Transportation Justice in Suburbia

A Case Study of Downtown Planning Initiatives

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ABSTRACT

Post-war suburban development has, for years, embraced an automobile-oriented growth pattern through the separation of land uses and low-density built forms that are attuned to the convenience of the car. Suburban streetscapes have therefore had very little space for other transportation modes to flourish. Automobile-dependency is in fact a cultural norm, particularly among the middle class. In recent years, Ontario provincial planning and growth policies have addressed the concerns put forth by automobile-dependency and sprawl, mandating intensification of built-forms that facilitate a multi-modal shift aimed towards more sustainable transportation options, such as walking, cycling, and transit. Such a framework could create a more equitable transportation network that caters to people from multiple socio-economic backgrounds, especially those who are limited in their opportunities to afford or use vehicles. However, transportation justice, though it serves as an indirect by-product of a multi-modal balance, has been negated and overlooked as a key growth framework. Alas, intensification strategies have resulted in the growth of suburban downtowns as the primary growth model to facilitate such a balanced modal split, but there is little empirical evidence to suggest that such a framework is successful in reducing the rate of reliance on vehicles. This paper evaluates downtown planning strategies and concludes that although they may facilitate a balanced modal split within the downtown, such a pattern does not produce a significant impact on the rest of Suburbia, where automobile dependency is most prevalent.

FOREWORD

This research paper focuses on the land uses and urban design features that encompass suburban built forms, from low-density sprawling neighbourhoods to downtown redevelopment projects. It closely examines the relationship between the physical form and the resulting daily travel decisions of people who experience it, therefore bringing to light the issues of transportation justice that stem from the design of the built infrastructure.

After taking several courses at the Faculty of Environmental Studies at York University, it became apparent that transportation justice in the context of suburban built forms and automobile dependency is a connection rarely made in the planning world, yet it is pivotal for understanding the dynamics of growth in Suburbia. This paper explores the various discourses surrounding transportation justice, and how power relations shape the suburban experience through the design of the physical form. I investigate the viability of urban growth centres and downtown developments as a strategic growth model and ultimately, a perceived solution for reducing sprawl and sole reliance on vehicles while increasing densities and mixed uses. By examining the relationship between transportation justice and the suburban built form, and further exploring whether suburban intensification in the downtown core yields the intended results, this paper realizes multiple objectives from three components of my Area of Concentration: Suburban Downtown Development, Transportation Justice, and Suburban Land Use Planning & Development. This has allowed me to fulfill the requirements of a Masters degree in Environmental Studies (Planning).

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INTRODUCTION

Outward growth in suburban municipalities has been at the forefront of the provincial growth regime since the post Second World War period, resulting in low-density sprawl developments characterized by automobile-oriented streetscapes. Such a landscape caters specifically to people from middle and upper socioeconomic backgrounds who are able to use and afford the costs associated with owning and maintaining a personal vehicle year-round, therefore excluding groups from lower socioeconomic backgrounds, resulting in an inequitable transportation network. Provincial planning policies have undergone a paradigm shift in recent years to address automobile dependency, and the implementation of more strategic growth models that support intensification. However they do not address transportation justice as a key objective, rather sustainability has become the overall umbrella concept to direct all growth. Even so, a number of downtown intensification projects have been implemented in suburban municipalities to address automobile-dependency; however, it is unclear whether it is truly an effective growth model.

Research Objective

This paper asserts that transportation justice is a concept not widely acknowledged to date in suburban planning processes, and is therefore often disregarded as a key consideration in local policy making regimes, particularly in the context of the built form. Physical characteristics that facilitate automobile dependency inherently support transportation inequity and the exclusion of individuals with a lower socioeconomic status. While many suburban municipalities are employing transit-oriented and downtown development projects to reduce reliance on vehicles, there is little empirical evidence to

suggest such a growth pattern is successful in facilitating a multi-modal balance and, thus, creating opportunities for equitable access to transportation. By exploring planning policies and suburban downtowns as a popular framework for strategic growth, my research will contribute to the discussion of transportation justice in relation to automobile dependency and physical built forms, along with the influences, challenges, and opportunities that suburban municipalities face when addressing growth.

The primary objective of this research is to explore the opportunities and limitations of suburban downtowns as a remedy for transportation inequity. In doing so, this paper examines where such a planning framework has been used in the past, and evaluates how successful it is in creating a multi-modal balance in an area that is inherently automobile dependent. This paper addresses three secondary factors to investigate this focus and build on it in further detail. First, it compares the current provincial and federal policies for growth to parallel policies from the post Second World War period in order to determine how planning practices have evolved. Secondly, it measures the influence of power structures on decision-making and planning processes within the Province of Ontario, aiming specifically at understanding the impact of transportation justice and spatial equality on these processes. Finally, it examines the influence of the physical form on daily travel decisions, as well as the opportunity for equal access to transportation.

Using the suburban landscape to contextualize this research paper, I have selected the Town of Ajax and the City of Pickering as the basis for my profiled case studies. Since I have been a resident of the Town of Ajax for a large part of my life, I feel I am able to better situate myself within this study, as I am quite familiar with its built environment. A traditionally suburban, automobile-dependent municipality located on the eastern end of

the Greater Toronto and Hamilton Area (GTHA), Ajax has a highly progressive town council that has been quite motivated in recent years to incorporate a number of strategies for smart growth along with policy improvements to enhance the local built form to include infrastructure for alternative transportation and streetscape design elements within its urban fabric. As such, Ajax has introduced a development plan to retrofit its current downtown area, incorporating mixed uses, walking and cycling infrastructure, civic spaces, and an enhanced public realm with the aim to not only urbanize, but also to ultimately shift the pervasive dependence on personal vehicles to accommodate a multi-modal balance. The City of Pickering has a similar suburban landscape to Ajax, where efforts for intensification have been concentrated in the downtown core. The municipality has undertaken an intensification study that will aid in the growth of the downtown City Centre through a strategic planning framework that incorporates mixed uses and enhanced transportation infrastructure to support multiple modes, similar to that of Ajax. The landscape offers a unique physical context that includes a regional shopping mall and the Pickering GO Station, a major transit hub that operates as a gateway to other municipalities. Thus, Ajax and Pickering both provide a rather interesting opportunity to explore the implications of the physical form and infrastructure not only on the surrounding communities in relation to their everyday travel-related behaviours, but also through a lens encompassing a system of transportation inequalities.

Research Methodology

This research was conducted within the Regional Municipality of Durham, using the Town of Ajax and City of Pickering as case studies in particular. Qualitative research methods were used to obtain information for this study, using both primary sources in the

form of personal interviews with professional planners and policy makers, as well as secondary sources including planning legislation, policies, books, and material from academic journals. In addition, visual research was conducted within Ajax and Pickering to observe the built environment and urban design elements within the neighbourhoods and downtown districts to understand how they intersect with local transportation-related behaviours and modal choices.

In order to obtain in-depth information regarding the policies, decision-making processes, and practices of local planning authorities, I conducted three structured and semi-structured interviews with planners from the Town of Ajax, Regional Municipality of Durham, and City of Pickering that were approximately 45 minutes in duration. All interviews were conducted over the phone except one, where the interviewee opted to answer all questions via email. All individuals who were interviewed are heavily involved in the policy making and planning processes with regards to both land use and transportation. They were therefore able to provide valuable information that addressed the historical perspective of planning within their respective municipality. Their responses in relation to transportation justice were, in some instances, quite positive and well-informed while in others offered a very telling story of the absence of transportation justice as a consideration in the planning process.

Finally, I used secondary sources such as municipal and provincial planning legislation, policies, and planning reports to inform this study, particularly in the literature review section. The Places to Grow Act, Ontario Provincial Policy Statement, Growth Plan for the Greater Golden Horeshoe, and the Ontario Planning Act as well as documents produced by local upper and lower tier suburban municipalities, particularly Urban Design

Guidelines, transportation-related policies, Official Plans, and other documents that address strategies for local growth served as key policy-related resources for this paper. Information was also drawn from various media sources including books, academic planning and urban design journals, newspaper articles, lectures, and a documentary to gain an in-depth understanding of theoretical frameworks and the historical and current discourses surrounding suburban planning, transportation justice, and the culmination of power on the way planning decisions are realized.

Outline

This paper is organized into three main sections. The first critically assesses transportation inequality from a suburban standpoint, exploring how systems of exclusion come into play through the design of the built form, and the power and knowledge structures that are part of and fuel such inequities. I use a literature review to disseminate the various historical and current discourses surrounding suburban planning in the post Second World War era, as well the elements of transportation justice as a key concept for this study. This section also highlights the various provincial policies and legislation to address the decision-making processes and implications of power relations that have shaped the physical features of the suburbs thus far, ranging from low-density subdivisions to mixed-use downtowns.

The second section looks at the Regional Municipality of Durham, specifically the Town of Ajax and City of Pickering as case studies that embody the typical suburban landscape that I refer to as Suburbia in the context of this paper. This section evaluates municipal policies, the overall physical built form, and infrastructure provisions in their

current state using transportation justice and a multi-modal balance as key assessment tools.

The third section uses transportation justice as a measure to investigate the overall impact and effectiveness of suburban downtown developments to evaluate whether they fulfill their objectives of reducing single-occupant vehicle trips through the design of the built form, encouraging alternative forms of transportation and, thus, a broader level of local community engagement. As such, I assess the viability of such a planning framework and carry out a comparison to similar projects undertaken in other parts of the Greater Toronto and Hamilton Area in order to bring forth empirical evidence to suggest whether this form of development is successful in its claims of urbanizing the suburbs.

LITERATURE REVIEW

Post War Suburbs and the Proliferation of Automobile Dependency

The end of the Second World War introduced a new era of growth, one specifically geared towards peripheral development, influencing the rise of the suburban narrative as it exists today. Low-density residential neighbourhoods, sprawling enclaves, zoned land-uses, and most importantly, personal automobiles underscore the ideology influencing such a built environment, which scholars in the planning world refer to as suburban sprawl (Duany et al., 2000). Characteristic features of sprawl including scattered developments, large-lot housing, separated land uses, and a lack of pedestrian or cycling oriented infrastructure prove to be rather limited in offering travel modes alternative to the

personal vehicle, such as walking, cycling, or public transit (Desfor et al., 2006; Duany et al., 2000; Filion, 2000).

For decades following the Second World War, automobiles have been the primary basis of suburban growth patterns, fuelling sprawl development among other attributes that attest to the ideologies of the American Dream, a phenomenon that Leinberger refers to as “drivable suburbanism” (2008, p.4; Gans, 1972). As a result, the automobile is reduced to the only practical method of transportation within such a landscape (Leinbeger, 2008). This comes as no surprise since transportation has historically been the primary catalyst for development and is the essential “dictator” of “where and how” the built environment is constructed through either taxpayer or government investment (ibid). Other drivers include housing, entertainment or cultural venues, universities, and hospitals (ibid). Dolce (1976) describes Suburbia as "the middle ground between nature's beauty and civilization's conveniences" that is located close enough to the central downtown core to enjoy the economic and social benefits, entertainment, and leisure opportunities it has to offer, yet far out enough to evade the congested, noisy and polluted streets that cities are known for (Dolce, 1976, p.vii; Leinberger, 2008). In addition, Dale suggests suburbs offer a “clean and safe place” for families and their children (1999, p.28). But when the neighbourhood begins to look and feel like a more urban area, families move further away, resulting in outward growth of what he refers to as the “suburban frontier” (ibid). This has been made physically possible almost entirely by the rapid advent of commuter transit systems and, more importantly, the personal automobile in the 1950s and 1960s that encouraged long distance travel as part of a daily commute (Allen, 1972). In the context of Ontario, the development of rapid subway lines along Yonge Street, along with Government

of Ontario Transit, more popularly known as GO Transit, embodied such a phenomenon after its first commuter train in 1967 that travelled to and from the downtown core and peripheral municipalities (GO Transit, 2012; Soloman, 2007; Frisken, 1993; Frisken et al., 1997). Consequently, individuals and families were able to live greater distances away from their places of work while still being able to commute daily within a reasonable timeframe (ibid). Suburban communities therefore served almost as "dormitories", or in other words, bedroom communities built for a lifestyle that revolves around the convenience of a personal automobile, a mode that puts forth the greater opportunity for further movement between places (ibid; Filion, 2000). This is no longer the entire truth for all suburban municipalities, such as the Town of Ajax or City of Pickering, who are striving to create economic development and employment opportunities as part of their intensification frameworks for the municipality.

The Greater Toronto Area as we now recognize it experienced extremely rapid growth following the Second World War. Between 1951 and 1961, the urban community grew to 2 million (Clark, 1972). However, nearly half of that growth took place outside of the borders of the City and its nine inner municipalities, in peripheral municipalities such as Vaughan, Richmond Hill, Aurora, Newmarket and Whitby among others (ibid). The development that took place in these municipalities encompassed suburban characteristics such as low-density residential development, retail parks and malls with large parking lots, and development taking place generally along major highway corridors to offer convenience to drivers. Much of the growth that took place during this time occurred within the suburbs, and attracted the upper-middle class populations who now had the opportunity to enjoy the convenience of both the downtown core as well as the natural

world by way of a personal vehicle. This rapid growth continued at an average rate of 17 percent per year towards the end of the 20th century, which is four times the rate of growth within the downtown city centre (Desfor et al., 2006).

The built form and streetscape that encompasses Suburbia is created not for pedestrians, cyclists or transit riders, rather it is calibrated specifically for use by automobiles (Gans, 1972). Such a development pattern that fuels automobile dependency contributes to a number of negative consequences related to social segregation, environmental effects (such as land consumption, heat islands, water quality, air quality, and climate change), health implications, and economic effects (Leinberger, 2008). However, transportation justice that stems from the social segregation category will be at the forefront of this paper as the primary concept.

A proportion of the population who is unable to use and/or afford an automobile is spatially excluded from living or working in such areas, simply due to an inherent inaccessibility to adequate and affordable options for transportation, and are, thus, limited in their opportunities for prosperity (Walker, 2014). This inequity is reflected in the physical characteristics of the suburban landscape and the vast distances between places, which hinder mobility by means of other transportation modes, rendering it nearly impossible to travel without a car. Herein lies the inherent yet often unrecognized system of transportation inequity where the built form is exclusive to families and individuals of fairly wealthy socioeconomic backgrounds, who are able to incur the financial costs associated with owning, operating, and maintaining a vehicle, or multiple vehicles, thereby physically excluding those who are financially unable to afford the costs. In his talk on "Abundant Access", Jarrett Walker uses a framework of economic prosperity to describe

the inequities that take place in automobile-oriented suburban areas. He suggests that automobiles are the fastest and most convenient method for travelling, providing the driver with a competitive advantage and a host of economic opportunities (2014). In the suburban context, the limited options for alternative transportation modes exclude lower-income groups who lack the financial means to afford a vehicle, which consequently limits their ability to take advantage of the opportunities that are available to drivers.

Inequities are ingrained in the very urban fabric that encompasses Suburbia, promoting homogeneity among the population (Gans, 1972). The concept of endorsing a homogenous population of a similar socioeconomic status and, perhaps, racial background brings rise to an entire host of questions related to justice and equity. However for the context of this paper, transportation justice will be at the forefront of this discussion. Upon analyzing the patterns in which the suburbs have developed, the question of power becomes a key concept for understanding suburban growth in relation to transportation justice. Automobile dependency cannot be the sole object of blame for sprawl development (Soloman, 2007), therefore the question arises: with whom lies the decision making power to support such a form of development? There is an underlying context of power structures that comes into play in a way where the provincial government has a high degree of influence on the way growth takes place and, as the overall decision-making authority, works to promote exclusive spaces meant for wealthy families and individuals who can afford to be automobile dependent (Frisken, 1993). This will be elaborated further in the Transportation Justice section of the literature review.

Provincial Policies for Suburban Growth

Much of the North American landscape transformed dramatically after the Second World War to support the vision of the "American Dream", an ideology and in many cases, a lifestyle inherently fuelled by sole reliance on personal vehicles as the primary transportation mode (Silverthorn, 2004). Convenience, large living spaces, and low densities prominently underscored such a phenomenon, though at a cost. Government intervention and policy changes affecting planning processes at the time aided and often times expedited this pattern of development, supporting outward growth and highway development (Leinberger, 2008). To further this argument in the context of Ontario, such a planning framework was a result of growth-oriented policy changes in the 1950s and 1960s that placed emphasis on outward development rather than the revitalization of inner city cores (Desfor et al., 2006). The 1960 Metro Official Plan promoted the development of expressways, thus encouraging the use of automobiles (Metro Toronto, 1960). This, coupled with mortgage incentives including the limitation of mortgage interest rates to 3 percent by the 1944 National Housing Act, as well as the introduction of mortgage guarantees in the 1954 Act stimulated single family housing in peripheral areas, marking a shift in what Filion refers to as a "dispersed" pattern of land use development that is auto-oriented in nature (Filion, 2000, p.163; Bacher, 1993). In addition, outward growth presented the opportunity to expand the property tax base by way of granting low-density sprawl developments (Leinberger, 2008). The development of single family housing continues to be the most lucrative form of housing today, partially due to the opportunity it presents for economic growth. Low density residential developments serve as the main source for income from development charges for peripheral municipalities,

which Desfor et al. argue make up "a substantial portion of the municipal budget", allowing property taxes to remain relatively low (2006).

Planning policies shifted dramatically at the end of the 20th century to encourage and promote intensification to include mixed uses, higher densities, and a multi-modal balance – a phenomenon we see today within Ontario's planning legislation. Although there was ongoing dispersion of growth in the 1970s and 1980s, it became rather apparent that highways could no longer support the increasing amount of traffic (Filion, 1996). At the same time, there was a shift towards environmentalism where "residents supported transit rather than road investment" (Filion, 2000, pp.174). Thus, the 1990s was an interesting transition period from a policy perspective where urban intensification was at the forefront of the planning world (ibid). According to Filion:

> *From an environmental perspective, intensification was branded as a means to curb sprawl, resulting rural and natural land loss, and car use, while promoting walking, cycling, and public transportation ridership* (Filion, 2000, p. 175).

The reign of the New Democratic Party between 1991 and 1995 furthered this vision and, in many cases, nearly imposed revisions to municipal Official Plan documents to maintain a level of consistency when addressing intensification (ibid). However, these policies had a minimal impact on densities, as a large part of a nearly negligible shift resulted from developers who continued to build single-family houses in suburban areas, but instead built smaller houses on smaller lot sizes (ibid). Nevertheless, "provincial commitment was short lived" and nearly faded when the Conservative Party was elected in 1996 "on a platform of deregulation, lower public expenditure, and tax reduction," that hardly

supported intensification, therefore dramatically modifying provincial involvement in planning practices (Filion, 2000, p. 176).

More recently, there has been a policy shift towards "smart growth" and the concept of sustainability that is reflected in current provincial planning policies. The Growth Plan for the Greater Golden Horseshoe explicitly outlines the guidelines for growth as per the Places to Grow Act and the Ontario Planning Act. In subsection 2.2.2.1(d) of the Growth Plan, the move away from automobile dependency is unequivocally addressed as a key priority. The objective reads: "reducing dependence on the automobile through the development of mixed-use, transit-supportive, pedestrian-friendly urban environments" (2006). Intensification has also re-emerged as a key feature, supporting the redevelopment of already built-up areas to support the above-mentioned priority. This is outlined specifically in subsection 2.2.3 of the Growth Plan for the Greater Golden Horseshoe that is devoted to Intensification that outlines the key objectives and targets for growth which pertain to higher densities, transit-oriented development, and affordable housing. As part of this regime, urban growth centres are also identified as a key priority for growth to support higher densities, employment, and transit infrastructure, among others in both the Growth Plan, as well as Metrolinx's twenty-five year transportation strategy called The Big Move, where one of the strategies focuses on designing the built form that supports multiple transportation modes. Interestingly so, the designated centres outlined in subsection 2.2.4.5 (b) and (c) of the Growth Plan comprise mainly of downtown cores within outer suburban municipalities such as Pickering. Brampton, Markham, Vaughan, among many others, thus, offering Provincial support for suburban downtown intensification as a strategic growth model. In the context of this paper, the City of

Pickering has been officially designated as an urban growth centre, whereas the Town of Ajax has not within the provincial policy context. It is rather interesting to note that the concept of justice exists latently within policies that direct growth supported through the discussion of availability and accessibility of transit to create a balance of multiple modes. It is however not explicitly recognized as a key factor for growth.

Suburban Downtowns: A Strategic Growth Model

Over the last decade, suburban redevelopment strategies have undergone a paradigm shift where emphasis is now placed on suburban downtowns as a strategic growth model for urbanization to promote what Leinberger refers to as "walkable urbanism" (2008, p.118). The Places to Grow Act (2005) mandates the redevelopment and growth of existing infrastructure and built-up areas rather than outward growth as formerly demanded in the 1960s. Suburban municipalities across the Greater Toronto and Hamilton Area (GTHA) such as Oshawa, Ajax, Pickering, Vaughan, Mississauga, and Markham have adopted downtown redevelopment strategies, incorporating the characteristics of Peter Calthorpe's vision of transit-oriented development (1993). This framework includes mixed uses, pedestrian and cycling infrastructure, civic spaces, and street furniture implemented with the help of strategic urban design guidelines that draw from Calthorpe's work (ibid). As reflected in Official Plan policies of both the Town of Ajax and City of Pickering, the primary goal of such development from a transportation perspective is to reduce the rate of automobile dependency that has been so fundamental to the development patterns that exist today as a result of earlier policies, while embracing and encouraging alternate modes of travel within the municipality. In section 3.2.3(a) of the Official Plan, the Town of Ajax writes:

> *Intent – The Downtown Central Area… is intended to become a highly desirable, urban, intensive, pedestrian-oriented, transit-supportive and mixed use area – in other words, a distinct urban centre, a true Downtown – where people live, work, shop and play. It is anticipated that the Downtown's role as a major transit hub will be enhanced over time (Town of Ajax, 2012, p.75).*

Planners often perceive such development strategies as an ideal solution since they promote walkability through enhanced pedestrian sidewalks, street furniture, and crosswalks, along with cycling through the development of bike lanes and substantial bike parking infrastructure. Streetscape design elements and the massing of buildings play an integral role in the overall appeal of a neighbourhood and are therefore important for encouraging active transportation (Calthorpe, 1993). This redevelopment framework is widely used by planning professionals in suburban municipalities all across North America and Europe. Nonetheless, there is little empirical evidence to suggest it is indeed an effective framework for urbanization in the suburban core, and more importantly, for curbing reliance on personal vehicles through the promotion of other forms of commuting.

Jennifer Keesmaat suggests that such growth models sometimes gain popularity on the assumption that "if it is built, they (the people) will come" (2013). However, exploring the ways the space is used and the purposes it serves in the daily routines of individuals proves to be more effective rather than simply examining whether it is used or not. A downtown core can serve three major purposes: a destination for leisure or entertainment purposes, a transitional space, often a mobility hub, that is used to pass through on one's daily commute, or a functional space that operates as a major economic hub, that is one's destination for work or school (Young et al., 2011). A downtown can most definitely serve

multiple purposes, and often does. However, Keesmaat (2013) suggests that in the suburban context, it is unnecessary and almost foolish to plan for reurbanization with the assumption that a downtown core will serve the latter two purposes, as personal routines have already been developed where automobile dependency is too far engrained within the shared culture. Rather than being used for the intended purposes of promoting local economic development while functioning as a solution to promoting alternative travel modes to curb the sole reliance on vehicles, it may operate instead as a destination for leisure and entertainment purposes (ibid).

In addition to that perspective, the notion of finding empirical evidence to suggest the effectiveness of suburban downtown retrofits is further complicated and highly questionable. It does not hold much merit as a strategic growth model from a transportation justice perspective and remains an unreliable solution to reducing automobile dependency, or operating as an equitable space where transportation is accessible for all populations. There is no empirical data to either support or refute such an argument, but it is a valuable starting point in the inquiry of intensified downtown cores as a solution to automobile dependency, and thus, a means for facilitating transportation justice in an area that is inherently designed for exclusion.

Transportation Justice & Intersections of Power

To understand the process of inequality that lies within, it is first important to explore the meaning of "transportation justice" in the context of power structures. Schaffner (2012) writes that "transportation justice is achieved when all members of society are able to access transportation to meet their daily needs" (p.3). Furthermore, I would like to add that all members must not only have access, but specifically *equal* access

to transportation, which the traditional suburban built form - described thus far in this paper - does not necessarily allow for. Litman describes such a form of transportation equity as "vertical equity with regard to mobility need and ability" which essentially supports a universal and accessible design framework with services that accommodate all individuals (2013, p.4). This is key to understanding issues of transportation justice in the suburbs in the context of this study. Transportation justice has a rather significant impact on the way that local communities function. Robert D. Bullard and Glenn S. Johnson specifically address it in the suburban context where they discuss automobile dependency as a consequence of government policy frameworks and sprawl developments that have been key drivers for issues of inequality and fair access to transportation (Bullard & Johnson, 1997; Bullard et al., 2004).

Power structures play an important role in the way suburbs have been designed. Harvey (1981) suggests that power is often reinforced by wealth and knowledge. As such, in the suburban context, owning an automobile offers an advantage over others in that it allows for mobility and convenience where options for alternative travel modes are limited. Therefore enjoying the economic means to purchase, operate, and maintain a personal automobile is a catalyst for power. Sardar et al. (1999) suggest that power is also channelled through culture and the provision of cultural capital that governs social relationships and processes of communication. Cultural capital refers to non-economic assets that present themselves as worthy qualities, such as intellect, education, and demeanour, which encourage upward social mobility and represent power (Bourdieu, 1986). In other words, those possessing more cultural capital are able to reinforce power through culture (Sardar et al., 1999; Schaffner, 2012).

In response to this, one may question: with who lies the decision-making power to influence the shape and physical form of the built environment? Baeten (2000) argues that such power remains with the technocratic elite who, as Rothkopf (2009) adds, can be individuals who have control of government organizations, media outlets, corporations, and even world religions. In this case, the key decision makers are individuals from the Provincial and Municipal governments who are influenced by economic trends. Policies in the post-war era supported outward growth for a myriad of reasons already outlined within this section, but most significant was the opportunity for economic growth from both the provision of development charges, as well as the automobile industry (Desfor et al., 2006). One can deduce that such planning decisions for post-war suburbs that were integral to this phenomenon of automobile-dependent, dispersed growth were made partially for the economic gains of the province or municipality, rather than for the greater good of society. Suburbs are, therefore, essentially designed to be exclusive spaces meant for wealthy socioeconomic groups who can afford the costs of being automobile dependent. Furthermore, the provincial government seems to hold ultimate power in making final planning decisions (Harris, 1996). In the Planning Act, the province "for the first time spelled out a number of 'matters of provincial interest' that would justify government intervention in municipal planning"(Frisken, 1993, p.178). Since "matters of provincial interest" is quite a broad and general term, Frisken suggests that it allows the province a wider scope for "seeking changes in municipal planning decisions" and overriding decisions to which the province has objections (ibid). The example of the development of expressways and street improvements to relieve traffic congestion in Toronto in the 1960s serves as an ideal example to illustrate the province's strong influence on planning

decisions. City Councillors of Metro Toronto, which at the time represented present-day City of Toronto, opposed improvements and extensions to roadways to support automobile usage, and determined that "the expensive metropolitan roadway improvements, of which the Gardiner Expressway stands first, are not beneficial to the central city" (Soloman, 2007, p.63). However, the Metro chair who was appointed by the province had the final deciding vote, deeming it his "duty" to develop the suburbs and support the provincial agenda. He elected to vote for the road improvements to take place and be funded through taxpayer funds, despite opposition from the municipal government (ibid). The province later went on to add a number of lanes to widen Highway 401 within the same decade to accommodate traffic congestion, especially during peak rush hour periods (ibid).

There is however a literature gap in connecting the concepts of transportation inequity and exclusion with suburban built forms, automobile dependency and the American Dream. Much of the work that researchers have done in the study of transportation justice does not address inequities based on automobile dependency and the design of the built form as catalysts for exclusion. Many scholars write about transportation justice in the urban context, and often link it to discussions specifically around public transit equity and accessibility, but fail to address other modes such as walking, cycling, or driving. Walker suggests that any mode of transportation, be it walking, cycling, public transit, or driving are instruments for one's personal freedom and prosperity (2014). Of these, walking is the basic transportation mode that a majority of the population has access to, irrespective of their socioeconomic status (ibid). When tying this into the discussion of the suburban built form, accessibility to safe pedestrian infrastructure and walkability are not often present due to the vast distances between land

uses that are outside of a reasonable walking distance i.e. 400 metres (Ontario Ministry of Transportation, 1992). This limits access to mobility for groups who lack the financial means to afford a personal vehicle, and constitutes a form of injustice. The same framework can be applied to cyclists who cannot use a bicycle as a primary transportation mode due to a lack of cycling infrastructure, or even a public transit user who is at a disadvantage due to unreliable or infrequent transit service.

What then, represents just and equitable transportation in the suburban context, and how can it be attained? I use the concept of a multi-modal balance as an ideal for transportation justice. A multi-modal balance refers to a balance of multiple transportation modes such as walking, cycling, public transit, and driving, so that there is no over-dependency on a single form of transportation, rather a balance of all modes as well as a balance of infrastructure to support these modes (Friedrich, 2010). The key in the suburban context is not to completely abolish the use of personal vehicles, rather it is to level the modal split to encourage transportation equity. With such a framework in place, the adequate provision of pedestrian-oriented infrastructure would be at the forefront of attaining justice, as walking is a universal method of transportation and therefore suitable for nearly all abled individuals (Schaffner, 2012; Walker, 2014). Individuals who are unable to walk may still use pedestrian infrastructure such as sidewalks to move about through the use of a mobility aid such as a scooter. Walkability can be promoted through the design of the built form and elements of the streetscape including mixed land uses within close proximity, blocks designed in a grid pattern, pedestrian infrastructure such as wider sidewalks, and additional pedestrian crossings (ibid). Just as well, cycling offers the ability to reach further distances compared to walking, and can also be promoted through changes

in physical features of a streetscape such as safe designated bike lanes, and secure bike parking. Both of these modes represent just transportation from an affordability standpoint because the associated costs to the individual are minimal, and offer the same, if not greater opportunities than a personal automobile offers, therefore somewhat levelling the playing field between different socioeconomic groups. The addition of reliable public transit furthers this opportunity based on the ability to travel added distances. However, affordability is a key factor in determining its success.

Garrett & Taylor (1999) shed light on an interesting concept of captive versus choice riders, the former referring to those who have no choice but to take public transit, and the latter referring to riders who have a choice, but are lured towards public transit via superior service and newer infrastructure at the cost of captive riders who are left with poorer service and older transit vehicles. The danger here is the advent of transportation justice at the possible cost of deepening the socioeconomic divide (ibid). It is interesting to note that transportation justice is linked closely with the environmental justice movement, and has its roots in the American Civil Rights Movement that took place in the post war era. Bullard & Johnson (1997) discuss the key milestone linking transportation justice with Civil Rights in the United States court ruling in the Plessy v. Ferguson case in 1869. The court supported racial segregation of passengers on transit vehicles, provided that equality prevailed in the provision of facilities and amenities (ibid). However, resources were undoubtedly concentrated among the white population who was in a position of power (Schaffner, 2012). It took nearly a century for the decision to be overturned in 1954 in the Brown v. Board of Education of Topeka case (ibid; Zirkel & Cantor, 2004).

Transportation justice has a long history in North America, more so in the United States than in Canada. However, it is an important and crucial consideration for suburban growth. Suburbia is comprised of a built environment that is largely unsustainable and highly dependent on automobiles. Yet the biggest concern is that a large population is excluded as a result of the built form. Meanwhile, one of the key objectives of the planning practice is to build and develop land for use by people, yet suburbs have been built primarily for the convenience presented by automobiles, thereby facilitating exclusion. Planning as a discipline must be inclusive in nature; the consideration of transportation justice in policies and practices will further enhance that vision.

CASE STUDIES

An Assessment of Current Planning in Ajax & Pickering

This section is based on research collected via interviews of planning officials from the Town of Ajax, City of Pickering and the Regional Municipality of Durham, in addition to observations of the built form and infrastructure in its current state, using transportation justice as a key assessment tool. It is important to note however, that there is no single way to evaluate transportation justice, and therefore various impacts and perspectives must be considered (Litman, 2013). The assessment criterion involves the propagation of a multi-modal balance that is represented by equilibrium between walking, cycling, public transit, and personal vehicles. This is based on the design of the physical form and how it encourages or discourages multiple modes, as well as the provision of *equal* access to multiple modes, using affordability among other economic opportunities as a key measure

for justice. The quality of transportation and the opportunity for saving time that would otherwise be lost in travel using alternative modes is also used to measure justice. This section will begin with an analysis of planning policies and practices that have gone into shaping the physical form, offering an excellent segue into an analysis of the physical form and infrastructure.

Municipal Planning Policy & Practice

As discussed explicitly in the literature review section, both the Town of Ajax and City of Pickering have historically carried out the planning practice in a traditionally suburban method, governed by planning policies that were geared towards low-density, automobile oriented growth. The same can be observed with the Regional Municipality of Durham as an upper tier municipality that governs the growth of lower tier municipalities. Such an approach has since been restructured to facilitate urbanization through the creation of a multi-modal balance, and improvements to the current landscape and physical form from a policy perspective. Unfortunately, transportation justice has not been identified explicitly, or often times, even been considered as a concept for facilitating growth. When speaking with a planner from the Region of Durham, it was identified in our conversation that transportation justice was a term that he had not even heard or thought of prior to our discussion, and that it was not a likely consideration in the planning practice to date. As noted in his own words on transportation justice:

> *I just, I have to be honest with you, it's not a term I was familiar with, and umm, so it's not something that's, as a term or a concept, that's really at the forefront at our.. our consciousness. I mean, I know you've.. you've sort of given your definition of it and I, from reading your material and just a little bit reading I've done before hand, I get it's..*

it's a concept that suggests or implies that everybody has access to transportation.., …it's got a lot of social dimension to it, it's got an environmental dimension to it, it's got, umm, a lot of.. under the bigger umbrella of sustainability I guess, is what I was thinking as well. But, really, I hadn't, you know, I'm going to embarrass myself I suppose, but it's not something we really talk about in terms of transportation justice." (Anonymous, personal communication, June 30, 2014)

When probed further about transportation justice influencing the policy making process, the planner suggested:

Ummm, I'm hesitating because I want to blurt out.. like.. yes, everything you know, we're doing is to improve it (transportation). But, I guess where I'm getting stuck is to me, when I hear transportation justice or injustice as the case may be, it implies this affordability piece… and you know, that starts to stray outside the bounds of land use planning. You see, we're land use planners, we're not social planners, we're not you know.. these.. you know, we can't.. you know, the OP is a land use planning document and it's not intended to solve all the problems of the world. It's land use planning. So, umm, I want to say that the policy regime is supportive and encouraging of doing everything it can to improve the transportation and having it multi-modal and all that, and umm, you know, I can't.. I could if I had it at my fingertips, but I don't have anything to point you to. But I think what I want to say is that as an approach or in direction or as a policy, that yeah, transportation multi-modal is front and centre. And I think it's evident by the fact we have a whole transportation group here whose job it is to.. to advance. But it's.. it's.. you know, money is a big issue too. I just don't think we have thought about it in terms of transportation justice in that context. I think we

thought about it in terms of sustainability, and just things that are good planning."

(Anonymous, personal communication, June 30, 2014)

In the planner's comments, transportation justice was nearly dismissed as a concept which must *not* be considered in the planning of the built form because it drifts much too close to what was referred to as "social planning", and therefore did not coincide with the objectives of land use planning, per se. One must, then, question what the purpose of planning really is? If it is not for people, then whom are we really planning for? Planning as a discipline takes place to strategize growth in the form of land uses and infrastructure for use *by people* who live, work, and play in such built environments. Planning is therefore quite a social activity and should take into account the social impacts that physical forms have on the daily lives of its dwellers. Such an ideal that separates land use planning from the social implications denotes quite an exclusive method of planning and represents the stark power structures that have implicitly shaped the post war suburban landscape around exclusion, be it known to planners or not.

Despite this, Durham Region's Official Plan and Transportation Master Plan include policies that promote "people-oriented growth". The Official Plan states the objectives in subsection 1.3.1(g) of "creating Urban Areas that are people-oriented and support active transportation" (2013, p.2), and in subsection 11.1.2, the objective "to offer a variety of mobility choices for all Durham residents" (2013, p.2), suggesting that the provision of balancing multiple transportation modes are geared towards the people. In addition, Durham's Transportation Master Plan advocates for a "balanced" transportation system that moves away from automobile dependency (2005). Balancing multiple modes for the purpose of achieving sustainability is at the forefront of this discussion as noted by the

planner. However, as one of the objectives of a sustainable transportation system, the plan briefly mentions two key points that are worth noting. The first reads, "Allowing people without automobiles, or not wishing to own one, to gain access to jobs, shopping and community activities;" while the second key objective is, "Making communities more attractive and liveable, through urban design oriented towards people rather than the automobile" (Durham Region, 2005, p.9). The Principles for Action further highlight access to multiple transportation modes as key objectives for the overall transportation strategy. It seems that there is perhaps a disconnect between policy and practice, where policy documents officially yet indirectly recognize transportation justice as a key framework for growth, but yet fail to achieve it due to pragmatism.

Planners from the Town of Ajax as a lower tier municipality have expressed similar concerns where working with such progressive planning ideals as their own proved to be rather challenging because the overall approach to the planning practice did not quite correspond. Ajax has been at the forefront of inspiring change within the municipality to promote a multi-modal balance through implementing higher density built forms, active transportation infrastructure and transportation demand management strategies to name a few. These are highlighted in various strategic growth and policy documents including the Official Plan, Ajax Intensification Strategy, and, most recently, the Transportation Master Plan Update. Despite this, transportation justice fails to be recognized as a core concept that has the potential to steer growth, and therefore merely exists in the shadows. It is not addressed explicitly in these policies, but planners insist they are familiar with the term and support it through the policy regimes that promote multi-modal transportation.

One planner from the Town of Ajax noted on transportation justice and the provision of a multi-modal balance:

> *This (multi-modal balance) is a consideration that applies to all larger redevelopment proposals. Provisions for transit accessibility, providing for direct and unimpeded pedestrian access to buildings, encouraging high densities adjacent to transit routes, design using CPTED (Crime Prevention Through Environmental Design) principles, including requirements for bicycle parking and storage for higher density residential and non-residential developments, etc. The Town is currently developing a Transportation Demand Management (TDM) plan to formalize other initiatives as well. Policies are in place within the Town of Ajax Official Plan, the 2013 Transportation Master Plan Updat,e and the 2010 Pedestrian and Bicycle Master Plan. (Anonymous, personal communication May 26).*

Regardless, it seems they are more interested in implementing these strategies into the more urban downtown settings rather than existing low-density suburban neighbourhoods where automobile dependency is most prevalent. When asked about how transportation justice influences planning decisions for Ajax, including the Downtown Ajax redevelopment project, the planner addressed only the downtown core in his response, omitting any discussion on the rest of the Town.

> *Transportation justice means equitable access by residents of all means to needed goods and services within a reasonable time frame and at a reasonable cost. In a Downtown area, the pedestrian should be given paramount consideration. This means making planning decisions which support and enhance the pedestrian experience to ensure direct accessibility from the public realm, pedestrian comfort from inclement*

> *weather, establishing densities that foster pedestrian activity, ensuring generous and well-designed pedestrian spaces to ensure that the public realm is safe and well-used. These principles are planned for in Downtown Ajax in terms of detailed policy and zoning regulations. These principles will be executed at the Vision at Pat Bayly Square project, and are operating principles at the proposed Grand Harwood Place development (Anonymous, personal communication, May 26, 2014).*

This account can be understood in two ways. The planner either misinterpreted the question as pertaining only to the downtown, or through a logical deduction from his choice of words, and the relatively likely scenario, that transportation justice and the provision of a multi-modal balance is not a priority in other, lower-density parts of Ajax where sole reliance on personal vehicles is at its height.

In the Town of Ajax Official Plan, the provision of supporting a multi-modal balance is explicitly mentioned in subsection 4.1(b). The objective states: "Support initiatives and approaches which support multi-modal nodes and corridors that serve the needs of an increasingly diverse population..." (2014, p.135). Furthermore, subsection 4.1.1(e) mentions automobile dependency in the objective to "Reduce auto dependency by supporting opportunities for multi-modal use such as carpooling, active transportation and increased transit use over single occupant vehicles;" (2014, p.136). Similarly, in the Ajax Transportation Master Plan Update, the vision statement under Section 4.1 clearly outlines a multi-modal transportation system at the forefront of future growth (2013). However, most of these strategies, aside from the first, are mentioned in the context of sustainable growth that follows provincial policy regimes, rather than growth that is oriented towards affordability and inclusion of different socioeconomic groups within the transportation

network. In the event that such strategies result in equitable transportation, it would merely exist as a by-product, one that could likely go unacknowledged, of a multi-modal balance that is intended for other purposes related to the sustainability framework that, for example, address air pollution or congestion caused by automobiles..

Similarly, the City of Pickering Official Plan addresses strategies for transportation improvements in the fourth chapter, identifying the support of multiple transportation modes as a key objective (2010). Furthermore, subsection 4.2(c) of the plan reads: "balance the need to accommodate private automobiles with the need to accommodate pedestrians, cyclists, the disabled, public transit, taxis, and the movement of goods and services (2010, p. 89). From a community design perspective, subsection 9.2(a) identifies walkability and pedestrian-oriented development as a basis for the design of the physical form, while addressing improvements of streetscape elements including infrastructure upgrades for walking and cycling activities such as the widening of sidewalks, introducing bike parking facilities, and adding pedestrian crossings (ibid). Finally, the plan addresses pedestrian and cycling safety under subsection 13.16, which delves into additional infrastructure changes to promote safe streets. Similar to the Official Plans produced by the Town of Ajax and the Regional Municipality of Durham, facilitating a multi-modal balance through providing equal access to alternative travel modes and addressing various needs is at the forefront of transportation-related planning policies in Pickering. However, most of these strategies are being implemented primarily within the Downtown City Centre, rather than in other areas of Pickering. Low-density residential neighbourhoods where automobiles are the dominant transportation mode are being excluded, as these neighbourhoods are not a priority for transit, or a multi-modal balance.

When speaking to a planner from Pickering regarding transportation justice, the response received was similar to that of the Region of Durham. In his own words, the planner said,

> *I guess the first observation I would have, umm, in terms of the term transportation justice. It's not something that is umm, a term that, I guess is typically used within the, at least the municipal realm that I am aware of in terms of municipal planning (Anonymous, personal communication, July 15, 2014).*

When comparing this account to that of the planner from Durham, the latter suggested that transportation justice fell outside the realm of land-use planning, while the planner representing the City of Pickering suggested that although it is not typically used as a concept in planning, it is justified as such because it is an unattainable and unrealistic precedent for growth. When probed further on his comment above, the planner clarified:

> *Yup, just simply because, one (part) of the term that I don't think is very realistic. Umm, when it uses terms like equal access, is something that I don't think is a realistic objective. In terms of addressing an imbalance in transportation, I certainly agree and concur in trying to create more of a multi-modal environment. But equal access is just something that I don't feel is an achievable objective. It's not to say that all residents within Pickering are going to have the same level of transportation services. Certainly, people in the rural area do not have the same level of service or opportunities for access, umm, to those services. It's.. there are different levels of service throughout the municipality, and part of achieving those levels of services, you have to have that base of population and employment that are going to support those services (Anonymous, personal communication, July 15, 2014).*

Inequities in transportation are, therefore, embraced and justified as a condition of low-density suburban built forms rather than perceived as an opportunity to direct growth in a manner that can address the core issue of automobile dependency. He did however note that rather than transportation justice, the larger issue is the inequity that lies between the availability of housing and employment opportunities, where there are fewer jobs compared to houses, therefore people are forced to drive to places outside of Pickering for work (Anonymous, personal communication, July 15, 2014). Though this argument sheds light on some valid concerns, there are some limitations: residents are not forced to drive because they may work outside of the municipality; rather they are forced to drive because of the absence of alternative options in their neighbourhood. Opportunity is the biggest purpose for transportation (Walker, 2014). People travel to reach their opportunities, whether they are related to work, school, or leisure. A faster commute results in a more significant opportunity; therefore time is an important denominator for evaluating the scope of opportunity. If residents had alternative modes that offered the potential of a faster commute, such as cycling or public transit all or part of the way, that could help in avoiding impediments such as traffic congestion for example, then they would be inclined to use such modes instead. A lack of employment opportunities is not entirely the perpetrator of automobile dependency; rather an absence of other viable modes of transport is to blame. Most of the focus placed on growth in Pickering is addressed in relation to either the City Centre, or the development of Seaton, a new community in Central Pickering that is regarded as a "transit-first" neighbourhood that caters to transit riders as the primary mode (Anonymous, personal communication, July 15, 2014). The planner noted that there are plans to undertake a South Pickering intensification study in

the future. However, it is evident that little attention is given to residential neighbourhoods in terms of transportation.

Physical Features

The Town of Ajax is a largely suburban municipality comprised of physical features that are characteristic of a traditional post-war suburb, and is often times referred to as a bedroom community with 79.6 percent of the working population travelling outside of the municipality for employment (Miller Dickinson Blais Inc., 2010). Low-density development prevails in this relatively small town with a population of 109,600 and a population density of 1,632.4 persons per square kilometre, which is just about a quarter of the density of more urban areas in the Greater Toronto and Hamilton Area (Statistics Canada, 2012). Zoning regulations as per the Official Plan separate residential, commercial, institutional, and employment land uses among others, resulting in personal automobiles being the dominant form of transportation within the municipality. As such, retail shopping has been developed in a traditional form of sprawl, including plazas, strip malls, and big box shopping centres that are in close proximity to major highways and arterial roads with

Figure 1.0 A low-density residential subdivision on Roberson Dr. in Ajax.

Figure 2.0 Town homes developed near a retail strip mall on Kingston Rd. near Westney Rd. in Ajax.

large parking lots, which result in hefty setbacks from the main road (Duany et al., 2000). The separated land uses make it nearly impossible to walk the vast distances between residential, commercial, and employment areas. Within the last decade, however, some of the newer medium-density, residential subdivisions including townhomes have been developed closer to retail and business areas to promote walkability, though it only accounts for the small percentage of development in Ajax. There is little access to most of these places without the use of a personal automobile, therefore limiting the access and opportunity of groups who cannot afford their own car.

The City of Pickering, on the other hand, although a suburb, is slightly more urbanized in its downtown, yet still encompasses characteristics of a traditional suburb outside of the core. Young et al. refer to this space as "in-between infrastructure" – a space that incorporates characteristics of sprawl but also land uses that are characteristically regarded as "urban" (2011). The City of

Figure 3.1 Pickering Town Centre located at the centre of the downtown core

Figure 3.2 Automobile-oriented retail strip malls and big-box stores with large setbacks and ample parking spaces. Left: Loblaws located on the southwest corner of Liverpool Rd. and Kingston Rd. in Pickering; Right: Strip mall located on Kingston Rd. across from the Pickering Town Centre).

Pickering also has zoning regulations that have separated land uses, resulting in the need for a vehicle to travel within the City. Similar to Ajax, Pickering encompasses large automobile-oriented commercial and retail developments, including a shopping centre and plazas that are near highways and arterial roads with large parking lots and setbacks. Pickering's Official Plan states that this design scheme was a result of the advent of automobile dependency in Pickering that "became lined with unappealing automobile-oriented commercial developments (characterized by their extensive parking areas and signage) (2010, p.7).

However, as a designated urban growth centre in the Growth Plan for the Greater Golden Horseshoe, and as a mobility hub in Metrolinx's Big Move plan, the downtown core is a rather interesting phenomenon. Appendix A illustrates the breakdown of land uses in this area. It includes the Pickering Town Centre, a regional shopping mall, in the centre that is surrounded by several strip malls and gas stations to the west and north, all of which have large parking lots, and are located right off of a highway in typical suburban fashion, as illustrated in Figure 3.0. However, surrounding the mall to the east are high-density, mixed-use residential developments, including apartment buildings, as well as the GO Station to the south, which all represent a more urbanized area with mixed uses and higher densities. Given the proximity of the residential areas to the GO Station, shopping districts, and other amenities, the downtown core is fairly walkable, despite large parking lots creating longer walks. However, as one

Figure 4.0 Medium and high density residential developments located in Pickering City Centre, at the intersection of Valleyfarm Rd. and The Esplanade.

moves out of the central core, the built form represents more suburban and automobile oriented physical features that make it more and more difficult to have access to other areas without a personal automobile. It is important to note that despite there being a larger degree of economic development in the City's downtown core, nearly 78.9 percent of the working population still travel outside of the city to get to work (Statistics Canada, 2012). A planner for the City of Pickering suggests that such a large percentage of working individuals commuting outside of the city on a daily basis is a direct result of the inequities that lie between housing and employment opportunities, where there aren't enough jobs to residents. In his own words,

> *The employment opportunities have not developed at the same rate as the residential. So then, what happens is you have people who live in an area but work in a much different area, and it's creating long commute times and distances, so there's an inequity between living and working opportunities, and that's something that the region of Durham has particularly faced over time. In fact, since the formation of the region in 1974, the ratio between population and employment has decreased, so there's fewer jobs for people. That's happened over time, and that's something that we need to correct within this region because it means more and more people are out commuting and as, because they're out commuting not just to downtown Toronto because the GO Transit serves downtown Toronto very well, but other parts of the GTHA are not so well served, which means that people are, as a reality, having to commute by car (Anonymous, personal communication, July 15, 2014).*

As such, Pickering can therefore be considered a bedroom community, similar to Ajax, where the reality is that most residents do not live and work within the same municipality.

As addressed in detail in the municipal policy section however, the economic circumstances cannot be blamed for automobile dependency. There are a number of forces coming into play that affect travel choices, such as the built form, and lack of alternative transportation modes in neighbourhood areas that will allow residents the same opportunity as a vehicle to travel to other municipalities for work. It is no doubt that building infrastructure in the downtown core that supports walking, cycling and transit enables a multi-modal balance within the core. However, this practice does not cater to the residents whose commute does not involve the downtown, whether a destination or a mobility hub for those passing by.

Infrastructure

The physical form that makes up a large part of Ajax and Pickering is inherently designed for the use of automobiles. It does not allow for walkability, cycling, or even public transit. These modes are further discouraged through the absence of pedestrian crossings at some intersections, narrow sidewalks, or sometimes no sidewalks at all. It is a fairly dangerous streetscape for pedestrians as narrow sidewalks that are close to the street make it a potentially dangerous walk. In addition, there is an absence of cycling infrastructure on the streetscape such as designated bike lanes on main roads and bike parking that render cycling to a seemingly unsafe mode of transportation. It seems quite evident that both of the above modes, and perhaps active transportation in general are considered more so as leisure

Figure 5.0 Narrow sidewalks that are much too close to oncoming traffic on Kingston Rd. near Church St. in Ajax

activities rather than functional transportation modes. This is apparent through the abundant number of parks and trails available in both municipalities. Public transit has existed as an alternative transportation mode in both suburbs for decades, however service has been limited to Kingston Road, otherwise known as Highway 2, which is the main arterial road that links to highway 401. Transit has not served as a viable option for those living in the centre of neighbourhoods, or in areas that are further away from Kingston Road that are too far to walk. This was because lower-tier municipalities within Durham operated their own small transit authorities that provided service within the municipality, but did not connect between them. However, in 2006, "these services were transferred to the region and is now part of Durham Region Transit" (Anonymous, personal communication, July 15, 2014).

Figure 6.1 New bike lanes added to Church St., an arterial road in a low-density, automobile-oriented neighbourhood

Figure 6.2 Cars parked on sharrows in a low-density neighbourhood in Ajax, on Delaney Dr.

Since this change, improvements have been made to public transit service, where Durham Region Transit added new routes, and a modern bus fleet that has begun to service more areas and neighbourhoods that are further away from Kingston Road in an effort to improve accessibility to public transit. These routes have been quite successful and popular, though there is certainly room to increase the frequency of

service to further the opportunity it provides to patrons. The Town of Ajax has also made several improvements to its infrastructure within the last decade to facilitate a multi-modal balance and provide better access to alternative transportation choices in an overall attempt to promote sustainability, though transportation justice could result as an unintended, yet positive result. Nearly 11 km of bike lanes and 16 km of sharrows have been added to local roads, many of which are in residential areas to accommodate cyclists (Town of Ajax, 2013). Sadly, the sharrows often go unnoticed and drivers tend to ignore, drive over, or park their cars on them, rendering them inadequate for recognizing the road as a shared space, as illustrated in Figure 6.2. The City of Pickering on the other hand, has focused most of the infrastructure improvements within the downtown core mandated through the Downtown Pickering Intensification Study, as well as the Pickering City Centre Urban Design Guidelines, as well as Seaton, a new transit-oriented community currently under development in Central Pickering. New additions have been made to improve the pedestrian and cycling networks with enhanced pedestrian sidewalks, designated on-street bike lanes and sharrows, as well as bike parking (City of Pickering,

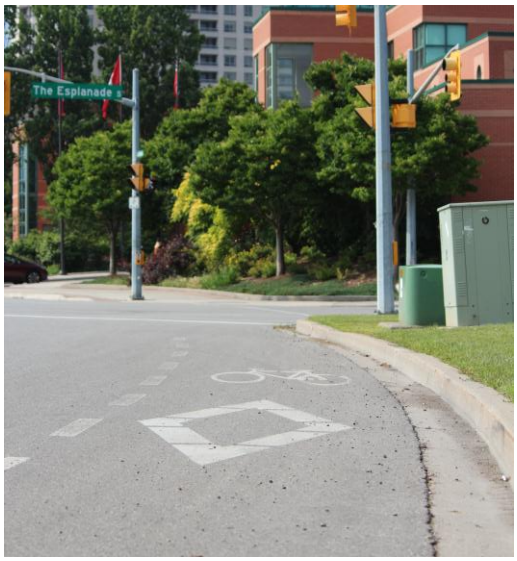

Figure 7.1 Bike lanes on Glenanna Rd. in the Pickering City Centre district.

Figure 7.2 Public transit infrastructure improvements on Glenanna Rd. in the Pickering City Centre district.

2013). However, little improvement has been made outside of these areas which are still characterized by sprawl and automobile dependency.

SWOT Analysis

This section addresses the strengths, weaknesses, opportunities, and threats posed by the planning policy framework, planning practices, the built form, and the infrastructure of Ajax and Pickering addressed in the Assessment portion above. This analysis is based on how these factors in their present state could either hinder or facilitate transportation justice and a multi-modal balance.

Strengths

One of the most significant strengths is that policy regimes that govern the Region of Durham, Town of Ajax and City of Pickering already address multi-modal balance and access to transportation as key objectives for facilitating future growth. This is especially true for the Town of Ajax, which has had extensive work done to incorporate transportation demand management strategies, and infrastructure improvements to the current built form in an effort to curb automobile dependency, not just within its downtown core, but also throughout low-density residential areas where automobile dependency is most concentrated. Moreover, the planning department has taken on a very progressive approach to implementing policies for intensification as outlined in the Provincial Policy Statement, Places to Grow Act, and the Growth Plan for the Greater Golden Horseshoe. Although the Town has recognized that automobile dependency cannot be eliminated completely, especially within a built environment such as that of Ajax, it has taken appropriate measures to balance the modal split as much as it feels is possible. This

is evident in the strategies that the Town has put in place to accomplish a multi-modal balance.

Weaknesses

The physical shape of the built environment that characterizes Suburbia is, and will continue to be an inherent weakness that discourages equal access to multiple transportation modes. It would be a lengthy and tedious process to reshape low density, automobile oriented built forms as part of a post Second World War suburb, and it would be even more difficult to urbanize such a low density landscape in a manner that is well-received by its current residents. It is important to recognize that the suburban built form is inherently designed for the convenience of a personal automobile, as this was the intended purpose it originally served. Needless to say, automobile dependency cannot be completely abolished in such an area. The Durham Region Transportation Master Plan recognizes this when describing the broader transportation vision by the year 2021, "The auto continues to be the dominant mode of transportation; however, the community has realized a shift towards greater use of transit, pedestrian and cycling facilities" (2005, p.10). As a result, focusing on creating a balance of modes is a more productive task than attempting to abolish cars completely. In addition, it seems Pickering, although a designated urban growth centre, has not had as much work done on creating a strategic model for improving accessibility to transportation, or even on a transportation master plan. Local planners insist that it is on the city's imminent to-do list (Anonymous, personal communication, July 15, 2014). Aside from the objectives outlined in Pickering's Official Plan, no other city-wide strategies have been put in place to promote alternative transportation modes or even address land use growth. This is a significant weakness on

the part of Pickering as planning for a multi-modal balance throughout the city is pivotal for accompanying a framework of strategic growth. This brings to light questions on their commitment to progressive planning. Implementing infrastructure to reduce the imbalance of modes in targeted areas such as the downtown core and the Seaton community only addresses a specific area, and is therefore not sufficient to facilitate a shift across the entire city. In some cases, such a strategy may even deter residents who have no choice but to drive to the downtown area because no alternative modes are available from their homes. Motorists have been preconditioned to drive on roads that have for decades, been designed exclusively for cars, therefore the very thought of sharing the road with pedestrians, cyclists or other modes could be a cause for dissuasion. Instead, the availability of other options through a cohesive transportation network that connects the low-density residential areas with the downtown not only offers residents the opportunity to use a new transportation mode that may result in a faster, more comfortable commute, but also encourages the potential for a modal shift.

Opportunities

Perhaps the largest of all is the opportunity for economic growth put forth by facilitating strategic growth. The built form and infrastructure, such as houses, office buildings, transit lines, and parks play a dominant role in the economy. Leinberger suggests that "the built environment is the largest asset class in the economy" and far exceeds even publicly traded corporations, privately owned companies, and all other assets (2008, p.7). Both the Town of Ajax and City of Pickering have excellent opportunities to facilitate transportation justice through future growth. In the case of Ajax, the policies in place and the progressive approach to planning put forth the opportunity to really enhance the current built form to

incorporate multiple modes and influence a modal shift that is more balanced. The current modal split of residents of Ajax is illustrated in Figure 8.0. Nearly 75 percent of commuters use an automobile to travel during peak hours in the morning. That number increases to 83 percent when considering trips made on a 24-hour basis. There lies an opportunity here to implement the transportation-related policy directives that could result in a more balanced modal split.

Figure 8.0 Modal Split in Ajax in 2011

Time Period	Mode of Transportation					
	Driver	Passenger	Transit	GO Train	Active Transportation	Other
Peak Period 6-9 A.M.	62%	13%	5%	9%	7%	3%
24 Hours	67%	16%	4%	5%	5%	2%

Transportation Tomorrow, 2011

Promoting behavioural change towards the development of sustainable transportation options has proved to be a difficult task. However, there is an opportunity for the region and lower-tier municipalities to educate and encourage the public on using more sustainable transportation options. But before this can be done, the key is to first implement the infrastructure that could allow for such a shift. There is also an opportunity to implement these ideals when planning both retrofits of existing areas, and the development of new communities in Ajax and Pickering. Surface parking lots, poor pedestrian infrastructure, and under-utilized spaces that currently exist are key opportunities for strategic intensification to implement new built forms and infrastructure changes that encompass mixed uses, and will promote walking and cycling activities by way of pedestrian and cycling oriented infrastructure. Such developments also put forth the opportunity for business improvement as pedestrians and cyclists will be more likely to

stop and take a look at storefronts and engage in economic activities that will benefit and support economic development. In terms of new developments, Pickering is in the midst of planning for Seaton, an entirely new community north of the current developed city. As such, there is an opportunity to implement multi-modal infrastructure to stop bad transportation-related habits before they form, and instead, encourage walking, cycling, or public transit as viable forms of transportation.

Threats

As one planner noted during our interview, residents who have moved into post-war suburban neighbourhoods have readily accepted automobile dependency "as a condition of living in the community" (Anonymous, personal communication, May 26, 2014). Encouraging alternative transportation modes after years of honing automobile dependency is often met with much resistance. The planner went on to say,

> *The notion of transportation justice to a local resident is often confined to frustration over vehicle congestion on local roads, or complaints about poor driver behavior on their perceived safety of their community…Interestingly, while some residents embrace the idea of increased transit service and cycling, others vehemently oppose these alternative transportation modes as an imposition from outsiders on their community. Many residents/homeowners oppose the principle of bicycle lanes on roads in front of their street since they eliminate opportunities for on-street parking. (Anonymous, personal communication, May 26, 2014).*

Participatory planning and the consideration of public input is a rather significant aspect of planning which cannot be ignored. Herein lies a certain paradox – residents are most knowledgeable of the day-to-day activities that take place within their communities, so

their input is essential to the planning process. However, it is difficult to plan and grow in a sustainable method if residents themselves resist change and do not agree with the progressive planning ideals proposed by local planners. Community resistance, therefore, poses a significant threat for building just and equitable neighbourhoods.

Planners insist that one of the significant threats to planning is financial constraints, and the lack of funding, especially for transportation related projects. All individuals who were interviewed for this study in some way expressed this notion, especially where implementation was concerned. Although policies address new improvements to the built form and associated infrastructure to promote a multi-modal balance, it is not always a possibility due to a lack of investment, especially for public transit. It could however be that the threat is less a financial constraint, and more so a result of other priorities that control the allocation of funding towards other projects. Another threat identified by the planner interviewed from the Region of Durham is that there must be significant buy-in from the developer community that would create a market for higher-density developments and intensification to take place (*Anonymous, personal communication, June 30, 2014*). He went on to suggest that developers operate under a framework of profit, implying that they will only build where they see potential for gains (ibid). From his perspective, it is consequently a rather challenging feat for suburban areas to appear as attractive sites to developers for medium to high-density development that could promote intensification and attract considerable investment (ibid). Lastly, and quite possibly the biggest threat is that transportation justice is a concept that some planners are not aware of. Perhaps more alarming is that some may simply *choose* not to address it because they believe it falls outside the realm of planning. It is difficult to plan for such a notion that is not even

contemplated in the planning world, especially in the context of Suburbia. This is a potential threat to planning and growth in the long run, as transportation justice should be at the forefront of any planning initiative, as it is a concept that is a vital tool for the "good planning" practices that planners want to embody.

SUBURBAN DOWNTOWNS: A VIABLE GROWTH MODEL FOR EQUITY?

As per the Places to Grow Act, the Growth Plan for the Greater Golden Horseshoe mandates that 40 percent of all annual growth must take place in existing built up areas (2006, p.14). Outward growth is no longer a provincial priority; rather there has been a shift towards urbanizing and intensifying current development with a focus on sustainability. In an effort to shape growth as per this policy, many suburban municipalities concentrate intensification and the development of new infrastructure in the downtown core. Though this is not always the case, it has been a rising trend in the last decade especially in Ajax and Pickering. Both municipalities have detailed plans in place to intensify their downtown districts to incorporate a mix of land uses, public spaces, and streetscape enhancements such as street furniture, greenery, and infrastructure improvements that support walkability and cycling. Such areas are meant to embody the "complete streets" framework. A "complete street" is designed to cater to the needs of all users and safety of all transportation modes through the provision of urban design elements and sufficient infrastructure (Laplante et al., 2008). As such, it is designed to allow pedestrians, cyclists, drivers, and public transit to operate seamlessly on a single road space, facilitating a multi-modal balance, reducing reliance on personal vehicles and offering a canvas for transportation equity. There is however, little empirical evidence to

suggest that such a growth model is successful in promoting a balanced modal split and transportation justice throughout the municipality.

Planners from both Ajax and Pickering suggest that the key purposes of intensifying the downtown core within their respective municipalities is to attract economic development in the form of employment, retail, and commercial uses, operate as a mobility hub for passers-by, and also serve as a destination for leisure, entertainment, and recreation (*Anonymous, personal communication, May 26, 2014*; *Anonymous, personal communication, July 15, 2014*). Although the overall goal is a valid one, it is unlikely that there will be an immediate and dramatic impact on local economic development, especially when nearly 80 percent of the working population travels to surrounding areas outside of the municipality to work via either public transit or driving personal vehicles (Statistics Canada, 2012). This is not to suggest that it is impossible, rather it will take some time before economic development can influence a significant modal shift. The following sections will specifically look at downtown (re)development projects in Ajax and Pickering and evaluate them using transportation justice as a key measure, with the concepts of a multi-modal balance and equal access to transportation as key assessment tools.

Before doing so, it is important to make note of the multiple dimensions of a modal shift in relation to active transportation. The first refers to a recreational purpose where individuals walk or cycle recreationally during their leisure time with no real destination in mind, perhaps to exercise or otherwise just for the sake of doing so. The second purpose takes a more functional approach by considering individuals who may walk or cycle with an intended destination in mind such as their workplace, or to run errands. This usually involves some form of a routine and serves as a more accurate measuring tool for a modal

shift. When talking about creating a multi-modal balance, this paper refers to trips made for functional purposes that are more likely to be repeated on a daily or weekly basis, helping to form healthy commuting habits and fostering a balance that reflects a true modal shift.

Downtown Planning in Ajax & Pickering

The "New" Downtown Ajax Plan

The current downtown district in the Town of Ajax is a landscape of low-density, automobile-oriented development primarily made up of strip malls and large parking lots paired with residential areas that include several low-rise and high-rise apartment towers, as well as recently-built town homes that are surrounded by lower-income neighbourhoods with subsidized housing. The downtown hub is located at the intersection of Bayly Street and Harwood Avenue, where the first phase of the "New Downtown Ajax" development project has already begun. The downtown district is slated for redevelopment over a twenty-five year period to attain and surpass the 40 percent target of urbanization noted in the Growth Plan for the Greater Golden

Figure 9.0 Strip mall with abundant parking space located on the northwest corner of the Harwood Ave. and Bayly St. across from the site of the Medallion mixed-use development.

Figure 10.0 Construction underway on the southeast corner of the Harwood Ave. and Bayly St. intersection for the first phase of the downtown intensification project.

Figure 11.0 Artists' rendering of the first phase of the Downtown Ajax development, including mixed-use towers and Pat Bayly Square (Town of Ajax, 2012)

Horseshoe to 54 percent, as noted in the Quality Places Growth document, a Growth Plan Implementation Study report completed in 2010. The first project is Grand Harwood Place, a large, mixed-use development by Medallion Development Inc. on a parcel of vacant land on the southwest corner of the major downtown intersection that is already in its first stages of construction (Town of Ajax, 2012). On the downtown website, it is referred to as "Durham Region's largest urban, mixed-use development in history" (Town of Ajax, n.d.). Once completed, it will create approximately 1,777 new residential units, and 5,640m^2 of floor area dedicated to other uses, such as office, retail, or commercial, with an estimated 200 new jobs (Town of Ajax, 2010). It will also include Pat Bayly Square, which will serve as a venue and destination for civic engagement, much like the well-known Nathan Phillips Square in Toronto, or Mel Lastman Square in North York, both featuring open space, and a reflecting pool.

When asked about transportation justice and how Downtown Ajax will embody a vision that fosters equity in opportunities for mobility, the planner from the Town of Ajax who was interviewed for this study suggested,

> *In a Downtown area, the pedestrian should be given paramount consideration. This means making planning decisions which support and enhance the pedestrian experience to ensure direct accessibility from the public realm, pedestrian comfort*

Figure 12.1 Current Downtown Ajax site

Figure 12.2 Downtown Ajax Vision, 2020

Figure 12.3 Downtown Ajax Vision, 2030

Figure 12.4 Downtown Ajax Vision, 2040

Photos: Town of Ajax (2012)

from inclement weather, establishing densities that foster pedestrian activity, ensuring generous and well-designed pedestrian spaces to ensure that the public realm is safe and well-used. These principles are planned for in Downtown Ajax in terms of detailed policy and zoning regulations. These principles will be executed at the Vision at Pat Bayly Square project, and are operating principles at the proposed Grand Harwood Place development (*Anonymous, personal communication, May 26, 2014*).

From our discussion, it was evident that Pat Bayly Square is a rather prominent and central feature of the development with regards to a framework for supporting walkability. However, such a feature could also behave as a focal point that serves as a destination for leisure and recreational activities, prompting individuals and families to *drive* to the location, park their vehicles in the nearby

strip mall across the street to avoid parking costs, and then walk to the square. This would bring forth an opportunity to perhaps reinforce automobile usage rather than reduce it. Referring back to the concept of functional versus recreational modal shifts, this is an example of the latter where it does not build on a recurring behavioural shift towards walkability as part of a daily routine, rather it exists merely as a recreational destination much like a theme park or tourist attraction where walking becomes part of the experience, but does not translate into a habit.

Transit-oriented design is a key principle in the implementation study to "emphasize walking, cycling, and other forms of non-vehicular transport" (Quality Places Growth, 2010, p.8). Furthermore, it outlines infrastructure design features such as an "interconnected network of sidewalks and pathways to promote pedestrian mobility, separating pedestrians from cars through landscaping and enhancing streetscapes to support pedestrian comfort in the public realm" (ibid). The study also includes the provision of varying built forms that include a combination of low, medium, and high-rise buildings to incorporate a mix of uses while maintaining a visual appeal. The implementation strategy alludes to a 'complete streets' framework that allows for a streetscape that can host multiple transportation modes in a safe and comfortable manner in an effort to address the imbalance of transportation modes. It also speaks to the elimination of surface parking and instead, encourages the creation of either below-grade parking lots or on-street parking amenities. Such a development is quite a contrast to the types of low-density, sprawling developments that currently exist in Ajax including the strip mall located across the street with ample free parking.

The imminent predicament is the existing rate of automobile dependency within Ajax. As outlined earlier in this paper, approximately 75 percent of all residents in Ajax use an automobile as their primary mode of transportation, while 79.6 percent of the working population currently travels outside of the municipality to get to work (Transportation Tomorrow, 2011; Miller Dickinson Blais Inc., 2010). Considering that this development will create an estimated 200 new jobs while adding about 1,777 new residential units (ibid), a significant proportion of the population will still be required to travel outside of the downtown core, if not outside of the municipality, to get to work. There is no doubt that the "complete streets" framework will promote a more balanced modal shift within the downtown core, but whether or not these sustainable commuting behaviours will transcend outside of the boundaries of the downtown is up for debate especially since streetscapes outside of the area have traditionally been built to solely accommodate automobiles rather than transit, pedestrians or cyclists.

When asked whether the intended purpose of the downtown core is to operate as a space for employment, a mobility hub for passers-by, or a destination district for leisure activities, the planner from Ajax suggested, "It is all of the above, in addition to a focal point for public services; a place for extensive pedestrian oriented high density residential and mixed use development, a place of civic identity, a recreational place and a place to simply hang out" (*Anonymous, personal communication, May 26, 2014*). The ideal situation would be for those who both live and work in the downtown core. The built form would reinforce a multi-modal balance by inducing a behavioural shift of recurring transportation-related habits and result in a more equitable environment with a more levelled playing field for accessing opportunities for transportation within the core. However, for those who must

travel into or out of the core for work regularly, such a built form would not be as effective for alternative transportation behaviours simply because they are not encouraged outside of the core by way of the current suburban built form that encompasses the rest of Ajax, and may therefore be required to drive if infrastructure for alternative modes are not available in their area of residence.

The final quandary with such a development that rises to the forefront is the population that the downtown is built to serve. When asked to address this, the planner from Ajax noted, “This collection of buildings or projects would tend to be catering to a more affordable market of first time buyers, empty nesters. It is expected that local residents and employees would be more inclined to use these spaces" (*Anonymous, personal communication, May 26, 2014*). Given this demographic, the downtown would not be a daily destination or hub for passers-by for a majority of the population of Ajax. In fact, it may be an area that is not even part of the daily commutes of most residents of Ajax and merely exists as a destination for leisure, recreation, or shopping purposes rather than a major employment hub. This echoes the notion of the downtown as a recreational space addressed when discussing Pat Bayly Square as a destination for residents to drive to. In such a circumstance, walking and cycling would merely be reduced to the embodiment of the *downtown experience*, only to serve recreational needs where visitors may use the infrastructure and walk or cycle while they visit, much like a theme park or tourist attraction that is out of the ordinary. However, these behaviours may not transcend back to everyday commuting habits because the built form that encompasses the rest of Ajax does not necessarily allow the same degree of a modal split. Although improvements have been made to include sharrows and bike lanes, the network in its current stage is not cohesive

enough to promote a modal shift. Such a downtown development then, only offers the illusion of a modal shift and equitable transportation for those who live outside of the core, but may not necessarily reflect the reality of the rest of the municipality where sole reliance on vehicles reflects the dominant mobility trend.

Pickering City Centre Intensification Study

The proposed site of the Pickering City Centre is quite similar to that of Ajax from a built form perspective with the exception a few key differences. The first difference is the large shopping mall as a central focal point with abundant parking spaces, which is surrounded by low-density strip malls that are all automobile-oriented in nature. The second key difference is that a major highway route – Highway 401 – runs through the centre of the downtown site south of the Pickering Town Centre, but north of the GO Station. The final difference is that the Pickering GO Station is located within the designated downtown area, therefore it also operates as a major mobility hub with thousands of

Figure 13.1 Current Pickering City Centre site

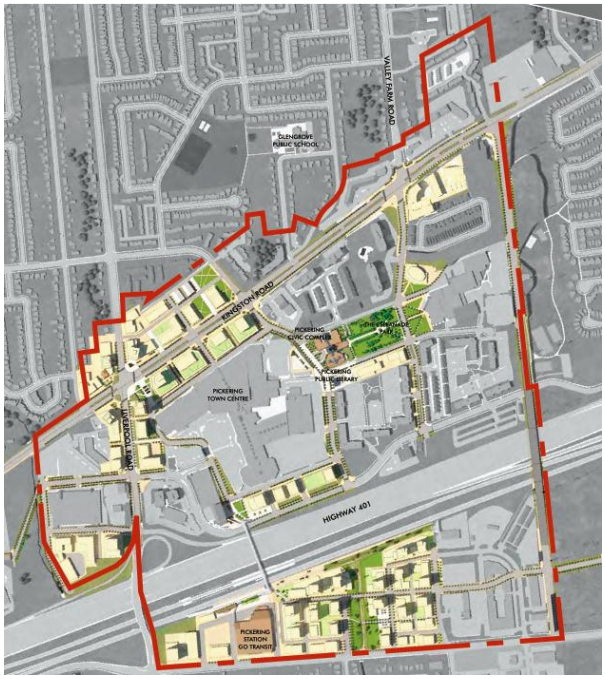

Figure 13.2 Pickering City Centre Vision - 2031

residents from both Ajax and Pickering passing through as part of their daily commute whether they are headed towards the GO Station or to the highway.

Much like the Downtown Ajax project however, this development reflects a similar purpose where the downtown core operates as a destination for shopping, leisure, and recreation. The circumstances are more critical than Ajax where a multi-modal balance is concerned outside of the downtown core. As asserted in the previous section, intensification and redevelopment strategies in Pickering are concentrated within the downtown core and Seaton, a new community in Central Pickering, which collectively absorb all efforts made to address the imbalance of transportation modes. Other areas of Pickering are not at the forefront of improvements at the moment and continue to remain automobile-oriented in nature. The downtown core is the proposed site for a mixed-use community with enhanced streetscapes that facilitate a multi-modal balance, more so than the rest of Pickering. Residents who do not have access to modes other than a personal vehicle in their neighbourhood have very little options than to drive into the downtown core, whether it is to reach a place of employment, leisure, or to pass through as part of their daily commute. The availability of free parking at the Pickering Town and Pickering GO Station behave as enablers for motorists to continue to drive into the City Centre, park their vehicles, and use the infrastructure to walk or cycle while they are there. To make matters worse, GO Transit has recently erected a multi-level, above-ground parking structure at the Pickering GO Station that has added 1,200 free parking spots, resulting in a total of over 3,600 parking spots available at the station across all lots (Government of Canada, 2014).

Downtown Pickering is a designated urban growth centre in the Growth Plan for the Greater Golden Horseshoe. Aside from the 40 percent intensification target set out by the Growth Plan, the City of Pickering regards economic development as a key driver for growth in the downtown with a goal to attract 8,300 new jobs and 8,700 new residents in order to attain a 1:1 job to resident ratio by 2031(City of Pickering, 2013). The planner who was interviewed from the municipality made note of the lack of employment opportunities in Pickering as a key factor that results in the need for residents to travel to places outside of the City for employment that further exacerbates automobile dependency (*Anonymous, personal communication, July 15, 2014*). Planners consider economic development and the creation of jobs is a key tool for leveraging a multi-modal balance in Pickering. However, similar to Ajax, such an outcome is not possible on a city-wide basis if there is little infrastructure in other areas to encourage alternate transportation modes.

The long-term vision incorporates eight key principles for downtown growth that will improve the built form with higher densities, mixed-use development, civic spaces, and enhanced connectivity (City of Pickering, 2013). The draft City Centre Urban Design Guidelines further this vision through enhancing the physical landscape and public realm by including a variety of low, medium, and high-rise buildings, walking and cycling infrastructure such as wider sidewalks, pedestrian crossings, bike lanes, bike parking, and street furniture, as well as the addition of public transit corridors (City of Pickering, 2014). Such features would create a more balanced modal split in the downtown, however, automobiles would continue as the dominant transportation mode moving away from the core where there is little in the form of infrastructure to promote alternatives. When asked

about how a multi-modal balance influences the urban design guidelines, the planner from the City of Pickering suggested,

> *Certainly using our City Centre vision, and our recent urban design guidelines as an example, uhh, there.. there is very strong relationship between mobility and livability, so the way in which we travel, and the way in which we live and work. So our urban form, and the context of our urban form associated with our streets, and the movement.., as you've seen, not just uhh within the region, but I would say nationally and internationally, is towards the formation of something we call more complete streets. We still recognize that there's a function, uhh you know, different functions of different streets, but what we're aiming for is a more complete streets to provide those mobility options and to do so, you have to have the right form of development adjacent to those roads, and so there's much more conscious look at trying to create streets that are, you know, have more of a pedestrian scale that are scale for pedestrians, that are comfortable for cyclists and transit users. So, it.. it.. it's not just uhh, looking at how many cars that you can push through an intersection at one particular time, it's a matter of how we can move people with various different modes, and also trying to create those balance within those communities so they don't have to commute as far, or that makes it more realistic that they can take advantage of the modes such as uhh, walking and cycling* (*Anonymous, personal communication, July 15, 2014*).

By this account, a multi-modal balance is a key precedent for the downtown core, but this initiative does not go beyond the borders of the core where automobile dependency is most prevalent. It is almost as if municipal planners have dismissed the idea that transportation equity and a balance of modes is possible in other parts of Pickering, especially more rural

neighbourhoods that are further away from transit service. In fact, the planner implied that people make their choices for sustainable transportation when choosing their living arrangements, so it is not the responsibility of the municipality to offer services to them.

> *But sometimes, sometimes I feel that that's really more that people making conscious choices on their living arrangements too. So, it's.. to some degree it's up to individuals to make that conscious choice, 'cause we cannot ensure, for some example someone wants to live in the middle of the rural area, that they're going to get the same level of transportation service. And so, what we're trying to do over time as we mature is be much more conscious and aware of how we deliver a greater array of transportation service.* (*Anonymous, personal communication, July 15, 2014*)

Although there is some truth to the idea that the people make their decisions based on their choice of lifestyle, planning for low-density sprawl has been recognized as a rather unsustainable method of growth. Such places have been mandated for intensification by provincial legislation to steer growth in a positive direction in which transportation and mobility play a significant role. Automobile dependency is a significant issue and cannot simply be dismissed as the people's problem, rather it must be addressed from local planning bodies as a key consideration when planning for sustainable and equitable places.

SWOT Analysis

Although this paper has addressed suburban downtown developments using a rather critical lens, such a framework has a number of positive implications as well. This section will address the strengths, weaknesses, opportunities, and threats posed by downtown intensification as a strategic growth model for intensifying suburban landscapes

and encouraging the use of alternative transportation modes in order to reduce dependence on vehicles.

Strengths

Downtown developments offer a number of strengths and positive impacts on the traditional suburban landscape; otherwise such a trend would not be as popular of a framework for growth as it has turned out to be. For one, downtown centres operate as a central hub for economic, social, and cultural affairs, serving as a central node for people to gather for multiple purposes including living, employment, commerce, leisure, or shopping among many others. It embodies a true 'complete' community and enables a lifestyle that is not dependent on personal vehicles, therefore effectively facilitating a multi-modal balance and as a result, transportation justice where all residents of the downtown core are given equal opportunities for mobility where their opportunities are not hindered by the potential inability to own or operate a personal vehicle. The varied mix and close proximity of uses paired with the availability of infrastructure for active transportation support walkability and cycling. In addition, downtowns provide a much-needed chance for placemaking that will allow for a distinct identity for the community, while creating a sense of place among residents (City of Pickering, 2013).

Weaknesses

Despite the strengths of downtown developments, they also carry some significant weaknesses as a growth model. A downtown development or intensification strategy in a suburban municipality does not address the context of *all* residents who live in it, especially those who live outside of the core. The infrastructure improvements and mixed

uses only benefit a select few residents on a daily basis: those who either live or work in the downtown core, or pass through as part of their daily commute. Specific to the context of the Ajax Downtown development, the site is not in close proximity to any major transit hub such as a GO Station or other higher-order transit, therefore it is not a place where people would happen upon or pass by on their daily commute, rather it must always be an intended destination in order for people to use it, whether for living, working, or recreational purposes. Finally, downtown developments may address imbalances in transportation modes within the immediate vicinity but it does not do much to address imbalances such as over-reliance on personal vehicles within the rest of the municipality where the majority of the population may continue to reside. The municipality must be well connected to lower-density municipal areas through the provision of infrastructure for transit and active commuting. However, this is not the case especially in Pickering where there is a lack of municipal interest in intensifying and promoting a multi-modal balance in areas outside of the downtown. Downtown developments, as a planner from Ajax noted, is "only (one) part of a very large and complicated proposition. Commitments on improvements to transit service and transit infrastructure and improving connectivity between centres is another important element," (*Anonymous, personal communication, May 26, 2014*). He goes on to identify the "capacity of local infrastructure to accommodate the level of growth envisioned by the plan" as a key weakness and limitation of this growth framework (ibid).

Opportunities

When asked about the opportunities that a downtown development puts forth for Pickering, the planner from the municipality noted,

> *I see it more as an opportunity, uh, as opposed to a limitation. Umm, there are opportunities uhh, for all the types of new uses to be introduced. The principle of our vision and our official plan amendment and urban design guidelines is really to enable uhh, the development of the downtown, and so we're looking for a variety of uses and some of them are public uses to be developed, uhh, you know, open space opportunities that are not traditional, so things like urban squares that you know, are not part of the traditional parks system. Umm, so you're creating a public realm network as well as those mobility networks and a mixed use environment that has active street frontages, and umm, are engaging areas, in which to grow and develop and live* (*Anonymous, personal communication, July 15, 2014*).

Similarly, the planner from Ajax also noted some opportunities for downtown intensification:

> *The redevelopment and improvement opportunities are tremendous including the redevelopment of older obsolete buildings, the development of public destinations including a new civic square, improvements to pedestrian and cycling infrastructure, improved street connectivity, etc.* (*Anonymous, personal communication, May 26, 2014*).

Downtowns offer a number of opportunities for sustainable growth within the core. However, they may also put forth the opportunity to create a higher demand for such infrastructure to stretch outside of the parametres of the downtown, therefore pushing for a well connected network for pedestrians, cyclists, and transit that reaches other parts of the municipality. Moreover, once the downtown is built, there is an opportunity to extend characteristics of the built form outside of the core to promote mixed uses and an enhanced

physical realm. Lastly, downtowns put forth the opportunity for economic development to attract outside investment and an overall creation of jobs, therefore boosting employment. A planner from Pickering suggests that leveling the ratio between the population and the availability of jobs would be beneficial from an economic perspective, but also from a planning perspective as people would rely less on cars. However, this may not necessarily be the case if infrastructure is not available outside of the downtown for people to consider switching to alternative modes, as they would be required to continue driving into the downtown for work (*Anonymous, personal communication, July 15, 2014*).

Threats

As with any development, downtowns face some significant threats that can hinder its success based on the original vision and purpose. For one instance, there is a possibility that a suburban downtown is treated as a recreational destination for leisure purposes, where the multi-modal infrastructure is not used for functional purposes (i.e. to get to a place of work, or run an errand), rather it is used by people who drive to the centre, park their cars in surrounding parking lots, and then walk or cycle to take full advantage of the *downtown experience*. The threat here lies in the unlikelihood of such sustainable transportation-related behaviours to transcend outside of the core in order to develop recurring habits, limiting the opportunities for a modal shift and impact on automobile dependency. On the opposite end of the spectrum, suburban motorists are conditioned by automobile-oriented streetscapes and tend to consider cyclists and pedestrians as a nuisance on the road. Mixed uses and higher degree of balance between modes may deter visitors who fear driving in such areas. Downtowns may also deter those who are unable to walk further distances such as persons with disabilities or the elderly who may have

mobility issues and are unable to walk to the destination in the core from the place they have parked their vehicles, especially if they choose to park for free in surrounding strip malls. In the case of Pickering, the large parking lot surrounding the shopping centre could potentially create a rather dangerous and uncomfortable walking environment as it lacks contin and invokes a feeling of disjunction of the public realm (Filion, 2000).

How successful are Suburban Downtowns as a Growth Framework?

Although suburban downtown intensification has proved to be a rather popular trend within suburbs in the Greater Toronto and Hamilton Area such as Vaughan, Markham, and Mississauga, there is little empirical evidence to suggest that they are successful in curbing automobile dependency within their respected municipalities, and promoting transportation equity. In fact, during our discussion, a planner from the Town of Ajax noted,

> *Multi-modal balance continuously informs the decision making process. We do not have information on whether it has curbed sole dependency on personal automobiles and trips made by single occupancy vehicles, but I am doubtful of any measurable difference (Anonymous, personal communication, May 26, 2014).*

During this part of the conversation, we were discussing a multi-modal balance within the concept of downtown planning and the overall vision. This is just one instance where the lack of quantitative evidence supporting suburban downtowns as a strategic growth framework is addressed, especially under a policy regime that aims to reduce the rate of reliance on vehicles as noted in numerous municipal, as well as provincial planning policies and legislation that have been discussed within the scope of this paper.

Filion et al. has done some rather interesting work that attempts to empirically evaluate three other suburban mixed-use centres within the Greater Toronto and Hamilton Area: North York Centre, Scarborough Centre, and Mississauga Centre, all of which are well-established to date. Downtown development as a growth framework was introduced as a suburban intensification strategy in early to mid 1980s as a response to both dramatic growth in Toronto's downtown core, and the automobile-oriented nature of business parks in surrounding suburban municipalities (ibid). As a result, mixed-use centres were encouraged as a solution that would address the imbalance of transportation modes and promote alternatives to the car such as walking, cycling, and particularly public transit in all three centres outlined in the paper (ibid). Similar to both Ajax and Pickering, the primary focus of these centres was to encourage walkability and eliminate zoning barriers to create a mix of uses on a streetscape. Economic development also played a key role in attracting investment, much like Ajax and Pickering, both of which are interested in the same while creating new opportunities for employment. The risk of this however, is exhibited in the three centres where "economic development objectives have taken precedence over intensification and the less immediate economic rewards deriving from the achievement of and intense pedestrian-based inner synergy," (Filion et al., 2000, p.435). As such, the municipality, in fear of deterring investors for other municipalities, nearly compromises a rich, cohesive pedestrian network for the "pursuit of economic development objectives," (ibid).

The Scarborough and Mississauga Centres share an intriguing resemblance with Pickering's City Centre site, specifically that the central focal point of each is a rather large, "regional mall surrounded by ample surface parking," while North York Centre is based on

commercial strip malls along Yonge Street (Filion et al., 2000, p.425). After conducting a survey of 530 employees who work within the centres, Filion's research team found that only half of all respondents actually walk as part of their intra-city trips (Filion et al., 2000). This was more apparent from respondents who work in Scarborough and Mississauga primarily because of the "uncomfortable walking environment" and "feeling of disjunction" caused by large arterial roads and the vast amount of mall parking which lacks the continuity that most traditional downtowns have (Filion et al., 2000, p.433). Each of these centres at the time that the research was conducted by Filion's team, hardly catered to pedestrians; some of these elements are still visible today. For one, large setbacks between buildings and roads coupled with inconsistent pedestrian infrastructure that would end abruptly, or were designed for the convenience of motorists rather than pedestrians made it an unpleasant environment for walking and even cycling, despite being originally mandated to be pedestrian-oriented in nature in response to automobile dependency (Filion et al., 2000). It is recognized in the study, however, that these mixed-use developments lack the fine-tuned urban design and land-use planning principles that create a more cohesive public realm.

On the other hand, it seems both Ajax and Pickering among other newer downtown intensification projects have taken into consideration more effective urban design guidelines that cater to the pedestrian realm by way of considerations such as smaller setbacks and more cohesive pedestrian and cycling networks in their development plans. However, both are situated along major arterial corridors that currently experience a large volume of traffic, especially during the morning and evening rush hour periods. Filion et al. suggest that rather than relieving automobile dependency and promoting a more balanced

modal split, downtown developments in fact increase the number of automobile trips, exacerbating the negative issues brought about by automobiles such as congestion and pollution (Filion et al., 2000). If such a theory holds true, Ajax and Pickering will have increased traffic congestion once the new developments are complete. Filion et al. conclude their study by stating that downtown mixed-use developments in suburban areas are only partially successful. Walkability does exist within the core but it is not enough to effectively impact automobile dependency within the suburb as a whole, and therefore does not address the objectives set out for intensification (Filion et al., 2000). In a separate paper, Filion evaluates the same three centres and concludes that a suburban downtown cannot have a significant contribution towards a more transit-oriented and multi-modal environment (2001). Concentration of mixed-use and high-density development along "high-speed, high-frequency, transit routes" would be much more effective in balancing multiple transportation modes instead (Filion, 2001, p.156). The Pickering City Centre development reflects just that – development along a major transit corridor, the GO Transit Lakeshore East line that services thousands of patrons on a daily basis. However, it is not enough to induce a citywide modal shift because the GO Transit train service is inter-regional, not inter-municipal, and therefore does not do much for trips made within the city rather only services trips being made to destinations outside of the city. This, paired with the lack of infrastructure for multiple modes renders downtown developments as unsuccessful in their goals to impact and deter automobile dependency in Suburbia, and also in creating an equitable transportation network that is accessible to all residents.

CONCLUSION

Low-density, suburban sprawl has been at the forefront of growth in the post-war era, promoting outward growth in the form of identical, 'cookie-cutter' neighbourhoods built upon the convenience of the car. Land-use patterns and the physical built form were designed using an automobile-oriented framework that negated other forms of transportation such as walking, cycling, and public transit. As a result, reliance on vehicles became the dominant form of transportation and has continued into the twenty-first century, towing along all the negative impacts that affect our society today including air pollution, congestion, and also health-related risks such as obesity. However, one impact that is not nearly discussed, as outlined in this paper, is transportation justice and the provision of equal access to multiple transportation modes without compromising one's opportunity. As it turns out, the notion of transportation justice is a term not typically used by planners in suburban municipalities, quite to the delight of some, it may seem.

When conducting interviews for this study, it quickly became evident that some municipalities had not considered transportation justice as a key framework for growth. The term, in fact, was even met with some animosity where planners suggested it did not fall under the realm of transportation or land-use planning, quickly dismissing it as an issue more appropriate for social planning rather than associating it with the design of the physical form (*Anonymous, personal communication, June 30, 2014*). However, this utter disregard for transportation justice exhibited by multiple planning departments is a key example of why planning is only theoretically cohesive and meant for the greater good, but perhaps not practically. Planners work under a number of political and legislative contexts (some may regard them constraints), which limit their abilities to think and act outside of

policy regimes. Legislative boundaries operate as power structures and limit the way that planning practice is carried out. Transportation justice has been undermined as a concept for growth, and will continue to be until it is addressed within a provincial mandate.

It is not all a tale of complete loss, however. A multi-modal balance, which is a precursor to equitable transportation has been addressed in multiple provincial policies and has transcended into municipal official plans of both upper-tier and lower-tier municipalities. It has gained some traction in recent years. However, it seems that this provision has been translated into the form of mixed-use centres and downtown developments to remedy automobile-dependency that has been prevalent in sprawling, suburban areas. Although such a growth framework offers many positive impacts, it tends to limit a multi-modal balance to the downtown centres that it embodies, effectively negating other parts of suburban municipalities, specifically low-density suburban neighbourhoods where automobile dependency is most prevalent, fuelling a vividly inequitable and disjointed transportation network especially in a municipality such as Pickering where all efforts for intensification and infrastructure improvements are concentrated in the core. Perhaps downtown intensification projects would be more successful in helping to create transportation equity if infrastructure patterns were extended into areas where people live, connecting residential, employment, and leisure uses a more coherent municipality. Both Ajax and Pickering have taken approaches to downtown planning that are both similar, and different to other suburban downtown development patterns seen in the Greater Toronto and Hamilton Area. Only time will tell if such detailed urban design guidelines will be successful in promoting walkability through its pedestrian-oriented focus – the single most equitable form of transportation that is

accessible to the largest group of residents. Those with disabilities who are unable to walk are still able to utilize pedestrian infrastructure such as crosswalks, sidewalks, and other amenities using vehicles designed for persons with disabilities. Therefore pedestrian infrastructure is the single form of public realm investment that has the potential to cater to everyone.

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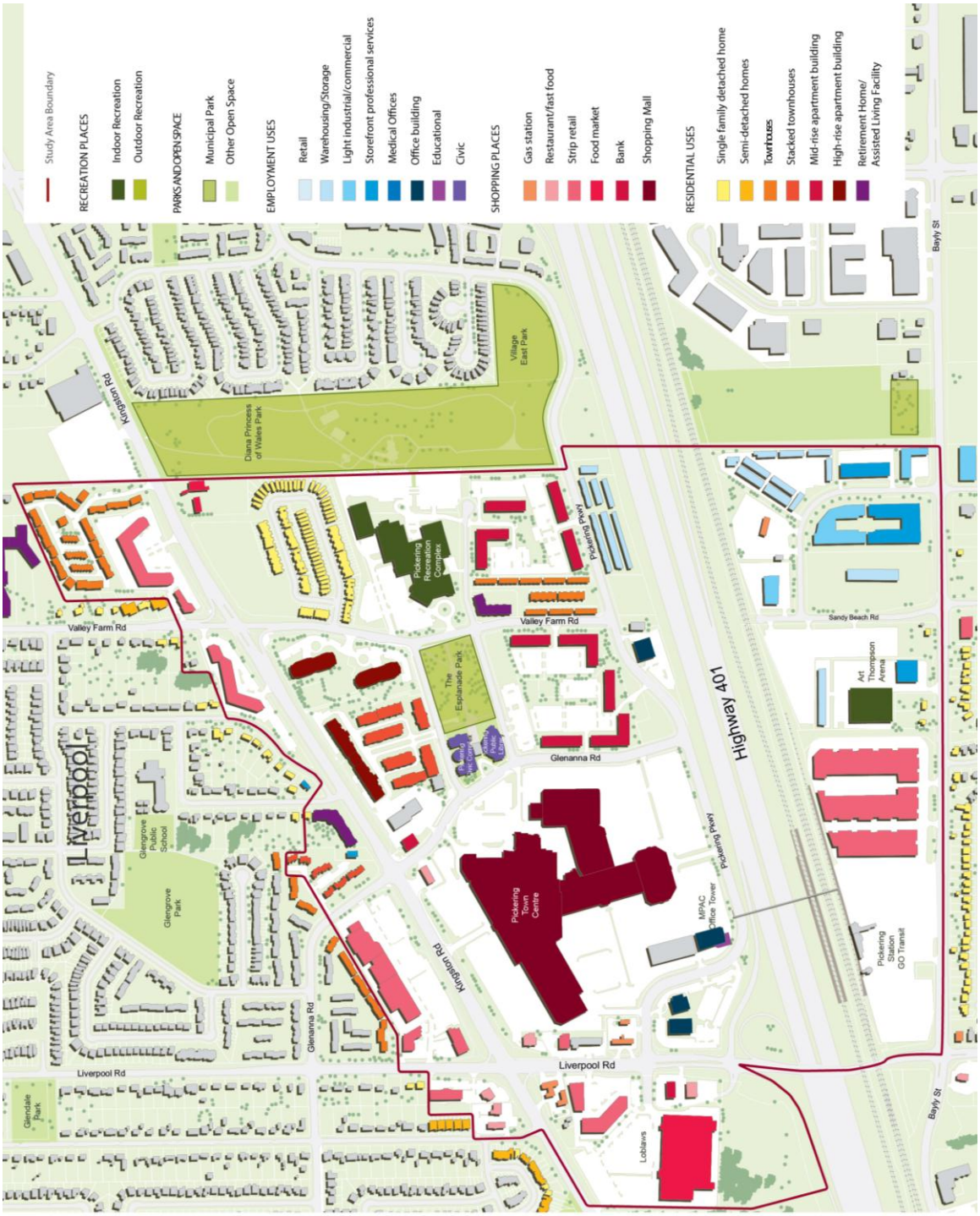
APPENDICES

Appendix A



Breakdown of land uses in Pickering's Downtown Core (City of Pickering, 2013)