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Creating a Livable Region through Sustainable Development Practices: Reorienting
Development in Windsor-Essex through the Implementation of Light Rail Transit

By:

Justin Appler

A Major Research Paper
Submitted to the Faculty of Graduate Studies
through the Department of Political Science
in Partial Fulfillment of the Requirements for
the Degree of Master of Arts
at the University of Windsor

Windsor, Ontario, Canada

2018

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Creating a Livable Region through Sustainable Development Practices: Reorienting
Development in Windsor Essex through the Implementation of Light Rail Transit

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January 17, 2018

Declaration of Originality

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Abstract

Windsor-Essex County lacks proper regional transportation, a major sustainability issue compounded by poor land use strategies, resulting in low-density suburban communities defined by extensive sprawl and heavy dependence on private automobile use. The current development direction of Windsor-Essex County is unsustainable on multiple levels, turning the region into space in which residents have limited options for how they can efficiently travel within their own municipality and to other municipalities. The downtown core of Windsor needs serious regeneration and the communities that make up the larger metropolitan region need an effective means of travel that is both environmentally sustainable and affordable. In order for Windsor-Essex County to be competitive in a global market place, the local governments within the region need to work on a regional development plan which will create strong economic clusters that are accessible by various means of transit.

Dedication

This paper is dedicated to the residents of Windsor-Essex and to everyone who believes that ideas can and do change the world. The truth is we build the world around us with the thoughts in our head, so dream a dream and it might just come true.

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CHAPTER 1

Introduction

Windsor-Essex County lacks proper regional transportation, a major sustainability issue compounded by poor land use strategies, resulting in low-density suburban communities defined by extensive sprawl and heavy dependence on private automobile use. The current development direction of Windsor-Essex County is unsustainable on multiple levels, turning the region into space in which residents have limited options for how they can efficiently travel within their own municipality and to other municipalities. The downtown core of Windsor needs serious regeneration and the communities that make up the larger metropolitan region need an effective means of travel that is both environmentally sustainable and affordable. In order for Windsor-Essex County to be competitive in a global market place, the local governments within the region need to work on a regional development plan which will create strong economic clusters that are accessible by various means of transit.

This paper maintains that the implementation of light rail transit (LRT) in the region would be an ideal way to commence the redevelopment of the region's land use patterns, and to create a livable city where resident and visitors can easily move through the region. A reliable LRT system will improve quality of life for residents and help redevelop the region around smart sustainable growth, rather than simply moving people from point A to point B. In Windsor-Essex County there is really only one viable option to move around the region effectively, through private car ownership. LRT presents an opportunity to rebrand the community around a reliable form of transportation which will change how residents interact with their material environment, creating a new social reality for transport seekers. Through an analysis of the literature on LRT and the sustainability concerns of transportation in Windsor Essex County, this paper outlines the

major issues facing the Windsor-Essex County and examines how LRT could play a role in mitigating these problems.

History of Regional Transit in Windsor-Essex

Intercity and regional transportation took root within the region of Windsor – Essex County in the 1850s. The first form of mass transportation that the region's residents had access to were horse omnibuses, urban versions of stagecoaches. Stagecoaches also made their way down what became Highway 3, known then as the Talbot Trail, into the county.¹ Horse drawn cars on rails laid down on the city streets replaced omnibuses by 1872, an idea first proposed in 1865 by the Windsor and Sandwich Street Railway Company. The company went out of business in 1880, but reorganized in 1887 as the Sandwich Windsor and Amherstburg Railway, which would remain the name of the city's transit system until 1977 when taken over by Transit Windsor, which is the name of Windsor's bus system today. The region of Windsor-Essex County can lay claim to several historic firsts in the field of transportation, including Canada's first electric streetcar, which commenced operation in Windsor on May 28, 1886. By 1891 the entire Sandwich, Windsor and Amherstburg Railway was electrified, making Windsor the first Canadian city with an all-electric transit system. Transitioning Windsor-Essex's trolley lines to motor buses would not be considered until 1938, within 14 months the transit system would be entirely motorized.²

¹ Laura L. Langlois, *The Township of Sandwich South: A Ninety-one Year Old Tree with Two-hundred Years of Roots: A Celebration of the Ontario Bicentennial*, (Tecumseh: Lacasse Printing:,1984) 17-19.

² Bernard Drouillard W. *Public Transit in Windsor*, (Windsor: Transit Windsor, 2002) 1.

For almost two decades the Windsor system was a subsidiary of the Detroit United Railway which purchased the capital stock of the Sandwich, Windsor, and Amherstburg Railway on August 31, 1901. The Detroit-based firm also owned the six-mile rail line of the Windsor and Tecumseh railway, which was completed in 1907. On January 14, 1920 the Hydro Electric Power Commission of Ontario purchased the Sandwich, Windsor and Amherstburg and Windsor, and Tecumseh rail lines on behalf of the city of Windsor and the neighboring municipalities. This large infrastructure deal was financed by the province of Ontario, which issued \$2 million in debentures secured by collateral debentures of the municipalities and vested all of the assets of the rail lines in the Hydro Electric Power Commission. The operation and management of this system would be conducted under the name of Hydro Electric Railway, Essex District. The Hydro Electric Power Commission later became involved with other electric railways around the province, especially in the Hamilton area. By 1929 it would also operate the Windsor, Essex, and Lakeshore rail line, a 37-mile long interurban rail line running diagonally across the Essex peninsula from Lakeshore to Windsor to Kingsville and Leamington.³

In 1922, the Hydro Electric Power Commission commenced a plan to bring service into new developing residential areas of the city by means of trolley bus feeder routes. This deferred the high cost of street railway lines until the areas were more densely populated, allowing for a higher rate of return on the investment. Three feeder routes were then identified as being suitable for trolley bus operation. This was a bold move by the Hydro Electric Power Commission, seeing as this new form of transportation was still in the primitive stages of development and there were only a handful of cities which had established them in North America. Windsor would have another one of Canada's firsts when the city established its first trolley bus operation on the

³ Bernard Drouillard W. *Public Transit in Windsor*, (Windsor: Transit Windsor, 2002) 2.

Lincoln Road line in the Windsor suburb of Walkerville, which began service on May 4, 1922. It extended for 1.6 miles along Lincoln Road from the street car connection at Wyandotte street to an outer terminus at Tecumseh Road. A second line was opened on Erie Street on September 22 of the same year, from the corner of Ouellette and Erie, this line extended east on Erie and around Langlois, Ottawa, Gladstone, Giles Boulevard and back to Langlois, a distance of 1.25 miles. The third trolleybus route was going to be located on Bruce Avenue, but it was never built. Starting at Sandwich and Ferry Streets, it would have run on McDougall, Wyandotte, Bruce Avenue and Grove Streets.⁴

These lines were never intended to be permanent, the expectation being that they would be dismantled and rolling stock and overhead would be transplanted to other growing suburbs of Windsor. The Erie trolley bus line was suspended and by 1923 a double-track extension was built as an addition to the city's existing streetcar infrastructure. However, due to the costs of the trolley buses in May 1926 the Lincoln Road trolleybuses were pulled out of service and motor buses were substituted. Several other bus routes commenced that same year, all providing services to outlying districts. This experiment with motor buses would be short lived, as none of these new bus lines proved profitable and revenues plummeted with the start of the Great Depression. In 1931 the Hydro Electric Power Commission terminated the bus lines.⁵

The Hydro Electric Power Commission governed the region's transit system until 1930, when the Ontario legislature passed the Sandwich, Windsor and Amherstburg Railway Act creating the Sandwich, Windsor and Amherstburg Railway Company. The members of this new corporation were comprised of ten appointed representatives, one apiece from the municipalities

⁴ Bernard Drouillard W. *Public Transit in Windsor*, (Windsor: Transit Windsor, 2002) 3.

⁵ Bernard Drouillard W. *Public Transit in Windsor*, (Windsor: Transit Windsor, 2002) 4.

of Windsor, Sandwich, Sandwich East, Sandwich West, Ojibway, Walkerville, Tecumseh, LaSalle, Riverside, and East Windsor. A further amendment made to the Act in 1933 did away with the municipal representation and allowed the Ontario Municipal Board to appoint three members to manage the rail company. On September 22, 1934, the Hydro Electric Power Commission terminated its operating agreement with the Sandwich, Windsor, and Amherstburg Railway Company. The company found itself with very little capital reserves and was experiencing annual revenue losses.

The Ontario Municipal Board appointed W. Furlong as Chairman of the board in 1937, resulting in big changes for the Sandwich, Windsor, and Amherstburg Railway Company. Under his leadership, the entire system was converted to bus lines, using the Ford transit bus as the standard vehicle.⁶ By 1944 Windsor was operating 177 buses on its streets, the largest such fleet in Canada. Between 1946 and 1951 these buses would be replaced by 121 twin coach buses.⁷ In the 1950s, the ridership of the region's transit system would start to see a serious decline. Windsor's transit declined much faster than other cities of a comparable size due to the local economic base being founded on the auto industry. From this point onward, the access to regional transportation within the Windsor-Essex region continued to decline, and at present there is no viable regional public transport system to move residents between the region's municipalities.⁸

Regional bus and rail transportation was once provided to the region's residents through a combination of public and private actors working together to service the transit needs of a growing community. The advent of the automobile led to the deterioration of public

⁶ Bernard Drouillard W. *Public Transit in Windsor*, (Windsor: Transit Windsor, 2002) 5.

⁷ Bernard Drouillard W. *Public Transit in Windsor*, (Windsor: Transit Windsor, 2002) 6.

⁸ Bernard Drouillard W. *Public Transit in Windsor*, (Windsor: Transit Windsor, 2002) 7.

transportation in Windsor-Essex on a regional level and now only exists within the city of Windsor, with LaSalle and Tecumseh receiving limited bus service from Transit Windsor. The residents of Windsor-Essex travel almost exclusively by private automobiles.

The current method of mass transportation in Windsor-Essex of relying on private automobile ownership is unsustainable. The price of maintaining the regions road network is increased dramatically by the high volume of automobiles on the roads due to the lack of available public transit. In 2004 a transportation study conducted in Windsor-Essex, highlighted the high price of the expanding low density suburban neighborhoods in Windsor-Essex. It concluded that a investment of \$258 million dollars in road infrastructure maintenance would be required over the next 16 years to keep up with the pace of urban sprawl in Essex county.⁹ Further, Windsor - Essex experiences congestion on several major roads which connect the city to its suburban neighbours, a trend that places a great amount of strain on the region's road networks.¹⁰ Getting cars off the road through residents utilizing public transit would increase the longevity of the region's roads.

However, realizing a regional public transit system would require residents to live in higher density mixed used developments instead of continuing the prevailing norm of low density suburban neighbourhoods, putting strain on the region's major roads and increasing the demand for new roads to be built. Making the region's transportation more sustainable involves increasing access to public transportation and developing the region's residential areas in new ways which are conducive to being serviced by public transportation. This paper will work to contextualize how the issue of unsustainable transportation in Windsor-Essex can be mitigated.

⁹ Gary Rennie. "Transport Study Unveiled Today." *The Windsor Star*, Apr 20, 2005. 29.

¹⁰ Gary Rennie. "County to Outpace City; Study Sees Faster Growth in Essex County, Testing Transport Capacity and Financing." *The Windsor Star*, Jan 07, 2004. 30.

The goal is to demonstrate how working towards implementing a LRT system would help mitigate the sustainability issues of land use patterns in Windsor-Essex through redeveloping the region's communities around a new form of transportation. The following section of this paper reviews the relevant literature on LRT systems and the role they play in building sustainable communities, and Windsor-Essex County's transportation sustainability issues. It describes the struggle of the region's municipal governments to implement regional transportation.

LRT Effect on Urban Design and Sense of Place

Olesen and Lassen consider the main visions and rationalities behind light rail projects in two mid-sized European cities to understand the impact of the formation of "light rail scapes."¹¹ They argue that the cities in their studies have used light rail projects in order to reconfigure the shape of their urban designs. Therefore, they argue further that the implementation of light rail should be thought of as complex urban development projects instead of just as a piece of infrastructure. They articulate how light rail systems have been considered in many mid-sized cities with populations of 100,000 inhabitants or more. The authors tackle two of the main criticisms of the typical decision making process for light rail: the supposed economic irrationality of the decision to install a light rail system and the perceived superiority of bus rapid transit (BRT). Yet despite these criticisms, they explain how a multitude of cities have cited the flexibility of light rail systems and their ability to meet the diverse set of goals that their city is trying to reach, despite light rail being more expensive than BRT.¹²

¹¹ Olesen, and Lassen. "Rationalities and Materialities of Light Rail Scapes." *Journal of Transport Geography* 54 (2016): 373-82.

¹² *Ibid*, 373.

The authors cite Bruijn and Veeneman, who conclude in their study that BRT seems to lack the mythical attraction that is associated with light rail systems, which are able to mobilize various actors to support their implementation.¹³ The mythical allure of LRT is derived from the presence that it creates when implemented on a city scape, urban cores are transformed into pedestrian greenways as new rail lines take up a space that was previously crowded by cars. BRT, by contrast, which only requires a few priority bus lanes and transit stops has, played a smaller role in the way residents and visitors view a city.¹⁴

Olesen and Lassen focus on concepts of visions and rationalities in their study, which they argue are associated with the specific materialities and special layouts of LRT projects and how these characteristics make them valuable and relevant from a strategic urban development perspective. The authors argue that LRT needs to be re-imagined as an urban development project instead of as a simple piece of infrastructure. The authors cite the work of Sheller and Urry who maintain that within the literature on urban development there is a growing interest in how “the ways in which material ‘stuff’ makes up places.”¹⁵ Olesen and Lassen maintain that the immobility of light rail tracks provide a highly valued attribute from an investor's perspective and from a user’s perspective. The long lasting nature of this sort of transit solution is essential to the placing-making value of LRT projects.¹⁶

Knowles and Ferbrache evaluate how public transport plays a critical role in facilitating a city region’s competitiveness and how cities with poor quality public transport are at a

¹³ Ibid, 374

¹⁴ Ibid, 375.

¹⁵ Ibid, 373.

¹⁶ Ibid, 374.

competitive disadvantage.¹⁷ In particular their paper provides a critical perspective on the wider economic impacts of light rail transit on cities across the globe, through investigating the positive economic rationales that both public and private organizations have used to justify a city's investment in LRT. They maintain that cities with successful post-industrial economies and populations above 300,000 are able to establish LRT or heavy rail schemes. Further in tune with the literature on LRT they argue that investment in LRT can aid in the regeneration of central business districts, boost employment, land and property prices and improve the overall quality of a city environment.¹⁸ Knowles and Ferbranche explain how LRT can carry up to three times more passengers than buses, while also operating at a greater speed. Ultimately, they argue that an investment in LRT can serve as a catalyst for the renewal of urban spaces through creating a “sense of place.” In tune with the work of Olesen and Lassen they argue that traditional methods of calculating the costs and benefits of LRT do not account for wider economic benefits of an investment in light rail systems.¹⁹

Knowles and Ferbranche also situate LRT as a producer of place and argue that transport plays a key role in shaping cities and their wider urban regions.²⁰ They maintain that LRT works well when implemented as part of a broader development agenda to create a sustainable and livable city. They maintain that academics and various stakeholders have begun to recognize LRT as a tool to bring about social, economic and environmental benefits for medium and large sized cities. In developed countries LRT has been promoted as an agent for change within broad

¹⁷ Knowles, and Ferbrache. "Evaluation of Wider Economic Impacts of Light Rail Investment on Cities." *Journal of Transport Geography* 54 (2016): 430-39.

¹⁸ Ibid, 430,

¹⁹ Ibid, 431-432

²⁰ Ferbrache, and Knowles. "City Boosterism and Place-making with Light Rail Transit: A Critical Review of Light Rail Impacts on City Image and Quality." *Geoforum* 80 (2017): 103-13.

development agendas such as urban regeneration and, it is often utilized to help cities boost their status and prestige as a “world class, livable or sustainable” city.²¹ The authors contend that cost benefit analyses and various other qualifying methods have been unable to place numeric value on the social, environmental and wider economic effects that transit schemes such as LRT have to offer. High quality transport infrastructure can assist image building through actualizing the ideas and perceptions held by social actors, as well as re-shaping physical spaces resulting in improved accessibility and connectivity.²²

Knowles and Ferbrache establish in their article how rail-based systems have been utilized and viewed around the world as symbols of urban or place identity and progress. LRT projects the image that a city is able to compete in more non-conventional ways, which contributes to boosting its image, while at the same time stimulating economic growth. The authors contextualize the link between public transit and the institutional discourses on sustainable mobility, sustainable cities and social equity and inclusivity, vital parts of the concept of livable cities. They cite Mulliner and Maliene, who argue that people’s perception of the quality of their environment is of the utmost importance when considering how to make a city sustainable and attractive.²³ They cite Thompson who maintains that the “choice of transport strategy is not simply a calculation of cost-effectiveness; it is also a choice of way of life.”²⁴

Knowles and Ferbrache make reference to the United States 2010 federally funded transit projects, which now emphasize criteria that promote livability over cost-effectiveness. They draw attention to how LRT has many benefits beyond being good for the environment through

²¹ Ibid, 103.

²² Ibid, 104.

²³ Ibid, 104.

²⁴ Ibid, 105.

decreasing car dependency. They argue that LRT can help facilitate economic growth and create livable cities. The authors utilize a cultural geographic perspective and conceptualization of space as being socially constructed and relational which is the lens they use to analyze the place-making relationship between LRT development and city boosterism.²⁵

Knowles and Ferbrache utilize an approach developed by Jensen who maintains that identities and entities influence the production of urban spaces. Jensen states: “planning, design, architecture, governance systems, technological networks as well by the social interactions, cultural meanings and the production of social order.”²⁶ Utilizing this perspective the authors claim that transport becomes an agent in the production of space, which contrasts with traditional views of transport as something that moves across or within a space. In tune with Olesen and Lassen, the authors draw attention to the importance of “light rail scapes,” which are composed of trains, tracks, stations, masts, stops, train designs, colours, politics, discourses and metaphors situating how LRT is an assemblage which is a part of a greater conception that produces city spaces. The authors explain how the action of place-making refers to a process through which spaces take on a cultural meaning, which is created by the social actors within it, making a form of transport more than a material thing, but one which has meaning attached to it.²⁷

The Technicalities of Urban Planning: Land use and Transit Development

The work of Filion and McSpurren conceptualizes the importance of municipalities coordinating land use development alongside transportation objectives.²⁸ They argue that this can be best done through utilizing smart growth development strategies. The smart growth

²⁵ Ibid, 104.

²⁶ Jensen, O.B. *Staging Mobilities* (Routledge: London, 2013). 6.

²⁷ Ibid, 105.

²⁸ Pierre, Filion and Kathleen McSpurren. "Smart Growth and Development Reality: The Difficult Co-ordination of Land Use and Transport Objectives." *Urban Studies* 44, no. 3 (2007): 501-23.

movement is working to transform the way cities grow and function, to respond to the growth of urban forms which are heavily reliant on automobiles. They maintain that the attainment of smart growth goals requires strategies that will prevail over an entire metropolitan area, unfolding consistently over a long period of time. The authors maintain that for high density residential development to translate into increased public transit usage, it must be paired with high quality transit services and infrastructure that is competitive with the automobile. Filion and McSpurren utilize the case study of Toronto, considering the city's achievements and shortcomings in their policy initiatives since the late 1950s, in terms of coordinating high density development with access to high quality public transit.²⁹

Smart growth is a response to the prevailing urban development taking place in many North American cities, which is typically low density, socially and functionally segregated, and automobile-oriented. Smart Growth strategies propose an urban configuration that has densities that exceed current norms, to create urban environments that are conducive to walking, cycling and public transit use, which in turn will foster a sense of community.³⁰ The authors maintain that without a metropolitan-wide strategy that unfolds with consistency over a long period that smart growth strategies will not work to create successful changes in the course of urban development.³¹

The authors explain how within the core of Toronto, mass transit has been relatively successful in the post-war years at maintaining and building a coordinated public transportation system, through aligning land use planning and transit development within the city's core under

²⁹ Ibid, 501.

³⁰ Ibid, 502.

³¹ Ibid, 503.

the governance of Metro Toronto.³² However, the surrounding suburban communities outside of the core do not have the same level of transit, and have been developed along the prevailing Canadian norm of a low density auto-dependent community.³³ The authors attribute the difference between the development goals of Metro Toronto and the outlying suburbs to institutional differences fed by a desire for a certain type of lifestyle. In Metro Toronto there is a demand for high density residential units that will be serviced by transit, which is then developed under the authority of Metro Toronto, whereas in the suburbs there is a desire to maintain a well-established middle class culture and landscape of low density suburban neighborhoods dependent on automobiles.³⁴ They refer to the movement to maintain middle class neighborhoods in their current form as the “not in my back yard (NIMBY)” movement, where residents reject the redevelopment of their communities because they do not want to see it change.³⁵ The authors explain how in the case of Toronto these NIMBY movements generally have not succeeded in stopping development but have instead managed to shift it to other areas, or scale it back a bit. However, the case of Toronto shows how, as the regional authority of Metro Toronto expanded over time, so did Smart Growth development into communities under its control.³⁶

The authors justify the opposition of NIMBY movements by highlighting how most of the benefits of the redevelopment of their communities go to the developers and the new residents, while existing residents have to put up with the construction and the undesired changes to their communities. Therefore, the authors recommend that more needs to be done to convince

³² Ibid, 504.

³³ Ibid, 505-506.

³⁴ Ibid, 508 – 510.

³⁵ Ibid, 513.

³⁶ Ibid, 514.

established residents to approve of the new changes through coupling higher density redevelopment with public transit development and access to other new facilities such as green spaces and recreational facilities.³⁷ The major findings of their research maintain that Smart Growth needs to be facilitated at a metropolitan level over a long period of time, in which the relevant actors are constantly looking to the future and are ready to act in order for their overarching development goals to be realized.

Olesen and Lassen maintain that LRT scapes should be understood in terms of a project's 'hardware' and 'software' elements.³⁸ By 'hardware' materialities, the authors are referring to the trains, the tracks and the stations, while the political, rationalities, and metaphors used in the planning are the 'software' elements. They argue that both the hardware and software elements of these projects have equally important roles to play.³⁹ Their case study shows how the emergence and the presence of LRT serves as a new kind of mobility which is far more than simply a way of reducing travel times or getting users from point A to point B. The examples they examine include, Angers, France and Bergen, Norway. In both cases LRT becomes a physical manifestation of a different urban lifestyle, not centered on travel by auto-mobile. Due to the results of their study they maintain that future research must consider new ways of evaluating future light rail projects beyond a simple cost benefit analysis. They argue that light rail projects should be assessed for their potential to serve as redevelopment projects for urban and suburban centers.⁴⁰

³⁷ Ibid, 517.

³⁸ Olesen, and Lassen. "Rationalities and Materialities of Light Rail Scapes." *Journal of Transport Geography* 54 (2016): 373-82.

³⁹ Ibid, 374.

⁴⁰ Ibid, 375-380.

Knowles and Ferbranche draw on a detailed review of research undertaken to investigate the wider economic impacts of LRT on cities in the UK, continental Europe and North America.⁴¹ The results from their study suggest that investment in LRT can have positive economic impacts on cities, but similar LRT investments situated in different locations and at different scales will not have the same economic benefits. They make the argument that geography matters and that LRT investment alone is unlikely to be enough to create widespread economic change without additional supportive policies. Their study shows that LRT can stimulate economic growth through improving access to hard to reach areas, through eliminating transportation constraints. LRT can also encourage investment, which triggers fresh growth and widening labor market catchment areas and positively influencing property prices. Further, LRT has the ability in the context of sound planning and good urban policy to reorganize and rationalize land use.⁴²

Windsor's Unsustainable Development

The most important evidence brought forward by Ferbrache and Knowles in their study, as it relates to Windsor-Essex County, is “The Grenoble Effect.” Grenoble is a city in France with a population of 155 000 inhabitants, less than Windsor’s population of 218 000. Grenoble’s metropolitan population is over 600 000, while Windsor’s is just over 300 000. Grenoble, a midsized city not unlike Windsor, has been able to utilize LRT as a part of a larger urban development plan to transform the city’s center into an aesthetically appealing place where pedestrianisation and public squares have replaced private vehicles and mobility spaces. The success of this project can be seen throughout France where larger cities such as Bordeaux,

⁴¹ Knowles, and Ferbrache. "Evaluation of Wider Economic Impacts of Light Rail Investment on Cities." *Journal of Transport Geography* 54 (2016): 430-39.

⁴² *Ibid.*, 335-438.

Lyon, Montpellier, Nice and Rouen have taken up this approach. The authors explain how the “Grenoble Effect” serves as an opportunity for cities to redefine their transportation projects in terms of planning and land use, through a revitalization and restructuring of the urban fabric that makes up a city.

The issue of land use patterns is key to understanding the potential impact of LRT in a region like Windsor-Essex. Maoh and Tang provide an excellent analysis of the effects of horizontal expansion in land development in the Windsor Metropolitan Area and how this has affected commute times and distance.⁴³ The authors also contextualize how, within the paradigm of intense urban sprawl, sex, age, occupation type, mode of transportation, migration, employment status, mixed land uses, and job concentration at the place of residence factor into commute distance. Historically, the authors articulate how urban sprawl began to intensify in the postwar years as more people become dependent on the automobile, which led to changes in urban spatial structure. During the postwar years predominantly centralized cities became decentralized and suburban growth and development quickly became the norm in most cities, including Windsor, whose metropolitan area now spills into its neighboring communities, which have increasingly developed as decentralized low-density suburban neighborhoods.⁴⁴ With the advent of suburbanization there has been a massive shift of population and employment from the core to the suburbs, resulting in the expansion of low density residential neighborhoods which are most accessible by cars.⁴⁵

⁴³ Maoh, and Tang. "Determinants of Normal and Extreme Commute Distance in a Sprawled Midsize Canadian City: Evidence from Windsor, Canada." *Journal of Transport Geography* 25 (2012): 50-57.

⁴⁴ Ibid, 50 -51.

⁴⁵ Ibid, 52.

Maoh and Tang's study makes an important claim about the direction of Windsor's growth. They maintain that internal migrants within the city tend to be leaving the central parts of the city to enjoy better conditions in the suburbs. Further, the authors claim that external migrants are far more likely to choose suburban locations over the city's urban core. They maintain that if this trend continues the result will be longer commuting distances.⁴⁶ The main finding of their study is that the impact that socioeconomic and land use factors have on commute times in Windsor are in tune with the results of other North American cities regardless of the size difference between them and Windsor.⁴⁷ Their study also demonstrates that workers living in mixed land use neighborhoods have short commute distances. Due to this negative relationship between mixed land use and extreme auto commuting distance the authors conclude that smart growth via mixed land use could help curb auto dependency in Windsor. Mixed land use is a type of urban development that blends residential and commercial development, creating communities in which people can live, work and play. While the authors realize that it would not be feasible to implement land use mixing in each neighborhood of the Windsor metropolitan area, they maintain that targeting certain centers to promote polycentrism, would help to reduce the overwhelming rate of auto dependency in Windsor.⁴⁸

Khan et al. explain how the prevalence of urban sprawl has radically increased the levels of auto dependency in North American cities. They focus on non-work travel during the afternoon peak, which they argue has resulted in unsustainable patterns in Canadian cities.⁴⁹ The authors explain how active and green modes of transportation alongside "smart growth" have

⁴⁶ Ibid, 54.

⁴⁷ Ibid, 56.

⁴⁸ Ibid, 56-57.

⁴⁹ Shakil Khan, et al., "Toward Sustainable Urban Mobility: Investigating Nonwork Travel Behavior in a Sprawled Canadian City." *International Journal of Sustainable Transportation* 10, no. 4 (2016): 321-31.

been promoted as an ideal solution to the problem of unsustainable travel patterns in sprawled cities. Specifically, this article investigates the efficacy of sustainable urban mobility strategies in Windsor Ontario, using data records from a household travel survey. They implement models in a scenario-building simulation exercise in order to demonstrate the benefits that can be attained through improving public transit, encouraging smart growth development and lowering vehicle ownership.⁵⁰ The authors maintain that utilizing a single policy instrument is an ineffective approach to reducing auto dependency in Windsor. Instead, the authors recommend that a multidimensional policy approach that integrates land use and transportation policy instruments would be an effective method for achieving sustainable transport outcomes in the Windsor area.⁵¹

Khan et al. illustrate how work-related trips have been considered the driving force of travel demands in urban areas, however, due to changes in lifestyles, time and land-use patterns in many North American cities coupled with increased auto dependency have increased non-work travel. They define non-work travel as activities that are often associated with shopping and other personal activities such as recreational and social interactions. These sorts of trips now represent a major contributor to total generated trips, namely during afternoon peaks. The authors view this area of travel to be a major gap in the literature on transport in sprawled urban cities, which they seek to fill through their research.⁵²

The authors rightfully state that Windsor is known as the "automotive capital of Canada," and has a highly auto dependent culture.⁵³ Windsor like most other urban areas in North America

⁵⁰ Ibid, 321.

⁵¹ Ibid, 330.

⁵² Ibid, 322.

⁵³ Ibid, 323.

has gone through a massive change in direction in terms of its development in the post-war years, where the focus shifted from urban to suburban development in the form of sprawled land use patterns through the construction of low-density residential neighborhoods. Further, due to the lack of public transit in the region the sprawled suburban communities, in which the majority of the region's residents live, will continue to rely on the automobile if this trend of urban sprawl continues without any sort of intervention.⁵⁴

Khan et al. maintain that Windsor's transportation system is not sustainable due to the rapid expansion of urban sprawl, the rising levels of auto ownership and the lack of an adequate transit system to service the transit needs of the current population.⁵⁵ In order to answer their research question "what conditions should be put in place for Windsor to reverse its ongoing negative course to achieve progress towards sustainable transportation in the future?", the authors have adopted a scenario-based approach to address their research question.⁵⁶ Scenario one tests the impact of a policy solely focused on increasing gasoline prices. Scenario two tests the impact of a policy focused on improving public transit level of service (LOS). Scenario three tests the impacts of a policy solely focused on promoting a reduction in vehicle ownership. Scenario four tests the impacts of a policy solely focused on promoting an active and green built environment conducive for walking and cycling. The fifth and final scenario tests the impacts of a policy package that focuses on a number of important sustainability themes that include gas prices, transit LOS, vehicle ownership, and built-environment improvements.⁵⁷ After running their scenarios with the travel data from the City of Windsor, the authors found that that the best approach would be scenario five in which a multifaceted approach would be taken towards

⁵⁴ Ibid, 323-324.

⁵⁵ Ibid, 321.

⁵⁶ Ibid, 322.

⁵⁷ Ibid, 328.

curbing auto-dependency and creating a culture of sustainable travel with the Windsor-Essex region. Their proposed policy recommends integrating various land-use and transportation-planning elements in order to reduce auto dependency. Further, there is a need for local governments to work with the federal government to regulate gas prices while at the same time addressing local planning affairs. Essentially, all levels of government need to work together to encourage transit-oriented development, through adopting smart growth strategies in an incremental fashion, so that travelers can adapt to a new norm of active and green modes of transportation, including: walking, cycling and public transit.⁵⁸

⁵⁸ Ibid, 330.

CHAPTER 2

Transportation Studies of Windsor-Essex

The local governments of Windsor-Essex have conducted several studies, which confirm the need for smart growth, implementing regional transportation and new land use strategies. The Windsor-Essex Regional Chamber of Commerce's Transportation Committee produced a Regional Transportation Paper in 2013, which highlights their positions on transportation and infrastructure, planning and policy.⁵⁹ The document contextualizes the public transit dilemma of the region. Transit Windsor faces the major challenge of serving a region where both residences and workplaces are dispersed throughout the city's metropolitan area. Ridership of the city's transit system is low, as a result of the low level of service that is offered. Specifically, the document details the need to expand the city's transit services in order to get workers out to key economic clusters in the Old Castle area and in the Patillo Road industrial area of Lakeshore. The authors encourage the City of Windsor to work with nearby municipalities to extend public transit service to build up areas outside of the city limits, to get workers without cars to jobs that need employees.⁶⁰ Their report recommends that the City of Windsor and the municipalities of Essex County revisit the Community Based Strategic Rail Study that the City of Windsor created in partnership with Transport Canada in 2008.⁶¹ The Study recommended that the City collaborate with the rail companies in the region to work towards consolidating the four rail lines running through the region through rail rationalization. However, due to the economic crisis that

⁵⁹ Anderson et al., "Regional Transportation Paper," (Windsor, Windsor – Essex Regional Chamber of Commerce 2013), 1–26.

⁶⁰ Ibid, 14 -15.

⁶¹ Ibid, 19.

followed the crash of 2008, the major components of these recommendations were not implemented.⁶²

The City of Windsor's Community Based Strategic Rail Study was created through a partnership with Transport Canada and McCormick Rankin Corporation.⁶³ This study draws attention to and provides an analysis of the rail rationalization opportunities that exist within the current Windsor-Essex rail infrastructure. It highlights the potential to establish intermodal facilities and to redevelop the brownfields of rail lands. The study's overarching recommendation is for the region to work towards rail rationalization, consolidating underused rail lines and repurpose the land or rail for new infrastructure projects. The document highlights the associated community opportunities and benefits of rail rationalization.⁶⁴ The document highlights how rail rationalization can allow for land currently occupied by the Chatham and CASO subdivision rail line which the VIA rail train rides along could be used for a new development. It recommends that the City consider developing a high-speed transit system along the Chatham subdivision, and that the city look into establishing either a LRT or bus rapid transit (BRT) system. The major advantage of instituting high-speed transit in this corridor is that it maintains the continuity of the existing right of way, allowing for flexibility for future growth development strategies.⁶⁵

The existing right of way track could be adapted to LRT operations and with further modifications could be adapted for BRT operations. Given that rail is already in place along the corridor the investment required for BRT construction would most likely be higher than for LRT. In a context where there is an existing roadway but not rail infrastructure, the opposite would be

⁶² Ibid, 11.

⁶³ City of Windsor and Transport Canada, "Community Based Strategic Rail Study," (Windsor: McCormick Rankin Corporation, 2008) .

⁶⁴ Ibid, 1 -5.

⁶⁵ Ibid, 48.

true. The document argues that high speed transit could have a net positive effect on adjacent land by increasing accessibility and promoting mixed-used land developments. Further, LRT in this corridor would have the ability to attract and funnel large groups of people to higher density zones along the transit line, becoming points of economic activity. This would benefit retailers that thrive near areas of high pedestrian movement. The real-estate value of residential homes and commercial buildings near LRT and BRT stations also could increase in value, if implemented as a part of a larger urban development project.⁶⁶

The railway corridor in question would be advantageous as a potential LRT or BRT route due to its proximity to residential, commercial and industrial districts. The document maintains that through providing a LRT or BRT service to the corridor that this would appeal to the commuters who live in suburban or rural communities along the corridor who are coming into the central district to work or spend leisurely time. LRT or BRT would complement Windsor existing transit system through providing better access to the city's downtown district and waterfront, while at the same time bringing residents into the city without their cars. The document recommends that a feasibility study be conducted to justify either the constructions of a LRT or BRT system along on the current Chatham and CASO rail line.⁶⁷ The study does not address the potential for a NIMBY movement to erupt among the residents whose homes may be near the new infrastructure. It is assumed that LRT or BRT infrastructure would be a welcomed improvement creating an additional mode of travel, while also removing heavy rail operations from these neighborhoods.

⁶⁶ Ibid, 49.

⁶⁷ Ibid, 49.

In addition to the implementation of high-speed transit, a network of trails, parks and green spaces should be constructed along the existing rail corridor. These trails would promote walking and cycling as an alternative means of getting from place to place. Through the creation of an extensive network of paths and trails the city could work towards amalgamating conservation areas with green spaces, parks and residential communities, transforming Windsor-Essex and their communities into environmentally conscious and walkable places to live. Redeveloping the areas around these tracks through adding green spaces will improve the quality of air and mitigate the vibration caused by rail activity along the corridor that would be generated if LRT were to be implemented. The document maintains that this would be an inexpensive way to start redeveloping the area, in preparation for LRT or BRT which would have standalone benefits, even if LRT or BRT never comes to this corridor.⁶⁸

The document stresses that the best way to move forward with the redevelopment of this corridor is to utilize modal integration, resulting in integrating LRT and bicycle paths and walkways along the rail line once retired. An integrative approach would provide the greatest flexibility to the potential users, and the different modes presented would work well together complementing each other. The authors state that LRT or BRT stations along the rail route could have bicycle storage facilities to allow for residents to transfer from bike to transit in a convenient way. Further, those pathways between major residential areas or workplaces should be established so residents have the option to continue their journey on foot or on bicycle.⁶⁹

The document ends with an implementation strategy broken down into a three-phased project:

⁶⁸ Ibid, 50.

⁶⁹ Ibid, 50.

Phase one consists of an interim scenario involving the abandonment of the Chatham Subdivision and the relocation of VIA operations to the Windsor Subdivision. Phase two would include the removal of the CASO Subdivision and the combined operations of CN and CPR on the Windsor Subdivision. Phase one was considered a more ‘feasible’ arrangement, given that it would be achievable within a shorter timeframe. On the other hand, combined CN and CPR operations would present greater difficulty because of issues related to commercial agreements, dispatching, and priority of train movements ... Finally, the implementation of the modal integration initiatives would represent Phase three of this project. The completion of all phases could require upwards of 10 years or more.

The cost of each phase was estimated at \$175 million for phase one, \$38 million for phase two, and more than \$100 million for phase three.⁷⁰ The document maintains that the biggest obstacle that the region faces in implementing the above proposed rail rationalization and modal integration initiatives, is the lack of secured funding for the project. In order for these plans to be realized, it recommends that the City of Windsor engage a variety of supporters and key actors in order to move forward and seize the opportunities associated with instituting rail rationalization.⁷¹

Rail rationalization is also discussed in a report to Windsor City Council in 2016 from the City’s Manager of Corporate Initiatives of the CAO Office.⁷² The report explains to Council why the rail rationalization project is slotted in for budget year 2027 in the city's Strategic Vision

⁷⁰ Ibid, 55.

⁷¹ Ibid, 62 – 63.

⁷² Brittney yeats, “20 Year Strategic Vision - Consultation Feedback & Proposed Project Allocation - City Wide,” (Windsor: City of Windsor, 2016) 1 -31.

Document. This is proposed at such a late date due to the associated costs and dependence on a third party. The report states that the city will continue to work with rail companies to evaluate opportunities for rationalization in the future and that the city put plans to build a street car loop from the University to Via Rail in the 2031 horizon, maintaining that the street car loop would improve the quality of life in the city and add an aesthetic charm to the downtown.⁷³ The cost to the city for the street car loop was estimated to be between \$55,000 and \$330,000, depending on how much funding the City can get from upper levels of government. Both documents that mention the proposed street car loop, do not provide any official details on whether or not this street car would be part of a wider LRT system or if it will have overhead wires and run on wheels.⁷⁴

In 2006, Transit Windsor released their transit master plan *The Way Forward*, in which the organization lays out a variety of goals to improve service levels and transit ridership over the 2007 to 2016 period, in order to address the growth and development of the City.⁷⁵ The plan contextualised the possibility of rail rationalization for the four rail lines running through Windsor-Essex; Canadian National (CN), Canadian Pacific Railway (CPR), and former Canada Southern Railway (CASO) now jointly owned by CN and CPR; and the Essex Terminal Railway. The plan explained how various actors in the community considered the potential of repurposing these railway lines for public transport, either with services on the existing railways or with the rights-of-way converted to LRT or into a road for BRT. The Essex Terminal Railway is a switching line serving various industrial areas within Central Windsor and does not connect to the downtown. The plan viewed this line as not having high potential for public transport use,

⁷³ Ibid, 7.

⁷⁴ Brittny yeats, "20 Year Strategic Vision - Current and City Councillor's Proposed Projects List," (Windsor: City of Windsor, 2015) 4.

⁷⁵ Transit Windsor and the City of Windsor, "Transit Master Plan: The Way Forward," (Windsor: IBI Group, 2006) 1-171.

as it was still an active freight rail line that would require major expansions in order for it to be made ready for public transit purposes.⁷⁶ The plan maintained that the CPR and CASO rail lines did not have major public transit potential due to the number of freight trains currently using the tracks. However, the plan argued that the current CN rail line currently used by VIA Rail for its passenger services, entering Windsor along the south shore of Lake St. Clair through the towns of Lakeshore and Tecumseh, could be converted for a LRT or heavy rail passenger service. The plan explained that the line serves a number of residential areas and, that it has been reported that CN who owns the track has ambitions to move all of its major flows to the CASO alignment.⁷⁷

In 2006 when the plan was published VIA was looking at possible stations on the CPR and CASO alignment which would allow a deeper penetration into Windsor and also provide the potential for ongoing service to Detroit through the rail tunnel, connecting with the Amtrak network. The plan maintained that if major freight services were to be moved from this line, it could have some potential as a public transport route. The main drawback was that the line ends at Walker Road in Walkerville on Windsor's east side rather than reaching the downtown area. If the CN alignment were to be used by an LRT line, it would have to be extended into the downtown along another arterial road.⁷⁸ This has proven to be impossible to achieve thus far.

The focus on bringing some sort of short-line rail based transit to the region like LRT was and continues to be a limited part of the transit master plan. The majority of the master plan focused on providing a policy framework on how Transit Windsor can implement transit service strategies over the course of a ten year period, to dramatically increase ridership and level of transit service. The plan recommended that Transit Windsor begin to improve transit in Windsor

⁷⁶ Ibid, 124.

⁷⁷ Ibid, 125.

⁷⁸ Ibid, 125.

and extend service into neighboring municipalities. The plan was introduced in two phases over a ten-year period: the short term - 2007-2011, and long term - 2012-2016.⁷⁹

The plan predicted that its proposed projects would increase transit ridership by 2.5 million from 5.9 million rides in 2006, to 8.4 million by 2015, and recommended that transit service should extend into the neighboring municipalities of Tecumseh, Lakeshore, LaSalle and Amherstburg, which was estimated to add an additional 900,000 annual rides to the system.⁸⁰ However, extending service into the county was conditional on the city receiving funding from the municipalities. After this study came out in 2006, the region's municipal governments began regional transit talks in 2007 with the intent of creating a pilot transit line that would connect the metropolitan area and eventually would extend to the entire county. However, despite multiple attempts and several transit studies, the region's municipalities have been unsuccessful in realizing regional transit.

It is proposed in the long term plan that BRT services be established to provide services to the Howard, Tecumseh, and Ouellette corridors which will increase the appeal of these transit corridors.⁸¹ The BRT services would depart from the Downtown Terminal, the Devonshire Mall terminal and the Tecumseh Mall terminal. Through the combination of standard bus lines and BRT routes Transit Windsor, it was hoped, would be able to offer improved 5-10 minute peak frequencies, 10-15 minute midday and early evening frequencies, and 15-30 minute late evening, Saturday and Sunday frequencies.⁸²

⁷⁹ Ibid, 126.

⁸⁰ Ibid, 7.

⁸¹ Ibid, 8.

⁸² Ibid, 8.

The plan references studies that maintained that Windsor provides less service on average compared to its peer cities in Ontario. If Windsor is to catch up to its peer group, the service levels offered by Transit Windsor need to be significantly higher to increase current ridership. The study stated that, at the time, Windsor's transit service level is 9 percent lower than the peer group average while the ridership level is significantly lower than the peer average. The study suggest that for the amount of service offered by Transit Windsor there is a low ridership. To change this a major expansion is required to make public transit appealing to residents.⁸³ The plan also included a long-term vision for Transit Windsor, which emphasizes the importance of quality of life, sustainability and economic development, and maintained that transit needs to provide mobility options for all residents to ensure access to work, education, health care, shopping, social and recreational opportunities. Further, the plan expressed the principle that transit should be a cost effective alternative to the automobile to protect the environment, while being affordable for residents and fiscally responsible to the taxpayers. In this way, transit should serve as an “economic engine” for community growth, and the growth of transit service should match the growth and development of the city.⁸⁴

This of course requires coordinating transit service development alongside the urban growth of the Windsor metropolitan area. In order to meet the transit needs of the growing population in a sustainable way, the plan maintained that higher order transit service through BRT should be developed. Opportunities to implement transit orientated developments (TOD) areas in the city’s downtown exist, as the core already possesses many of the attributes of TOD: compact development, a pedestrian friendly street grid, and several public buildings.⁸⁵ Through

⁸³ Ibid, 43.

⁸⁴ Ibid, 83.

⁸⁵ Ibid, 95.

encouraging additional residential development in the city's downtown, this could lead to significant growth of local businesses and daily activity. The plan maintains that TOD areas around BRT stations can capitalize on the increased activity around BRT stations by creating shopping, work or housing opportunities nearby. The plan maintains that through incrementally improving areas around other BRT stations with TOD principals that this can help stabilize neighborhoods while making transit more attractive to residents.⁸⁶ Finally, the Transit Windsor master plan addressed the need for the municipal government to develop and adopt a policy framework to support TOD areas, maintaining that in order for mass-transit expansions to be successful, smart growth must become a core strategy for the city's metropolitan expansion. This would require the City of Windsor and other municipalities in to work together to develop and adopt a policy framework to allow and encourage the development of TOD so that the region can be effectively connected by transit. The plan advocated for a development strategy that results in the passing of by-laws and ordinances to allow higher-density residential development to be built around future BRT Stations.⁸⁷

This ambitious plan to expand public transit in Windsor-Essex and to redevelop the municipalities in the area around new transit corridors and better integrated planning has not been put into practice. The BRT service envisioned for Windsor in the long-term portion of the service plan was scheduled to be implemented in 2016. However, the service has not been implemented for several reasons discussed in the next sections; these reasons include the long-term path dependence produced by urban sprawl, limited public and political support for transit changes, and a lack of integrated regional governance mechanisms. Plans to expand service into

⁸⁶ Ibid, 96-97

⁸⁷ Ibid, 98.

the county have been rejected by the County Council and by municipalities on an individual basis in the past ten years, resulting in regional transportation plans breaking down. Further, in the wake of the 2008-2009 crash the City of Windsor has struggled to realize improvements to the level and scope of service offered by Transit Windsor. Most residents of the region are reliant on their cars and are not overly concerned with the quality of public transit offered. Yet, there is still a growing interest among residents and elected officials to get regional transportation off the ground. The next section of this paper is a newspaper analysis that further contextualizes the struggle over realizing regional transportation through looking at how the issue has unfolded within the community over the past ten years.

CHAPTER 3

An Analysis of Attempts of Implementing Regional Transportation Since 2004 in Windsor

– Essex

There is a lack of academic literature written about regional transportation in Windsor – Essex and there are limited resources analyzing the actions of municipal leaders as the region considers regional transportation. For this reason, this paper reviews the available local newspaper articles that discuss and highlight regional transportation in Windsor-Essex. The methodology used is as follows. Through searching “Windsor Essex Regional Transportation” on the ProQuest: Canadian Newstream search engine, 389 results came up which related to the keywords and were published between 2004-2017. This timeline was chosen because through a preliminary review of the 648 articles that show up through searching “Windsor Essex Regional Transportation” without a timeline constraint, there appears to have been a surge in the interest around regional transportation in 2007, with several transportation studies underway. I then reviewed all articles that had the following key words: Transportation; Regional, Bus, Rail, Mass Transit, and selected 30 articles from a total of 389. These articles represent major decisions on regional transit made by the local municipalities, or new information that has come forward about regional transportation from outside sources. Overall, they contextualize the institutional struggle between the different municipalities as elected officials attempted to broker a deal on regional transportation.

Windsor-Essex unsustainable Direction

This theme covers the issue of urban sprawl, congestion on roads caused by high levels of auto dependency and sprawling suburban communities being built deeper and deeper into the county. It also covers reports from experts stating that the region needs to work towards

developing smart growth strategies to reshape land use patterns. Starting in 2004, *Windsor Star* articles began to highlight how the county's municipalities are growing at a faster rate than the City of Windsor. The region conducted a regional transportation study, which framed uneven growth as a major infrastructure and transportation issue. Congestion is a growing problem around the city's borders, with three major roads heading from the city into the county being described as congested; County Road 22, County Road 20, and County Road 42. The study highlighted how the intensification of urban sprawl in the region has put extra pressure on the county's road networks.⁸⁸

A 2005 *Windsor Star* article draws attention to the price of congestion, focusing on the 2005 regional transportation study of Windsor-Essex which maintains that the region will need to spend \$258 million over the next 16 years to accommodate the population and economic growth that was projected to take place. The article cites another study completed by IBI Group for the municipalities of Essex County stating that an investment of \$258 million would still leave some key roads deficient.⁸⁹ Another article written in 2005 expressed a need for smart growth strategies to be implemented in Windsor-Essex to curb the effects of urban sprawl. There is a trend of articles citing the cost of sprawl as a reason to change the region's development direction, with a focus on the need for road repairs. They often cite Don Drackley, Project Manager for Windsor's 2005 transportation study, the Windsor Area Long Range Transportation study, who maintained that without smart growth planning, the implementation of a regional transportation system would become increasingly difficult. He claimed that mixed land usage strategies need to be implemented to ensure that people work in the communities where they

⁸⁸ Gary Rennie. "County to Outpace City; Study Sees Faster Growth in Essex County, Testing Transport Capacity and Financing." *The Windsor Star*, Jan 07, 2004. 30.

⁸⁹ Gary Rennie. "Transport Study Unveiled Today." *The Windsor Star*, Apr 20, 2005. 29.

live, framing the culture of auto-dependency for long commutes as an unsustainable model for mass transit.⁹⁰

Articles from the years 2008 to 2016 provide a great deal of context on exploding urban sprawl in Windsor-Essex.⁹¹ An article from 2008 explores a study which gives Windsor a failing grade for green transportation, and contextualizes the culture of auto-dependency within the region linking it to urban sprawl and the lack of regional transportation.⁹² An article from 2010 states that Windsor-Essex is lagging behind the rest of the province in terms of transit ridership. The province has an average of 79.2 percent of work trips made by car, while in Essex County that number is 94 percent and in Windsor is 87.5.⁹³

Support for Regional Transit

A 2005 article by the *Windsor Star* draws attention to the 2005 Regional Transportation study recommendation that Transit Windsor should extend their bus service into LaSalle, Tecumseh, and Lakeshore, along with bus routes into other urban centers like Amherstburg, Essex, and Leamington.⁹⁴ In 2007 the articles begin to report on attempts by the local governments of Windsor – Essex to broker a deal on regional transportation. The County Warden is cited in a 2007 article suggesting that regional buses could be running as early as next

⁹⁰ Don Lajoie. "Smart Growth, Tough Choices: To Avoid Gridlock, Taxpayers have to Change Mindsets: Official." *The Windsor Star*, Sep 23, 2005.

⁹¹ Jarvis, Anne. "Working Together Good for City, County; for Smart Growth, it's Time to Drop the Us and them and Act Like One Region." *The Windsor Star*, Jan 25, 2016.

⁹² Battagello, Dave. "City Lags in Green Transport; Environmental Study Cites Low Transit Ridership, Lack of Bike Paths." *The Windsor Star*, Nov 14, 2008.

⁹³ Gary Rennie. "\$16.4M County Bus Plan Floated; Move would Boost Regional Transit Service in Three Phases." *The Windsor Star*, Apr 06, 2010.

⁹⁴ Rennie, Gary. "Transport Study Unveiled Today." *The Windsor Star*, Apr 20, 2005.

year if the region's local governments could agree on a deal. The County Warden is also cited as saying “Everyone talked about the urgency of getting this moving” in reference to the outcome of the meeting of the region's mayors.⁹⁵ A 2008 article brings to light the findings from a recent study by the University of British Columbia reporting that Windsor – Essex as a region needs to increase its transit ridership.⁹⁶ By 2007, local media and comprehensive studies had identified the need for implementing regional transit bringing it into the public eye and sparking discussions between elected officials about realizing regional transit.

A 2009 article reports the thoughts of Tecumseh resident and activist, Melanie Tanovich, who presented a petition to council with almost 4,000 signatures back in 2007 because she was disappointed with the bus service provided by the town. She maintains that residents were asking for regional transportation into Windsor and Lakeshore, but instead received a transit system that stays within the town's limited municipal boundaries.⁹⁷ A 2010 article reporting on the county's regional transportation study by ENTRA stated the study found a strong demand for transit service in the county from students, seniors, and commuters.⁹⁸ Another article cites the comments of Tanovich who applauded the proposed routes in reference to the ENTRA recommendation to expand transit.⁹⁹ Lakeshore's transportation study was reported on in 2010 and an article written about it highlighted the resident's interest in a bus line connecting the Town Of Lakeshore to Tecumseh and Windsor.¹⁰⁰ An article published in 2014 draws attention

⁹⁵ Sharon Hill. "Area Transit Service Called Vital." *The Windsor Star*, Aug 11, 2007.

⁹⁶ Dave Battagello. "City Lags in Green Transport; Environmental Study Cites Low Transit Ridership, Lack of Bike Paths." *The Windsor Star*, Nov 14, 2008.

⁹⁷ "Regional Transit; Buses, Like Roads, Cross Boundaries." *The Windsor Star*, Jul 06, 2009.

⁹⁸ Gary Rennie. "County to Ask City for Bus Service; First Step Toward Regional Plan." *The Windsor Star*, Apr 08, 2010.

⁹⁹ Gary Rennie. "\$16.4M County Bus Plan Floated; Move would Boost Regional Transit Service in Three Phases." *The Windsor Star*, Apr 06, 2010.

¹⁰⁰ Gary Rennie. "Vote Puts Brakes on Regional Transit Talks." *The Windsor Star*, Aug 14, 2010.

to local citizens giving the region's transportation system a failing grade. Glenn Stresman, Executive Director of Windsor Essex Community Foundation, is reported saying that the public appears to be ahead of the region's political officials in terms of regional transportation and the need for it.¹⁰¹

In 2009 articles began reporting on the benefits that new transportation infrastructure could have on the local economy. A 2009 article reports that inter-regional passenger rail transportation facilitated through short line rail should be considered as a part of a larger short line rail infrastructure scheme in order to create jobs in the region.¹⁰² In 2008, articles began to report on a proposed bus line that would connect Windsor, Tecumseh and Lakeshore.¹⁰³ The mayor of LaSalle is reported in 2010 saying that the town of LaSalle had asked Transit Windsor to report back to the town if it would make economic sense to consider establishing a bus line.¹⁰⁴ Additionally, it was reported that County council agreed to take the first steps towards creating a regional bus system, involving an extension of Transit Windsor into the county.¹⁰⁵ Articles in 2010 reported on a study conducted for the county which recommended a multimillion dollar expansion of the region's transit network.¹⁰⁶ As noted previously, none of this actually occurred, and even though regional transit was identified as a potential growth mechanism and avenue for better planning it was not politically achievable. In 2014 it was reported that, with municipal election campaigns commencing, various candidates began calling for a renewed attempt at

¹⁰¹ Dave Waddell and Chris Thompson. "Public Transit Flunks Citizen Survey; overall Results for Region Mixed." *The Windsor Star*, Oct 16, 2014.

¹⁰² Cliff Mackay. "Invest in 'Short-Line' Rail." *The Windsor Star*, Feb 11, 2009.

¹⁰³ Dave Battagello. "City Lags in Green Transport; Environmental Study Cites Low Transit Ridership, Lack of Bike Paths." *The Windsor Star*, Nov 14, 2008.

¹⁰⁴ Doug Schmidt. "LaSalle Bus Route Under Microscope." *The Windsor Star*, Feb 18, 2010.

¹⁰⁵ Gary Rennie. "County to Ask City for Bus Service; First Step Toward Regional Plan." *The Windsor Star*, Apr 08, 2010.

¹⁰⁶ Gary Rennie. "\$16.4M County Bus Plan Floated; Move would Boost Regional Transit Service in Three Phases." *The Windsor Star*, Apr 06, 2010.

regional transportation, calling on elected official to “check their egos.”¹⁰⁷ In 2015, councillor Bill Marra, chairman of Windsor’s transportation committee, is reported saying he wanted to see a pilot project expand the city’s transit service east to Lakeshore by way of Tecumseh prior to expansion to the west to LaSalle and Amherstburg. The Mayor of Amherstburg Aldo DiCarlo supported the idea, stating that “if the city wants to mature and be the city we know it can be, regional transit has to be part of that conversation ... [to] encourage businesses to invest and help retain jobs.”¹⁰⁸

In 2016, Windsor mayor Drew Dilkens travelled to Ottawa as part of the Large Urban Mayors Caucus of Ontario, which met with Prime Minister Justin Trudeau. In Ottawa the Mayor learned about \$3 billion transit fund. The mayor expressed a great deal of confidence that during phase two of the project; aimed at expanding public transit for Canadians, that the county and city will agree on a deal for regional transportation.¹⁰⁹ Another article in 2016 highlights the issue of employers demanding regional transportation to get workers to jobs that need filling, drawing attention to the booming tool and die shops, greenhouses and call centers.¹¹⁰ Most recently, articles over the past year began to report on the Town of LaSalle’s new transit line, which is framed as providing a model for regional transit. In 2017 the activist Melanie Tanovich who created the 2007 Transit in Tecumseh petition wrote a letter to the Windsor Star demanding a comprehensive bus line that will connect Windsor, Tecumseh and Lakeshore.¹¹¹ The mayor and council of Kingsville are writing a letter in support of working with Windsor to bring

¹⁰⁷ Chris Thompson. "Horwitz Pushes for Regional Transit; Mayoral Hopeful Vows to Better Link City, County." *The Windsor Star*, Oct 22, 2014.

¹⁰⁸ Derek Spalding. "Push for Regional Transit System Gaining Momentum; Councillor Touts Pilot Project." *The Windsor Star*, Mar 31, 2015.

¹⁰⁹ Craig Pearson "Two Local Automotive Suppliers Win Federal Innovation Grants; Mayor Meets with Trudeau, Hopes for Transit Funding." *The Windsor Star*, Apr 15, 2016.

¹¹⁰ Anne Jarvis. "Working Together Good for City, County; for Smart Growth, it's Time to Drop the Us and them and Act Like One Region." *The Windsor Star*, Jan 25, 2016.

¹¹¹ Melanie Paul Tanovich. "Time to Regionalize Transit Windsor." *The Windsor Star*, Sep 29, 2017.

regional transportation to the county in order to bolster the Amazon bid¹¹², Detroit is making the bid and choosing to include Windsor as a part of the deal.¹¹³

The Theme of Opposition to Regional Transit

In 2007 articles began to report significant opposition to regional transit from members of local administrations, including Deputy Mayor Tom Burton stating that Tecumseh was not prepared to jump on board with Lakeshore's plan to get a bus service to Windsor. He claimed that the cost to the taxpayers may be too high.¹¹⁴ A 2009 article outlined how Tecumseh established its own bus line after declining to work with neighboring Windsor and Lakeshore to service and connect all three communities only a year earlier. The journalist framed the issue around the competition between the City of Windsor and the Town of Tecumseh. The two municipalities have fought over issues such as amalgamation in the past and the issue of transit is just another item on which the two governments disagree on. The article states that Transit Windsor could have bid on the Tecumseh route but chose not to while explaining that the Town of Lakeshore is prepared to get its own line that would bypass Tecumseh.¹¹⁵ Another article published later that year stated that without Tecumseh's participation in a joint bus line with Lakeshore, the latter would not be able to afford the service.¹¹⁶

¹¹² The city of Detroit has agreed to include the city of Windsor in their bid to be considered by online retail giant Amazon as a location to build their next headquarters. Both cities hope that if chosen that they will benefit immensely from the estimated 50 000 jobs that would be brought into the two cities.

¹¹³ Louann Geauvreau-Karry,. "Council Supports Regional Transit." *Kingsville Reporter*, Oct 24, 2017.

¹¹⁴ Sharon Hill . "Area Transit Service Called Vital." *The Windsor Star*, Aug 11, 2007.

¹¹⁵ Anne Jarvis. "Politics Driving the Bus." *The Windsor Star*, Dec 30, 2009.

¹¹⁶ Gary Rennie. "Regional Transit Study to Interview Politicians; Consultants Seek 'Frank Discussions'." *The Windsor Star*, Jun 18, 2009.

In two articles published in 2010, Leamington Mayor John Adams expressed his skepticism that regional transportation could take off in the county.¹¹⁷ In 2010 roughly two years into regional transportation talks between the county and city, the county council voted 7 to 5 to defer a decision on regional transportation. The main reason for the vote to defer was the county's request for more information given the many concerns over the cost.¹¹⁸ In 2011 County Council decided against putting any money into regional transportation in order to keep the proposed tax increase below one per cent.¹¹⁹ An article in 2014 also brought up the 2011 decision, marking the start of more movement on the regional transportation front. The journalist explains how the issue of regional transportation was brought forward in a joint press briefing between the mayor of Windsor and County Warden.¹²⁰

A 2015 article expresses some major barriers to regional transportation. The Mayor of Amherstburg is quoted saying, "politicians fear their taxpayers will be on the hook for a service few will actually use." The Mayor of Lakeshore stated, "Transit service in Lakeshore will only work, financially ... if neighboring Tecumseh is on board and Transit Windsor operates the service." Penny Williams, the former executive director of Transit Windsor, said, "Cost has absolutely been the No. 1 deterrent from developing regional transit."¹²¹

In 2017 in response to a letter to the editor by the activist Melanie Tanovich who spearheaded the transit in Tecumseh petition, calling for regional transportation, the Mayor of Tecumseh Gary McNamara wrote a letter to the editor to state the town's position. The mayor

¹¹⁷ Rennie, Gary. "\$16.4M County Bus Plan Floated; Move would Boost Regional Transit Service in Three Phases." *The Windsor Star*, Apr 06, 2010.; Rennie, Gary. "County to Ask City for Bus Service; First Step Toward Regional Plan." *The Windsor Star*, Apr 08, 2010

¹¹⁸ Gary Rennie. "Vote Puts Brakes on Regional Transit Talks." *The Windsor Star*, Aug 14, 2010.

¹¹⁹ Gary Rennie. "Regional Transit on Back Burner; County Councillors Try to Rein in Costs." *The Windsor Star*, Jan 20, 2011.

¹²⁰ "Will Regional Transit Ever Get on the Road?" *The Windsor Star*, Dec 20, 2014.

¹²¹ Derek . Spalding "Push for Regional Transit System Gaining Momentum; Councillor Touts Pilot Project." *The Windsor Star*, Mar 31, 2015.

made it clear that the town must make smart financial choices and that the current transit system in Tecumseh is the best option for the town.¹²² In 2017, Windsor Mayor Dilkens stated, “As long as you can get across the city in 15 minutes” change will not take place in Windsor to build a more comprehensive municipal or regional transit system.¹²³

A Need for Regional Governance

An important theme the newspaper articles highlight is the need for a new institutional framework for local government in the region in order for regional transportation to be implemented. The County Warden is reported saying in 2007 that he hopes a new transit authority could be in place by the end of that year to extend service into the county. Then-mayor of Windsor, Eddie Francis, also stated in 2007 that regional transit systems have been successful in other parts of the province at receiving funding from upper levels of government. For that reason he believed that the city should consider transforming Transit Windsor into a new authority that would include the county as an equal partner, a move towards regional governance.¹²⁴ In 2009 it was reported that the County hired ENTRA, a Toronto based firm, to spend the next eight months talking with municipal leaders in the county to determine the need for a regional bus system. The County invited Transit Windsor to give input, but elected officials from the City of Windsor were not invited to be interviewed. The article takes the position that the City’s politicians should be a part of any regional planning.¹²⁵

In 2010 an article reports that Windsor Transit was shamed by City Councilors for providing a city-subsidized bus route through the neighboring community of LaSalle. Transit

¹²² Gary Mcnamara. "Tecumseh Transit a Successful Model." *The Windsor Star*, Oct 21, 2017.

¹²³ Gord Henderson. "City Remains Public-Transit Backwater; Politicians Blew it in 1938 and it's Only Become Worse." *The Windsor Star*, Oct 28, 2017.

¹²⁴ Hill, Sharon. "Area Transit Service Called Vital." *The Windsor Star*, Aug 11, 2007.

¹²⁵ "Regional Transit; Buses, Like Roads, Cross Boundaries." *The Windsor Star*, Jul 06, 2009.

Windsor saw an opportunity to get more money from the Ontario tax fund devoted to expanding public transit through implementing the service.¹²⁶ Articles written in 2010 explain how the County's transportation study by ENTRA recommends a partnership with Windsor to keep capital costs low, but that separating costs and benefits between the municipalities would be difficult. The article further explains how Transit Windsor provides limited service into LaSalle and the Old Castle area of Tecumseh, but neither municipality shares the costs of these services. Several articles express the difficult financial relationship between the City and the County over transportation costs.¹²⁷¹²⁸

In 2010, an article reported on Tecumseh's application to have their bus service, which consists of one bus line, stop in Windsor. The application was denied due to the City of Windsor opposition. The article restates that Tecumseh rejected an offer in 2008 to have Transit Windsor extend a bus line connecting Windsor, Tecumseh, and Lakeshore, before setting up their own line a year later.¹²⁹ Another article published in 2010 stated that the province should work with the region to help the municipal government's move forward together, instead of allowing all of the infighting to continue, citing the "Bus Wars" between Windsor and Tecumseh as an example.¹³⁰

Anne Jarvis's 2016 article explains how regional governance will provide better government through redefining how we do business as a region. She argues that if regional governance became a reality, the region could finally move forward on key issues like regional transportation. The article explains that within the new global economy Windsor-Essex needs to

¹²⁶ Doug Schmidt "LaSalle Bus Route Under Microscope." *The Windsor Star*, Feb 18, 2010.

¹²⁷ Gary Rennie. "\$16.4M County Bus Plan Floated; Move would Boost Regional Transit Service in Three Phases." *The Windsor Star*, Apr 06, 2010.

¹²⁸ Rennie, Gary. "County to Ask City for Bus Service; First Step Toward Regional Plan." *The Windsor Star*, Apr 08, 2010.

¹²⁹ Vander Doelen Chris. "Tecumseh Sparks Bus War." *The Windsor Star*, May 04, 2010.

¹³⁰ Brown-John, Lloyd. "Toward Better Government." *The Windsor Star*, Jun 02, 2010.

make major decisions that will impact the region's economic future. Jarvis states that the competition has to stop. If the region's local governments cannot work together to bring the sort of infrastructure the region needs to flourish it won't, and Jarvis believes that regional transit can be best achieved through regional governance. Dave Cooke, the former Windsor-Riverside MPP and Municipal Affairs Minister, is reported urging for better planning with a focus on: (1) using less agricultural land for suburban housing development; (2) defining urban cores more strongly; and (3) working to protect scarce natural areas. She believes better regional governance could make this a reality.¹³¹

Bringing Regional Rail Transit to Windsor - Essex

Several articles written throughout the past ten years have made vague suggestions of bringing LRT to the region by transforming the old CN rail line into an east-west LRT line which could ferry commuters from Tecumseh and Lakeshore in the east into Windsor.¹³² An article in 2009 draws attention to the value of short line rail infrastructure being transformed to be utilized for inter-regional passenger rail transportation. The article claims that it could provide an immediate stimulus to the economy, create jobs for Canadians, and ensure an environmentally responsible platform for future growth. Further, there is an immediate need for investment in short-line rail in Windsor because the City's short-line rails have low traffic volumes that do not generate enough revenue to upgrade or rehabilitate the rail infrastructure.¹³³ In 2013, an Amherstburg town councilor put forward a motion to have a feasibility study look into whether the Essex Terminal Railway could be repurposed to serve as a LRT line connecting the town to

¹³¹ Anne Jarvis. "Working Together Good for City, County; for Smart Growth, it's Time to Drop the Us and them and Act Like One Region." *The Windsor Star*, Jan 25, 2016.

¹³² "Train Plan on the Right Track." *The Windsor Star*, Dec 29, 2005.

¹³³ Cliff Mackay. "Invest in 'Short-Line' Rail." *The Windsor Star*, Feb 11, 2009.

Lasalle and Windsor.¹³⁴ No more newspaper stories have been published about the proposal. Amherstburg's December 16, 2013, council meeting minutes state that the feasibility study was proposed by councilor Carolyn Davies a month before on November 18, which was voted down by council on the December 16.

Windsor - Essex in Context: Rapid Transit Projects in Ontario

The Waterloo Region containing the cities of Kitchener, Cambridge, Waterloo and four smaller townships (North Dumfries, Wellesley, Wilmot and Woolwich) has a metropolitan population of 535,154.¹³⁵ By 2018 the region will be connected by LRT and since 2015 the region has been connected by BRT. Once completed the transit system will connect the three major urban centres of Cambridge, Kitchener and Waterloo while serving the smaller communities that lay between them. The LRT will be between the City of Waterloo and the City of Kitchener spanning 19 kilometers. The BRT is already established between the City of Kitchener and the City of Cambridge, spanning 17 kilometres. The capital costs of the project are \$818 million which is being jointly funded by all three levels of government: the Government of Ontario \$300 million, the Government of Canada \$265 million and the Region of Waterloo \$253 million. Operations and maintenance, financing, lifecycle and Region costs will be funded by transit fare revenue and a 1.2 per cent regional tax increase over a 6 year time period approved by the Waterloo Regional Council in 2011.¹³⁶

The city of Hamilton has a metropolitan population of 778,400, which includes the town of Grimsby and the city of Burlington.¹³⁷ In 2015 the province announced that they would fund

¹³⁴ "Light rail transit from Amherstburg to Windsor pitched." CBC News Windsor, Nov 20, 2013.

¹³⁵ "Focus on Geography Series, 2016 Census," Statistics Canada, accessed November 10, 2016.

¹³⁶ "Rapid Transit in Waterloo Region," Region of Waterloo, accessed November 10, 2016.

¹³⁷ Focus on Geography Series, 2016 Census," Statistics Canada, accessed November 10, 2016.

as much as \$1 billion of the cost to implement Hamilton's long-standing rapid transit plans. The city of Hamilton will get an LRT system spanning 11 kilometres east-west between McMaster University and Queenston Road, with plans to extend the system on either end of the line. The city also plans to implement BRT system running North – South to bring rapid transit out to the suburban areas of the city. After these first two lines are established the City has plans laid out in thirteen-year local transit strategy, to add three more BRT lines. The BRT lines would connect the region's metropolitan area to the city centre.¹³⁸ These examples from elsewhere in southwestern Ontario demonstrates that regional transit planning and funding is possible in Ontario.

The City of Hamilton has two members of parliament from the governing Liberal Party and two members of provincial parliament from the liberal government in Queen's Park. The Waterloo region has five Liberal members of parliament and three Liberal Members of Provincial Parliament. Windsor-Essex has representation at the provincial and federal level from the opposition New Democratic Party. Moving forward without members of the ruling party at both levels of government will be a barrier against Windsor-Essex making progress on a major transit infrastructure plan. Thus the lack of coordinated development by the local municipal governments in Windsor-Essex is further hampered by the lack of interest from upper levels of government. This paper has not researched the role of upper levels of government on the lack of sustainable transportation in Windsor-Essex. However, it is an issue that needs to be explored. For although the decision to realize regional transportation must be made at the municipal level ultimately the implementation of major transit infrastructure would need to be funded in large part by the provincial and federal governments. This is made evident through the substantial investment that

¹³⁸ Robert Mackenzie, "Province Announces More Rapid Transit For Hamilton," Urban Toronto, Feb 2, 2017.

upper levels of government have made in funding transit infrastructure in both the City of Hamilton and the Waterloo Region. Through the newspaper analysis presented in this paper the theme of the cost of regional transit was present as a major barrier to the realization of regional transit. In order for the barrier of funding regional transit to be removed, the regions municipal governments and members of provincial and federal government need to work in an effective fashion to get the required funding to launch an ambition transit project.

CHAPTER 4

Conclusion

Windsor-Essex: Moving Forward

Windsor – Essex County has a population of 398,953, with over 80 percent of the population living in the Windsor Metropolitan Census Area, which includes the municipalities of Amherstburg, LaSalle, Tecumseh and Lakeshore. When comparing the metropolitan population sizes of Hamilton, the Waterloo Region and Windsor, and the financial support from the provincial and federal governments that each region is receiving for large transit infrastructure projects, it is evident that Windsor is falling behind the transportation trends of the province.

Windsor-Essex will be unable to compete as a region with these other metropolitan areas without updated, modern transit infrastructure. One of the reasons why the Windsor-Essex region is not implementing this sort of transit infrastructure is because the region lacks sufficient high-density development. At the same time, however, LRT has the potential to encourage high density mixed use land development. The Windsor-Essex region is not moving ahead with the same sort of transit infrastructure as similarly sized metropolitan regions in other parts of the province, even though this infrastructure has the potential to help solve its current development problems. The region will not start to redevelop itself around smart growth strategies without improved public transit service. Moreover, the issue of urban sprawl will continue, and the region's unsustainable transportation situation will only get worse. Windsor-Essex needs to move forward with the rest of the province's metropolitan areas and create the transit infrastructure required to be competitive in a global economy and to create livable cities which allow for citizens to live and work in their communities without being dependent on the automobile.

Regional transportation talks have always broken down in Windsor-Essex due to concerns over the cost. The municipalities of the county fear that their residents will incur a huge tax hike for an under-used service. At the same time, Windsor cannot continue to expand Transit Windsor's bus lines into the County without compensation. In tune with the work of Filion and McSpurren on regional transportation, the newspaper article analysis provided in this paper highlights a need for institutional change in order to implement a regional transportation system. In order for a region to redevelop around smart growth goals, the region's governance system must be able to implement long-term plans on a metropolitan scale. In order to curb urban sprawl and dependency on automobiles, municipal governments need to work together over long periods to implement public transportation improvements at the same time as they adopt new land use strategies. This has proven to be difficult under the current decentralized approach to governing in Windsor-Essex. In order for the region to move forward on the issue of regional transportation, the regions municipalities need to either create a regional transportation authority or commit to instituting regional government.

Through a discussion and analyses of the documents written by academics, policy makers and local journalists about the development of regional transportation in Windsor-Essex, compared to what is happening in other parts of the province of Ontario, this paper maintains that there is a demand from the population for public transit and enough vision from policy makers to work towards making LRT a reality in the region. This will require, however, that the local governments of Windsor-Essex work cooperatively to create a mandate for regional transportation. An integrated collective planning, funding, and implementation effort could construct a multifaceted policy approach to redevelop its urban areas around Transit Oriented Development, serviced by Bus Rapid Transit. As ridership increases the region can work towards

implementing two LRT lines connecting the municipalities across the wider metropolitan area, which includes Tecumseh, Lakeshore, LaSalle and Amherstburg as satellite communities around the main core of Windsor. This approach would ensure that the implementation of LRT would not be a one-stop policy solution, but instead part of a broader economic and planning development project to revitalize the region utilizing smart growth strategies, creating new mixed land usage developments and high-density sustainable communities connected by high-quality transportation. Through this redevelopment the region would be able to curb the spread of sprawl, revitalize its urban core and create livable communities connected by mass transit. This long-term approach of developing the region along new transit corridors will work to make the region not only more economically competitive, but will also enhance livability and transit access for residents across the metropolitan region.

This development plan would be built around redeveloping the Windsor-Essex region around two key rail corridors, the Essex Terminal rail line to connect Amherstburg, LaSalle and Windsor and the CN rail line to connect Lakeshore, Tecumseh and Windsor. These lines could be made ready for rationalization if the region's municipalities can work together to achieve a regional transit system that could bolster transit ridership to create a demand for LRT.

Additionally, the city of Windsor should realize their plan to have a streetcar loop connecting the University of Windsor to the Via rail station. This loop would serve as a connector line between the two proposed LRT lines. This initiative would span several key sectors of the economy to ensure that transit can contribute to sustainable economic growth and urban and regional planning, increasing the amount of large and medium mixed used developments along key corridors to create a sense of place and community within Windsor-Essex, and instituting a multifaceted approach that involves community involvement and redevelopment that curbs the

spread of unsustainable sprawl. Windsor-Essex has the potential to offer a better quality of life to its residents, through building a transportation infrastructure that will direct growth to key economic clusters, and help make transit affordable for those in the region who need it most. Windsor-Essex has a transportation system which has not changed significantly since 1997. It has not kept up with the rate of growth compared to other similar cities, due to the region's high rates of private automobile ownership and landscape dominated by auto-dependent sprawl. Windsor-Essex is geared towards those with access to cars and those without them often suffer financially as many opportunities are beyond their reach. Working towards building a sustainable mass transit network in Windsor-Essex would help create a new way of moving around and living in the region.

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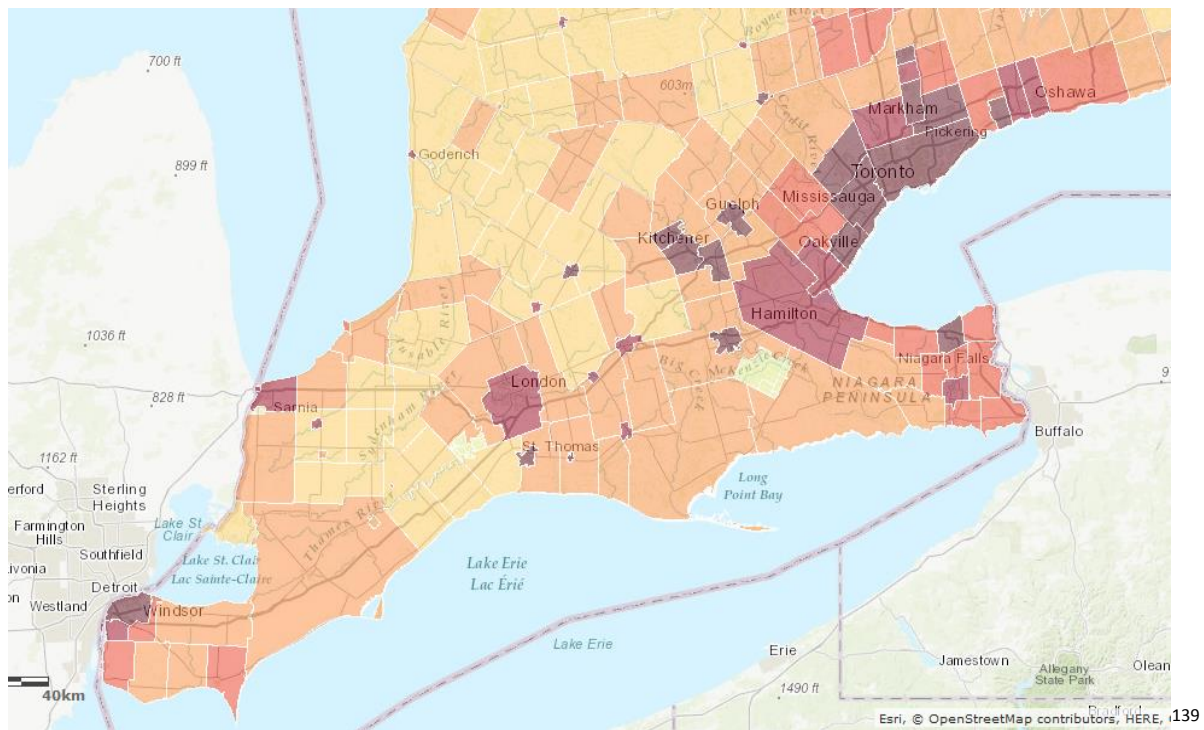
Appendix A: Population Density Map of South Western Ontario

Legend

Canada: 2006 Population Density

Census Sub-Divisions (2006)

- 1,001 to 10,925
- 401 to 1,000
- 101 to 400 (Mean: 125)
- 21 to 100
- 3 to 20
- 0 to 2



¹³⁹ "Population Density of Southern Ontario," *ArcGIS*, Last modified March 23, 2015, <http://www.arcgis.com/home/webmap/viewer.html?webmap=0e76589727d24313896f535579d8ecf9>

Appendix B: Commuting to Work: National Household Survey, 2011

Commuting to work

In general, the CMAs that have the highest proportions of public transit users also have the lowest proportions of commuters using private vehicles. However, the proportion of commuters who travel by car, truck or van varies with the location of their residence within these CMAs. For example, in a number of census tracts in Canada's six largest CMAs, the proportion of commuters using private vehicles exceeded 90% (see the [maps](#) showing the percentage of the employed labour force using a car, truck or van to get to work).

Active transportation, that is, walking or bicycling, is an option for many commuters who live close to their place of work. In 2011, active transportation was most common in the Victoria CMA, where it was used by approximately one commuter in six (10.0% walked and 5.9% bicycled).

The other CMAs with relatively higher proportions of walkers were Kingston (8.5%) and Halifax (8.5%). Proportionally, the number of cyclists was above average in the Kelowna CMA (2.6%) and the Ottawa - Gatineau CMA (2.2%) ([Table 1.a](#)).

Table 1.a Proportion of workers commuting to work by car, truck or van, by public transit, on foot, or by bicycle, census metropolitan areas, 2011

Census metropolitan area	Car, truck or van (total)	Car, truck or van (driver)	Car, truck or van (passenger)	Public transit	Walking	Bicycle
	percentage					
St. John's (Newfoundland and Labrador)	89.1	79.7	9.4	3.0	5.4	0.2
Halifax (Nova Scotia)	76.6	68.7	7.9	12.5	8.5	1.1
Moncton (New Brunswick)	88.8	78.8	10.1	3.3	6.1	0.6
Saint John (New Brunswick)	89.0	79.6	9.4	4.7	5.1	0.2
Saguenay (Quebec)	91.6	88.0	3.6	2.3	4.3	0.4
Québec (Quebec)	80.5	76.4	4.1	11.3	6.2	1.3
Sherbrooke (Quebec)	87.5	83.5	4.0	4.2	6.6	0.8
Trois-Rivières (Quebec)	90.8	87.5	3.4	2.3	5.1	1.0
Montréal (Quebec)	69.8	66.4	3.4	22.2	5.3	1.7
Ottawa - Gatineau (Ontario/Quebec)	70.4	63.8	6.7	20.1	6.3	2.2
Ottawa - Gatineau (Quebec side)	78.1	71.0	7.1	15.3	4.1	1.7
Ottawa - Gatineau (Ontario side)	67.7	61.2	6.5	21.8	7.1	2.4
Kingston (Ontario)	83.1	75.5	7.6	5.1	8.5	2.2
Peterborough (Ontario)	86.9	79.9	7.0	3.5	7.0	1.7
Oshawa (Ontario)	86.9	80.8	6.1	8.5	3.2	0.4
Toronto (Ontario)	69.9	64.5	5.4	23.3	4.6	1.2
Hamilton (Ontario)	84.4	77.8	6.7	9.3	4.5	0.7
St. Catharines - Niagara (Ontario)	90.3	83.2	7.0	2.9	4.8	1.2
Kitchener - Cambridge - Waterloo (Ontario)	88.2	81.4	6.7	5.4	4.3	1.1
Brantford (Ontario)	91.4	83.7	7.7	2.8	4.1	0.7
Guelph (Ontario)	86.2	79.1	7.0	6.2	5.1	1.5

London (Ontario)	85.4	78.6	6.7	6.9	5.4	1.5	
Windsor (Ontario)	91.3	85.9	5.5	3.0	3.7	1.1	
Barrie (Ontario)	89.8	82.7	7.1	4.6	3.7	0.7	
Greater Sudbury (Ontario)	87.7	80.7	7.0	4.5	5.3	0.7	
Thunder Bay (Ontario)	88.5	82.3	6.2	3.6	5.0	1.3	
Winnipeg (Manitoba)	78.2	71.0	7.2	13.4	5.1	2.0	
Regina (Saskatchewan)	88.6	81.7	6.8	4.8	4.7	1.2	
Saskatoon (Saskatchewan)	86.5	80.5	6.0	4.4	5.1	2.0	
Calgary (Alberta)	76.7	71.3	5.4	15.9	4.9	1.2	
Edmonton (Alberta)	82.2	76.7	5.5	11.3	4.1	1.1	
Kelowna (British Columbia)	87.2	81.6	5.5	3.4	4.9	2.6	
Abbotsford - Mission (British Columbia)	92.2	84.6	7.6	2.5	2.6	0.8	
Vancouver (British Columbia)	70.8	65.9	4.9	19.7	6.3	1.8	
Victoria (British Columbia)	70.7	65.8	4.9	11.1	10.0	5.9	140

¹⁴⁰ "Commuting to Work," *Statistics Canada*, accessed January 8, 2018, http://www12.statcan.gc.ca/nhs-enm/2011/as-sa/99-012-x/99-012-x2011003_1-eng.pdf

Vita Auctoris

Justin Appler was born in 1993 in LaSalle, Ontario and graduated from Sandwich Secondary School in 2011. From there he went on to the University of Windsor where he obtained an Honours Bachelor of History degree. He finished his undergraduate degree on exchange in France where he rode on the light rail transit system in Grenoble, France which inspired him to write this paper. He is currently a candidate for the Masters of Art's degree in Political Science at the University of Windsor in his last semester. Justin plans to travel the world after graduation to write down stories which have inspired him and to collect new ones to inspire others.