

**Improving Public Understanding of Large-Scale
Transit Projects: A case study of the Region of
Waterloo's ION**

**by
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Author's Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

Julie Bélanger

Abstract

In light of increasing social, economic and environmental costs associated with automobile use, Canadian municipalities are facing mounting transportation pressures and many mid-size cities are investing in larger scale public transit improvement projects. Given that automobile dependence is still pervasive, there is concern over attracting sufficient ridership. Hence it is increasingly important to understand what factors influence individuals' support for a public transit improvement project. Through the use of a survey and focus group sessions, this study examines factors that may influence the effectiveness of communication practices for increasing public support for a light rail transit project before operation through enhanced public understanding; The ION in the Region of Waterloo. Specifically, the influence of socio-demographic characteristics, project branding, and the provision of personalized trip information are examined in terms of their influence on the level of support.

While the provision multimodal travel time did not have a strong influence on participants' level of support for the project, findings suggest that it is beneficial for municipalities to include defined personal benefits, in addition to broader community benefits in their communication strategy. Furthermore, that branding can be used to enhance public understanding of a transit improvement project. The project brand must be nestled within the municipality's broader public transit brand and speak to the diverse needs of residents. Municipalities should also target undecided residents to increase public support (women and residents under 30 in the Region of Waterloo). Results from this study can be used to improve marketing materials and enhance the perception of the ION and other subsequent transit investments by informing future outreach campaigns, both in the Region of Waterloo and other mid-size Canadian cities.

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Chapter 1: Introduction

Many Canadian cities are struggling to promote public transit investments in such a way that positions transit as a viable alternative to automobile travel, while increasing public support and ridership. This chapter situates the existing research on public transit outreach in the context of the Region of Waterloo's rapid transit project. It also provides the rationale for the study, as well as outlining potential contributions to the field of public transportation planning and defining key concepts that have been employed throughout the study.

1.1 Research Context

While most Canadian municipalities are engaging in greater public consultation surrounding public transit improvement projects, support for transit improvement remains problematic, particularly for larger scale projects (Fol, Dupuy & Coutard, 2007; Barnes & Langworthy, 2004). As the impacts of car-oriented development become more pronounced, there is growing interest amongst the general public, policy-makers and politicians in decreasing private automobile use and promoting public transit (Friman, Larhult & Gärling, 2013). In the Region of Waterloo there is concern over how predicted population growth will intensify local travel and living patterns. The Region of Waterloo currently has a population of approximately 550,000 and is expecting an additional 200,000 over the next 20 years (Region of Waterloo, 2012b).

The following objectives are stated in the Region's Official Plan (2010):

- Establish a Countryside Line to contain future urban growth and protect farmlands and sensitive natural areas.
- Support the development of a Planned Community Structure based on a system of nodes, corridors and other development areas linked together by an integrated transportation system.
- Promote Transit Oriented Development with a diverse mix of land uses, housing types and open spaces in close proximity to each other.
- Meet or, where feasible, exceed Provincially-directed density and reurbanization targets to make better use of land and infrastructure.
- Anticipate and plan for growth in Urban and Township Designated Greenfield Areas and other areas within the Countryside Line as appropriate to ensure sufficient lands are available for future residential, employment and other needs.
- Strengthen the economic vitality of the region's townships by directing most of their growth into the Township Urban Areas.

In March 2014, the Region of Waterloo signed a contract with the design consortium GrandLinq to design, build, finance, operate and maintain (DBFOM) the ION, a \$818 million light rail transit line (LRT), to provide higher-order public transit (Region of Waterloo, 2012a). The ION is intended to support the intensification targets outlined in the Region of Waterloo's Official Plan by focusing future development and investment in

the city cores, as well as limiting urban sprawl and protecting the environment (Region of Waterloo, 2012a).

While rapid transit was first mentioned in the Region's Official Plan in 1976, the project did not officially begin until an Environmental Assessment in 2006 (Region of Waterloo, 2012b). LRT was selected as the preferred technology in 2009, with Region staff recommending its implementation plan later in 2011 after reassessing the technology selection after considerable public debate (Region of Waterloo, 2012b). Critiques were largely related to the cost of the project, and the inappropriateness of the technology or design of the alignment (Casello, Towns, Bélanger, & Kassiedass, 2015).

In 2013, the ION was selected as the brand name for the LRT (see Appendix 1 for ION logo) as it reflects the tech-savvy character of the Region and is focused on "movement, community transformation and innovation" (Region of Waterloo, 2012c). The Region has decided on a brand foundation (healthy, prosperous and smart) and has hosted several public consultations, community engagement events, and distributes a monthly ION newsletter. There is however, currently a lack of clear messaging regarding how the ION will fit within the community's transportation network, as evidenced by the overall confusion regarding the project in the community. Opinion pieces from local media outlets also suggest that the majority of residents strongly oppose the project, or have pressing concerns (Casello, Towns, Bélanger, & Kassiedass, 2015). **1.2**

Summary of ION Planning Process

Figure 1 illustrates the timeline of the ION planning process from the environmental assessment to its anticipated operation.

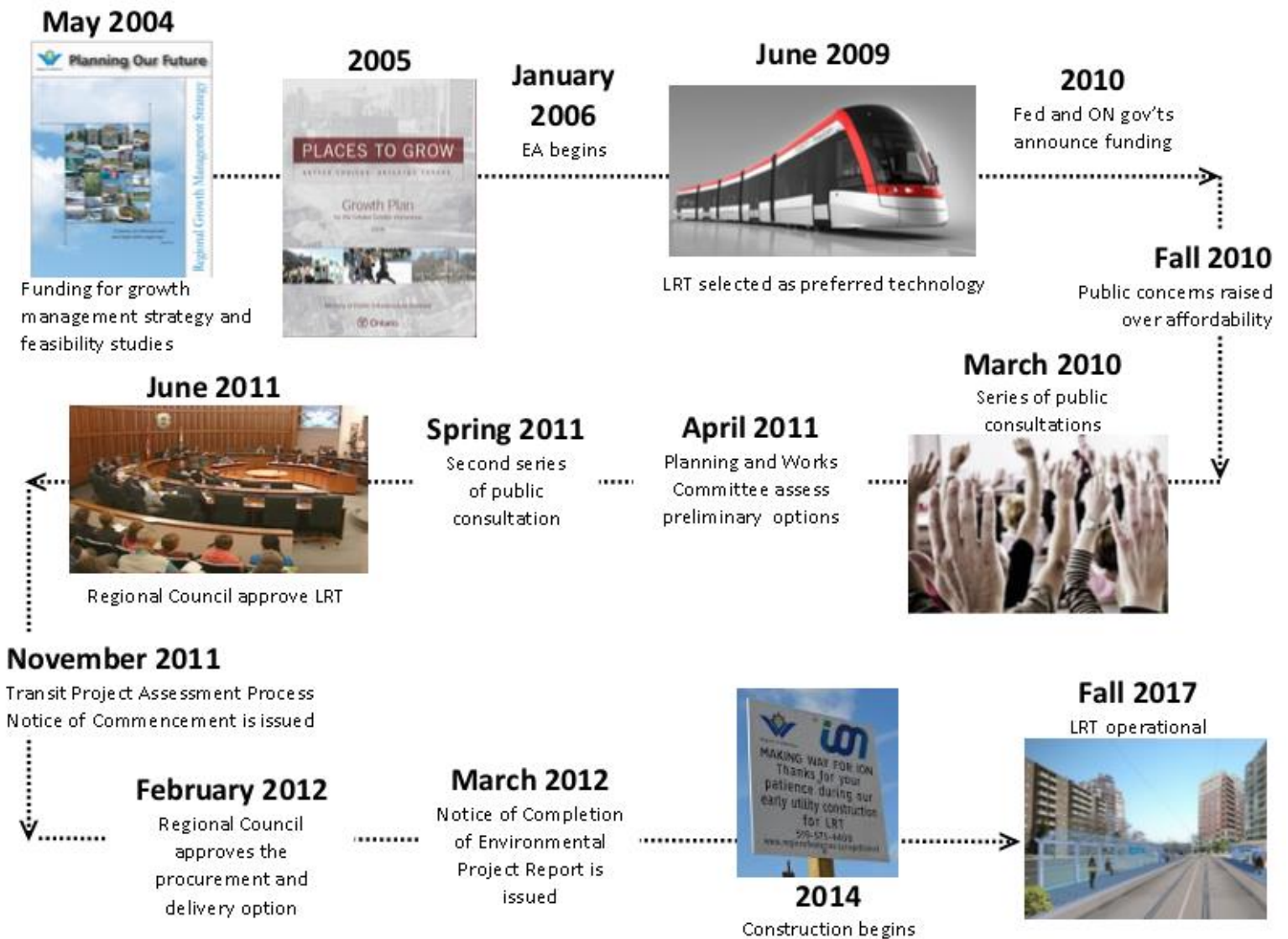


Figure 1: Timeline of ION Planning Process

As shown by the figure above, the legislative context for the project was established by regional and provincial policy prior to the environmental assessment in 2006. During the environmental assessment, LRT was selected as the preferred technology over a bus rapid transit system. Due to concerns raised by residents during the public consultations, this decision was revisited, and it wasn't until two years later that the Region official selected LRT for its Rapid Transit project. The environmental assessment concluded in 2012 and construction began the summer of 2014. The ION is expected to be operational by the fall of 2017.

1.2.1 Provincial Public Consultation Requirements

As a transit project, the ION is subject to regulation under the provincial Environmental Assessment Act's Transit Project and Metrolinx Undertakings clause (O.Reg. 231/08) (Government of Ontario, 2014). In the Ministry of the Environment's Transit Project Assessment Process document, it is stated that project proponents must engage with community members and respond to their concerns, as well as identify and assess potential environmental impacts. After a 30 day review, the Ministry can impose conditions or require the project proponent to take further actions, such as more studies or public consultation for the project to proceed, within a period of 35 days after the review (Government of Ontario, 2014).

Ultimately, it is considered the responsibility of the project proponent to design and implement an appropriate public consultation program. There are however general consultation requirements. Project proponents must communicate the rationale for the

selection of the project and how they plan to monitor the mitigation of the project's impacts. They must also discuss with Aboriginal communities any treaty rights that are being negatively impacted and their mitigation (Government of Ontario, 2014). The document also outlines recommendations to maximize the effectiveness of the public consultation process, but provides no specific requirements or mechanisms for evaluation. Hence, the onus is on the proponent, in this case the Region of Waterloo, to conduct a thorough public consultation program that engages its community and promotes public understanding of the project.

Updates to legislation in 2008 have enabled the streamlining of the EA approval process to expedite transit projects (Lindgren & Dunn, 2010). Some transit projects can now be exempt from the Environmental Assessment Act, while other more contentious projects must prepare an Environmental Project Report (Lindgren & Dunn, 2010). Members of the public as well as the Minister of Environment can request additional studies before approving the project, or request a full Environmental Assessment (Lindgren & Dunn, 2010). This is keeping with the trend of the environmental impact assessment process becoming less formal since its inception in 1975.

1.2.2 Region of Waterloo's Public Consultation Program

As outlined in the Region's Community Engagement Strategy (CES), the purpose of the consultation program is to provide "proactive, comprehensive, ongoing information and timely public notice throughout the planning, final design, construction, and testing

phases of the project” (Region of Waterloo, 2014). Meanwhile, the stated goal for the consultation program is to connect with the various project stakeholders, especially those located along the alignment (Region of Waterloo, 2014).

Within the document, it is stated that the Region plans to adapt its messaging according to the project phases. For instance, during the planning phase, the messaging was focused on how the Region will mitigate the impacts of construction, while the operational phase will focus on explaining the fare policy. The effectiveness of the CES will be evaluated against its goals and objectives outlined in Table 1 below (Region of Waterloo, 2014). This will be measured through meeting attendance and surveys, etc. (Region of Waterloo, 2014)

Goal	Definition
Inspiring Support	<ul style="list-style-type: none"> • Create two-way communication channels and opportunities • Provide frequent, clear, consistent and reliable information • Keep the community informed of project goals, progress and construction • Showcase the Region’s vision and leadership • Create excitement and engage the community • Demonstrate careful planning and integration with GRT
Presenting the Facts: Easing Fears and Concerns	<ul style="list-style-type: none"> • Educate the community about the Project and correct misinformation • Establish and build relationships with businesses and property owners • Respond to concerns; mitigate against opponents gaining traction • Encourage participation; solicit input and feedback

<p>Building Ridership and Shaping the Community</p>	<ul style="list-style-type: none"> • Focus on the benefits of rapid transit: <ul style="list-style-type: none"> ○ Improved transportation choice; seamless integration with Grand River Transit (Region’s current public transit provider) ○ Innovative, economic investment/development along the corridor ○ Protect the countryside (rural/urban mix), improved air quality, reduced emissions
<p>Maintaining Momentum</p>	<ul style="list-style-type: none"> • Mitigate against adverse impacts of construction-related disruption • Quickly identify and address concerns • Build and reinforce public and stakeholder support and enthusiasm • Celebrate project milestones • Establish effective communication protocols – both proactive and reactive • Be proactive, emphatic and show sensitivity

Table 1: Specific Goals of CES. Adapted from Community Engagement Strategy (Region of Waterloo, 2014).

In 2011, prior to the selection of the LRT as the preferred technology, the Region hosted 25 public consultation sessions with 2,650 participants, as well as 20 consultations with business community which drew 550 participants (Region of Waterloo, 2012b). The Region also held two formal public input meetings, a live webcast and received 1,760 written comments from the community (Region of Waterloo, 2012b). In 2013 and 2014, the Region displayed an LRT vehicle at a variety of public events. Approximately 7,500 individuals toured the vehicle. Throughout the Region’s public consultation program, the focus has been on promoting five key ION benefits for their messaging, which further support the regional growth plans. These key benefits include: shape our community, move people, protect our countryside, better the environment and manage urban growth, which are defined below in Table 2 (Region of Waterloo, 2012b).

Key Benefit	Definition
Shaping our Community	Rapid transit, along with the Central Transit Corridor Community Building Strategy, will shape our community by encouraging reurbanization in existing urban areas. The Community Building Strategy is a planning process that will identify unique opportunities for growth and development around each station area and help integrate the rapid transit system with other existing transportation networks which will make it easier for people to move around the region
Move People	Rapid transit will move people efficiently, comfortably, and conveniently. In addition, rapid transit is only one component of our transportation system, which also includes Grand River Transit (GRT) and the King/Victoria Transit Hub. We are also fortunate to have VIA Rail and GO Transit services helping provide sustainable transportation choices for Regional residents, businesses, and visitors.
Protect our Countryside	Rapid transit will help protect our countryside by promoting intensification in existing urban areas. This will help preserve the Region's precious agricultural lands, natural beauty, heritage resources, and cultural characteristics.
Better the Environment	Rapid transit will better the environment by reducing per trip greenhouse gas emissions in the Region, resulting in better air quality. Rapid transit also supports reurbanization and the efficient use of land, which will reduce our carbon footprint, promote active transportation choices, and protect our important agricultural and natural resources.

Manage Urban Growth	Rapid transit will help manage urban growth by directing a greater share of new development to existing urban areas and promoting reurbanization. Intensification will make better use of our land, existing infrastructure and services.
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Table 2: Definition of Key Benefits by Region of Waterloo. Adapted from Region of Waterloo, 2012b.

1.2.3 Public Response to the Rapid Transit Consultation Process

As with the majority of public transit infrastructure projects in North America, the ION has been subject to heated public discussion. There is a vocal anti-LRT coalition who has organized an online petition to stop the LRT. But a scan of the local media suggests that the Region of Waterloo is polarized regarding the level of public support for the project (with segments of the population that are strongly supportive or strongly opposed, while the majority of residents are interested in the project but have concerns).

Fittingly, the ION was a primary point of discussion during the Region’s 2014 municipal elections and a handful of candidates were running on a largely anti-LRT platform. However, all of the candidates who ran on a platform supportive of the ION were elected (D’Amato, 2014). While the election results suggest that the majority of residents want to see the ION move forward, of concern is the media reporting of the issue which suggests that many Region of Waterloo residents still strongly oppose the project and many feel they were excluded from the consultation process. This provides further evidence of the contentiousness of the project, given the anti-LRT climate of the

local media. This dichotomy also demonstrates the importance of further understanding the public's perception of the ION in order to facilitate effective outreach and communication as part of the implementation process.

1.2.4 Public Response to the ION

A case study of the Region of Waterloo's ION by Casello, Towns, Bélanger, & Kassiedass (2015) identified that concerns over project costs, the decision-making process, and the capacity and motivation of the municipal government were key themes in the public opposition discourse. This echoes the sources of conflict in transit project public involvement identified by Barnes & Langworthy (2004). According to their research on five independent case studies, the dimensions of conflict include the perception of project costs and benefits, disputes over the degree of local impacts, stakeholder engagement, perceived legitimacy of the project and ideological issues.

In the Region of Waterloo, there appears to be dispute over the degree to which the ION will improve local travel. This is likely due to the fact that congestion currently does not impede traffic in a significant way. Seeing as transit ridership is still relatively low, many residents appear to feel as though they are absorbing disproportionate costs, and only current transit users will stand to benefit. Additionally, many argue that residents of the core will benefit more than suburban residents. This highlights ideological issues of suburban car culture being set against transit and urbanism. Together, these concerns have likely contributed to the issues of perceived legitimacy as the residents do not

believe there to be sufficient local benefits to justify the investment given that the residents considered to benefit are in the minority. While stakeholder engagement is also considered an issue, it appears to be a lesser concern (Casello, Towns, Bélanger, & Kassiedass, 2015).

1.3 Purpose Statement

Seeing as close to 90% of trips are completed by car and only 5% by public transit in the Region, there is great interest in promoting a shift in mode choice amongst residents to ensure the viability of the ION investment (Region of Waterloo, 2009). The Region is also projected to grow to 712,000 people by 2029; thus promoting public transit is especially important if the Region is to maintain mobility and minimize the cost and impacts of congestion (Region of Waterloo, 2012a).

According to emerging research on public transit promotion there are opportunities to draw on the latest marketing practices and incorporate targeted messaging. By personalizing communications to various population segments in its communication strategy along with its current branding, the Region of Waterloo can enhance the perception of the ION's anticipated performance, and potentially increase ridership, and thereby meet the goals of the CES outlined earlier in Table 1. Furthermore, there is currently a literature gap regarding how the customization of messaging based on socio-demographic characteristics can be used to promote public transit projects.

Similarly the impacts of branding and the provision of personalized travel information on the level of support for public transit projects remains inadequately understood.

The purpose of this study is to determine the level of support for the ION in the community. Furthermore, it is intended to assess the impacts of social marketing practices on promoting the brand of a public transit improvement project. More specifically, this study examines how personalized trip information, and tailored personal and community-based messaging strategies can be used to effectively communicate project benefits.

1.3.1 Study Objectives

Consequently, the primary objective of this study is to determine how different type of ION trip information (travel time, personal benefits, and community benefits) are interpreted by potential users, and how this could influence the levels of support. The secondary objective is to contribute to the existing literature on communications for public transit project promotion. The goal of the study is provide recommendations to the Region of Waterloo that can be used to improve their messaging strategy, and ultimately generate greater public understanding which may lead to increased ridership.

1.4 Research Questions

What are the impacts of branding on public support for public transit projects prior to operation? How could targeted messaging be used to strengthen the brand of a public transit improvement project?

- How is the branding of the ION influencing the perception of project benefits?
- Does providing personalized trip information to individuals influence the level of support for the ION?
- Are there indicators (age, gender, income, education) that provide insight into the type of information that may be most effective in promoting support for the ION?

1.5 Theoretical and Applied Contributions

The concepts utilized in this study mainly concern travel behaviour. As the premise of this study is that perception of transit and ridership are interrelated, this study examines how mode selection may be influenced by how a communication strategy presents the benefits of a given project to residents. The results on this research will provide a better understanding of the less tangible perceptual components of the public transit experience that influence ridership. In turn, findings will be used to determine how to develop effective education and marketing campaigns, with the ultimate objective being to enhance the community's level of understanding and ridership of the ION in the Region of Waterloo and similar projects being planned for other cities.

With this understanding, improved marketing and educational materials can be developed and distributed to address potential users’ preconceived notions of cost, or other concerns and generate increased ridership. This will be used to produce a series of recommendations for the Region of Waterloo for effective communication planning and evaluation. The results from this study can be used to enhance the perception of the ION and other subsequent transit investments by informing future educational and marketing campaigns.

1.6 Key Concepts

Table 3 outlines terms are used frequently in this proposal. The concepts largely relate to transit planning and provided the foundation for this research. As such, it is important to define them here.

Term/Concept	Definition
Public transit/Public transportation	All passengers can board vehicle, provided they pay the fare. Fixed route. Grand River Transit (GRT) is the public transit operator for the Region of Waterloo.
Light rail transit (LRT)	Electric trains running along tracks usually separate from regular traffic. ION is the LRT service planned for the Region.
Adapted bus rapid transit	Buses driving in regular traffic but with signal priority, queue jumping, by-pass shoulders, frequent service and limited stops to be faster, more reliable and convenient.

Mode choice	Selection of travel mode by a traveler for a given trip at a given time. Can include car, public transit, cycling and walking. Influenced by characteristics of traveler, trip purpose and characteristics of transportation options.
Generalized cost	Sum of the monetary and non-monetary costs of a journey (translates into support of a mode). Likelihood of using transit = (relative importance of access + waiting + in-vehicle time) * value of time + personal perception (social, comfort, safety) + fare
Perceived cost	Non-monetary expenses attributed to a given mode (comfort, ease of use).
Travel Demand Management (TDM)	Strategies and policies used to reduce or redistribute peak traffic demand. Improving public transit is a primary TDM strategy as it can reduce the amount of car traffic due to transit's higher greater passenger capacity.
Travel choice inertia	Resistance to changing modes once a workable route is established.
Communication Strategy	Concept and plan for articulating the long-term goals of an organization through efficient messaging and branding.

Table 3: Key concepts

1.7 Thesis Structure

Chapter 1 has provided the foundation for the study by providing the context for the questions being addressed, as well as the rationale for this research. Chapter 2 provides an overview of the existing literature and relevant literature gaps. Chapter 3 outlines the

research methodology undertaken for this study. Chapter 4 conveys an analysis of the findings from the focus group sessions. Similarly, Chapter 5 presents an analysis of the survey findings. Chapter 6 will discuss the implications of the findings from Chapter 4 and 5. Finally, Chapter 6 will also provide concluding remarks on this study.

Chapter 2: Literature Review

This chapter presents a summary of the existing research related to the strategic communication of transit projects for generating public support, and the relevant literature gaps. This body of work is valuable to this research as it provides the context of previous public transit engagement efforts, as well as a framework with which to approach this study and interpret the findings.

2.1 Modelling Travel Behaviour

It is essential to quantify changes in travel behaviour to better understand the impacts of communication and outreach programs (Schmitt, Currie, & Delbosc, 2013). Within travel behaviour research, disaggregate models are used to identify decision-making variables regarding travel choices as individual decision-making gives rise to collective travel behaviour and larger mobility patterns (Lyons, 2006). As stated by travel behaviour research veteran Ian Heggie:

“Advanced travel model development was prompted by the increasing awareness that traditional, multi-stage engineering models were inaccurate. The latter characterizes travel choices as a series of independent, sequential decisions representing trip generation (should I make a journey?), mode choice (by what means?), trip distribution (where to?), and route choice. This is widely acknowledged to be arbitrary and based on a rigid, mechanical, Newtonian concept of behaviour (Heggie, 1978, p. 541).”

The often cited rational model of travel choice states that travel decisions are made with the intent of decreasing risks and maximizing individual utility, which is a function of time and budgetary constraints (Spears, Houston, & Boarnet, 2013). As a result, travel choices are largely influenced by the anticipated performance of travel options. While the rational choice model has provided insights on mode choice, there are discrepancies between intended behaviour and actual behaviour. The psychological factors influencing mode choice remain unclear, as it is difficult to obtain objective information on behaviour and decision-making (Chen & Chao, 2011). Research has shown that the rational choice model does not account for all the factors that influence mode choice, and consequently is not truly representative of travel behaviour (Innocenti, Lattarulo & Paziienza, 2013). Furthermore, there is contention whether mode choices are made through reasoned action or habit.

While it is easy for travel behaviour models to represent the monetary costs of a trip, these models don't accurately capture the non-monetary costs, and so perceived costs (i.e. comfort, reliability...) are currently under-represented in models (Innocenti, Lattarulo & Paziienza, 2013). As described earlier, personal perception is an important factor in mode choice, but given that perception is difficult to quantify, this leads to discrepancies between travel behaviour models and actual travel behaviour. For instance, if travelers responded in a perfectly rational way to travel costs, they would take transit until it became more expensive than automobiles, but this is not often the

observed behaviour. Therefore there is a need for studies that examines perceptual factors that influence mode selection

2.2 Travel Choice Inertia

There are substantial cultural biases towards automobile travel over using public transit in North America, even though it is largely accepted that the overdependence on car travel is not sustainable. This leads to resistance in changing travel behaviour, even in light of less costly options, which is known as travel choice inertia (Chorus & Dallaert, 2012). Consequently, there is substantial interest in understanding what motivates shifts in travel behaviour, or more accurately under what conditions the motivation to change modes overcomes a traveler's existing travel choice inertia. The structuring of the study of travel inertia is most often attributed to Chorus and Dallaert (2012). These researchers state that travellers exhibit inertia as they are adverse to unfamiliar risks, and also because the quality of a travel mode is often only realized upon usage. On the other hand, forward-looking travellers are less likely to develop inertia as they are willing to explore transportation alternatives, given that they may result in gains in utility. This has important implications for travel behaviour as it suggests a cognitive bias towards pre-existing travel behaviour (Innocenti, Lattarulo & Paziienza, 2013).

Studies suggest that inertia may be more difficult to break than previously anticipated due to the greater importance of perceptual elements of mode selection, though they also show there is great capacity for users to quickly learn pro-transit habits (Innocenti,

Lattarulo & Paziienza, 2013; Chorus & Dallaert, 2012). The current study examines how communication strategies can be leveraged to help individuals overcome travel choice inertia, which can then be used as part of larger travel demand management strategies.

2.3 Travel Demand Management

Educational campaigns aimed at promoting new public transit services and the application of measures and policies to decrease car use and/or promote transit are considered travel demand management techniques (TDM). TDM includes both hard (infrastructure investments, transportation pricing) and soft (promotion of voluntary behaviour change). As demonstrated by previous research, transportation policy measures are most effective when they combine both hard and soft policy measures. A recent study by Richter, Friman & Gärling demonstrated that a combination of hard and soft policies can lead to a 20-25% reduction in car use, while soft policies alone typically achieve a 5-15% reduction in car use. Soft policy techniques included motivational support for behaviour change, assisting individuals in setting goals for behaviour change and providing customized travel information. This research investigates how immersing communication tools can contribute to TDM.

2.3.1 Personalized Travel Information

The use of travel route planning has recently grown substantially due to the proliferation of smartphone technology which has important applications within TDM (Arentze, 2013).

Trip information has three main roles which include: enhancing the awareness of travel options, enabling individuals to make more informed choices, and helping individuals to successfully complete a journey (Lyons, 2006). Trip information can be provided for single or multimodal trips, or to compare different modes, but historically the provision of travel information has been unimodal, and has helped to facilitate individuals procuring more information about their chosen mode (Ferris, Watkins & Borning, 2010; Kenyon & Lyons, 2003). It is argued that providing multimodal information at a single point of entry would facilitate the transition to an alternative mode of travel (Ferris, Watkins & Borning, 2010; Kenyon & Lyons, 2003).

In regard to multimodal travel, trip planning programs provide several options, with user preferences dependent on trip attributes (Arentze, 2013). For instance, the travel time components are valued differently by users, with the time spent accessing and waiting for transit being weighed more than on-vehicle time (Abrantes & Wardman, 2011).

Studies have also shown that personalized feedback technologies providing data on cost and environmental impact of driving promote sustainable driving behaviour change (Tulusan, Staake & Fleisch, 2012).

Therefore there is interest in identifying how trip attributes are evaluated by potential users and how these preferences can be integrated in multimodal trip planning programs. However, due to travel choice inertia, alternative trip information is rarely sought by travelers. Nevertheless, studies suggest there is great potential for alternative

trip information to promote the revaluation of non-car options and promote modal change (Kenyon & Lyons, 2003). Hence it is imperative that multimodal travel information be presented in an accessible and pleasing way. This study contributes to this literature by providing a sample of residents with personalized travel information and evaluating how this influences their perceptions on LRT.

2.4 Public Perception of Public Transit

As demonstrated by Chorus & Dellaert (2012) the utility of a travel mode is a function of its anticipated performance; however the quality of a mode is made up of tangible factors, such as frequency of service, as well as intangible qualities, such as comfort and perceived safety. Given the comfort and luxury status associated with personal automobiles, the costs of car travel is typically undervalued, especially since most costs are not paid up-front (i.e. Car insurance is not on a pay-as-you-drive basis, it can be paid monthly, quarterly, semi-annually, or annually) and others are externalized (i.e. The health-related costs of car use, such as air pollution, are not factored into the price of operating a vehicle, rather it is absorbed by society through mounting healthcare expenses.) (Innocenti, Lattarulo & Paziienza, 2013). As a result, owning a personal vehicle is artificially inexpensive, and is a more competitive option than public transit. Furthermore, previous research has shown that car ownership leads to an increase in car use and a decrease in transit use (Vadersmissen, Thériault, Villeneuve, 2004).

Consequently, the use of public transit is dependent on an individual's attitude towards driving less, if they own a personal automobile (Noblet, Thøgersen & Teisl, 2014). Studies have shown attitudes towards transit, car use and the environment, perceived control over behaviour and concerns about traffic and personal safety influence an individual's decisions to take public transit (Spears, Houston, & Boarnet, 2013). Public transit is used more by younger and more educated individuals with shorter commutes, who drive less on average, with higher incomes (Noblet, Thøgersen & Teisl, 2014). However, there are a variety of reasons why individuals support public transit. These include civic, commercial, social and individuals factors (Transit Cooperative Research Program, 2008).

Transit use can be increased by enhancing the level of understanding of public transit services and how it is perceived by potential users (Spears, Houston, & Boarnet, 2013). Increasing an individual's positive attitude toward public transit can influence habitual mode choice behavior by encouraging car commuters to switch to public transit (Chen & Chao, 2011). Perceived usefulness and ease of use have also been shown to have a significant positive effect on an individual's attitude towards transit, therefore effective system design and marketing campaigns are important (Chen & Chao, 2011). Historically, many transit providers have underfunded marketing due to financial constraints (Bush, 1999). Furthermore, the marketing of new public transit services is currently underrepresented in existing literature, with much of the emphasis placed on promoting the switch to public transit from personal automobiles, as opposed to

providing information about the improvements to public transit services. A previous study has shown there is potential in research-based advertising campaigns for improving public opinion, increasing awareness and promoting ridership (Bush, 1999). A more recent study by Veeneman & Koppenjan (2010) has revealed that once the construction of public transit infrastructure begins, the key values that were used to sell the transportation project are largely forgotten. This suggests that marketing and educational campaigns should be adapted throughout the project lifecycle. This study explores the degree to which the Region of Waterloo has engaged in marketing throughout the implementation process thus far, and how their strategies can be adapted to encourage greater ION ridership.

2.5 Public Transit and Public Engagement

Over the past 50 years, public participation in planning has gone from essentially non-participatory, to tokenistic with consultation approaches. From the 1990s to mid-2000s there has been the advent of interactive consultation methods, such as focus groups, workshops and citizen juries (Shiple & Utz, 2012). This is reflected in Arnstein's *Ladder of Citizen Participation* (Arnstein, 1969). While written over forty years ago, Arnstein's work is still frequently referenced in contemporary discussions about engaging the public in the decision-making process in public transit improvement projects. It is argued that engaging the public leads to more robust plans and decreases the likelihood of public opposition, which could lead to costly delays (Zhong, Young, Lowry, &

Rutherford, 2007). Ensuring the accessibility of events, promoting engaging interactions, and having an outcome-oriented process are considered to be markers of a successful engagement process (Wagner, 2013). While there has been greater emphasis on public transit outreach, efforts to assess the effectiveness of the messaging and barriers to participation have been limited (Haider & Martinez, 2014).

Local governments and transit agencies typically include limited human and financial resources as reasons for underdeveloped public outreach (Doelle & Sinclair, 2005). While it has been well-documented that it is important to engage stakeholders in a meaningful way, many municipalities and transit agencies struggle to garner support for public transit improvements.

Most municipalities make use of traditional outreach approaches, such as public meetings and hearings, open houses, workshop, charrettes and small group meetings (Transit Cooperative Research Program, 2011). These forums are also being fused with social media outreach to reach a broader audience (Transit Cooperative Research Program, 2012). In a study by the Transit Cooperative Research Program (2011), transit agencies shared what has been successful at meaningfully engaging stakeholders. Effective strategies include identifying and crafting messaging for the intended audience, organizing an event that is engaging and interesting, forging partnerships with organizations and residents, and making personal connections in the targeted community. Specifically, this study will examine the influence of the Region's outreach

strategy on public support, and how the strategy can be supported through targeted messaging.

2.6 Social Marketing for Greater Public Transit Planning Engagement

It has been confirmed by a variety of studies that education alone does not promote sustainable behaviour change, but rather internal and external barriers to engaging in sustainable behavior must be removed (McKenzie-Mohr, 2000a). In *Successfully Changing Individual Travel Behaviour*, it is explained that commitments (written pledge) can be used to promote an attitudinal shift. Also, prompts (audio or visual reminders) are helpful to remind individuals of their pledge and to carry out the new behaviour. Equally as important is establishing the new behaviour as a norm (distribution of campaign paraphernalia). Communicating (e.g. brochures and websites) the campaign message through personal and community goals is an important tactic to motivate and educate individuals. Lastly, incentives (vouchers for goods or services related to the desired behaviour) are used to motivate an individual to maintain the desired behaviour. Using these tools, the Washington State's King County MetroTransit's In Motion program was able to decrease single vehicle occupancy trips by 24-50% and increase transit trips by 20-50% amongst participants (Cooper, 2007).

Engagement campaigns can be promoted through social marketing. The public health sector has successfully promoted behaviour change campaigns through social

marketing, especially anti-smoking campaigns. As stated by Chapman, Ayers, LeTouzé and Renard (2013), the aims of social marketing are:

“(…) to create associations based on aspirations, social modelling, and positive imagery, between a product, service, communication or lifestyle, and the consumer using media and other communication channels that ultimately influences purchase, use, and other behaviors” p. 173

Recent studies have examined how community-based social marketing (CBSM) can use behaviour change tools to promote sustainable behaviour changes by identifying the barriers and benefits of a given behaviour to a community of individuals, as opposed to personal benefits to a single individual. CBSM borrows from traditional social marketing practices, adding elements of psychology to foster behaviour change and is increasingly used by planners for information intensive campaigns (McKenzie-Mohr, 2000b). Notably, brands have been used to embody social or functional benefits and promote a desired behaviour (Evans, 2013).

In this case, the ION brand has been used to encapsulate the Region of Waterloo’s light rail transit project (as well as its benefits), and is being used to promote the project. This study examines how the brand has been received by residents and how the brand can be strengthened to further promote the support of the project, as well as future ridership.

2.6.1 Branding Public Transit Improvements

Brands not only refer to goods and services, but brands can also personify behaviour change by suggesting associations with a product, service, or behaviour change (Evans, Blitstein, Hersey, Renaud, & Yaroch, 2008). The brand's personality is embodied by its images, logos and colours, and the extent to which the desired behaviour is associated with these elements determines the success of the brand of promoting the desired behaviour change (Evans, 2013). The exchange between the brand and individuals is considered symbolic and complex as the consumer is being asked to change their behaviour, which is often considered as a sacrifice, if there is insufficient positive reinforcement (Chapman, Ayers, LeTouzé, & Renard, 2013).

While there has been substantial study of the potential of branding to promote public health, there has been little investigation on how branding can be used to promote public transit ridership or public transit improvements. However, the perception of a brand influences patrons' response to service failures in aviation (Kim & Cho, 2014). This is a missed opportunity, as strong brands have been shown to enable individuals to visualize and understand less tangible products or services, such as transportation network improvements (Chen & Tseng, 2010).

2.6.2 Targeted Messaging and Public Transit Support

Given the diversity of perspectives and experiences regarding public transportation, targeted messaging can be helpful in public transit branding and messaging. Targeted

messaging involves the segmentation of the audience and tailoring the messages to address the needs and concerns of the various groups. Research on conventional market segmentation has proposed segmenting according to consumer characteristics, product attributes, benefits sought, service qualities, values and buying behaviour (Bailey, Baines, Wilson, & Clark, 2009).

With regard to market segmentation for social marketing, there are two main audience segments: individuals supportive of the desired behaviour being promoted and individuals that are not supportive (Chapman, Ayers, LeTouzé, & Renard, 2013). The aim of the targeted messaging is to identify practical and motivational barriers amongst the non-supportive segments and to find ways to continue to motivate the supportive segment (Chapman, Ayers, LeTouzé, & Renard, 2013). A well-cited study by Payne and Frow (1999) recommended further consumer segmentation with groups that include individuals that will definitely not switch, probably will not switch, might switch, and definitely will switch (Bailey, Baines, Wilson, & Clark, 2009). These segments can be directly applied to public transit improvement projects and can be used to inform the communication strategy of transit providers. There is largely unexplored potential in undertaking in-depth segmentation to produce further customized messages in order to resonate with different audiences. This study makes recommendations for adding targeting marketing to the Region of Waterloo's outreach and communication strategy.

2.7 Literature Gaps

There is currently a literature gap regarding how travel choice inertia is affected by new public transit options. This research is intended to address the existing literature gap regarding the customization of messaging based on socio-demographic characteristics to promote public transit projects. More broadly, it explores how marketing principles can be integrated in public transit promotion. It also adds to the body of research on the impacts of branding and personalized travel information on the support of public transit projects. Notably, the research explores the impact of providing personalized multimodal travel information prior to project operation. This study also contributes to research on public transit planning processes. Findings can also contribute to emerging research on modelling the perceptual elements of travel behaviour.

Chapter 3: Research Methods

This study makes use of the Region of Waterloo's rapid transit project as a contemporary and relevant case study. The ION is an unprecedented investment in public transit for a medium-sized city and, as such, this study is relevant to similarly-sized Canadian communities struggling to provide alternatives to personal automobile use. A survey and focus groups have been used to assess the community's perception of the ION and the influence of branding on perception. The triangulation of data was used to further validate the results and the credibility of the findings.

In this chapter, details on the study location are presented, the sampling design, research tools, and the approach to data analysis are described. Finally, the limitations of this study are reviewed.

3.1 Study Location

The following section is a co-authored extract from *Public Engagement in Public Transportation Projects: Challenges and Recommendations*:

"The Region of Waterloo is located approximately 100km west of the City of Toronto, between Lake Ontario and Lake Erie. The Region was settled by immigrants of German- Pennsylvanian and Scottish-Celtic origin in 1816. Farming communities were established, and towns emerged as service centers for the utility of farmers. Railways were developed from 1850-1870, followed by

industrial expansion into tanning and manufacturing. This remained the local region's economic focus for many decades. Streetcars were installed in the early 20th century and operated until 1946.



Figure 2: Region of Waterloo Map. Retrieved from: <http://www.movingtowaterlooregion.ca/about/localmunicipalities.html>

In 1973, Waterloo County became the Region of Waterloo, an upper-tier municipality consisting of three adjoining cities (Cambridge, Kitchener and Waterloo) and four rural townships (North Dumfries, Wellesley, Wilmot, and Woolwich) (Region of Waterloo, 2010). The Region is tasked with strategic

planning while the cities and townships remain in control of traditional urban planning decisions – zoning bylaws and parking rates, for example. Since the 1980s, the Region has experienced significant growth and diversity in its economic focus. While manufacturing remains relatively strong (compared with North American trends), the economies of the Region’s cities are now driven by the technology and financial sectors. Concomitantly, urban areas are increasing in vibrancy, and the community is attracting a broader array of demographics. Indicative of the current economic situation, Toyota is operating a manufacturing hub in Cambridge, while Google has moved into downtown Kitchener.

The Region experienced typical North American outward growth into the 2000s, with suburban-style housing dominating the edges of the Regional landscape. Given the transitioning regional economy and landscape, Waterloo Regional Council began to consider growth management. The community expressed a desire to protect the surrounding historic farmland from further development, as well as the groundwater resources upon which the entire region relies. There was also demand to increase the diversity of housing, transportation and socio-cultural opportunities in both the core cities and suburbs. The Region has a history of progressive planning; for example as early as 1976 a rapid transit system was specified in the Region’s Official Plan. Based on many of these original concepts, the Regional Growth Management Plan was published in 2003. The key elements of this strategy include: “big picture” environmental

planning; a countryside line; reurbanization; transportation choice, including the creation of a rapid transit system; targeted development in greenfield areas; and quality of life initiatives (Region of Waterloo, 2003).

In conjunction with the Regional Growth Management Strategy, the Region had ample evidence that transit was increasing in popularity. The public transit operator, Grand River Transit (GRT), provided service to 22 million riders in 2013, up from about 9 million rides two decades earlier; between 1999 and 2012, GRT has one of the fastest growing ridership rates in Canada – 6.5% annually in this timeperiod (Region of Waterloo, 2014). The Region has therefore outlined “moving people more efficiently in and around our community, limiting urban sprawl and saving our farmland through the protection and preservation of the environment” as the three fundamental goals of the ION (Region of Waterloo, 2012b).”

In 2011, after six years of feasibility studies, facing rapid regional population growth, and with support from provincial legislation (Region of Waterloo, 2003), Waterloo Regional Council approved the construction of an LRT line – later branded as the ION. As shown below in Figure 3, Phase 1 of the ION construction, expected to be complete by 2017, will connect Waterloo to Kitchener with 19 kilometers of light rail and a 17 kilometer adapted bus rapid transit line will connect Kitchener to the Ainslie Terminal in Cambridge (Region of Waterloo, 2012b). In total there will be 22 stations along the 36

kilometer corridor (Region of Waterloo, 2012b). Phase 2 will connect Ainslie Terminal to Kitchener by rail.

The three urban municipalities (Cambridge, Kitchener and Waterloo) have been collaborating with staff in the Community Planning Section of the Planning, Housing, and Community Services Department of the Region of Waterloo on the Central Transit Corridor project (CTC). In February 2012, the CTC, along with community members and stakeholders created the Community Building Strategy (CBS) to provide a framework for “building a more livable and prosperous community around transit (Community Building Strategy, 2013).” The CBS includes eight community building opportunities AND a land use and mobility framework. The CBS also describes eight development types, 69 community building initiatives, 23 station area snapshots, as well as a transformation over time and implementation strategies.

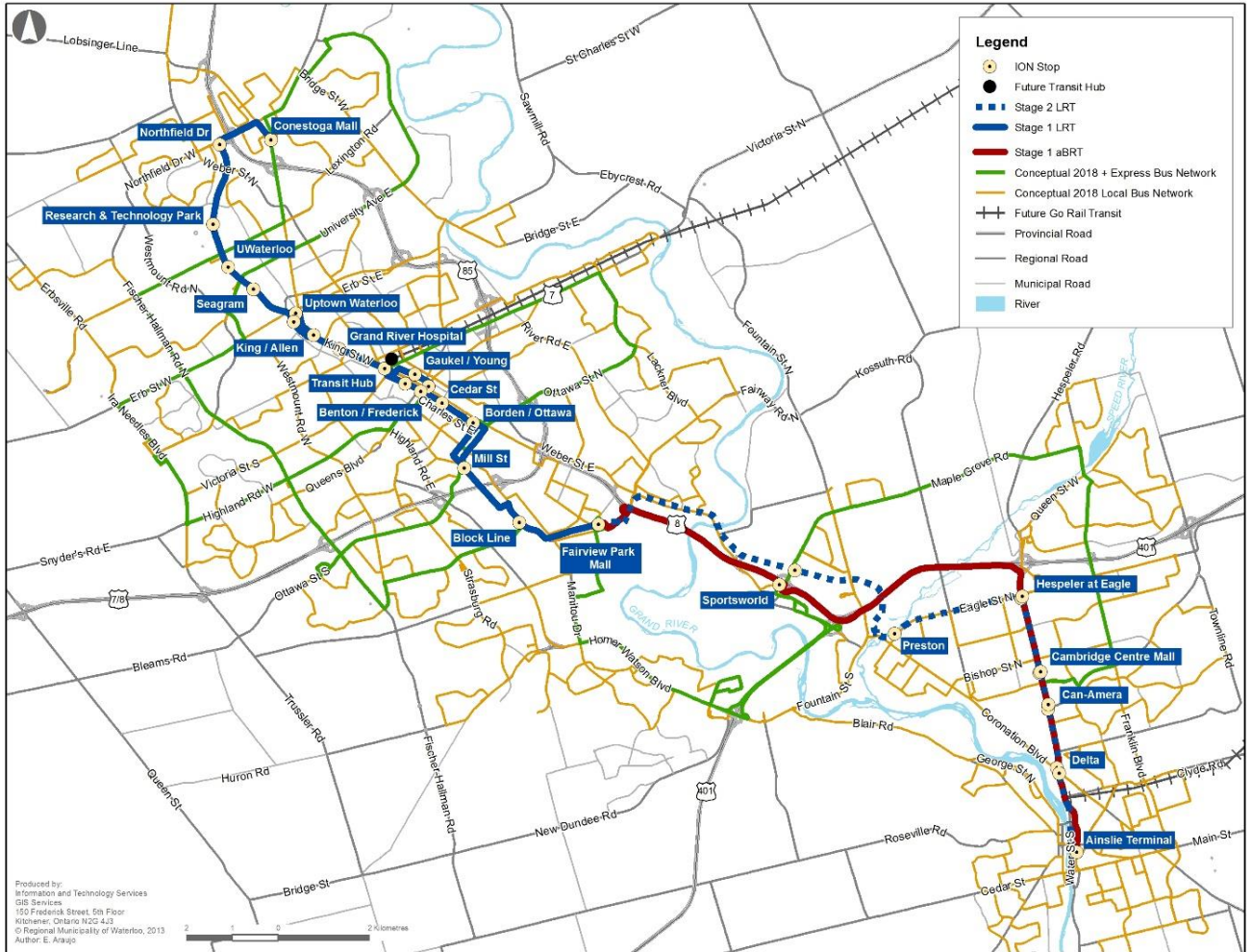


Figure 3: ION Alignment Map. Retrieved from: <http://rapidtransit.regionofwaterloo.ca/en/projectinformation/system.asp>

The place-specific initiative outlined in the CBS was developed by staff, stakeholders and community members to respond to issues and challenges in the Region. Amongst the 69 initiatives, there is an emphasis on creating quality urban places, enhancing mobility, greening the corridor and improving access to greenspace (see Figure 4). Conversely, there were less initiative relating to creating enhanced learning experiences and encouraging healthy and inclusive community initiatives. This is in-line with the key ION benefits espoused by the Region in their messaging (shape our community, move people, protect our countryside, better the environment and manage urban growth).



Figure 4

3.2 Research Tools

This mixed-methods study made use of a paper survey to collect quantitative data, as well as focus group sessions to collect qualitative data. A quantitative survey was selected as the purpose of this study is to determine the relationships amongst and between variables (perceived benefits and level of support). As stated by Creswell (2009), surveys are useful for numerically describing the attitudes and opinions of a population. Hence, surveys were selected as an important component of the research to determine Region of Waterloo residents' expectation of the ION and how they value different types of trip information.

On the other hand, a qualitative focus group was selected to gather richer data on how residents perceive the ION brand and to collect data on how to effectively target messaging to residents. Participants were also required to complete an entrance survey with an embedded app that provided multimodal travel information. Focus groups are known to be effective at gathering an understanding of a group's views on a given topic and how they've arrived to their assumptions, as well helping researchers understand the generalizability of their findings (Remler & Van Ryzin, 2011). Focus groups were therefore considered to be key to understanding the impacts of project branding and targeted messaging.

Given the complexity of travel behaviour, the triangulation of data was applied to confirm the findings of this study and ensure their applicability (Remler & Van Ryzin, 2011). The following figure illustrates the timeline for the data collection phase of this study.

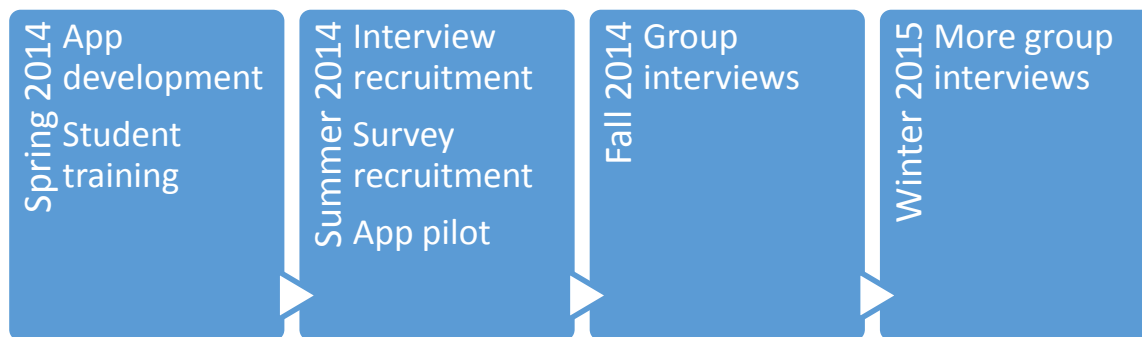


Figure 5: Research Timeline

3.2.1 Surveys

The survey questions were used to collect demographic information (gender, age, income and level of education) and to gauge participants' feelings about using public transit and driving (See Appendix 2). These questions were used to assess participants' current travel behaviour and their propensity to support public transit and taking measures to drive less. Additionally, participants were asked questions to gauge what their self-reported level of knowledge is regarding the Rapid Transit project and how they learned about the project. Questions were also asked to determine the participants' level of support and their intention of using the ION, as well as their motivations and/or barriers to using the ION. Participants were asked to evaluate the potential social and

environmental influence of the ION, as well as the importance of the key benefits communicated by the Region through the website. This survey was largely used to assess the level of support for the ION in Kitchener-Waterloo before operation. Key questions included:

- Rate how much you know about the ION. (A lot, some, a little, nothing)
- Rate how you feel about ION in the Region of Waterloo. (Strongly support, support, neutral/undecided, do not support, strongly do not support)
- What factors motivate you to use the ION? Please select all that apply (It will decrease my travel time, it will be more convenient, it will be more comfortable, it will be more safe, it will be less expensive)
- What factors discourage you from wanting to use the ION? Please select all that apply (It will increase my travel time, it will be less convenient, it will be less comfortable, it will be less safe, it will be more expensive)

3.2.2 Focus Groups

The focus group questions were designed to assess whether the branding influenced public buy-in and to examine the differences of the public's perception before and after the branding of the ION (See Appendix 3). Key questions included:

- What's your impression of the ION?
- When you think of the ION, what comes to mind?
- What's your relationship to the ION? What would you like your relationship to be like? How would you like the ION to fit into your life?

- Think of the Rapid Transit project before the ION. Tell me about your relationship with the project. What was your relationship to the debate and the concept?
- What do you think of when you hear “Rapid Transit”? What are your experiences with rapid transit?

The sessions evaluated the response to the ION brand. The sessions were also used to gain greater insight on the influence of the travel time information on perception.

Additionally, the focus groups collected information on participants’ demographic and travel behaviour information and the potential influence on the participants’ assumptions and beliefs about the project.

3.2.3 Pre-Focus Group Survey with Travel Time App

For the purposes of the focus groups, a web app was developed to provide estimates for public transit travel time once the ION is operational. This app also compares the estimated travel times for various modes to common destinations in the Region, and is embedded within an online survey (see Figure x for a screenshot of the app below). In this way, participants were able to compare public transit travel time, with and without the ION. They could also compare the ION travel time to driving (with and without traffic), as well as by walking and cycling.

In addition to the questions that were included in the paper surveys, participants were then provided with travel time information for the ION, driving with and without traffic,

current public transit, walking and cycling from their postal code to common destinations. These included Uptown Waterloo, Tannery, Conestoga Mall, Fairview Mall, University of Waterloo, Wilfrid Laurier University, Manulife Financial, Grand River Hospital and Conestoga College. After receiving their travel time, participants were asked if their perception or intentions to use the ION changed. The app was pre-tested at the Kitchener Market in July 2014. A booth was set-up and residents at the market were asked to complete the survey. Over 20 surveys were completed.

The app made use of postal codes to determine the travel time and made use of a broader geographical space. Consequently the most direct route for the participants was not always selected, and ION travel times were typically longer than what is expected during operation. Resolving this issue was beyond the financial scope of this research. Furthermore, it was considered of greater importance to assess how the participants interpreted ION travel time and how this might influence their level of support for the project, or their intention to use.

ION Travel Summary

Departure Time:
2:51:49 PM

Arrival Time:
3:40:49 PM

Step 1: Take the GRT for 36 minutes to Conestoga Mall Station.

Step 2: Take the ION from Conestoga Mall Station to University of Waterloo Station for 13 minutes.

Step 3: Walk for 0 minutes to arrive at destination: University of Waterloo.

Total time of trip is: 49 minutes.

Travel Times Comparison

Travel Mode	Departure Time	Arrival Time	Trip Duration
ION	2:51:49 PM	3:40:49 PM	49 mins
Driving (Without Traffic)	2:51:50 PM	3:03:10 PM	11 mins
Driving (With Traffic)	2:51:50 PM	3:08:50 PM	17 minutes
Transit	2:51:50 PM	3:16:10 PM	24 mins
Walking	2:51:50 PM	3:51:09 PM	59 mins
Cycling	2:51:50 PM	3:11:07 PM	19 mins

Figure 6: Multimodal travel app

3.3 Sampling Design

During the data collection phase of the research, an undergraduate course in research methods was being offered. For 35% of the final mark, students had the option to write an essay or participate in fieldwork and prepare a short written summary of their initial findings and insights gained from the experience. In addition to completing the ethics training module, students were briefed on the best practices for approaching community members to participate in a study.

3.3.1 Survey Recruitment

The students were paired in groups of two, and together they were required to meet a quota of 40 completed surveys at a given location. Students were to approach potential respondents at a given survey location until a response quota was met. Surveys were handed out in Uptown Waterloo Square, University of Waterloo, Wilfrid Laurier University, Charles Street Terminal, Forest Glen Terminal, Victoria Park, Waterloo Park and the Swanson Home Hardware in July 2014 (see Figure 7 and Table 4). Close to 550 surveys were completed. These sampling locations were selected as they are considered to be important travel destinations in the Region and would therefore attract a diversity of residents. Consequently, the sampling were considered sampling clusters, as they act as natural groupings of residents that travel to these destinations using various modes. In cluster sampling, simple random sampling is performed within the clusters. Cluster sampling was selected as the sampling method as it would allow for probability sampling and keeping costs minimal (Flowerdew & Martin, 2005).

The minimum sample size was calculated at 385 with a 95% confidence level and confidence interval of 5. The calculations for sample size are:

$$\begin{aligned}\text{Eq. Sample size} &= ((1.96)^2 \times .5(.5)) / (.05)^2 \\ &= (3.8416 \times .25) / .0025 \\ &= .9604 / .0025 \\ &= 384.16 \text{ (385 respondents needed)}\end{aligned}$$

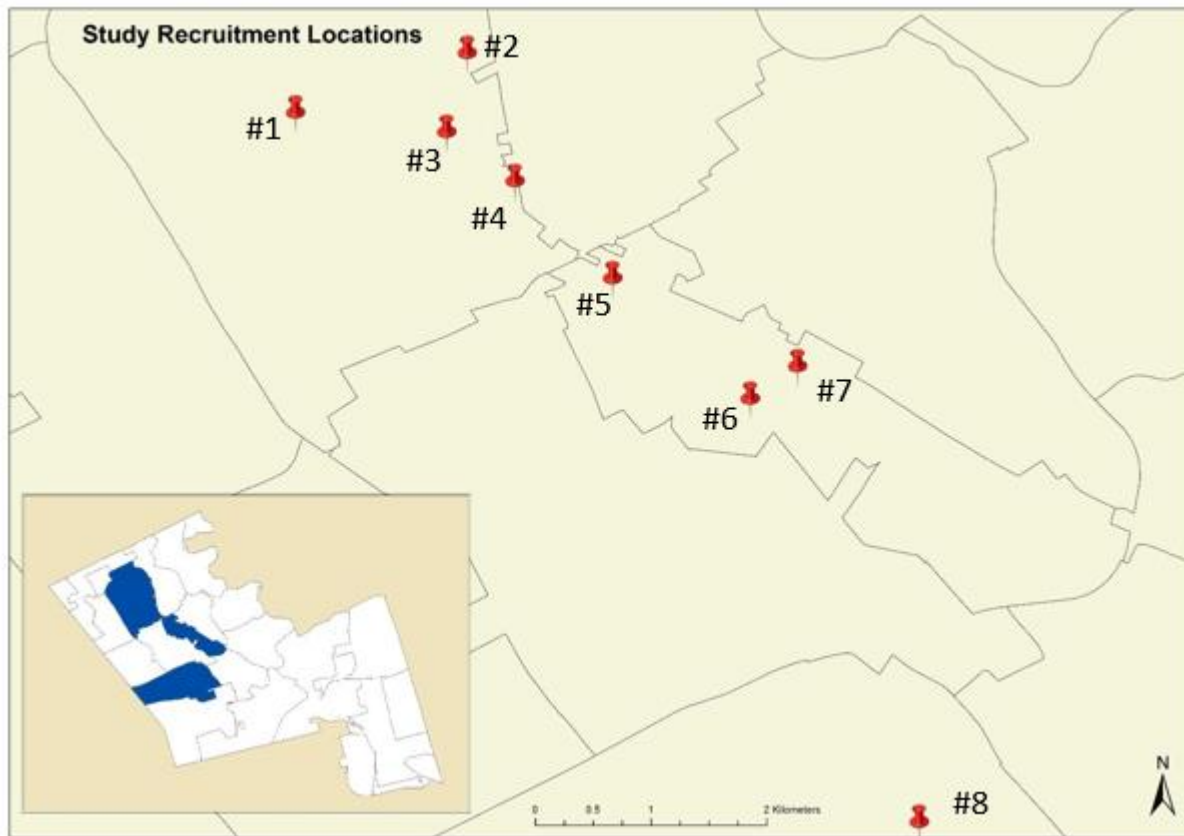


Figure 7

#	Location	Significance
1	University of Waterloo	Largest post-secondary institution in the Region, and one of the main employers.
2	Wilfrid Laurier University	Important post-secondary institution, also a substantial employer.
3	Waterloo Park	One of the primary greenspaces in the City of Waterloo. Easily accessible by various modes and attracts a variety of residents.
4	Uptown Waterloo Square	Notable public space in the City of Waterloo. In proximity to a variety of shops and restaurants, which generate substantial demand.
5	Swanson Home Hardware	Popular destination (one of the best reputed hardware stores in Kitchener) in proximity to alignment which is typically accessed by car.

6	Victoria Park	One of the primary greenspaces in the City of Kitchener. Easily accessible by various modes and attracts a variety of residents. Hosts many events and festivals.
7	Charles Street Terminal	Main transit hub in the Region.
8	Forest Glen Terminal	One of the primary GRT stations.

Table 4: Description of Study Recruitment Locations

3.3.2. Socio-Demographic Characteristics of Survey Respondents

As demonstrated by Table 5 below, the survey respondents are considered to be representative of the population of the Region of Waterloo. While residents aged 15-29 appear to be overrepresented in the survey, the survey is considered to be representative of the Region, seeing as the census does not account for the post-secondary student population. This in turn has lowered the average education level of survey respondents, as well as the average income.

Variable	Regional Value	Survey Results
Gender	- Male (49.3%) - Female (50.7%)	- Male (45.6%) - Female (54.4%)
Age	- 15-29 (21.1%) - 30-59 (42.7%) - >60 (17.8%)	- 15-29 (58.1%) - 30-59 (30.5%) - >60 (11.4%)
Education	- No diploma (20.2%) - High school diploma (27.8%) - Post-secondary program (52.7%)	- No diploma (4.8%) - High school diploma (36.9%) - Post-secondary program (58.3%)
Income	- Median income of \$32,780	- <10,000-25,000 (53.3%) - 25,000-70,000 (31.9%) - >70,000 (14.8%)

Table 5: Socio-Demographic Characteristics of Survey Respondents. Adapted from StatsCan, 2011.

3.3.3 Focus Group Recruitment

Students also recruited potential focus group participants at the Conestoga Mall, as well as the Charles Street and Forest Glen Terminals in late July 2014. A list of over 100 names of interested residents was collected. Again, participants were recruited using cluster sampling and the sampling locations were selected to represent common travel destinations in the Region and to minimize cost. There was emphasis on capturing the perspective of individuals that have the potential to start using public transit more frequently once the ION is in service over individuals that already use public transit. In total, 18 individuals participated in the focus groups (three participants strongly intend on using the ION, 10 intend on using the ION, 2 are undecided, and 2 strongly do not intend on using the ION). All participants were awarded a \$20 gift certificate for their participation. Three focus group sessions were conducted in late September 2014 at the University of Waterloo and facilitated by the head researcher.

Participants were randomly selected from the list of potential participants using a random number generator. The participants were required to complete the online survey. As the majority of the participants were supportive of the ION, two additional focus group sessions were held in February 2015. These additional 10 participants were recruited through an email sent through the University of Waterloo's Staff Association. The email was written asking staff members to share their concerns about the ION with the intention of soliciting feedback from non-supportive individuals.

3.3.4. Socio-Demographic Characteristics of Focus Group Participants

Despite the small sample size, the focus group participants were considered to be fairly representative of the population of the Region of Waterloo, as shown below in Table 6. While the participants have a higher income and level of education than the average resident of the Region of Waterloo, they are a group of great interest, as they have a socio-demographic predisposition to using public transit. They also work close to an ION stop, and are therefore in a good position to use the ION once it is operational. Hence, there is value in examining how they've interpreted the messages communicated by the Region about the project, as well as identifying ways to improve communication to this audience.

Variable	Regional Value	Focus Group Results
Gender	<ul style="list-style-type: none"> - Male (49.3%) - Female (50.7%) 	<ul style="list-style-type: none"> - Male (50%) - Female (50%)
Age	<ul style="list-style-type: none"> - 15-29 (21.1%) - 30-59 (42.7%) - >60 (17.8%) 	<ul style="list-style-type: none"> - 15-29 (29.4%) - 30-59 (64.7%) - >60 (5.9%)
Education	<ul style="list-style-type: none"> - No diploma (20.2%) - High school diploma (27.8%) - Post-secondary program (52.7%) 	<ul style="list-style-type: none"> - No diploma (0%) - High school diploma (23.5%) - Post-secondary program (76.5%)
Income	<ul style="list-style-type: none"> - Median income of \$32,780 	<ul style="list-style-type: none"> - <10,000-25,000 (12.5%) - 25,000-70,000 (62.5%) - >70,000 (62.5%)

Table 6: Socio-Demographic Characteristics of Focus Group Participants. Adapted from StatsCan, 2011.

3.5 Survey Data Analysis

Descriptive statistics have been used to describe the central position of respondents on the ION (Laerd Statistics, 2013). Cross-tabulation was used to describe categorical variables in relation to level of support for the ION. Specifically, the data collected on the socio-demographic characteristics, driving behaviour, and response to the Region's outreach were compared to the level of support. The survey responses were filtered by the independent variables and the level of support was determined for each sub-category of the independent variable. For instance, female and male respondents were segregated and it was determined which percent of each gender selected strongly support, support, neutral/undecided, do not support and strongly do not support the ION project.

This was selected as the most appropriate approach as it would show how the dependent variable (level of support for the ION) is impacted by independent variables (age, gender, income, education) (Remler & Van Ryzin, 2011). In this way, it is possible to develop messaging recommendations for various segments of the population.

3.6 Focus Group Data Analysis

Focus groups were analyzed using an inductive coding scheme. First topics of discussion were identified in the data, they were then assigned codes to correspond to

their theme (i.e. congestion, safety, comfort). Once the points of interest in the data were assigned a code, the codes were analyzed for over-arching themes, and were then assigned a theme (i.e. barriers/concerns, benefits/opportunities). This strategy is referred to as the general inductive approach. This approach consists of a thorough reading of the raw data to identify concepts and themes, without the restraints of an imposed methodology (Thomas, 2006).

Given the scope of the research, this approach to coding was deemed most appropriate as it is more efficient and less costly than using an analysis software (Remler & Van Ryzin, 2011). Furthermore, inductive coding has been recognized as being effective for condensing diverse data, establishing relationships between the data and research objects, as well as enabling the development of models and theories from the data (Thomas, 2006). This approach also helps the researcher maintain the richness of the qualitative data (Remler & Van Ryzin, 2011).

In addition to a qualitative interpretation, the coded data were also analyzed using descriptive statistics. Descriptive statistics were used in a similar way to the survey data. This was deemed appropriate as the focus groups are intended to supplement the survey findings. For instance, the focus group data will be used to provide more insight on the perceived strengths and weaknesses of the project, as well as examine the relationship between personalized travel information and level of support for the ION and to assess the effectiveness of the ION branding.

3.7 Anticipated Results

Based on the findings from the literature review in Chapter 2, it is hypothesized that income and education levels will be the strongest indicators for predicting ION support, while age and gender will not have a very pronounced impact. It is believed that higher education levels will correspond to higher levels of support, and that lower income, as well as higher income residents will be more supportive of the project. On one hand, residents with higher education (resulting in higher income) are considered to be more likely to be transit supportive as they most often choose to live, and have the means to afford housing in transit-supportive neighbourhoods, while residents with lower income are more likely to depend on public transit as a means of transportation (Kaplan, Popoks, Prato, & Ceder, 2014; Thomas, 2009).

Furthermore, it is suspected that personal benefits will be of greater consequence to survey participants than community-based benefits, as they are often more effective motivators (Tulusan, Staake & Fleisch, 2012). It is also anticipated that project branding improves project communication, and results in enhanced project understanding, which could potentially translate into greater public support (Chapman, Ayers, LeTouzé, & Renard, 2013).

Chapter 4: Focus Group Findings and Analysis

This chapter outlines the key pieces of learning from the focus group sessions. The findings below relate to the impact of branding, as well as the impact of personalized travel information. The focus group findings are used to determine how residents perceive the ION brand and to assess how to effectively target messaging to residents.

4.1 Introductory Findings

The majority of participants are long-time residents of the Region and all respondents reported having a positive relationship with the Region. Furthermore, all participants happened to have positive rapid transit experiences. There is however a balance between regular transit users and non-transit users, as well as some occasional transit users (see Figure 8). As previously mentioned, the focus group participants are also more educated and earn a higher income than most Region of Waterloo residents. Many also work at the University of Waterloo and therefore have a frequent destination along the ION alignment. It is believed that these factors predispose the participants to support and use public transit.

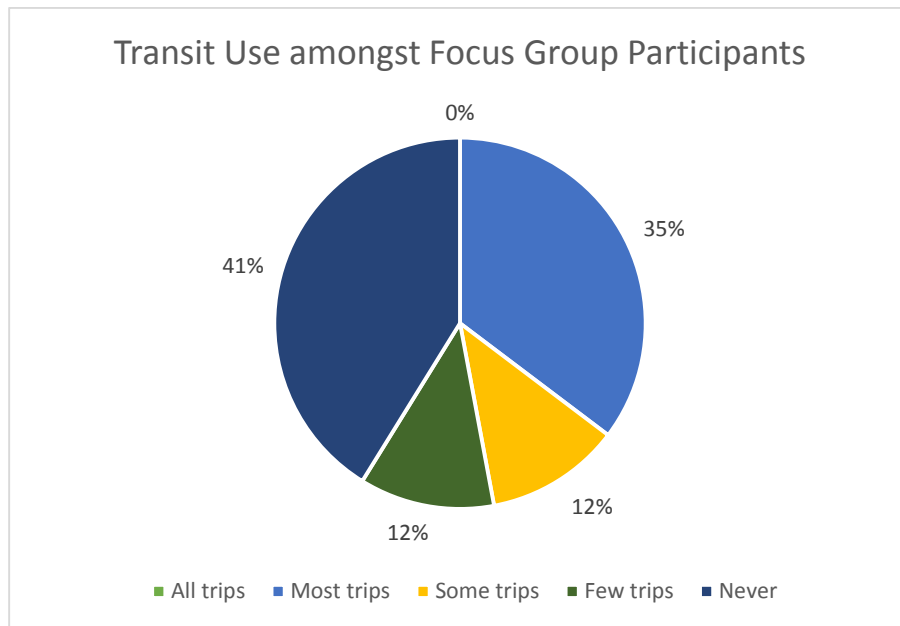


Figure 8

Findings from the pre-focus group survey show that the focus group participants were largely more supportive of the ION than survey respondents. Figure 9 provides an overview of the level of support amongst the focus group participants. It should be noted that two participants that indicated they were neutral/decided about the project on the survey were vocal about why they did not support the project during the focus group session. This suggests that while individuals can be critical and vocal with their concerns over the project, they may not necessarily object to the project, but rather would benefit from additional information to address their concerns. Accordingly, the participants were largely informed about the ION through local news outlets, with three participants having attended a public meeting about the project. Nine participants reported having some knowledge of the project, six participants reported knowing a little, and three participants reported knowing a lot.

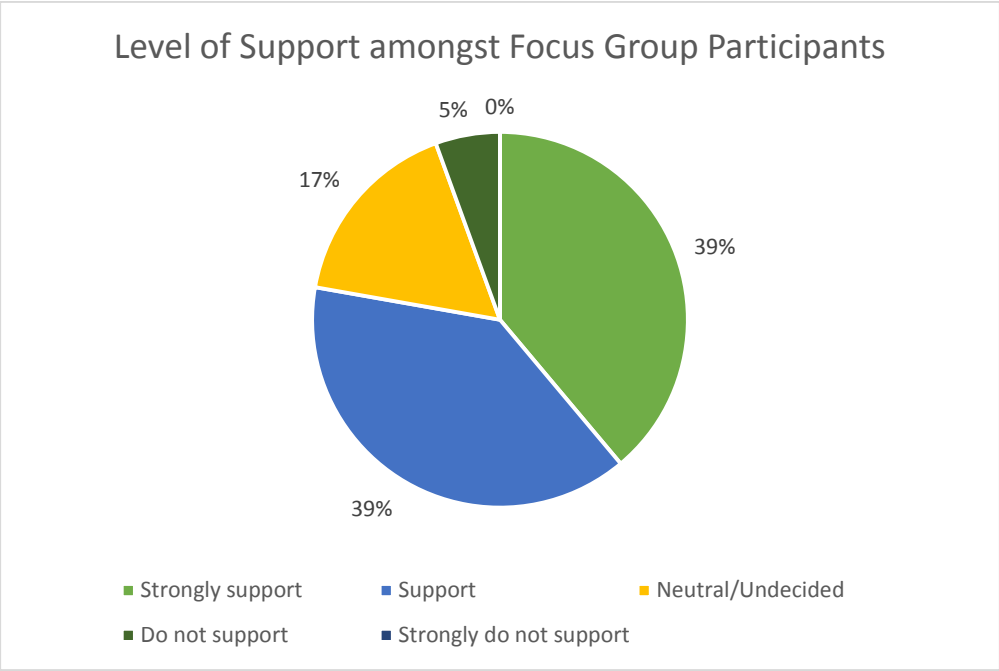


Figure 9

Five key themes emerged from the focus group narratives. As demonstrated by Table 7 below, these included barriers and concerns, benefits and opportunities, the Region’s outreach program, past experiences with transit and self-identity, as well as the travel time.

The following table illustrates the sub-categories that formed the key themes.

Key theme	Frequently mentioned	Occasionally mentioned	Infrequently mentioned
Barriers/Concerns <i>What are participant's concerns and barriers to use</i>	Total cost/cost overruns/cost recovery Inappropriate technology/design Property taxes GRT improvements needed Poor uptake Suburban residents Fare structure Construction Actual delivery of benefits	Congestion Relocation of festivals Weather Transparency Accidents/safety Poor accessible	Social mixing Other investments needed Minimal seating/comfort Bad for bikes No evening service Legal issues Complicated to use
Benefits/Opportunities <i>What are considered benefits of the ION and potential opportunities</i>	Urbanization Better transit Economic development More sustainable lifestyles Improve Region Tech industry/creative class Dependable/Reliable Good uptake Environment Efficient	Personal use Recreational trips Commuting Clean Safe Accessible Comfortable Culture/vibrancy Quality of life Less congestion	Air quality Health Car sharing Not paying for parking

<p>Outreach/Communication <i>How the participants interpreted the outreach material and brand response</i></p>	<p>Positive initial reaction Technology/science Speed/slow Other brands (@, IBM, water bottle, infinity symbol) Modern Water/fluid Green Catchy/memorable Particles Not engaged Frustrated with discourse Movement Observer GRT integration Innovative</p>	<p>Intangible Disempowered Not aware until ION Disapproved of BRT Operations questions Difficulty finding info Nothing/indifferent Organic Negative initial reaction Adapting lifestyle</p>	<p>Brand sounds expensive Confusing/unclear Consultation material misleading Outreach photo/material Electric vehicle</p>
<p>Experiences/Understanding <i>How participants framed their understanding of the project</i></p>	<p>Transit in Toronto Long-term resident Resident with positive feelings re: Region Previous RT experience (Canada, US, Asia, Europe) iXpress</p>	<p>RIM Park Expressway Tax payer Post-secondary student Homeowner Suburban No direct benefit Lack of traffic problem</p>	<p>Not buses Airports Farmland loss Capital investment Incremental implementation Gas prices/oil depletion Subsidization of public transit</p>

		Subway Monorail	Intercity rail
Travel Time <i>Participants' response to their travel time</i>	Bad travel time Assumed incorrect travel time Didn't remember Indifferent No change in perception		Change in perception

Table 7: Focus Group Codes

4.2 Impacts of Brandings

When asked about their impressions or perceptions about the project (*What is your impression of the ION? What gave you that impression?*), participants most frequently mentioned perceived benefits and opportunities of the project (see Figure 10). For instance, one of the participants stated,

“I have hopes. That’s what pops into my mind, and that’s what I’m looking for. I would like to get rid of my car. If there could be a place where I don’t have to have a car and don’t have to worry about upkeep and the care, just hop onto something and get to somewhere efficiently- that would be fantastic.”

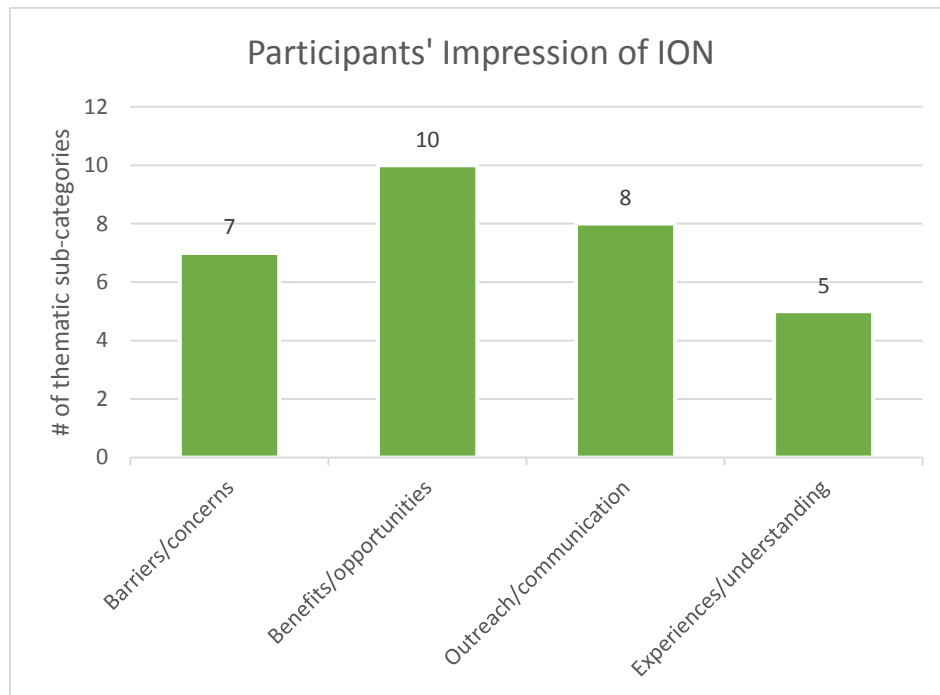


Figure 10

When commenting on their current relationship with the ION project (*What's your relationship to the ION?*), participants most frequently referred to the project in terms of its implementation and operation stages (see Figure 11). For example one of the participants responded, "I'm going to watch it get built (...) I've been here seven years and I don't use the bus, I bike. Maybe I'll use the ION." Consequently, it appears as though participants' impressions of the ION are most influenced by perceived benefits and opportunities. Conversely, relationships with the ION are most influenced by outreach regarding the timeline of the project, and how participants are impacted at the various stages of the project. Participants were asked about their impression of the project to assess how they perceive the ION (subconscious feelings or ideas), on the

other hand, participants were asked about their relationship to the project to determine how they see themselves connected to the ION (thoughts on how they are currently impacted, and how they will be impacted in the future).

When asked about what they would like their relationship to the ION (*What would you like your relationship to be like? How would you like the ION to fit into your life?*), the most important elements were that ION vehicles be comfortable, the service be frequent, and that GRT improvements are made to support the use of the ION. One participant stated, “I’d like it to be an easy and fast way to get to work.” A fellow participant followed with,

“I’d like it to be similar to that. Dependable, I’d say is more important. Because of our issues with the #7 and the iXpress now, where sometimes one of the iXpress buses will just completely miss one of their half-hour schedules, and the next one is twice as full from everybody else. Then you have a bunch of people that can’t get on. It’s crowded and already late.”

The participants that were not supportive of the project also contributed to this discussion, and aspired to have a positive relationship with the project and shared the same concerns and hopes as the supportive participants.

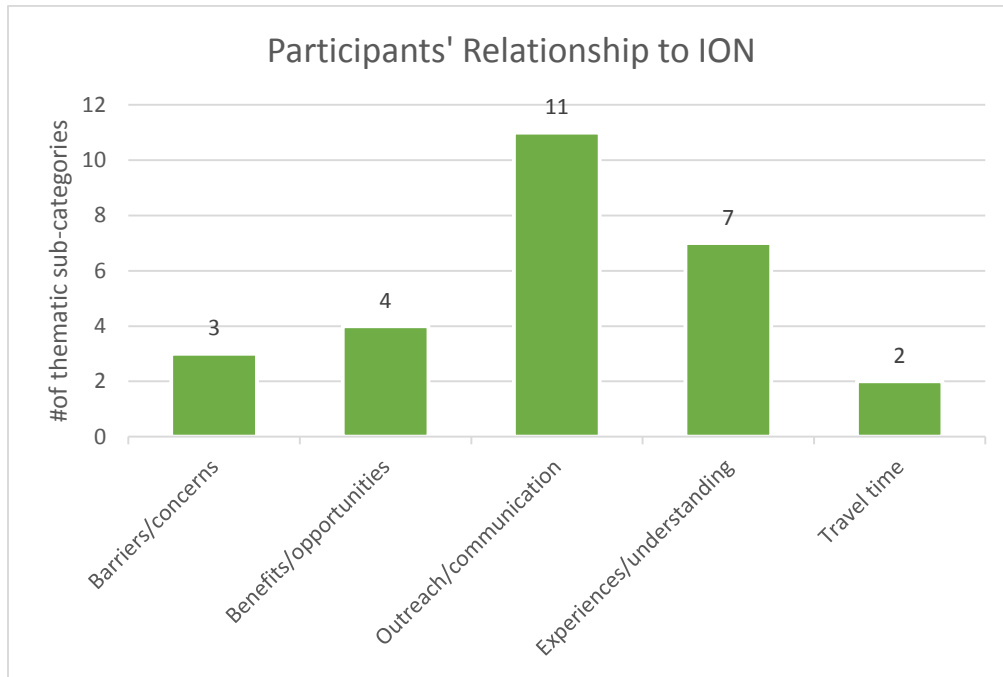


Figure 11

It is also worth noting that impressions of rapid transit are influenced by an individual's previous experiences using rapid transit systems (see Figure 12). When asked about their impression of rapid transit, one of the participants said, "My first thought was the bullet train in France. For here, just quicker between the points, perhaps less stops, like the iXpress bus." Another participant commented,

"After seeing other types of transit in other cities, people are moving in a way that you move so fast and move on the Tube in London or Paris Metro and use those systems and understand why people can absolutely decide they don't need a car because they get to wherever they need to. That's why I'm such a big fan of the TTC in Toronto. Other major cities like South Korea you can go down from the

airport right into Seoul and there are no concerns for time. Buses made no sense to me- it's like going backwards.”

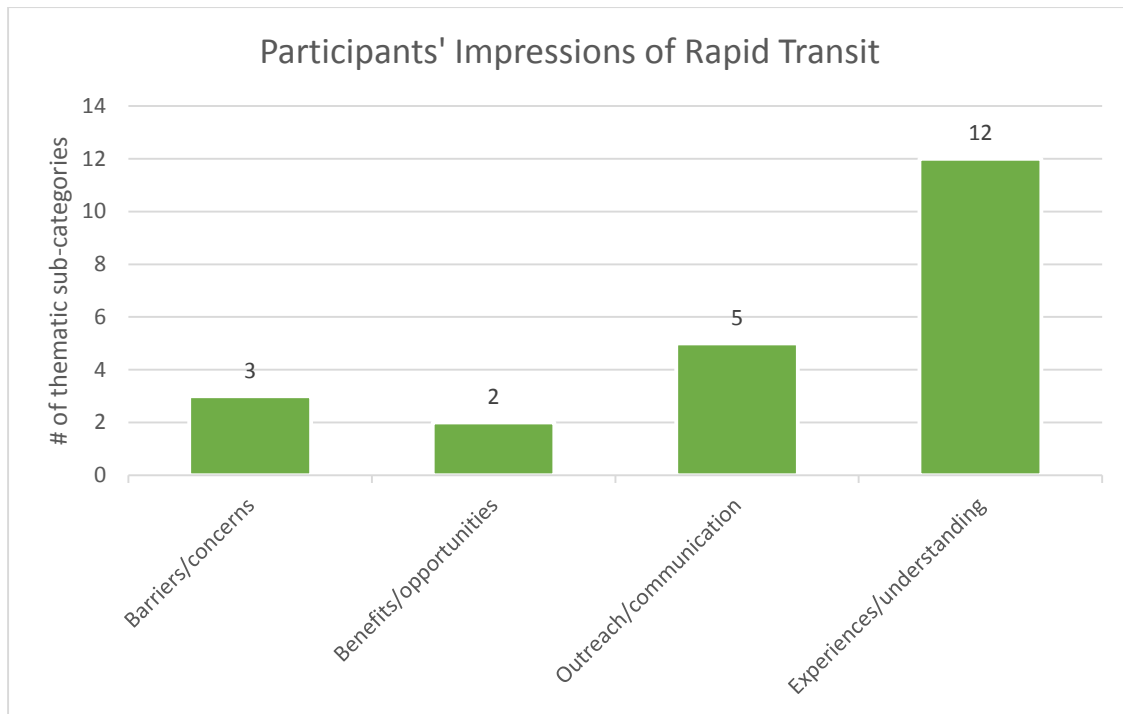


Figure 12

4.2.1 Response to Public Consultation

A couple of participants expressed feeling disempowered throughout the consultation process. One of the participants expressed, “I think the Region has gone ahead like a bull in a china shop. They’re forging ahead, like this decision was made, and to hell with Joe Public.” This participant felt a referendum would have been appropriate. Three participants expressed discontent with both BRT and LRT, while five of the participants stated they were against BRT option and supported the LRT from the start. Accordingly, most of the participants became more actively engaged after LRT was selected as the

preferred technology as they were now going to be more impacted by the project as it had moved into the implementation stage. Moreover, two of the participants were made aware of the project after strategic branding initiatives.

One participant said, “I was not aware or I wasn’t paying attention. I wouldn’t know about it unless it had an impact on my life.” Another participant said,

“I guess we had some access to online information. I think there was a booth in Waterloo Square, but I didn’t have the opportunity to look at it because I was busy. But I don’t have a grasp of what it is like, because it doesn’t run yet.”

These sentiments are reflected in the differences of what factors shape the impression of rapid transit and the ION. As shown above, the impressions of the ION were most influenced by perceived benefits and opportunities afforded by the project, which suggest greater internalization of project impacts (how ION will benefit the participant personally, or the community), rather than previous transit experience and self-identity, which most informed impressions of rapid transit project (and exist independent from the project and its branding).

Meanwhile, four participants expressed frustration with the public discourse on the consultation process, stating it was very polarized, both in the media and in the community. The following sentiment was shared amongst several participants,

“When I talked to people, they had just heard one fact that sort of swamped out everything else. Like they heard about cost, because they were really worried

about that we were going to spend so much money on this thing that isn't going to buy us much. Or they heard that it's going to be faster and they ignored all other costs. It was often a simplistic view versus another simplistic view.”

Another participant commented,

“My relationship to it was disheartening because they didn't know what they wanted, and people still don't know what they want. Because people haven't ridden on one, unless they've gone somewhere and tried an LRT system, I don't think they really know what it is.”

4.2.2 Brand Reception

Most participants were unclear what rapid transit meant and some participants expressed confusion over the difference between rapid transit (broader project), LRT (project technology) and the ION (project brand). The Region defined rapid transit as “public transportation system operating mainly on a dedicated rapidway,” and light rail was defined as “features electric trains running along tracks on a rapidway separate from regular traffic (Region of Waterloo, 2012a).” While most participants have come to understand rapid transit through the lens of the ION project, the majority of participants have a limited understanding on the concept as a whole. Five participants associated rapid transit with subways, others defined rapid transit as being anything other than buses. Hence, there was confusion in how light rail fits into the rapid transit concept, and the Region would have benefited from steering away from technical definitions and

jargon, which could have established a better foundation for project understanding amongst residents. One of the participants commented,

“I think it sounds slow, even though it’s called rapid transit. It sounds like there’s going to be a lot of bus jumping, that sort of idea, to get to where I want to go. For the ION, I don’t really associate it with rapid transit. I think more of light rail, and like Disney World and taking the monorail somewhere.”

For the most part, the ION logo and name were well-received by the participants. The majority of the participants stated that they liked the name and the logo and had held positive associations with the brand, and only a couple of participants felt indifferent towards the branding. This group included both project supporters and non-supporters. Words to describe the brand included: science, technology, speed, fluid movement, green, innovative and organic. The name was largely considered “catchy” and memorable. One of the participants shared, “It’s very green, with like a new style design. I really like the in-lay of the two signs. It’s pretty cool. I actually really like the logo.” Another participant commented, “I think a short name helps talk about it.”

4.2.3 Benefits and Opportunities

When asked about their hopes for the project, responses revolved around the service being dependable and reliable. Some participants expressed interest in using the ION in the future. Participants also hoped for good uptake and high ridership. Project skeptics

were concerned about the project (and the Region) actually delivering the proposed benefits. For instance, a participant commented,

“My hope is that it is going to be as good as the Metro in Paris. But I am skeptical that it may not be in my generation, or my children’s’ generation. I hope that the people building it realize that it needs to be built properly and built together.”

There was also discussion about the ION improving the Region’s public transit network amongst project supporters and non-supporters. It was stressed that the ION be integrated with GRT service. As stated by one of the participants,

“I’m always confused about why the GRT would separate itself from the ION. I realized that they are separate enterprises in some ways, but I always felt that the GRT should be challenged to be a better service provider to lead bringing ION to this community.”

Participants were also asked about what the ION can offer future generations.

Economic development was mentioned most often. This was typically related to job creation in the tech industry. Many participants believe that tech workers prefer urban living and actively choose to locate in cities with robust public transit, and consequently that more tech companies would be drawn to the Region to the transit system. While discussing the future benefits of the ION, a participant stated,

“It would improve Waterloo by bringing people into the city. Waterloo is a smart tech area. (...) There has been a lot of companies that have settled in the area, and it’s about keeping those people here.”

Facilitating the adoption of more sustainable lifestyle was also frequently mentioned.

This was seen as car-free condo living by the participants. As expressed by one of the participants,

“The younger generation are not going to own cars, not going to own houses. They are going to rent apartments in the downtown core where they can walk and take public transit.”

The ION was also seen to improve the overall quality of life, as well as the culture and urban vibrancy of the Region by reducing automobile-dependency and promoting alternative modes of transportation. When asked about the relationship to the ION, one of the participants stated,

“We have become so car dependent, and for me, that is the hope for this project. Gas is not going to last forever and people are getting older. We’ve heard over and over again, that the younger generation is not purchasing cars, so we need some way for young people to come and live in our community, and this is one of those answers.”

For the most part, participants most frequently referred to community-based benefits. As illustrated earlier in Table 7, 80% of the frequently mentioned benefits were community-based (economic development, more sustainable lifestyles, etc.), while 70% of the occasionally mentioned benefits were personal (safe, clean, comfortable, etc.). This

indicated that while participants recognize that they may derive personal benefits from the ION, the more strongly associate the project with benefits to the community at large.

4.2.4 Barriers and Concerns

The most prominent fears regarding the project were related to cost, which was discussed in terms of total cost, cost recovery, cost overruns, especially amongst non-supporters (3 of the 18 participants). There was also a notable sentiment of distrust in the government amongst these participants, and RIM Park was cited on several occasions to exemplify the mismanagement of government spending. The financial scandal involved the City of Waterloo paying \$228 million for the athletic facility- almost double the originally quoted cost, due to alleged misunderstandings regarding interest rates in 2001 (CTV, 2011). After a legal settlement costing \$4.9 million, the amount was reduced to \$145.7 million (CTV, 2011). When discussing potential project cost overruns, one of the participant stated,

“With RIM Park, they’ll pay for forever. They have two universities for sure, paying money whether or not they use it. And if you raise the price too high, they can walk away- they have the right to. And then what? Fees go up to compensate for the pool of students that are gone. My fear is financial. What is going to happen to my taxes?”

On the other hand, projects supporters saw cost overruns as inevitable with a project of this scale. As expressed by one of the project supporting participants,

“I don’t mind cities taking on debt, not deficit. I completely disagree with deficit financing. We need to be able to live within our means. But debt for the right reasons is like buying a mortgage. If everybody wouldn’t want to take debt on, nobody would have their own houses or cars, or anything else.”

Similarly, some project supporters didn’t consider personally benefiting from the project, but continued to support the project if they considered the project to benefit the future generation in a meaningful way.” One of the participants said, “I am not looking at it as something that I will necessarily use a lot right now, but I am probably thinking of my kid’s kids.”

Participants were also concerned about the impacts of construction and poor ridership uptake. A participant stated, “The real test will be if people end up using it in the end, and whether that pays for it.” Many participants had questions about the structure of fares and discussed concern over the ION not being integrated within GRT (the ION will be part of the GRT network, and improvements are being implemented to support the ION. It will also make use of a single fare). A participant commented,

“A few questions that I have is whether the GRT ticket will work on the LRT and whether the fare will increase or decrease, or will it be a separate fare for the GRT and LRT? People will be making connections. They will not only take the LRT or only GRT.”

Participants also expressed concern over the relocation of festivals and street programming due to the ION.

When asked about their impression of the project, the non-supporters commented on the inappropriateness of the technology or the alignment. One of these participants, which had identified as a suburban resident, said,

“The ION is not going to help. This does not solve the problem because you can’t get to where you need to go, but you are going to have to move into the centre and know the choices you’re going to be making. Why aren’t we designing this better now?”

This perspective was shared by the other non-supporters. These participants stated they would not be able to commute using the ION, as they currently live outside the urban core. In order to have access to the ION, these participants would have to relocate and make substantial lifestyle changes. The alignment was also seen as mainly functioning to connect the malls by the participants. Furthermore, existing and planned improvements to the GRT network to support the ION (and connect suburban areas to the alignment) were not acknowledged by these participants. These participants did not offer an alternative to the proposed alignment.

Concerns over current GRT operations and planned improvements were seen as a barrier to future use by many participants, especially those who do not use public transit often. As stated by one of the participants,

“Every time I’d take the bus to the university, I’m not sure if it’s like that now, but it was like 45 minutes between some of the buses coming and that was always a

pain. Is the LRT going to be 10 minutes? I was always interested in stuff like that and I could make a better decisions on how likely I am to use it.”

A regular transit user stated,

“The GRT needs to work on its north-west and east-south connections because pretty much Waterloo and Laurier are the little sinkholes that everything goes to. If you want to go somewhere else, good luck, because you will get stuck waiting half an hour because the transfers don’t work. To make the ION functional, it does need to work with the rest of the transit system so that it doesn’t take you 75 minutes to get to point A to point B when it should only take 15 to 20.”

Again, participants did not acknowledge, or were not aware of how the ION would work in the larger transit system.

Poor ridership and increased congestion were also brought up. Notably participants were worried that there will be insufficient uptake, and as a results, the Region will not reap the desired benefits and suffer financially. Participants were also concerns about how construction will impact their current travel time, and whether the ION will cause congestion once it is operational.

4.2.5 Transit Experiences and Self-Identity

Participants’ understanding of the project was typically framed by their previous transit experiences and how they self-identified, but also broader societal issues, including peak oil and protecting farmland. This was especially the case for participants’

perception of Rapid Transit project prior to the branding. Participants frequently referred to public transit in Toronto to provide justification for investing in public transit. Toronto was largely considered to be currently suffering the consequences of the lack of meaningful investment in transit in several decades. Toronto was also used to provide context for the scale of the project. As one of the participants stated,

“My first impression was that it’s a step towards having better transit infrastructure, for sure. With something that’s 100% bus, like we have right now, we’re pretty far behind Toronto’s transportation system, and that’s pretty far behind the rest of the world, and great city transit systems.”

When asked about their previous experiences with rapid transit, respondents shared their positive experiences in Canada and the United States, but mostly Europe and Asia. Supporters of the project stated they’d like to have the transportation options experienced abroad available in the Region. One of the participants expressed,

“But to get up and go anywhere I want, or in any major city in Europe, you just use the subway system and within a day you’re an expert and can go anywhere you want in the city and don’t need to know the language, no barriers.”

Non-supporters stressed the differences between North America and Europe and Asia and they didn’t see how rapid transit could work in the Region of Waterloo given its lower density and car culture.

The interpretation of the Region's messaging was also linked to the participant's perception of current traffic conditions and future congestion and population growth, as well as how to address these issues. For instance, a non-supporter stated "It takes you 15-20 minutes to get from Courtland to Homer Watson. It shouldn't take you that long. If they had had the foresight to build six lanes, instead of four..." This participant saw incrementally building the system as the best way forward that would keep the costs low, and was also more concerned about accommodating automobile travel. Other participants recognized that further accommodating car use is not a desirable longer-term solution. For instance, one of the participants expressed,

"Eventually you're going to have to do something along these lines because you're going to run out of road space at some point in time and everything's going to congest up. You can already see that happening in a bunch of places around town."

Participants also utilized local transportation projects to inform their understanding of the ION. Some of the long-term residents mentioned the Conestoga Parkway. It was discussed in the context of how the public perception of the expressway was initially poor, but turned favourable soon after it opened. Many also discussed how congestion has worsened over the years, and there is need for an alternative. Participants also referred to the GRT's iXpress service to explain how they envision the ION operating. One of the participants stated, "The express busses give me a glimpse of what the LRT might be like because it doesn't stop as often as local buses and it's a lot more

convenient to take.” While most participants consider the ION to be an improvement on the iXpress concept, other participants consider it to be replicating a faulty design (i.e. location of stops).

Participants also employed self-identification to interpret the project messaging (without being asked questions regarding how they self-identified). For instance, several participants identified themselves as taxpayers or homeowners. For instance, one of the participants stated, “As a property taxpayer, I’ve been interested in the ION, both to add to the city and for transportation.” Other participants that identified as a taxpayer or homeowner and showed greater concern over the financial implications of the project. Some participants also identified as a suburban resident. In these cases, participants saw the ION was primarily for urban residents and did not derive any direct benefit. Participants that acknowledged the wider societal benefits of the project still supported the ION. Additionally, a couple of participants identified themselves as postsecondary students. They typically saw the ION as a way to commute and to urbanize the Region. Furthermore, there was emphasis amongst the participants on commuting trips over trips for recreation.

4.3 Impacts of Personalized Travel Information

When asked about their feelings towards the ION travel time they received through the online survey, the majority of participants were seemingly unaffected by the travel time, stating they had either forgot the results of the travel time app, or were indifferent about

the result (see Figure 13). One of the participants stated, “I just figured there must have been a mistake because there’s no way that route made any sense,” which was a sentiment echoed amongst most participants. This was followed by individuals that were unsatisfied with the ION travel time, as they could typically get to their destination faster with another mode. Four of the fifteen participants that responded, stated they were skeptical about the results and assumed the app had provided erroneous information. One of these participants stated that the ION would be more reliable and dependable than bus service, and therefore would be worth using, despite a potentially longer travel time.

One participant declared that the travel time information worsened their perception of the project. This participant did not intend on using the ION and voiced several concerns about the project, notably related to poor uptake, the lack of direct personal benefit, and the inappropriateness of the technology and design. This participant had also referred to the RIM Park controversy on a couple of occasions. Furthermore, they never used public transit. On the other hand, all of the participants that had assumed the app was incorrect (four of fifteen) used public transit for most of their trips. 50% of these participants stated in the survey that they strongly supported the project and strongly intended on using the ION, and the other 50% stated they supported the project and intended on using the ION.

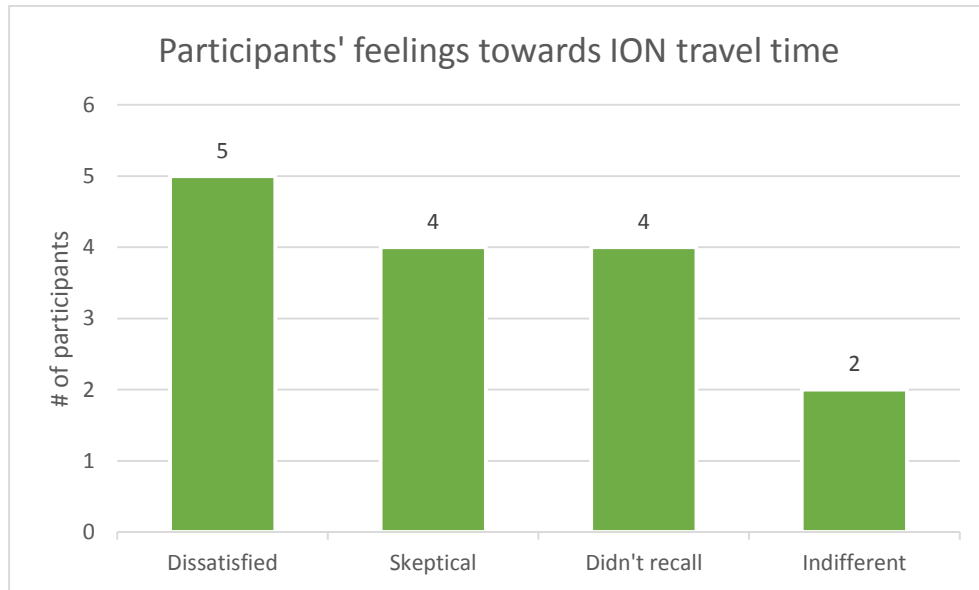


Figure 13

4.4 Key Focus Group Findings

The focus groups have demonstrated that the Region was effective in communicating the ION's brand personality as participants associated the brand with positive characteristics such as innovative, speed and technology. Additionally, economic development was one of the most cited project benefits (mentioned approximately 20 times during the focus group sessions). This is in-line with the ION brand foundation of healthy, prosperous and smart. From these findings, it is recommended that the Region focus on promoting the health-related aspects of the project, as participants largely did not readily associate the project with improvements in public health (this finding is also confirmed by the survey results).

Furthermore, this study suggests the branding of the project helped support the level of public support of the project through enhanced understanding and engagement.

Participants associated the project with personal and community benefits and opportunities encapsulated by the brand once it was branded as the ION, as opposed to associating the project with previous transit experiences when the project was known as the Rapid Transit project. A common concern amongst participants was that the ION and GRT would provide disjointed, or competing services, hence the Region should further integrate the ION within the GRT brand to further strengthen the brands.

Additionally, it would be beneficial for the Region to avoid employing a singular lifestyle to promote the project brand, as it is potentially alienating the majority of residents.

On the other hand, findings from the study suggest that providing multimodal trip information may not be very effective at decreasing travel choice inertia with respect to new public transit options. Most participants reported the travel information bearing no impact on their perception of the project, while other participants leveraged the information to defend their initial viewpoint. The implications of these findings will be further discussed in Chapter 6.

Chapter 5: Survey Findings and Analysis

This chapter outlines the key pieces of learning from the surveys. The findings below relate to socio-demographic indicators of support for the ION, as well as the relative influence of personal and community-oriented benefits. The survey findings will be used to determine the relationships amongst and between perceived ION benefits and level of support.

5.1 Introductory Findings

According to the results of the survey, the majority of participants are supportive of the ION with only 8% of respondents opposing and strongly opposing the project (see Figure 14). Furthermore, respondents that reported knowing a lot about the ION were most likely to strongly support the project (see Figure 15). Over 50% of respondents that attended public meetings about the ION reported knowing a lot about the project. Attendance at the public meeting was reasonably spread across socio-demographic characteristics. Respondents that attended public meetings or visited the Region's website showed greater support for the project than participants that read the Region's newsletter or consulted local news sources. These findings suggest that the vast majority of residents could benefit from learning more about the ION, and that it would also benefit the Region by potentially increasing the level of public support.

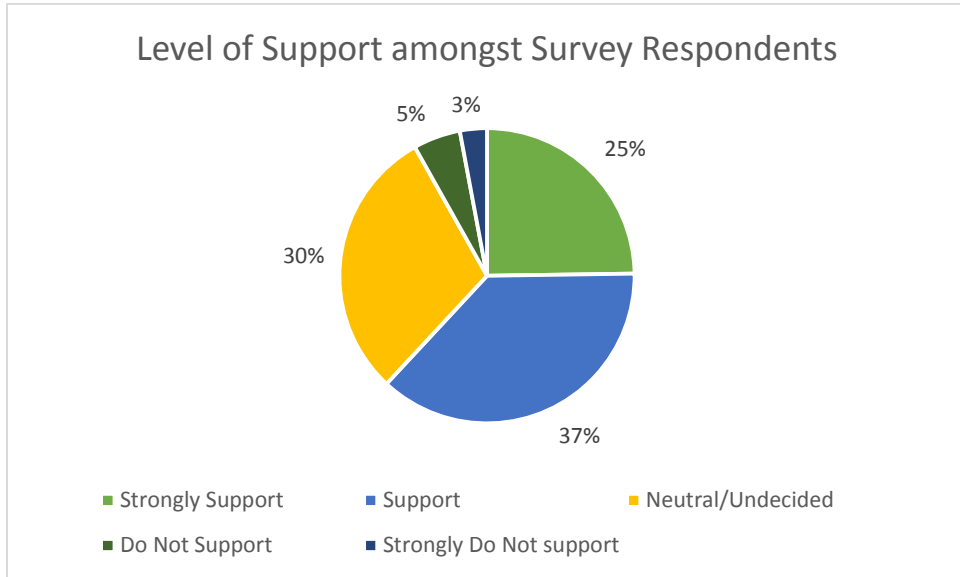


Figure 14

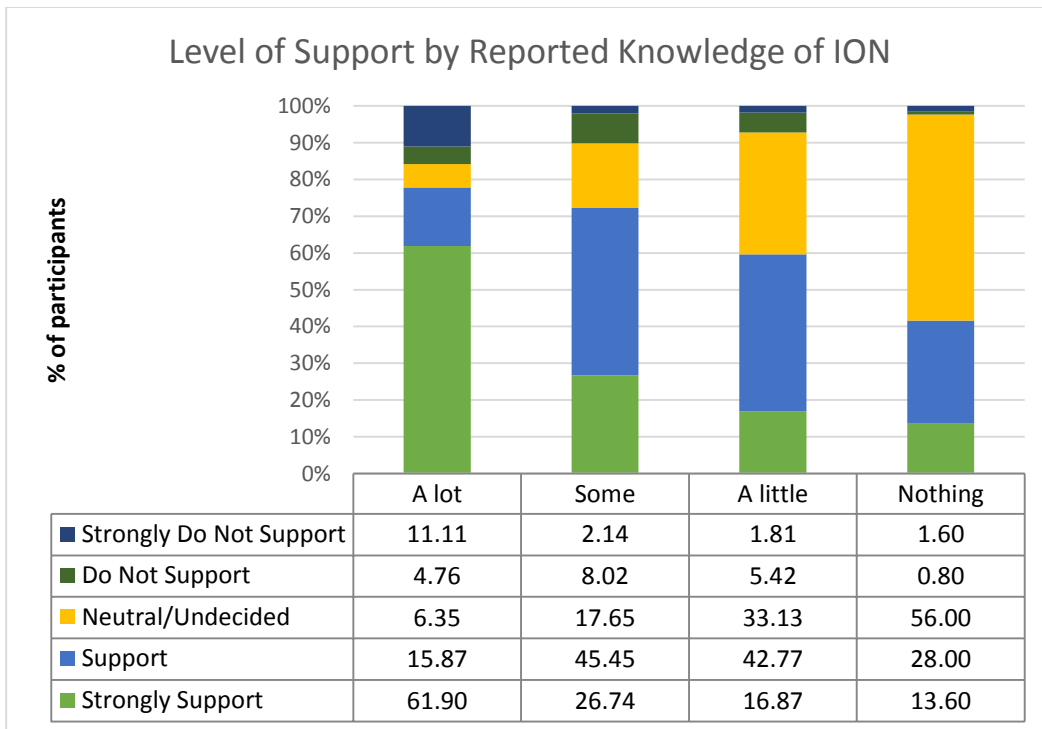


Figure 15

5.2 Socio-Demographic Indicators of Support

In terms of socio-demographic characteristics, the level of support for the ION differs the most amongst individuals with varying levels of education and income. Notably, the level of support increases along with increasing levels of education. Women and youths were most neutral or undecided about the project, the implications of this finding will be further discussed in the following chapter.

5.2.1 Education

Most notably, public support for the ION grows with increasing levels of formal education (see Figure 16). Findings show that close to 50% of participants with graduate degrees strongly support the ION. Furthermore, the level of indecisiveness and/or neutrality decreases with participants' level of education. The findings also reveal that less than 15% of participants with a graduate degree are neutral or undecided about the project, compared to 40% of participants without a diploma or degree. In addition, participants without any college degree or university diploma most strongly oppose the project.

Project support amongst participants with university degrees is likely attributable to the location of higher-education employers (i.e. University of Waterloo, Wilfrid Laurier University, R&T Park...) along the alignment. Studies have also shown that individuals with more formal education are more likely to inhabit the urban core and have greater access to public transit (Kaplan, Popoks, Prato, & Ceder, 2014). Consequently, it is likely that university degree holding participants anticipate personal benefits from the

ION. Furthermore, individuals with higher levels of education have likely had to engage in critical thinking training, and may be able to better recognize and appreciate the broader and longer-term value of the project (Thomas, 2009).

On the other hand, university educated participants may be responding to the Region's branding of the project. In much of its project outreach, as well as its economic development strategy, the Region focuses on promoting the local research and technology sector by providing higher-order transit. The Region appears to be drawing on the "creative class" concept made popular by urban studies theorist Richard Florida. Florida's work was employed in the Waterloo Culture Plan: A Catalyst for Culture 2014-2024, and the ION was seen as a way to strengthen this culture (City of Waterloo, 2014). Florida argues that the emerging cohort of young professionals in creative fields of work are an increasingly important contributor to post-industrial economies, and also hold a preference for urban living and public transit, as well as an affinity for new technologies (City of Waterloo, 2014). Moreover, Communitel, a high-tech hub for local start-ups, has publicly endorsed the project on multiple occasions (570 News, 2011). Hence the messaging is likely to resonate with the highly educated cohort.

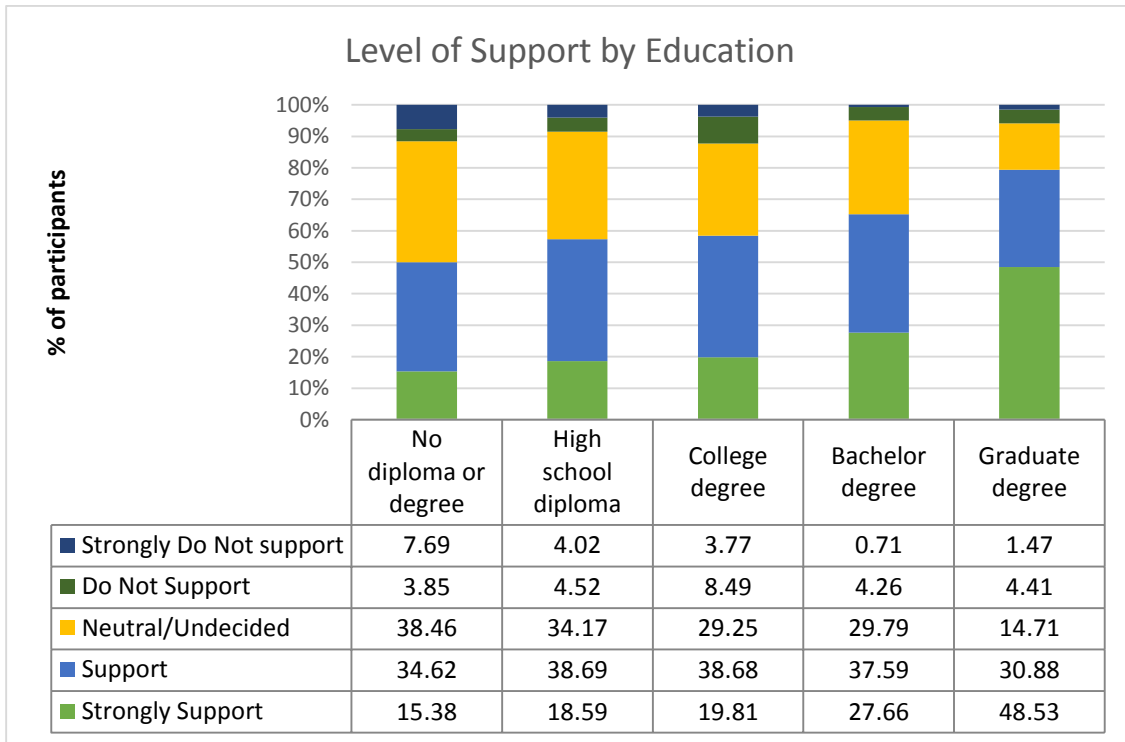


Figure 16

5.2.2 Income

Surprisingly, higher income does not appear to be a strong indicator of support for the ION (see Figure 17). This is counterintuitive given that education is a strong indicator of support, as individuals with higher levels of education typically earn more income. However, respondents with higher income most opposed the ION with 30.77% of participants who stated they strongly do not support the project and an additional that stated they 26.92% do not support the ION. It is respondents with medium income that show most support for the project. It is possible that individuals with higher incomes may be concerned about the property tax implications of the project. Additionally, higher

earners may perceive public transit more negatively as it is not aligned with their social status (Innocenti, Lattarulo & Pazienza, 2013). They may also live in suburban areas.

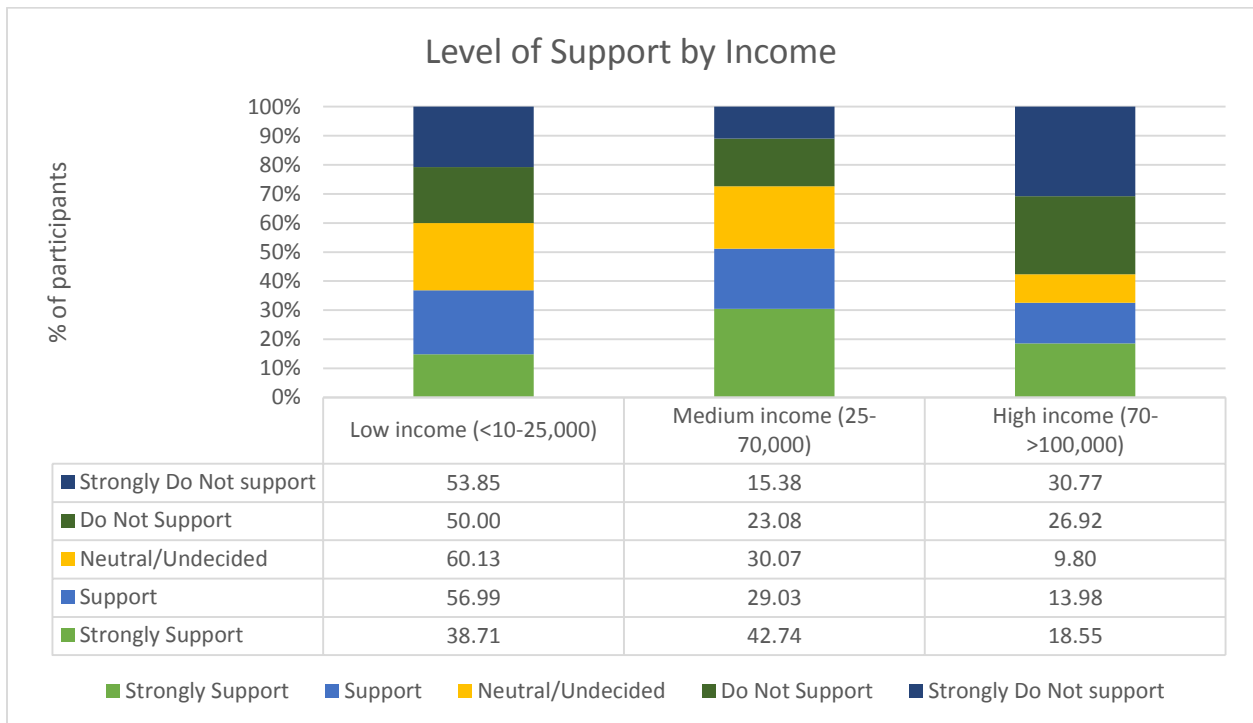


Figure 17

5.2.3 Age

Seniors (respondents >60) were the strongest supporters of the project, but they were also the most polarized with the greatest percentage of participants strongly disagreeing with the project (see Figure 18). This is likely due to the fact that seniors would strongly benefit from improved public transit and may be better able to internalize the benefits to future generation if they have grand-children (Mueller et al., 2013; Yarrow, 2009). However, they may also exhibit stronger travel choice inertia as they have been

reinforcing travel patterns for greater lengths of time (Chorus & Dallaert, 2012). There may also be concern over barriers age-related accessibility issues, as well as unfamiliarity with ION technology, and greater sensitivity to cost (Mueller et al., 2013).

On the other hand, 35.05% of youth (<30) respondents were neutral or undecided about the project. This is likely attributable to youths feeling disempowered throughout the consultation process. Also, it is possible that youths do not feel as they would be impacted, as most don't likely pay property taxes. There may also be uncertainty in regards to where they will be living or working, and are therefore unsure how the ION could fit into their life. Implications of this finding will be further discussed in the following chapter.

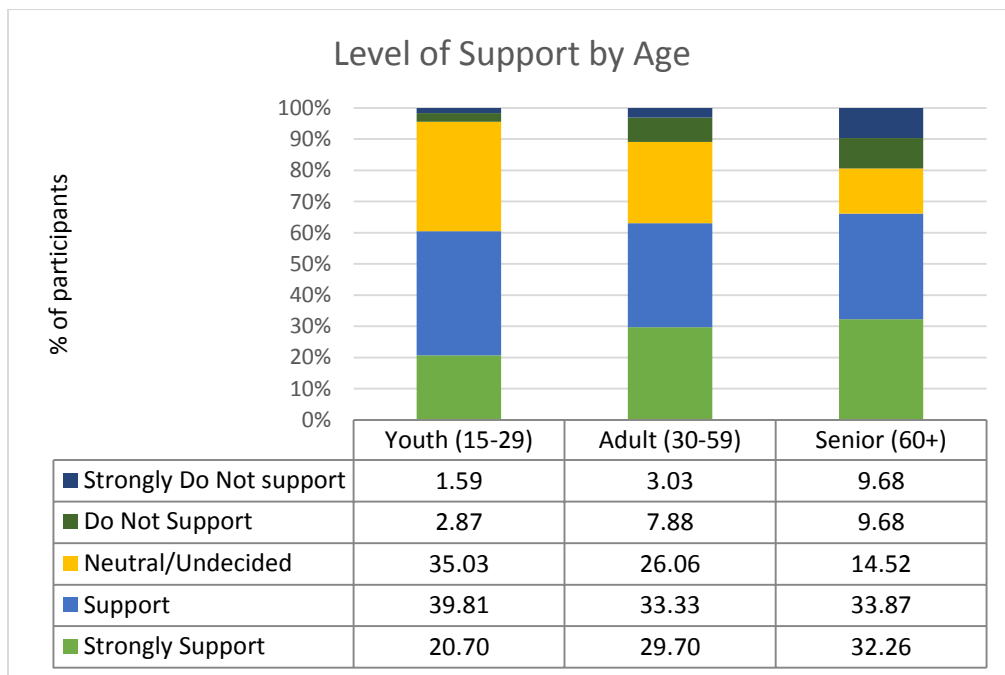


Figure 18

5.2.4 Gender

Support for the ION appears to be pretty consistent across gender, however men are more polarized, as they are more likely to strongly support or to strongly not support the project (See Figure 19). This is possibly due to the tech industry lifestyle resonating more with men, which is considered highly masculinized, that was used to market the ION (Milestone & Meyer, 2013). Conversely, men are more likely to oppose the ION, while over 30% of women are neutral or undecided. Men may potentially more strongly oppose the project, as they are more likely to have higher personal income, which was shown to be an indicator of non-support, as discussed earlier. Like youths, women may have felt alienated from the consultation process.

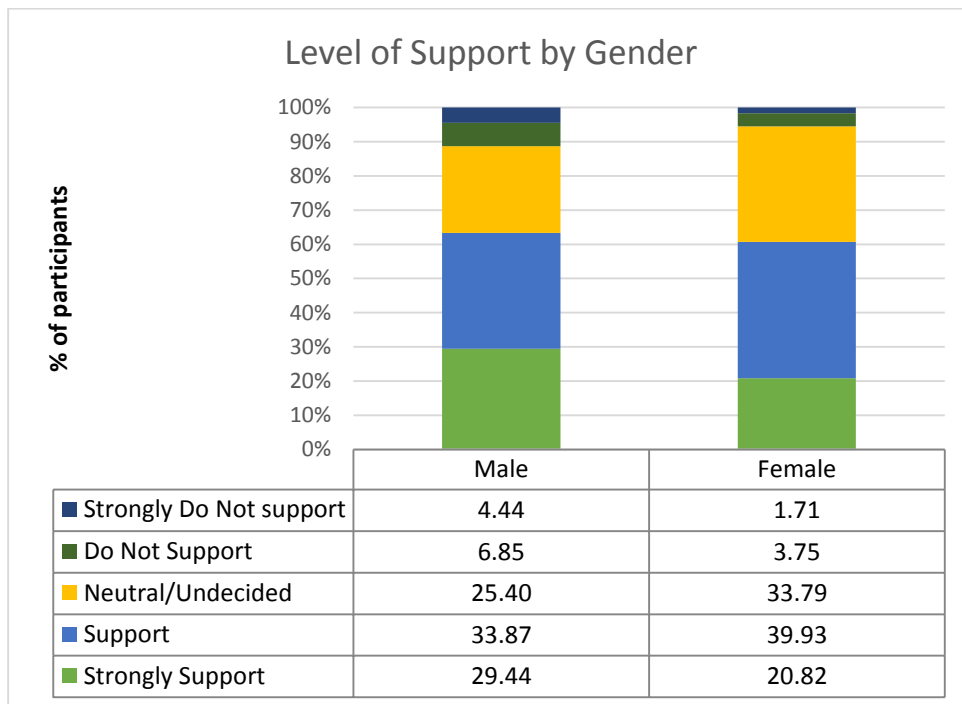


Figure 19

5.3 Response to Branding Personal and Community-Oriented Benefits

The majority of respondents strongly agree or agree that the ION will improve public health, the environment, urban vitality or social equity (see Figure 20). It is also believed that the ION will have a greater positive impact on the local environment and urban vitality than public health and social equity. Many residents were unsure about the impacts of the ION on public health and social equity and more respondents strongly disagreed with the ION improving social equity. This is not surprising, as these benefits were not included in the Region’s key benefits (even though “healthy” is part of the Region’s ION brand foundation). It suggests that there is a need for the Region to educate residents about how the ION will benefit social equity and especially public health, as residents may not readily draw those conclusions on their own.

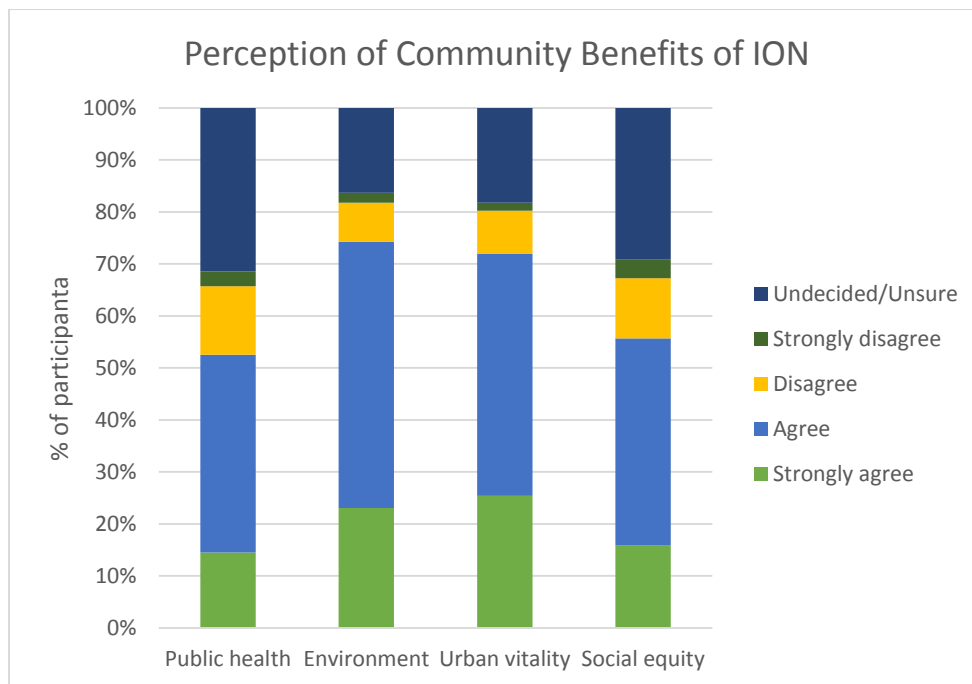


Figure 20

73.31% of respondents consider the key ION benefits espoused by the Region (shape our community, move people, protect our countryside, better the environment and manage urban growth) on their website to be strongly important or important, 16.12% consider them to be somewhat important or not important, while 10.57% are undecided (see Figure 21). Providing better transit and bettering the environment were considered most important by residents, followed by managing urban growth, protecting the countryside and shaping the community. More respondents were undecided or unsure about the importance of shaping the community, which was defined as reurbanization on the Region’s website.

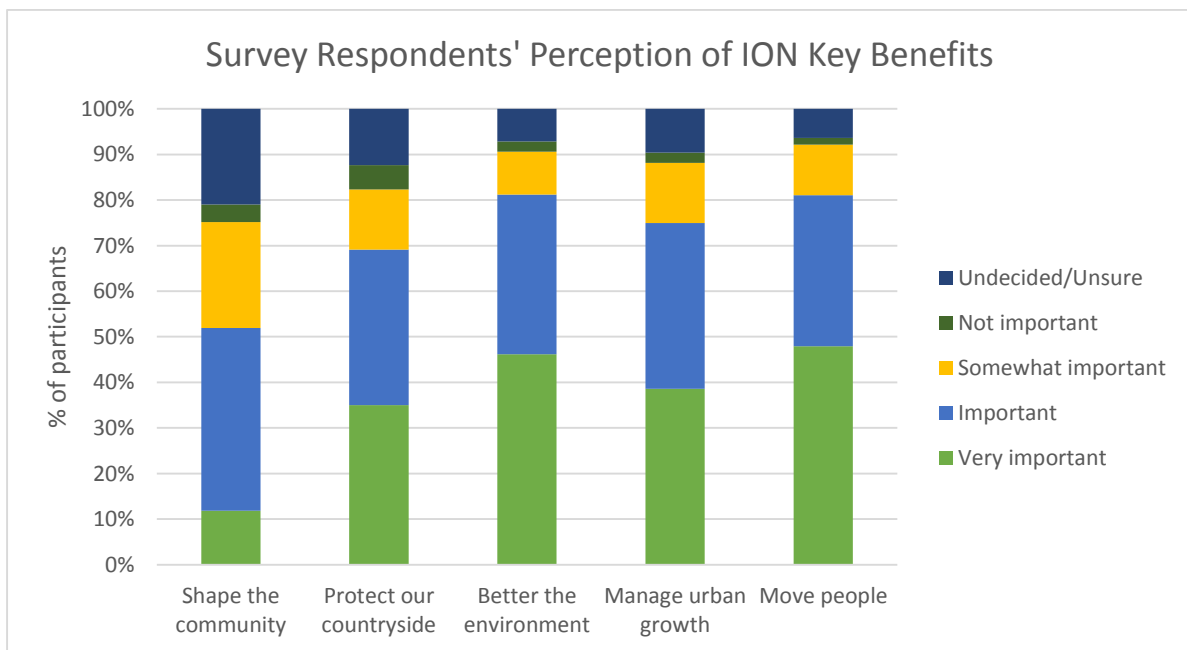


Figure 21

When asked about motivating factors for using the ION, participants most frequently selected enhanced convenience and decreased travel time, followed by decreased out-of-pocket cost, improved safety and greater comfort (see Figure 22). Meanwhile, higher out-of-pocket cost and perceived inconvenience were most often selected when asked about barriers to using the ION, followed by increased travel time, decreased comfort and then decreased safety. On the other hand, non-supporters considered decreased travel time and cost, as well as greater convenience as the most important motivators. Project supporters most recognized the personal and community benefits of the ION (see Figure 23 and Figure 24). Conversely, both project supporters and non-supporters considered the project to have a greater impact on community benefits than personal benefits (see Figure 23 and Figure 24). The ION was considered to most greatly benefit the environment and urban vitality amongst project supporters and non-supporters (see Figure 24).

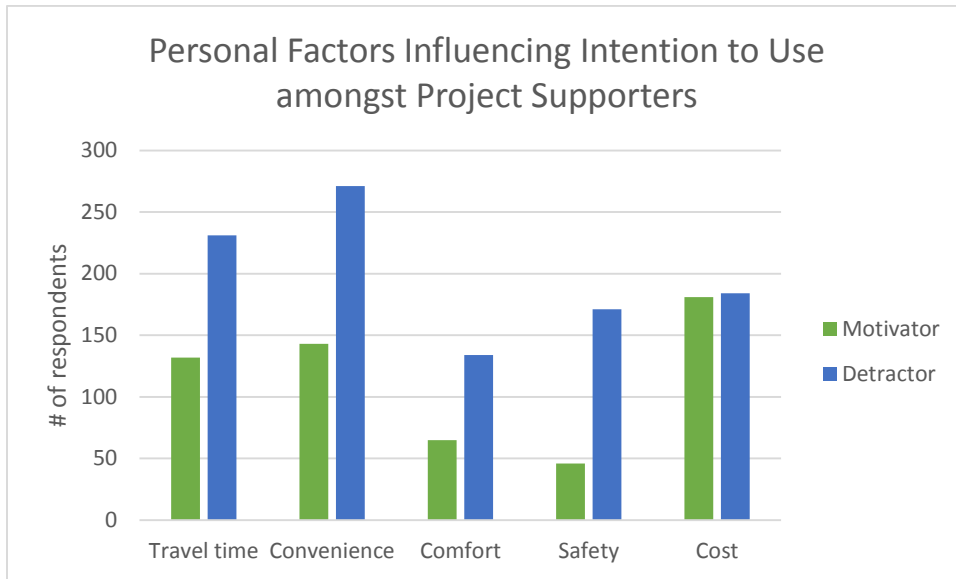


Figure 22

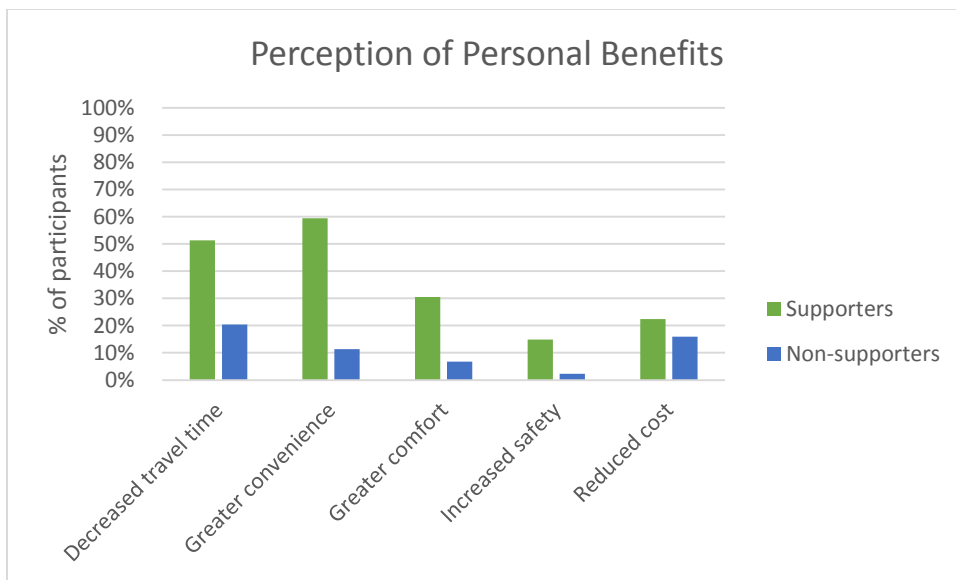


Figure 23

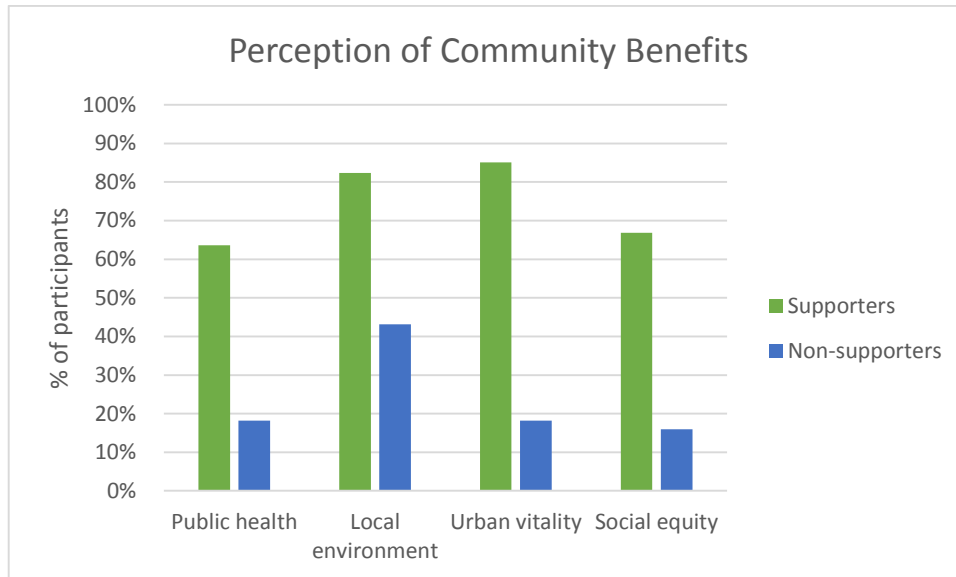


Figure 24

5.4 Key Survey Findings

Survey findings suggest that formal education is the strongest socio-demographic indicator for support for the ION, with higher education corresponding to greater support. On the other hand, youths (respondents <30) and women are more likely to feel undecided or neutral about the project. It is therefore recommended that the Region target residents with undergraduate and graduate degrees to thank them for their support of the project, but especially focus on increasing project engagement amongst youths and children. By focusing on residents that are neutral or undecided, the Region is more likely to increase public support than by targeting individuals that do not support the project, as they display greater levels of travel choice inertia (Chorus & Dallaert, 2012).

The Region should also focus on clarifying personal benefits of the projects to residents for both transit users and non-transit users. This study suggests that while support for the project is strong within the community, many residents are unclear how they will personally benefit from the project (through improvements in travel time, safety, comfort...). Conversely, residents have a much better understanding of how the ION will benefit the community at large. This is most likely due to the fact that community-based benefits are integral to the Region's messaging strategy. It is also recommended that the Region include public health benefits of the ION in its messaging strategy, given that it is part of the ION brand foundation and residents aren't readily associating the project with public health.

Chapter 6: Discussion

This chapter explores the implications of the survey and focus group findings. Using these findings, a framework for effective communication planning and evaluation has been developed to enhance the effectiveness of public transit improvement communication planning and evaluation.

6.1 Effectiveness of Branding and Implications for Communication Strategy

This study has shown that ION's brand personality has been well-received by the community. It also suggests that the ION branding facilitated the communication of the project by making it more tangible and relatable, and has likely helped to promote public support. This is the case given that participants were better able to internalize the project messaging after the branding, as seen by their more frequent association of the project to personal benefits and opportunities for the community, as opposed to comparing the project to other transit experiences. Additionally, Chen & Tseng (2010) have also demonstrated that strong brands can enable better visualization of intangible products and services.

Accordingly, the Rapid Transit project (prior to the technology selection) would have benefited from earlier and more comprehensive branding. This could have potentially increased the awareness of the project prior to the selection of the technology, as well

as increased the understanding of the project, and how the ION fits within the Region's Official Plan, and transportation picture.

The ION branding could have been more effective through integration with the GRT brand, which could have potentially resulted in greater public support. Many survey respondents and focus group participants were unsure how the ION will work within existing public transit in the Region. Participants were especially concerned about the fare structure and future bus route improvements. Furthermore, survey findings suggest that respondents that had a favorable perception of the GRT were more likely to support the ION (see Figure 25). It is therefore recommended that municipalities brand their transit improvement project as part of the existing public transit network, which requires the collaboration of the existing transit provider.

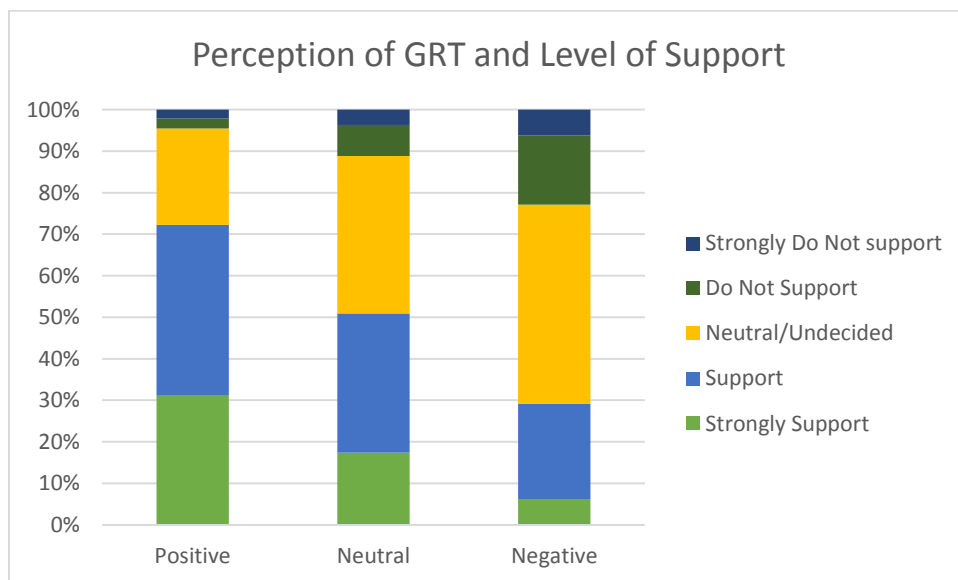


Figure 25

In this case, the ION will be part of the GRT network. It is therefore in GRT's interest to be supportive of the project. GRT does have limited information about the ION on a dedicated page on its website, which largely serves to redirect viewers to the Region's Rapid Transit website. The GRT logo is also present on some ION outreach material. As this study had shown, residents are unclear about how the ION will fit into the broader transit network, therefore the partnership between ION and the GRT should be made clearer. This could be achieved by including more details project information on the GRT website, as well as releasing public statements of support on the behalf of the GRT. Additionally, it would be important to have content related to the improvements to the transit network in the outreach material.

This could also be addressed through employing similar brand personalities, and by using the existing transit provider's logo on outreach material. It should also be stated in communications that the transit improvement project will be used to supplement existing service and future public transit developments will support the success of the improvement project. However, it may be the case, such as in the Region of Waterloo, that the transit provider does not have a very strong brand or reputation (as shown through this study's focus group findings). As previously mentioned, several focus group participants did not consider the GRT to be an efficient transit system, and that it requires overall improvement in order to support the ION. It is therefore recommended that municipalities strengthen the brand of their transit provider prior to announcing plans for the transit improvement project. Once the brand has been developed, the

unveiling of the improvement project can be used to support the rebranding of the transit provider.

In regards to the personal and community benefits encapsulated by the ION brand, findings from the survey suggest that residents more strongly associate the project with community-based benefits over personal benefits. This is also supported by the focus group findings given that participants largely discussed community benefits, such as economic growth, when asked about their hopes for the project. However, this may be attributable to the lack of personal benefits outlined in the Region's communication strategy. It is recommended the Region clarify concerns over comfort and out-of-pocket costs, which were discussed by focus group participants. Accordingly, there is an increasing use of financial incentives in public health (in addition to broader community-based messaging) to promote desired behaviour changes, such as the cessation of smoking, as personal benefits have been shown to be effective motivators of change (Lynagh, Sanson-Fisher, & Bonevski, 2013).

6.2 Impacts of Personalized Trip Information for Communication Strategy

Findings from this study suggest that providing multimodal travel times may not be very effective in encouraging individuals to meaningfully evaluate a new transportation option, which contrasts the work by Kenyon and Lyons in *The Value of Integrated Multimodal Traveller Information and its Potential Contributions to Modal Change*. This information did not seem to be valuable to most focus group participants, as they either

felt indifferent or forgot the results of the travel time provided through the pre-survey. On the other hand, in some cases the travel time was used to validate participants' assumptions of the project. This is assumed because strong supporters of the project largely assumed the non-favourable results were incorrect, while a non-supporter used the travel time to make a case against the project. Furthermore, no participant shared that the travel time changed their perception of the project. This finding is also in-line with B.F. Skinner's Reinforcement Theory which posits that individuals are more receptive to information that reinforces their beliefs, and are more likely to reject information contrary to their beliefs (Ansolabehere, 2006).

The lack of influence of the travel time may also be attributable to the level of travel inertia experienced by participants. It is assumed in travel choice models, that individuals with high socio-economic status, such as the focus group participants, have a high value of time, and are therefore considerably risk averse in regards to changing their method of travel. The high valuation of time amongst higher income individuals is also confirmed in a study by DeVoe & Pfeffer (2011) in the *Journal of Applied Psychology*. This suggests that perceived costs of travel may hold even greater weight than conventional travel models suggest (which do not account for perceptual elements). While the results of this study do not make the case for providing residents with sample travel time comparisons to promote support for a public transit improvement project, there are study limitations that must be considered.

Primarily, it must be recognized that participants' may have responded more strongly to more accurate travel time. Also, it may have been more effective to ask participants to use the travel time app during the focus group to then gauge the immediate reactions. In future studies, it may be beneficial for campaigns to include other personalized feedback when providing multimodal travel information, such as out-of-pocket cost, steps walked, greenhouse gas emissions, etc. Hence there is still value in Canadian municipalities further exploring the potential for personalized travel information in their communication strategies.

Mobile apps are considered the most effective platform for delivering multimodal travel information, given that over 55% of Canadians owned a smartphone in 2014, and this number continues to grow (Catalyst, 2014). According to a survey of the leading mobile app development companies found that the cost of developing an app typically ranges from \$38,000 to \$170,000, and can cost up to \$500,000 or more (Clutch, 2015). While this cost may appear to be prohibitive to most municipalities, it is considered essential for transit to be able to compete with car travel. Real time travel information, now provided by smartphone apps, allow for users to access real time information and can improve the perceived reliability and dependability of transit, as well as decrease the perceived risk of changing modes (Ferris, Watkins & Borning, 2010; Srinivasan & Mahmassani, 2000). Furthermore, an app developed to provide travel information can be repurposed to provide travel information once the public transit project is operational.

6.3 Indicators of Support and Implications for Targeted Messaging

The survey findings suggest it may be most effective to focus on reaching out to youths (respondents under 30) and women as they are the cohorts that are most undecided about the project, and therefore exhibit lower levels of travel choice inertia (Chorus & Dallaert, 2012). While there is great value in having a profile of project supporters and non-supporters, it is imperative to target individuals that are neutral or undecided about a public transit improvement project as they are more likely to decide to seek more information and potentially support a given project than individuals that initially oppose the project. They are also cohorts that may be typically underrepresented in the current outreach program. The findings also suggest that the benefits to suburban residents have not been internalized.

Women and youth survey respondents that indicated they were neutral or undecided about the project hold similar values and evaluate the potential benefits of the ION with great similarity (see Figure 26 and Figure 27). Both youths and women considered bettering the environment and providing better public transit to be most important. Youths consider protecting the countryside and managing urban growth to be equally important, while women found managing urban growth slightly more important than protecting the countryside. Reurbanization was found to be the least important (or least understood), and several of the women and youth were undecided or unsure of its importance. When women and youth were asked about the future impacts of the ION, they found that the ION would most benefit the local environment and urban vitality,

while they were largely unsure or undecided about how the ION would impact public health and social equity (Figure 28 and Figure 29).

Figure 26

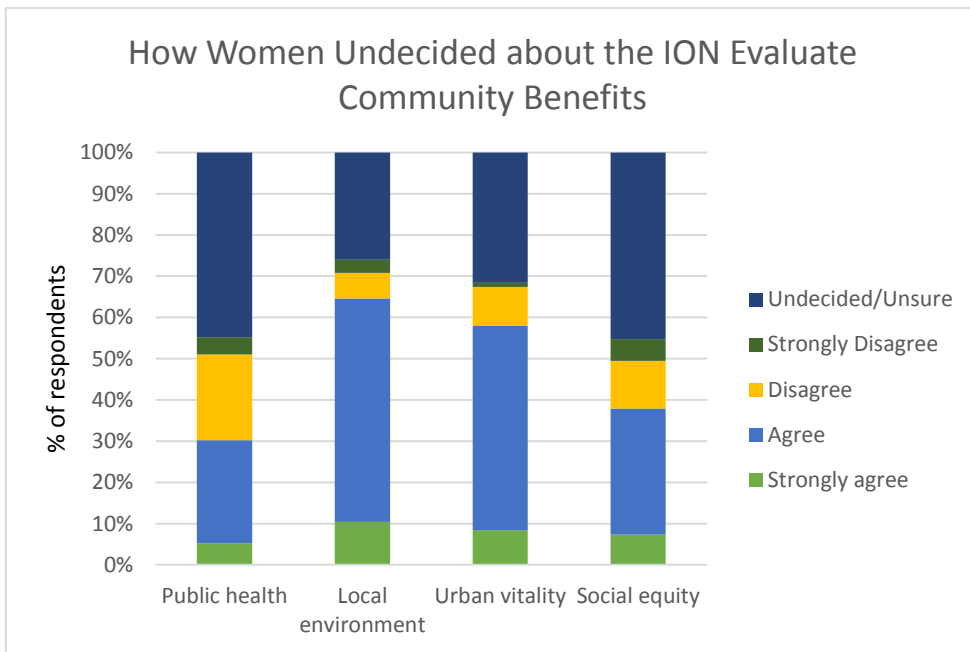


Figure 27

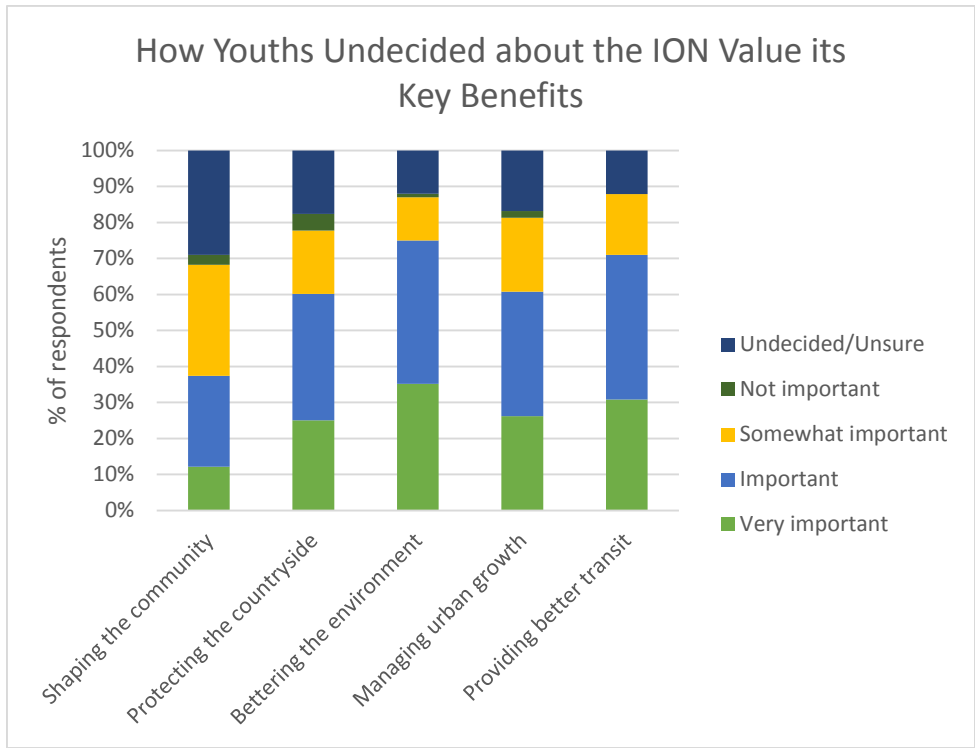


Figure 28

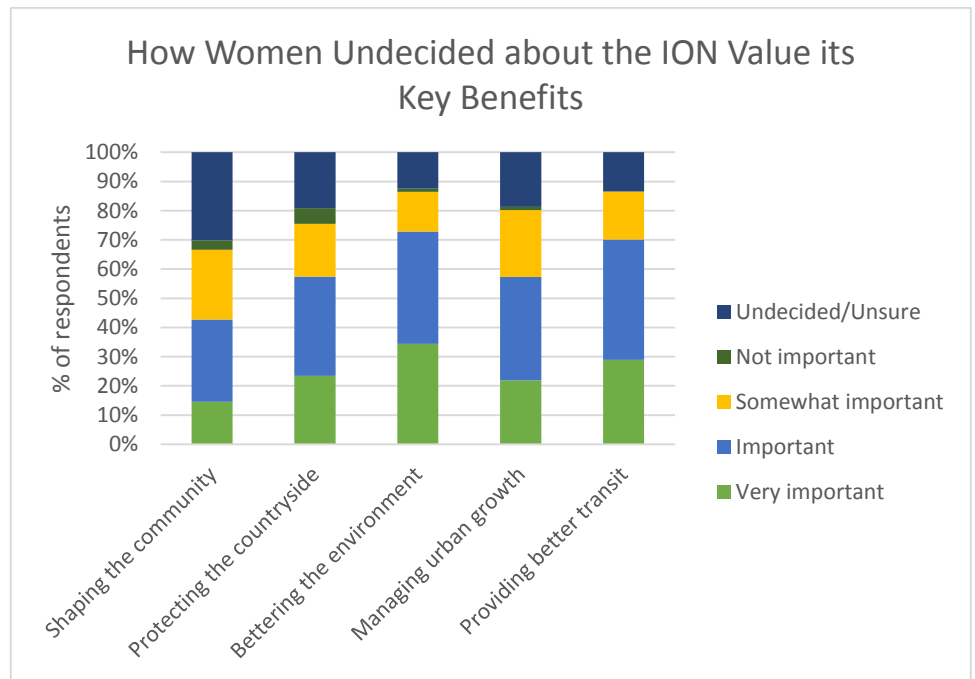


Figure 29

Consequently, when targeting undecided or neutral Region of Waterloo residents, it is best to focus messaging on the benefits to the local environment and how it will improve public transit. It would also be beneficial to clarify what reurbanization means, how it will impact the Region, and how the ION will contribute. This is of great importance as it is one of the key benefits communicated by the Region on their website. Furthermore, both women and youths believe the ION will benefit urban vitality, so it is believed that they would also consider reurbanization to be an important ION benefit. Hence, it is recommended the Region avoid using jargon such as reurbanization in its broader messaging. For instance, reurbanization could be discussed in terms of city vitality. Furthermore, it would also be beneficial to communicate how the ION could improve public health (i.e. reduces air pollution, encourages physical activity...) and social equity (i.e. improves mobility of all residents), as these are values that typically resonates with individuals.

When targeting the suburban audience, it is important to focus on how the ION will not only improve public transit, but improve overall transportation in the Region. Specifically, when communicating to this audience, the alleviation of congestion should be emphasized, in addition to the preservation of suburban living. Furthermore, supporting GRT improvements should also be promoted and discussed in the context of how this will benefit suburban users. It should also be noted that the Region's emphasis on the tech industry and creative class may have alienated suburban residents. It has been

shown that lifestyle dimensions have been successfully used in market segmentation to sell consumer products (Barry & Weinstein, 2009). By including suburban lifestyle in the marketing strategy, it is possible that all residents would have a better understanding of how the ION will improve the overall transportation system of the Region, which could potentially result in greater public support.

However, using a singular lifestyle to promote the ION may be very effective for hooking a handful of individuals, but it will most likely not resonate with the majority of residents, such as lower income workers, the elderly, or suburban residents. Additionally, the Region would have benefited from focusing on engaging undecided and neutral residents, in this case women, youths and suburban residents, during the initial phase of public consultation. Determining what type of outreach is favoured by these segments is therefore important. Research has shown that women require greater flexibility in terms of time commitments, while youths may gravitate towards online platforms for engagement (Halvorsen & Jarvie, 2002; Transit Cooperative Research Program, 2012). Meanwhile, suburban residents may prefer meeting locations that are closer to their communities, which don't require paying for parking. There should also be investigation into what types of information these segments consider to be of interest. For instance, certain groups may not be as interested in the technical aspects of the project, which was emphasized by the Region, while the broader impacts on the community may be of concern.

Consequently, it is recommended that municipalities conduct community-wide surveys after initial public outreach to determine what segments have been underrepresented, and then focus on engaging these groups. By periodically evaluating the success of the public outreach strategy, it is possible for municipalities to reform their approach to engage undecided or neutral residents and thereby increasing public support. It is recognized that it may be difficult as it may be difficult to engage individuals that do not attend public meetings. Therefore, there must be an emphasis on providing a diversity of opportunities to participate in the decision-making process to draw a diversity of residents.

6.4 Study Limitations

Participants were asked to self-report travel behaviour and perception, which may not be reflective of actual behaviour once the ION is in operation. Another concern is that individuals that choose to participate in the study may have strong opinions about the ION, while those with moderate opinions may not be captured, which can potentially introduce bias in the responses (Creswell, 2009). Furthermore, the findings would be more robust if the travel trip information app provided more accurate data, and had greater functionality. For instance, it would have also been interesting for participants to be able to determine the access and egress points. Given the intended scope of the study, as well as the availability of resources, the research approach is considered to be effective, especially when considering the potential contributions to the field and benefits to the community.

6.5 Study Implications for the Region of Waterloo

In summation, the key pieces of learning from this study include:

- Continue to develop ION brand and remain consistent with brand personality
- Focus on brand integration with GRT
- Evaluate public response to outreach and adjust messaging as needed to resonate with undecided or neutral segments
- Focus outreach on undecided and unsure residents (women and residents under the age of 30)
- Encourage continued support amongst university graduates
- Focus on how project fits within the bigger transportation picture
- Consider developing a multimodal travel time app to promote the public transit improvement project which can later be used to provide real time information. Travel app could also include other personal benefits, such as out-of-pocket cost or the number of steps taken
- Do not use a singular lifestyle to promote the project
- Avoid alienating suburban users (or non-transit users) by communicating how they will also benefit
- Develop communication of personal benefits in messaging strategy (if possible link to community benefits)

Due to the impacts of the above recommendations on public understanding of the ION project, it is believed that the Region will be better positioned to meet the goals outlined its Community Engagement Strategy, which include: inspiring support, presenting the facts, building ridership and maintaining momentum (see Table 1).

Chapter 7: Conclusion

This study was undertaken to determine how different types of ION trip information (travel time, personal benefits, and community benefits) are interpreted by residents and influence the level of support. The secondary objectives was to contribute to the existing literature on communications for public transit project promotion. The purpose of this work was to assess the current level of support for the ION in the Region of Waterloo, and assess the effectiveness of social marketing practices on promoting greater public support and understanding. Ultimately, the goal of the study was to provide recommendations to the Region of Waterloo to improve their messaging strategy, and ultimately generate greater public support and future ridership. This was achieved through the quantitative analysis of a survey, as well as the inductive interpretation of focus groups.

Findings have shown that project branding is an effective approach for promoting public transit investment by making the projects more tangible, and that targeted messaging can be used to address the concerns of undecided or neutral population segments. It has also shown that the ION branding is shaping the perception of personal and community-based projects benefits, and that socio-demographic indicators can be used to tailor messaging and promote greater internalization of projects benefits. On the other hand, this research suggests that providing multimodal travel information may not be the most effective approach for increasing levels of support, but rather broader perceptual biases must first be address before pre-operation travel time can be

meaningfully evaluated. While the Region of Waterloo has made use of project branding and targeted messaging, these strategies could have been more thoroughly incorporated into its communication approach. For instance, it would have been beneficial to improve the strength of the GRT brand before launching the ION brand, and then nestling the brand as part of the GRT. Furthermore, the Rapid Transit project would have also benefited further integrating branding into its communication strategy to better engage the community. On the other hand, it would have also been beneficial for the Region to evaluate how the community was responding to the brand, and then target messaging to population segments that were neutral or undecided about the project. Also, the Region would have possibly been more successful at targeted marketing if they would have targeted a larger population segment than the “creative class”, or create messaging to also speak to residents that fell outside of the targeted population.

By creating a strong brand for transit projects, the improvements to the network become more tangible and individuals can more easily understand how they will be impacted the project (Chen & Tseng, 2010). Furthermore, by targeting undecided population segments, it becomes possible to dissolve engagement barriers amongst these groups, and in turn encourage support and/or ridership. Making large-scale transit project relatable is of utmost importance in order to ensure sufficient public engagement during the initial stages of project planning (Devine-Wright, 2011). By engaging the public early on in the process, public opposition can be minimized (Zhong, Young, Lowry, &

Rutherford, 2007). Moreover, by implementing these recommendations, the Region of Waterloo would be better positioned to meet the goals described in its Community Engagement Strategy (see Table 1).

7.1 Future Work

In light of the impacts of branding on project support, this study brings to question who the responsibility of project communication and marketing should be bestowed upon. Planners are increasingly taking on role as project advocates, and often do so without training in public relations. In the case of the Region's rapid transit project, outreach was typically facilitated by project engineers, while outreach and branding was managed by communication and marketing professionals. Consequently, there was a lack of a formal outreach strategy. While resource-strapped, planners are well-positioned to take on the primary role of communicating with the public, especially at project events, as they have a deep understanding of the importance and impacts of a given transit project, as well as hands-on experience of interacting with residents. Hence, it would be beneficial to engage planners in the design, implementation and evaluation of communication strategies. It would also be valuable to provide planners with formal training in public communication.

This work has also contributed to the field of public transit promotion and planning by supporting the existing literature on the importance of branding on the perception of public transit improvement projects. It suggests that project branding can facilitate the

public understanding of how they will be impacted by travel improvement projects (both in terms of personal and community-based impacts), and thereby reduce public opposition, as well as travel choice inertia. It has also backed existing research stating that marketing can be customized on a socio-demographic scale to promote greater internalization of messaging. Additionally, this study found that individuals with higher levels of education are often more supportive of public transit, while women and youths can often be alienated from public consultation processes, which is also supported by existing literature. However, the findings do not support the research related to the impacts of providing multimodal trip information on lessening travel choice inertia. This may be attributable to the inaccuracy of the ION travel time, but points to the importance of the pre-operational perception on the evaluation of a new travel option.

It has also addressed existing literature gaps, but there is still much left to learn about how to most effectively communicate public transit improvements. It would be of great interest to examine the impacts of targeted marketing on intentions to use or on ridership after an improvement project. Similarly, it would be beneficial to compare how various population segments respond to targeted messaging in which they are the targeted audience, and when they are not the target audience. It would also be valuable to further understand how much support can be attributed to higher levels of education, or how much support is due to higher likelihood of personal benefit amongst this demographic. It is also of interest to further investigate how individuals respond to varying timescales of project benefits and opportunities.

As more mid-size Canadian municipalities consider investing in public transit under increasing growth pressures, it is imperative to gain a better understanding of the factors that promote public support for investments in public transit, as well as future ridership. In this way, it becomes possible for public transit to compete with personal automobile travel, which continues to benefit from cultural and perceptual biases. By addressing issues of perception, individuals can evaluate transit as a mode of transportation in terms of actual performance, instead of anticipated performance. It is believed that if transit becomes considered a viable transportation alternative that many individuals will move away from personal automobile travel towards transit. As a result, Canadian municipalities would then be able to achieve balanced modal splits. Within a balanced transportation system, cities can become more livable and communities can become more vibrant, as well as more resilient.

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Appendix 1



Appendix 2

WATERLOO PUBLIC TRANSPORTATION INITIATIVE

Perception of Rapid Transit in Kitchener-Waterloo

Should you have any questions about the study, please contact either Julie Bélanger (julie.belanger@uwaterloo.ca, 519-888-4567, Ext. 32878) or Professor Jeff Casello (jcasello@uwaterloo.ca, 519-888-4567, Ext. 37538). You may decline to answer any questions that you do not wish to answer and you can withdraw your participation at any time by not submitting your responses.

Questions on Demographics

1. Select your gender.
 - Male
 - Female

 2. Select your age category.
 - 15-22
 - 23-29
 - 30-44
 - 45-59
 - 60-74
 - 75+

 3. Select your highest level of education.
 - No certificate, diplomas or degrees
 - High School or equivalent
 - College, or other non-university certificate or diploma
 - Bachelor degree
 - Graduate degree

 4. Select your personal income category.
 - Less than 10,000
 - 10,000-25,000
 - 25,000-40,000
 - 40,000-55,000
 - 55,000-70,000
 - 70,000-85,000
 - 85,000-100,000
 - 100,000+

 5. Please enter your residential postal code
-

Questions on Current Travel Behaviour

6. How do you feel about using public transit overall?

- Positive
- Neutral
- Negative

7. How do you feel about using public transit in the Region of Waterloo?

- Positive
- Neutral
- Negative

8. Do you know what the ION is?

- Yes
- No

9. How often do you travel by the following modes?

	All trips	Most trips	Some trips	Few trips	Never
Car	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Public transit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Walking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cycling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10. Are you a licensed driver?

- Yes
- No (skip to Question #14)

11. Are you a car owner?

- Yes
- No

12. How often can you use a car for your trips?

- All trips
- Most trips
- Some trips
- Few trips
- Never

13. How do you feel about taking measures to drive less?

- Positive
- Neutral
- Negative

Questions on Rapid Transit in the Region of Waterloo

The ION is the rapid transit system that will connect the three major urban centres of the Cities of Cambridge, Kitchener and Waterloo. This will include a light rail transit line and adapted bus rapid transit

14. Rate how much you know about the ION.

- A lot
- Some
- A little
- Nothing

15. Where have you received information about the ION? **Please select all that apply.**

- Public meetings
- Region website
- Region newsletter
- Local news outlet
- Other _____

16. Rate how you feel about ION in the Region of Waterloo.

- Strongly support
- Support
- Neutral/Undecided
- Do not support
- Strongly do not support

17. Rate your intention of using the ION.

- Strongly intend to use the ION
- Intend on using the ION
- Do not intend on using the ION
- Strongly do not intend to use the ION (skip to Question #19)
- Undecided

18. How often do you plan to use the ION?

- All trips
- Most trips
- Some trips
- Few trips
- Undecided

Questions on future travel

19. What factors motivate you to use the ION? **Please select all that apply.**

- It will decrease my travel time
- It will be more convenient
- It will be more comfortable
- It will be more safe
- It will be less expensive
- Other _____

20. What factors discourage you from wanting to use the ION? **Please select all that apply.**

- It will increase my travel time
- It will be less convenient
- It will be less comfortable
- It will be less safe
- It will be more expensive
- Other _____

21. To what extent do you believe the ION will improve the following?

	Strongly agree	Agree	Disagree	Strongly disagree	Undecided/Unsure
Public health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Local environment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Urban vitality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Social equity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

22. To what extent do you believe the following to be important for the future of the Region?

	Very important	Important	Somewhat important	Not important	Undecided/Unsure
Reurbanization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Protecting the countryside	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bettering the environment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Managing urban growth	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Providing better public transit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

23. Are there any thoughts you'd like to share about the ION?

24. Please include your name and email address if you would you like to be contacted to participate in a focus group.

Name _____

Email _____

25. Please include your email address to receive updates on this study.

Email _____

Thank you for participating in our Perception of Rapid Transit in Region of Waterloo survey! Your feedback is extremely valuable.

If you indicated on the survey that you would like a copy of the results, they will be sent to you by email at the address you provided by summer 2015.

If you have any general comments or questions related to this study, please contact Julie Bélanger at the University of Waterloo's School of Planning (519-888-4567 Ext. 32878) or Professor Jeff Casello at the University of Waterloo's School of Planning (519-888-4567 Ext. 37538).

We would like to assure you that this study has been reviewed by, and received ethics clearance through a University of Waterloo Research Ethics Committee. If you have any concerns regarding your participation in this study, please contact Dr. Maureen Nummelin, the Director, Office of Research Ethics, at 1-519-888-4567, Ext. 36005 or maureen.nummelin@uwaterloo.ca.

Appendix 3

- What's your favorite pass time?
- What is your relationship to the Region of Waterloo?
- When you think of the ION, what comes to mind? What does the logo remind you of? What does the name ION suggest to you?
- What's your impression of the ION? What gave you that impression?
- What's your relationship to the ION? What would you like your relationship to be like? How would you like the ION to fit into your life?
- How did you feel about the travel information you received through the survey? Did this change your impression of the ION?
- Think of the Rapid Transit project before the ION. Tell me about your relationship with the project. What was your relationship to the debate and the concept?
- What do you think of when you hear "Rapid Transit"? What are your experiences with rapid transit?
- Do you have any fears when it comes to the ION?
- What are your hopes for the ION? Why is that important? What would that do for you (or your kids)?