. A report, released by Hulchanski (2010), discussed how average income from 1970 to 2005 has changed over the course of 35 years. Hulchanski used the data to map out visually the average income, and observed that there were three distinct areas within Toronto, and termed as “the three cities” (2010, p 7). The three groups illustrate where Toronto’s poor reside, and the trend of growing socioeconomic inequality observed between the three groups (Hulchanski, 2010). Furthermore, the Martin Prosperity Institute reported transit deserts in areas where most of Toronto’s poor reside (Florida, 2011). City 3, defined by individuals with average incomes that have decreased by 20% or more from 1970 to 2005, has the poorest connectivity to any high order transit system, meaning residents of the inner suburbs are not only disadvantaged in terms

of income, but also in terms of access to public transit (Florida, 2011). Scarborough is one of the many suburbs that the poor have moved to. Like other suburbs in Toronto, it has an inadequate public transit system, and residents in Scarborough must rely on the private automobile for mobility.

Defining Accessibility

Accessibility is defined in various but similar ways. Notably, accessibility, argued by Couclelis (2000, p 341), is described as “the geographic definition of opportunity”. By this definition, accessibility means a person has the opportunity to participate in both necessary and desired activities, and the opportunity to explore new activities, contingent on their ability to reach the right place at the appropriate times within reasonable expenditure of resources and effort (Couclelis, 2000; El-Geneidy, et al., 2015). Therefore, accessibility is both essential and critical for individuals in the context of jobs, social and health services, and other opportunities (Couclelis, 2000; Litman, 2003a) and it has even been argued that the ultimate goal of a public transit system is access (Litman, 2003a).

Definitions of accessibility become vague and open to interpretation when used in the political realm (Ney, 2001). There are many ways to define accessibility. Levine, et al., (2012) defines accessibility as “the potential of opportunities for interaction”, and “the ease of reaching places”. On the other hand, Litman (2014, p 5) defines accessibility as “the ease of reaching goods, services, activities, and destinations, which together are called opportunities [...] [as well as] the potential for interaction and exchange”. In both definitions, the common theme is the ease of reaching destinations.

Measuring accessibility also differs because the parameters set in the research (Morris, Dumble, and Wigan, 1979), with examples including: infrastructure-based, locations-based, person-based, and utility-based accessibility (El-Geneidy, et al., 2015). Overall, when measuring the degree of accessibility, what is “commonly practiced is to calculate the accessibility of an area at a specific time and use this measure to approximate the daily accessibility experiences” (El-Geneidy, et al., 2015, p 4). El-Geneidy, et al., (2015) argue that this measure of accessibility is inaccurate because travel demands are not constant throughout the day. Variations in frequency of transit use results in reduction of provided service accordingly, leaving individuals who commute in these low demand periods disadvantaged. These low demand time periods often occur in Toronto between 1:30 AM and 6 AM.

Using aspects derived from both perspectives, I define accessibility as the ability to utilise public transit to access opportunities, social interactions and activities (for example jobs, services, recreation, etc.). The key element here is the usage of public transit to access opportunities. Provision of transit is not equal by any means. For example, rail transit in Cleveland during the mid 1970s to late 1980s expanded into areas where the target ridership had alternative forms of mobility – the private automobile. The planners negotiated with the regional transit authority and made several concessions but, in the end, the planners reached an agreement where there would be guarantees and benefits for transit dependent populations in Cleveland (Krumholz, 1982). This case study demonstrates transit inequity because resources were invested into a project that benefited individuals that already had reliable alternative mobility options. Transit equity is an essential element in increasing the accessibility of transit, and depending on how policies are formulated, they can impact different groups very differently.

Defining Transit Equity

Transit equity is defined in two ways - horizontal equity and vertical equity (El-Geneidy, et al., 2015, Litman, 2014). Both definitions focus on how benefits are distributed amongst various groups of individuals. Horizontal equity is broadly defined as the “equal distribution of effects (benefits and costs) among individuals” or “distribution of impacts between individuals and groups considered equal in ability and need” (Litman, 2014, p 4). Horizontal equity considers everyone equal; therefore, policies avoid favouring individuals or groups over each other (Litman, 2014).

Vertical equity considers socioeconomic status. Broadly, vertical equity is defined as “requiring special considerations for socially and economically disadvantaged groups in the sense that benefits should be intentionally provided to them” (El-Geneidy, et al., 2015, p 3). Vertical equity can be further categorized into two groups: “vertical equity with regard to income and social class” and “vertical equity with regard to mobility need and ability” (Litman, 2014, p 4). Vertical equity with regard to income and social class is concerned with the distribution of benefits and impacts between individuals and groups that differ in abilities and socioeconomic status. Policies that favour those considered disadvantaged is equitable. Vertical equity with regard to mobility need and ability is concerned with how the distribution of impacts and benefits will affect individuals and groups with mobility impairments. The focus here is on inclusive design that accommodates users that are mobility disadvantaged (for example, wheelchair accessible) (Litman, 2014). Transit equity can also be understood as “transit justice” and fairness with respect to the distribution of benefits and costs in a manner that is responsive to social and economic needs of all individuals, especially those that are considered disadvantaged (Hertel, Keil, and Collens, 2015).

Another definition of transit equity requires us to first understand how equity is applied in transportation planning. There are four types of equity most commonly used in transportation planning: opportunity, equality, market based equality, and basic needs (Duthie, Cervenka, and Waller, 2013). The four types of equity used in transportation planning are used for transportation analysis, much like transit equity definitions. Opportunity equity is “defined as individuals or groups having equal access to the planning process and having their opinion taken into account in an equal manner” (Duthie, Cervenka, and Waller, 2013, p 9). This definition is similar to the term accessibility - in the sense that opportunities must be provided in the planning process without discrimination. Equality, typically synonymous with equity, is concerned with providing equal, or the same, benefits to different groups and individuals (Duthie, Cervenka, and Waller, 2013). However, in most cases equality does not mean equity, due to benefits of the same value not impacting different groups equally. This definition is more in line with horizontal equity. Market based equity is almost identical to horizontal equity, both incorporates “you get what you pay for” ideologies. This form of equity is concerned with how much a group pays in taxes and fees with respect to the number of benefits it receives. Finally, the concept of basic need is defined as the compromise between opportunity and equality where the basic needs of individuals are met and any remaining benefits are distributed according to market equity (Duthie, Cervenka, and Waller, 2013).

These definitions of transit equity often contradict one another and thus policies are often exclusive toward one of them. These definitions of transit equity are both prescriptive and analytical, and largely depends on how the definitions are used in planning policies. Transit equity definitions can either be proactive or reactive depending on current transportation problems. An example of reactive transit equity is vertical equity where benefits are specifically

given to disadvantaged groups and individuals. I define transit equity as the distribution of transit investments and resource allotment that is reactive to the changing socioeconomic needs of the majority of individuals, especially those that are considered disadvantaged.

Transit Development in Toronto and Scarborough

Transit development in Toronto is not new. The bulk of transit development began in the 20th century when the population began to grow. Congestion on the roads, especially on Yonge Street, was one of the primary reasons for subway development along this corridor. Although much of the subway development is credited to the former City of Toronto, much of the built landscape seen presently is the result of planning decisions made by various levels of government, specifically, the former City of Toronto and the many former municipalities surrounding Toronto, Municipality of Metro Toronto (Metro Toronto) and, to a certain extent, the Provincial Government of Ontario.

In 1953, Metro Toronto was created as a regional governing body that and mandated to oversee, maintain, and expand key services that were deemed to be of regional significance including infrastructure expansion of all types, (sewage, roads, transit, hydro, etc.) growth and development. Because of the creation of Metro Toronto, the TTC also had to rapidly expand to cover new areas that were previously bounded by political borders. The development of the subway sparked more high-density tower developments along Yonge Street, and would also lead to sporadic high-density towers in the suburbs (Levy, 2015).

Sporadic tower developments were often in the form of residential apartment towers that the region's planning system was unprepared for. The predominant form of housing stock from the post-war period leading to the creation of Metro Toronto was low-density single family

housing. This form of housing was common throughout the suburbs of Metro Toronto. Rezoning applications for high-density towers were quickly submitted and processed without abiding to municipal official plans. This resulted in many high-rise towers appearing in the suburbs which, in turn, sparked heated debate. Those opposed to the sudden increase of high density towers focused on the inherent negative impacts of high-density towers, such as increased traffic, and shadowing effects. On the other hand, those who supported the towers believed that these types of developments were attractive to municipalities because of the potential tax generated on site. Often, these towers were found clustered together and were subsequently labeled as “apartment jungles” (Filion and McSpurren, 2007, p 506). Many of these apartment clusters were aligned to streets and intersections to fully occupy the lot. However, not all suburban municipalities, such as Scarborough, were receptive to high-density residential towers. This was because Scarborough envisioned itself as a municipality for middle-class family-home communities. Despite disliking them, several apartment towers began to develop in Scarborough due, in part, to both Metro Toronto’s acceptance and the general acceptance towards apartment towers in the 1970s (Filion and McSpurren, 2007).

Aside from coordinating land use within its regional boundaries, Metro Toronto was also heavily involved with developing the region’s transportation infrastructure, including its transit system. The City of Toronto and Metro Toronto had differing views regarding the direction of transportation infrastructure development. The City of Toronto envisioned an extensive network of public transit servicing the region via rail transit, whereas Metro Toronto pictured a network of expressway to serve the region’s transportation demands (Levy, 2015; Filion, 2000). The shift from investing in public transit to expressway development by Metro Toronto signaled the start of a two-pronged transportation expansion in the region. Metro Toronto, faced with a fast-

growing region, sought out solutions to manage growth-related problems caused by transportation, such as congestion. One solution Metro Toronto considered was to adopt the method utilized by the Americans: constructing a network of expressways to alleviate congestion, thus dealing with the problems it caused at the same time. However, with less expressway implemented in Toronto, the Toronto experience was unlike many American cities. The difference between Toronto and many American cities was the positive reception of the subway, and many proponents of the subway sought to quickly expand the subway system in Toronto (Levy, 2015). Conflicting interests between the City of Toronto and Metro Toronto collided during this period of transportation expansion; Metro Toronto focused on building a network of expressways, whereas City of Toronto looked to expand its subway system. Expressways development was heavily resisted, especially the Spadina expressway, in Toronto, in contrast to public transit that was met with positive reviews. Fearing future discussion of extension, the City of Toronto created a legal barrier at the southern end of the expressway, resulting in a shortened Spadina Expressway (Levy, 2015). Although the Spadina Expressway stopped south of Eglinton, the subway expansion continued to expand to Wilson.

Regional public transit was explored in the 1976 Metropolitan Toronto Official Plan Draft, which considered subway extensions into Scarborough and Etobicoke. However, the 1970s also marked the decade where other regional municipalities were created by the province of Ontario (Levy, 2015; Filion, 2000). Because suburban municipalities outside Metro Toronto were against all forms of metropolitan governments, the provincial government did not create new forms of metropolitan-wide government, nor did they extend Metro Toronto's jurisdictional boundaries. Instead the province created the four regional governments: York, Durham, Peel, and Halton (Filion, 2000). The creation of the four regional municipalities is a result of Metro

Toronto's success in coordinating growth and planning within its region. The 1976 plan also saw the need to extend transit service out into the suburbs at the expense of the downtown core (Levy, 2015).

The 1980s saw several transportation studies conducted within Toronto, with each exploring different corridors for rail transit expansion, for example: Eglinton Avenue, Sheppard Avenue, and Finch Avenue. In 2007, Eglinton Avenue was selected for a light rail transit (LRT) project, named Eglinton Crosstown. The corridor was previously chosen in 1994 for subway expansion in its west end but was stopped in the following year due to change in provincial government leadership. Sheppard Avenue was also selected for expanded subway service. Changing commuting patterns played a role in designating Sheppard Avenue as the corridor to build a subway, and commuting patterns were beginning to reflect suburbanization (Adel and Bow, 2017). Travel between suburbs became a significant travel demand that the public transit system did not adequately meet, resulting in the private automobile gaining traction as the favourable mode of transportation in the suburbs. This led to an increased use of the private automobile and decreased public transit ridership (Adel and Bow, 2017). Originally the Sheppard subway was planned to extend the Spadina Subway on Dufferin Street to Sheppard Avenue West, and to connect the Spadina line to Scarborough Town Centre via Sheppard Avenue. However, this was cut short due to delays and changes in Ontario's Provincial office (Levy, 2015; Adel and Bow, 2017), resulting in only portions of the subway being developed.

Toronto has experienced rapid transit development in the past. This was achieved largely due to various levels of government working closely together, namely the Province working with the City of Toronto and Metro Toronto, to fund transit system expansions. Furthermore, the Province provided the TTC with subsidies, which covered 75% of capital construction costs, and

50% of the difference between operating costs, and revenues for TTC projects and services that lasted until the mid-1990s (Levy, 2015, p 127). However, this close relationship between Province and City would not last long as the economic recession of October 1987, coupled with political turmoil, led to uncoordinated planning and financial shortfalls that affected almost all aspects of physical and social management and renewal. Transit expansion continued to be affected by the recession and, in 1995, the leader of the Conservative Party, Mike Harris, was elected premier of Ontario and made numerous budget cuts, including subsidies to TTC for both capital and operating costs (Levy, 2015), and stopped several transit projects (the Eglinton West Subway and Sheppard Subway). The ramifications of these subsidy cuts are still felt as municipal financial support by the province for public transit has not been restored (Levy, 2015; Keil and Young, 2011). Aside from budget cuts made to major urban infrastructure projects, amalgamation of Metro Toronto impacted transit development in its region and the suburban belt surrounding Metro Toronto.

The Big Move introduced by Metrolinx, an agency formed by the Liberal Provincial Government of Ontario in 2006 under the Greater Toronto Transportation Authority Act, in 2008 to oversee and develop a regional transit network in the GTHA region, and is the major plan that I have analyzed. After Mike Harris resigned from his position in 2002, Dalton McGuinty of the Liberal Party was elected into office the following year. The province of Ontario mandated Metrolinx to coordinate, plan, finance, develop and integrate a multi-modal transportation network for the GTHA region (Government of Ontario, 2006). While The Big Move (2008) does not address the gap in subsidies and funding for transit operational costs, it does aid municipalities in funding capital transit projects, such as the Eglinton Crosstown.

Transit Equity in The Big Move

The Big Move (2008) is a plan that oversees regional transportation and transit developments which spans across several municipalities, including Toronto, Hamilton, Durham Region, Halton Region, Peel Region, and York Region. The plan envisioned higher quality of life, a thriving sustainable and protected environment, and a strong prosperous and competitive economy (Metrolinx, 2008). In order to fulfill this vision, its goals and objectives center around improving transportation choices, increased and improved mobility and accessibility within the region, reduced reliance on non-renewable fuels used in transportation, and increased economic competitiveness of the region on a global scale (Metrolinx, 2008).

The Big Move recognize generations of underfunded transportation development. The decline in state funding of the region is largely due to public criticisms of large state expenditures on public works during economic downturn of the 1980s (Allen, 2016). During “the period from 1978 to 2000, transportation spending grew only 0.1 percent per year – nowhere near the population growth rate. By the 1990s, annual investment in public transit in Toronto was among the lowest of the OECD [Organisation for Economic Co-operation and Development] countries, yet the city’s need continued to grow” (Allen, 2016, paragraph 5). Neoliberal policies have also played a role in the decline in state funding, most notably in municipal affairs and transit development. One of the major neoliberal policies that has impacted the GTHA region immensely is the amalgamation of the municipalities within Metro Toronto.

In 1998, the Ontario provincial government, under the mandate of Mike Harris and his Conservative Party, amalgamated Metro Toronto with its constituent municipalities: City of Toronto, Scarborough, North York, East York, Etobicoke, and York, creating the now City of

Toronto. Amalgamation resulted in the dissolution of Metro Toronto along with the six municipalities, creating a single tier governance in the newly formed City of Toronto. The provincial government also entrusted responsibilities to the newly formed City of Toronto without necessary support (Horak, 2013). Amalgamation had a large impact on the governance of Toronto as a region, and as a city. After amalgamation, the Toronto region was without an appropriate regional governing body to oversee the development of a cohesive regional transit infrastructure in the GTHA. Outer regional municipalities, such as Durham, York and Peel, underwent their own strategies in implementing public transit within their jurisdictions, causing further fragmentation of a regional transit system. In response, the provincial government developed new transportation and growth management strategies: The Big Move (2008), and Places to Grow Act (2005) (Horak, 2013).

One of The Big Move's goals and objectives is to shift to cleaner energy used in transportation and reduce emissions. The most effective way to reduce emissions is to limit the use of private automobiles. Implemented mechanisms have limited the use of the private automobile, such as a fuel tax and parking fees (Allen, 2016). Increasing transit provision is another mechanism to reducing emissions, but this is difficult to implement and execute because it requires multiple agencies to work together. Additional funding and support from all levels of governments are all essential to increasing transit. Improved transit will benefit all individuals, especially those reliant on public transit, as jobs are no longer concentrated within the central city like they once were, albeit the central city still has a high density of jobs due to how policies had shaped city development. Issues of suburban job accessibility arise due to surface bus routes not reaching the desired destination in the suburbs. Suburban to suburban trips have emerged as a dominant travel pattern because of the increase in commercial developments in the outer suburbs

of the GTHA. These commercial developments have impacted regional economic productivity, and the quality of life in the areas due to severe congestion (Horak, 2013). Ignoring the use of private automobiles, it is extremely difficult to travel from suburbs to suburbs because of limited public transit options. Limited mobility and accessibility of public resources resulted in reliance on the private automobile for individuals living within the GTHA region. This is the ramification of years of underfunding transit development, and investments in economic mobility plans.

In Toronto, proposals to implement and expand rail transit technology have been criticised as political pet projects of the mayors and met with criticisms (Munro, 2015a). Past decisions to implement rail transit on Sheppard Avenue to connect the former municipality of North York and Scarborough resulted in construction of the subway line with the least ridership. The Sheppard Subway became a reality largely because proponents of the Sheppard Subway secured funding for the Spadina Subway extension up to Sheppard Avenue West. Originally, the plan called for an east-west subway line that would run underground along Sheppard Avenue to Scarborough Town Centre. However, several sections of the plan were cut short due to insufficient funding (Levy, 2015). The missing subway parts include a subway terminal connection at Bathurst Street and Sheppard Avenue West and a terminal station at Victoria Park Avenue and Sheppard Avenue East. Of the two missed opportunities, the connecting subway terminal station at Bathurst Street and Sheppard Avenue West is more significant because it would have connected Sheppard West with Sheppard-Yonge Station. Currently, there is bus service to connect these two stations. However, those that commute via Sheppard subway to Sheppard West must transfer to bus service to reach Sheppard West. This missing subway connection would have had the potential to change the transit system into a transit network. Levy (2015, p xi) defines a transit system as:

an arrangement of two or more lines that intersect at either a single interchange station [or two stations that are close together, that results] in little route redundancy – a means by which riders could follow alternative routes to their destinations to bypass closures caused by service disruptions or emergencies on specific route segments.

On the other hand, Levy defines transit network as:

an arrangement of two or more lines that meet at two or more spatially well-distributed interchange stations. This arrangement provides route redundancy and results in effective passenger load balance on pairs of parallel lines, providing enhanced area coverage and options for bypassing service disruptions.

The missing subway terminal had potential to influence regional travel because it would have provided an east-west corridor of rapid transit in the suburbs, allowing for easier travel in Toronto's suburbs. The Big Move (2008) values a regional approach to mobility and accessibility through various large scale capital projects, and revisiting the past subway plans in the current political environment is difficult. Challenges would include: gathering political support, sufficient funding, and public awareness and acceptance. The Big Move (2008) lists several priority projects, and several these projects are within the boundaries of Toronto. These projects include: Sheppard LRT, Finch LRT, Eglinton LRT, Spadina Subway extension to Vaughan Corporate Centre, Yonge Subway extension into Richmond Hill, upgrading Scarborough rapid transit, Union Pearson Express (UP Express), and overall improvements to GO Rail services (Metrolinx, 2008).

Outside of these projects, The Big Move (2008) has set the goal of connecting urban growth centres in the GTHA region through improved regional rail projects. Sheppard Avenue East is one of the many corridors identified to achieve this goal. The plan recognizes the need for higher-order transit along Sheppard to connect to urban growth centers for employment and training opportunities (Metrolinx, 2008). One of the projects listed in The Big Move (2008) is complete and in operation. This is the Union Pearson Express, a rail line that connects Pearson

International Airport to Downtown Toronto. Another project undergoing development is the Eglinton Crosstown.

The UP Express and Eglinton Crosstown projects do not directly address transit equity in Toronto. These two projects exemplify the economic motive behind The Big Move (2008). Furthermore, neither of the two projects addresses the issue of providing transit to individuals considered disadvantaged. After all, the UP Express to Pearson International Airport is an express route that bypasses neighbourhoods that could benefit from an additional transit route. Eglinton Crosstown will not impact many residential neighbourhoods in Scarborough because of the large proportion of commercial and retail land uses along the corridor.

Impacts of Light Rail Transit in Scarborough

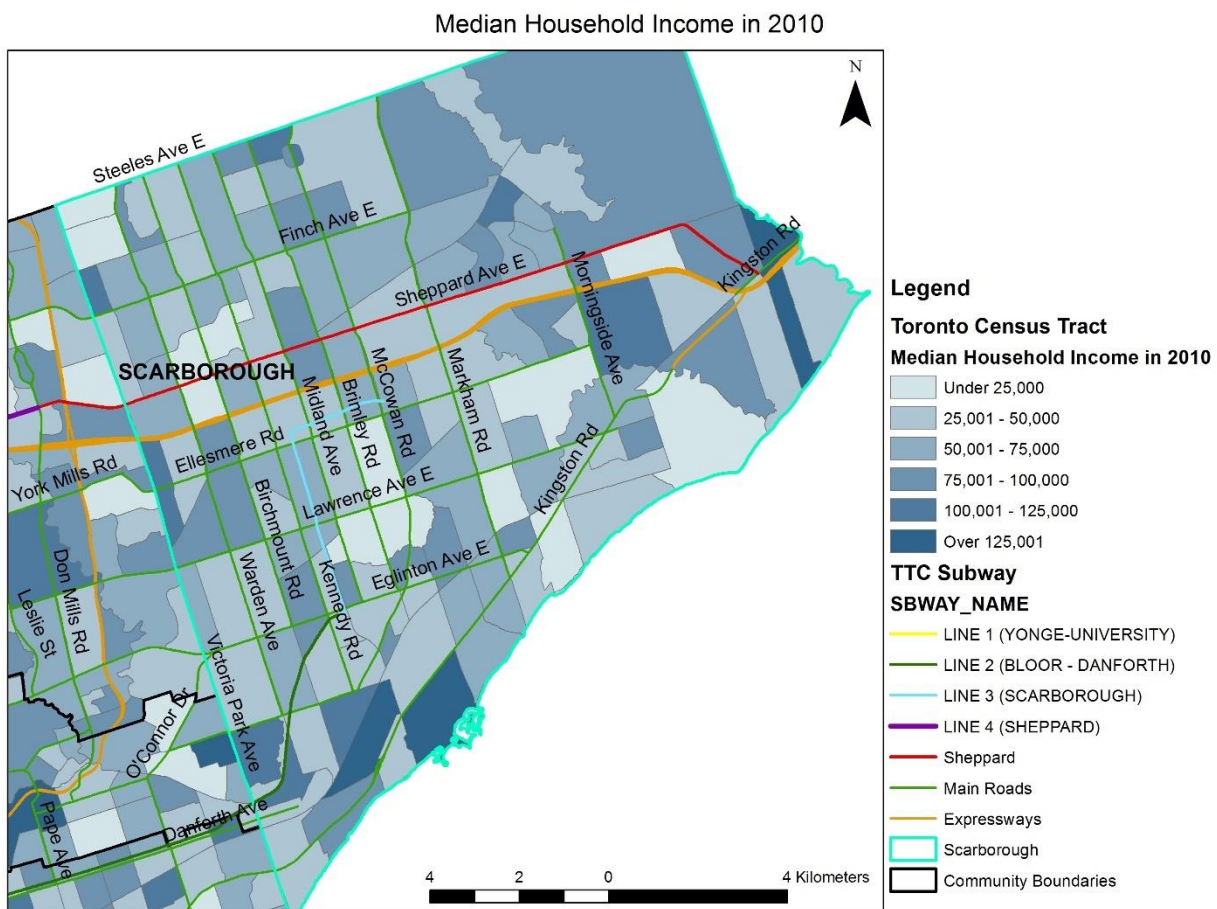
To illustrate the impact of Eglinton Crosstown in Scarborough, I have created several maps using ESRI ArcGIS. The data I used are from the City of Toronto through their Open Data initiative, and Statistics Canada. Figure 1 is a map of the median income level for households in Toronto, focusing on Scarborough. Statistics Canada (2015, #151) defines median income as

the median income of a specified group of households is that amount which divides their income size distribution, ranked by size of income, into two halves. That is, the incomes of the first half of the households are below the median, while those of the second half are above the median. Median incomes of households are normally calculated for all units in the specified group, whether or not they reported income.

Figure 1 uses the 2011 National Household Survey (NHS) data, specifically the income before tax deduction (Statistics Canada, 2015). The data is mapped using census tracts, and categorizes household incomes into “Under \$25,000”, “between \$25,001 and \$50,000”, “\$50,001 and \$75,000”, “\$75,001 and \$100,000”, “\$100,001 and \$125,00”, and “\$125,001 and over”. The household median for Toronto is \$70,365 (Statistics Canada, 2015). The predominant median

household income in Scarborough is well below and near the Toronto household median income. Although Eglinton Crosstown penetrates Scarborough, the land uses along the corridor are mainly commercial and retail, and sections of the corridor may be too distant for residents to walk.

Figure 1: Median Household Income in 2010

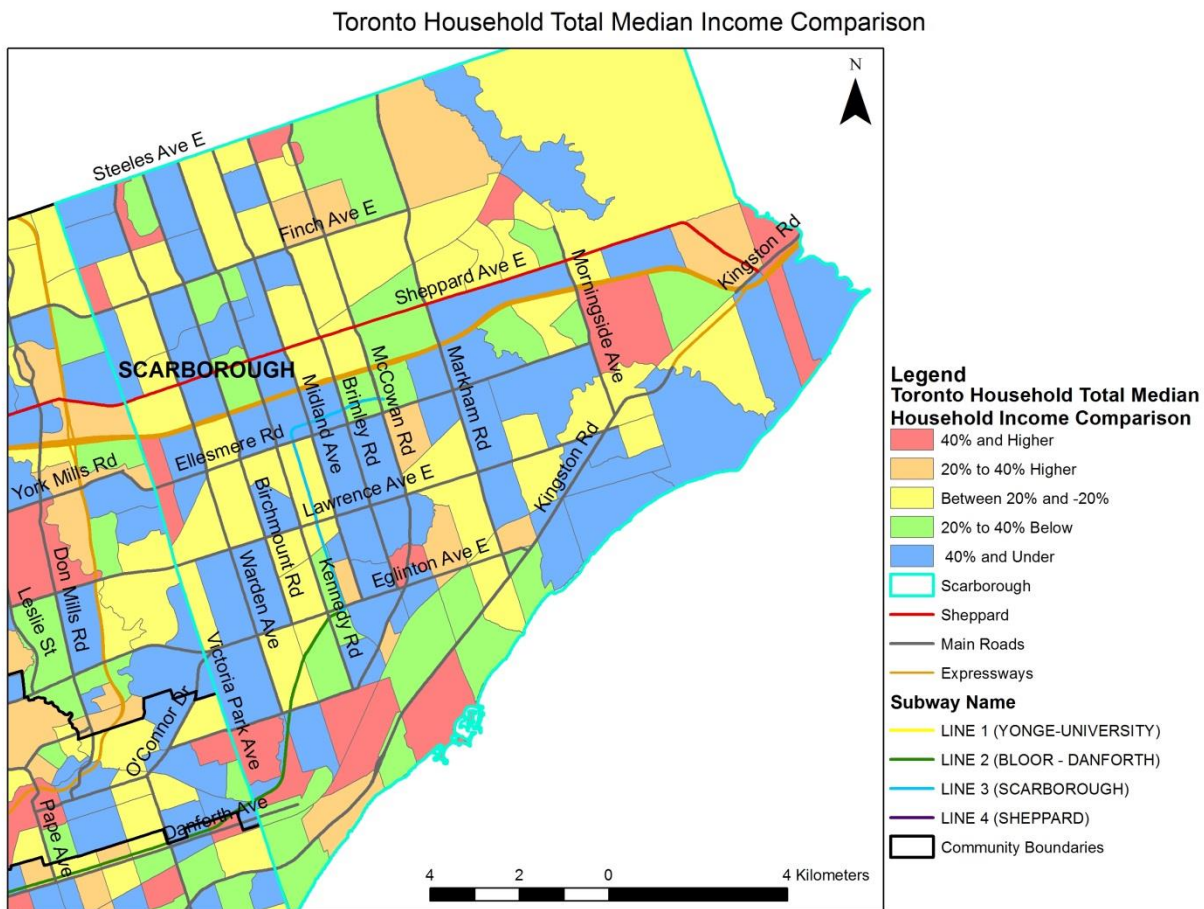


Source: Statistics Canada & City of Toronto Open Data

The metric used to compare Scarborough to the rest of Toronto is median income of household because it depicts the clearest picture of how families in Scarborough are faring compared to the rest of Toronto. In addition, when counting all the census tracts that have households with median income greater than \$70,365, it yields 188 census tracts, and the remaining 572 census tracts have a median income less than the household median income for all

of Toronto (Statistics Canada, 2015). Although there are outlying pockets of census tracts that are well above the household median income in Scarborough, these do not significantly affect the results of the map. Figure 2 is a map with census tracts that show how each census tract fares compared to the Toronto total median household income. Using \$70,365 as the base median income for all of Toronto, Figure 2 compares the median income level of Scarborough with the rest of Toronto. The map indicates that Scarborough, when compared to the rest of Toronto, is similar to or below the total median household income. While is explained by the lack of adequate transit in Scarborough, it is also a contradiction (Keil and Young, 2008). The paradox of transit provision in Scarborough lies in the fact that public transit is provided in Scarborough, but the level of service, frequency, and reliability during peak and off-peak hours is lacking. The network of bus routes does not penetrate the suburban blocks of Scarborough. The automobile-centric blocks in Scarborough make it difficult for residents to walk to bus stops as there are few pathways that lead directly to the bus stops.

Figure 2: Toronto Household Total Median Income Comparison



Source: Statistics Canada & City of Toronto Open Data

Combining the 2011 NHS data with the 2011 Transportation Tomorrow Survey (TTS), showed a correlation between that car-ownership to the median income in Scarborough. The Data Management Group (2011) at the University of Toronto that conducted the 2011 TTS found that the average household size in Scarborough is 2.9 individuals. Comparing Scarborough to other former municipalities, North York on average has 2.7, Etobicoke has 2.7, East York has 2.6, core downtown Toronto has 1.9, and York has 2.6. This comparison demonstrates the larger household size outside of core downtown Toronto, with Scarborough having the largest average household size. In addition, on average Scarborough households own 1.3 private automobiles. When compared to other former cities, Scarborough households are tied for the highest private

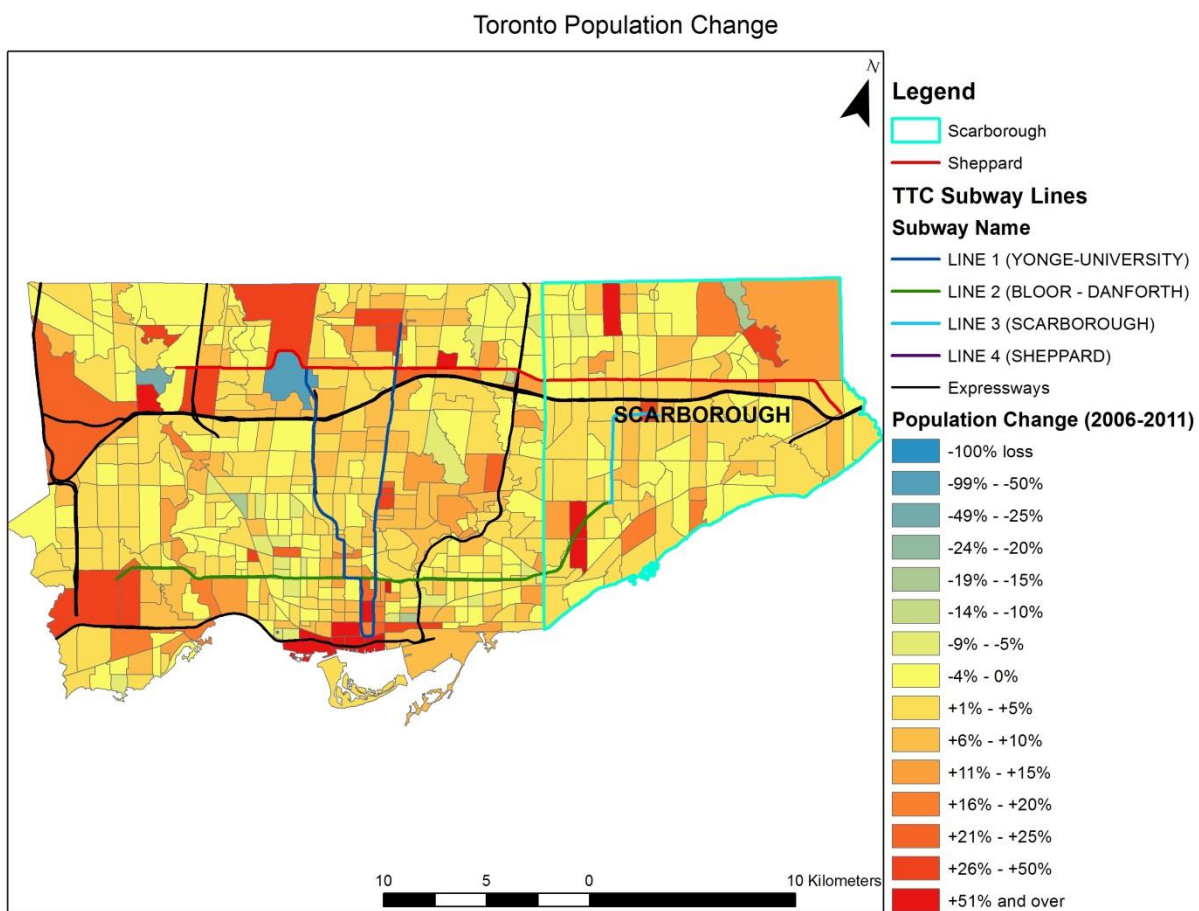
automobile ownership with Etobicoke at 1.3, while other former cities are lower; North York at 1.2, East York at 1.1, and core downtown Toronto at 0.7. Considering the average household size, average number of vehicles per person, median income, and location of residence, it makes sense that households in Scarborough own a private automobile. The high private automobile ownership in Scarborough is likely because of the inadequate public transit system as well as a physical landscape that fostered the usage of the private automobile. These two factors influenced residents in Scarborough to own private automobiles. In addition, the sprawled environment makes daily life (grocery shopping, visiting the dentist or doctor's office, and more) difficult without the private automobile.

Neighbourhoods in Scarborough have been planned and designed using cul-de-sacs with the intent to keep outsiders out. Non-residents had difficulty navigating neighbourhoods in Scarborough because of the curving road designs. The curving roads also created a sense of privacy in the neighbourhood. Configurations of these neighbourhoods were for the private automobile and not pedestrians or public transit users (Cozens and Hiller, 2008). Financially, because suburban neighbourhoods could not generate enough ridership for transit, it justifies the lack of transit service in these neighbourhoods, and implementing additional transit stops would increase the duration of commutes on that route. As a result of these automobile-oriented suburban neighbourhood designs, the physical environment strongly encourages households to own at least one private automobile for mobility, which also means they must take on the financial burdens that are inherent in owning a private automobile.

In addition to the median income and private automobile ownership, Scarborough's population growth is analyzed. Figure 3 is a map displaying the population change in Toronto. Figure 4 is focused on Scarborough's population change between 2006 and 2011. The map

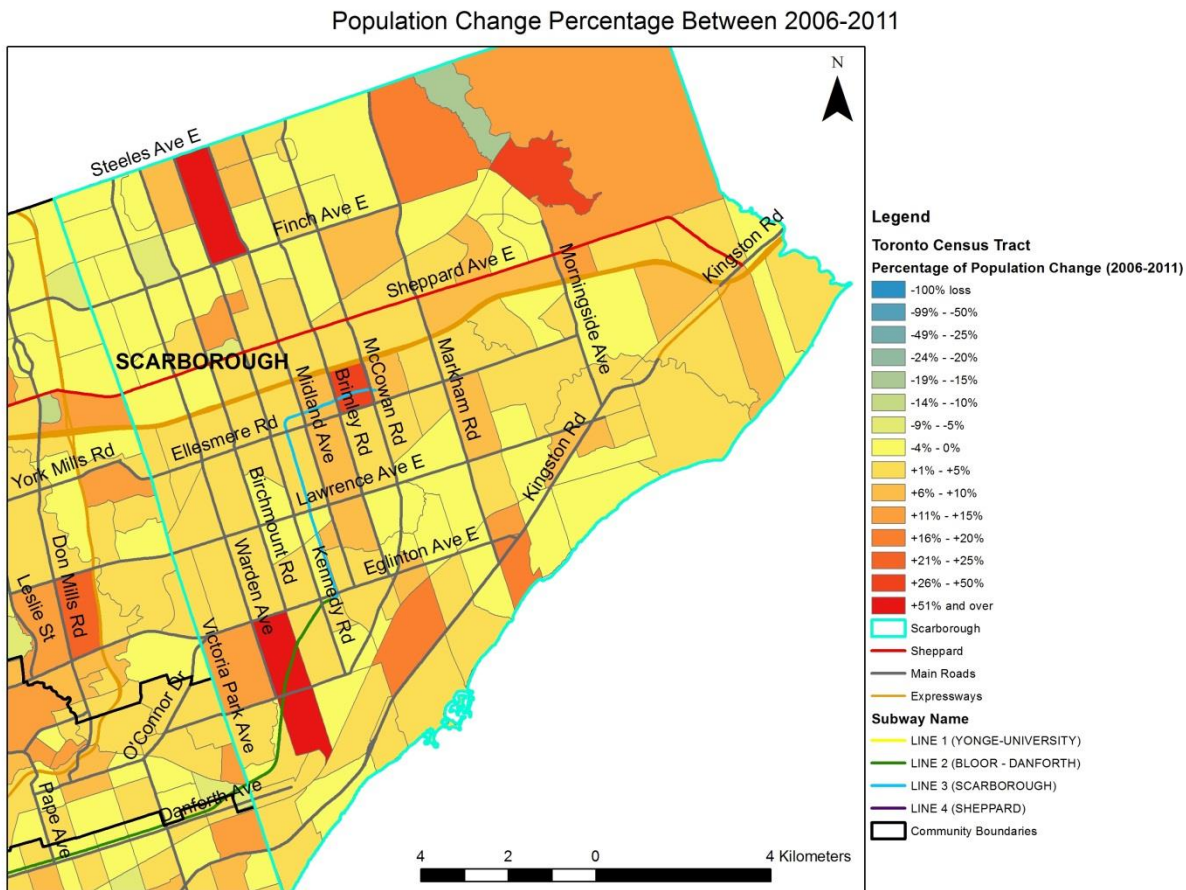
illustrates that different areas of Scarborough experienced growth of up to 5%, while others had a loss of up to 4%. Census tracts within Scarborough shows pockets of population growth over 50%. However, Scarborough experiences a slower population growth compared to the rest of Toronto (Toronto City Planning, 2015). Population plays a large role in transit decision, as is evident by the Sheppard subway. Without the necessary population density required, rail transit would be underused and would operate at a deficit.

Figure 3: Population Change Percentage in Toronto Between 2006 and 2011



Source: Statistics Canada & City of Toronto Open Data

Figure 4: Scarborough's Population Change Between 2006 and 2011



Source: Statistics Canada & City of Toronto Open Data

Scarborough is not as accessible when compared to downtown Toronto. This is because of the lack of rapid transit in Scarborough. However, spatially, it is easy to implement rail transit technology in Scarborough. However, implementing rail technology in Scarborough is a challenge due to concerns regarding: whether rail technology can attract the necessary ridership from an area that has low population density, where the necessary funding will come from, and, most importantly, whether public officials (in all levels of governments) will commit to building rail technology in Scarborough. The rationale of providing rail transit contends that increase rail transit would level the playing field in terms of accessibility and mobility for all the inner suburbs when examining transit equity under a narrow scope. However, this is not the case

considering various factors, such as fare pricing, funding (both operating and capital costs), and political commitment from all levels of governments.

Implementing LRT and Intensification of Corridors

Implementing LRT requires more than simply deciding the route alignment. One of the major factors to consider is how much ridership the LRT can generate. A variety of factors often affects ridership numbers, including diversity of land uses, design of neighbourhoods, destination accessibility, and distance to work. Specific to light rail, additional factors include residential and employment densities, destinations that are accessible by transit, transit stop locations, and service quality (Higgins, Ferguson, Kanaroglou, 2014). These factors can determine how much ridership LRT can attract.

There are two arguments made when discussing the impacts of LRT in regards to land uses in communities. Proponents of LRTs argue that investing in this type of transit technology can spur growth, revitalize decaying areas, and promote more transit oriented developments (TODs) along the corridor. Rapid transit can become a catalyst for growth because it has redistributive and regenerative characteristics. While rapid transit technology cannot catalyze growth and redevelopment on its own, policies that complement rapid transit technology may bring out its full potential. Rapid transit can certainly entice developers, but the processes of revitalization, redevelopment, and growth slows down without initiatives (and incentives) by the City. Rapid transit implemented with the appropriate policies, especially on the growth of a region, possess substantial redistributive impacts (Higgins, Ferguson, Kanaroglou, 2014). Municipalities in the GTHA region have become more entrepreneurial in municipal management to secure investments to develop the city. The decline in state led and funded initiatives has

prompted municipalities to seek private partnerships for capital works, otherwise known as public-private-partnership (the 3Ps), to construct large capital transit projects, such as an LRT system.

Impacts of LRT

Other influences that rapid transit can bring, aside from improved accessibility and growth are: creating safer environments for all road users including pedestrians, cyclists, and automotive drivers (complete streets), changing the socioeconomic demographic of surrounding areas, open new lands for development (although this is not the most applicable influence within an inner suburban context), and a cohesive and complementary policy and planning by municipal governments. One common way to understand accessibility is the degree of access to other parts of the city, but it can also be understood as a chosen locational advantage in an urban environment. Location contributes to the dichotomy between urban and suburban-the private automobile and public transit. There is a trade-off for individuals with the ability to choose where they reside. Rent is often cheaper in the suburbs and it is extremely accessible with a private automobile but public transit is severely lacking, whereas the opposite is true in the city where rent is often more expensive in an urban environment, but accessibility to different urban locations is considerably higher. The higher accessibility is due to the adequate provision of transit. Implementing rapid transit, such as an LRT, has several benefits: improved accessibility, a catalyst for economic and population growth, improved streetscapes and social change, connecting and opening new lands for development, and policies oriented to promote TODs or mixed-used, medium or high density developments (Higgins, Ferguson & Kanaroglou, 2014).

These benefits are applicable to bus rapid transit (BRT) as well. BRT is the rubber-tired version of LRT with greater flexibility. Quick construction, lower costs, ability to expand services, and applicable to a variety of environments are some advantages that BRT has over LRT. In some cases, even other bus routes can run in the BRT right of way (ROW), for example in Ottawa (Levinson, Zimmerman, Clinger & Rutherford, 2002). LRT and BRT share similar features where, if operated on its own ROW, it allows for greater travel speeds, but this is only applicable when an intelligent transportation system is implemented to complement the transit system. The main advantage LRT has over BRT is the carrying capacity. LRT will also attract more attention from developers, investors, and potential residents because it has greater carrying capacity along with inherently improved mobility (Vuchich, 2005). On a neighbourhood scale, implementing a form of rapid transit, whether bus or rail, would immediately improve the mobility and accessibility for neighbourhoods that are within its effective range. However, careful consideration must take place to prevent excluding or bypassing neighborhoods most in need of increased transit services which, in turn, could widen the socioeconomic gap between groups. New rail transit generally has a positive impact on residential and commercial property values but varies depending on context. BRT in several case studies conducted in North America, such as Washington, DC, California, Seattle, Florida, and Ottawa, Ontario, had limited or little influence on local property values. However, in recent years, between 2000 and 2012, Los Angeles' Orange Line BRT influenced the median rent in the study area but had little effect on median income and household private vehicle ownership (Zuk, et al., 2015).

Intensification and Redevelopment through Sustainable Principles

While the LRT may bring increased mobility and accessibility to communities along the Sheppard Avenue East corridor, redevelopments on the corridor can also provide an opportunity

for the City of Toronto to push and promote sustainability principles (especially principles of social equity). There are several principles of sustainable urban forms that can be considered when intensifying inner suburban communities to promote social equity. The principles in discussion should focus on what makes up the human-built form, such as streets, lots, and blocks (Talen, 2011). These components are typically what planners interact with most and should be familiar with. Inner suburban areas are arguably sites of unsustainability because of their automobile-centric landscape and thus, to change the inner suburbs, planners should focus more broadly on a city and neighbourhood scale instead of evaluating development merits based on project and sites. Retrofitting inner suburbs should be incorporated into the larger planning framework to promote social equity. Planning for sustainability under the neighbourhood scale presents the most challenges for planners as it desterilizes the automobile-centric landscape towards more social and diverse land uses. Principles of sustainable urban form are accessibility, connectivity, density, diversity, and nodality (Talen, 2011).

The principles of sustainable urban form can guide future developments on the LRT corridor to be sustainable, inclusive, and be able to foster community relations. However, to foster a sense of community, it is necessary to have the required density for both the community and LRT. These principles of sustainable urban form are most effective when applied to the creation of pedestrian networks that connect to destinations of interest in the community, such as parks, retail stores, and transit stops. Applying these principles will increase the connectivity of the neighbourhoods within the community and encourage community members to interact with each other, thus fostering the sense of community (Talen, 2011). In addition, having multiple places of interest in the community will anchor the sense of place of the community and create common places of destinations for residents. Compactness within inner suburbs is achieved by

creating a pedestrian network that connects to various destinations where community members can gather, and provides an opportunity for community members to walk to destinations instead of driving. All in all, attracting people to live within the community will increase the density of the neighbourhoods, and foster a sense of community which will encourage the decision to build the LRT.

Challenges to Intensification and Redevelopment

Possible challenges that can stem from intensification and redevelopment in any community are: community consultation, financial issues, and both legal and socio-cultural factors. There are formal obstacles to implementing TODs including: regulatory and legislative frameworks, availability and distribution of funding, and technical obstacles. Informal barriers are not measurable and affected by political, cultural, institutional and territorial discouragement. Issues of framing, perception, politics, acceptability and awareness within the planning profession and community affect these informal barriers (Tan, Janssen-Jansen, and Bertolini, 2014).

There have been periods of strong community resistance to medium and high density residential areas, especially in post-war Toronto. Local municipalities were extremely sensitive towards politics, and heavily resisted the construction of medium and high density residential developments, whereas Metro Toronto was more receptive. Interventions from the regional government spearheaded strategies for intensification of medium and high density residential buildings in post war Toronto (Searle and Fillion, 2011). NIMBYism (another form of informal obstacle) is still felt in Toronto, and planners must strategically consider proposals that can benefit the community.

NIMBYism has its pros and cons. While it can protect heritage sites and sites of historical importance, and deter gentrification, it can also block developments that would benefit the wider community such as improved facilities or affordable housing. The impact of NIMBYism is situational, and largely dependent on the location of the proposed development. For example, if a social housing project were proposed to develop in an established middle-class single-family neighbourhood it would face resistance from the residents. Although the social housing would help many working-class families and other individuals that cannot afford housing, it would be met with resistance from the neighbourhood inevitably deterring the project. In this example, NIMBYism is considered detrimental to the wider community. On the other hand, in a situation where a retail chain store, for example Rexall, is deterred from replacing a long-standing community establishment, it would benefit the community because the community would be able to keep the establishment. NIMBYism is complex and easily regarded as either positive or negative depending on context of the situation.

Planners must be neutral and should understand a community's needs and desires while also acknowledging the potential benefits new developments can bring. For example, Toronto is faced with the lack of affordable housing. Only "10 percent of Canadian houses built in the past 15 years has been rental accommodation, despite the fact that about 33 percent of Canadians are renters" (Olive, 2015, paragraph 16). NIMBYism in older inner city neighbourhoods discourage developing social and affordable housing in these neighbourhoods because of negative connotations associated with them. However, there are sections within the planning act that allow municipalities to negotiate with developers in providing community facilities and amenities. Although there are challenges that stem from both independent and dependent factors, there are still incentives to push forward with intensification and redevelopments.

Incentives for Intensification and Redevelopment of TODs

The City of Toronto can provide incentives to push forward projects with objectives that align with their vision for intensification and redevelopment - specifically developments that are conducive to transit expansion and ridership (for example: TODs). Tan, Janssen-Jansen, and Bertolini (2014) differentiate two groups of incentives: formal and informal. Formal incentives are used to attract and encourage developments, for example: tax breaks, financial compensation, regulatory reforms, and political commitment. Informal incentives include behavioural changes, public transport culture, and community push for specific types of development. There are four types of incentives Toronto council can look to explore in using to entice and attract development: legal-financial, legal-socio-cultural, financial socio-cultural, and legal-financial-socio-cultural (Tan, Janssen-Jansen, and Bertolini, 2014).

Legal-financial is the ability to combine financial returns on specific rules and regulations initiatives or deterrents. Legal-socio-cultural are rules and regulations that form socio-cultural practices or vice versa. Financial-socio-cultural incentives are the financial rewards or deterrents that form or change cultural practices, while legal-financial-socio-cultural incentive are the rules and regulations that couple financial rewards (or deterrents that creates or inspires change in socio-cultural behaviour) and practices. Although these four broad categories of incentives are not used by the City of Toronto, the City can utilise these four categorizes of incentives to push forward TODs, and promote sustainable growth in the inner suburbs. For example, the City of Toronto's promotion of mid-density developments on the Eglinton LRT corridor can utilise legal-financial incentives to spur mid-density developments along the corridor. The incentive can allow for high density bonuses in exchange for cash to the city or community improvements (such as repaving roads, funding community programs, and repairing community facilities).

Promoting sustainable growth, especially with TODs, can change the inner suburbs from an automobile-centric environment to one that is transit and pedestrian oriented. Governments should work together with private developers to develop key areas of the city (Siemiatycki, 2011).

Impacts of Past Decisions

Impacts of past decisions are still felt today. Faced with the reality of a shortened Sheppard subway, it is easy to speculate what could have developed instead. The Sheppard subway has been consistently criticized as the line that has generated the least revenue and ridership. The Sheppard subway after its first year of operation did not meet the expected 15 million ridership, nor did it gain 1 million new riders (Adel and Bow, 2017). If the Sheppard subway had been fully implemented according to the original proposal in 1985, it would have drastically changed suburban travel patterns, providing a reliable east-west suburban corridor of travel, possibly attracting more ridership, and reducing the number of private automobiles on the road. The reality was that, after eleven months of operations, the subway had 11 million ridership and only 800,000 new riders, significantly lower than the forecasted numbers (Adel and Bow, 2017).

Scarborough's current mix of land uses is not supportive of future subway expansions, but there have been discussions to extend rapid transit on the Sheppard corridor using LRT. The current mix of land uses include low-density housing with nodes of a mixture of apartment and condominium towers, and pockets of strip malls and large retail plazas. This mix of low-density environment is not supportive of subways, which is evident with the current Sheppard subway.

Initial discussions regarding expansion of rapid transit on Sheppard Avenue East after amalgamation came from various plans, including: TTC's Rapid Transit Expansion Study in 2001, The City of Toronto and TTC's Transit City in 2007, The Province of Ontario's MoveOntario 2020 in 2007, and Metrolinx's The Big Move in 2008 (Levy, 2015). In each of these plans, Sheppard Avenue was identified as a corridor with potential for rapid transit expansion. Each of these plans saw the need to connect the Sheppard subway to Scarborough Town Centre, but insufficient funding caused the plans to be deferred indefinitely (Levy, 2015). Expanding rapid transit has been met with criticism, especially when built in the suburbs. The Sheppard subway was built in a period where low-density housing was the main form of housing stock, and only recently has it intensified (Keil and Young, 2011). Intensification in certain areas along the corridor has not translated into higher ridership throughout the Sheppard subway corridor, but has increased station access at specific subway stations, primarily at Sheppard-Yonge, Bayview, and Don Mills station. The shortened and disconnected Sheppard subway is a missed opportunity. Although the current Sheppard subway is not a line that garners ridership, the original plan's first phase, if fully implemented, would have connected the Consumer Road business park employment land to the subway system. This, in turn, would have allowed greater access to the lands of employment.

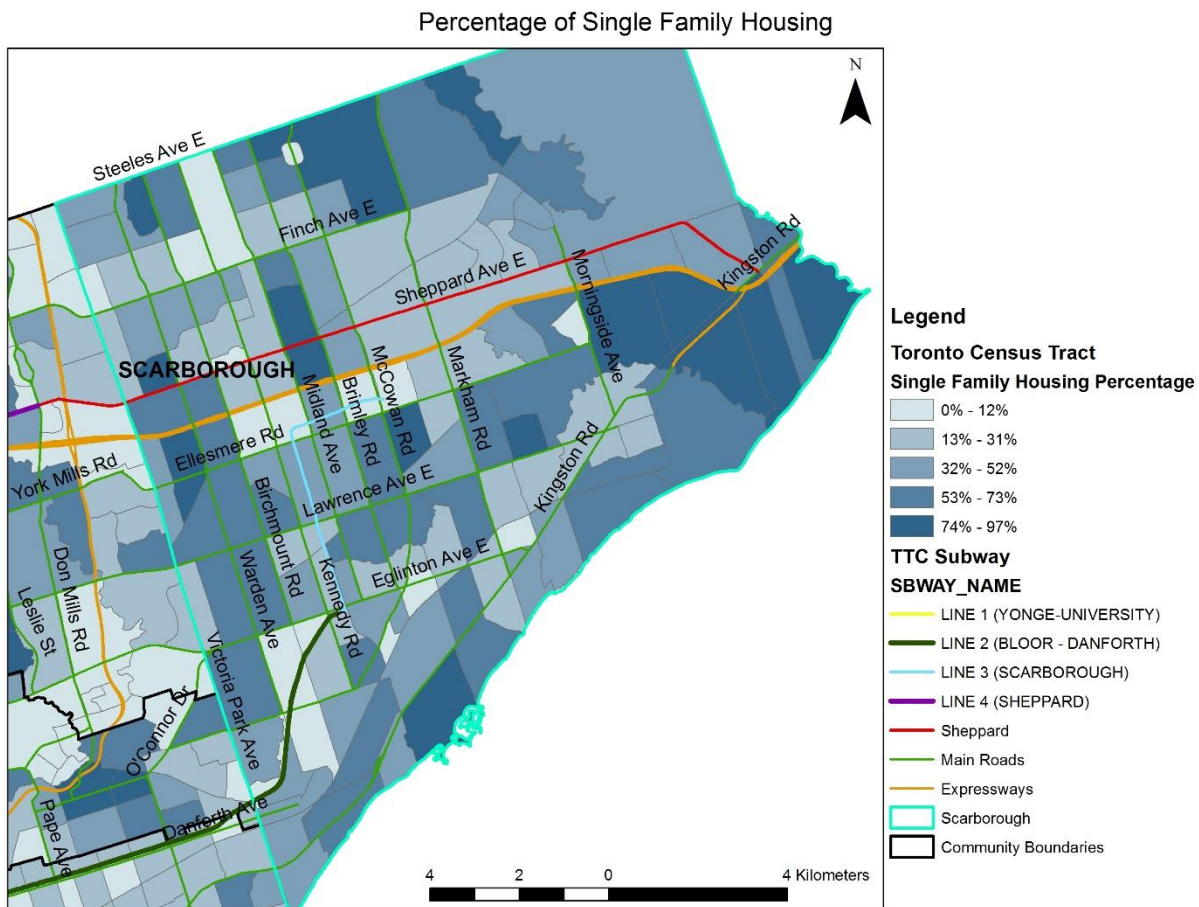
Scarborough was a suburban municipality prior to amalgamation. Figure 5 is a map of Scarborough's single family housing gathered from 2011 NHS data. As shown in the map, many parts of Scarborough have over 30% single family housing in its census tract. Years of investments in road infrastructure have resulted in dependence on the private automobile, increased numbers of private automobile on the roads, congestion, a sprawled landscape made for the mobility of the private automobile, and a dichotomy between suburbs and city. Road

capacity has arguably reached its limit, and sustainability and compactness have emerged as a solution to solve problems arising from past decisions. However, neoliberal politics adopted by the province have made transit development a challenge in Toronto. Amalgamation in Toronto was primarily a way to cut costs and save money. Following the dissolution of Metro Toronto, the province downloaded additional responsibilities to the newly amalgamated City of Toronto. With its additional responsibilities, the City of Toronto had to compete for resources. A competitive city is “defined by a complex class alliances and political coalitions, [and] neoliberal planning and economic policies [...]” (Kipfer and Keil, 2002, p 229). Arguably, the provincial government contributed to the shift in responsibility of municipalities. Toronto adopted neoliberal policies to strengthen Toronto’s economic standing on a global scale, which resulted in Toronto having to take entrepreneurial responsibilities to fund its municipal programs and services (Kipfer and Keil, 2002).

Attracting global investments to acquire capital is one of the major motives behind The Big Move (2008). Improving the region’s competitiveness is beneficial to the municipalities in the region but, at the same time, demonstrates transit inequity. The establishment of a regional public transit has the goal of promoting economic efficiency via alleviating chronic congestions within the region. Applying these methods appropriately creates potential to cultivate the GTHA region into a competitor for global resources. The Big Move (2008) has identified and selected Pearson Airport as the GTHA’s node to connect to the global market. In order for the node to become efficient and attractive to global multinational corporations, improvements to the region’s transportation system is a requirement. Having the node accessible to all parts of the region improves the competitiveness of the region on the global scale. However, improved competitiveness of the region comes at the expense of municipal capital transit projects.

Therefore, for Pearson International Airport to be a competitor in the global market, The Big Move (2008) must prioritize improving transit access to the node, despite this potentially shifting focus away from municipal transit projects that would likely benefit local communities.

Figure 5: Percentage of Single Family Housing in Scarborough



Source: Statistics Canada & City of Toronto Open Data

Scarborough in Context

Scarborough is considered an inner suburb. Old suburbs that are surrounded by newer suburban developments are defined as an inner suburb (Filion, Osolen, and Bunting, 2011). Unlike many other North American suburbs, the suburbs within Metro Toronto's region followed the standardization of services across its region, and promoted mixed-density

developments oriented towards both private automobiles and public transit (Filion, Osolen, and Bunting, 2011). However, the intent of many neighbourhood designs, such as the cul-de-sacs, were for the private automobiles, while major arterial roads were designed to incorporate public transit. Inner suburbs are considered an “in-between city” (Filion, Osolen and Bunting, 2011, p 181) which is defined as a city that is considered neither urban nor suburban. In addition, the inner suburbs contain residential areas for individuals that cannot afford to reside in either the inner city or outer suburbs. Therefore, Scarborough is neither urban nor suburban and has a mixture of housing types, ranging from low to high density, private and public housing (Filion, Osolen and Bunting, 2011).

Metro Toronto was successful in extending public transit into the suburbs, but the extended transit system is paradoxical, as argued by Keil and Young (2008). Currently, Toronto has a vast network of public transit that extends far into the inner suburbs, with several routes going beyond Toronto’s border into the outer suburbs, but the transit network is not without its problems. Toronto has strategically set its foundation as a central node that has access to Northern Ontario, Western Canada, the Atlantic, Quebec, and United States of America through various transportation infrastructures in both road and rail. Even with this vast network of infrastructure, Toronto must address its inadequate local public transit if Toronto is to become like other global cities, like Shanghai, that have much superior transit systems (Keil and Young, 2008). An environment cultivated for the for the private automobile coupled with years of underfunded public transit exacerbates the inadequacies of public transit in the inner-suburbs. Scarborough is a region that poorly serviced by rapid transit in Toronto, evident by the fact that there are currently three major capital transit projects proposed in the area (Smart Track, extending the Bloor-Danforth Line to Scarborough Town Centre, and Sheppard LRT).

Two topics often discussed in the transit debate are service route alignment, and comparing the costs of different transit systems. In contrast, significant topics scarcely discussed are the existing physical landscape and land uses along the proposed route specifically, how land use shapes potential ridership, and future developments (Sorensen and Hess, 2015). The province adopted policies to slow and contain suburban sprawl, such as the Greenbelt Act introduced in 2005. Movements to contain sprawl have called for new approaches in urban design that aim to promote public transit, active transportation, mixed land use, and sustainable growth. This approach falls under the equity pillar of sustainability in addition to encompassing Smart Growth and New Urbanism principles. Smart Growth is the theory that promotes compact growth in urban centres that focuses on transit and active transportation, whereas New Urbanism design principles promote neighbourhoods that are supportive to a wide variety of housing and job mix, active transportation and transit. The planning and designs of many neighbourhoods in Scarborough did not adhere to Smart Growth or New Urbanism policies during the mid-20th century. Instead, planning during the mid-20th century focused on segregating residential from commercial and industrial land uses, which fostered to the growth of private automobiles – another example of mobility-based planning. Although this is a pro-development perspective of smart growth and new urbanism, I argue that it is important to increase the density along the Sheppard corridor for future rapid transit expansion in the area. Utilising both Smart Growth and New Urbanism can stimulate future development to be transit oriented and promote the necessary housing and job mix in communities.

Metro Toronto promoted and attempted to practice the nodal strategy to create a downtown-like center in the inner suburbs, but were largely unsuccessful (Filion and McSpurren, 2007). Finding a balanced approach that is both transit and pedestrian friendly, while

accommodating automotive usage in suburban downtown, has proved to be difficult (Filion, 2000). The nodal strategy presented a realistic alternative to metropolitan wide intensifications since increasing transit use would minimize the impacts of high-density residential buildings (Filion and McSpurren, 2007). Two examples of nodes within the City of Toronto are Scarborough Town Centre and North York Centre. The current form of Scarborough and Toronto can be summarized in the following quote:

the prevalence of this form of urbanization rests on the financial interest of developers and peripheral municipalities, preferences regarding housing and urban environments, the political weight of the ever-growing constituency associated with dispersed urbanization, and the relation between dispersed land-use patterns and car and truck dependency (Filion, 2000, p 184).

In contrast, to Scarborough's sprawled environment that had to cater to all forms of transportation, the downtown core of Toronto had rail transit investments made in the post-war period to alleviate congestions caused by its compactness and density. In addition, preventative measures adopted by the City of Toronto protected downtown Toronto from urban decay (Filion, 2000).

A strategy different from the nodal approach is the main street approach. This approach emerged in the early 1990s with the idea to replace low-density buildings surrounded by vast surface parking lots on arterial corridors with street facing medium-to-high density buildings containing street level retail shops (Filion and McSpurren, 2007). This type of intensification looked to promote and increase the level of active and public transportation (Filion and McSpurren, 2007). The City of Toronto discussed the main street intensification strategy for several years with no fruition, and the urban forms closest to the main street approach are the condominium developments in downtown Toronto, and corridor along Yonge Street passing North York Centre (Filion and McSpurren, 2007). The former municipality of North York

utilized the main street approach and applied the principles of intensification via condominium developments and street facing retail stores. This corridor has access to three subway stations: Yonge-Sheppard, North York Centre, and Finch.

An overall strategy to promote smart growth within Toronto consisted of the two intensification approaches. Within the past 30 years, there has been little rail transit expansion due to insufficient financial funding. When combined with rapid demographic growth, the stagnated public transit expansion failed to meet new travel demands within Toronto (Filion and McSpurren, 2007). I am not suggesting massive rail expansion across the region. Instead, I propose we carefully examine which corridors are most suitable for rail transit and have the capacity to upgrade the current public transit system into a network. Currently, the Eglinton Crosstown project is undergoing its first phase of construction. Various plans over the years have discussed expanding public transit along Eglinton Avenue. I will use Eglinton Crosstown as an example of how a corridor might transform with the implementation of an LRT. I will then compare Eglinton Avenue with Sheppard Avenue and discuss the differences between the two corridors.

Eglinton Crosstown

Eglinton Crosstown is a 19-kilometer ROW light rail transit line that will run on Eglinton Avenue from Mount Dennis at Black Creek Drive to Kennedy Road. The line will consist of 25 stations, with portions of it underground, and run from Keele Street to Laird Drive. The City of Toronto envisions Eglinton Avenue to be its mid-town east-west corridor that will support mixed-use land uses. The removal of most bus services on Eglinton Avenue will improve the remaining surface bus routes and redefine the corridor to support all forms of transportation (City

of Toronto, 2014a). Plans for intensification on the Eglinton Crosstown project is via the main street approach. The project aims to promote mid-rise developments along portions of Eglinton Avenue where appropriate. The Avenues and Mid-Rise Buildings Study (2010) define areas along the Eglinton corridor where mid-rise developments are to develop. The Official Plan targets and designates sections of corridors (mixed-used, employment, institutional, and regenerative areas) for growth through reurbanization (Brook McIlroy Planning + Urban Design/Pace Architects, et al., 2010). The Avenues and Mid-Rise Buildings study recommends each area be contextualized to each Avenue's characteristics. Roads designated as avenues should allow for re-designating of land uses to account for future mid-rise intensification, especially in areas with potential for higher-order transit development. These areas include designations previously exempted from the study because they were not part of the intensification policies (Brook McIlroy Planning + Urban Design/Pace Architects, et al., 2010).

Eglinton Avenue is an important corridor. It passes through six different neighbourhoods in the former City of Toronto and, on a regional scale, it connects to Hurontario Street in Mississauga, Pearson International Airport, Highway 427, Highway 400, Don Valley Parkway, Yonge-Eglinton Centre and Scarborough Waterfront (City of Toronto, 2014a).

EGLINTONconnect, a study done on Eglinton Avenue, had three themes: travelling, greening, and building Eglinton Avenue. The travelling theme entailed: the support of all modes of transportation (focusing on active and public transportation), widening sidewalks to promote pedestrian use and safety, and reducing the number of through-traffic allowed. Greening Eglinton Avenue focused on creating a boulevard-like corridor that connects the open and green spaces. The building Eglinton Avenue theme would promote the intensification of mid-rise buildings, mixed-land uses throughout the corridor, strengthen the main street appeal of the

corridor, and integrate a variety of demographics, retail, and transportation (City of Toronto, 2014a). EGLINTONconnect is one of the many projects in The Big Move (2008). The province has invested \$5 billion dollars into the Eglinton Crosstown combined with a potential City of Toronto investment of \$100 million Canadian dollars over the next several years for streetscaping (City of Toronto, 2014a).

While the main goal of EGLINTONconnect is to intensify Eglinton Avenue through mid-rises, elements of a complete street are embedded into its vision and policies. A complete street is defined as a street that is safe for drivers, cyclists, public transit, and pedestrians of all ages (Laplane and McCann, 2008). Streets are considered a safe public space for leisure and social interactions (Kingsbury, Lowry, and Dixon, 2011). Furthermore, complete streets extend past the physical elements of a road, changing how roads are planned, designed, and built in the decision-making process (Laplane and McCann, 2008). Each corridor must exercise careful planning to ensure that each corridor is appropriately contextualized to its environ. Under the EGLINTONconnect plan, Eglinton Avenue will not intensify throughout its corridor. Instead, 8.6 kilometers (approximately 45%) of the 19-kilometer corridor will be stable with little or no changes, and 4.6 kilometers (approximately 25%) of the corridor will be studied further to determine the appropriate land uses and built-form, transportation needs, and community facilities and services (City of Toronto, 2014b). What is left is 5 kilometers (approximately 26%) of the corridor for redevelopment, pending zoning changes (City of Toronto 2014b). In addition to these changes, there are 6 focal points of intensification: West Side, Dufferin, Bayview, Laird, Don Mills and the Golden Mile (from Victoria Park Avenue to Kennedy Road) (City of Toronto, 2014b).

EGLINTONconnect will allow for faster travel in the city. LRT is the chosen transit technology because of its passenger carrying capacity (Toronto Transit Commission/City of Toronto, 2010). The project also considered bus and subway systems, but there was limited space for BRT at grade and the sheer costs to construct subway ultimately eliminated these two technologies (Toronto Transit Commission/City of Toronto, 2010). The LRT was selected to meet future travel demands on the corridor, the LRT also aligns with the City of Toronto's EGLINTONconnect study, and abides by the City's zoning by-laws (Toronto Transit Commission/City of Toronto, 2010). Eglinton Crosstown is broken into three portions: West segment that will run from Renforth Drive to Jane Street, Central segment which will operate underground from Jane Street to Leslie Avenue, and finally East segment that will operate aboveground in its own right-of-way from Leslie Avenue to Kennedy Station (Toronto Transit Commission/City of Toronto, 2010).

Land use along the study area ranges from: high to low density residential and commercial buildings with greater concentrations of office and industrial uses in the west Eglinton corridor segment, a range of low to high density residential buildings in the central Eglinton corridor segment, and commercial industrial in the east Eglinton corridor segment (Toronto Transit Commission/City of Toronto, 2010). Institutional and open spaces are found distributed throughout the corridor. The west and east segments have a high concentration of jobs and Eglinton Crosstown will connect these two employment lands, allowing for greater accessibility and mobility for those reliant on public transit to get to their jobs. In the west end, the airport area is reported to have approximately 10 head offices of Fortune 500 companies (Toronto Transit Commission/City of Toronto, 2010). Pearson International Airport and its surrounding corporate business centre currently has roughly 40,000 jobs within the airport itself

and 245,000 in the surrounding area, and the area is forecasted to grow even more (City of Toronto, 2016a). The area is set to grow with jobs being forecasted to increase by 41% by 2031, and passengers to the area by 92% (City of Toronto, 2016a). Despite being a major hub within the GTHA region, the airport area does not adequately link to regional and local public transit. The lack of public transit that can penetrate and access into this employment land is recognized, and locally planned higher-order transit projects are underway to address this problem.

Eglinton crosstown provides an additional mode of travel to those that work at Pearson International Airport, allowing for increased accessibility throughout the corridor. However, with such a large investment put into Eglinton Avenue, there are concerns that gentrification may occur. While improved transit will increase the accessibility and mobility of residents, major investments into six different areas may displace current residents and commercial property owners or renters. Potential rent increases set by landlords to price out residential and commercial renters have raised concerns (Higgins, Ferguson, Kanaroglou, 2014). In addition, there have been two concerns raised with the endorsement of mid-rise intensification.

The first of the concerns is that the mid-rise intensification will increase private automobile use on the local roads because developments proposed must accommodate the private automobiles and provide the necessary parking spaces in the buildings. Although there have been cases where permanent residential parking spaces were not provided, (within Toronto, the Royal Canadian Military Institute building does not provide residential parking within their building) these cases are rare but must be considered. Since new buildings must provide residential parking, it is inevitable that there will be residents that continue to drive on a corridor with LRT. Secondly, there are concerns over whether the current transit system will have the

carrying capacity for additional ridership. Without the necessary carrying capacity during peak hours, the transit system will lose ridership interest and will turn to alternative travel modes.

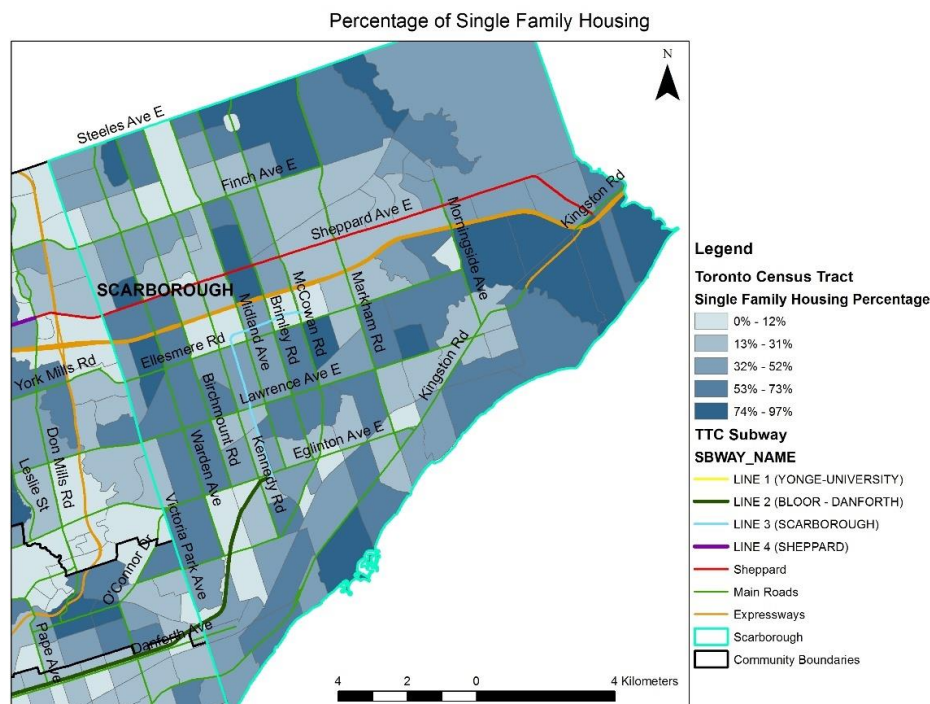
Understanding Sheppard Avenue in Scarborough

Similar to Eglinton Crosstown, Sheppard Avenue is a corridor considered for higher-order transit. The province had already committed and funded the project to implement an LRT line before politics in Toronto changed the direction of the project. Subsequent discussions regarding transit expansion on the corridor has since changed from building LRT to building a subway. As of now, the Sheppard East LRT is on indefinite hold with no funding (Munro, 2017). However, an overpass was completed for the GO Rail line in anticipation for the LRT. The proposed LRT onto the Sheppard corridor may not be justified, like Eglinton Avenue where it has a range of population densities along its corridor. Population density along Sheppard Avenue, when compared to Eglinton Avenue, is lower. There pockets of high-density residential towers are found along arterial corners, but majority of the corridor is comprised of low-density, single-family housing. Figure 6 through Figure 9 are maps of the housing stock in Scarborough and support the fact that low-density housing comprises much of Scarborough's housing stock. Comparing Figure 6 through Figure 9 demonstrates the dominant housing stock single-family housing. Scarborough is characterized and wants to be defined as a community for the middle-class single-families (Filion and McSpurren, 2007). This is not to suggest that Scarborough does not have high-density residential towers, considering there are pockets of clustered apartment towers in Scarborough, with many near or on Sheppard Avenue – a legacy of Metropolitan Toronto planning (Sorensen and Hess, 2015). The following quote describes how clusters of apartment towers are mixed in with single-family housing:

a suburban density formula confining high density developments to locations along arterial roads, with largest concentrations of apartments found at their intersections. As a rule, the interior of super blocs formed by arterials was devoid of high density housing and dominated by single-family homes, with an occasional presence of town houses. A rationale for the arterial road location of high density housing was proximity to suburban bus routes with the most frequent headways. Another was that it prevented such developments from raising traffic levels within low density neighbourhoods. High density housing was also to be found on other site interfering little with low density residential areas (Filion and McSpurren, 2007, p 507).

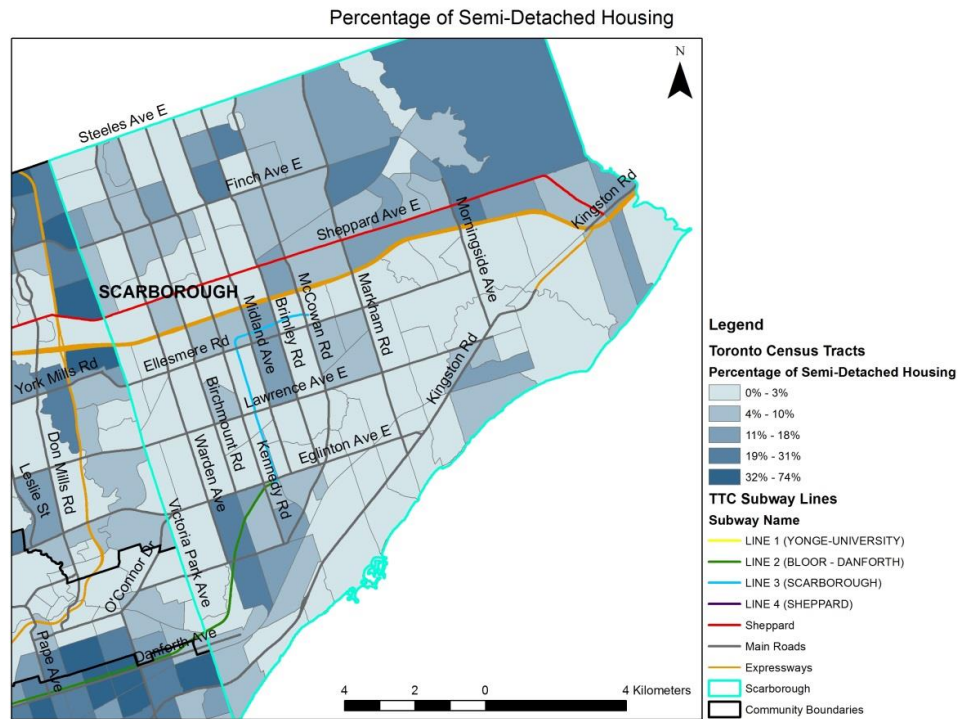
This type of suburban design is still present today and can be found along Sheppard Avenue. If higher-order transit is to be implemented on Sheppard, the designs of neighbourhoods must change to accommodate higher population density.

Figure 6: Single Family Housing



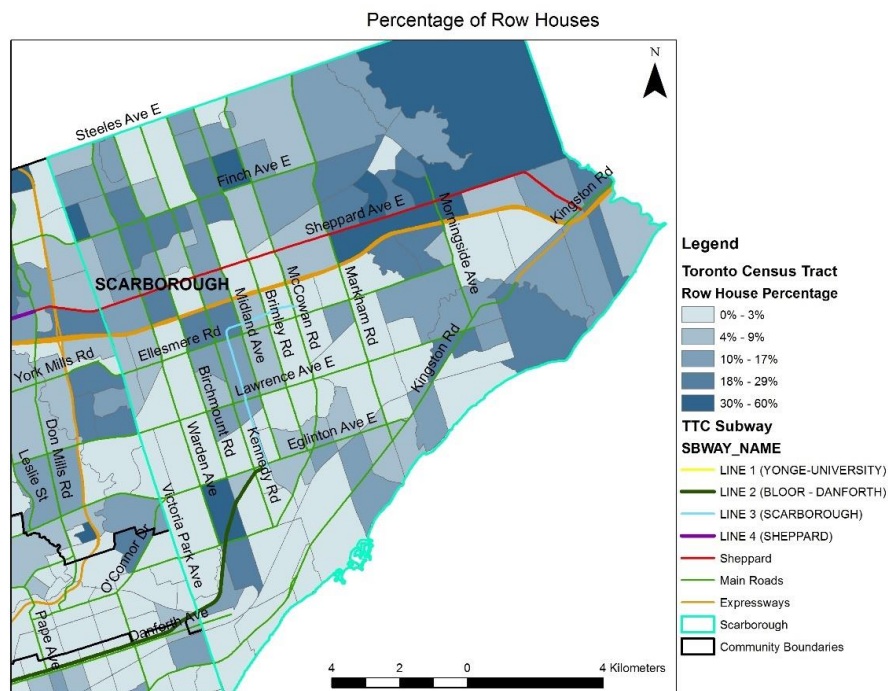
Source: Statistics Canada & City of Toronto Open Data

Figure 7: Semi-Detached Housing



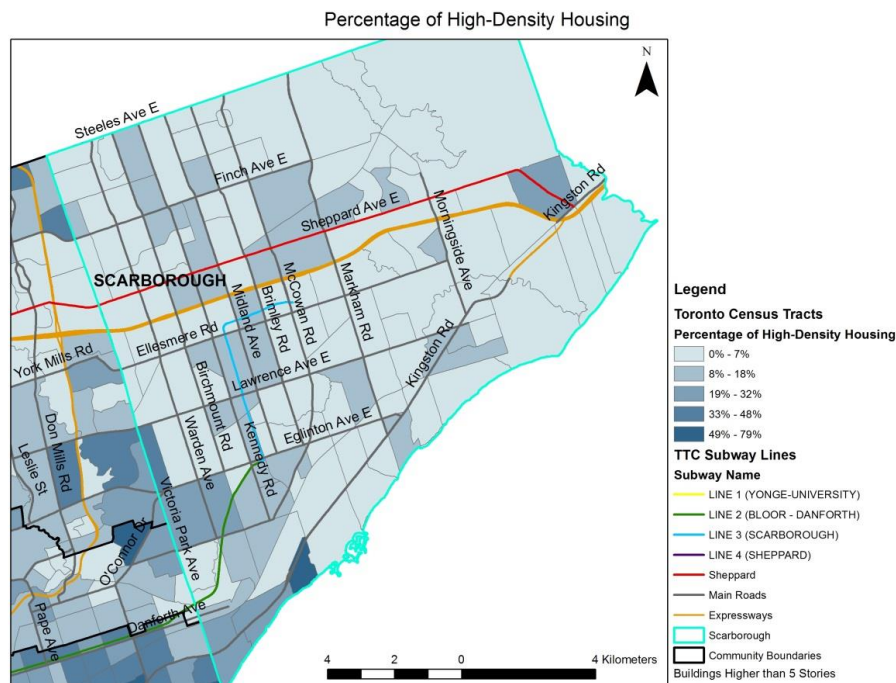
Source: Statistics Canada & City of Toronto Open Data

Figure 8: Row Houses



Source: Statistics Canada & City of Toronto Open Data

Figure 9: High-Density Residential Buildings



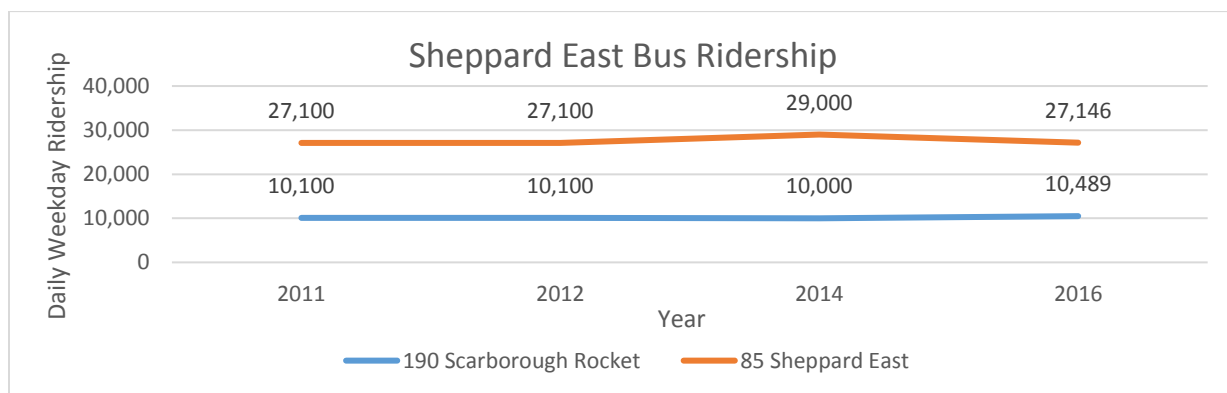
Source: Statistics Canada & City of Toronto Open Data

The City of Toronto's Official Plan has forecasted the City to have a 10% growth in population (approximately 270,000) by the year 2031, and has explicitly stated that the City will need to accommodate the travel demands of caused by this growth through non-automobile travel (Toronto Transit Commission/City of Toronto, 2010). Even with forecasted growth, higher order transit plans on Sheppard Avenue East is postponed until 2021 where the Province and the City of Toronto will revisit plans for the corridor for high-order transit (Kalinowski, 2015b; Spurr, 2017). The postponing of plans for LRT on Sheppard Avenue East is largely because of the 2010 election that put Rob Ford into the mayoral office in Toronto. Part of his campaign was to cancel the LRT in favour of the subway, which created a divide in what the Province and the City of Toronto each envisioned for the corridor, forcing the two parties to revisit the corridor after more research (Kalinowski, 2015a). Part of the postponement was due to the Finch LRT taking priority over Sheppard LRT (Munro, 2015b), as well as other plans and studies conducted

in Scarborough for higher-order transit (RER, Smart Track, and Bloor-Danforth subway extension to Scarborough Town Centre to name a few).

Ridership along Sheppard Avenue East has been relatively high when compared to other surface bus routes. In Figure 10, I have graphed out the ridership for the two main Sheppard bus routes, the 85 Sheppard East and the 190 Scarborough Rocket. Data from years 2013 and 2015 are missing because TTC did not release surface ridership numbers for these years. As seen in Figure 10, ridership from four years on Sheppard Avenue East has been consistent: it ranges between 27,00 and 29,00 for the 190 Scarborough Rocket, and 10,489 and 10,100 for the 85 Sheppard Avenue East. Consistency in ridership over the years is likely due to the lack of significant developments along Sheppard Avenue East. However, the TTC has initiated several improvements to the route: the first was the creation of a pseudo-BRT – the 190 Scarborough Rocket and then implementing the 10-minute network that includes the 85 Sheppard East. I describe the 190 Scarborough Rocket as a pseudo-BRT because even though it is an express bus service, it does not have a right-of-way, making it susceptible to unreliable travel times in heavy traffic. Both initiatives have the goals to improve service along Sheppard Avenue East which results in better mobility and, in a sense, better accessibility.

Figure 10: Sheppard East Bus Ridership 2011-2016



Source: Toronto Transit Commission

The Sheppard LRT was part of former Mayor of Toronto David Miller's Transit City Plan, and was adopted into The Big Move (2008). This LRT route was also part of The Places to Grow Act (2005) that promotes higher density developments and TODs. One of the rationales for choosing Sheppard is the strong bus ridership on this corridor, and the potential connection between subways. This corridor would also provide an inner suburban route of travel. Initial projected ridership for Sheppard Avenue East ranged between 2,700 and 7,600 passengers per hour per direction (Steer Davies Gleave, 2009). These forecasted numbers suggest Sheppard Avenue East can support an LRT, if implemented.

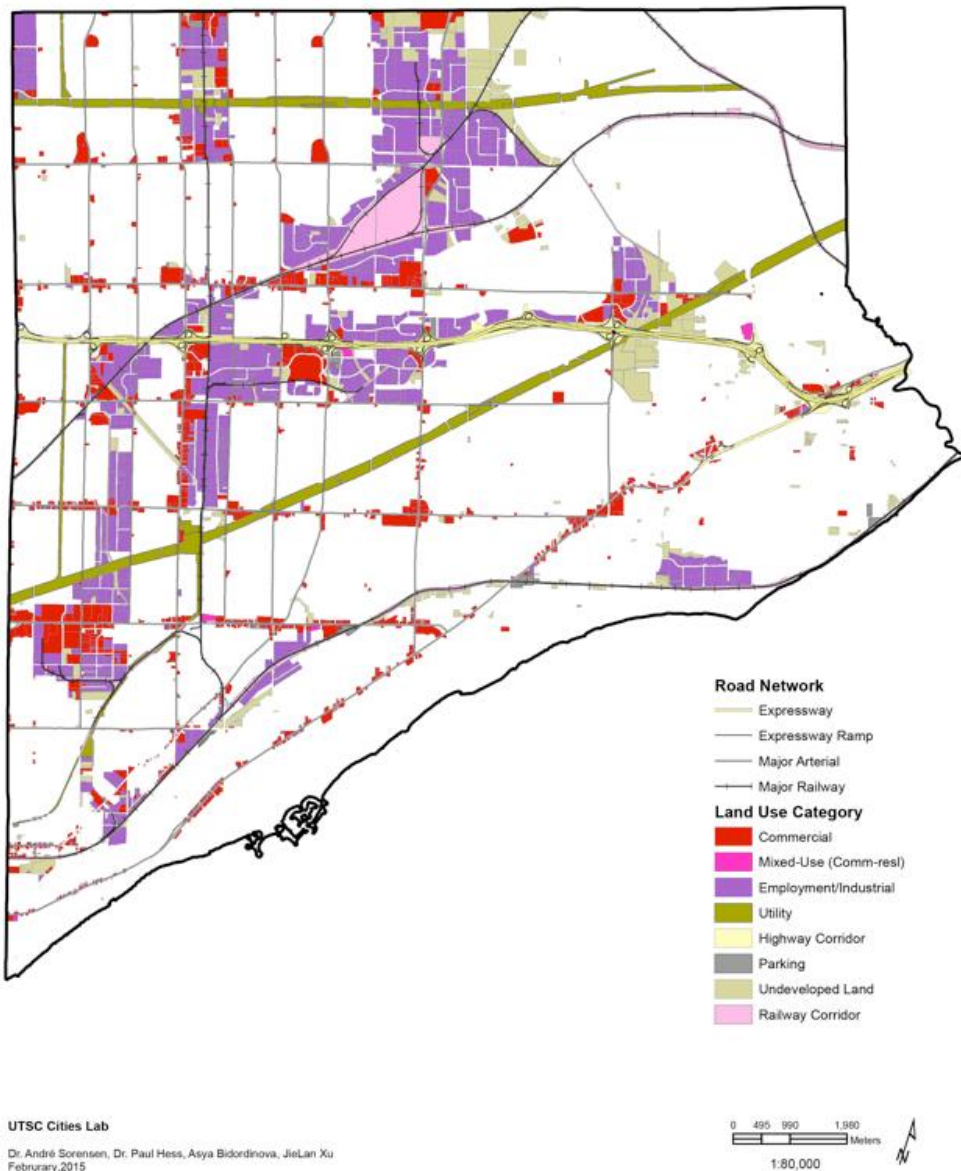
The Sheppard LRT would improve the commuting time of residents in Scarborough, much like Eglinton Crosstown. Sample travel times of the Eglinton LRT provided by Metrolinx (2017) shows improvements in travel times. Travelling from Kennedy Station to Eglinton-Keele is currently 73 minutes by bus, and projected to decrease travel time to 38 minutes with the LRT in operation (Metrolinx, 2017). This is a 48% decrease in travel time, which can attract individuals to reside in the mid-rise buildings promoted by the EGLINTONconnect study. Sheppard LRT can achieve similar results if a rapid transit technology is implemented.

The Sheppard corridor can potentially transform into a high-density corridor with support from the City, but the current situation is not conducive towards quick mid-density developments. The corridor currently does not have many high-density residential and commercial nodes. Nodes such as Yonge-Eglinton and Yonge-Sheppard, for example, have high residential and office density that can take advantage of the subway. Unfortunately, Sheppard Avenue East in Scarborough does not have the required population density for a subway. However, employment lands are located along the corridor at Consumers Road in the former

Municipality of North York, the Tapscott/Marshaling Yard, and a large retail shopping centre surrounded by warehouses and manufacturing facilities.

Residents often resist significant changes to land uses in their communities. In addition, the designs of residential neighbourhoods in Scarborough were to prevent incremental changes because they are zoned and regulated to prevent unwanted land use changes. Many residential neighbourhoods in Scarborough are zoned as “Stable Residential Neighbourhood” in Toronto’s current Official Plan. Possible areas of redevelopment in Scarborough include large parcels and frontage on arterial roads and employment lands. However, current planning policies are dedicated to protect employment lands from changing into residential and commercial uses. Essentially, it protects jobs within Scarborough, but also prevents speculation of land for redevelopment in a scenario where these employment lands were to convert into residential and commercial uses (Sorensen and Hess, 2015). If redevelopment were to happen, it should be within walking distance from a rapid transit station to attract ridership. Figure 11 is a map created by Sorensen and Hess (2015, p 19) that illustrates the employment lands in Scarborough that makes up 19.6% of the total land.

Figure 11: Employment, Retail, Utilities and Underdeveloped Land in Scarborough (Sorensen and Hess, 2015, p 19)



Source: (Sorensen and Hess, 2015, p 19)

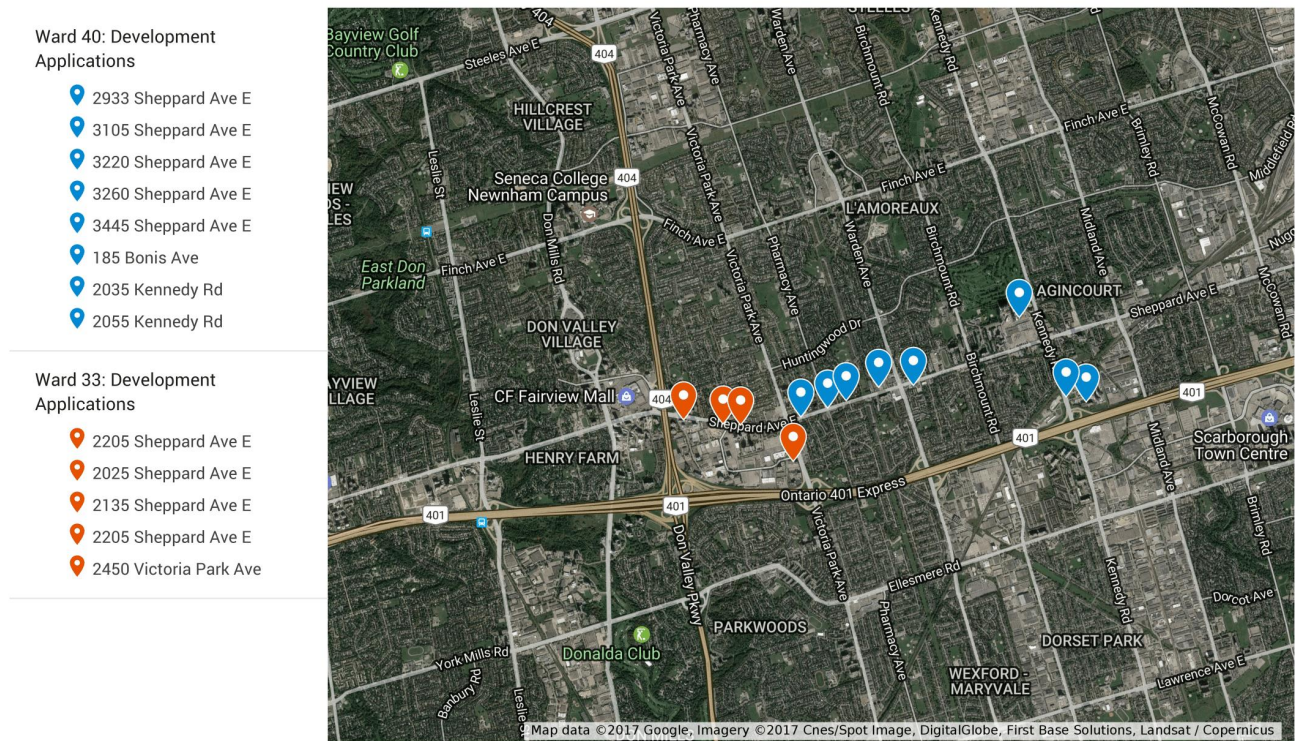
There have been two studies done in Scarborough, and several development applications have been submitted to the City for Toronto. The two studies conducted by the City of Toronto, primarily focused on Sheppard Avenue East, were: Sheppard Avenue East Avenue Study (Toronto City Planning, 2015), and Sheppard Avenue East Corridors – Planning Study Approach (Urban Strategies, 2011). The first study was a report released by Toronto City Planning (2015)

department and provided details on the land uses of communities along Sheppard Avenue East, and reported trends experienced in these communities. The second report, by Urban Strategies (2011) and released by the City of Toronto, discussed how transformation of the community may occur when an LRT line is implemented.

Both studies demonstrate the potential impacts a higher order transit system would have on the corridor. The Sheppard Avenue East Light Rail Transit Corridor Profile (2015) provided the basic characteristics of the neighbourhoods, and economic, housing and population trends. The Sheppard Avenue East – Avenue Study (2011) provided an impact study of how a section of the corridor may change when intensified. The two reports provide examples of how an area may transform to accommodate intensification for LRT, and provide detailed insight into how different each community is along the corridor. The success of the LRT on the Sheppard corridor requires incremental increases in population density. Increasing density in multiple nodes along the corridor will justify the cost to implement the LRT. Developers have made efforts to increase the density on the corridor through medium and high density mixed-use buildings, with 22 development applications submitted to the City of Toronto for approval. These applications have been submitted since 2008, with majority of these submissions still undergoing review – meaning many of these projects have not begun their construction phase (see Appendix 1 for more details on the proposed developments). In 2016, 11 development applications were submitted to the City of Toronto for review. These potential developments are spread across five different wards: Ward 33, 40, 41, 42 and 43. Ward 40 has the highest number of developments. Figure 12 illustrates the developments in Ward 33 and 40 that have submitted to the City.

Figure 12: Map of Developments Submitted to City in Ward 33 and 40

Sheppard Avenue E Development Applications



Source: Google Maps, City of Toronto's Development Applications

Majority of these developments have not started, in part because the City of Toronto has not approved of the applications, but also due to factors that directly affect developers such as market changes. There have been discussions over the past decade regarding which transit system should be implemented: the LRT or a subway system. However, The Big Move (2008) is pushing for LRT and the province has already created an underpass for the LRT system in 2012. Increasing density along the corridor is one facet to achieve high ridership but does not necessarily translate to the required ridership. Other factors are required and must be considered, such as promoting the LRT system to attract ridership, formulating policies to discourage the usage of the private automobile, and more.

An LRT system would greatly benefit growth and development of the corridor. Not only would it connect three major employment lands in Scarborough, but would also attract and entice developers to consider redeveloping along the corridor, thereby intensifying underused lots. However, the City should ease or expedite the application approval process in certain areas along the corridor and create a pseudo-transit oriented district. I have identified three possible areas where a concentrated effort to intensify the area would be beneficial for the corridor as well as the surrounding neighbourhoods. The LRT would bring much more mobility to the far reaches of Scarborough, and provide a pseudo-secondary east-west route for suburban travel in Toronto. By increasing the accessibility to transit in the inner suburbs, it may allow for quicker east-west suburb-to-suburb travel. However, there are challenges that stem from communities along the Sheppard Avenue East corridor. General unacceptance of LRT and NIMBYism of high-density residential developments are two challenges that planners and the City of Toronto must face to push forward the implementation of LRT.

Resistance to the LRT was one of the main reasons for former mayor Rob Ford winning the 2010 mayoral election in Toronto. A large part of his platform was to convert the LRT into a subway, and many of his voters stemmed from the suburbs of Toronto, including Scarborough. Many residents of Scarborough were hostile towards the LRT as it would take away space for the private automobile, endangering the culture that has manifested from years of policies catering to the private automobile. It is true that the LRT would disrupt the current driving experience on the corridor for private automobiles, but the benefits the LRT possesses far outweighs the negative driving experience of private automobiles. I have already listed many benefits that the City of Toronto and the communities along the corridor can take advantage of – for example, dedicating more resources for parks and recreational programs, and affordable housing. However, for the

communities to become more accepting of the LRT, the City of Toronto should educate and hold discussions with the communities along Sheppard Avenue East, highlighting the benefits it provides, and a rationale of why LRT is the best form of transit for the corridor.

NIMBYism against high-density development is another challenge the City of Toronto must overcome to proceed with implementing the LRT and intensification along the corridor. I have personally attended public meetings for proposals of high-density residential buildings along Sheppard Avenue East. I learned that many of the buildings proposed on the corridor were on sites that are close to neighbourhoods categorized as low-density residential. Many residents attending these meetings were from the surrounding neighbourhoods, and their primary concern was the height of these high-density residential towers and the potential shadowing effects of these buildings. While some residents were receptive towards the buildings, attendees were divided on the potential shadowing effects. The developers and planners in the meeting were receptive towards the residents' concerns, with one proposing development reflecting the residents' concern with a lowered maximum height. This is an example of NIMBYism and an appropriate response from the developers and City of Toronto. Although the details of how the City of Toronto and developers came into agreement are unknown, the outcome demonstrated that the community's input was seriously considered. This example of incorporating community feedback should set a precedence for determining the maximum height allowance on the corridor and future growth.

Nodal Approach Towards Transit Oriented Developments

There are three areas that I identified as sites for potential intensification and development. The three areas would provide a unique experience regarding how to shape

policies to promote intensification and transit equity principles. The three areas share two common traits: large property lot with large surface parking lots, and connectivity to major road infrastructures – i.e. Highway 401 and major bus routes. These sites have the potential to intensify through principles of sustainability and transit equity. Considering the opportunities that intensification presents, we can apply Talen’s (2011) principles of sustainable urban form towards the inner suburbs of Scarborough. Increasing density at different nodes with increased connectivity to the site and improved accessibility to the transit system will justify improving transit on the corridor. Intensifying, retrofitting, and connecting several nodes along the Sheppard Avenue East corridor fosters a main street intensification approach to redevelopment.

I recommend retrofitting and intensifying nodes by transforming them into TODs. TODs are generally defined as “moderate to high-density residential developments that also include employment and shopping opportunities located within easy walking distance of a major transit stop” (Lund, 2006, p 357). TODs can create an environment conducive to accessing transit routes connected to employment centres, services, and housing with little use of the private automobile. TODs address several urban problems experienced in many North American inner cities, such as congestion, affordable housing, air pollution, and sprawl (Cunningham, 2012). Other advantages of TODs include reduced transportation costs, with low-income households benefiting the most, increased mobility (via transit), and improved accessibility to transit. However, most TODs target higher income communities to capitalize on the redevelopments in the area. Capitalizing on redevelopments disrupts low-income communities because of increased land and housing costs. This contradiction raises concerns on the topic equity. To minimize the speculative nature inherently associated with TODs, the City of Toronto can minimize impacts caused by TODs by learning from Denver and the TOD fund that protects affordable housing

and land, Fruitvale Village's non-profit led TOD, and Longfellow Station's community benefits agreements (Soursourian, 2010). Learned experiences from the three examples can mitigate impacts caused by TODs. In addition, community groups, advocates and leaders must unite to preserve affordable housing within their communities.

Community groups, advocates leaders must actively participate within the planning process to bring forward their concerns and needs. Furthermore, City planning staff must actively engage with communities to address the community's concerns, advocate for the community's needs during the planning process, and utilize Section 37 of the Planning Act to maximize the benefits for the community, while at the same time minimize negative impacts caused by TODs. Planners and community groups must work together to bring forward community concerns (such as preserving affordable housing, and creating local jobs) into discussions with developers. The Sheppard Avenue East corridor has much to gain from increased density via mid-density TODs, as it will increase the density along the corridor. Increasing density along the corridor will provide the rationale to implement the LRT, which in turn provides faster mobility (in the form of LRT), and increased accessibility to transit.

Toronto's inner suburbs are experiencing problems similar to those found in urban centres. Due to many of Toronto's low income families located in the inner suburbs (Hulchanski, 2010) coupled with the fact that there is inadequate public transit the inner suburbs (Florida, 2011), reliance on the private automobile is the result. The lack of transit creates a situation of inaccessibility for those without access to the private automobile. Accessibility to any parts of the city hinges largely on the ease of access and connectivity of places, regardless of an individual's level of mobility. Developments are either concentrated in downtown Toronto or in the outer suburbs, while development within the inner suburbs is scarce. Yonge Street from

Sheppard Avenue to Finch Avenue is a prime example of how Sheppard Avenue East can transform to if properly intensified and redeveloped. If implemented, the LRT, coupled with retrofitted districts of TODs, has the potential to become an east-west main-avenue-like corridor. The three areas that I have identified are Victoria Park Avenue, Kennedy Road, and McCowan Road.

Victoria Park Avenue and Sheppard Avenue East

Currently, Victoria Park Avenue and Sheppard Avenue East intersection land uses is mixed. In the immediate four corners of the intersection, land uses include commercial, residential apartments, and employment land. To the northwest, northeast, and southeast, commercial lands surround residential lands. Employment lands are found in the southwest corner of the intersection. Of the four intersections, I am particularly interested in the plaza located in the northwest corner that is comprised of a few retail establishments. The establishments include a grocery store, a few restaurants, large and small retail stores, entertainment, a gas station, a few service stores, and a large surface parking lot. TODs can intensify this site. There is ample space for medium to high-density mixed-use residential buildings on the surface parking lot, but there are concerns stemming from petroleum from the gas station potentially seeping into the soil. If seeping were to occur, it would require soil decontamination and clean up.

There are currently plans to develop and intensify the employment lands in the southwest corner of the intersection. Intensification in both the northwest and southwest corners would complement each other because the increased density would provide rationale for higher-order transit. Higher-order transit, such as LRT or BRT, would increase accessibility and mobility in the community. Existing commercial and retail land uses would benefit from increased

establishments and access from higher-order transit, but for the community to thrive, guidelines to transform the community must come from the community itself by consulting the community. Developments are not limited to mixed-use medium to high density condominiums, as they can include modest sized office towers as well. Land in the inner suburbs is comparatively less expensive than downtown Toronto, but there is a risk of failing to attract tenants in new office buildings in the inner suburbs.

The employment lands in the southwest corner and the site in the northwest corner of Victoria Park Avenue and Sheppard Avenue East provides an opportunity for the City of Toronto to negotiate with developers to provide affordable housing. Housing developed within the sites has the advantage of being near the LRT system, if constructed. The LRT will provide an alternative form of mobility, and increased accessibility to the city. As land is comparatively cheaper in the inner suburbs, new units within the area may become affordable, and rental costs may be cheaper. Overall, there is an opportunity for the city to transform the area surrounding this node into one that can host several affordable medium to high-density residential buildings and offices within its large surface parking lots. Such a transformation would provide justification for implementing an LRT system, however current capacity limit on bus surface routes would be unable to accommodate the projected increase in density. An advantage the employment lands located in the southwest corner currently has is a bus route that penetrates the site. Overall, I believe that incremental changes into the area can result in an increased social and housing diversity, which, in turn, can create a vibrant and mixed community.

Kennedy Road and Sheppard Avenue East

This intersection is part of the Agincourt Secondary Plan (2013), found within the City of Toronto's Official Plan. The secondary plan is part of the area specific plan. The Agincourt Secondary Plan sets targets for employment numbers and new residential units, post-subway construction, at 15,000 new jobs and 2,000 residential units. The interim target set for employment is 8,300 new jobs, and 1,300 new units for housing. Maximum densities are subject to both transportation capacity and availability of other needed public services. The expected density at Agincourt Mall area was identified and ranges between 100 and 150 dwelling units per hectare. To promote and encourage TODs, floor space dedicated for transit related facilities will not be included as floor area in density calculations upon application. Furthermore, lands that are dedicated for public purposes such as transit, public utilities, and environmental regeneration will not be deducted from the site area for the purpose of calculating the permitted density (City of Toronto, 2013). Aside from encouraging rapid transit related facilities, improvements in the pedestrian realm are encouraged and promoted, exemplified by policies that reserve land for pedestrian access to rapid transit facilities. Within the Agincourt Secondary Plan, there are site specific plans. Agincourt Mall is one of the sites targeted by these plans and is located at the northwest corner of the intersection. This site possesses large surface parking lots and is currently a large shopping centre that has several diverse establishments that range from retail, groceries, restaurants, office, and services.

Site and area specific policies involving Agincourt Mall dictate the transformation of the site. The recommended redevelopment and intensification scheme for the suburban mall is nodal intensification. This scheme includes a major employment component. TODs are promoted to encourage the development of mixed used residential and employment buildings. Transit is to be publicly accessible during the hours of operation to facilitate passenger transferring. Density of

new developments will be reflective of any new high order transit system, in this case the LRT (City of Toronto, 2013).

This site is currently experiencing the transition from a suburban mall into an urban nodal model. Several residential developments along Bonis Avenue, at the northern boundary of the site, have started and a new office tower has emerged. This area is rich in transportation options, including Agincourt GO Station, Highway 401, and bus routes on Kennedy Road and Sheppard Avenue East. The area also has a range of residential density. To the site's immediate north, south, and west are numerous high density residential buildings. This area would benefit from travel demand management (TDM) schemes that would divert residents from driving to taking public transit, such as the implementation of the LRT. The intent of the site and area specific policies, as well as the secondary plan, is clear: the areas within the secondary plan are to transition from a suburban mall into an urban node. Future developments in the area can draw from the Sheppard Avenue East – Avenue Study (2011).

McCowan Road and Sheppard Avenue East

There is a clear distinction in land uses at this intersection. To the north, most of the land use is employment-industrial, whereas the south is a mix of residential, residential apartments, and commercial land uses. This intersection is close to the Tapscott/Marshaling rail yard, and would benefit from improved public transit, as well as increased residential density and office employment. There is great potential for the sites north of Sheppard Avenue East to redevelop with TODs. Currently, the employment lands host several warehouses and manufacturing establishments. Diversifying the area with office towers and medium to high-density residential buildings will aid in containing employment, and increase the population density of the node. The LRT would better connect this land to the transit system. The recommended lands for

redevelopment are the land used by a large retail corporation at the northwest corner, and lands used by two automobile dealerships.

The LRT will provide easy access to the sites and complements future office and residential developments, and an east-west route of travel. Bus surface routes on McCowan Road would connect the site to the Bloor-Danforth subway via Scarborough Rapid Transit (SRT). Mobility of current residents would increase with the development of the LRT as well. A potential challenge that may occur would be petroleum seepage into the soil from the gas station. Increased private automobile traffic is also a factor in the mobility of the site, especially on the north-south route. By increasing the population density and employment on the sites, there will be increased traffic on roads connecting to the sites, potentially causing congestion. Highway 401 will become one of the major sources of increased traffic as drivers will go to and come from Highway 401, putting additional automobiles onto local arterial roads. Highway 401 has the potential to affect the other two sites previously discussed. Increased congestion will affect bus routes travelling north south because buses servicing these corridors do not have their own ROW. Buses will have to travel alongside private automobiles on the roads, making them susceptible to creating problems in the system, such as bunching, resulting in early and late buses. The City of Toronto and the TTC must consider how to improve north-south bus routes along these three sites.

Conclusion

Subway development in Toronto during the early 20th century was quick and supported by both the public and City of Toronto. By the mid-20th century, transit development began to slow down with only a few projects constructed after amalgamation. The SRT, Sheppard

Subway, and subway extension on the Spadina line are the few projects constructed since then. The lack of strategic transit developments has largely made mobility and accessibility to the City more difficult without the private automobile. Surface bus routes in Toronto's suburbs cannot be relied on to be on time because buses are susceptible to traffic congestion, potentially increasing commute times. During off-peak hours, buses will be subject to bus bunching, where buses will quickly follow one another because of quicker travel speeds or due to severe congestion allowing buses to catch up to one another. Scarborough, an area with median household income lower than Toronto (Figure 1), is lacking in transit provisions. The lack of adequate transit in Scarborough creates a sense inaccessibility and inequity compared to transit rich areas (downtown Toronto). I defined accessibility as the ability to utilise public transit to access opportunities, social interactions and activities (for example jobs, services, recreation, etc.), and defined transit equity as the distribution of transit investments and resource allotment that is reactive to the changing socioeconomic needs of the majority of individuals, especially those that are considered disadvantaged.

The lack of capital transit project investments in Scarborough is considered transit inequity, and can cause further inaccessibility to the residents in Scarborough, particularly those without access to a private automobile. A series of past planning decisions that has made the region automobile-oriented, creating inaccessibility and transit inequity in Scarborough. Arguments against implementing rapid transit in Scarborough uses Scarborough's low population density as a rationale to prevent implementing higher order transit, but relying on buses without the necessary support (for example, a ROW that will allow for faster and more reliable bus speeds) cannot bridge the gap in accessibility and mobility that is inherent to rapid transit. Although express transit services may bypass neighbourhoods that need additional transit

services, there is technology that can connect these neighbourhoods to express transit (for example, feeder buses can use express bus stops and then transfer onto express busses – but this is not available currently).

In Scarborough, there has been little transit development, with the most recent being the Scarborough Rapid Transit. The Sheppard Subway was planned to terminate at Victoria Park Avenue, just outside of the former municipality of Scarborough's western boundary, but was cut from the plan pre-emptively by the provincial government. Recognizing the lack of transit development in the suburbs of Toronto, the Transit City (2007) plan proposed to increase rapid transit coverage in the suburbs. The focus of my paper is on Sheppard LRT, although the corridor had already been studied numerous times prior. The Big Move (2008) adopted several corridors proposed in Transit City (2007) and the Sheppard LRT was one of the many corridors it would fund. Despite support from The Big Move (2008), in the form of funding the project, and backed by the province, subway development on the corridor emerged to the forefront as the transit technology instead of the LRT for Sheppard Avenue East. This was because residents in Scarborough voted heavily in favor of Rob Ford who championed subway development across Toronto and heavily opposed to the previously approved plans for an LRT, despite subway development being impossible on the Sheppard corridor due to the lack of population density. The low population density stems from the numerous single-family housing neighbourhoods in Scarborough (shown in Figure 5). This lack of density in Scarborough is the result of planning for the private automobile leading to an environment disadvantageous for individuals that cannot gain access to the private automobile. Consequently, these individuals, in turn, must rely on transit as their source of mobility. The Big Move (2008) recognizes the problems caused by the automobile-centric landscape and is attempting to implement transit projects within the GTHA

region. However, the priority of these transit projects reflects the economic motive behind The Big Move (2008). The UP Express is a project that is reflective of this economic motive. Instead of funding transit projects that will benefit local neighbourhoods that are transit disadvantaged, this project was constructed to attract global investments and tourism in the GTHA region. Eglinton Crosstown is another project part of The Big Move (2008). The project has two purposes: firstly, to connect to Pearson International Airport and secondly, to provide faster travel speeds and move more people on the corridor. Increased travelling speed on the corridor and moving more people will improve the productivity of the City. Both projects exemplify and demonstrate the inherent transit inequity of the two.

The Eglinton Crosstown served as an example for me to predict the impact of implementing an LRT on the Sheppard corridor. However, the density of these two corridors are different, with Eglinton having a much higher density and a wider variety of housing compared to Sheppard Avenue East, which is mostly comprised of low-density single-family with pockets of apartments. These apartments are located at the corners of arterial roads to take advantage of bus surface routes. Metro Toronto is responsible for the advantageous positional location of apartment towers at the corners of arterial roads and the expanded transit services into the suburbs. Post-amalgamation, transit expansion in Scarborough continued in the form of discussions. There are many opportunities to redevelop the Sheppard corridor through a main street intensification approach. Yonge Street, north of Sheppard Avenue is an example of such approach that took advantage of the subway extension to Finch Avenue. However, because the Sheppard corridor does not necessarily have the density to generate the required ridership, the City of Toronto needs to take proactive actions to attract density and ridership. Increasing the density along the corridor at strategic nodes would provide proponents of Sheppard LRT the

justification to implement an LRT on the corridor. Another challenge for the LRT is the negative opinion Scarborough residents have of it. To change the negative perception of the LRTs, proponents of LRTs will need to figure a creative method to improve the impressions of LRTs. The LRT can influence the Sheppard corridor greatly; the LRT presents the City with opportunities to work with communities to address the needs of the community (through the planning process and Section 37 of the Planning Act). Redeveloping nodes along Sheppard Avenue East to increase density along the corridor will justify the call for improved transit, particularly rapid transit. Improving transit would be a step in the right direction to improve the accessibility and transit equity of residents in Scarborough. With an LRT implemented, residents will be able to travel to their destinations much more quickly and have better access to transit.

Large, underused sites can transform into new communities, much like the case of Agincourt Mall. Incremental increases in density will aid in adopting the main street intensification model. I suggest three sites along Sheppard Avenue East that can increase the density of the corridor through TODs. This provides communities the opportunity to negotiate and gain community needs, whether it is new facilities (for example parks, and community centers) or affordable housing. These sites are currently under-utilised and surrounded by large surface parking lots. The City should incentivize constructing TODs on potential sites along Sheppard Avenue East to spur developments along the corridor. In addition, the provincial and federal governments must assist the City in expanding transit services and infrastructure. The City can explore financial instruments, such as tax increment financing, to pay for its portion of future transit expansion. While TODs can densify Sheppard Avenue East, there also must be political commitment from all levels of government to proceed with expanding transit in Scarborough. As shown in my maps, the median income level in Scarborough, is much lower

compared to the rest of the City. Increasing accessibility to the transit system through expanded transit service will help alleviate the socioeconomic gap between Scarborough and the rest of the city.

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Figure 1, 2, 3, 4, 5, 6, 7, 8, and 9

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Figure 10

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Figure 11

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Figure 12

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https://drive.google.com/open?id=1AU_5EyP8cZrj_i8tKKGfhIBVcks&usp=sharing

Appendix 1: Submitted Proposals for Developments near Sheppard Avenue E (Sorted by Ward and Application Submission Date)

Ward	Address	Type	Height (Stories)	# Condo Units	Commercial Area Space (m2)	Application	Status	Date Submitted	Application	Status	Date Submitted
33	2450 Victoria Park Ave	Residential	30	895	3298	OPA	Under Review	October 4, 2012			
33	2025 Sheppard Ave E	Residential	33	402		Condominium Approval	Draft Plan Approve May 28 2014	February 12, 2014	Site plan approval	Closed	Sep 1 2004
33	2205 Sheppard Ave E	Mix Use	23	574		Site Plan Approval	Under Review	May 7, 2014			
33	2205 Sheppard Ave E	Residential	43	578		Condominium Approval	Under Review	March 23, 2015			
33	2135 Sheppard Ave E	Mix Use	26	314	18750	Site Plan Approval	Under Review	February 9, 2016	Subdivision Approval	Under Review	Dec 10 2014
40	3220 Sheppard Ave E	Residential	20	264		Site Plan Approval	Under Review	December 14, 2011	Rezoning	Closed	Dec 14 2011
40	2933 Sheppard Ave E	Mix Use	18	179	300	Site Plan Approval	Under Review	March 11, 2013	Rezoning	Closed	March 11 2013
40	3260 Sheppard Ave E	Mix Use	30	805		Site Plan Approval	Under Review	September 23, 2013	Subdivision Approval	Under Review	Dec 24 2012
40	3445 Sheppard Ave E	Mix Use	14	302	Yes	Site Plan Approval	Under Review	June 24, 2014	OPA & Rezoning	Council Approved Jun 11 2015	June 4 2013
40	2035 Kennedy Rd	Mix Use	33	644		Site Plan Approval	Under Review	March 29, 2016	Rezoning	Under Review	Jun 3 2015
40	185 Bonis Ave	Residential	21	282		Condominium Approval	Under Review	October 21, 2016	Condominium Approval	Final Approval Completed May 15 2015	Dec 18 2013
40	2933 Sheppard Ave E	Mix Use	17			Minor Variance	Prepare Notice	December 6, 2016			
40	2055 Kennedy Rd		31	297		Site Plan Approval	Under Review	December 23, 2016	Condominium Approval	Draft Plan Approved Dec 2 2016	Jul 13 2015

40	3105 Sheppard Ave E	Residential	18	274		Site Plan Approval	Under Review	December 30, 2016	OPA & Rezoning	OMB Appeal	Dec 17 2014
41	23 Glen Watford Dr	Residential	34	640		Rezoning	Under Review	March 30, 2012			
41	25 Glen Watford Dr	Mix Use	11	302		Site Plan Approval	Under Review	June 10, 2016	Rezoning	Under Review	Jun 20 2016
41	4181 Sheppard Ave E	Residential	Townhouse	80		Site Plan Approval	Under Review	November 28, 2016	Subdivision Approval	OMB Appeal	Feb 19 2014
42	1145 Morningside Ave	Mix Use				Condominium Approval	Final Approved Jun 4 2010	June 9, 2008			
42	1088 Progress Ave	Residential	Stacked townhouses	105		Condominium Approval	Under Review	May 4, 2016	Site plan approval	Closed	Oct 29 2012
42	5131 Sheppard Ave E	Residential	6	328		Site Plan Approval	Under Review	May 11, 2016	Rezoning	Closed	Mar 3 2016
42	1771 Markham Rd	Mix Use	26	372		Rezoning	Under Review	July 13, 2016			
44	8817-8825 Sheppard Ave E	Residential	4	144		Rezoning	Under Review	May 7, 2015	Site plan approval	Under Review	May 7 2015