

Two-Ways to Revitalize Downtown:
One-way to Two-way Street Conversion and its Potential Implications
for Downtown Winnipeg's South Portage Neighbourhood

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EXECUTIVE SUMMARY

Downtown Winnipeg's revitalization is dependent on reversing a series of decisions made decades ago at the expense of pedestrians and economic development. Winnipeg, like downtowns throughout North America, has a network of one-way streets that were intended to increase traffic efficiency. However, the network has constrained the ability of downtown to support a livable community and ultimately has limited its potential for revitalization. Following a period of disinvestment and decline, there is now a renewed interest in urban living based on downtown's accessibility to transit, amenities, and services, indicating that we need to make it a better place for residents and for business. One-way to two-way street conversion is a rising trend in North American cities with positive implications for livability and for economic development by creating conditions that are more conducive to pedestrian activity and conducting business.

This research explores the implications of one-way to two-way street conversion for Winnipeg, based on experiences in other Canadian cities. City planners and representatives of Business Improvement Areas in Hamilton, Ontario and Vancouver, British Columbia were interviewed to gain their perspectives on the successes and shortcomings of street conversions. Developers in Winnipeg were also interviewed to identify factors that might encourage and restrain downtown development. This research found that street conversion improves the livability of downtown neighbourhoods, supports residential and commercial development, and attracts investment from the private sector by way of public infrastructure investments, but needs the right catalysts and municipal support.

The coordination between the public and private sectors that exists in Winnipeg and the momentum being created by transit and active transportation improvements position the city well to realize the same advantages that have been noted in Hamilton and Vancouver. By re-classifying downtown streets to cater to a lower vehicular traffic volume, encouraging policies that reduce dependence on private automobiles, and identifying mixed-use and residential corridors to prioritize its implementation, one-way to two-way street conversion could be instrumental in the revitalization of downtown's South Portage neighbourhood.

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1.0 INTRODUCTION

Cities throughout North America have networks of one-way streets that, in effect, transport people through their downtowns rather than to them. In Winnipeg's downtown South Portage neighbourhood, all streets between Broadway and Portage Avenue and between Memorial Boulevard and Main Street operate one-way and constrain the downtown core's ability to support a livable mixed-use community. This pattern is based largely on transportation and engineering decisions initiated in the 1950s to accommodate growing automobile demands and suburban sprawl. This happened at the expense of pedestrian activity, discouraged multi-modal transportation, and undermined conditions conducive to economic activity and development. Many North American cities have gone through periods of social and economic decline and are now on the cusp of revitalization, including Winnipeg. Presently, there is a renewed interest in urban living, and an opportunity for revitalization efforts to improve the conditions of our downtowns.

Not unlike other cities throughout North America, Winnipeg's sprawling development and decentralized activity has thrived at the expense of the city-centre. Downtowns in many cities have morphed from the once special and iconic *destination* of residents and tourists alike into central business districts populated by day and vacant by night. Fitted into the larger framework of the rest of the city, downtowns have gone through a period of disinvestment and decline, while operations in the suburbs have taken over some of their functions (Birch, 2009). Suburbanization was accelerated by city leaders who "...encircled downtowns with freeways... surface parking, and reengineered two-way street systems into one-way networks" (Birch, 2009, p.138), and by doing so, "...drained downtowns of their singular feature: their compact, contiguous, densely built urban fabric" (Birch, 2009, p. 138). Facing the need for urban renewal, city leaders sought large scale projects and "...glistening skylines" (Birch, 2009, p.139) that were ineffective in improving the ground-level experience. Since then, canonized planners and more recent planning movements have called upon city leaders to renovate downtowns (Birch, 2009) to be interesting places where people can live, visit, work, and play. While planning for the future of our cities, planning processes will have to re-evaluate past decisions that have led to downtowns underperforming. Further, without considering what implications the design and functioning of the largest public rights-of-way - the streets - have for the built environment, downtowns will never realize their full potential.

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The conversion of one-way streets to two-way streets is an urban revitalization strategy with many potential positive implications for downtown Winnipeg. Street conversion is a rising trend that seeks to improve the condition of downtown for people who want to live in and visit it, to make changes to prevailing transportation patterns that discourage pedestrian activity, and to facilitate conditions that are more conducive to economic development and conducting business. The conversion of one-way streets to two-way streets has many advantages that contribute to building better communities, and has been imperative in improving the livability in cities across North America. While studies have argued for and against one-way and two-way streets, those that analyze conversions focus on the assumed benefits to the pedestrian experience, the impacts to the transportation network, and when mentioned, economic development through job sector growth and other statistics. However, this research seeks to study the implications for the pedestrian experience by speaking to stakeholders in the community who have witnessed impacts of conversions at the ground level, and to city planners who were involved in street conversion projects about changes to transportation patterns. To study the economic development implications, this research looks into active storefronts and business turnover on converted streets, transportation patterns in downtowns, and attempts to identify the conditions that are conducive to downtown development.

To understand the potential implications of one-way to two-way street conversion for downtown Winnipeg, I focused on examples from two case study cities, Hamilton, Ontario and Vancouver, British Columbia, to learn about their successes and cautions. In addition, I sought to understand the conditions that are conducive to economic development related to one-way to two-way street conversion by interviewing members of the private development sector in Winnipeg. Further, I conducted semi-structured interviews with:

- Two city planners who were involved in street conversion projects
- One representative of a Business Improvement Area (BIA)
- One city planner whose office is on a street that underwent conversion, and
- Three urban developers, who work on projects of different scales in Winnipeg

From these semi-structured interviews, twelve findings emerged regarding the potential successes and cautions of one-way to two-way street conversion as an urban revitalization strategy in downtown Winnipeg, while several other topics emerged needing further research.

1.1 Structure of the Document

Chapter One introduced the topic of one-way to two-way street conversion and identified the problem. In Chapter Two, I explain the research methodology used in this research, as well as limitations in collecting and analyzing data. In Chapter Three, context is given for background information on Winnipeg and downtown's history of disinvestment and decline. In Chapter Four, I discuss the literature as it relates to urban revitalization, economic development patterns, and considerations for one-way and two-way streets. Chapter Five identifies the study-site for this project and provides context for case studies in Hamilton and Vancouver. In Chapter Six, I discuss the findings, which are further discussed and analyzed in Chapter Seven. In Chapter Eight, I provide a summary of the findings, revisit the research questions, provide recommendations based on the findings, and finally, identify topics for further research.

2.0 METHODS

In this chapter, I describe the strategies that were used to collect and analyze the data in order to answer the research questions. In addition to outlining the timeline during which this research took place, this chapter addresses the limitations of the data and potential for bias.

2.1 Case Study Cities

Two cities were studied to understand what implications one-way to two-way street conversion has had for their downtowns. These case study cities were selected based on their sharing of similar characteristics to Winnipeg, including their size and scale, to promote the transferability of lessons to Winnipeg (further discussed in Chapter Five). Winnipeg's slow-growth and prairie landscape is unlike many other candidate cities that have used street conversion as a revitalization strategy, but its isolated location and function as a hub of economic activity for the province allow it to serve some of the same purposes as other larger cities. Minneapolis, Minnesota was selected as the first case study in part to its proximity and similar climate, but due to a lack of responses and scheduling conflicts, it was abandoned. Hamilton, Ontario, and Vancouver, British Columbia were selected as the other two case study cities, and because they were among the first cities in Canada to implement street conversion, they can offer both immediate and long-term lessons for Winnipeg.



Figure 1: Locations of case study cities (Craig Clark, n.d.)

2.2 Literature Review, Document Study, and Public Perception

A literature review was conducted to understand street conversion as it relates to larger contexts. To hone-in on emerging themes, I studied municipal planning documents from case study cities Hamilton and Vancouver. I reviewed street-conversion background study reports, transportation plans, reviews and updates; as well as recommendation reports to city councils. I also looked to the media and publications from community engagement events regarding implementation as a source to understand the public's perception towards street conversion. From this document study, three key themes emerged regarding the implications of street conversion: the pedestrian experience, transportation patterns, and economic development.

2.3 Research Questions

The selection of case study cities and themes that emerged from the literature review and document study were used to help develop the research questions. Through this research, I attempt to answer the following questions:

1. What effect has one-way to two-way street conversion had on the pedestrian experience and transportation patterns in Hamilton and Vancouver?
2. What economic benefits have been observed following one-way to two-way street conversion?
3. Are developers more inclined to select development sites on two-way streets in a downtown setting?
4. What are the implications of one-way to two-way street conversion for downtown Winnipeg?

2.4 Data Collection

To further support the case studies and to answer the research questions, I conducted semi-structured interviews with seven stakeholders in three different cities representing the non-profit, public, and private sectors. Using semi-structured interviews allowed for data collection in the form of both facts and experiences, and though they "...have specific objectives, the interviewer [is] permitted some freedom in meeting them" (Singleton & Straits, 2009, p.266). Interviewees included municipal planners in both Hamilton and Vancouver, a senior representative from a Business Improvement Area in Hamilton, a community planner from the private sector in Vancouver, and

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three Winnipeg-based developers focused on small-, medium-, and large-scale development projects from the private sector.

Interviews took place from mid-November 2019 until early January 2020. Due to location constraints, the majority of the interviews were conducted over the phone, but Winnipeg-based developers were interviewed in person at mutually agreeable locations. To collect the data and to ease the transcription process, I audio-recorded interviews as well as took notes by hand when appropriate during the interviews.

Table 1: Semi-structured interview responses

CITY	TYPE	REQUESTS	RESPONSES	ACCEPTED	DECLINED
WINNIPEG	DEVELOPER	3	3	3	N/A
HAMILTON	CITY	2	2	1	1
	PLANNER				
	BIA	1	1	1	N/A
MINNEAPOLIS	CITY	3	1	1*	1
	PLANNER				
	BIA	3	0	N/A	N/A
VANCOUVER	CITY	2	2	2	N/A
	PLANNER				
	BIA	2	1	1*	N/A

*Indicates research participant who accepted but did not follow through

2.5 Data Analysis

Following data collection, I transcribed each of the semi-structured interviews and assigned each interviewee to a designated alias to maintain confidentiality throughout the entire process. To analyze the data following transcription, I coded the results by hand using a coding scheme tailored to this project. When developing a coding scheme for semi-structured interview transcriptions in qualitative research it is important to be as concise and clear as possible since "...there is no

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simple or right way to do this sort of analysis, so it must be tailored to the project” (Weber, 1990 in Campbell et al., 2013, p.299). The first round of coding used a deductive approach to develop a coding scheme using themes and prominent topics that emerged from the literature review. Following the first round of coding, I used an inductive approach and developed more specific sub-themes that fit into the original categories to study where relationships existed using themes that presented themselves from the interview process. Using a second and more specific round of coding allowed for irrelevant topics to be removed from the analysis and increased the reliability of the codes used.

2.6 Limitations

This research was conducted to the fullest of my ability given the parameters in which the project took place. Only two case studies were used to research the implications of one-way to two-way street conversion due to a lack of response from other cities, though I had intended to use three case studies. Due to the short timeframe and therefore limited scope of the project, as well as regard for ethics considerations, I studied the implications for the pedestrian experience by interviewing a representative from a Business Improvement Area and a planner whose office is on a street that has undergone one-way to two-way conversion. While these individuals interact with a wide range of members of the public and could speak to the notable changes in the affected areas, residents who live in, visit, or work downtown were not interviewed for their personal experiences. Without having statistical data, the implications that I identify for transportation patterns are anecdotal, but are still indicative of the overall implications. Lastly, researching implications as they relate to economic development was done through the prevalence of active store fronts and occurrence of new development, but without looking into property value and tax increases in surrounding areas, this research cannot speak to the entire sector of economic development, which would require multiple studies.

My personal opinions were not included in this research or discussion. Research questions were formed based upon the literature, and where there were gaps, interview questions were designed to stimulate conversation and probe discussion rather than lead by perception. Having conducted this research from Winnipeg, it is difficult to understand the larger context of the results experienced in case study cities having not seen the implications first-hand, and therefore, the

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research relied on information provided by research participants. As some of the interviewees were involved in the planning of street conversions in their cities, research participants may have had their own biases, but I did my best to remove these where possible.

3.0 CONTEXT

3.1 Winnipeg and Downtown Winnipeg

Winnipeg is the provincial capital and "...dominates the Manitoba economy", based on "...its position as a major grain, financial, manufacturing, and transportation centre" (City of Winnipeg, 2016a), and has growing opportunities for tourism due to its proximity to lakes and beaches and sports and entertainment facilities. As of 2016 Winnipeg had a population of 705,244, up 6.3% from the previous census, with a population density of 1,518.8 per square kilometer (Statistics Canada, 2016c), though the City of Winnipeg (2016a) anticipates the population to reach 776,400 for the city and 856,200 for the metropolitan region this year (2020). Covering a land area of 464.33 square kilometers (Statistics Canada, 2016c) and with little available developable land remaining, the city's footprint is quite expansive. Winnipeg's population is forecast to reach 1,000,000 people by the year 2035 (Canadian Broadcasting Corporation (CBC), 2013).

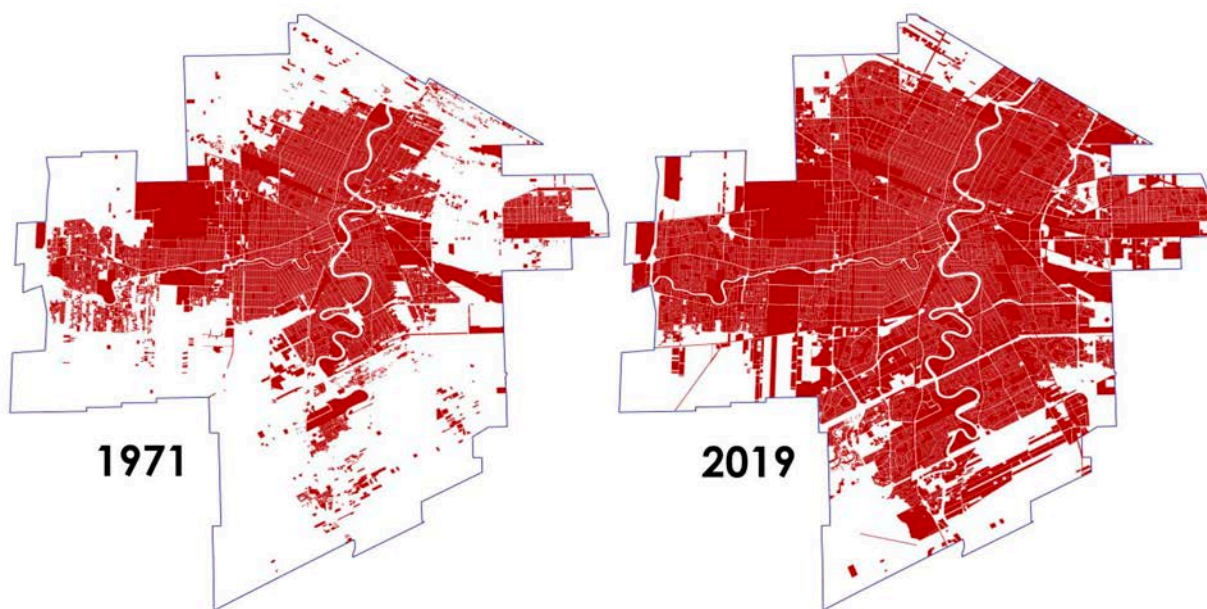


Figure 2: Increase in Winnipeg's built up area from 1971 to 2019 (City of Winnipeg, n.d.)

Winnipeg's downtown is exceptionally large given its current population, taking up three square kilometres of land. It is made up of the following mature neighbourhoods: Broadway-Assiniboine, Central Park, China Town, Civic Centre, the Exchange District, the Forks, Legislature, Portage and Main, Portage-Ellice, and South Portage. Guided by the *Downtown Winnipeg Zoning*

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By-law No. 100/2004 (2004), *Downtown Winnipeg Urban Design Guidelines* (2005), *Complete Communities Direction Strategy* (2011), and the *Downtown Residential Development Strategy* (2011), numerous initiatives are underway by the City to encourage downtown intensification and development to achieve the objectives of these documents. Currently, construction of the Winnipeg Rapid Transit (RT) system and the review of the City’s Master Transportation Plan are underway, both of which will have implications for how residents continue to access, use, and navigate downtown.



Figure 3: Downtown Winnipeg Neighbourhoods (Google Earth Pro, 2020)

3.2 Adoption of One-way Streets

Owen Bruce (2010) described Winnipeg’s one-way streets as “...a legacy of postwar growth”. Following World War II, Winnipeg’s suburbs were growing and so was the demand for private automobiles and space for parking. Bruce indicated that by 1947, “...traffic congestion was the major issue at city hall” (2010). The appointment of the Winnipeg Traffic Commission resulted in the mid-1950s decision to convert a number of downtown thoroughfares to one-way operation with the sole purpose “...to speed the movement of vehicles” (Bruce 2010), in addition to the construction

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of wider roads and bridges to transport people to and from downtown in support of suburban development.

3.3 Disinvestment and Decline

Investment in Winnipeg's downtown stalled in the 1970s, and as explained by Distasio (2019),

“...car-oriented suburban development pulled people, retail and industry out of the core and into outlying locations. By 1980, Winnipeg's downtown and surrounding neighbourhoods were impacted by a significant set of challenges- weakened housing prices, changing retail landscape and loss of population”.

As Kives (2019) acknowledged, “Thanks to several quirks of history, the city's downtown was built too large to benefit from a critical mass of redevelopment in any one area,” and also argued that the series of ‘mega-projects’ undertaken in the city were not sufficient to revitalize the area because they ignored bringing residents into the downtown (Kives, 2019). Several organizations exist to this day as part of a downtown revitalization strategy decades in the making, initiated by the City's Core Area Initiative in 1980 (Distasio, 2019). CentreVenture, the Downtown Winnipeg BIZ, and the Exchange District BIZ are examples of organizations mandated by the City of Winnipeg to encourage economic development and to promote the densification of downtown. While these initiatives have been largely successful, “Today, the downtown is fast approaching 20,000 residents in a re-imagined landscape that has placed significant efforts into education, entertainment and commerce” (Distasio, 2019), there are still many challenges to face and opportunities for the City to consider. McCullough et al. (2017) indicated that Winnipeg's downtown is in the midst of a growth trend following a period of significant decline where the downtown population fell below its peak 13,320 residents in 1991. Now approaching 20,000 residents in the downtown, “...the area is reaching a critical mass that will continue to drive demand for an increasing range of amenities” (McCullough et al., 2017, p.23).

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Figure 4: Main Street looking north circa 1970 (Bill Hilman, n.d.)



Figure 5: Main Street looking south at Portage and Main intersection (Phil Hossack, n.d.)



Figure 6: Portage and Main circa 1982 looking northeast (Peter Tittenberger, n.d.)

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Figure 7: Portage and Main looking northwest (David Lipowski, n.d.)

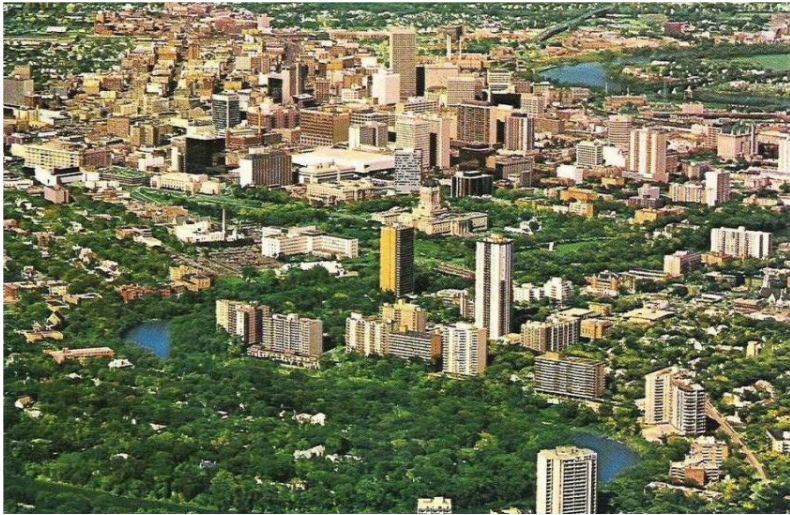


Figure 8: Aerial view of Winnipeg from the southwest (Bill Hilman, n.d.)



Figure 9: Manitoba Legislative Building with downtown surround (Dan Harper, n.d.)

4.0 LITERATURE REVIEW

In this chapter, I discuss the existing literature as it relates to North American downtowns and the structure of the built environment. Specifically, this review frames the discussion of the relationship between urban revitalization, economic development and prevailing development patterns, and the place where city life takes place: the streets. Highlighting the considerations of both one-way and two-way streets for their impacts on their surrounding environment, gaps are identified in the literature to discover the implications of one-way to two-way street conversion for downtown Winnipeg as they relate to the pedestrian experience, transportation patterns, and economic development.

4.1 Urban Revitalization in Mid-size Cities

Urban revitalization is an urban movement sweeping through cities experiencing decline all around the world. Mehta and Bosson (2018) acknowledged this momentum in centre-cities or in areas within urban cores. It is a primary focus of urban planners in cities of all sizes throughout North America, though it is not easily defined. It is a strategy that encompasses many initiatives that are "...aimed at reorganizing an existing city structure, particularly in neighbourhoods in decline due to economic or social reasons" (PPPKnowledgeLab, n.d.), and is not a one-size-fits-all solution (Saunders, 2019). Urban revitalization is intended to bring downtowns back to life (Burayidi, 2013), but it is not always clear exactly how. What is known is the importance of a downtown (Burayidi, 2013; Charney, 2005; Ford, 2003) and its ability to act as an indicator for the performance of the rest of the city (HyettPalma 2007 in Burayidi 2013). Burayidi (2013) compared downtown to a heart, "Like the heart of a living organism, the suburbs could not go on for too long without a healthy downtown" (p. 21). Ford (2003) argued that "...cities must either change or die" (p.5) to avoid displacing its activities, development, and residents, "...and this is especially true of downtowns" (p. 5). Though Burayidi (2013) argued that "...no city is alike in structure and in the problems they face" (p. 1), there are lessons for cities to "...adapt successful approaches used in other locations to help remediate their unique situation" (p. 1). In considering urban revitalization efforts from other cities, taking into account the different scales at which strategies and initiatives take place is necessary for the transferability of lessons.

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Though there are a few notable differences between Canadian cities and American cities, urban revitalization literature acknowledges the similar processes that led to each of their declines. Most studies on urban revitalization focus on cities at either a large scale or a small scale (Burayidi, 2013; Filion, 2000), but few focus on urban revitalization in mid-size cities, such as Winnipeg. Large scale cities typically refers to what Esparza and Krmenek (2000) defined as tier one and tier two cities, those above populations of 1,000,000, while small scale typically refers to cities of fewer than 150,000 residents (Burayidi, 2013). In cities of all sizes, downtowns "...were the original sites in which cities were first settled" (Burayidi, 2013, p. 2) and have been impacted by the same practices that led to their deterioration- starting with the decentralization of economic activity (Bunting & Filion, 1999 in Charney, 2005; Burayidi, 2013; Ford, 2003) among other things that will be discussed in this review. However, Burayidi (2013) pointed out significant differences in downtowns of cities of different scales, including a pedestrian-scale built environment and stronger "...residents' affinity to downtown" (p. 2) in small cities, and higher perceptions of crime, land costs, and a corporate presence in large cities. In a mid-size city, perhaps all of these differences exist to a different degree.

4.2 Renewed Interest in Urban Living, Smart Growth, and Urban Resilience

Urban revitalization initiatives in North American downtowns have focused on strategies that are implicative of individual sectors. For example, Burayidi (2013) wrote about one of these initiatives, the National Main Street program, helping "...communities revitalize their downtown commercial corridors" (p. 3), but "...the redevelopment of residential and other components of downtown have been largely ignored" (p. 3). This is important is because there is a renewed interest in urban living (Burayidi, 2013; Christie, 2006 in Burayidi, 2013; Mehta & Bosson, 2018), indicating the need for the revitalization of residential components and other economic and amenity activity that supports the pedestrianization of downtown. Millennials (Christie, 2006 in Burayidi, 2013; Mehta & Bosson, 2018), baby boomers (Burayidi, 2013; Christie, 2006 in Burayidi, 2013), and empty-nesters (Burayidi, 2013; Mehta & Bosson, 2018) are the demographic trend "...repatriating centre cities" (Christie, 2006 in Burayidi, 2013, p. 9) in search of walkable neighbourhoods that provide amenities, a diverse social mix, access to transportation, and what Mehta and Bosson (2018) call 'café-culture'.

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In the wake of the smart growth movement, "...repositioning the low-density, pedestrian unfriendly neighbourhoods to walkable, ecologically, and socially rich places has been a central focus for planners" (Gilles-Corti et al. 2008 in Stafford & Baldwin, 2018, p. 17). The smart growth movement emerged in the 1990s and offers a set of policies and principles intended to revitalize the already-built environment by fostering reinvestment opportunities and promoting development to create more livable communities (Congress for New Urbanism, 2000; Scott, 2007). The urban structure of many cities has been criticized by Searle and Filion (2011) for its high energy consumption, expansive footprint, environmental degradation, a lack of urban amenities, worsening traffic congestion, and by Filion and McSpurren (2007) for its costly infrastructure. As said by Filion (2001), "...there are advantages to bringing together different types of activities within a relatively dense and diversified environment" (p. 157), such as quality transit service and active store fronts, which helps to strengthen urban resilience (Burayidi, 2013).

4.3 Downtown Decline, Structure, and Functions

As mentioned before, downtowns are different in each city, but they all serve the same functions, and most are not unique in that they are not as activated with pedestrian traffic and storefronts as they once were. Historically seen as the central business district of a city (Ford, 2003), downtowns today have changed, but continue to be prominent nodes of activity in Canadian cities (Charney, 2005). City centres have faced a number of issues in recent decades, including deteriorating infrastructure (Burayidi, 2013), high vacancy rates (Burayidi, 2013) due to the popularity of the skyscraper (Ford, 2003) taking activities off of the streets, and flight to the suburbs (Burayidi, 2013; Charney, 2005; Ford, 2003). High land costs (Charney, 2005), fragmented land ownership, and higher crime rates are some of the factors Burayidi (2013) cited as contributing to the decentralization of economic activity and population from city centres to the suburbs, in addition to widespread automobile use and congestion (Charney, 2005). Following suit, downtowns faced deterioration and disinvestment (Charney, 2005) while government plans and policies supported suburban utopias (Ford, 2003).

Ford (2003) argued that even though downtowns throughout North America have "...suffered a relative decline while suburbs have blossomed, they have not suffered an absolute decline" (p. 1). Traditionally, downtowns functioned as a financial district, and provided shopping

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destinations (department stores, malls, and street-level stores), attractions for visitors, and meeting places (Ford, 2003). Modern downtown functions are not necessarily the centre of retailing (Ford, 2003), but "...have become more specialized and monumental" (p. 1). It is often the "...primary destination" for tourists, decision-makers, and people seeking cultural experiences and recreation (Ford, 2003, p. 1). Downtowns in Canadian cities have continued to serve as important business nodes, and despite their relative decline have maintained their status as important nodes for other activities as well (Coffey et al., 1996 in Charney, 2005). Charney (2005) presented four key factors that contribute to the resilience of Canadian downtowns: "...livable inner cities, suburbanization of a lesser scale, better transit access, and intense political sponsorship" (p. 303).

4.4 Changing the Trajectory of Downtown Development Patterns

Prevailing urban forms in downtowns are "...low density, functionally and socially segregated and automobile-oriented" (Filion & McSpurren, 2007, p 502). In seeking a better quality of life, lowering infrastructure costs, and lessening environmental degradation, municipal governments are encouraged to reconfigure their cities to increase density in an environment suitable for multiple transportation modes and to encourage a greater sense of community (Filion & McSpurren, 2007). This sense of community has the potential to contribute to urban vibrancy which will enable cities to better attract professionals, jobs, and additional residents, all working towards creating a better quality of life (HyettPalma, 2007 in Burayidi, 2013). Burayidi (2013) argued that resilient downtowns are dynamic, with a mix of uses (Ford, 2003), and are not dependent on any one single economic activity, but instead, several economic activities.

4.5 The Importance of Downtowns

Downtowns tell us who we are, where we have been, where we are going, and at what speed. (Ford, 2003, p. 3-4)

The robustness of Canadian downtowns depends largely on the influence of place entrepreneurs. Property developers often prefer to develop projects in a downtown because they are typically thought of as safe places to invest, but this is dependent on the overall health of a downtown (Charney, 2005). Developers play a key role in the functioning and development of Canadian

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downtowns as they are often embedded in a broad range of activities (Charney, 2005), and though they act in self-interest, they have the capacity to shape different parts of the city (Logan & Molotch, 1987 in Charney, 2005). This begins with a prosperous environment (Charney, 2005), or at least the potential for prosperity. Returning downtown to a prosperous place involves enhancing downtown living, changing the image of downtown, and paying close attention to its redevelopment (Burayidi, 2013). Municipal governments need to be catalysts for change in the redevelopment of Canadian cities to motivate developers to want to invest in their downtowns, which in turn will attract residents and businesses (Ford, 2003).

“Downtowns have become central social districts that provide an experience rather than a single reason for visiting” (Burayidi, 2013, p. 183), but they also encompass neighbourhoods that provide the widest mix of uses that grant people access to the lifestyle that many demographics want to live. The distinctness of urban cores in addition to high accessibility and strong support by governments contributes to the resilience of Canadian downtowns (Charney, 2005). Honing-in on this shift in demographics, urban resilience, and renewed interest in urban living is imperative in revitalizing our cities. As Ford (2003) argued, “If we can not learn to revitalize our downtowns and make them important places once again, what chance do we have of learning to save the shopping strips and housing tracts we have built in recent years? We will be forever trapped in an expensive and wasteful spiral” (p. 3). Downtowns are important not only for their functions and the experience they provide, but are also “... a vital component in the quest to understand how we can modify our policies and procedures so as to encourage the preservation of older existing urban landscapes and to minimize unaesthetic, sprawling development” (Ford, 2003, p.3).

4.6 Street Design, Quality of Life, and Economic Viability

Revitalizing downtown requires reconfiguring streets with a multi-modal focus in mind. Jane Jacobs (1958) stressed the significance of the street on its surrounding environment and described streets as “...the major point of transaction and communication” (in Riggs & Gilderbloom, 2016, p.105) for residents. Downtown streets should no longer be seen as thoroughfares because they are now known to be key to supporting all of the intersectionalities that make urban living enjoyable (Rifaat & Tay, 2009) and “...shape many aspects of neighbourhood life” (Riggs & Gilderbloom, 2016, p. 105). Cities throughout North America are converting their one-way streets to two-way streets, in many

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cases returning them to their original form, and Riggs and Appleyard (2018) even called this trend fashionable. The costs of reconfiguring downtown streets could be great, but so will its impact on quality of life (Shapard & Cole, 2013) and livability. Studies suggested that converting streets from one-way to two-way has an economically regenerative effect (Baco, 2009 in Riggs & Appleyard, 2018), reduces crime (Riggs & Gilderbloom, 2016), creates a friendlier place for pedestrians (Mehta & Bosson, 2018), and still accommodates future travel needs (Doi et al., 2016), though some authors argued that street conversion has a minimal impact on the revitalization of downtowns (Riggs & Appleyard, 2018) and that this redevelopment is attributed to other factors. By looking at the following advantages and disadvantages of both one-way and two-way streets, it becomes clear that in some contexts one-way streets work well, but that two-way streets will help to create a livable downtown. The relationship between the built environment and street design needs to be emphasized to realize the renewal of downtown communities.

4.7 Livability

Livability is a term that emerged in recent decades in regard to downtown revitalization, "Recent decades have ushered an upwelling of interest in community livability..." (Gough, 2015, p.145). Livability is an objective of urban revitalization in many cities and in some cases is treated as a measure of success, but because it involves an array of factors that affect the well-being of all residents of a community it is a complex concept (Appleyard et al., 2014). Some of these factors include street-design, traffic flow, generous sidewalks, pedestrian amenities, and increased walking and cycling behavior (Riggs & Gilderbloom, 2016), as well as the promotion of affordable housing, enhancing economic competitiveness, and supporting existing communities (Appleyard et al., 2014). To Gough (2015), livability is about planning for the *here and now* and is "...focused on immediate and tangible interventions" (p.146) to impact the experience of place- "...where people live, how they travel to work, and ways that they interact with each other and their surroundings - to make [communities] more livable" (p.146-7). As identified in the literature, "...there is general agreement that a livable community is one that offers choice and diversity in the range of amenities available to people who live and work in the community" (Wagner & Caves, 2012; Wheeler, 2013 in Gough, 2015, p.147), but planners and decision makers need to consider both current and future

residents (Gough, 2015) because "...livability also depends on people's lifestyles" (Appleyard et al., 2014, p.65).

4.8 One-way Street Considerations

Beginning in the 1960s, many cities converted their downtown streets to one-way operation to accommodate increasing traffic demands and to reduce congestion (Bruce, 1967; Burayidi, 2013; Riggs & Appleyard, 2018). This decision served to alleviate traffic problems during a period of rapid growth and expansion, but was a contextual solution, and as argued by Jones (1986), "One-way streets have undeniable traffic movement advantages; however, traffic planning must still fit within the context of overall urban planning" (p. 154). To this day, the debate over whether one-way or two-way streets are more disruptive to a downtown community still exists largely among those who do not live in, work in, or visit a downtown. The argument in favour of one-way streets is well explained by Jones (1986), including their ability to accommodate "...between 10 and 55 percent more vehicles than a two-way street" (p. 154) depending on a multitude of factors allowing higher speeds, the timing of traffic signals to allow steady movement and carry larger volumes, and a greater utilization of street width by automobiles. One-way streets are sometimes considered safer for pedestrians as they minimize pedestrian-vehicle interactions (Bruce, 1967), typically have lower vehicle-vehicle collision rates (Bruce, 1967; Riggs & Appleyard, 2018), and were thought to provide better vehicular access (Bruce, 1967) to reach a final destination. However, there are cautions to designing streets for greater capacities, as designs driven too heavily by traffic projections tend to be self-fulfilling (Dock et al., 2006). Downtown one-way streets have been effective in increasing through-put and having people travel through the area rather than to it, but there are a number of other disadvantages associated with one-way streets. Bruce (1967) made an argument for increased business activity on one-way streets compared to two-way streets, but validated this claim during a time when other streets were not being redesigned or retrofitted. Jones (1986) noted that the traffic on one-way streets is a hindrance to community life and livability surrounding them for noise pollution and poorer environmental conditions, and also cited lower real estate values surrounding one-way streets. Though they are thought by some to be safer streets, one-way streets allow for higher speeds in downtown areas (Papaioannou, 2007 in Riggs & Appleyard, 2018) and discourage non-automobile travel (Ewing & Dumbaugh, 2009 in Riggs & Appleyard, 2018), while Ehrenhalt

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(2012) argued that one-way streets "...stifle commercial corridors - leaving neighbourhood open to decay" (in Riggs & Gilderbloom, 2016, p.105). Their disadvantages can be further explained by Bruce (1967), including the additional travel for motorists to reach their destination via circling the block, associated idling times, challenges for moving emergency vehicles through one-way streets, a confusing street network for tourists, and a hindrance to transit ridership habits.

4.9 Conversion and Two-way Street Considerations

The movement underway by city officials and urban planners in many cities to convert downtown street networks from one-way to two-way operation seems to be largely successful (Gayah, 2012). Gayah (2012) argued that while traffic engineers prefer one-way streets for their ability to accommodate traffic more efficiently, residents prefer two-way streets for their economic and livability improvements. Implementing a two-way street network has challenges including the introduction of conflicting left-turn movements at intersections- which decreases the ability for vehicles to move as efficiently- and in some cases has significant costs associated with infrastructure and street re-design (Gayah, 2012). Despite these challenges two-way streets present numerous advantages over one-way streets. Research indicated that two-way streets create higher levels of economic activity and improve the livability of downtowns (Gayah, 2012; Riggs & Gilderbloom, 2016), while some studies argued that two-way streets are actually safer than one-way streets and maintain a suitable level of service (Ewing & Dumbaugh, 2009 in Riggs & Appleyard, 2018). Slower traffic speeds and more frequent stops are likely to increase a vehicle operator's awareness of local businesses surrounding them, and pedestrians have been found to prefer two-way streets because of the slower speeds and more predictable vehicular conflicts (Gayah, 2012). A study conducted by the Vollmer Associates found that in twenty-two of the cities it studied following one-way to two-way street conversion, the number of businesses in the downtown increased (Burayidi, 2013). Two-way street networks allow drivers to make the most direct routes to their destination and reduce driver confusion (Gayah, 2012), and according to Gayah (2012), "...even though two-way networks provide lower vehicle-moving capacities, they can serve trips at a higher rate" (p. 15). Riggs and Gilderbloom (2016) identified that "...conversions [to two-way] can result in busier yet slower streets" (p.114) that positively affect downtown communities. By providing more direct access to a destination, a two-way street network is also more supportive of transit ridership and removes

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confusion for tourists, in addition to the benefits street conversion has for mobility, safety, economic regeneration, and livability (Riggs & Gilderbloom, 2016).

4.10 Gaps in the Literature

While the existing literature highlights the history of and strategies used towards urban revitalization in North American cities, discusses economic development patterns and trajectories in downtown settings, and looks at the implications of one-way to two-way street conversion on pedestrian safety, transportation patterns, and economic growth, there are several gaps this research aims to look at. There is minimal literature that discusses street conversion projects in a Canadian context. The street conversion literature that focuses on the pedestrian experience focuses largely on walkability and the safety of pedestrians as it relates to vehicle-pedestrian conflicts, whereas this research will attempt to uncover public opinion and the reception of street conversion in Hamilton and Vancouver. The existing literature regarding economic development focuses largely on job sector growth, employment rates, and property values, whereas this research will attempt to gather the perspectives of downtown stakeholders, as well as look at business turnover in the area and the prevalence of active storefronts. This research will also attempt to discover if there is a connection between the direction of traffic flow and a developer's interest in investing in a downtown setting. Urban revitalization strategies have worked to change the trajectory of downtown development patterns to make downtowns important places again in the history of our cities. By looking into what implications the streets have for the way people access and use downtown, their re-design can be used to strengthen the urban revitalization of once-prominent central business districts and better position them as livable mixed-use communities that align with the objectives of modern cities.

5.0 SITE SELECTION, CASE STUDIES AND DOCUMENT REVIEW

5.1 South Portage

Because of the scope of this project, this research focuses specifically on the South Portage neighbourhood, though the potential implications could also be applicable to other areas. South Portage is bordered by Portage Avenue to the north, Main Street to the east, Broadway to the south, and Memorial Boulevard to the west. All streets within South Portage operate one-way, with the exceptions of the boundary streets, a short segment of Vaughan Street, and the Graham Avenue Transit Mall. South Portage can be described as Winnipeg's 'Central Business District', characterized by office towers and commercial uses, on-street, surface and structured parking, hotels, Manitoba Legislature, the BELL MTS Place, RBC Convention Centre, and Millennium Library. Situated largely around the edges of the neighbourhood are residential walk-ups and towers, though there are residential dwellings dispersed throughout the neighbourhood. Since 2006, South Portage has seen the addition of only 5 residents in its 0.7 square kilometre boundary according to the most recent census, and has a population density of 2823.2 people per square kilometre (City of Winnipeg, 2016b), though these numbers have likely increased due to the completion of residential development projects in recent years.

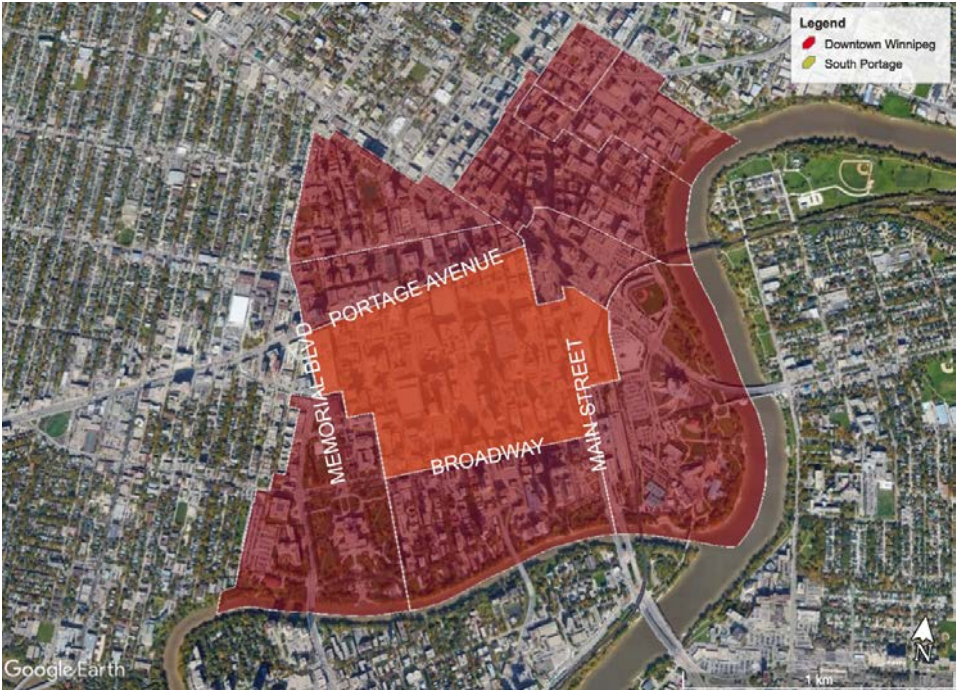


Figure 10: South Portage in downtown Winnipeg (Google Earth Pro, 2020)

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5.1.1 South Portage: Experience

Winnipeg's downtown was once known for its abundance of ground-level retail and well-received architectural style. Following downtown disinvestment, flight to the suburbs, and the construction of the skywalk system, there is an apparent lack of pedestrians on many of downtown's sidewalks. With the exceptions of Broadway and Portage Avenue, South Portage is primarily occupied during weekday working hours and becomes vacant on evenings and weekends. Wide roads, drab streetscapes, and an abundance of surface parking lots create an incohesive urban fabric, thereby hindering the pedestrian experience and walkability of the neighbourhood. Concerns of safety, gaps in the urban fabric, and a perception that the neighbourhood is unsafe deter many residents from South Portage's streets, decreasing the livability of the neighbourhood which in turn deters new development from occurring.

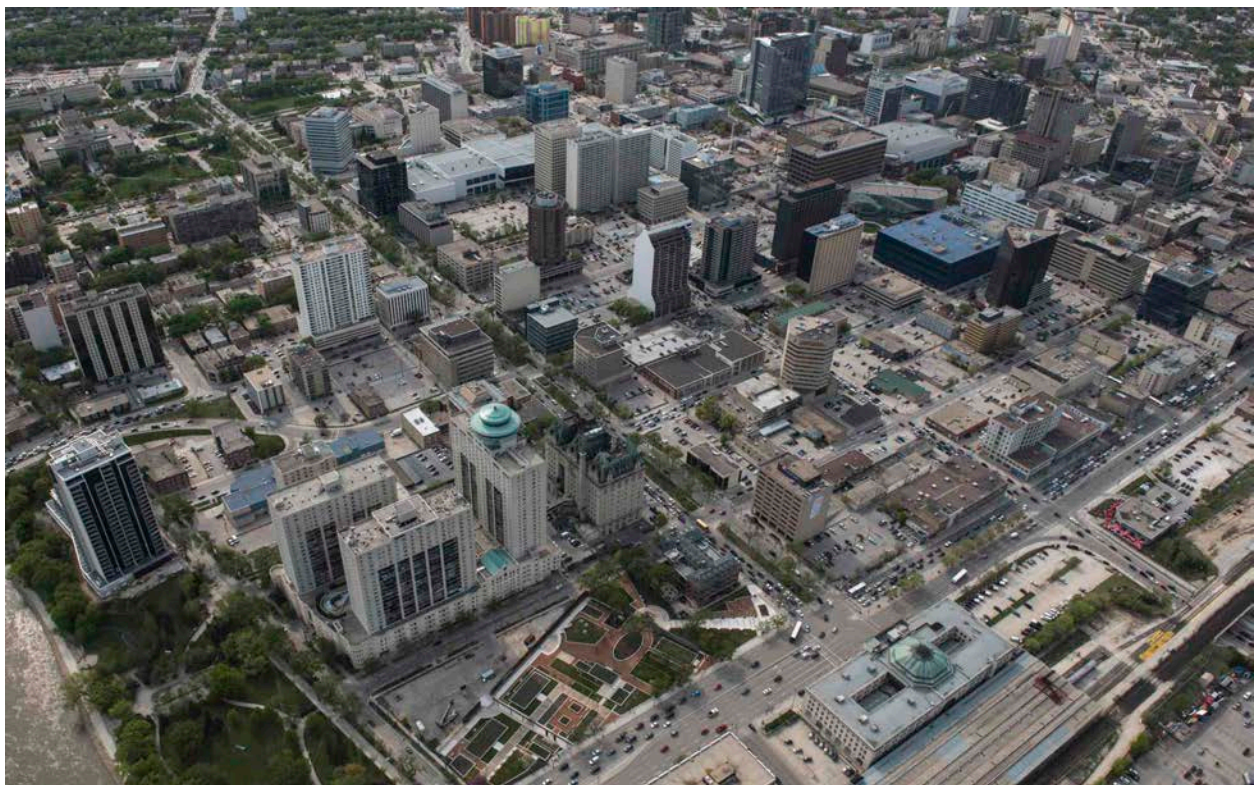


Figure 11: Aerial view of South Portage looking northwest (David Lipnowski, n.d.)

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Figure 12: Surface parking lot on Garry Street



Figure 13: Smith Street looking north to Portage Avenue

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Figure 14: St. Mary Avenue looking east



Figure 15: Fort Street looking south

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Figure 16: York Avenue looking west



Figure 17: Donald Street looking north

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Figure 18: Graham Avenue Transit Mall looking east



Figure 19: Kennedy Street looking north

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5.1.2 South Portage: Network of One-way Streets

South Portage has a network of one-way streets that, aside from those who work in the area or attend events at the Bell MTS Place, are used largely by residents as thoroughfares to travel to other parts of the city. While Donald Street, Smith Street, York Avenue and St. Mary Avenue particularly carry high volumes of vehicular traffic during weekdays (see figure 20), all streets in South Portage are classified as arterial, despite that the majority of the north-south streets are largely contained within the area. The primary purpose of a minor arterial classification, described in the *Summary of the City of Winnipeg Streets Classification System Categories (2012)*, is to move traffic. Minor arterials can accommodate up to 25,000 vehicles per day and have a typical right-of-way width of 33 metres (City of Winnipeg, 2012). Having each street within the neighbourhood classified as arterial allowed for conditions to develop- and remain- that encourage high-volumes of traffic throughout its entirety, including the timing of street signals, the prevalence of on-street parking, and a pedestrian realm designed to maintain sightlines for vehicle operators. These arterial street classifications demonstrate the priority of the automobile over the pedestrian in Winnipeg’s more recent history in a district that is traditionally intended to be conducive to conducting business.



Figure 20: 2018 Traffic counts (City of Winnipeg, 2018)

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Figure 21: Arterial streets (David Patman, 2020)

Street designs in South Portage include four-lane roadways with two travel lanes and parking on each side (Kennedy, Edmonton, York), four-lane roadways with two travel lanes with parking on each side and a non-separated bicycle lane (St. Mary, Fort), and three-lane roadways with two travel lanes and parking on one side (Carlton). The rest of the streets (Hargrave, Donald, Smith) all have four-lane sections with two travel lanes and parking on both sides but narrow to three-lane roadways with two travel lanes and parking on one side, or to two-lane roadways without parking. Garry Street features a separated bi-directional cycle lane in addition to two travel lanes and parking on one side. The Graham Avenue Transit Mall is largely two travel lanes for transit only, with western segments allowing private automobiles and alternates between three and four roadway lanes with staggered parking lanes and zones of no parking. Vaughan Street features a one-way, three lane roadway with parking on each side, which becomes a two-way, two travel lane roadway and parking on one side.

5.1.3 South Portage: Recent Infrastructure Improvements and Development Proposals

South Portage has seen investment from both the public and private sectors in recent years, particularly centred around the Graham Avenue Transit Mall. The Graham Avenue Transit Mall,

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created in the mid 1990s, saw more recent investment from the City to improve the public realm for the approximate 60,000 residents that now use public transit to access downtown (Cash, 2018). Partially designated as the Sports Hospitality Entertainment District (SHED), the area's rebranding has attracted a few developers to the area. True North Square has added two new towers to South Portage with another two under construction, and upon its completion will have added more than one million square feet of class A office, residential, retail, hotel, and public space (True North Square, n.d.) with direct access to the Graham Avenue Transit Mall. Another large-scale development project, 300 Main by Artis Reit, will add an "...amenity-rich apartment building" (Artist Reit, n.d.) above ground-floor commercial to the downtown market at the corner of Main Street and the Graham Avenue Transit Mall. A large-scale re-development project is also underway on Kennedy Street and adjacent to the Graham Avenue Transit Mall, which is the conversion of the old Medical Arts building to a mixed-use tower with 104 residential units (Kirbyson, 2019). The area has also been the beneficiary of several active transportation projects, most notably the bi-directional separated bicycle lane on Garry Street, and several placemaking and streetscaping initiatives implemented by the Downtown BIZ.



Figure 22: True North (True North Square, n.d.)

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5.1.4 South Portage: Opportunities

The Downtown BIZ advocated “There is an exciting pulse in downtown Winnipeg” (Downtown Winnipeg Biz, n.d.) attributed to investment and development projects in recent years. The addition of so many residential units, office, retail, and public space in South Portage, coupled with municipal initiatives, will bring more people downtown which will have positive spin-off effects for conducting business and livability. The effects of increasing the number of people using downtown can already be seen in the Graham Avenue Transit Mall. The Downtown BIZ identified that residents see Graham Avenue as more than just a transit hub, and with new development and businesses taking up tenancy on the street it is becoming a pedestrian-friendly, mixed-use corridor. Kate Fenske of the Downtown BIZ spoke to Graham Avenue as “...one of the pivotal neighbourhoods downtown that is experiencing a modern renaissance” (in Cash, 2018) and was enthusiastic about the vibrancy it would bring to downtown by having more residents and businesses to add life to the streets. South Portage is the ideal location for urban renewal and revitalization due to its centrality, access to transit and amenities, and because the recent investments into the area are initiating its renewal. Cash (2018) identified that the new investments by local entities demonstrates a belief that exists in the city in the possibility of having a vibrant downtown core. Continuing to invest in the neighbourhood to increase residents and pedestrian activity, emphasizing alternative travel modes, and encouraging conditions conducive to business and development will allow for South Portage to see continued investment around the Graham Avenue Transit Mall and will create opportunities for the renewal of the rest of the district.



Figure 23: Rendering of the future of Kennedy Street at Graham Avenue Transit Mall (Downtown BIZ, 2017)

5.2 Case Studies and Document Review

This research sought to study the implications of one-way to two-way street conversion in contexts that are relatable to Winnipeg. Hamilton, Ontario and Vancouver, British Columbia are two of the first Canadian cities to have converted one-way streets back to their original two-way operation in their downtowns, and in many cases are reviewed as best-practices in street conversion. Both cities have similarly experienced disinvestment and decline in their traditional downtown areas, but saw an opportunity to revitalize their cores to accommodate growing populations and had a paradigm shift away from the private automobile. Each of these resilient cities hold lessons in revitalizing different components of downtown to create a more livable environment and provide indications as to how street conversion might be perceived by the general public in Winnipeg.

5.2.1 Defining Livability

Improving the livability of downtown was largely the objective behind street conversion in Hamilton and Vancouver. As identified in the literature review, livability is a complex concept that encompasses many different factors, but Vancouver defined livability as "...creating urban environments where residents feel supported and engaged, and can enjoy a vibrant life and their fellow residents" (City of Vancouver, n.d.b). It is achieved by creating communities that promote sustainable modes of transportation, reducing the dependence on cars, creating an attractive and functional environment to create safe spaces, and protecting the beauty of the city while allowing for density and growth (City of Vancouver, n.d.b). By considering "...street-oriented land use, and the quality and functionality of the pedestrian, cycling and transit environments" (City of Hamilton, 2018), policies and design can be used to meet the needs of users to create livable downtown communities.

5.2.2 Hamilton and Downtown Hamilton

Hamilton experienced a 3.7% population increase from 2011 to 2016 and as of then had a population of 747,545 and population density of 544.9 per square kilometre (Statistics Canada, 2016a). Hamilton's population growth is lower than the average in the Greater Toronto and Hamilton Area (GTHA) but has caught up to the provincial average, due to both an influx in residents and the retention of residents (Mayo, 2016).

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Downtown Hamilton is bordered by Cannon Street to the north, Victoria Street to the east, Hunter Street to the south, and Queen Street to the west, and includes properties fronting onto James Street North (from Cannon Street to the West Harbour GO Station) and South (from Hunter Street to Charleton Avenue) (see figure 24). According to Mayo (2012), the entire downtown area has a population of around 49,000 residents. Hamilton’s period of disinvestment and decline was multifaceted and can be attributed to a variety of occurrences: an emphasis on suburban living, changing industries following World War II, global competition, and population growth “... paralleled to its economic cycles” (Weaver, 2012). More recently, Hamilton has worked to reinvent itself from an industrial city to one that is ‘Putting People First’ (see section 5.2.3).

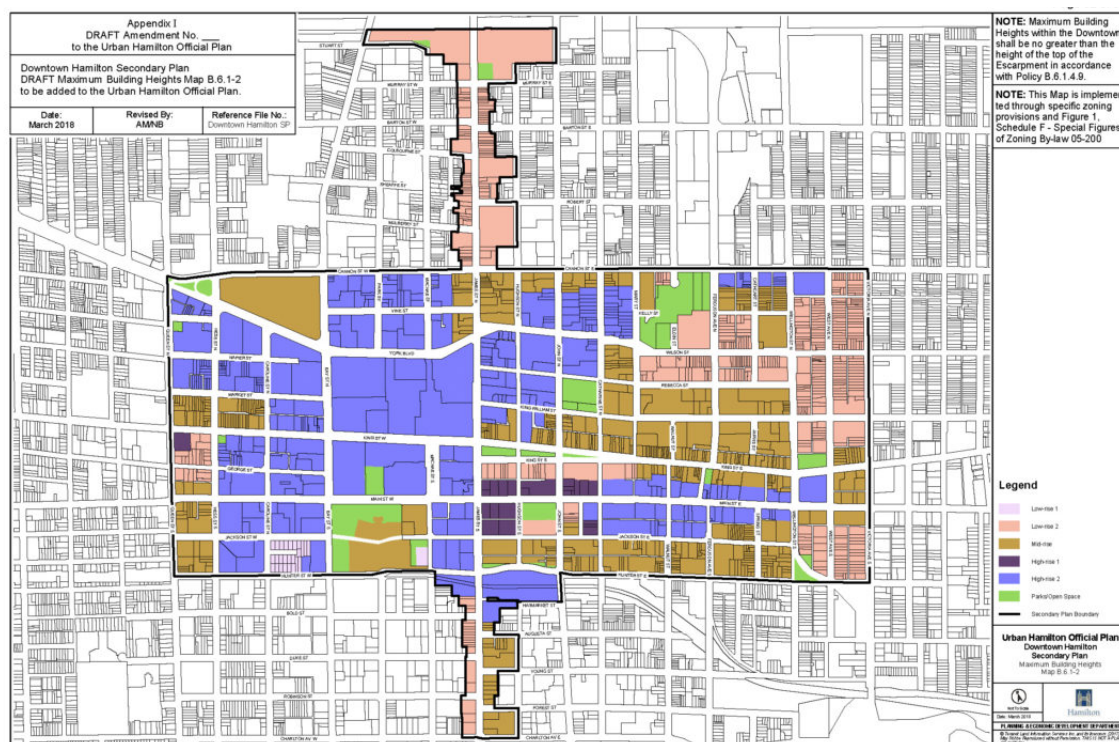


Figure 24: Downtown Hamilton boundaries (City of Hamilton, n.d.)

5.2.3 City of Hamilton Transportation Master Plan Review and Update

According to the City of Hamilton’s *Transportation Master Plan Review and Update: One-way to Two-way Street Conversion Background Report (2018)*, converting streets from one-way to two-way operation has been discussed ever since Hamilton’s mass adoption of one-way streets in the 1950s. The negative impacts on businesses, pedestrians, and parking were noticed immediately following

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the mass adoption of the one-way street network, but this decision was not reversed until the 1990's Downtown Secondary Plan *Putting People First* was released, which included the first one-way to two-way street conversions of John and James Streets. Behind this decision was a desire to support vibrant and livable communities and to maximize benefits for retail and commercial areas through traffic calming (City of Hamilton, 2018). Proposed streets for conversion are evaluated on transportation considerations, community livability, and the quality and the functionality of the pedestrian, cycling and transit environments (City of Hamilton, 2018).

Identifying that many of the proposed street conversions had been delayed to better align with other capital works projects, many have now been implemented in support of the Complete-Livable-Better (CLB) Streets Policy and Framework. The CLB Streets Policy and Framework "...advocates that streets be designed and operated to balance the competing needs of all road users regardless of age, ability and income" (City of Hamilton, 2018, p.1), and supports either one-way or two-way streets so long as the outcome improves livability within the community. Now, to further advance the CLB Framework, additional conversions are proposed in an accelerated time frame.

5.2.4 City of Hamilton Public Works Five-Year Plan Regarding Two-way Street Conversions

The City of Hamilton Public Works Department released a memo recommending the conversion of the City's one-way street network be a priority initiative in implementing the *Transportation Master Plan (2000)* to assist in creating a more safe and active environment, to increase transit ridership by improving walkability, and to raise the profile of other modes of transportation to support the social, economic, and environmental health of the downtown. Instead of focusing only on motor-vehicle level-of-service (LOS), Hamilton considered a multi-modal LOS to accommodate transit operations, bicycles, pedestrians, and motor vehicle traffic (City of Hamilton, 2013).

5.2.5 Public Perception in Hamilton

The City of Hamilton summarized the results of an opinion survey conducted by the Canadian Automobile Association of Southern Ontario. Summarized findings included that 54% of respondents out of 400 people were supportive of the conversion of north-south streets, while 57% were not in support of the conversion of east-west streets largely for emotional reasons (City of

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Hamilton, 2018, p.2). Raise the Hammer, a social platform run by Hamilton residents, identified that in 2012 when a Two-way Implementation Team was proposed to accelerate downtown street conversions, council received 84 letters: 3 in opposition, 1 conditional, and 80 in favour (Raise the Hammer, 2012).



Figure 25: James Street North before conversion (IBI Group, n.d.)



Figure 26: James Street North following conversion (IBI Group, n.d.)

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Figure 27: John Street North before conversion (IBI Group, n.d.)



Figure 28: John Street North following conversion (IBI Group, n.d.)

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5.2.6 Downtown Vancouver

Between 2006 and 2011 Vancouver had a population increase of 4.6% up to 631,486 residents, and had a population density of 5492.6 people per square kilometre (Statistics Canada, 2016b).

Vancouver is the fifth most-densely populated city in North America, and though Vancouver's population growth is below the national average, municipalities in Metro Vancouver are experiencing rapid growth.

Vancouver's downtown is a peninsula bounded by Burrard Inlet on the north and False Creek and Yaletown to the south. Downtown Vancouver had experienced a building boom halted by the economic downturn that was experienced across the country. By the 1960s, the City began building again focusing on central downtown and the West End. False Creek and Yaletown, two areas impacted by street conversion in Vancouver, were industrial lands and a warehouse district until many industries left the area to be closer to major highways (City of Vancouver, n.d.a). In the 1980s, these areas offered themselves as an opportunity to revitalize Vancouver's commercial core, and in the 1990s the City adopted a *Central Area Plan* to establish overall goals and land use policies for these areas to create a neighbourhood with residential and commercial uses (City of Vancouver, n.d.a).



Figure 29: Downtown Vancouver peninsula (City of Vancouver, n.d.)

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5.2.7 Vancouver Policy Report on Urban Structure/Transportation

The General Manager of Engineering Services and the Director of Current Planning recommended that the Vancouver City Council adopt the 2002 *Downtown Transportation Plan* to improve "...downtown access and livability by creating a balanced transportation system that includes adjusting the road network" (City of Vancouver, 2002a, p.1) with the intent of accommodating growth and changes in travel patterns without building more road space. The *Downtown Transportation Plan (2002)* built upon the city's transportation and land use policies and was created in response to downtown initiatives in the city-wide *Vancouver Transportation Plan (1997)*. The proposed changes to the existing road network sought to re-design under-utilized streets to provide benefits for other modes of travel. The proposed conversions of Carall, Abbott, Beatty, Cambie, and Homer Streets from one-way to two-way were intended to improve accessibility to downtown's homes and businesses and better serve transit and cycling needs without negatively impacting traffic.

5.2.8 City of Vancouver Downtown Transportation Plan (2002)

The *Downtown Transportation Plan (2002)* strived to achieve a more balanced transportation system, and through its initiatives, would improve the overall health and economy of Vancouver's central business district. By enhancing public transit, promoting a walkable downtown, creating a cycling network, modifying truck routes, and reviewing commercial and residential parking standards (City of Vancouver, 2002b), the City would realize success in adjusting the road network. In sum, it was an effort to provide people with more transportation choices to access all that downtown had to offer without increasing overall road capacity (City of Vancouver, 2002a).

5.2.9 Public Perception in Vancouver

Ipsos Reid submitted an executive summary to the City of Vancouver regarding public engagement for the *Downtown Transportation Plan* in February of 2002. In general, they found that the majority of changes, including the conversion of streets from one-way to two-way, received mixed levels of public support, but were endorsed by the majority of residents and business people. Specifically, 63% of businesses and 61% of residents were in support of converting Homer

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Street from one-way to two-way, and 68% of businesses and 74% of residents were in support of converting Beatty Street from one-way to two-way (Ispos Reid, 2002).



Figure 30: Homer Street as a one-way in the 90s versus now (City of Vancouver Archives, n.d.)



Figure 31: Homer Street at Davie Street before conversion and following conversion (City of Vancouver Archives, n.d.)

6.0 FINDINGS

In each case studied, one-way to two-way street conversion was one part of a much larger downtown revitalization strategy. By speaking to planners with knowledge about the street conversion projects and their background research, Business Improvement Area representatives to understand the effects conversion had on surrounding areas at the ground-level, and with urban developers to identify what conditions are conducive to downtown development, twelve findings emerged, but not without cautions. These findings are not exclusive of one another. What has become most clear is that a number of different factors need to be considered as part of the puzzle for one-way to two-way street conversion to be successful in achieving a pedestrian-friendly environment, improving transportation patterns, and encouraging conditions that are more conducive to economic development. The first lesson for downtown Winnipeg's potential implications of one-way to two-way street conversion is to make it a part of its larger strategies, policies, and initiatives as they relate to downtown.

6.1 The Effects of Street Conversion are Transformative

Interview participants in both Hamilton and Vancouver were enthusiastic about the changes that street conversion brought about to its respective surrounding area. Speaking of the James Street and John Street conversions in downtown Hamilton, Hamilton Business Improvement Area representative (BIA-R) noted how the business mix "...has really changed from seeing things like more restaurants, more coffee shops, places that people will go", while Hamilton Planner 1 noted James Street's particular transformation, remarking "Before the conversion a lot of the buildings were falling apart and boarded up... it's a completely different street". Hamilton BIA-R acknowledged some skepticism among residents about the perception of a shift in culture leading to some of these neighbourhood changes, but reiterated that on streets that have undergone conversion "...there's a lot more activity and you see a lot more of a vignette style versus our main street which is one-way", meaning that they are framed by a more complete urban fabric.

Vancouver Planner 2, a Vancouver local, reminisced about visiting what is now known as Yaletown before it was the trendy neighbourhood it has come to be, "...and you couldn't find a coffee shop to save your life and it was all one-ways, and it was kind of like that game frogger trying

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to cross the street". Speaking to the effects street conversion had, Vancouver Planner 2 continued "But you know, now, you fast forward to when they did the conversion and of course what we see today, that conversion of the streets allowed a lot of what defines Yaletown today, to happen". Now known for its' coffee shops, restaurants, commercial spillage, pedestrian traffic and bustling sidewalks, Vancouver Planner 2 thought the City of Vancouver knew what was required to make Yaletown a livable mixed-use neighbourhood, "the conversion of one-way streets". Vancouver Planner 1, a planner who was part of the team that developed the *Downtown Transportation Plan (2002)* that implemented street conversion projects in the city, indicated a declining residential population downtown before the plan was implemented, but "... by the time we did this transportation plan, the downtown core... had grown from 40,000 to 80,000 people... and if I were to guess today... it's 110,000 or 120,000".

Participants in both Hamilton and Vancouver noted an improved pedestrian-friendly environment and viable business experience on converted one-way to two-way streets compared to retained one-way streets, due in part to increased activity and in part to calmed traffic.

6.2 But it is Not a One-Size-Fits-All Solution

Planners in both Hamilton and Vancouver included a verbal caution that one-way to two-way street conversion alone is not enough to achieve all of the advantages that are associated with street conversion, citing that there needs to be a catalyst for change. In the case of the conversions of James Street and John Street in Hamilton, a previous one-way couplet to two-way, some sections were more successful than others. It is important to note the asymmetry of development that occurred between these two streets following street conversion. Hamilton Planner 1 asserted "...John Street was also converted to two-way and it just hasn't blossomed. It had a different type of land use, it was less commercial, more residential, it's helped in that traffic has been slowed down and etcetera but from an economic development objective it probably hasn't been quite as successful as its sister pair James Street". In Vancouver, a one-way couplet in each direction (north-south and east-west) were converted to two-ways, but for other streets the planning department used different strategies. Instead of continuing to implement more street conversions, "We just took what would have been a second traffic lane and turned it over to bicyclists and pedestrians" explained Vancouver Planner 1, "...and so the traffic going on the streets is very much less".

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In both cities, despite noting positive experiences with conversion, decisions were made to not convert all downtown one-way streets to two-way streets. Hamilton Planner 1 suggested that active transportation and sustainable modes are factors to consider in regard to 'extra space' that would be used to implement conversions, such as bi-directional cycle tracks and wider sidewalks. Vancouver Planner 1 supported the same sentiments, and promoted greenways, larger pedestrian spaces, and removing vehicle-travel lanes altogether as alternatives to street conversion.

6.3 It's about Livability

Hamilton and Vancouver both had a vision to stop their downtowns from being used as thoroughfares and instead wanted to have them become a destination. Hamilton Planner 1 noted "...people don't realize how much of an impact one-way streets have", and that at the time street conversion was being discussed, "Downtown Hamilton was pretty much car centric, a lot of surface parking lots, one-way streets... people felt that [other] people were just travelling through downtown". Furthering this, Hamilton Planner 1 mentioned that other considerations behind the decision were that one-way street speeds posed safety concerns to pedestrians and motorists, uni-directional travel caused circuitous travel, and the downtown was not conducive to conducting business, all of which lessened the area's livability.

Vancouver Planner 2 acknowledged Vancouver's decision "...to change the way those streets operate and more importantly what the pedestrian experience is", which was supported by Vancouver Planner 1 who worked on the project and stated "We were striving to make downtown a little bit more livable". A focus on livability began in the 1990s when commercial downtown Vancouver was deteriorating and there was a "...push on developing residential in the downtown core" (Vancouver Planner 1), but having people still travelling through the downtown core was seen as undesirable. To improve the livability of downtown, the planning department sought to remove unnecessary motorists by "...also limiting through-put" (Vancouver Planner 1).

Both cities wanted to use street conversion to create revitalized downtowns that were pedestrian-centric, safe, and conducive to conducting business. Fast moving traffic travelling circuitously within and passing through downtown cores were barriers that were removed by street conversion to enhance the livability of these urban centres.

6.4 It starts with Residential

Lessening through-traffic and slowing down vehicles were more conducive to conducting business, but for a transformation in the neighbourhood and for economic development to occur, a residential population was essential. Speaking to developers in Winnipeg about use, Developer 1 insisted that “It always kind of starts with the residential. Once the residential mass is there, then the commercial will work”. Noting that building commercial in excess will create too much vacancy, Winnipeg Developer 2 reiterated “Use is really important when we’re thinking about revitalization in a downtown, housing and having people live downtown is really important to having a thriving downtown, so appropriate residential uses and densification of the downtown is really important”. With extensive knowledge of the development industry and the market in Winnipeg, Developer 2 noted residential development in Winnipeg’s downtown “...is kind of the one sure thing that developers are speculating on”, and with building a residential population downtown as one of the priorities of the City and Province, a spin-off effect could be a catalyst for other types of development and attract more developers to the downtown. Vancouver Planner 2 indicated that when streets are converted and when more people are living downtown, “...the opportunity for amenities [becomes] more and more apparent”.

6.5 Find the right Mix

Research participants in cities that implemented street conversion projects agreed that a residential base is essential to create a spin-off effect for other types of development, but stressed the importance of needing the right retail mix to support a residential population and vice-versa. Hamilton BIA-R expects a 32% increase in their downtown residential population in the next three years, having said “It’s quite likely we’re going to have people living here and not have the right retail compliments that supports this... And it’s also a chicken and egg thing because Shoppers doesn’t build where there aren’t people”. In Vancouver’s old ‘Downtown South’, now Yaletown, Vancouver Planner 2 explained that Yaletown had always been there but was very small, and the surrounding False Creek industrial area became “more of a residential area... you would have seen a dramatic increase in the residential population in Yaletown”. Vancouver Planner 2 noted how recently large companies are changing the way they typically operate to occupy spaces not typically

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conducive to large stores because of wanting to be located in neighbourhoods where people live and where there is a residential base to support their business.

6.6 Developers see the Potential

The developers that participated in this research represent three different scales of urban development in Winnipeg, and while none of them had previously considered the implications of street conversion on encouraging development projects, they all seemed surprised that they had not. Each of the interviewees recognized the potential of one-way to two-way street conversion, specifically as it related to mixed-use and commercial development. Winnipeg Developer 1 added “It’s certainly a bonus, one it creates a more safe environment for pedestrians, two it slows down traffic, and three I think it provides for more integration of vehicle and pedestrian as opposed to just purely vehicle, and that’s how this downtown is primarily developed is a vehicle, eco-centric environment”. While clarifying that they did not think it would be much of a consideration for strictly residential development, Winnipeg Developer 1 spoke to the impact on mixed-use developments, stating “You’d think you would have a bit more pedestrian traffic on a two-way and that’ll slow people down in vehicles too and that will help with not only the visibility of your retail but also just bringing more people through the door”. When speculating on why they had not considered street conversion previously, Winnipeg Developer 2 noted of the streets “I guess just cause they’ve always been this way, they’re well understood from people who use downtown frequently”, but furthered “They’re really not well understood by people who don’t come downtown frequently, but yeah, a great street will add that much more value”. Winnipeg Developer 3, representing the largest scales of the development industry, identified the potential for street conversion to work “to the benefit of urban areas”, and also suggested that “...there’s been a lack of thought and investment in overall vehicular, pedestrian, and alternative forms of transportation”. Identifying traffic counts and the volume of vehicular traffic surrounding a potential development site as some of the main ‘drivers’ for development in a downtown setting, Winnipeg Developer 3 did not express any concern that converting streets from one-way to two-way would negatively impact development potential.

6.7 An Investment in the Streets will Attract Developers

While interviewing developers it became clear that any public sector investment into downtown streets and infrastructure will attract development in the city-centre. When asked specifically if public investment in streets and infrastructure attracts investment, all three developers strongly agreed. Winnipeg Developer 1 explained that the reason their company expanded into the city was because of "... a lot of government investments in street works projects, infrastructure upgrades to get it to a point in which the downtown could really be invigorated with higher density residential developments", and claimed that it was "...kind of paving the way for private investment". Noting an emphasis in City and Provincial legislation on encouraging downtown development was the main reason for Developer 1 to invest in Winnipeg's downtown. When Winnipeg Developer 2 was asked the same question, they explained that "...it shows the private sector that the public sector is also investing. I think that does have something to do with it. If the public sector didn't invest in infrastructure, and we see in some cases [they] don't, then that sends a signal to the private sector- they're not interested, so I could go somewhere else". Winnipeg Developer 3 acknowledged "A primary driver of a site decision as it relates to context is the infrastructure investment that either a neighbouring property is doing, or the City. The City should, in my estimation, lead the infrastructure component". Further, Winnipeg Developer 3 said "The City should be investing in the areas where they would like to see development, and having their horse in the right position ahead of the cart rally" as private investment and development will follow. Hamilton BIA-R conceded that when developers noticed that the City was investing in downtown "...we had a lot of people who had been investing in downtown for years, and now there's just more of them and so then we now have more investors coming in... the development we're having downtown is ridiculous compared to anything we've had in years".

6.8 Developers want Momentum

When it comes to downtown development and site location, the physical and surrounding characteristics are less important factors in the decision to buy property or build than the opportunities are. Developers that were interviewed indicated that they will build where there is momentum, even if their own projects are the ones creating momentum. When asked about buying properties within the same downtown neighbourhood, Winnipeg Developer 1 explained:

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“It wasn’t necessarily pre-planned but it certainly was after this first building, after I decided to stay here, then I was like okay well I like this area, you can see the momentum, let’s continue to invest in this area because it will, and all of our projects will help each other by just continuing to invest. Also, it drives management synergies and economies... all of our properties here... it’s definitely efficient that way”.

Winnipeg Developer 2 highlighted the importance of location, but specifically “...how a particular location can have a spin-off effect with properties that us or the City have a bit of control over because we can help that opportunity grow”. Rather than making different investments throughout several downtown neighbourhoods, Winnipeg Developer 2 noted “We do tend to focus on smaller areas for a few years and kind of get something happening and then we can move on”. While Winnipeg Developer 3 was less concerned with the ability to have spin-off projects within the same neighbourhood to create momentum, they did identify numerous factors that rely on a neighbourhood having momentum, including transit and pedestrian access, known political support, and being an ideal location from a tenant’s perspective.

6.9 Collaborate and Coordinate, Strategically

One of the things that developers identified as being critical to the success of downtown development was collaboration and coordination between public sector infrastructure investment and the private development industry. In addition to mitigating development costs to urban developers, better coordination between public and private investment will lead to a better urban environment, as Winnipeg Developer 2 identified “...we try to make it better than what it was prior to” when given the chance to have a say in things like road design. Winnipeg Developer 2 also asserted that if developers are included at the table when infrastructure projects are being discussed as they relate to downtown, ...

“...we can say, actually we have all of these new projects happening here, we’re going to have 500 new housing units here... or these areas here you think look vacant, they’re not going to be vacant for much longer, so invest in re-doing this street after your water remain renewals, re-invest in the street and maybe do something more than, or prioritize it in a different way because we can say there is growth and development happening here in the near future, so there would be reason to make it better”.

Winnipeg Developer 3 explained how their company places more emphasis on streetscape elements because it improves the desirability of a property for a buyer, and indicated that this can

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be further improved and supported by infrastructure upgrades and streetscaping by public sector investment.

6.10 Developers need better Access

Two of the biggest hindrances to downtown development in Winnipeg identified by the research participants are the inefficiency of the permit process and not being able to access land. Winnipeg Developer 1 argued that the City of Winnipeg unintentionally subsidizes suburban development at the expense of urban developers through legislation, because "...they've got a policy in place that allows for developers to get permits within like 2-3 weeks with this OCPC process. So that just makes it that much easier for developers to develop in the suburbs and do greenfield development as opposed to urban infill which is a hell of a lot harder and a lot more onerous to get permits". In regard to one of their own downtown projects, Winnipeg Developer 1 identified that it took "...months and months and months" to acquire all required permits, representing a significant cost to the developer for carrying a project over a longer period of time.

In addition to hindrance by the permit process, Winnipeg Developer 2 identified the issue of land and property ownership, "An issue we have in our downtown is people who own property aren't necessarily developers and developers have trouble getting access to property. There is quite a lot of owners in the downtown who like to sit on property, or love operating surface parking lots". Explaining that while ownership is already preventing site acquisition, Winnipeg Developer 2 stressed "Ownership could be a red flag for some developers wanting to do great things and build great things in the downtown and it can hold it back because you just can't access the property". Another issue identified by Winnipeg Developer 2 is the ownership of heritage buildings and the state of certain properties that are 'sat on' and become run down and derelict, "...making it really hard for someone who wants to do heritage redevelopment to come in and redevelop a property". Suggesting legislation changes to mitigate this issue, Winnipeg Developer 2 proposed "...in heritage buildings and in our heritage district is something I think that our governments need to be stricter on". Winnipeg Developer 3 also indicated accessing land downtown to be a major barrier to development, as well as inflated prices, "People in Winnipeg in general believe that their land is worth more than it is, so everybody wants more than what it's worth". Facing an even larger barrier, those that are holding onto properties downtown are not interested in improving the downtown

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"...things don't happen and people don't need to sell... they own two parking lots, or they own buildings with parking and it's generating income that's just easier" (Winnipeg Developer 3).

6.11 There will be people For it, and people Against it

When it comes to changing the way that people can reach their destination, they tend to be vocal, as was the case in both Hamilton and Vancouver. Advised by research participants in both cities that there will be people for it and people against it, the general public will not fully understand the advantages of one-way to two-way street conversion until the project has been completed and the benefits can be realized. Speaking to Hamilton BIA-R about residents' reactions to the proposed conversions, they described it as "...chicken little, sky is falling, oh my heavens, everything is going to fall apart... basically roll up the city because nobody is ever going to come down here again". Following the implementation of street conversions, Hamilton BIA-R noted "...you still have people who complain about the conversion, you still have people complain that we should have more two-way streets", but indicated that overall, residents' that were previously opposed no longer were. In a downtown originally designed with highway connectivity and one-way streets, Hamilton BIA-R affirmed that many users wanted to continue to use it to get from destination A to B, but also indicated that they "...think the reason some people are looking for more two-ways is because they do notice that it does slow down traffic, productively slows down traffic, [and] it does give people a lot nicer pedestrian experience". In addition to residents' concerns, Hamilton Planner 1 insisted that business owners in Hamilton were also vocal against two-way street conversion, "People were convinced that if traffic, if two-way streets cause traffic congestion it would kill the businesses", and concluded that "...it was in fact just the opposite".

Vancouver Planner 1 indicated that in the case of Vancouver's conversions, "It was basically two camps, the for and the against. And both camps were very vocal". Vancouver Planner 2 confirmed that when street conversion was actually implemented, "It was just such a non-event, whereas everyone had been freaking out that it might be Armageddon". Now, Vancouver Planner 1 suggested the public is "...at least in sync with the planners and engineers, and they may be ahead of the planners and engineers now. When somebody proposes doing something to make it harder for cars, there is very little objection".

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When discussing how to overcome the negative pushback, Hamilton Planner 1 disclosed “I think you’ve got to show people all of the implications and not hide the negative implications...”, to accept the disadvantages in regard to not being able to move throughout the area as quickly, “But also, explain to people the advantages”. Vancouver Planner 1 suggested it requires getting residents onboard with revitalization, and that in Vancouver the pushback “...fell on deaf ears... It was happening. Vancouver has accepted that part of better livability in the city generally, let alone the downtown, happens with fewer cars”.

6.12 Cities would do it Again

An interesting finding emerged when research participants were asked if there was anything else they wanted to share about their experience with one-way to two-way street conversion. Hamilton Planner 1, who was interviewed before the other Planners, said “I still think we’d make the same decision today” due to the initiative’s overall success. While Vancouver Planner 1 who worked on the street conversion project said that they “Wouldn’t be surprised if the single one-way pair in each direction, north-south and east-west, became two-way streets sometime in the near future”, Vancouver Planner 2 who is currently working on a new infrastructure project in Vancouver’s downtown identified that it is likely the project will include the conversion of a one-way arterial to two-way. “If Winnipeg’s South Portage neighbourhood is to be a mixed-use neighbourhood at any point in the future”, Vancouver Planner 2 indicated that one-way to two-way street conversion is “...a must, it has to happen, it needs to go into that list of ingredients”.

6.13 What this Means

These findings strongly indicate that the interrelated factors of urban revitalization and street conversion cannot be underscored, particularly as they relate to creating conditions conducive to economic development. While Developer 3 described development as “...the leading edge of urban revitalization”, discussing these findings as they relate to larger contexts of urban revitalization and street conversion is critical to developing recommendations for Winnipeg to realize the potential successes of street conversion. The following chapter analyzes these findings as they relate to the literature, initiatives, legislation, and the development industry as a whole.

7.0 DISCUSSION

As urban revitalization has many initiatives, tools, and strategies to achieve urban vibrancy and resilience, it makes sense that its strategies are also interrelated. The literature has made it clear that the most significant consideration of urban revitalization is to remember the importance of downtowns (Burayidi, 2013; Charney, 2005; Ford, 2003) to support cities and residents, and a downtown's ability to act as an indicator of the performance of the rest of the city (HyettPalma, 2007 in Burayidi, 2013). As identified by research participants, one-way to two-way street conversion was just one tool used as part of a larger urban revitalization strategy, and its success in achieving identified objectives was dependent on numerous pre-existing and supporting factors, ones that exist in Winnipeg. Hamilton Planner 1 identified these factors as having a vision for downtown, an existing building fabric, wide sidewalks for pedestrians, and being attentive to streetscaping elements. Interviewees representing city planners, representatives of business improvement areas, and urban developers all commented on the relationship of different factors contributing to increasing pedestrian activity, changing transportation patterns, and facilitating economic development, having stated "It was very much a part of a downtown revitalization plan" (Hamilton Planner 1), "It is a network" (Winnipeg Developer 3) and "...there's so many different things that play into that" (Hamilton BIA-R). Each case study city identified one-way to two-way street conversion and other urban revitalization strategies were adopted from best practices in other cities. As mentioned by Burayidi (2013), every city is different, but there are lessons in using other cities as precedents to try to achieve similar outcomes, and as Vancouver Planner 2 argued, "... you don't need to look to another country... you can point them to another western Canadian province where we did this and you know what, everything turned out to be just fine".

7.1 It Achieves Objectives (...the effects of street conversion are transformative)

Whether it is to live, work, or play, the intent of urban revitalization and the use of street conversion as a strategy is to bring people downtown. When people want to be downtown, according to Burayidi (2013), they are more likely to want to live there, and in turn will then patronize businesses and events. While Winnipeg's South Portage neighbourhood has a high day-time population and a small residential population, at times there are no pedestrians to be found. Whether or not

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pedestrians are using the skywalk, the lack of pedestrian activity at grade in South Portage is a stark contrast from the adjacent Exchange District, The Forks, and Osborne Village. Streets without pedestrians and 24-hour activity are a deterrent for many city residents from wanting to inhabit the area, and there are perceptions that South Portage is unsafe. Studies suggested that converting streets from one-way to two-way operation stimulates economic activity (Baco, 2009 in Riggs & Appleyard, 2018), reduces crime (Riggs & Gilderbloom, 2016), creates a better pedestrian experience (Mehta & Bosson, 2018), and still accommodates future travel needs (Doi et al., 2016). Many of these implications have been realized in the cities that this research studied.

Hamilton Planner 1 acknowledged that James Street is "...a completely different street", having changed from boarded up and derelict buildings to now being "Probably a GTA wide if not Hamilton-area wide recognized street", with an "...arts culture associated with it". As a venue for events and attracting thousands of people in the summer months, Hamilton Planner 1 called it a "...massive success". James Street also saw the development of residential uses in a primarily commercial neighbourhood, and Hamilton Planner 1 noted other implications of street conversion that support what was identified in the literature, including improved business activity, more pedestrians in the area, better walkability, calmed traffic, more direct routes for motorists to reach their destinations, and while the number of minor vehicle accidents has increased, they are less severe due to lower speeds, describing before and after conversion as "...like day and night. It's a different street". While Hamilton Planner 1 clarified that the outcomes of the conversion projects were exactly what were expected, they stated that "...the economic impacts have been less obvious, but they've been positive", furthering that it is now a transitioning business area.

The noted successes of downtown one-way to two-way street conversion (Gayah, 2012) have also been realized in Vancouver. While Gayah (2012) argued that two-way streets are more attractive for residents, economic improvements, and livability, Vancouver Planner 1 identified a residential population increase and better livability as their most notable successes. While one-way to two-way street conversion projects in Vancouver occurred simultaneously with lane reductions of other streets and the construction of pedestrian greenways, the Vancouver planning department at the time knew the key to livability was to remove fast moving thoroughfare traffic and thereby create a better pedestrian and cycling environment, "Our focus became livability and accommodating more pedestrians in a better fashion and accommodating bicycles in a better

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fashion" (Vancouver Planner 1). Vancouver Planner 1 also indicated an almost doubled residential population in the downtown following street conversion, conditions better suited for commercial activity, and traffic flow was maintained.

7.2 Consider All Options (...but it is not a one-size-fits-all solution)

Even though the success of street conversion is identified in both the literature review and by research participants in both case study cities, interviewees provided cautions regarding using street conversion as a revitalization strategy for downtown Winnipeg. As said by Filion (2000), "...there are advantages to bringing together different types of activities within a relatively dense and diversified environment" (p. 157), and there are also advantages to using multitudinous strategies to achieve an objective with several interrelated factors.

Hamilton Planner 1 identified that street conversion projects undertaken by the City's planning department were "...very much part of a downtown revitalization plan", in which the vision for downtown was to have it become a destination once again. As Ford (2003) wrote, downtown is the primary destination for a variety of users seeking a variety of experiences. Having determined that one-way streets were not conducive to the business environment and walkable city-centre they were envisioning, the City of Hamilton decided to convert several streets back to their original two-way form, but Hamilton Planner 1 conceded "...not all streets have been converted back, there are still lots of one-way streets", though street conversions have been successful. Hamilton Planner 1 mentioned a qualifier when asked if street conversion was a viable option for all street types, and suggested that the vision for each street needs to be considered, "You have to look at other options, so, does keeping it as a one-way provide a greater opportunity to provide a bi-directional cycle track? Or a wider sidewalk? Or a contraflow transit lane?". It is also important to note that the disinvestment and decline that has occurred in Canadian downtowns has been relative, but in many cases they have remained as important business nodes (Coffey et al., 1996 in Charney, 2005), as it has in Hamilton. Hamilton BIA-R identified the presence of office and commercial uses in the downtown, but following street conversion and the proposal of an LRT system, "...our residential component will increase by about 32% over the next three years". Acknowledging that investments in the area and opportunities from the LRT have supported revitalization, Hamilton BIA-R clarified "...to create that vibrancy you need the two-way streets with the rest of the transportation modes".

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In the case of Vancouver, Vancouver Planner 1 identified one-way to two-way street conversion as part of the downtown master transportation plan, under the context of downtown revitalization plans that sought to increase the downtown residential population and to continue the city's trend of reducing automobiles altogether in the downtown core, but was just one part of the plan. This plan was developed after a period of disinvestment and promoting auto-transportation in the 1960s and 1970s, and now Vancouver Planner 1 noted "... a big push on cycling, a big push on pedestrians, and one on rapid transit as well" instead. Occurring after the Expo Line, the first in the city's massive transit system, street conversion was a supporting strategy to encourage residents to live in the downtown and part of the City's goal of having 40% of the population access downtown by walking, and 10% by cycling. Notably, Vancouver Planner 1 said that these goals were met "...without changing a lot of the one-way streets", and livability was achieved. Other strategies deployed by Vancouver were maintaining one-way streets to maintain traffic flow, but reducing the number of traffic lanes on a roadway, widening sidewalks for pedestrians, and building bi-directional separated cycling lanes throughout the downtown core. By narrowing roadways, Vancouver Planner 1 indicated that they limited through-put in the downtown core and prioritized pedestrians, "...they often remained one-way, but the second traffic lane got eliminated and became wider as a greenway, became a wider pedestrian street and started accommodating usually two-way cycling traffic". Vancouver Planner 1 recommended to achieve livability and to improve the pedestrian experience downtown, it can only happen with less automobiles. Vancouver's congestion "...had never got worse downtown after the 1970s", and according to Vancouver Planner 1, "... there's fewer cars downtown today".

7.3 It Creates Community (...it's about livability)

Interviewees in all cases identified that numerous objectives were behind street conversion as a revitalization strategy, but what emerged from the interviews is that all of the objectives strived to achieve better livability in downtown neighbourhoods. Walkability, calmed traffic, multi-modes, and an investment in an area to attract both residents and developers are all characteristics associated with an ideal downtown mixed-use neighbourhood that cities are seeking to create. As identified in the literature by multiple authors, several demographics are "...repatriating centre cities" (Christie, 2006 in Burayidi, 2013, p. 9), particularly millennials (Christie, 2006 in Burayidi, 2013; Mehta &

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Bosson, 2018) and baby boomers (Burayidi, 2013; Christie, 2006 in Burayidi, 2013). The Hamilton Downtown Business Improvement Area's website identified a trend of millennials and baby boomers activating downtown in recent years- meaning utilizing the space and accessing services and amenities- though it is not explicitly attributed to the street conversions that occurred. Hamilton BIA-R identified "...we have a lot more people that are selling from the suburbs and moving into condos downtown... you have people selling their houses in Ancaster which is the be-all and end-all of suburbs and moving downtown". Hamilton BIA-R supported the argument that walkability is a central focus of planners and those seeking urban living (Gilles-Corti et al., 2008 in Stafford & Baldwin, 2018). Speaking about residents moving from Hamilton's suburbs to downtown, Hamilton BIA-R suggested "...walkability is something I find really interesting with baby boomers... they are more intrigued and interested in walkability... they seem to be kind of more of a car culture, but I think when they are getting older they want to be able to have amenities that they can walk to, like markets, grocery stores...", as well as restaurants, entertainment, and medical services.

Mehta and Bosson's (2018) 'café-culture' was identified in the literature as one of the trends of other demographics returning to city-centres "...especially with the younger population and the retirees who are returning to city life with the means to consume and be in public space" (Heath, 2016; Massis, 2015 in Mehta & Bosson, 2018, p.1). Identified by research participants, Vancouver's walkability focus, pedestrian greenways, multi-modal transportation system, residential population, amenities and commercial activity in the downtown core achieve 'café-culture'. Tourism Vancouver stated:

"Yaletown was once the Western terminus for the Canadian Pacific Railway... since then that land, along with the warehouse district adjoining it have been transformed into one of the city's chicest neighbourhoods, filled with residential loft spaces, sidewalk cafes, cool restaurants, unique shopping, and leafy parks" (n.d.).

Vancouver Planner 2 acknowledged that "...now you fast forward to when they did the conversion and of course what we see today, that conversion of the streets allowed a lot of what defines Yaletown today to happen", and while describing the re-design of one-way streets furthered "I think the City of Vancouver planning department kind of knew what was required in the secret sauce to make Yaletown a special place".

In a round-about way, it is interesting to consider that the way in which we have designed our cities for automobiles has constrained pedestrian activity, and it has also in some cases led to

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motorists wanting to find alternate modes of transportation. Vancouver Planner 2 used the analogy of 'automobile sewers' to define downtown one-way streets, and as identified by Hamilton BIA-R, because of the expansion of cities and increases in traffic volume, congestion, and speeds, some motorists are discouraged from the ideal suburban lifestyle and now desire to be able to access amenities, services, and more by walking.

7.4 It Has Already Started (...it starts with residential)

While all of the developers that were interviewed identified a residential base as essential for investment to increase in a downtown setting and to contribute to economic development, as Burayidi (2013) pointed out in the literature, "...the redevelopment of residential and other components of downtown have been largely ignored" (p. 3). In striving to make downtowns more livable, research participants supported the notion of a renewed interest in urban living (Burayidi, 2013; Christie, 2006 in Burayidi 2013; Mehta & Bosson, 2018), and indicated a need to revitalize residential components of downtown, "It always kind of starts with the residential" (Winnipeg Developer 1). In a downtown setting, Winnipeg Developer 2 noted "I think use is really important when we're thinking about revitalization... Housing and having people live downtown is really important to have a thriving downtown, so appropriate residential uses and densification of the downtown is really important", identifying how not only can it positively impact business and commerce but also work to create a more safe environment with less crime. Interviewees in each case study stressed the importance of residential development and one-way to two-way street conversion in supporting one another, supporting the developers' claims.

Research participants in Hamilton indicated the success of one-way to two-way street conversion in its downtown and stressed the importance of having a downtown residential component. Research participants also indicated that one-way to two-way street conversion alone is not enough to create a livable downtown neighbourhood, and is dependent on a residential base. Hamilton's downtown has a fair amount of residential use, but the conversions of John and James Streets brought additional residential into a largely commercial area. Looking forward, downtown Hamilton is expecting that "...our residential component will increase by about 32% over the next three years", and the residential component in the area surrounding John and James Streets "...will be stronger in the next two years" (Hamilton BIA-R). Hamilton Planner 1 argued that while having a

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residential base is important to achieve all of the objectives associated with street conversion, designing streets to support a residential or mixed-use neighbourhood is also essential. Speaking to other conversions that took place in Hamilton, including Hess and Caroline Streets, Hamilton Planner 1 indicated that the speeds associated with one-way streets were detrimental to these primarily residential neighbourhoods, and two-way street conversion was implemented to foster conditions more compatible with residential uses and has also been successful.

Vancouver Planner 1 dissented that street conversion was one of several strategies used to make downtown more livable, but the overall objective was to increase the residential population in the downtown core to achieve revitalization. Having had a declining population, Vancouver Planner 1 said as a downtown planner it was important to introduce residents back into the area, even though it was largely commercial at the time. Investing in the area and achieving better livability, Vancouver Planner 1 saw the downtown population double to 80,000 people, and guessed that number now is closer to 110,000. Expo 86 started the transformation of Vancouver's False Creek from an industrial harbor to more of a residential area, which led to the rebranding of Downtown South to Yaletown, as indicated by Vancouver Planner 2. Vancouver Planner 2 acknowledged that when people were not living in the area, "...having a bunch of one-way streets didn't matter... the atmosphere and the vitality of the street didn't matter", but with industrial uses becoming residential, one-way streets were no longer ideal, and when they were converted to two-way, even more residential was added. The development of residential in the area was a pre-cursor to two-way street conversion, and in a matter of 14 years, "...you have seen a dramatic increase in the residential population in Yaletown" (Vancouver Planner 2). All of these factors coupled with the area's rebranding to Yaletown has led to the development of a vibrant neighbourhood with complete streets, amenities, and services to support its residents.

Vancouver is one of Canada's most sought after cities, and its downtown is well known for its trendy neighbourhoods, restaurants, public amenities and greenspaces, and nightlife. According to Vancouver Planner 1, Vancouver's downtown has "...a bigger residential population now than any other cities in North America except New York, San Francisco, and Toronto", making it noteworthy to mention the success of other components in downtown Vancouver.

Having a residential base is important for downtown revitalization and in creating a livable urban neighbourhood, and is also supportive of street conversion and vice-versa. Winnipeg

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Developer 2 indicated that building a downtown residential population has been a priority of the City for many years, having provided several different incentive programs. Winnipeg's *Downtown Residential Development Strategy (2011)* presents goals to increase the population of downtown, create residential clusters, to promote residential buildings and neighbourhoods reflective of all income levels, and to continue to support downtown neighbourhoods (City of Winnipeg, 2011). While South Portage was identified as housing only 14% of all of downtown's population (City of Winnipeg, 2011), at the time of the strategy it was forecasted to account for 20% of all residential growth downtown. Now, following the completion of several phases of True North Square, and in the near future when other residential projects are completed, South Portage's residential population will have grown and have room to expand, and its existing residential base will be even stronger to help support urban revitalization strategies, such as street conversion.

7.5 Balance All Components (...find the right mix)

While the literature indicated a renewed interest in urban living (Burayidi, 2013; Christie, 2006 in Burayidi, 2013; Mehta & Bosson, 2018), the need to revitalize residential components of downtown is not exclusive of the need to revitalize other components that further support the livability of downtown. Winnipeg Developer 2 stressed the importance of residential development in a downtown setting, but posed the question "...how do we get all these people to come downtown?", indicating the importance of other components. Hamilton BIA-R proposed that the pursuit of urban vibrancy was dependent on two-way streets to foster the conditions to create a downtown community that "...will enable cities to better attract professionals, jobs...residents, all working towards creating a better quality of life" (HyettPalma, 2007 in Burayidi, 2013). Burayidi (2013) argued that resilient downtowns are dynamic, with a mix of uses (Ford, 2003), and indicated the need to balance residential and commercial uses in a downtown to support a community. Because "...downtowns are meant to be open and accessible to everyone" (Hamilton BIA-R), it is important to have a variety of uses, amenities, and activities to cater to the broadest range of residents. As Hamilton BIA-R mentioned, downtown Hamilton is having rapid residential construction unlike anything it has seen in recent decades, and "...it's quite likely we're going to have people living here and not have the right retail compliments that supports this". Acknowledging the challenge of needing residents to support amenities but needing amenities to support and attract residents, Hamilton BIA-R stated

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"...it's making sure that we are looking forward to having the right retail mix and really having discussions with economic development... that this is something we're looking at and something that we need to be cognizant of", to "...have a full complement". Hamilton Planner 1 also spoke to this full complement, and stated:

"...if you make the streets comfortable and attractive to walk on, that brings people to the streets, which has widespread benefits that brings people to the community, it gets people liking the community, it supports businesses, it's really a spiral when you create those walkable environments. It's good for business. You see development. You get residents. And more residents bring more vibrancy to the street. It's self-fulfilling".

In Vancouver's Yaletown, Vancouver Planner 2 suggested that "...as more and more people moved in, the opportunity for amenities became more and more apparent". Referring back to the literature, Burayidi (2013) noted that downtowns have evolved to "...provide an experience rather than a single reason for visiting" (p. 183), supported by Vancouver Planner 2, who stated that without revitalizing both residential components and developing commercial use, Yaletown would not be what it is today.

As much as creating a balance between residential and other components is essential to create a livable environment, developers cautioned the detriment of over-saturating the market. "The other thing would be... a lot of cities depending on the zoning they either build too much residential and not enough commercial...", but Winnipeg Developer 1 furthered "...it's good to have mixed-use but at the same breath, it's good not to over-build commercial". Warning that building too much commercial will "...suck the life out of the area because there'll be too much vacancy" (Winnipeg Developer 1), they also said that once there is enough residential developed to support commercial use in an area, the commercial will work, and then more commercial will be developed. Speaking to commercial uses downtown in the form of retail, Winnipeg Developer 2 said "Retail will only really be successful in the downtown if... [you have] really great commercial streets", noting that "...some areas don't lend themselves well to commercial on the main floor because there isn't pedestrian activity", and stressed the importance of having a vision or strategy for developing mixed-use and different uses. Winnipeg Developer 1 cautioned against mandating "...100% public use commercial at grade", noting it as a detriment because of the vacancy that will be created, under-utilized square footage, and suggested not all uses at grade have to be commercial. Given the size of Winnipeg's downtown, and even the South Portage neighbourhood,

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it does not make sense given current conditions to have a blanket policy mandating each building on each street to be commercial at grade. As supported by Winnipeg Developers 1 and 2, deciding which streets are best for mixed-use corridors and which are best for residential development will help to not over-saturate the market, and will also help to create districts that will focus and foster pedestrian and business activity.

Modern downtowns are not the centre of retailing like they once were (Ford, 2003), but "...have become more specialized and monumental" (p. 1), and according to Winnipeg Developer 2, now need to provide "...amenities and unique amenities that not just serve the local population within the downtown but also attract others to come into the downtown". In revitalizing a downtown, typically, new uses come in, costs increase, and people can become displaced. Winnipeg Developer 2 stressed "I think [it's] really important to not just fill a downtown with luxury condos and boutique amenities, we have to be really real about a downtown... and it should be welcoming to the widest variety of people with the widest means". Achieving a balance between uses is important to attract a residential population and support it through amenities, to not over-saturate the market place and to attract investment, and to balance gentrification in a neighbourhood where "...transit is great, access to education is really good..." (Winnipeg Developer 2), and services exist.

7.6 Why Not? (...developers see the potential)

As previously indicated, none of the developers that participated in this research had considered the implications of one-way or two-way streets in regard to urban development, but each of them thought that converting downtown streets to two-way operation would be advantageous from their perspective. While the literature identified prevailing urban forms as low density and automobile-oriented (Filion & McSpurren, 2007), Winnipeg Developer 1 theorized "...I think it provides for more integration of vehicle and pedestrian as opposed to just purely vehicle, and that's how this downtown is primarily developed is a vehicle, eco-centric environment". With building a sense of community through reconfiguring downtowns (Filion & McSpurren, 2007) to grant more space to pedestrians and to encourage greater density at the forefront of municipal agendas, Winnipeg Developers identified mixed-use developments and neighbourhoods as the most likely to benefit from one-way to two-way street conversion. While they understood how a two-way street could be

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better suited for residential uses, it was not considered a driver for development from the perspective of a developer, but having mixed-use developments with commercial at grade would have better visibility and therefore a better chance of tenancy. Noting that there were benefits outside the realm of business and development, such as pedestrian safety, developers were more keen toward the improved visibility and accessibility of retail, "...just bringing more people through the door" (Winnipeg Developer 1). Having acknowledged that the one-way street network is not understood well by people who do not often visit downtown, including tourists, Winnipeg Developer 2 thought "...a great street will have that much more value" when considering the implications of one-way to two-way street conversion. Winnipeg Developer 3, the largest scale of developers, conceded that streetscape alterations their developments have undergone in recent years have had minimal impact, but "I could see the benefit of further refining or modifying streetscapes" in the form of street conversion.

7.7 Winnipeg Has Been Investing (...an investment in the streets will attract developers)

The literature assigned municipal governments significant responsibility in being catalysts for change in redeveloping downtowns. In charge of motivating developers to want to invest in downtown to attract residents and businesses (Ford, 2003), municipal governments led the revitalization plans that encouraged street-conversion in both Hamilton and Vancouver, which in turn, attracted development and investment. In Hamilton particularly, Hamilton BIA-R was enthusiastic about the level of development that the public sector's investment in downtown had brought, comparing it to nothing like they had seen in years. Hamilton BIA-R acknowledged that while it encouraged development among the investors that had always had a part to play in the development of downtown Hamilton, it encouraged more development, and brought in outside developers as well. In conjunction with the LRT that is being proposed for Hamilton, the public sector investing in the city-centre is largely responsible for recent private investment.

All developers that participated in this research were confident that public investment in the streets will attract private development. When Developer 1 first came into Winnipeg to develop a project downtown, it was largely because of public investments:

"One thing that drew us to the East Exchange was that the City and Province was planning all of those street renewal projects, that's a huge private investment that the City and Province was making which kind of paves the way for newer buildings to integrate with new

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streets... I think it's certainly proquired to kind of mend together the fabric of private investment and new buildings on private sites with the streets".

Redeveloping or improving streets in an area that has been identified or incentivized to be revitalized by direct and indirect investments from the public sector is "...a big vote of confidence for private investors" (Winnipeg Developer 1). Having noted that the public sector investments in Winnipeg are what attracted them to this market, Winnipeg Developer 1 eluded that further investments in street works projects and infrastructure upgrades could attract further private investment, by getting downtown "...to a point in which [it] could really be reinvigorated with higher density residential developments".

Winnipeg Developer 2 spoke in regard to the history of downtown development and advocated "...really strategic public sector investments can leverage exponentially more private sector investments". Highlighting the relationship that exists between public and private sector investment, Winnipeg Developer 2 explained that if the private sector is spending millions of dollars on projects, the public sector will see benefits from increased tax bases which could then be invested back into the public right of way "...to further support the investment that the private sector has made". This relationship works the other way, as well, and Winnipeg Developer 2 explained "If the public sector didn't invest in infrastructure, and we see some cases they don't, then that sends a signal to the private sector, they're not interested so I could go somewhere else kind of thing". In conjunction with Developers 1 and 2, Winnipeg Developer 3 believed the public sector "...should be investing in the areas where they would like to see development", and identified infrastructure investments as the "...primary driver of a site decision as it relates to context". Frustrated with the current protocol in which the developer is responsible to cover the costs of site servicing and street improvements, Winnipeg Developer 3 suggested having the public sector be responsible for infrastructure improvements would encourage development in a downtown setting.

Investing in the streets will attract development, but so will investing in downtown as a whole. Interviewees identified the significance that grant programs have made in encouraging their decisions to develop in downtown Winnipeg, particularly residential development. Speaking to projects in the Exchange District as well, interviewees indicated that once there was investment and upgrading being done by the public sector, whether to the street, streetscaping elements,

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infrastructure, or simply designating and identifying areas for redevelopment, it allowed for developers to come in and to start building neighbourhoods that both the private and public sectors envisioned and sought. Interviewees also indicated that for both residential and commercial tenancy, demonstrating a commitment to improving a neighbourhood will be seen as attractive, and will create a spin-off effect into other components of downtown. As said by Winnipeg Developer 3, "It improves the overall brand and quality of a place".

7.8 There Is Momentum (...developers want momentum)

The spin-off effects of public and private investment downtown cannot be underscored as they relate to revitalization and development. One of the key considerations that research participants identified when selecting a site for development in a downtown context is momentum. The literature pointed to place entrepreneurs as having the ability to reinforce the prominence of downtowns and improve their viability because they are embedded in a broad range of activities (Charney, 2005). Perhaps even more so than the public sector, place entrepreneurs pay close attention to the redevelopment of downtown (Burayidi, 2013), "We liked what we saw in downtown Winnipeg just in that there was a lot of momentum" (Winnipeg Developer 1). Winnipeg Developer 1 indicated that the momentum they saw in the form of street works projects and infrastructure upgrades when they first came to Winnipeg was just starting to pick up at the time, "...but you could see even back then there was momentum and people did want to revitalize downtown... there was a lot of City and Province policy around pushing downtown development". Indicating they think this support is the reason behind the continued momentum that is happening in downtown Winnipeg, Developer 1 also thought this trend would continue, "...we think in ten years downtown will out-perform all other areas in Winnipeg as a sub-market within Winnipeg". While this momentum is promising for downtown, Winnipeg Developer 1 acknowledged that it will only be possible because of the growth in the city as a whole, "...you see the infiltration of businesses and retailers and service-oriented providers to cater to all the residential tenants in the area and then it just becomes that much more hot of an area". Winnipeg Developer 2 identified that location was a primary driver for site selection in the context of creating spin-off effects to help a development opportunity continue to grow.

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It is worth noting that since the period of disinvestment and decline that downtown Winnipeg faced has since passed and the market is beginning to recover. Winnipeg has worked diligently towards achieving the four factors that Charney (2005) identified as creating resilient downtowns, including livability, urban infill, improved public transit, and support and investment from the public sector. Speaking to the market conditions in Winnipeg, Developer 2, who has extensive knowledge and experience in the economic development of Winnipeg, was enthusiastic about its projected forecast. While residential development in the downtown used to rely on incentives, Winnipeg Developer 2 was confident that "...in the last year there has been residential development, or the start of residential development that hasn't required an incentive". Winnipeg Developer 2 furthered that it "...speaks to our city and the development industry as a whole". In the past, there was a lack of investment in downtown Winnipeg, and even conventional banks were not lending to projects in the downtown because it was seen as a high-risk investment. According to Winnipeg Developer 2, "The banks aren't seeing it as risky as they once did which is great! And then when developers are now coming to do urban development instead of suburban development and coming without advertising and incentives, I think that speaks to where we're headed as a city". The interest in downtown is shared between developers as well as residents, sustained by Winnipeg Developer 2, "I think there's some renewed interest from the development community and that is only a reflection I think of what the market is and that's us as citizens". While change has been occurring in Winnipeg's downtown for quite some time, Winnipeg Developer 2 noted of their own work that they needed to "...get downtown to a certain level where it can take off on its' own, so we are starting to see that this year, twenty years later". Winnipeg Developer 1 added that "...people did want to revitalize downtown", and concluded that they like downtown as a development opportunity, "...because there's a lot of momentum and we think in ten years downtown will out-perform all other areas in Winnipeg as a sub-market within Winnipeg".

In addition to having momentum, developers are interested in the possibility of creating their own momentum. When asked why they chose to continue to invest in downtown Winnipeg, Developer 1 explained that while it was not originally planned, they decided to stay because "...all our projects will help each other by just continuing to invest". Noting the size of downtown Winnipeg as challenging, Winnipeg Developer 2 claimed that they prefer "...to focus on smaller areas for a few years and kind of get something happening and then we can move on" as a sort of

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district-specific strategy, because "...a one-off project here and a one-off project here doesn't have... doesn't seem to have the same kind of impact".

With an interest in the downtown both by the City and the development industry, it is a critical time for the City's initiatives to support and guide the type of development that they want to occur. One-way to two-way street conversion could work favourably to support the City's residential development and infill strategies, while the investment in street works projects could further attract development and investment. Winnipeg's South Portage neighbourhood has the potential to be transformed by public and private investment that can be further supported by the surrounding Exchange District and Forks Market. Being centrally located in Winnipeg and accommodating a mix of uses, South Portage's vacancy and potential for development is high. Recent years have seen growth and development in the SHED, and the future of nearby Portage Place Mall looks bright and tall. These developments, coupled with public infrastructure investments, have the potential to create spin-off effects that will attract residents and additional investment. Additionally, there might be a possibility for CentreVenture, a development corporation for the City of Winnipeg, to access city-owned lots in South Portage and to facilitate transactions with developers. Conjointly, the spin-off effects from these entities could lead to rapid growth and development and build a thriving downtown neighbourhood that contributes towards better livability. Because Winnipeg is a slow-growth city on the cusp of revitalization, it is important to keep the momentum happening in the downtown moving forward so that investment in the downtown does not stall.

7.9 The Relationship of Place Entrepreneurs (...collaborate and coordinate, strategically)

Investment and development downtown will continue, but if the public and private sectors collaborate and coordinate initiatives, such as one-way to two-way street conversion and higher-density infill, development projects could potentially be even more successful. The relationship between place entrepreneurs requires that they support one another's initiatives, but the possibility for collaboration is great. As Ford (2003) questioned "If we can not learn to revitalize our downtowns and make them important places once again, what chance do we have of learning to save the shopping strips and housing tracts we have built in recent years?" (p. 3), and the answer to this question lies in strategic collaboration.

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Downtown projects have previously seen coordination between the public and private sectors through several examples identified by interviewees. The City and Province were responsible for the grants and incentives that were administered through CentreVenture to mitigate some of the costs associated with urban development “...to level the playing field in the marketplace” (Winnipeg Developer 2), because to cover the higher costs developers would have only been able to construct high-end products that are less affordable to residents. Winnipeg Developer 2 also identified that because of the higher cost of land downtown and the additional steps to secure and procure development in an urban setting, residential development was not conducive to a developer’s return, but as a priority of the City and Province, CentreVenture implemented incentive programs to support the type of development the City wanted to occur.

Developers identified that when given the chance to collaborate with the public sector on district-specific plans, streetscaping, or public spaces, they always try to achieve a better outcome and a better street than what it was previously. Interviewees also indicated that when given the chance, they can collaborate with the public sector to prioritize different infrastructure projects and indicate growth projections, “...invest in re-doing this street after your water main renewals, re-invest in them and maybe do something more than, or prioritize it in a different way because we can say there is growth and development happening here in the near future” (Winnipeg Developer 2) to enhance different opportunities.

Even though incentives are no longer required for residential development in downtown Winnipeg, it is clear that the public and private sectors can coordinate, if not collaborate, efforts to support the type of development that the City deems desirable and to upgrade infrastructure and services based on where the market is heading and future projections. Strategic collaboration and coordination exists between Winnipeg’s public and private investors, and coupled with one-way to two-way street conversion, this type of relationship could render South Portage ripe for development.

7.10 Break Down Barriers (...developers need better access)

The literature assigned the responsibility for municipal governments to be catalysts for change in redeveloping their cities (Ford, 2003), and as much as they are responsible to encourage and support development, research participants indicated that municipal governments need to also

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remove barriers to urban development. The largest hindrance to downtown development in Winnipeg to Developer 1 was the permit process, and they acknowledged that, unintentionally, "...the City of Winnipeg subsidizes suburban development at the expense of urban developers" by having a streamlined permitting process for suburban development. They further indicated that it is more onerous to get permits for urban infill development, and speaking of a recent project they had completed, explained significant costs that they incurred that were associated with carrying that project for the several months it took to get all of the permits required for its development.

Winnipeg Developers 2 and 3 agreed the permit process was a hindrance, "...but a reality" (Winnipeg Developer 3), and identified the inability to access property downtown as the largest hindrance to urban development in Winnipeg, "...ownership could be a red flag for some developers wanting to do great things and build great things in the downtown and it can hold it back because you just can't access the property" (Winnipeg Developer 2). Citing inflated prices, lucrative surface parking lots, and people 'sitting' on property, downtown development will continue to be challenged by the inability to access land and will continue to weaken the urban fabric that contributes to a livable downtown. In addition to ownership challenges of vacant and underutilized land, Winnipeg Developer 2 identified another challenge in some cases is the ownership and deterioration of heritage buildings, "...some owners are really devaluing not only their own properties but adjacent properties too", preventing their redevelopment and discouraging the development of surrounding properties.

While Winnipeg Developer 3 is confident that in time these hindrances to urban development will be removed by a larger population, the City could further support developers by finding a way to encourage the sale of underutilized or vacant properties, and enforce stricter heritage laws. According to Winnipeg Developer 2, "We have great heritage laws that preserve the built form of our city... in heritage buildings is something I think that our governments need to be stricter on".

7.11 Show Them (...you'll have people for it, and people against it)

Research participants in all cases indicated that if one-way to two-way street conversion is proposed and implemented in Winnipeg there will be push-back from the general public and possibly from business owners. According to interviewees, both parties in support of street conversion and

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opposed to it were very vocal to municipal leaders. Individuals that opposed street conversion were fearful that it would hinder their ability to travel through the downtown and cause traffic congestion, and therefore it would negatively impact the businesses and they would be forced to close. Based on both the literature and interviewees, street conversion has positive implications on people's ability to get around and has a positive impact on economic and business activity. Interviewees noted that most people were in favour of the new environments following the implementation of street conversion, and also suggested that the best way to overcome the push back is to try to educate the public by referring to other examples where it has been done successfully. Interviewees in Hamilton and Vancouver implied the relative ease of converting streets with a relatively wide right-of-way, and suggested planning a pilot project before full implementation that would familiarize residents with the concept to increase support from residents and business owners.

7.12 Street Conversion Works (...cities would do it again)

Perhaps the most important finding, research participants were unanimous in assuring that looking back on the objectives and the implications, cities would have made the same decision to convert one-way streets to two-way streets. Hamilton carried out more one-way to two-way conversions than Vancouver, and in fact are continuing on their list of which streets to convert. Hamilton Planner 1, who was involved in the project, indicated that they were happy with the results and that each conversion undertaken was successful. Though they cautioned it is not a one-size-fits-all solution, they were confident that the same decision would have been made today. In Vancouver, where significantly less conversions took place, Vancouver Planner 1 reflected on their decision and indicated that if they were making the decision today, they would have made it again, and probably would have converted more streets to two-way. Vancouver Planner 2 is currently working on a project in Vancouver's downtown, and because of the positive implications that were seen in Yaletown, one-way to two-way street conversion is something that they are considering.

Research participants indicating that their cities would make the decision again to convert one-way streets to two-way streets in their downtowns speaks to the positive implications identified in the literature, and also speaks to the trends of a renewed interest in urban living and pedestrianizing our downtowns. Since one-way to two-way street conversion was successful to

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some degree in all projects in Hamilton and Vancouver, it is fair to consider that Winnipeg could benefit from the same success.

7.13 Putting it in Perspective

City planners and the public sector were the driving forces behind street conversion in their cities to support a municipal objective to create livable communities. Understanding the implications of re-designing the road network, master transportation plans were reviewed and updated with additional strategies to support multi-modal and alternative modes of transportation that would improve downtown access, limit fast-moving and through-put traffic, and created the potential for increased economic development due to these associated implications.

Downtown Business Improvement Area representatives and community planners were able to witness first-hand the implications that one-way to two-way street conversion had on surrounding areas. Enthusiastic about these changes, Business Improvement Areas had a part to play in supporting the revitalization of downtown through placemaking initiatives, business retention, and in encouraging pedestrians, residents, and businesses to be downtown.

The private development sector has a role in improvements and modifications to the built environment and by doing so strengthens the existing urban fabric of cities. Supportive of public investment, private developers would readily welcome a street works project like street conversion to better position downtown to prosper from increased development and to create momentum to support their own projects.

7.14 What this Means

The potential implications of one-way to two-way street conversion for Winnipeg's South Portage neighbourhood are positive. Each case study noted improved pedestrian experiences, transportation patterns that are more conducive to mixing residential and commercial uses, and increased private investment, development, and economic activity. Hamilton and Vancouver both had population increases in conversion areas, a trend that is continuing. Research participants also acknowledged an opportunity for street conversion to support a number of different municipal initiatives, opportunities for multi-modal transportation, and collaboration and coordination between public and private sector place entrepreneurs. Though city planners caution it is not a one-

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size-fits-all solution, one-way to two-way street conversion has proven to be successful in achieving better livability in downtown neighbourhoods.

8.0 CONCLUSION

8.1 Summary of Findings

Investment in Winnipeg's downtown from both the public and private sectors have stimulated the market to indicate favourable conditions for residential development, which will contribute to the development of other uses in the future. City planners, Business Improvement Area representatives, and urban developers are all stakeholders trying to create momentum to work towards urban revitalization, intensification, and the livability of downtowns. South Portage is just one of Winnipeg's many resilient neighbourhoods, but its centrality and opportunities for mixed-use development make its revitalization a priority. One-way to two-way street conversion presents many positive implications for downtown Winnipeg that align with the City's goals, vision, and trends that have been identified. One-way to two-way street conversion has been successful in achieving better livability in other Canadian cities that have similarly gone through a period of disinvestment and decline, has not significantly impacted transportation patterns, and has improved conditions to be conducive to economic development. This same success could be realized in Winnipeg.

8.2 Revisiting the Research Questions

What effect has one-way to two-way street conversion had on the pedestrian experience and transportation patterns in Hamilton and Vancouver?

The implications of one-way to two-way street conversion were positive for the pedestrian experience in both Hamilton and Vancouver. Coupled with strategies to improve opportunities for active and multi-modal transportation, street conversion was successful in improving existing conditions and bringing more people downtown. The increase of pedestrians in conversion areas was noted by interviewees in both cities, as were calmer traffic conditions. The implications of street conversion for transportation patterns is also thought to be positive for having created conditions that are more conducive to a downtown setting by slowing down traffic, limiting through-put, and providing more direct access for motorists to reach their destinations. Though this information is anecdotal, interviewees did not indicate increased traffic congestion, nor did they note any significant negative changes.

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What economic benefits have been observed following one-way to two-way street conversion?

One-way to two-way street conversion was successful in creating conditions that are more conducive to economic development in both Hamilton and Vancouver. Streets that have undergone conversion in both Hamilton and Vancouver worked towards the commercial revitalization of these cities' downtowns. Hamilton noted business retention, new restaurants, and active storefronts on converted streets, and Vancouver indicated the atmosphere of converted streets was livelier and a better experience than on nearby one-ways. Business turn-over in conversion areas in Hamilton and Vancouver is low, and though the objective behind street conversion in both cities was not necessarily economically driven, interviewees were enthusiastic about the developing conditions that increased the amount of and potential for additional retail and amenities for residents. Following one-way to two-way street conversion, both cities experienced increased residential and mixed-use development following conversion.

Are developers more inclined to select development sites on two-way streets in a downtown setting?

Developers are not more inclined to select sites on two-way streets in a downtown setting, nor is the direction of traffic flow a consideration in their decision to develop. However, developers acknowledged the potential for increased investment given the advantages of two-way street conversion and the implications it could have for their projects. Seeking momentum, investment from the public sector, and infrastructure upgrades to allow for higher-density development, developers believe an investment in the streets will encourage the private sector to build downtown. Passionate about strengthening the relationship between the public and private sectors to support the revitalization and redevelopment of downtown, developers indicated that one-way to two-way street conversion has the potential to allow for collaboration between the public and private sectors that could create further opportunities.

What are the implications of one-way to two-way street conversion for downtown Winnipeg?

Based on this research, the implications of one-way to two-way street conversion for downtown Winnipeg are positive. If one-way streets in South Portage were converted to two-way

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streets, it is likely that it would create a better experience for pedestrians, traffic would move more calmly, and together, these conditions would create conditions that are more conducive to conducting business and economic development from the private sector. Strengthening the relationship between the public and private sector to plan for and guide the future of downtown development, one-way to two-way street conversion has the potential to pioneer the future of urban revitalization in South Portage.

8.3 Recommendations

There are six recommendations for the City to consider to support the success of one-way to two-way street conversion in Winnipeg. They are directly related to the findings and are intended to support topics covered in the discussion, and to provide opportunities to lessen the challenges identified by research participants.

8.3.1 Encourage the Sale of Surface Parking Lots, and do not Over-Emphasize Parking

One of the biggest hindrances to downtown development, identified in section 6.10, is not the environment created by a network of one-way streets, but the inability of developers to access vacant and underutilized land, which in many circumstances is land operating as surface parking lots throughout South Portage. The inability to access this land deters developers who are interested in investing in the area and prevents its growth and revitalization, leaving South Portage to display the effects of a history of disinvestment and decline. Recent development projects and retrofits within the neighbourhood have created a more comprehensive urban fabric that could work towards the advantages of two-way street conversion, but this potential is limited if property owners are not interested in a greater good. To encourage investment from the private sector, the City should implement different tools or strategies that grant developers better access to land and encourage property owners without any interest in the viability of downtown to sell. While an incentive program to recover expenses of inflated land costs to developers or tax benefits to convince property owners to sell may be effective, it is imperative that the City also places less of an emphasis on parking. The Downtown BIZ reported that 41% of land in downtown as a whole is allocated to parking, with 20% of that being surface parking lots, and although they agree that "...the redevelopment of downtown surface parking lots is key to fully revitalizing our urban core"

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(Downtown BIZ, n.d.), they believe this can only be achieved through public-private partnerships. However, if the City increased the opportunities for alternatives and prioritized modes of travel such as active transportation, and continues forward in their rapid transit initiative, parking may not be as much of a necessity, and by lessening the demand for it, property owners would seek better and higher uses.

8.3.2 Change the Classification of Streets

All of the streets in downtown's South Portage neighbourhood are classified as either major or minor arterials, both designed to carry high volumes of traffic and to connect the central business district with other residential and commercial areas in the city. Major arterials can accommodate more than 20,000 vehicles per day at an operating speed of 50 to 80 kilometres per hour, while up to 25,000 vehicles per day between 40 and 70 kilometres per hour is typical for minor arterials (City of Winnipeg, 2012). As Dock et al. (2006) pointed out in the literature, designs that rely too heavily on carrying capacity tend to be self-fulfilling. Having all streets in South Portage classified as arterials creates conditions for increased automobile use and constrains pedestrian activity and the economic viability of retail and commercial uses. By re-classifying northbound and southbound streets within the neighbourhood to local or collector streets, with the exceptions of Donald and Smith Streets, the City can work to encourage conditions that are more aligned with residential and mixed-use development to support one-way to two-way street conversion and the *Downtown Residential Development Strategy (2011)*. Another consideration, following suit of Vancouver's downtown, would be to work to reduce the number of private automobiles in the downtown through the further implementation of active transportation and multi-modal initiatives. Having less vehicles in the downtown encouraged residential development and increased pedestrian activity in Vancouver (see section 7.2) and could have the same advantages in Winnipeg, and would allow a better fit of local and collector streets.

8.3.3 Retain Certain Arterials for Traffic Flow

In each case city studied, decisions were made to retain certain one-way arterials to assist with traffic flow and to prevent increased congestion within the downtown. While this research only obtained anecdotal information regarding transportation patterns following street conversion, it

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makes sense to consider options that will have implications for maintaining a level of efficiency as it relates to vehicular traffic. Donald and Smith Streets are important arterials in South Portage that carry high volumes of traffic daily. Because these streets provide connections from Pembina Highway to the south, through downtown and north to Notre Dame Avenue, retaining their one-way operation will help to maintain efficiency while limiting through-put traffic on nearby streets. Additionally, the proposed upgrades to the *Transit Master Plan* being developed by the City displays proposed high-frequency transit routes (intended for major streets) Notre-Dame-McPhillips and Henderson-Pembina on Donald and Smith Streets (City of Winnipeg, 2020). York and St. Mary Avenues serve as eastbound and westbound arterials, respectively, and carry similar volumes of traffic as Donald and Smith Streets. York Avenue provides a connection to The Forks and onto St. Boniface, and these Avenues should also be retained to prevent traffic congestion in the area until there is less dependence on private automobile use in Winnipeg.

8.3.4 Identify Residential and Mixed-use Corridors

While one-way to two-way street conversion has proven its numerous advantages in both Hamilton and in Vancouver, it is important to note that it is unlikely that both streets of a converted one-way pair will experience success at the same rate in a slow growth city like Winnipeg, as was the case in Hamilton (see section 6.2). Without rapid demand for residential, office, and retail space in South Portage, it is unrealistic to assume in any scenario that development will occur evenly between streets. Because the effects of street conversion will be realized sooner on only some converted streets, this strategy would need to consider the larger context and consider a vision or plan for South Portage (see section 7.5). Mixed-use and residential streets are likely to readily see the positive implications associated with street conversion, and identifying which streets would best serve these uses to create mixed-use and residential corridors can help to inform where street conversion should be prioritized, and where other strategies should be prioritized, such as active transportation infrastructure.

8.3.5 Implement a Pilot Project

Converting one-way streets back to their original two-way form involves considering different lane configurations, designs, and on-street parking considerations to ensure the safety of pedestrians

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and motorists, and to maintain a certain level of service for traffic movement. As planners in both Hamilton and Vancouver advised, implementing a pilot project will allow for different design configurations to be assessed, and will also help communicate the change to residents and business owners. In section 6.11, it was mentioned that people will be both for and against street conversion, but they will not understand the positive implications until they can experience them first-hand. Implementing a pilot project will allow for residents and business owners to experience a conditioned environment that will reflect similar conditions following street conversion. Due to the more complete urban fabric that exists on Kennedy and Edmonton Streets, it is suggested that the City begin with a pilot project on these streets to assess the implications in regard to the pedestrian experience and on transportation patterns.

8.3.6 Develop a Phasing and Implementation Strategy

Interviewees quipped that when cities first converted streets from two-way to one-way operation decades ago it happened overnight, but given existing traffic patterns and flow it is important that street conversion has a phasing and implementation strategy. The more comprehensive urban fabric on the west side of South Portage presents a higher residential base and more amenities than the east side, and it is therefore recommended that the phasing of one-way to two-way street conversion begins on the west side with Vaughan and Kennedy streets and moves east, ending at Fort Street. In this strategy, the City could also identify which conversions would require additional infrastructure or streetscaping configurations, and prioritize streets based on this information (see section 6.2).

8.4 Opportunities for Further Research

From the data, there are topics that emerged from the literature review, the interviews, and the discussion that do not constitute findings, but instead are notable for possible further research to support one-way to two-way street conversion in Winnipeg.

8.4.1 Financial Implications

It was difficult to understand what the financial implications of one-way to two-way street conversion for Winnipeg might be because of the different variables that are involved in this type of

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project. For example, arterial streets will have a higher cost associated with street conversion because of the additional design considerations at intersections to ensure the safety of both pedestrians and motorists. Interviewees in Hamilton identified significant costs associated with the infrastructure required to implement street conversion projects, but their conversions also included the re-design of streetscape elements. Vancouver interviewees did not identify as great of a cost because the project was part of the City's infrastructure budget.

8.4.2 Transportation Patterns and Integration into Existing Two-way Networks

The information that this research was able to uncover is anecdotal as it relates to transportation patterns, because a statistical analysis was not undertaken. Research participants in both Hamilton and Vancouver were enthusiastic about experiencing calmer traffic and did not identify significant increases in traffic congestion, but suggested the number of minor vehicular accidents may have increased due to conflicting left-turn movements. The implications for transportation patterns should also be further studied to determine the best design for integrating two-way conversions into the existing street network to mitigate unintended spin-off effects, such as increased traffic delays on Portage Avenue due to longer signal times.

8.4.3 Street Types

Research participants in Hamilton and Vancouver were positive that one-way to two-way street conversion is a viable strategy on all street types, including arterial, local, and collector streets. Research participants also indicated that it is much easier to convert local and collector streets due to additional challenges on arterial streets. If Winnipeg were to implement one-way to two-way street conversion in South Portage and in the future realized an opportunity to convert Donald Street, Smith Street, St. Mary Avenue, and York Avenue to two-way operation, the implications for changes to level of service and the mobility of emergency services to utilize these streets would need to be considered further.

8.5 Final Thoughts

One-way to two-way street conversion has proven to be a successful tool in urban revitalization in Canadian cities that are recovering from the same disinvestment and decline that Winnipeg has

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experienced. In addition to its proven success, downtown stakeholders believe in its potential to foster the ideal characteristics that are associated with a livable mixed-use downtown. Our city is on the cusp of revitalization, demonstrated by the improved market conditions and recent investments by the private sector in the downtown, and the City, developers, and residents are all eager to see the continued revitalization of Winnipeg's downtown. Research participants were certain that for street conversion to be successful there has to be a catalyst, which Winnipeg already has: momentum.

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APPENDIX A: RESEARCH QUESTIONS

Interview Questions for City Planner or Street-Conversion Project Official

1. Can you give me a specific example of a two-way street conversion project that you were a part of?
2. Why two-way street conversion? What were the factors that led to implementing two-way street conversion? What were the 'urban problems'?
3. What were the most notable or significant outcomes?
4. What were the implications on the pedestrian experience and/or safety?
5. What were the implications on traffic patterns and/or safety?
6. Were the outcomes different than what was expected? Can you elaborate?
7. Do you consider this project to be successful? What indicators deem this project successful?
8. How do implementation strategies differ between different street types?
9. What are the financial implications?
10. What push-back did you receive from the general public regarding street conversion? How did you overcome this pushback?
11. What feedback, if any, have you received following the street conversion? If there was push-back, how did people's attitudes change afterwards?
12. Do you think two-way street conversion is a viable option for both arterial streets and local streets? Can you explain?
13. What are the lessons of downtown revitalization in your city for other cities?
14. Is there anything else you would like to include in this conversation?

Interview Questions for Business Improvement Areas/Zones

1. What is the vision or strategic plan of this BIA?
2. How have you been involved in downtown revitalization in your city?
3. What projects or initiatives are you currently working on?
4. What are the concerns of business owners in the area?
5. What are the factors influencing or limiting development and growth in the area?
6. Has economic development increased since one-way to two-way street conversion? Can you elaborate?
7. Were business owners in favour of street-conversion? Did this opinion change afterwards?
8. Are there more active store fronts on two-way streets compared to one-way streets? Can you elaborate?
9. How has the area changed following street-conversion?
10. Is there a high turnover of businesses in the area? Does this differ between one-way and two-way streets?
11. Have the types of businesses in the area changed following two-way street conversion? If yes, how so?
12. Is there anything else you would like to include in this conversation?

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Interview Questions for Urban Developers

1. What factors do you consider when selecting a site for development in an urban context?
2. Can you rank these factors? Which is the most important consideration?
3. Do you take street design, or the direction of traffic flow, into consideration in regard to site selection? Can you elaborate?
4. What indicators deem a development project successful?
5. What has the development industry learned from previous mistakes in regard to urban development in a downtown setting?
6. What urban problems do you see as 'red flags' or that hinder development?
7. What role do you have in urban revitalization?
8. How effective are financial incentives in encouraging your decision to develop?
9. Do you use incentives to attract new businesses as tenants? If so, what are they?
10. Do you have an economic development policy? If so, what are the desired outcomes?
11. Is there anything else you would like to include in this conversation?