RETROFITTING STREETS

A DOCUMENTATION OF PEDESTRIAN-ORIENTED STREETSCAPE INITIATIVES IN CANADA

HALIFAX | MONTREAL | VANCOUVER

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Cover Image: Rendering of a pedestrian street.
(Source: Transport for London, 2018)

ABSTRACT

Despite historically a space for people, the North American street has become dominated by private motorized vehicles as a result of decades of automobile-oriented planning. Systematic design around the needs of motorists has further reinforced the overreliance on automobiles in both urban and non-urban contexts. This presents a myriad of environmental, economic, social, health, and safety issues. For cities to become more sustainable places to live, work, and play, the function and design of streets must not be neglected as they are fundamental to this shift. While there is emergent support for active transport, including pedestrian-oriented streetscape planning, given the abundance of empirical evidence of the many associated benefits, there is limited research on the factors that enable, challenge, or present barriers to the implementation of unconventional street configurations. This research sought to identify these factors through the examination of pedestrian-oriented streetscape projects in three Canadian cities: the Argyle & Grafton Shared Streetscape Project in Halifax; the Pedestrian and Shared Streets Implementation Program in Montreal; and the Jim Deva Plaza project in Vancouver. A policy review and interviews with key informants revealed common themes. Key enabling factors include dedicated leadership, political and stakeholder support; strong interdepartmental and stakeholder collaboration; alignment of objectives and coordination of logistics; and the application of iterative learning and co-creation processes. Challenges and barriers include access to dedicated funding; logistical and operational accommodations; seasonal and weather design considerations; and overcoming opposition. Wider considerations include policy recognition of new street typologies; equitable distribution of projects; and acceptance of collective learning. These findings can inform policy and planning practitioners with the implementation of pedestrian-oriented streetscapes in other contexts.

RÉSUMÉ

En dépit d'avoir été historiquement un espace public à part entière, suite à des décennies de planification axée sur l'automobile la rue nord-américaine est de nos jours dominée par les véhicules motorisés privés. Cette conception tout-auto a aussi eu pour effet d'encouragé le recours excessif à l'automobile dans les contextes tant urbain que non urbains. Cela engendre une multitude de problèmes environnementaux, économiques, sociaux, de santé et de sécurité. Pour que les villes deviennent des lieux de travail, de loisirs et des milieux de vie plus durables, la fonction et la conception des rues ne doivent pas être négligées, car elles sont fondamentales. Bien que les transports actifs, y compris les aménagements à caractère piétonnier, suscitent un enthousiasme croissant et que leurs avantages ont été abondamment soutenu par des études empiriques, il existe toujours peu de recherches sur les facteurs qui influent sur la mise en œuvre d'aménagements de rue non conventionnels. C'est pourquoi le présent projet a tenté de cerner ces facteurs en examinant des projets de réaménagement de rue dans trois villes Canadiennes : la rue partagé Argyle & Grafton à Halifax, le programme de mise en œuvre de rues piétonnes et partagées à Montréal et finalement le projet de la Jim Deva Plaza à Vancouver. Une analyse des politiques en places ainsi que des entretiens avec des individus impliqués dans ces projets ont révélé plusieurs thèmes. D'après nos recherches, les facteurs favorables les plus importants incluent : un leadership dévoué, un soutien de la part des politiciens et des parties prenantes; une forte collaboration entre différents départements et avec les intervenants; un alignement des objectifs et de la coordination de la logistique; et l'application de processus d'apprentissage itératif et de co-création. Les défis et les obstacles incluent l'accès à un financement dédié; les ressources en logistique et opérationnelles; les facteurs climatiques et météorologiques; et la nécessité de surmonter l'opposition. Plus largement, des facteurs contextuels tel que l'identification de nouvelles typologies de rue, la répartition équitable des projets et l'acceptation collective de l'apprentissage à faire ont aussi un impact. Les résultats de cette étude peuvent éclairer les urbanistes lors de la mise en œuvre d'aménagement pour piétons ainsi que d'en d'autres contextes.

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CHAPTER 1: INTRODUCTION

Image: A street as a space for social interaction. (Source: Ville de Montréal, n.d.1)

1.1 RESEARCH TOPIC

Throughout much of history, the street has been a place for people. However, as a result of automobile-oriented planning over the last century, the private motorized vehicle has assumed dominance on the street and become the primary mode of transportation in North America. Streets, which have been systematically designed around the needs of motorists, have further reinforced the overreliance on automobiles in both urban and non-urban contexts. This orientation towards the automobile generates a myriad of environmental, economic, social, health, and safety issues. The high energy consumption of oil required to move goods and people around makes the urban transportation sector a major contributor to greenhouse gas (GHG) emissions, air pollution, and climate change (Cervero, Guerra & Al, 2017). The resulting environmental footprint is a massive economic expense and has detrimental impacts on natural ecosystems and human well-being (ibid). Furthermore, as modern street design allocates a disproportionate amount of space to vehicles, the pedestrian competes for space with other modes of travel. Pedestrians and cyclists are the most vulnerable road users, accounting for as much as 26 percent of road deaths globally (World Health Organization, 2018).

For cities to become more sustainable places to live, work, and play, rethinking streets must not be neglected; they are fundamental to this shift (Bain, Gray & Rodgers, 2012; Lister, N.-M., 2012). They serve important functions that contribute to the productivity and quality of life in urban areas (UN-Habitat, 2013). Furthermore, as major cities undergo residential densification, particularly in the suburbs, with households often occupying smaller dwellings than in the past, there is a growing expectation among urban dwellers for the public realm to provide high-quality space for leisure, recreation, and social engagement (Mehta, 2019). Given that streets comprise as much as 80% of the public realm, an immense opportunity exists to develop them into vibrant, safe, and accessible public spaces (National Association of City Transportation Officials, 2013; Gehl, 2010). The benefits are well documented: extensive empirical research has linked well-designed streets to positive outcomes including improved environmental and physical health, economic vitality, and enhanced social capital, resulting in improved overall quality of life (Cevero, Guerra & Al., 2017; Jung et al., 2017; Choi et al., 2016; Kaparias et al., 2015).

The promotion of active transport, particularly through pedestrian-oriented streetscape design, is one response to the rethinking of the central city and its adjacent suburbs. [1] There are many emerging initiatives to support the transformation of streets into high-quality, pedestrian-oriented spaces in densifying urban areas. Such streetscape strategies include the adoption and application of 'Complete Streets' guidelines, the development of shared streets, pavement-to-plaza conversions, and other actions dedicated towards activating and programming streets to diversify their use. However, despite the recent renaissance of pedestrian-oriented planning and empirical evidence of the many benefits of such an approach in streetscape practice, there is limited research on the key factors that enable these types of initiatives as well as the barriers towards

[1] Another related approach is Transit-Oriented Development (TOD) – the densification of areas around public transport to improve proximity between places to live, work, and play.

transforming urban streets into more pedestrian-oriented spaces (Nieuwenhuijsen et al., 2018; Parajuli & Pojani, 2018; Adams, Cavill & Sherar, 2017). *The purpose of this research is to analyze current pedestrian-oriented streetscape initiatives in the North American context, to document the key factors that enabled the projects, and to identify barriers and challenges associated with implementing unconventional street configurations.* In this way, the research is intended to provide practical advice to policy and planning practitioners in North America.

1.2 METHODS

The first phase of research consisted of a literature review of secondary sources pertaining to streets and their function, types of pedestrian-oriented street designs and initiatives implemented, and associated environmental, economic, social, and health benefits. Additionally, literature was reviewed pertaining to key factors that contribute and/or present barriers to the implementation of more pedestrian-oriented street configurations.

The second phase of research consisted of case selection and a preliminary policy review for the chosen cases. Policy documents, plans, strategies, and guidelines pertaining to street design and placemaking were reviewed for major North American cities, including Toronto, Montreal, Ottawa, Halifax, Calgary, Edmonton, Vancouver, Victoria, New York, Portland, Seattle, and Miami. This review allowed the identification of cities that recently completed or are currently implementing pedestrian-oriented streetscape projects. Given time and resource constraints for data collection, I decided to narrow the case selection to Canadian cities given my greater familiarity with the Canadian context. From this, I selected three cities in three different provinces – Halifax, Nova Scotia; Montreal, Quebec; and Vancouver, British Columbia – where there is media evidence of recently completed or ongoing pedestrian-oriented initiatives underway. Also, the intention was to choose cities that are mid-to-large in size, old enough to experience the challenge of retrofitting the urban fabric, and where tensions around pedestrianization would need to be resolved. While there may be other noteworthy and pertinent cases, these provide a good example of the diversity of initiatives undertaken in the Canadian urban context from which commonalities and interesting differences could be extracted.

The three cities are pertinent to the study. Halifax recently completed the Argyle & Grafton Shared Streetscape Project, which transformed Argyle Street and a portion of Grafton Street in the downtown entertainment district into a shared street, the first initiative of its kind in Atlantic Canada. Montreal has a Pedestrian and Shared Streets Implementation Program (*Programme d'Implantation des Rues Piétonnes et Partagées* (PIRPP)), which is enabling the transformation of a growing number of street segments in various boroughs on the island of Montreal into people-oriented public spaces. Vancouver has a Pavement-to-Plaza program, which converts streets into fully pedestrian spaces with support from VIVA Vancouver, the city's placemaking program. While the Argyle & Grafton Shared Streetscape Project forms the basis of the Halifax case study, and the Jim Deva Plaza is the selected project under analysis for the Vancouver case study, the Montreal case study is more heavily weighted on the PIRPP overall, with the Place

Wellington project showcased as an example of the types of initiatives implemented through the program. This case selection led to a deeper review of policy documents, plans, programs, and strategies pertaining to each of the three cities.

The third phase of research consisted of a series of semi-structured interviews with key informants and stakeholders, including planners, urban designers, city staff, municipal government officials, members of Business Improvement Area (BIA) associations or *Société de Developpement Commercial* (SDC), as well as other local community groups and non-profit organizations in each of the three selected cities. The purpose of these interviews was to become informed on the city's context and general approach towards planning pedestrian-oriented streetscapes, the process of implementing the projects under investigation in each city, as well as to discuss what forms of support enabled the projects versus what factors presented challenges or barriers. Input from key informants and stakeholders interviewed is identified through direct quotes or paraphrased statements. In the latter, efforts were made to retain, to the extent possible, the tone as well as the content as it was communicated. In total, eight individuals were interviewed from Halifax, another eight individuals from Montreal, and five individuals from Vancouver. The complete list of interviewees can be found in Appendix A and a template of the questions asked is presented in Appendix B.

The fourth and final phase of the research constituted of a comparative analysis of the processes through which the streetscape projects in each city were or are currently developed, as well as the factors identified as either forms of support or challenges and barriers. This analysis was largely based on findings from the interviews conducted in the third phase of the research and supported with information collected in the second phase. Key factors were drawn from interviews with respondents and vary from institutional to pragmatic to sociocultural considerations. In this way, learning outcomes and good practices were identified that could be applied in other contexts where street redesign projects are under consideration or in development stages. Important to note is that while Halifax and Vancouver depict site-specific kinds of intervention and Montreal illustrates a city-wide strategy, and despite differences in the design and scale of the projects analyzed, this does not discredit the research. The intention of the research became less on presenting exactly comparable case studies and more so on documenting the variety of pedestrian-oriented streetscape initiatives across Canada where the challenge of retrofitting an older urban fabric is being tackled by municipal governments. Furthermore, given the noncomparability of the cases, I do not put forward specific recommendations about how policy and planning practitioners should handle implementing pedestrian-oriented streetscape initiatives but rather document key enabling factors, barriers, and challenges that were encountered. Nevertheless, this approach allowed common themes across the cases to be identified that could serve as learning outcomes and be useful in planning practice.

The research has culminated in the production of this report. Following this introduction, Chapter 2 provides an introduction to the topic based on review of relevant academic and policy literature. Chapter 3 provides an overview of the city and policy context of the Halifax Regional Municipality and details the Argyle & Grafton Shared Streetscape

Project. Chapter 4 presents the city and policy context of the City of Montreal, a detailed analysis of the Pedestrian and Shared Streets Implementation Program, and an overview of the Place Wellington project in the Borough of Verdun. Chapter 5 depicts the city and policy context of the City of Vancouver and details the Jim Deva Plaza project. Drawing primarily on the interview data, Chapter 6 brings together a discussion of key themes and lessons pertaining to enabling factors, challenges, and ongoing barriers to implementing pedestrian-oriented streetscapes. (Case study-specific learning outcomes are included in the associated case study chapter). Chapter 7 summarizes the research, considered the research limitations of this project, and proposes areas for further research.

CHAPTER 2: RECLAIMING STREETS FOR PEOPLE

Image: Pedestrian mall on Yonge Street, City of Toronto. (Source: The Star, 2014)

2.1 MODERNIST PLANNING, THE AUTOMOBILE ERA & EARLY PEDESTRIANIZATION

"Streets have played an important role in the transformation of cities throughout history" (Mehta, 2019, n.p.). Before the introduction of the automobile in the mid-19th century, cities were walkable places where streets were filled people moving on foot (Parajuli & Pojani, 2018). However, the onset of modernist planning and mass motorization of the private automobile drastically altered the urban landscape (ibid). The construction of wider streets, highways, and other infrastructure to accommodate the influx of new vehicles, including the provision of parking spaces, resulted in the car quickly replacing the pedestrian on street rights-of-way and occupying the majority of urban public space (Parajuli & Pojani, 2018; Cervero, Guerra & Al, 2017). While this era is characterized by urban growth, sprawl, and suburbanization, it took time to realize that it was having detrimental effects on the design of cities and human health (Cervero, Guerra & Al, 2017). The abundance of vehicles eventually prompted a concern for road safety and in response, "a need to regulate, channel, separate and restrict vehicular movement emerged in urban areas" (Parajuli & Pojani, 2018, p. 142; Kaparias et al., 2015). In this way, pedestrianization, characterized by the physical separation of vehicle and pedestrian traffic, began to be pursued (Gregg, 2019; Kaparias et al., 2015).

The 'pedestrian mall' is a term used to define "a commercial or mixed-use urban street in which ordinary vehicles are prohibited from circulating, and limited access is allowed for service and emergency vehicles" (Parajuli & Pojani, 2018, p. 142). Alternatively referred to as a pedestrian precinct, traffic-free, or vehicle-free zone, the concept is often the first intervention aimed at reclaiming street rights-of-way for pedestrians (Pushkarev, Zupan & Regional Plan Association, 1975).

The concept of traffic-free zones originated in Europe during the post-war period as a rebuilding and urban renewal strategy (Gregg, 2019; Rubenstein, 1992). Urban growth and the abundance of cars further promoted the concept of pedestrianization as efforts to reduce traffic congestion, improve mobility, and create space for public life in densely populated urban centres became key priorities (Gregg, 2019; Rubenstein, 1992; Brambilla & Longo, 1977). By contrast, the motive for implementing pedestrian malls in North America was predominantly efforts to promote the economic revitalization of downtown areas (Gregg, 2019; Brambilla & Longo, 1977). Rapid suburban growth and urban sprawl resulted in the development of suburban shopping centres, which created serious retail competition for downtown businesses (Gregg, 2019; Rubenstein, 1992). Pedestrian malls were viewed as a way to "ensure the financial viability of inner-city retail stores" by boosting downtown retail sales, raising property values, and improving investor interest, while also helping to craft a new image for the city (Parajuli & Pojani, 2018, p. 142; Rubenstein, 1992).

The success of the pedestrian mall concept varied drastically (Gregg, 2019; Parajuli & Pojani, 2018; Rubenstein, 1992). While pedestrian zones proliferated throughout Europe and were often expanded, North American pedestrian malls were generally less successful (ibid). Many of them were considered failed attempts at downtown

revitalization and the streets were subsequently overturned back to vehicular traffic (Gregg, 2019). Nevertheless, although the concept eventually lost favour in North America, the pedestrian mall influenced how planners, architects, and decision-makers thought about solutions to downtown challenges in urban areas (ibid). The street emerged as a mode through which change could be implemented. Despite limited success achieved in many complete pedestrianization schemes on North American urban streets, the concept of reclaiming streets for people continued to evolve.

2.2 STREETS IN CONTEMPORARY CITIES: ACCOMMODATING A MULTITUDE OF MODES & FUNCTIONS

Developments in the fields of urban planning and architecture in the latter half of the 20th century and early 21st century have influenced a change in street design and traffic engineering (Kaparias et al., 2015). There has been a shift away from the pedestrianization trend of separating different forms of traffic and instead a move towards exploring alternative ways to improve conditions for the pedestrian (ibid). This shift is driven by the growing body of literature on the various functions that streets serve.

Beyond serving as movement corridors for various modes of transport, urban "streets also have a vital 'place' function" (Carmona et al., 2018, p.1). As a component of the public realm, streets are environments that can function as a meeting place, facilitating social interactions; as a space for commerce, where businesses are located; and as a political space, where civic activities are conducted (Carmona et al., 2018; von Schönfeld & Bertolini, 2017).

The 'place' function of streets has notable advocates. In the 1960s, car-dominated streets were criticized by urban advocates including Lewis Mumford, Jane Jacobs, Bernard Rudofsky, and William H. Whyte, all of whom advocated for the greater potential of street life (Brambilla & Longo, 1977). Donald Appleyard (1980) has promoted liveable streets, Allan B. Jacobs (1995) investigated the form of great streets, and Jan Gehl (2010) highlighted the social function of streets. More recently, as walkability has become a key policy objective embraced by urban planners, designers, and even public health officials, studies pertaining to the benefits of walkable streets have proliferated (Anciaes & Jones, 2016). This, in turn, has invigorated interest in pedestrian-priority or pedestrian-oriented streets that allow people of all ages and abilities to use streets without competition with other transportation modes (North American City Transportation Officials, 2016). The street's function as a public space, and the importance of investing in their transformation into great places, is reiterated by Hess (2009), Cervero, Guerra & Al (2017) and Mehta (2019).

Reconciling the mobility and place-based functions of streets is vital to accommodating the needs of the road's various users – pedestrians, cyclists, public transit riders, and motorists (Carmona et al., 2018; Lister, N.-M., 2012). Yet this dichotomy presents a major challenge in contemporary planning practice, particularly in growing cities where open space is scarce and often a contested urban resource (von Schönfeld & Bertolini, 2017). The traditional planning framework segregates spaces for distinct purposes (von

Schönfeld & Bertolini, 2017). Traditional land use regulations and road design standards do not allow for much flexibility in the organization and use of streets for anything other than the movement of vehicles. Following such a rigid structure can reduce the liveability of an area (ibid). Planning must, instead, consider how to enable conditions which will foster a street environment that both allows for the efficient movement of people and goods as well as for lingering and social engagement (ibid). Mobile and stationary functions of streets must be integrated in order to improve the quality of urban life (UN-Habitat, 2013; Lister, N.-M., 2012).

There are ample opportunities to increase the liveability of cities by addressing the needs of all road users. This, however, requires a thorough understanding of the processes and factors that would support the various uses of the street, as well as of the barriers that make this integration a challenge in practice.

2.3 EXAMPLES OF CURRENT PEDESTRIAN-ORIENTED STREETSCAPE INITIATIVES

Changing ideas of the street have generated a demand for the reclamation of street space for pedestrian and public use. As this demand grows, efforts to transform streets into pedestrian-oriented spaces have been gaining popularity globally. Examples of current initiatives include the creation of shared streets or *woonerf*s, 'Complete Streets', other pedestrianization schemes, and street 'programming' or 'activation', the latter of which refers to any efforts that enhance the quality of the street, increasing its vibrancy and attractiveness. The term 'pedestrian-oriented streetscapes' is used throughout this report to refer to this wide variety of street configurations, design approaches, and street treatments that prioritize pedestrians over vehicular traffic.

2.3.1 SHARED STREET / *WOONERF*

A 'shared street' or '*woonerf*', is an alternative to the strict separation of road space between vehicles and pedestrians. In this street typology, the road is shared by pedestrians, vehicles, and cyclists, with pedestrians given priority. The 'shared street' is a design concept that aims to improve pedestrian movement while simultaneously discouraging intentional through traffic (Kaparias et al., 2015; Southworth & Ben-Joseph, 2003). In this approach, a better public realm can be created primarily through greater emphasis on the place-based functions of streets (Kaparias et al., 2015).

The concept first gained prominence in Europe as the *woonerf* was introduced in the Netherlands by De Boer in 1965 (Essa, Hussein & Sayed, 2018). De Boer advocated for the street to function as an extended social living space in the neighbourhood. For that reason, early applications of the *woonerf* were on residential streets where local vehicle and pedestrian traffic could be integrated (see Figure 1) (ibid). Since then, the concept has been embraced internationally under various terms including living street, shared space, encounter zone, and shared zone (ibid)

While streetscape treatments vary according to context, typical design characteristics include the removal of curbs, the application of consistent paving throughout the space to create a continuous surface, the addition of physical barriers such as street furniture and landscaping, and clearly marked entrances (National Association of City Transportation Officials, 2016; Southworth & Ben-Joseph, 2003). These features have proven to have a powerful effect on slowing down the speed of vehicular traffic and restricting movement, thus discouraging through-traffic and reducing the potential for accidents (ibid). In these ways, “shared streets establish a social milieu and make the street a mixed-use public domain as it was prior to mass ownership of the automobile” (Southworth & Ben-Joseph, 2003, p. 124). Despite the concept’s origin on residential streets, more recent applications of the shared street have been on commercial streets, particularly in downtown areas.

Figure 1: Diagram of a shared street. (Source: National Association of City Transportation Officials, 2013)

2.3.2 COMPLETE STREETS

‘Complete Streets’ is a North American term used to describe streets that are safe for all – accommodating people of all ages and abilities and balancing the needs of different modes of travel (Smart Growth America, 2018). The concept arose from advocacy efforts in the early 2000s that encouraged planning for and designing streets with equal consideration for all road users including pedestrians, cyclists, public transit riders, and motorists (Carmona et al., 2018; Winters et al., 2016). While there is no standard design for a complete street, elements may include wider sidewalks, designated bike lanes, bus lanes, accessible public transit stops, safe and more frequent sidewalks, median islands, pedestrian signals, curb extensions, and a reduction in the number of traffic lanes for

motorized vehicles (see Figure 2) (Smart Growth America, 2018). Complete streets principles have been adopted at municipal and regional levels of government in both the United States and more recently in Canada, either as legally-binding laws and policies or non-legally binding orientations and design guidelines (Gregg & Hess, 2018; Smart Growth America, 2018).

The growing prevalence of 'complete streets' – both in discourse and practice – represents an important paradigm shift in street building from auto-oriented planning towards a more equitable approach. The 'complete streets' movement has significantly impacted how streets are designed, funded, and constructed (McCann, 2013). This exemplifies the recognition that streets need to be redesigned to improve travel for all types of road users and sets the foundation for a framework under which these changes can be accomplished.

Figure 2: Diagram of a complete street. (Source: National Association of City Transportation Officials, 2013)

2.3.3 OTHER PEDESTRIANIZATION SCHEMES & PROGRAMMING

Other initiatives include an assortment of temporary or permanent interventions. The adoption of car-free days is gaining popularity internationally and becoming increasingly common in North America; events during which streets are temporarily closed off to vehicular traffic, such as PARK(ing) Day or 'Open Streets', have helped residents imagine alternative street uses to those of car dominance. Smaller-scale, and potentially more permanent interventions, include the installation of parklets in curb-side parking spaces (see Figure 3) or the conversion of streets into public plazas (National Association of City Transportation Officials, 2016); a plaza is typically a pedestrian-only gathering place for people that may include seating and other amenities allowing the public to enjoy the space (Rubenstein, 1992). All of these initiatives are intended to reclaim street rights-of-way for pedestrian use, transforming underused roadways into more attractive public spaces which can foster social life and contribute to an area's identity as a destination (ibid).

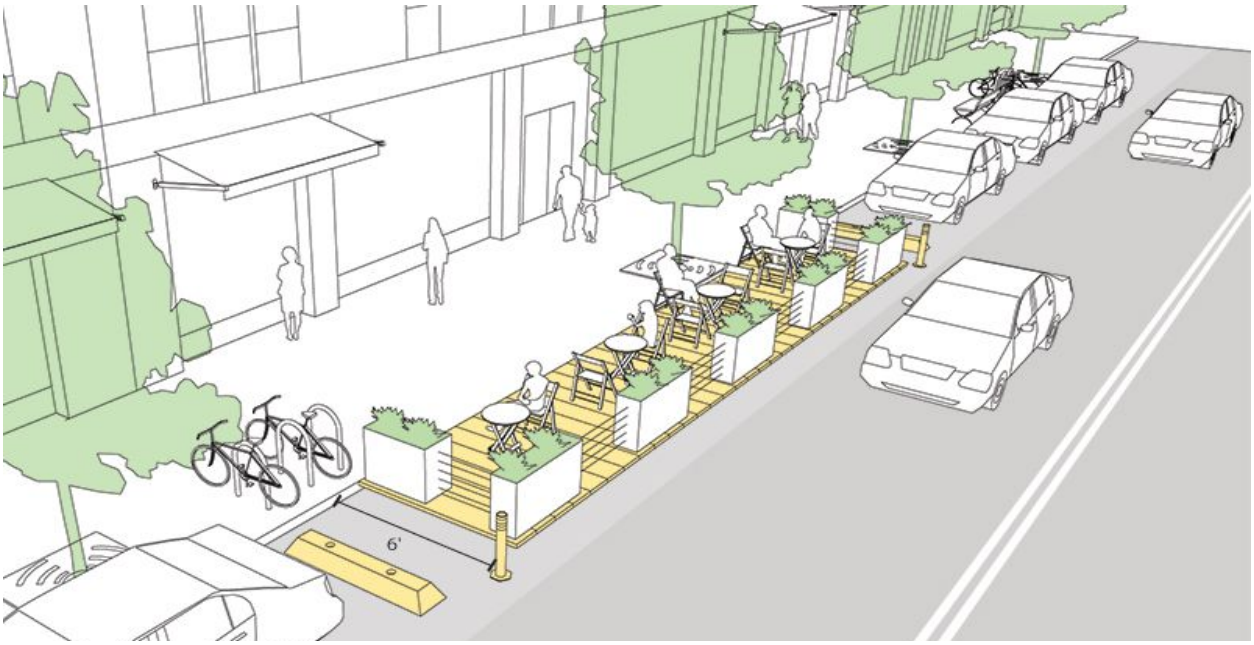

Figure 3: Diagram of a parklet. (Source: National Association of City Transportation Officials, 2013)

There is also growing global interest for making urban centres car-free, at least through partial restriction of private motorized vehicles (Nieuwenhuijsen et al., 2018 Nieuwenhuijsen & Khreis, 2016). This alternative is pursued through measures that reduce automobile traffic, the removal of parking spaces, greater investment in public transit provision as well as installation of pedestrian and cycling infrastructure (Nieuwenhuijsen & Khreis, 2016). More common however, are traffic calming measures intended to discourage vehicle through traffic, as they are a much less extreme alternative to a complete ban of automobiles on urban streets.

Important to note is that given the focus of this research, literature pertaining to topics that problematize or address the limitations of concepts such as Complete Streets, shared streets, or other forms of streetscape improvements, is omitted from this literature review. While research is emerging on the design of inclusive streets, addressing social inequalities, and ensuring universal accessibility, much of this discussion is beyond the scope of this research.

2.4 BENEFITS OF PEDESTRIAN-ORIENTED STREETSCAPES

Empirical studies on pedestrian-oriented streetscape initiatives – complete streets, shared streets, and other pedestrianization schemes – have documented transportation, ecological, public health, social, and economic benefits.

The adoption of pedestrian-oriented streetscapes has the potential to significantly improve travel for all modes of transport and a diverse range of users. Such a design approach has been found to reduce dependency on private automobiles, encourage active transportation by improving mobility and accessibility for pedestrians and cyclists,

as well as increase public transit ridership (Anciaes & Jones, 2016; Choi et al., 2016; Soni & Soni, 2016; Anderson et al., 2015). This, in turn, has contributed to a reduction in traffic congestion, need for parking, and the number of vehicle collisions (Nieuwenhuijsen & Khreis, 2016; Soni & Soni, 2016; Anderson et al., 2015).

Transportation-oriented benefits are directly associated with ecological and human health benefits. The reduction in motor vehicle usage reduces air and noise pollution, thereby improving air quality and fostering a healthier microclimate for both humans and plant species (Nieuwenhuijsen & Khreis, 2016; Park & Evans, 2016; Soni & Soni, 2016). A cleaner and walkable environment also provides more opportunities for physical activity helping people to meet their daily exercise requirements and combat obesity, while reducing stress levels and contributing to an improved psychological well-being (Park & Evans, 2016; Soni & Soni, 2016). Street improvements also produce social benefits such as enhanced street character and vibrancy, resulting in more positive perceptions of the space and conditions that facilitate social interactions (Carmona et al., 2018; Jung et al., 2016; Soni & Soni, 2016; Anderson et al., 2015). This results in strengthened community networks and overall well-being, and fosters a greater sense of belonging, pride, and ownership to a place that leads to greater civic responsibility and participation (Nieuwenhuijsen et al., 2018; Soni & Soni, 2016; Anderson et al., 2015).

Well-designed, pedestrian-oriented streets are also financially favourable and supportive of local economic development (Soni & Soni, 2016; Zehngebot & Peiser, 2014). Despite some higher upfront capital costs associated with the widening of sidewalks, adding or updating bicycle infrastructure, bus shelters, planting street trees, etc., the operational costs over the long-term will actually be lower as a result of financial savings from the reduction of negative externalities such as vehicle collisions, road fatalities, pollution, and congestion, etc. (Soni & Soni, 2016; Zehngebot & Peiser, 2014). For this reason, a typical cost-benefit analysis is not necessarily the best way to assess the economic potency of a street improvement project (Zehngebot & Peiser, 2014). In contrast to conventional transportation projects, pedestrian-oriented streetscape initiatives present a more financially feasible way of achieving broader goals (Anderson et al., 2015).

Research has also confirmed benefits for local businesses. Pedestrian-oriented streets in commercial districts have been found to boost foot traffic and increase store revenue by up to 40% (Nieuwenhuijsen et al., 2018). Pedestrians comprise a greater proportion of the clientele for ground-floor retail stores than customers who arrive by private automobile and spend up to six times more (Nieuwenhuijsen et al., 2018; Sadik-Khan & Solomonow, 2016). Improving conditions for pedestrians and creating a sense of place may also contribute to greater attraction to an area and thus influence where consumers shop (Nieuwenhuijsen et al., 2018). This, in turn, affects where new businesses locate and reinforces investment in an area (Nieuwenhuijsen et al., 2018; Soni & Soni, 2016; Anderson et al., 2015; Zehngebot & Peiser, 2014). In these ways, evidence suggests that street improvements can definitely contribute to economic vibrancy thus debunking the common belief that pedestrianization and restrictions on vehicle access result in economic decline (Carmona et al., 2018).

Cumulatively, the benefits associated with pedestrian-oriented streetscapes have the potential to significantly improve the quality of life in urban areas. Greater awareness of them is driving the proliferation of such initiatives globally, reflecting a new era of street building practice. While there will inevitably be stakeholders who do not equally benefit from these transformations, the advantages overwhelmingly outweigh any potential risks. The prosperity of cities is dependent upon the recognition of these benefits and dedicated efforts to attain them (UN-Habitat, 2013).

2.5 CONDITIONS FOR THE SUCCESSFUL IMPLEMENTATION OF PEDESTRIAN-ORIENTED STREETSCAPES

Despite the growing documentation of benefits and prevalence of initiatives, there are limited studies pertaining to the successful implementation of pedestrian-oriented streetscape projects. Furthermore, as mentioned by Nieuwenhuijsen et al. (2018), Parajuli and Pojani (2018), as well as Adams, Cavill, and Sherar (2017), content on key enabling factors and the barriers and challenges towards pedestrianization schemes remain scarce in academic literature. One piece that does include such content is Nieuwenhuijsen et al.'s (2018) *Implementing Car-Free Cities: Rational, Requirements, Barriers and Facilitators.* While Nieuwenhuijsen et al. (2018) propose the more radical approach of eliminating private motorized vehicles in urban centres, they outline criteria relevant for creating pedestrian-oriented streetscapes more broadly. These include the following nine pre-requisites: 1) political vision and leadership; 2) mobility to accessibility paradigm shift; 3) alternative convenient and quality transport means; 4) dedicated funding; 5) intensive data collection and analysis; 6) evaluation of pre- and post-implementation impacts; 7) strong citizen and business support; 8) detailed plan aligned with other strategies; and 9) media strategy and public involvement and acceptability (Nieuwenhuijsen et al., 2018). The following sections further detail these pre-requisites, among other conditions, while noting associated challenges and barriers.

2.5.1 POLITICAL VISION, LEADERSHIP & ALIGNMENT WITH OTHER STRATEGIES

"Change requires leadership and tenacity," observe Bain, Gray, and Rodgers (2012, p. 299). Whether it is the vision of a political leader that sets the foundation for change or political approval gained for a proposed project, researchers agree that political buy-in is essential for the transformation of streetscapes (Carmona et al., 2018; Nieuwenhuijsen et al., 2018; von Schönfeld & Bertolini, 2017; Bain, Gray & Rodgers, 2012). Ideally, political support should extend across the political spectrum to ensure long-term political commitment and consistency throughout transitions in political leadership (Nieuwenhuijsen et al., 2018; Nieuwenhuijsen & Khreis, 2016). This is important because without political support, new ideas will not have enough stronghold to be carried through to implementation.

Leadership extends beyond political leaders. Support from senior management and dedicated project managers and staff is equally important as these are important actors in the development process (Adams, Cavill & Sherar, 2017). They are the people who

coordinate logistics and operations, secure funding, and engage community members and stakeholders, often working overtime to address problems as they arise (Bain, Gray & Rodgers, 2012). If political approval needs to be earned, they are the individuals responsible for laying the groundwork of a project and presenting a compelling vision to decision-makers (ibid). They are critical in providing a clear understanding of a project's objectives, explicitly stating how it will advance the city's goals, and identifying how the benefits will outweigh any potential challenges (ibid). Most importantly, if they are to inspire organizational change, they themselves must be willing to take risks where precedents do not exist (ibid).

Conversely, a lack of political and institutional agreement on the need to reduce reliance on private motorized vehicles is one of the greatest barriers towards pedestrian-oriented planning (Parajuli & Polani, 2018). Meeting the objectives of pedestrian-oriented streetscapes, however, can be improved through the alignment of higher-level policies pertaining to priorities including economic development and climate change (Nieuwenhuijsen et al., 2018). This will ensure dedication to meet these objectives from a variety of departments and actors.

2.5.2 SHIFT FROM CAR-ORIENTED MOBILITY TO ACCESSIBILITY PLANNING

Prioritizing walkability requires a transition from car-oriented transportation planning, the status quo, towards accessibility planning that focuses on ensuring access to key destinations and essential services for the greatest number of people (Nieuwenhuijsen et al., 2018; Cervero, Guerra & Al, 2017). Part of the problem lies with how travel demand is calculated, which is biased towards private vehicles and tends to exclude pedestrians and cyclists (Nieuwenhuijsen et al., 2018). This conventional approach, while aiming to reduce congestion, actually increases traffic volumes by reinforcing reliance on the private automobile, with all the negative consequences – e.g., an increase in air pollution, traffic accidents, community isolation, distance between destinations, and social inequalities – mentioned previously (ibid).

The proliferation of car dependency has further exacerbated the negative impacts for individuals who lack access to private vehicles, leading to social exclusion, potential unemployment, and adverse health effects (Nieuwenhuijsen et al., 2018; Anciaes & Jones, 2016; Soni & Soni, 2016). Mobility and accessibility are therefore important "for full participation in society" (Nieuwenhuijsen et al., 2018, p. 205). Thus, a key objective for implementing pedestrian-oriented streetscapes should also be to enable greater participation in society. Unfortunately, despite the embrace of accessibility planning among transportation planners, thus far it has not superseded car-related transport planning (Nieuwenhuijsen et al., 2018).

2.5.3 PROVISION OF ALTERNATIVE TRANSPORT OPTIONS & DEDICATED FUNDING

A shift from car-oriented transportation must be supported by the provision of alternative modes of transport and environments that safely accommodate them. This requires

adopting policies and financially investing in public transit and active transportation by supporting pedestrian and cycling networks (Nieuwenhuijsen et al., 2018).

While dedicated funding is needed to complete streetscape projects, financial resources are not always abundant. Nevertheless, observers note that a transformation can be accomplished with limited financial capital by prioritizing the objectives in pedestrianization schemes through a hierarchy (Carmona et al., 2018; Bain, Gray & Rodgers, 2012). Carmona et al. (2018) suggest that the first priority should be to improve the overall pedestrian experience by allocating adequate space for pedestrians and ensuring safety and accessibility; the second priority should be to create a comfortable and attractive environment for staying, lingering, and engaging in social activities; and the third priority should be to support environmental goals such as the reduction of sound and air pollution while also ensuring the space is adaptable for a multitude of uses (ibid). They observe that the third priority is the most challenging to achieve as it may necessitate larger-scale interventions that require greater financial capital. For this reason, Carmona et al. (2018) suggest prioritizing the pedestrian and sociability aspect of streets when financial resources are limited, as these priorities will also inevitably have some contribution towards achieving environmental goals.

2.5.4 DATA COLLECTION & EVALUATION OF IMPACTS PRE- & POST-IMPLEMENTATION OF INTERVENTIONS

Data are vital in providing an accurate depiction of pre-existing conditions, determining the potential outcome of alternative approaches, and evaluating the impact of implemented initiatives (Nieuwenhuijsen et al., 2018; Carmona et al., 2018; Anciaes & Jones, 2016). Collecting and analyzing data on land use, transportation and mobility patterns, demographics, social preferences, environmental indicators, and economic activity can assist in demonstrating the interrelationship between these factors in the context of street design (Nieuwenhuijsen et al., 2018).

Despite an increase in the documentation of various pedestrian-oriented streetscape initiatives globally, few empirical studies evaluate the impact of the interventions, and even fewer address multiple factors (Nieuwenhuijsen et al., 2018; Jung et al., 2016; Sadik-Khan & Solomonow, 2016). Such evaluations are also lacking in practice as a post-mortem or impact assessment report is not always produced (Sadik-Khan & Solomonow, 2016). Proponents of pedestrian-oriented streetscapes argue that data should be collected as they are necessary to justify projects and prove beneficial results, particularly with approaches that may be politically unpopular (Sadik-Khan & Solomonow, 2016). Carmona et al. (2018) recommend that cities develop systematic approaches to data collection through pre- and post-implementation assessments that consider what types of interventions produce the most benefits, where, for whom, and how. In this way, data can help overcome opposition and support advocacy efforts for the transition to pedestrian-friendly streetscapes.

2.5.5 STAKEHOLDER INVOLVEMENT TO GENERATE SUPPORT FROM CITIZENS & LOCAL BUSINESSES

Support from residents and the local business community is essential to gaining political approval for a proposed project (Nieuwenhuijsen et al., 2018; Nieuwenhuijsen & Khreis, 2016). Excluding these stakeholders has the risk of potential future backlash or other impacts that may delay progress on the project (Nieuwenhuijsen et al., 2018). Greater public involvement in the planning and decision-making stages, as well as the provision of regular updates on the status of the project, makes the development process more transparent, thereby increasing public acceptance (Adams, Cavill & Sherar, 2017; Nieuwenhuijsen & Khreis, 2016). This is needed in order to successfully execute a project and facilitate radical change (Nieuwenhuijsen & Khreis, 2016).

Nevertheless, opposition from residents, motorists, and local merchants are among the most common barriers to pedestrianization schemes (Carmona et al., 2018; Nieuwenhuijsen et al., 2018; Parajuli & Pojani, 2018). Redesigning streets and reducing vehicle access is a major concern for retailers especially, who fear their businesses will be compromised as a result of a reduction in the availability of on-street parking for their customers (Carmona et al., 2018; Soni & Soni, 2016; Zehngebot & Peiser, 2014). Research and practice indicate otherwise (Carmona et al., 2018; Nieuwenhuijsen et al., 2018, Sadik-Khan & Solomonow, 2016). It is therefore important to address these concerns by communicating accurate information to the public.

2.5.6 MANAGEMENT OF PUBLIC PERCEPTION THROUGH A MEDIA STRATEGY

Changing cultural habits and attitudes towards street design and reducing the reliance on cars is needed to move forward with pedestrian-oriented streets (Nieuwenhuijsen et al., 2018; Nieuwenhuijsen & Khreis, 2016). Yet this is a major challenge. The advantages of private automobiles have dominated the discourse on transportation planning for decades and continue to strongly influence the attitudes, habits, and decisions made by policy makers and the general public (Nieuwenhuijsen et al., 2018; Parajuli & Pojani, 2018; Cervero, Guerra & Al, 2017; von Schönfeld & Bertolini, 2017). Nieuwenhuijsen et al. (2018) contend that it is imperative that negative implications of private car use are communicated to the public to improve understanding and acceptance for new, pedestrian-oriented planning policies. Since media can highly influence public perceptions (Sadik-Khan & Solomonow, 2016), creating a media plan can help educate the public on why car-dependency is an issue and aid in determining the most appropriate way to present the project to the public (Nieuwenhuijsen et al., 2018).

2.5.7 INCREMENTAL TRANSITIONS USING CONTEXT-SENSITIVE APPROACH & LOCAL KNOWLEDGE

Changing street building practices is an incremental process (Bain, Gray & Rodgers, 2012). For the successful implementation and acceptance of unconventional street designs, such as pedestrian-oriented streetscapes, observers suggest that it is best to introduce new concepts in a transitional manner, for instance through temporary

interventions, while drawing from local knowledge and applying a context-sensitive approach (Nieuwenhuijsen et al., 2018; Parajuli & Pojani, 2018; Adams, Cavill & Sherar, 2017; Sadik-Khan & Solomonow, 2016; Bain, Gray & Rodgers, 2012).
Incremental transitions, which typically take the form of a pilot project to test interventions, have several advantages. They are cost-effective tactics for exploring alternative design possibilities for urban streets while helping the public become familiar with a new concept (Nieuwenhuijsen et al., 2018; von Schönfeld & Bertolini, 2017). They allow project staff to measure the impact of the intervention resulting in learning outcomes that improve the final project (Sadik-Khan & Solomonow, 2016). Implementing small, gradual changes is also strategically wiser than complete, sudden transformations as there is risk that the latter may be poorly received by the public and making adjustments would be challenging (Nieuwenhuijsen et al., 2018; Parajuli & Pojani, 2018). This could result in friction between stakeholders and potentially taint the reputation of the whole project or design concept (Parajuli & Pojani, 2018). In these ways, incremental transitions are much more effective ways of generating public support for a project and "cop[ing] with deep-seated regime resistance to change" (Parajuli & Pojani, 2018; von Schönfeld & Bertolini, 2017, p. 53).

It is also important for new projects to be context-sensitive and meet local needs. This requires knowledge of the local context and surrounding urban form as well engagement with the local community (Nieuwenhuijsen et al., 2018; Adams, Cavill & Sherar, 2017). While high-density, compact areas are typically the most suitable for transitions to pedestrian-oriented streetscapes, it is important to take advantage of the area's opportunities, regardless of the location (Nieuwenhuijsen et al., 2018; Bain, Gray & Rodgers, 2012). Good practice entails the application of flexible and responsive design rather than a standard, 'one-size-fits-all' approach (Kaparias et al., 2015; Bain, Gray & Rodgers, 2012). Community-led processes are also good practice. It is important to draw from local knowledge by encouraging locals to generate creative solutions as they will be most impacted by the streetscape changes (ibid). A context-sensitive design that has been developed by local actors, has a much higher chance of success in the long-term (Bain, Gray & Rodgers, 2012). Involving the local community also helps to maintain a realistic expectation of the project outcome (Adams, Cavill & Sherar, 2017).

2.5.8 OVERCOMING THE PLANNING & ENGINEERING PROFESSIONAL DIVIDE THROUGH COLLABORATION & PARTNERSHIPS

Another key overarching challenge that presents a barrier towards the more widespread adoption of pedestrian-oriented street building practices is the disconnect between the planning and engineering professions (Dumbaugh & King, 2018; Choi et al., 2015; Hess, 2009). While planners and urban designers continuously push for the creation of walkable, liveable, and vibrant streets, their efforts are challenged by transportation engineers who ultimately have professional responsibility for the design of streets (Dumbaugh & King, 2018). With an obligation to ensure traffic safety, engineers must adhere to strict standards and regulations that, predominantly, are oriented to vehicular travel (Dumbaugh & King, 2018; McCann, 2013; Hess, 2009). Planners and engineers are typically involved at different points in a project, which may also be a source of conflict: planners and urban designers propose design solutions in early stages, while

transportation engineers ultimately authorize which design option will be approved based on criteria codified in design manuals (Dumbaugh & King, 2018). Bureaucratic 'silofication' in municipal government reduces the degree of collaboration between the two professional groups, contributing to conflicting priorities and proposals (Hess, 2009).

While the creation of engineering design manuals has helped to institutionalize the practice of street building through the development of uniform road construction standards that ensure safety, their rigidity, as discussed earlier, is problematic when attempting to redesign streetscapes (McCann, 2013; Hess, 2009). The guides present the "bare-minimum baselines for the installation of streets, markings, and signs, which in practice, help city streets operate more like highways and less like neighbourhoods" (Sadik-Khan & Solomonow, 2016, p. 30). The manuals represent a major regulatory obstacle and thus far, there has been limited flexibility exercised in implementing alternative street configurations that are safe but not authorized within existing design manuals (Sadik-Khan & Solomonow, 2016; McCann, 2013). Transportation engineers tend to resist the proposal of designs oriented to non-motorized users since vehicular traffic flow may be disrupted, contributing to congestion (Choi et al., 2015; McCann, 2013). Furthermore, since it is challenging to accommodate the needs of all users (pedestrians, cyclists, public transit riders, motorists), an acceptance of conventional street design has continued (ibid). However, alternative design principles are beginning to change practice, including those that prioritize pedestrians. Guides include: *Designing Walkable Urban Thoroughfares: A Context-Sensitive Approach* (produced by the Congress for New Urbanism and the Institute of Transportation Engineers); and the *Urban Street Design Guide* and *Global Street Design Guide* (produced by the National Association of City Transportation Officials (NACTO)) (cited in Sadik-Khan & Solomonow, 2016). The American government's endorsement of the NACTO guides has enabled them to influence modern street building practice (ibid). Furthermore, as Duany, Plater-Zyberk and Speck (2000) have noted, "strict adherence to the manuals is actually promising; rather than convincing the engineers to fundamentally rethink their approach, we need only amend the manuals in order to reform the profession" (p. 72 as cited in Dumbaugh & King, 2018, p. 451).

In addition to gaining wider acceptance of alternative street designs, improved collaboration between planners, urban designers, and transportation engineers on streetscape projects is also needed (Dumbaugh & King, 2018; Adams, Cavill & Sherar, 2017). Establishing shared goals and reaching a consensus on traffic volumes, the types of vehicles that will be permitted, driving speeds, etc., could help to ensure that what is envisioned in the planning stages of the design process is not lost during the implementation phases (ibid). Collaboration should also extend to developing partnerships with other stakeholders, such as local organizations and community groups (von Schönfeld & Bertolini, 2017; Bain, Gray & Rodgers, 2012)

2.6 CONCLUSION

Though the implementation of pedestrian-oriented streetscapes is relatively new in practice, unconventional street configurations are becoming increasingly popular across

North America. Existing literature and research suggest potential to move beyond traditional street building practices to pedestrian-oriented ones that contribute to greater societal benefits and quality of life. For this to happen, however, certain conditions must exist; a number of which were outlined in this chapter. More research on these requirements, as they operate in practice, could improve understanding of how to successfully implement pedestrian-oriented streetscapes; subsequent chapters report on efforts, enabling conditions, and barriers in Halifax, Montreal, and Vancouver.

CHAPTER 3: HALIFAX

This chapter provides an overview of the city and policy context of the Halifax Regional Municipality and details the Argyle & Grafton Shared Streetscape Project. Interviews with key informants and stakeholders provided insight on: 1) key factors that enabled the project; 2) challenges experienced prior to and during the implementation process; and 3) learning outcomes from the pursuit of a transformational streetscape project in the Halifax region.

Image: Overview of the Halifax Regional Municipality. (Source: O2 Planning + Design, n.d.)

3.1 A CHANGING CITY

The amalgamation of the cities of Halifax, Dartmouth, Bedford, and the Municipality of Halifax County in 1996, resulted in the formation of the Halifax Regional Municipality (HRM) – a region made up of urban, suburban, and rural areas diverse in context and character (see Figure 4) (Halifax Regional Municipality, 2017). The HRM's urban core is the Regional Centre which includes the Halifax Peninsula and downtown Dartmouth located on either side of the Halifax Harbour and bounded by the Circumferential Highway (see Figure 5) (Halifax Regional Municipality, 2015b).

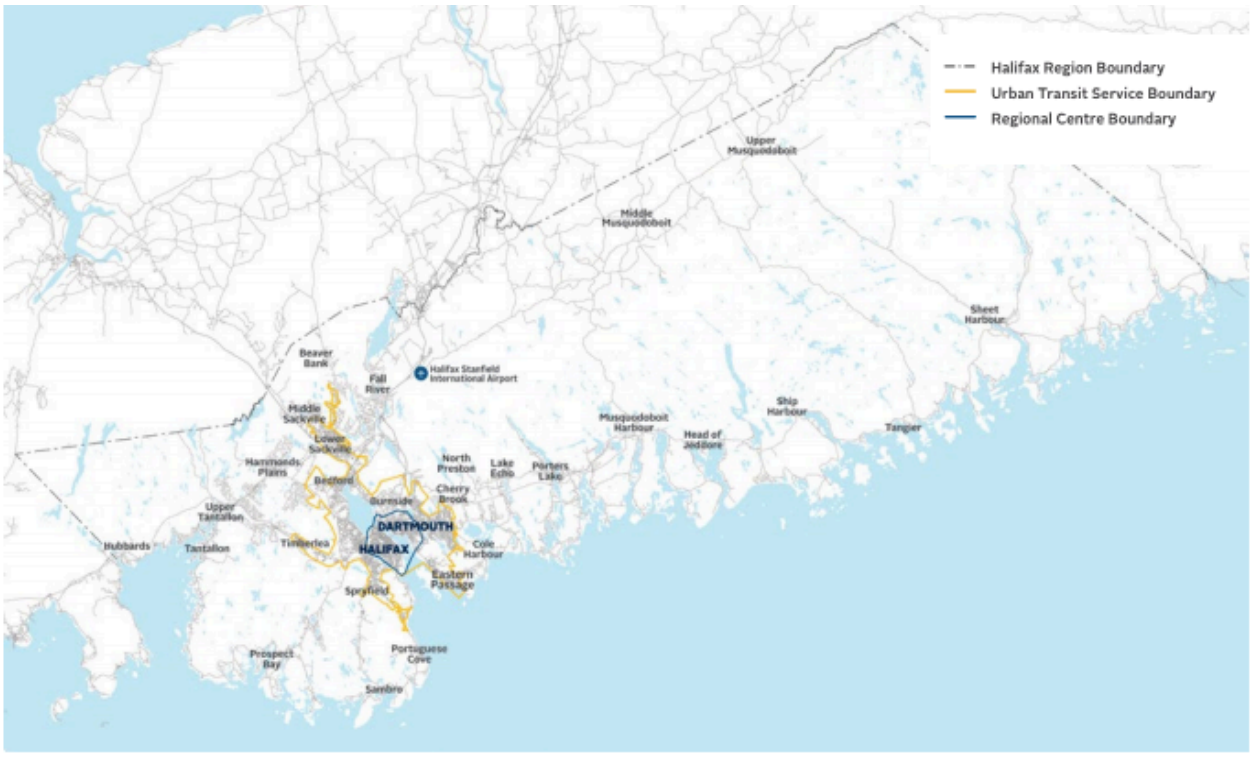

Figure 4: Map of the Halifax Regional Municipality. (Source: Halifax Regional Municipality, 2017)

As the largest and most populated municipality in Atlantic Canada, the HRM is an important population node and economic hub. Halifax's Regional Centre hosts much of the business activity, government and educational institutions, health care facilities, and culture and entertainment, making it the largest employment centre in the Atlantic Region (Halifax Regional Municipality, 2017; 2015b; 2014a). With over 235,000 employees in 2016, half of the jobs in Nova Scotia are based in the HRM (Halifax Regional Municipality, 2017).

Figure 5: Map of Halifax's Regional Centre. (Source: Halifax Regional Municipality, 2017)

Despite several decades of population decline in the urban core and provincial economic stagnation, including a shrinking labour force, both the population and the economy have grown in recent years (The Greater Halifax Partnership, 2016; Halifax Regional Municipality, 2014a). Between 2017 and 2018, Halifax experienced its second consecutive year of population growth; from 424,950 to 431,701 (an increase of 1.6%), with immigration as a key contributor (The Greater Halifax Partnership, 2018). By 2031, the HRM hopes to grow the city's population to 550,000 and increase the number of jobs by 42,000 (Halifax Regional Municipality, 2017; The Greater Halifax Partnership, 2016). Much of this growth is expected in the Regional Centre and neighbouring suburban areas (e.g. the airport and the region's business parks) due to closer proximity to work, educational institutions, shopping, transit, services, and entertainment (ibid). Major projects in the downtown core are also boosting Halifax's economy and attracting workers to the region (The Greater Halifax Partnership, 2016).

As the HRM continues to grow and attract development, a commitment to sustainability and improving quality of life in the region is imperative. This includes investing in streets and the public realm. Recent mobility statistics show unfavourable trends thus far: trips made by active transportation (walking, cycling) and transit have decreased from 25% in 2006 to 23% in 2011, while trips made by private vehicles increased from 75% to 77% in the same years (Halifax Regional Municipality, 2017). To ensure targets such as increasing the total percentage of trips made by active transportation and transit reach 30%, streets must be redesigned to better accommodate pedestrians and cyclists (ibid).

However, the HRM encompasses a large geographic area and not only do street typologies vastly vary but large-scale streetscape projects (beyond typical road construction and maintenance) have been rare in Halifax and the Atlantic Region. Nevertheless, a recently completed precedent setting project has put a spotlight on Halifax in the context of transformative street design. This case study is a documentation of the process of implementing the Argyle & Grafton Shared Streetscape Project in downtown Halifax and the impact it has had on a local and regional scale.

3.2 GROWING THE HRM: PLANNING ORIENTATIONS, ECONOMIC STRATEGIES & MOBILITY

Recognizing that the HRM needs to grow, the Halifax Regional Council has actively been adopting strategies, plans, and policies to guide sustainable population and economic growth. The following section reviews a sample of relevant documents that set the overarching policy framework for street design and streetscape projects in the HRM. Documents reviewed include the Halifax Regional Municipal Planning Strategy (2014), the Downtown Halifax Secondary Municipal Planning Strategy (2014), AGreaterHalifax: 2011-2016 Economic Strategy (2011), Halifax's Economic Growth Plan 2016-21 (2016), and the Integrated Mobility Plan (2017).

3.2.1 REGIONAL PLANS FOR THE DOWNTOWN CORE

The 2014 Regional Municipal Planning Strategy (Regional Plan) builds upon the first regional plan for the HRM adopted in 2006. Setting out broad, long-range planning policies for future growth and development in the region, the Plan outlines objectives for the Regional Centre, as a key direction is investment in the downtown core (Halifax Regional Municipality, 2014b). These objectives include establishing capital and operating expenditure programs to fund development in downtown Halifax and Dartmouth (ibid). The Regional Plan also provides direction on active transportation, emphasising designing complete streets that are safe and suitable for all ages, abilities, and modes of travel (ibid). Despite this explicit statement, however, the HRM has yet to implement a comprehensive complete streets policy (Centre for Active Transportation, n.d.1).

Complementing the broader Regional Plan, the Downtown Halifax Secondary Municipal Planning Strategy (DHSMPS) (2014) is the current plan for the Regional Centre or downtown core[2]. Aspirations for the future of Downtown Halifax include increasing live and work opportunities; creating new and improved anchors and connections; enhancing streetscapes to promote walkability and active transportation; improving the downtown experience; and supporting retail operations in commercial districts (Halifax Regional Municipality, 2014a).

[2] A more comprehensive and updated plan for the Regional Centre – the Regional Centre Secondary Municipal Planning Strategy (the Centre Plan) – is currently underway (Halifax Regional Municipality, 2019; 2014a).

The DHSMPS incorporates work completed for HRM by Design: The Downtown Halifax Plan (2010) – a Regional Centre Urban Design Study initiated in 2006 through the first Regional Plan. HRM by Design identified various street typologies in the downtown core to distinguish their unique character and function and to provide a framework to guide future public improvement projects (Halifax Regional Municipality, 2014a). Some streets were designated predominantly as thoroughfares while others were identified as important for transit and/or pedestrians. Under this classification, Argyle Street was identified as a pedestrian-priority street – a street with existing or potential for important pedestrian-oriented functions (e.g. a connecting route to destinations) and which does not accommodate a significant level of vehicular traffic (ibid). Suggested design treatments for pedestrian-priority streets include the application of distinctive, curbless paving to create a plaza-like appearance; widening sidewalks and narrowing roadway widths; as well as the addition of new lighting and street furniture (ibid). All are intended to support occasional closure of the street for programming and events.

The DHSMPS and HRM by Design are significant because they present a more coordinated approach to street design and investment in streetscapes. There have been various streetscape initiatives in Halifax over the decades. The Main Street program in the 1980s improved streets by undergrounding utilities and the G7 Economic Summit held in Halifax in 1995 directed investment in the downtown core, including its streets (H. Koblents, personal communication, February 2019; Downtown Halifax Business Commission, 2017). However, these efforts had been ad hoc; prior streetscape improvements "have come in spurts of interest or activity or infusion of money from other levels of government, but never consistently as there [had been] no dedicated funding stream for streetscaping beyond basic repair and maintenance of roadways" (H. Koblents, personal communication, February 2019). The DHSMPS and HRM by Design can be useful by setting a framework to guide future streetscape projects in the HRM.

3.2.2 TARGETED ECONOMIC INVESTMENT

Adopted in 2011, AGreaterHalifax was the municipality's former economic strategy for 2011-2016. The strategy outlined five main goals: 1) grow and enhance the Regional Centre; 2) foster a business climate to drive and sustain economic growth; 3) establish an environment that is welcoming and attractive for new talent; 4) brand Halifax in the international scene; and 5) capitalize on local opportunities to maximize economic growth (The Greater Halifax Partnership, 2011). Among the actions is the direction to "adopt a comprehensive 5-year $50 million intergovernmental capital improvement campaign to repair and enhance the public realm in the Urban Core" (ibid, p. 17). Such investment would further be supported through the establishment of an ongoing 'Strategic Urban Reserve' fund dedicated towards beautification, public art, and infrastructure improvements while also increasing public investment and funding for cultural institutions, programs, and public gathering places (The Greater Halifax Partnership, 2016; 2011).

The adoption of this strategy was significant because it identified the need for high-quality investment in downtown infrastructure and directed attention beyond just improving conditions for vehicular traffic (H. Koblents, personal communication, February 2019).

This was an important step towards ensuring that “downtown infrastructure would be both functional and beautiful and better support all the new residents and local businesses moving into the downtown core” (ibid).

The Halifax Economic Growth Plan 2016-21 presents a renewed five-year economic strategy. Its four goals are: 1) to “promote and maximize growth; 2) attract and retain talent; 3) make Halifax a better place to live and work in; and 4) align economic development” (The Greater Halifax Partnership, 2016, n.p.). The previous economic strategy’s action to adopt a $50 million intergovernmental capital improvement program for public realm investments (such as streetscape projects) had not yet been fulfilled. As such, this new economic plan directs HRM to “develop a long-term streetscaping program for the Regional Centre” (ibid, p. 20). The need for a sustained funding mechanism is widely recognized by municipal planning staff and strongly supported by the Downtown Halifax Business Commission (DHBC).

3.2.3 COORDINATED MOBILITY PLANNING

Building upon the active transportation objectives outlined in the Regional Plan (2014), the Integrated Mobility Plan (2017) presents a comprehensive transportation plan for the HRM that integrates mobility options to land-use planning through improved government collaboration. The Plan addresses all components of mobility and transportation planning including transportation demand management, transit services, active transportation, the roadway network, and parking (Halifax Regional Municipality, 2017).

A fundamental component of the Plan is adherence to a ‘complete streets’ design approach. The municipality is directed to establish “an integrated and collaborative process for the planning and design of new and reconstructed streets” (ibid, p. 62). The Plan’s emphasis on complete streets expands the notion of thinking about streets functioning simply as transportation links; streets are also valuable public spaces and places where the needs of pedestrians, cyclists, and transit users must be addressed to ensure a higher level of safety and comfort for all users (Halifax Regional Municipality, n.d.5). There are many actions outlined under the complete streets approach. These include: rehabilitating streets through design treatments that improve comfort and safety for pedestrians; identifying streets that are considered ‘places’ based on naturally-occurring high pedestrian volumes and regional significance, and prioritizing investment on these streets; as well as applying best practices in street design in the local context (Halifax Regional Municipality, 2017). The Integrated Mobility Plan also supports the use of a pilot approach to test new street designs and placemaking initiatives to explore how streets can be used more creatively (ibid). This is implemented in practice through a Street Improvement Pilot Project program which utilizes a toolkit of inexpensive materials to test innovate design ideas and evaluate their impact on the ground (Halifax Regional Municipality, n.d.4).

Through the adoption of these plans and strategies, it is evident that the policy framework in the HRM is aligning and evolving to accommodate streetscape improvements as part of the municipality’s downtown core revitalization efforts. Halifax is dedicated to investing

in its streets and public realm recognizing that it is a critical component of improving quality of life in the urban core and that thus far, little has been done. A summary of the policy context is provided below in Table 1.

Table 1: Summary of the policy framework in the Halifax Regional Municipality

HALIFAX			
Policy / Program	**Year**	**Reach of Policy**	**Overview of Applicable Objectives / Actions / Goals / Priorities**
Halifax Regional Municipal Planning Strategy (Regional Plan)	2014	City-wide	• Directs investment in the downtown core • Calls for establishment of capital and operating expenditure programs to fund development in downtown Halifax and Dartmouth • Provides direction for the design of 'complete streets' that are safe and suitable for all ages, abilities, and modes of travel

AGreaterHalifax: 2011-2016 Economic Strategy	2011	City-wide	Key objectives:
			• Grow and enhance the Regional Centre;
			  • *Adopt a comprehensive 5-year, $50 million intergovernmental capital improvement campaign to repair and enhance the public realm in the Urban Core* (p. 17)
			  • *Establish an ongoing dedicated 'Strategic Urban Reserve' fund for Urban Core beautification, […] public art and infrastructure improvements* (p. 17)
			• Foster a business climate to drive and sustain economic growth;
			• Establish an environment that is welcoming and attractive for new talent;
			• Brand Halifax in the international scene; and
			• Capitalize on local opportunities to maximize economic growth
			(The Greater Halifax Partnership, 2011)

Halifax Economic Growth Plan 2016-21	2016	City-wide	Four overarching goals: *1) Promote and maximize economic growth* *2) Attract and retain talent* *3) Make Halifax a better place to live and work in* • *Develop a long-term streetscaping program for the Regional Centre* *4) Align economic development* (The Greater Halifax Partnership, 2016)
Integrated Mobility Plan	2017	City-wide	Includes a comprehensive section on the development of 'complete streets' Components include:

			• Improving safety and comfort for pedestrians through various design treatments including widened sidewalks, traffic calming, and street trees • Identifying streets that serve as 'places' and prioritize them for investment; targeting sites with high pedestrian volumes and regional significance • Applying progressive best practices in street design • Planning and programming for winter use • Engaging the public in the envisioning and design processes • Conducting pilot projects to test temporary installations, new designs, and innovative street uses
Downtown Halifax Secondary Municipal Planning Strategy	2014	Regional Centre / Downtown Core	Provides direction for: • Increasing live and work opportunities • Creating new and improved anchors and connections • enhancing streetscapes to promote walkability and active transportation, improve the downtown experience, and support retail operations in commercial districts Incorporates classification of street typologies originally completed for HRM by Design: The Downtown Halifax Plan (2010) (Halifax Regional Municipality, 2014a)
Regional Centre Secondary Municipal Planning Strategy (Centre Plan)	TBD	Regional Centre / Downtown Core	

3.3 CASE STUDY: ARGYLE & GRAFTON SHARED STREETSCAPE PROJECT

The following case study focuses on the Argyle & Grafton Shared Streetscape Project – Halifax's first major streetscape investment in recent years and the first 'shared' street to be implemented in Atlantic Canada (see Figure 6). Located in the heart of Halifax's entertainment district, segments of Argyle and Grafton Streets have been transformed into more people-oriented spaces, enhancing the pedestrian experience downtown while supporting the district's sidewalk café culture and vibrant nightlife. The project was a joint collaboration between the HRM Planning and Development Department and the Downtown Halifax Business Commission with Ekistics Plan + Design acting as the design leads. Completed and officially re-opened in November 2017, it is considered to be a ground-breaking project for Halifax.[3]

Figure 6: Redeveloped Argyle Street. (Source: Halifax Regional Municipality, n.d.2)

3.3.1 SITE OVERVIEW

Located between Blowers and Duke Streets, Argyle Street is centrally located in the downtown core of the Halifax Peninsula (see Figure 7). Though only four blocks in length, it is an important street for Halifax serving as a major north-south corridor and pedestrian thoroughfare connecting major civic landmarks and culturally significant sites (Halifax

[3] A second major streetscape project on Spring Garden Road is currently underway.

Regional Municipality, 2015a). These include City Hall, Grand Parade, the Scotia Bank Centre, the Nova Centre, the Halifax Public Library, Citadel Hill, and the Halifax Public Gardens. It is also in close proximity to Barrington Street and Spring Garden Road – two other prominent streets in downtown Halifax, with the latter serving as the main downtown shopping district and a major corridor for transit (Halifax Regional Municipality, n.d.3). Argyle Street is the centre of the entertainment district with many restaurants, bars, and a music and theatre venue concentrated in this small strip.

The original design of Argyle Street was a one-way thoroughfare with two lanes of vehicular traffic totaling approximately 6 metres in width (Transport Canada, 2006). Sidewalks on either side were 2.13 metres and parking and loading spaces were a minimum of 1.82 metres in width (ibid). Given that Argyle Street dead ends on either side, it has never received a high volume of vehicular traffic and functions primarily as a pedestrian corridor.

Figure 7: Location of Argyle Street in Downtown Halifax. (Source: Snazzy Maps, data courtesy of Google Maps, 2019)

3.3.2 PROJECT INITIATION: WHY ARGYLE STREET?

The redesign of Argyle Street has been a project about 20 years in the making. Periodic studies had been conducted to explore a new street configuration, the onset of which was linked to supporting a vibrant sidewalk café/patio culture.

Figure 8: Temporary sidewalks on Argyle Street. (Source: B. Toderian via Twitter, 2015)

Sidewalk cafés/patios were first introduced in Halifax in 1995 (Downtown Halifax Business Commission, 2018; Transport Canada, 2006). In hosting the G7 Economic Summit, Halifax installed a sidewalk café as a temporary enhancement in the downtown core. The concept was so successful, other downtown property and business owners became interested in replicating the model (Transport Canada, 2006). The potential benefits and opportunities sidewalk cafés provided were quickly realized: enhancement of the overall character of the street, increase in pedestrian volume, tourist attraction, and contribution to the local economy (ibid). With support from DHBC's lobbying efforts, the HRM adopted a Sidewalk Café Policy to permit encroachment onto sidewalks for the purpose of installing sidewalk cafés in 1998 (H. Koblents, personal communication, February 2019; Downtown Halifax Business Commission, 2018; Transport Canada, 2006). This enabled restaurant owners to build seasonal patios on the existing narrow sidewalks and construct temporary sidewalks in the adjacent parking spaces during summer months (see Figure 8) (Transport Canada, 2006). Although this was not an ideal design approach, and businesses incurred all of the expenses related to setting up and maintaining the sidewalk cafés, this process persisted annually from May to October (H. Koblents, personal communication, February 2019; Transport Canada, 2006). This was significant because it was the first way in which portions of road space were removed from vehicle users and given back to pedestrians and commercial activities that extended into the public realm (H. Koblents, personal communication, February 2019).

During this time, the HRM and DHBC collaborated with a consulting firm to conduct the Argyle Street Design Study – an exploration of options for redesigning Argyle Street to better accommodate the growing demand for sidewalk cafés (Transport Canada, 2006). Following a public consultation process with property and business owners on Argyle

Street, the study proposed a pedestrian-only design approach that would "create a special pedestrian sidewalk café district unique to downtown Halifax" (Transport Canada, 2006, p. 6). Unfortunately, due to the need for further studies to investigate the feasibility of such a design, as well as some resistance to prohibiting vehicular traffic, no further action was taken at the time.

It was not until the adoption of the 2011-2016 Economic Strategy that discussions around redesigning Argyle Street resurfaced. The strategy explicitly outlined the need for public realm improvement funds and a streetscaping program to "signal meaningful investment in the downtown core" (H. Koblents, personal communication, February 2019). This prompted municipal staff and stakeholders to collectively identify 12 potential projects that would be good candidates for public infrastructure investment downtown (H. Koblents, personal communication, February 2019; J. Ritchie, personal communication, February 2019). Argyle Street quickly emerged as a top priority because: a) the idea of redesigning the streetscape had been discussed before, and b) at this time (2012), construction on the new convention centre (the Nova Centre) had begun on Argyle Street presenting an opportunity to align the two infrastructure projects (J. Ritchie, personal communication, February 2019; Councillor W. Mason, personal communication, March 2019). Especially considering that enhancement to the area provided by the new convention centre meant that the street could not be left as it was – complementary public realm investments had to be made as well (Councillor W. Mason, personal communication, March 2019).

Consequently, the impetus for finally pursuing a redesign of Argyle Street was framed through "an economic development justification" (H. Koblents, personal communication, February 2019). In addition to revitalizing the entertainment district, and further supporting the vibrant café culture, the redesign of Argyle street is a strategic investment in Downtown Halifax. The idea was that if money is invested into the space, there will be more people, more business, and better property management which the city will benefit from (ibid).

3.3.3 DESIGN & IMPLEMENTATION PROCESS

Building upon previous studies and design work for a redeveloped Argyle Street, and motivated by new funding potential from the economic strategy, the DHBC hired the Planning & Design Centre (PDC) in 2012 to prepare a conceptual plan for the redesign of Argyle Street to be presented to Council (Halifax Regional Municipality, n.d.1). The conceptual renderings advocated for Argyle Street to become "Halifax's premier civic space" through permanent infrastructure improvements that would prioritize pedestrians over vehicles, support the district's café culture, and activate the street (Planning & Design Centre, 2012). From these renderings, the idea of a shared street design emerged (see Figure 9).

After a few years of project stagnation due to waiting to acquire funding, the feasibility and viability of a shared street concept on Argyle Street was finally tested in the summer of 2015 (see Figure 10) (Downtown Halifax Business Commission, 2017; Halifax Regional Municipality, n.d.1). The Argyle Street Animation Pilot Project (*Mingle on Argyle*) was

launched on one block of Argyle Street between Blowers and Sackville Streets as a joint collaboration between the HRM and DHBC (ibid). Every weekend for six weeks between July and September, Argyle Street was closed off to vehicular traffic and transformed into a vibrant, pedestrian-only public space. Freshly painted in a brightly-coloured argyle pattern, with new street furniture and planters, the space was activated through family-oriented events and diverse programming including live music. All of this contributed to showcasing the potential for the street to be used as a public gathering space and event venue (Downtown Halifax Business Commission, 2018).

Figure 9: Conceptual renderings of Argyle Street. (Source: Planning & Design Centre, 2012)

A successful pilot provided momentum for the permanent redesign of Argyle Street. Additionally, progress made on the construction of the Nova Centre spurred interest in improving pedestrian connections between the new convention centre and the Scotiabank Centre (Halifax Regional Municipality, n.d.1). Consequently, the City decided to extend the scope of the Argyle Street project from two blocks between Prince and Blowers Streets to also include one-block of Grafton Street, from Prince to Carmichael Streets (ibid).

Figure 10: Argyle Street Animation Pilot Project. (Source: DHBC, 2015)

In November 2015, Ekistics Plan + Design was awarded the contract for the Argyle & Grafton Shared Streetscape Project (Halifax Regional Municipality, n.d.1; Halifax Regional Municipality, 2016). While the PDC's designs were conceptual and generated many ideas about how the streets should look, Ekistics was hired to produce functional and operational designs. By April 2016, Ekistics had prepared detailed design drawings and cost estimates, approximating $6.6. million in net costs (Halifax

Regional Municipality, 2016; n.d.1). Following unanimous approval from Regional Council, the next phases of the project moved relatively quickly (Halifax Regional Municipality, n.d.1; J. Ritchie, personal communication, February 2019). Design and construction drawings were finalized in January 2017, and construction began on June 1, 2017 (Halifax Regional Municipality, n.d.1). The construction period was expected to last 17 weeks in total (until September) but was ultimately extended to 22 weeks, through to the end of October (ibid). The street formally re-opened on November 4, 2017. A summary of the project timeline is illustrated below in Figure 11.

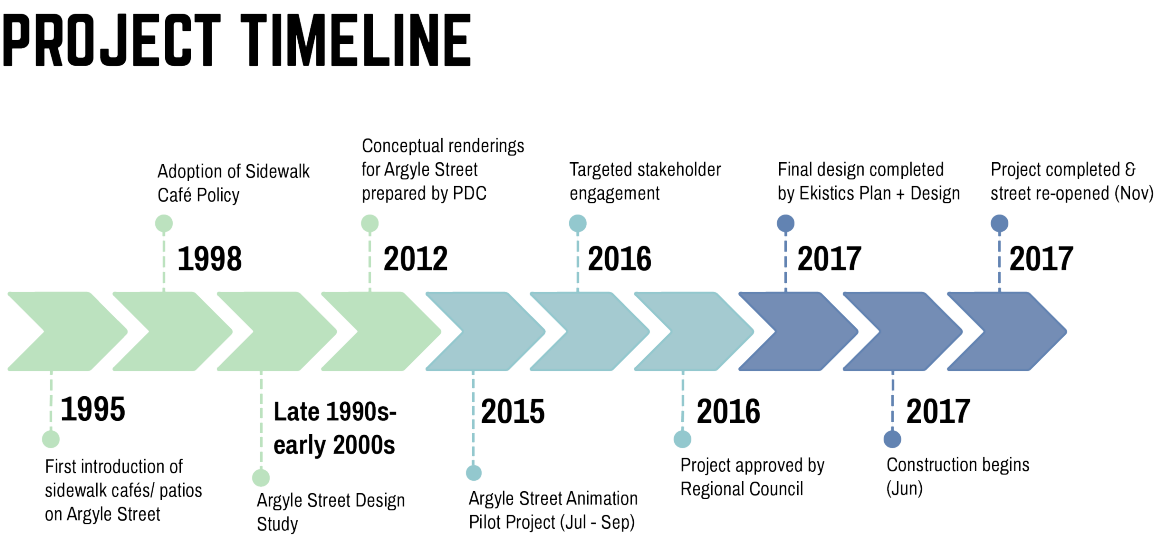

Figure 11: Timeline of Argyle & Grafton Shared Streetscape Project

3.3.4 FINAL DESIGN

The project was a massive and complex undertaking. Significant changes include the removal of curbs, widening of sidewalks, narrowing vehicular traffic lanes, installation of specialized pavers and the addition of new street furniture (see Figure 12) (Halifax Regional Municipality, 2015a; R. LeBlanc & D. Segal, personal communication, March 2019). The curbless design necessitated the addition of tactile strips along the entire stretch of the street to ensure the street remained accessible and safe for all users including the visually and mobility impaired (Downtown Halifax Business Commission, 2018; R. LeBlanc & D. Segal, personal communication, March 2019). All parking spaces were removed with the exception of three accessible spots while still accommodating delivery and service vehicles. Other innovative design elements include the installation of soil cells which accommodate the growth of street tree roots without damaging the road (the first installation of this technology in Atlantic Canada), trench drains to capture stormwater, a decorative overheard lighting canopy, and bollards to promote traffic calming (ibid). The new design promotes a more pedestrian-oriented environment and most importantly, has enabled the presence of year-round patios.

Argyle continues to function as a one-way street but with only one lane of traffic, whereas Grafton remains a two-way street (Halifax Regional Municipality, n.d.2). Navigation and traffic have not been significantly impacted; vehicles can still use the streets as a

thoroughfare they just cannot park and must reduce their speed (H. Koblents, personal communication, February 2019). During the summer months, the street is closed to vehicular traffic on weekends using custom gateway signs installed on either end of the street. This allows the street to be transformed into a programmable, mixed-use event space making it an attractive destination to visit for residents and tourists (Halifax Regional Municipality, 2015a).

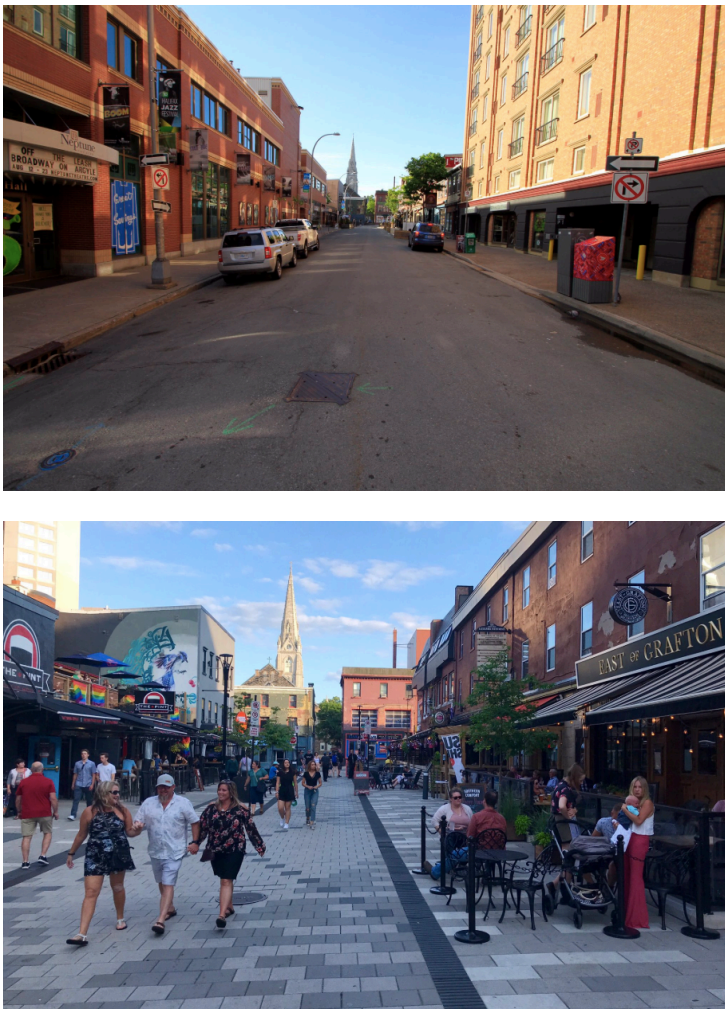

Figure 12: Argyle Street before (top) and after (bottom) redevelopment. (Source: TJ Maguire via Twitter, 2019)

Both Argyle and Grafton Streets have designated 'pedestrian-only zones' and 'shared zones', the latter of which can be used by pedestrians, cyclists, and motorists (Halifax Regional Municipality, n.d.2). However, despite treated as a shared space, neither street is officially designated as a 'shared street' as this is not a recognized street typology under the current Nova Scotia Motor Vehicle Act (Government of Nova Scotia, 2019; Halifax Regional Municipality, n.d.2;). All laws for pedestrians, cyclists, and motorists remain the same on Argyle and Grafton Streets as on any other public street – pedestrians only have the right-of-way at crosswalks and intersections (ibid). Therefore, while pedestrians can use the shared zones and "are permitted to cross the street midblock, [they] do not have priority" and must yield to traffic (Halifax Regional Municipality, n.d.2, n.p.). Given the low vehicular traffic volume on both streets, however, it is common to see pedestrians crossing midblock without a major concern for oncoming traffic. Nevertheless, it will be interesting to see if new streetscape projects, such as this one, will influence or necessitate policy changes.

3.3.5 PUBLIC ENGAGEMENT & CONSULTATION

The primary form of public engagement undertaken for the Argyle & Grafton Shared Streetscape Project was the pilot – "[it] was as much a promotional tool for the project as it was an engagement tool" (H. Koblents, personal communication, February 2019). It

was an effective way for the public to engage with the project while also helping to inform the final design of the new street configuration. However, the pilot was not perfect – while the street was made to look more attractive, the shared street concept could not be easily tested (ibid). What the pilot did test was how the street can function as a public space and helped the project team assess the impact of increased pedestrian volumes on adjacent businesses (P. MacKinnon, personal communication, March 2019). It was the biggest and most useful approach for helping the public understand the concept of a shared street while also proving it could work (R. LeBlanc and D. Segal, personal communication, March 2019).

Beyond the pilot, the extent of public engagement was actually quite limited in scope. Further consultation and engagement initiatives were targeted at specific stakeholder groups, predominantly the businesses directly abutting Argyle Street. Initiatives included a design workshop hosted by the DHBC in December 2015 during which the project was introduced to business and property owners, gathering their feedback to inform design changes and the implementation process (Halifax Regional Municipality, n.d.1). Even more targeted engagement was pursued later on with business owners contacted on a one-on-one basis (ibid).

One of the aspects the business community was consulted on was the construction timeline (J. Ritchie, personal communication, February 2019). From these discussions emerged the plan to complete construction during the summer months with the intention of re-opening the street in early fall so that businesses could profit from the end of peak patio season (ibid). Unfortunately, due to construction delays, this did not happen as planned. Nevertheless, the businesses were given the opportunity to provide their input (ibid).

Additional stakeholder meetings were held in January 2016 during which the project was presented to the HRM Accessibility Advisory Committee and another in February 2016 which served as an information session for persons with disabilities, though the latter was poorly attended (Halifax Regional Municipality, n.d.1; H. Koblents, personal communication, February 2019). Designing the street for people with visual, hearing, and mobility impairments was a key requirement for the project, as one of the biggest concerns regarding shared streets is designing for people who are visually impaired (H. Koblents, personal communication, February 2019; R. LeBlanc & D. Segal, March 2019). Efforts to ensure the street was accessible for all groups were made by the project team and design leads (ibid).

The justification for the limited degree of community engagement on the design of the street is that there was no significant need for it (J. Ritchie, personal communication, February 2019). There had already been several iterations of conceptual designs produced in the past, including the contribution from PDC in 2012 (ibid). The PDC applied a community-based approach in their work, hosting two public design sessions during which ideas were generated with community members and local businesses (Planning & Design Centre, 2012). This, among other work that had been done for the site, gave the project team many examples to learn from (J. Ritchie, personal communication, February

2019). Furthermore, there were also already several agreed-upon elements such as the removal of curbs, installation of pavers, year-round patios, etc., determined over the years through conversations and design iterations, that conducting a consultation with that many predetermined variables would not have resulted in a very authentic process (ibid). The project team felt the design that was conceived was good and met the requirements for what was desired and expected and the pilot proved it to be favourable (ibid).

In retrospect, there is recognition that perhaps this was a limitation of the project – that more public engagement could have been done (H. Koblents, personal communication, February 2019; P. MacKinnon, personal communication, March 2019). Also, that this degree of public engagement is unrepresentative of what is typically conducted for most civic projects (H. Koblents, personal communication, February 2019). Comparatively, more engagement has already been conducted for Halifax's second streetscape project on Spring Garden Road than was ever done for Argyle and Grafton Streets (ibid).

3.3.6 LOCAL & REGIONAL IMPACT

The Argyle & Grafton Shared Streetscape Project was a specialty project unique to Halifax. Though there had been other streetscape initiatives in the past, this is the first major project that is dedicated to a significant revitalization of a streetscape in decades (H. Koblents, personal communication, February 2019).

Locally, the response from the community and businesses has been positive overall and the project is considered to be a success (H. Koblents, personal communication, February 2019; J. Ritchie, personal communication, February 2019; P. MacKinnon, personal communication, March 2019). Despite the relatively limited public engagement, there have been no complaints about it and people are generally happy with the result (ibid). The new Argyle Street provides many more opportunities for programming, and fosters a better environment for residents, tourists, and businesses to enjoy year-round. The street's design and the addition of gateway closures makes closing the street to vehicular traffic free and logistically much easier than any other street in Halifax (Representatives from the Planning & Design Centre, personal communication, March 2019). While the City does not purposefully seek to activate the street on a regular basis, it is responding to a lot of requests for activation and programming by community groups and organizations (H. Koblents, personal communication, February 2019). This is good because it indicates that others have "immediately recognized this as an event space that people would want to go to" and already there has been a good turn-out at events held at the site (ibid).

Another impact of the project was that it prompted business owners to invest in their own properties (H. Koblents, personal communication, February 2019; J. Ritchie, personal communication, February 2019). This led to some coordination challenges during the construction period as there were multiple ongoing renovations (J. Ritchie, personal communication, February 2019). Inevitably, there has also been some business turnover on the street with a few smaller establishments closing or relocating and replaced by new ones. This is inevitable with any significant public investment into a space because it

attracts private investment (ibid). It is also hard to tease out whether it was the redesign of Argyle Street that caused this turnover or the massive new convention centre (ibid). Either way, it is too early to assess the full, long-term impact of the streetscape project on the area.

On a broader scale, the Argyle & Grafton Shared Streetscape Project has been recognized for its innovative design approach and contribution to Halifax. It has been awarded the Best of Halifax 2017 silver award for Best Effort to Improve Halifax and the People's Choice Award for Best Urban Street Transformation of 2017 (Downtown Halifax Business Commission, 2018; Schmitt, 2017). This recognition is giving the city amazing promotion and now other small to mid-sized Canadian cities are looking to Halifax as an example (P. MacKinnon, personal communication, March 2019).

3.4 CHALLENGES & BARRIERS TOWARDS IMPLEMENTING PEDESTRIAN-ORIENTED STREETSCAPES IN HALIFAX

The following section outlines some of the challenges experienced during the Argyle & Grafton Shared Streetscape Project's implementation process as identified by key informants and stakeholders interviewed. These pertain to overarching barriers towards implementing pedestrian-oriented streetscapes in Halifax. The challenges are predominantly design and operationally oriented, as these were the stages in which there were a lot of concerns that had to be dealt with (H. Koblents, personal communication, February 2019). Additional challenges and barriers are discussed in Chapter 6.

3.4.1 ACCEPTING NEW STANDARDS & NON-ROUTINE STREETSCAPE WORK

Given the novelty of a shared street in Atlantic Canada, getting traction on the project was important. Despite strong support for the redesign of Argyle Street, there was nevertheless "a lot of apprehension and aversion to risk. A solid case had to be built to convince people not only on the design but the merit of shared streets in general" (Downtown Halifax Business Commission, 2018, n.p.). Defining and communicating what a shared street is, how it works, what design elements are different, etc., were among the first concerns to be addressed (H. Koblents, personal communication, February 2019). The municipal "engineering department needed due diligence from consultants about how [the street] was going to be safe" without any curbs as there were concerns that cars would drive onto the designated sidewalk zone (ibid).

Pursuing a shared street design also presented several technical and design challenges. Beyond convincing City engineers that such a typology would work in Halifax, an additional obstacle was acceptance of non-standard items. An unprecedented streetscape project necessitated new design items and regulations for which application had to be justified as they differed from conventional municipal infrastructure and standards (H. Koblents, personal communication, February 2019; J. Ritchie, personal communication, February 2019; R. LeBlanc & D. Segal, personal communication, March 2019). In total, there were 17 non-standard exceptions to municipal design guidelines that had to be negotiated with the municipal engineering department. These include tactile

strips as a replacement for raised curbs, curb extensions, narrower travel lane widths, soil cell modules, street furniture (planters, bicycle racks), decorative overhead LED light canopy, public art, light poles and fixtures (H. Koblents, personal communication, February 2019).

The numerous adjustments necessitated for the project resulted in the establishment of a formal process for accepting non-standard items and in the production of a new reference manual to substitute the HRM's red book of municipal design guidelines (H. Koblents, personal communication, February 2019; R. LeBlanc & D. Segal, personal communication, March 2019). The new guide book lists the different non-standard items, explains the reason for using them, and notes how they are to be installed and maintained, thereby making their application in future streetscape work easier (ibid).

The use of non-standard items inevitably stalled progress on the project. Engineering consultants had to document the rationale for every non-standard decision and explain to the planning department what the standards met, how safety was going to be assured, and how to maintain all of these different materials (H. Koblents, personal communication, February 2019; J. Ritchie, personal communication, February 2019). Whenever there was conflict, or reluctance to do something that was not routine, a helpful tool was having unanimous support from Council on the project (J. Ritchie, personal communication, February 2019). Thus, a major learning outcome of the project was that there needs to be openness towards accepting non-routine ways of doing things.

3.4.2 ACQUIRING FUNDING FOR STREETSCAPE PROJECTS

At the time of the project's development, there was no dedicated funding stream for streetscape projects in Halifax. As a result, one of the key challenges proved to be acquiring funding that was to be dedicated to streetscape work in the downtown core through the 2011-2016 Economic Strategy.

The economic strategy called for $50 million to be dedicated to the revitalization of the public realm downtown. This capital was to be acquired with equal contributions from federal, provincial, and municipal levels of government. The HRM responded by setting aside $3.5 million per year for five years towards streetscape projects and compiling a list of 12 priority projects. This $17.5 million that would be acquired through municipal funding was seen as one-third of the expected $50 million and was to be leveraged with additional funding from provincial and federal levels of government. The intention was to utilize all of this capital to tackle all 12 projects within five years which were estimated to total $50 million. However, Council approval for these 12 priority projects was contingent upon acquiring equal financial contributions from all three levels of government. Problematically, the federal and provincial governments did not set aside funding – other things got priority. Consequently, there was no funding available from the provincial nor federal government for public realm projects in Halifax (H. Koblents, personal communication, February 2019; J. Ritchie, personal communication, February 2019; Councillor W. Mason, personal communication, March 2019; Downtown Halifax Business Commission, 2017).

In an effort to still move ahead with streetscape work, the planning department made a case to Council to proceed with two of the twelve priority projects using the $17.5 million the municipality already had in reserve (H. Koblents, personal communication, February 2019; J. Ritchie, personal communication, February 2019). The selection of projects was narrowed to the top two choices (Argyle Street and Spring Garden Road) which Council approved (ibid).

As the Argyle & Grafton Shared Streetscape Project illustrates, the only way to secure funding for a streetscape project of this scale was "through specialty projects that go through special justification to Council" (J. Ritchie, personal communication, February 2019). However, this is in the process of changing. In response to Action Item 61 of the Halifax Economic Growth Plan 2016-21, "develop a long-term streetscaping program for the Regional Centre", the HRM is currently exploring options and opportunities for such a program (H. Koblents, personal communication, March 2019). Ensuring certainty of ongoing funding is critical, thus, such a program would significantly aid the municipality in pursuing future streetscape work.

3.5 LEARNING OUTCOMES FROM THE ARGYLE & GRAFTON SHARED STREETSCAPE PROJECT

The following section presents some of the learning outcomes specific to the Argyle & Grafton Shared Streetscape Project as identified by key informants and stakeholders interviewed. Additional learning outcomes and a more detailed overview of themes pertaining to key enabling factors for implementing pedestrian-oriented streets in the Canadian context are discussed in Chapter 6.

3.5.1 EXERCISING FLEXIBILITY IN PLANS TO ACCOMMODATE DESIGN CHANGES

Exercising flexibility in the design process and accommodating unexpected obstacles to the original design plan proved to be a major learning outcome of this project. Initially, the project only entailed Argyle Street – Grafton Street was a last-minute addition. The concurrent construction of the Nova Centre prompted discussions about strengthening pedestrian connections between landmarks such as the new convention centre, Scotiabank Centre, City Hall, Grand Parade, and neighbouring hotels, as well as improving access to underground parking garages and local bars and restaurants (J. Ritchie, personal communication, February 2019; Halifax Regional Municipality, 2015a;). A feasibility study was therefore commissioned by the Province to explore the possibility of constructing an underground walkway beneath one block of Grafton Street (ibid). However, given the level of complexity such a construction project would entail, and the greater benefits that would be attained by focusing efforts at street-level, the underground tunnel idea was replaced with a more reasonable option (ibid). Thus, the HRM commissioned an additional shared street construction on Grafton Street between Prince and Carmichael Streets to complement the work on Argyle Street (ibid). "The opportunity to improve Grafton Street at grade level was much more important to the municipality

[than creating an underground tunnel] because the intention was to get people to spend time outside" (J. Ritchie, personal communication, February 2019).
Additionally, while early discussions were focused on redesigning all four blocks of Argyle Street, only two blocks – from Blowers to Prince Streets – were completed. There is some discussion about the possibility of redesigning Grand Parade in front of City Hall, located on the south side of Argyle Street between Prince to Duke Streets, as well as prospective streetscape improvements on George Street to strengthen connections to the waterfront (J. Ritchie, personal communication, February 2019; Councillor W. Mason, personal communication, March 2019). Due to this, there was risk that future work might require undoing whatever work would have been done on Argyle Street (J. Ritchie, personal communication, February 2019). Consequently, the project team decided to pause on redeveloping that section of Argyle until some point in the future (ibid).

The addition of Grafton Street and modifications to the extent of Argyle Street that would be redeveloped are some of the ways in which flexibility in the design process had to be exercised. Unexpectedly, the pre-existing underground infrastructure also posed a design challenge, as "a lot of what was underground dictated what could be done on the surface" (R. LeBlanc & D. Segal, personal communication, March 2019). There were many infrastructural surprises along the way that had to be accounted for, and a lot of design details that had to be adjusted during the construction process (ibid).

3.5.2 OVERCOMING OPPOSITION THROUGH GOOD COMMUNICATION & CONSULTATION

Although there was a lot of support and advocacy for the project, there was inevitably also some opposition – concerns were raised by a few of the adjacent businesses. These frustrations may have been rooted from general opposition to the design concept and/or the project's extended construction period but were also likely heightened due to the multi-year construction extension on the Nova Centre – a massive construction project that directly impacted the business and property owners on Argyle Street (J. Ritchie, personal communication, February 2019; Councillor W. Mason, personal communication, March 2019).

The project team responded by committing to a robust construction mitigation strategy (H. Koblents, personal communication, February 2019; J. Ritchie, personal communication, February 2019; R. LeBlanc & D. Segal, personal communication, March 2019). HRM staff and the DHBC worked closely together to regularly communicate updates on the project's progress to business and property owners (ibid). Efforts were made to minimize the level of disruption and inconvenience on Argyle Street, with commitments to ensure ongoing pedestrian and vehicle access for deliveries, loading, and waste management, and advance notice given prior to any service or accessibility disruptions (ibid). Every time there was a project update (weekly), a meeting would be held with the 22-person internal technical committee (H. Koblents, personal communication, February 2019). The HRM even hired a summer student to act as a liaison between the different stakeholders (ibid). In this way, through the provision of regular updates and maintaining open lines of communication, the project team was able

to quickly respond to complaints, thus improving stakeholder relations and mitigating opposition (H. Koblents, personal communication, February 2019; J. Ritchie, personal communication, February 2019; Downtown Halifax Business Commission, 2018). Additionally, by closely involving stakeholder groups throughout the process, business and property owners felt a greater sense of ownership and were therefore less likely to oppose the project (ibid).

In this way, engagement on the project was quite extensive in a different regard. Despite limited public consultation, the level of engagement between the City's internal departments, utility groups, and the business community, was a massive undertaking by HRM staff. No other streetscape project thus far has had this degree of consistent coordination between the different stakeholders (R. LeBlanc & D. Segal, personal communication, March 2019). This deep internal engagement was really important and a precedent in its own way as it showed the importance of ongoing communication between stakeholders (H. Koblents, personal communication, February 2019).

3.5.3 PLANNING FOR LONG-TERM SUCCESS

Another learning outcome of the project was that continuity is important – both from a maintenance perspective as well as in ensuring long-term, ongoing funding for streetscape projects. "There is a risk that things like this could fail if the unit leading the design team does not engage with [the maintenance team] because then the maintainers are left with something they are not equipped to maintain. The maintenance team needs to be engaged with the project at the outset to create a maintenance plan" (H. Koblents, personal communication, February 2019). Furthermore, there cannot just be one infusion of capital and no long-term plan beyond the completion of the project (ibid). Given the issues experienced with acquiring funding for this project, it became even more critical to ensure a funding strategy is in place to support streetscape investments. Though perhaps not a direct result of this project, progress is finally underway towards developing an ongoing funding stream for streetscape work.

3.5.4 SETTING A PRECEDENT FOR FUTURE STREETSCAPE PROJECTS

The Argyle & Grafton Shared Streetscape Project has set a precedent for future streetscape work in the HRM, in Atlantic Canada, and beyond. Lessons learned from this project are directly applicable to the redesign of Spring Garden Road. These include building upon the interdepartmental and stakeholder relationships that were founded through this project, applying similar tactics for opposition mitigation, and the utilization of the new reference manual for non-standard items.

Beyond just logistical and functional lessons, the project has also helped to evolve the conversation about placemaking, connecting places, and viewing streets as more than corridors for vehicle transport – all of which are "fairly new conversations in Halifax" (P. MacKinnon, personal communication, March 2019). In this sense, the project has been quite transformative and radical, perhaps more than people initially realized or expected it to be (J. Ritchie, personal communication, February 2019).

3.6 CONCLUSION

After many years of discussion, interest, and advocacy, the timing and conditions were finally ripe to transform Argyle Street into a pedestrian-oriented space, showcasing its importance to the city. The project sets a new standard for enhancing streetscapes in Halifax and has created momentum for future streetscape work (Planning & Design Centre, 2012). Despite some significant challenges and obstacles along the way including unexpected design adjustments, issues in accessing funding, a delayed construction timeline, coordination with another massive construction project on the same site and mitigating perception of risk, among other concerns, the project resulted in a well-liked final product. It is considered to have been a worthwhile investment for the downtown core that "will be paid through increased visitation and business" (Downtown Halifax Business Commission, 2018). An overview of the defining characteristics of the project is provided below in Table 2.

Table 2: Overview of the Argyle & Grafton Shared Streetscape Project in the Halifax Regional Municipality

HALIFAX	
Project	Argyle & Grafton Shared Streetscape Project
Year Initiated & Completed	Early efforts in mid-1990s but more seriously considered beginning in 2012 Piloted during summer 2015 Completed and formally opened in November 2017
Site Description	Commercial and entertainment district in downtown Halifax
Initiated By	Downtown Halifax Business Commission (long-time advocates for improvements to Argyle Street)
Goals / Objectives	Support local businesses and promote sidewalk café culture Enhance pedestrian experience downtown Contribute to area's vibrant nightlife
Process	First-time, large-scale project Shared street concept piloted, then designed, and implemented permanently
Engagement	Mostly in pre-project phases; some targeted stakeholder engagement; pilot was main form of community engagement
Design	Shared street; built upon earlier design renditions; tested through pilot; permanent reconstruction of street
Impacts	First shared street implemented in Atlantic Canada and first significant streetscape revitalization in Halifax in decades; precedent-setting project Positive feedback from residents, businesses, and visitors; award recognition
Enabling Factors	(All discussed in Chapter 6)
Challenges & Barriers	Introduction of new street configuration in Halifax brought contention Acceptance of non-standard design items and non-routine streetscape work Acquiring funding from provincial and federal levels of government

	(Additional challenges & barriers discussed in Chapter 6)
Learning Outcomes	Designs must be flexible to accommodate unprecedented changes Extensive, ongoing communication with stakeholders needed to ease concerns and garner support Plan for long-term site maintenance and ensure ongoing funding Set precedent for future streetscape work in HRM (Additional learning outcomes discussed in Chapter 6)
# of Related Projects	Second streetscape project currently underway (Spring Garden Road)

CHAPTER 4: MONTREAL

This chapter provides an overview of the city and policy context of the City of Montreal with a specific focus on the Pedestrian and Shared Streets Implementation Program (*Programme d'Implantation des Rues Piétonnes et Partagées* (PIRPP))**.** Following an overview of the program, a mini case study is presented on the Place Wellington project in the Borough of Verdun to depict how the program is enabling the creation of pedestrian-oriented streetscapes in Montreal. Interviews with key informants help to identify a) the key strengths and limitations of the program; b) the impact of the streetscape projects locally; and c) ongoing challenges and barriers associated with implementing pedestrian-oriented streetscapes in the Montreal context.

Image: View of the City of Montreal. (Source: OUTFRONT Media Canada, n.d.)

4.1A CITY CHARACTERIZED BY ITS VIBRANT PUBLIC REALM

Recognized for its vibrant, convivial atmosphere and a generally high quality of life in an urban metropolis, Montreal is perhaps *the* city to look to for innovative public realm initiatives. Low-rise building density and a high population density have made the city's streets walkable, with numerous parks and public spaces enjoyed during peak summer months.

The City of Montreal's 19 boroughs along with 15 reconstituted municipalities comprise the urban agglomeration of Montreal – a geopolitical structure that has been in effect since January 1, 2006 (see Figure 13). A unique aspect of Montreal is that it is a federal system of municipal governance, where the City centre sets broad objectives and develops strategic projects, yet much of the decision-making power (and budget allocation) is at the lower tier of the boroughs. Montreal is the most populated municipality in Quebec and the second largest city in Canada. With 1.9 million inhabitants (2016), Montreal holds 24% of Quebec's population and 47% of the Montreal census metropolitan area (CMA) population (Ville de Montréal, 2018b). As Quebec's metropolis, Montreal is also the driver of Quebec's economy; with 1.3 million jobs (2016), Montreal provides 28% of the jobs in the province and 63% of the jobs in the CMA (ibid).

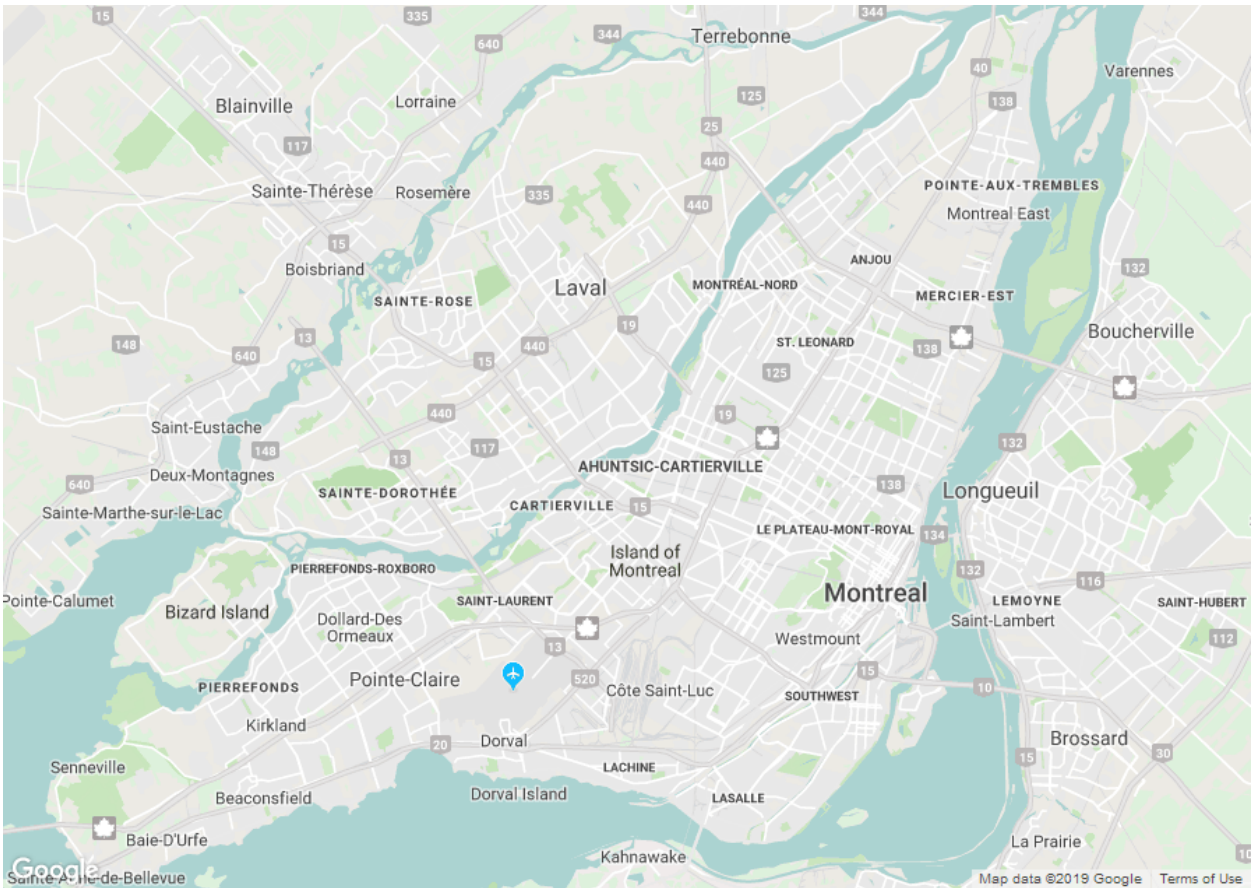

Figure 13: Map of the City of Montreal. (Source: Snazzy Maps, data courtesy of Google Maps, 2019)

The City of Montreal brands itself as a knowledge and talent-based metropolis given its numerous educational institutions and internationally recognized research centres; a multicultural and cosmopolitan city, welcoming over 35,000 immigrants annually; and a hub for international trade and business allowing it to have a diverse and resilient economy (Ville de Montréal, 2018b). Beyond a population and economic centre, Montreal is also dedicated to advancing the city's sustainable development agenda and improving the quality of life of its citizens. One aspect of this is improving the experience of the pedestrian. Fully pedestrianized streets or some form of pedestrianization has been prevalent in the Montreal context for decades beginning with the transformation of Prince-Arthur Street into a pedestrian mall in the 1980s and seasonal pedestrianization of portions of Sainte-Catherine Street in the Gay Village since 2008 (see Figure 14) (Gladysz, M., 2018). Presently, there are over 50 such sites and counting, some of which have been implemented through the PIRPP (Ville de Montréal, n.d.1).

Figure 14: Sainte-Catherine Street, Gay Village, Montreal. (Source: Ville de Montréal, n.d.1)

In this way, the City of Montreal exemplifies pedestrianization in the Canadian context, making it a valuable case study to investigate for pedestrian-oriented streetscape initiatives. Few other cities have been as willing to take risks and embrace unconventional street configurations as Montreal and executed the transformations so successfully (Gladysz, M., 2018). The PIRPP is just one example of the multitude of ongoing public space and streetscape initiatives in Montreal; an attractive public realm is a defining characteristic of the city and its culture.

4.2 CONCRETE ACTIONS TO MAKE MONTREAL A SUSTAINABLE & WALKABLE CITY

Prioritizing pedestrians in street design and streetscape initiatives in Montreal has always been framed in the context of creating healthy, liveable neighbourhoods and promoting sustainable development. Early plans that guided this orientation include the First

Strategic Plan for Sustainable Community Development (2005), the Pedestrian Charter (2006), and the Montreal Transportation Plan (2008).

Adopted in 2005, Montreal's First Strategic Plan for Sustainable Community Development established the Neighbourhoods 21 Program (*Programme Quartier 21*) (Ville de Montréal, 2010; n.d.5; n.d.4). A joint initiative by the City of Montreal's Department of Environment and Sustainable Development and the Public Health Department of the Agency for Health and Social Services for Montreal, the program supports the implementation of small-scale, local projects that contribute to the sustainable development of Montreal's boroughs (Ville de Montréal, 2010; n.d.5). The program responds to a range of environmental, social, and economic priorities by piloting projects with support from local organizations and community groups (ibid).

The Pedestrian Charter (2006) and Transportation Plan (2008) demonstrate the City's commitment towards improving the pedestrian experience. The goals of each outline the necessity of focusing the municipality's and boroughs' efforts towards ensuring a safe and user-friendly environment for pedestrians, thereby promoting walkability and encouraging greater social interaction (Ville de Montréal, 2019a; 2008). The Transportation Plan aims to fulfill the goals outlined in the Pedestrian Charter through the adoption of localized action plans that identify priority areas for improved pedestrian circulation in each borough (Ville de Montréal, 2008). One way this can be accomplished is through the creation of additional pedestrian-only streets, targeting sites with a high volume of pedestrian traffic such as downtown and in central boroughs (ibid). These efforts are also expected to improve safety for pedestrians and cyclists, while reducing reliance on the automobile (ibid). In this way, Montreal's transportation plan draws upon the design principles of 'complete streets' (or '*rues convivales'* as the concept is referred to in Quebec) despite the lack of a city-wide complete streets policy (Centre for Active Transportation, n.d.2).

Other important plans and programs which have shaped the policy context for pedestrian orientation in street design are the Green Neighbourhoods Program (*Programme Quartiers Verts*) and the Urban Walks Program (*Programme Promenades Urbaines*), both established in 2012 (Ville de Montréal, 2016a; n.d.2; n.d.6). Under the Green Neighbourhoods Program, a Street Development Strategy was initiated in 2013 resulting in the production of a Guide for the Sustainable Management of Montreal Streets for the boroughs (Ville de Montréal, n.d.2; n.d.3). This entailed compiling best practices in street design and identifying ways to implement them in the Montreal context while ensuring safety, efficiency, and maintenance would be met along with sustainable development goals such as universal accessibility, equity, and resource conservation (Ville de Montréal, n.d.3). The Urban Walks Program complements these initiatives by proposing the establishment of a city-wide network of urban promenades to improve conditions for pedestrians in the public realm (Ville de Montréal, 2012; n.d.6).

More recently, there have been several new plans and policies introduced at both the municipal and provincial level that iterate the need to invest in the creation of high-quality streets and urban spaces, improve road safety, and promote active transportation. These

include Sustainable Montreal 2016-2020 (2016), the Vision Zero Action Plan 2019-21 (2019), and the Government of Quebec's Sustainable Mobility Policy: Moving Quebec to Modernity (2018) and the associated 2018-2023 Action Plan to implement the policy.
Sustainable Montreal 2016-2020 is the City of Montreal's current plan for meeting an array of sustainable development priorities at a local scale (Ville de Montréal, 2016b). As the third sustainable development plan for the city, it builds upon its precedent, the Sustainable Development Plan for the Montreal Community 2010-2015 (2010) and the First Strategic Plan for Sustainable Community Development (2005) (Ville de Montréal, n.d.4). Key priorities include reducing greenhouse gas emissions and dependence on fossil fuels; adding vegetation and improving biodiversity; ensuring access to healthy, human-scale neighbourhoods; and transitioning towards a circular, green economy (Ville de Montréal, 2016b). Among 20 actions outlined in the plan for the municipal administration is the direction to "increase the modal share of travel on foot, by bicycle or transit" (ibid). One way to achieve this is through the development of 20 new pedestrian or shared streets – an increase from 40 streets in 2015 to 60 streets in 2020 (ibid).

The City's growing recognition and commitment towards improving road safety for all users is displayed through the recent adoption of the Vision Zero Action Plan 2019-2021 – an introduction to a long-term approach that will be gradually implemented in Montreal. Actions under this plan are oriented around promoting greater collaboration between different municipal departments working to improve road safety; changing attitudes to increase safety awareness among all road users, especially vehicle users; and transforming the road system to improve safety for pedestrians, cyclists, transit users, and motorists alike (Ville de Montréal, 2019c).

On a provincial scale, the new Sustainable Mobility Policy and Action Plan (2018) is a comprehensive document showcasing the Government of Quebec's progressive orientation towards sustainable transportation. Goals of the plan include improving existing transportation infrastructure and significantly reducing greenhouse gas emissions by lowering oil consumption; transitioning to more energy-efficient modes of transport through the promotion of active transportation and improved access to public transit; and the introduction of electric vehicles (Government of Quebec, 2018b).

Given the pre-existing policy context and the more recent adoption of complementary plans, programs, and policies at both the municipal and provincial level, it is evident why a specific program focused on increasing the number of pedestrian-oriented streets (and simplifying the process for implementing them) was introduced in the City of Montreal. The objectives of these documents align to ensure that future urban development prioritizes the pedestrian experience. A summary of the policy context is depicted below in Table 3.

Table 3: Summary of policy framework for the City of Montreal

MONTREAL			
Policy / Program	**Year**	**Reach of Policy**	**Overview of Applicable Objectives / Actions / Goals / Priorities**
First Strategic Plan for Sustainable Community Development	2005	City-wide	Established Neighbourhoods 21 Program: • Supports implementation of small-scale, local projects contributing to meeting environmental, social, and economic priorities in city's boroughs • Pilots projects with support from local organizations and community groups
Pedestrian Charter	2006	City-wide	Dedicated to improving pedestrian experience by ensuring a safe and user-friendly environment for pedestrians to promote walkability and encourage social interaction
Montreal Transportation Plan	2008	City-wide	Intended to fulfill goals outlined in Pedestrian Charter through adoption of localized action plans that identify priority areas for improved pedestrian circulation in boroughs (e.g. create pedestrian-only streets) Improve quality of life and safety for pedestrians and cyclists while reducing reliance on automobile
Green Neighbourhood Program	2012	City-wide	Initiated Street Development Strategy (2013): • Production of Guide for the Sustainable Management of Montreal Streets • Compiled best practices in streets design and identified ways to implement them in Montreal to ensure safety, efficiency, universal accessibility, equity
Urban Walks Program	2012	City-wide	Promotes establishment of urban promenade network to improve conditions for pedestrians in the public realm
Sustainable Montreal 2016-2020	2016	City-wide	Current sustainability plan Key priorities range from reducing greenhouse gas emissions and dependence on fossil fuels to ensuring access to healthy, human-scale neighbourhoods: ***Action 1*** *Increase the modal share of travel on foot, by bicycle and transit* • *Develop 20 new pedestrian or shared streets* (Ville de Montréal, 2016b)
Sustainable Mobility Policy:	2018	Provincial	Promotes sustainable transportation Key goals:

Moving Quebec to Modernity & 2018-2023 Action Plan			• Improve existing transportation infrastructure
			• Reduce greenhouse gas emissions by:
			  • Lowering oil consumption
			  • Transitioning to more energy-efficient modes of transport (active transportation, public transit, electric vehicles)

Vision Zero Action Plan 2019-21	2019	City-wide	Dedicated to improving road safety for all users Key actions: • Promote greater collaboration between different actors working to improve road safety in the city • Change attitudes to increase safety awareness among all road users • Transform road system to improve safety for pedestrians, cyclists, transit users, and motorists
Pedestrian & Shared Streets Implementation Program	2014	City-wide	Supports boroughs financially and technically in the implementation of pedestrian-oriented streetscape projects

4.3 THE PEDESTRIAN & SHARED STREETS IMPLEMENTATION PROGRAM – *PROGRAMME D'IMPLANTATION DES RUES PIÉTONNES & PARTAGÉES* (PIRPP)

4.3.1 ABOUT THE PROGRAM

In response to various city-wide strategies and a generally supportive environment for pedestrian-oriented street design, the City of Montreal launched the Pedestrian and Shared Streets Implementation Program (PIRPP) in 2014 (Ville de Montréal, 2019a). Developed by the Transportation Branch of the City of Montreal's Infrastructure, Roads and Transportation Services Department, the program supports boroughs financially and technically in the implementation of pedestrian-oriented streetscape projects. The program was strongly influenced by internationally recognized urban trends such as tactical urbanism, 'Open Streets', PARK(ing) Day, and a growing interest in placemaking initiatives – all of which employ minimalist, community-sourced interventions that are inexpensive and scalable yet have a transformative impact on the public realm (Conseil Régional de l'Environnement de Montréal, n.d.; Ville de Montréal, 2019a). The program is also a response to growing local demand to reclaim street space for pedestrians.

The objectives of the PIRPP are four-fold: 1) to support the transformation of streets into vibrant, dynamic public spaces; 2) to gradually increase the amount of street space allocated to pedestrians, thereby promoting walkability; 3) to strengthen community ties by adopting a citizen-led, participatory planning approach in the development of the projects; and 4) to build upon Montreal's robust network of parks and public spaces by applying best practices in street design into a local context, contributing to each borough's unique character (Ville de Montréal, 2019a).

Figure 15: Roy Terraces, Borough of Plateau-Mont Royal. (Source: Ville de Montréal, n.d.1)

Rather than creating long pedestrian corridors the projects implemented under the program are targeted interventions at natural gathering places, thus enhancing existing public space functions (See Figure 15) (Ville de Montréal, 2019a; 2018a). The project sites vary but are typically a street in the heart of a village core with a central element such as a church; a main street or artery in a borough; a street adjacent to an institutional building such as a school, library, museum or metro station; or a street bordering the edge of a park or in between two parks (ibid). Each year, an open call for proposals is held by the City of Montreal giving interested boroughs six weeks to submit their ideas (Ville de Montréal, 2019a). The project proposals are then assessed by the program's Steering Committee made up of representatives from different departments in the City. Three to five projects are selected per year.

The program is structured to permit up to four years of testing temporary installations to identify the best design approach for realizing the full potential of the site. A participatory planning approach is adopted to ensure local residents are involved in the process as co-creators. The types of interventions applied vary but pertain to redistributing road space, diversifying its uses, adopting traffic calming measures, re-appropriating the space for pedestrians, and designing for seasonal variation (Ville de Montréal, 2019a; 2018a). Experimentation with elements such as vegetation, decorative cladding, street furniture, informational signage, and lighting promote on-street activity and site animation (ibid). Design interventions must comply with existing principles and standards such as universal accessibility, maintenance of existing transit and cycling lanes (if applicable) and ensuring general road and user safety measures on and around the site (ibid). The temporary installations are evaluated each year, as is the level of user satisfaction, and improved upon from one pilot year to the next until the development of a permanent design in the final year of the project. In this way, the selected sites are transformed from a conventional street layout into a pedestrian-only, shared use, or hybrid space with cyclists, public transit users, and vehicles. The function of the street evolves beyond serving as a transportation thoroughfare as the projects commonly result in the creation of a new public gathering space.

Since its establishment, the program has already led to the completion or ongoing development of 15 street projects in 10 of the city's 19 boroughs (Ville de Montréal, 2019a; n.d.1). This contributes to the network of approximately 50 temporary, seasonal, or permanent pedestrian zones that already exist in Montreal (see Figure 16). The goal is to continue growing this network through the creation of new public spaces on Montreal's streets.

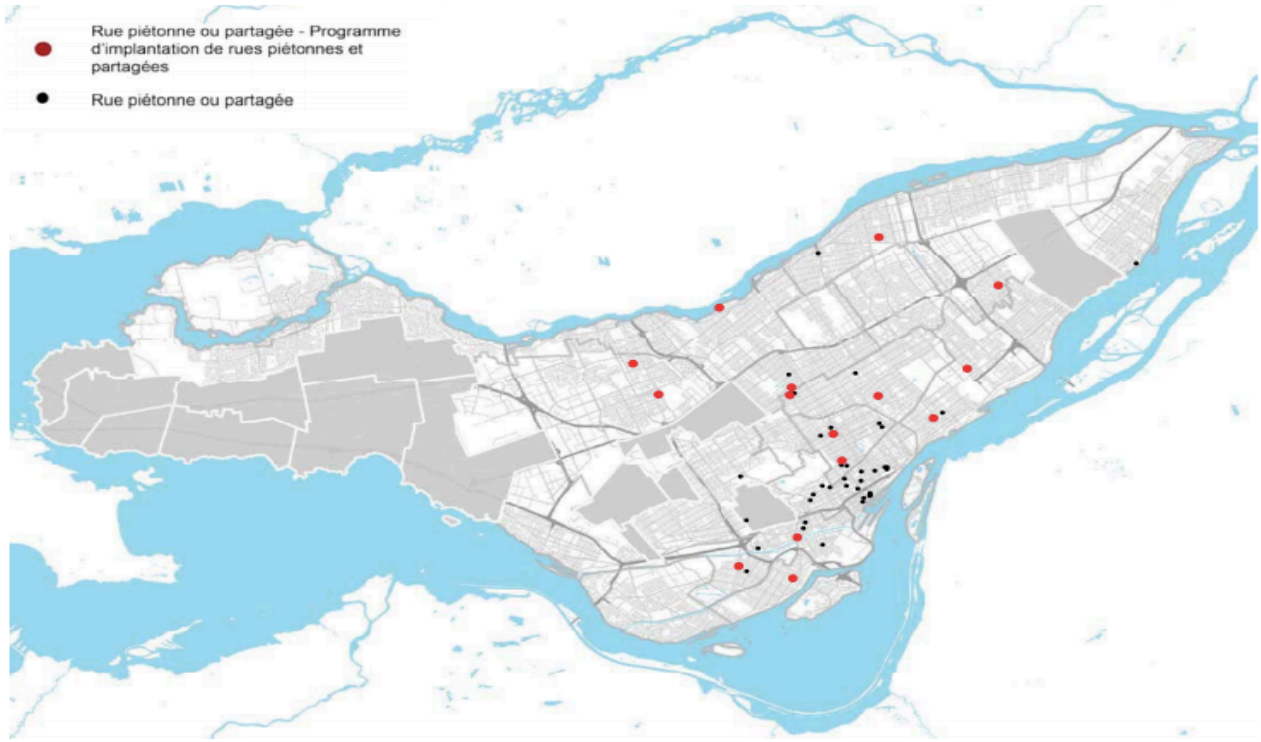

Figure 16: Map of streets with some degree of pedestrianization in the City of Montreal. (Projects implemented through the PIRPP are marked in red.) (Source: Ville de Montréal, 2018a).

4.3.2 OVERVIEW OF PROJECTS

The range of projects completed under the PIRPP is quite diverse. Though the overarching goals are always similar, the specific objectives of each project are dependent upon the local context and the needs of the community. For instance, a more central city borough may have different objectives than an outer city borough; different concerns will need to be addressed if the project site is located on a quiet residential street versus if it is adjacent to a bustling commercial street. Furthermore, though financially and technically enabled by the PIRPP, many of the projects simultaneously contribute to the realization of broader plans for the borough. The sites proposed by the boroughs are typically ones that have been identified for redevelopment or revitalization through other local planning studies. Strong candidates are sites that are natural gathering spaces with a high level of pedestrian traffic.

While it is the responsibility of borough staff to oversee the project from initiation to completion, the execution of public engagement activities, design production, and construction may be contracted out to a landscape architecture or design firm and/or other organizations such as La Pépinière | *Espaces Collectifs* and the Montreal Urban Ecology Centre (*Centre d'ecologie urbaine de Montréal*). An external firm or organization can assist in the development of the project from year-to-year and see the project through to completion or different firms may be attached to the project during different phases. For example, La Pépinière, a non-profit design and community engagement organization, has been involved with at least five streetscape projects associated with the PIRPP thus far, providing assistance with or leading public co-creation sessions, completing designs, and

overseeing the project's construction (A. Zarzani, personal communication, April 2019; La Pépinière | Espaces Collectifs, n.d.).

Whether this work is carried out internally by borough staff or contracted out, is dependent upon the capabilities and capacity of the borough administration. Sometimes the borough has enough in-house design expertise and project staff to coordinate the project internally entirely, whereas other times it may be just one project lead in the borough administration tasked with supervising the project with all design, engagement, and construction work contracted out. Other factors that must be considered are the scale of the project undertaken and the ease of execution. A smaller-scale project on a low-traffic residential street (e.g. Square Notre-Dame-des-Victoires) may require a different capacity of work than the redesign of a street intersection in a high-traffic commercial zone (e.g. Place Simon-Valois, see Figure 17). The project may also become a larger undertaking than initially anticipated. For example, for the Place Valois project in the Borough of Mercier-Hochelaga-Maisonneuve, a national design competition was held to hire a landscape architecture firm to handle the redesign the streetscapes adjacent to Place Simon-Valois, a well-established plaza (F. de la Chevrotiere, personal communication, April 2019).

Figure 17: Place Simon-Valois, Borough of Mercier-Hochelaga-Maisonneuve. (Source: M. Dussalt, n.d.)

4.4 MINI CASE STUDY: PLACE WELLINGTON, BOROUGH OF VERDUN

4.4.1 BOROUGH CONTEXT

Located in southwestern Montreal, the Borough of Verdun is bounded by Highway 15 to the north, the St. Lawrence River to the east, the borough of Lasalle to the south, and the Aqueduct Canal to the west (see Figure 18) (Ville de Montréal – Borough of Verdun, n.d.). A popular neighbourhood for young families and immigrants, Verdun is experiencing growth; population totaled 69,229 in 2016 and has been increasing since (ibid). The borough has natural features including a large waterfront park; is a prominent commercial district with a variety of companies and specialized institutions; has numerous social service organizations; and is home to an active community advocating for local improvements (ibid). Yet the borough experiences challenges pertaining to deficiency in municipal services and traffic congestion, particularly due to major construction projects including the replacement of the Champlain Bridge and the Turcot Interchange (Ville de Montréal – Borough of Verdun, 2014). In addition, the borough has become an attractive site for new development and is thus experiencing gentrification which brings a myriad of new concerns for long-term residents.

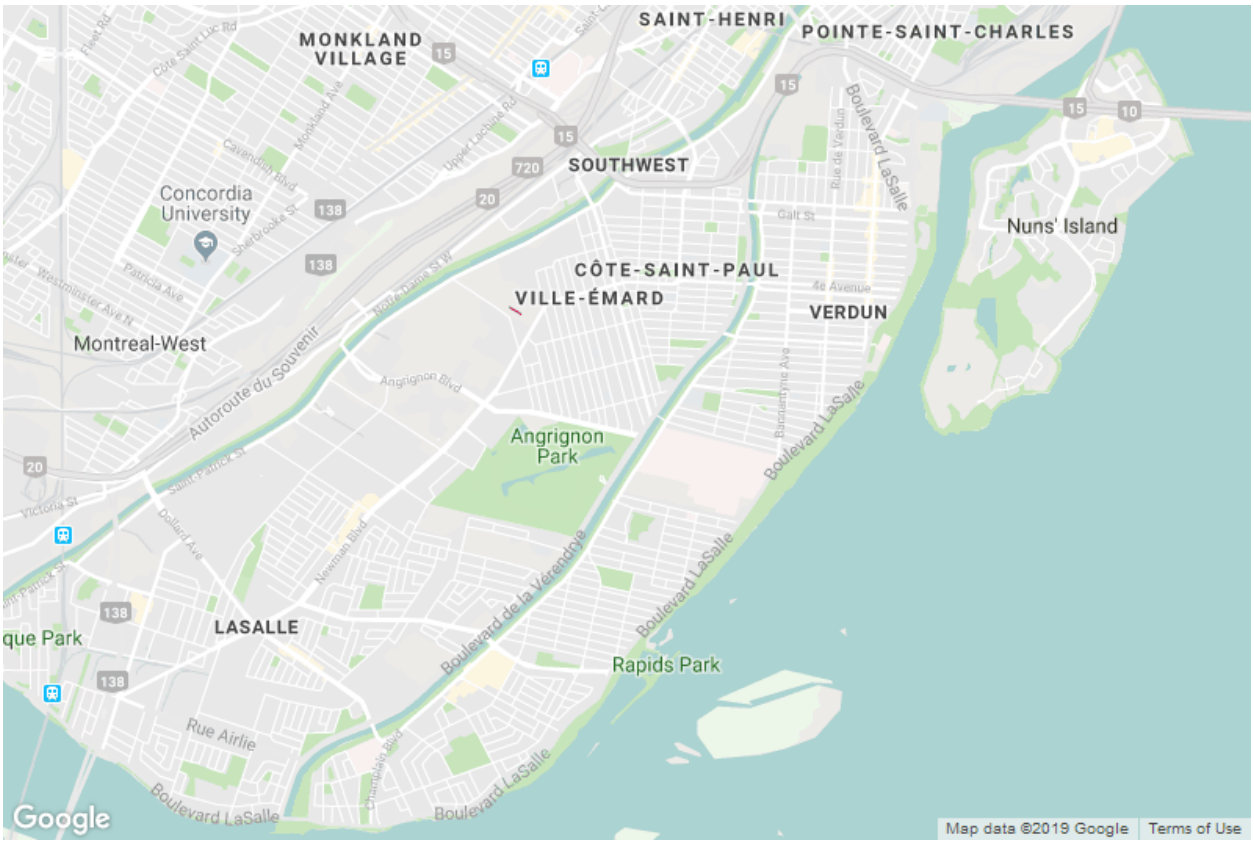

Figure 18: Map of the Borough of Verdun. (Source: Snazzy Maps, data courtesy of Google Maps, 2019)

4.4.2 PROJECT OVERVIEW

Place Wellington is a streetscape improvement project in the Borough of Verdun that was selected for the PIRPP in 2017. Wellington Street is the borough's main commercial artery and an important traffic corridor (see Figure 19). The project is considering new street configurations for a portion of Wellington Street between Galt and de l'Eglise Streets, directly south of the Church of Our Lady of Sorrows (*l'Eglise Notre-Dame-des-Sept-Douleurs*). The site is already a high traffic area with a considerable amount of pedestrian traffic given its close proximity to the *l'Église* metro station in addition to the church and numerous businesses, cafes, and services located on the street.

Figure 19: Map of the Place Wellington project site. (Source: Ville de Montréal, 2017)

For these reasons, the site was identified as a suitable location for the creation of a new public space in both the 2013 Action Plan for the Orientation of Downtown Verdun and the 2015-2025 Strategic Development Plan for the borough (*Centre d'ecologie urbaine de Montréal,* 2017; Ville de Montréal – Borough of Verdun, 2014). The Strategic Development Plan also proposed redeveloping Wellington Street entirely which would entail considering options such as full or partial pedestrianization, the addition of bike lanes, and exploring ways to make the street a unique neighbourhood artery (Ville de Montréal – Borough of Verdun, 2014). However, despite these strategic objectives and ongoing discussions, the only initiatives that took place on Wellington Street between 2013 and 2016 were occasional interventions such as the addition of a public piano and the installation of a small terrace and self-service library (*Centre d'ecologie urbaine de Montréal,* 2017). It was not until the technical and financial support made available through the PIRPP, that pursuing the project became a realistic opportunity (M. Bedard, personal communication, May 2019).

The goal of the Place Wellington project is to create an iconic meeting place in the heart of Verdun offering residents a place to rest and socialize and to animate the site through a flexible design that permits programming and occasional closure of the street (M. Bedard, personal communication, May 2019; *Centre d'ecologie urbaine de Montréal*,

2017). This is to be accomplished in a way that will continue maintaining vehicular traffic in both directions as well ensuring the site is universally accessible (ibid). Now in its third year of implementation, the project is expected to go through four years of temporary installations before a permanent redevelopment of the site in 2021 (M. Bedard, personal communication, May 2019).

4.4.3 PROJECT PROGRESS, PUBLIC ENGAGEMENT & DESIGN

Since co-creating the projects with community members is a key requirement of the PIRPP, the borough has been engaging citizens on the Place Wellington project during each stage of the implementation process. From public engagement activities hosted in collaboration with the Montreal Urban Ecology Centre, to citizen satisfaction surveys conducted after the project's first summer trial period, citizen feedback has been the primary source of guidance for improving the project from year to year (M. Bedard, personal communication, May 2019).

Figure 20: Temporary installation on Wellington Street in 2017. (Ville de Montréal, 2017).

In March 2017, a co-creation workshop with citizens was held to prepare for the first edition of the project (Ville de Montréal, 2017; n.d.7). Using ideas generated during the visioning exercises, AdHoc Architects were hired to develop a design (ibid). The landscape architecture firm prepared two preliminary designs which were then presented to the community for feedback (Ville de Montréal, 2017). After the public voted on a preferred option, AdHoc Architects refined the final design and the concept was implemented in the summer of 2017 (see Figure 20) (ibid). The first year's temporary installations were constructed on parking spaces and sidewalks along both sides of the street and included seating and vegetation (ibid).

Following the completion of the first edition of the project, which lasted from June to mid-October 2017, the project was evaluated through a citizen satisfaction survey conducted by the Montreal

Urban Ecology Centre (*Centre d'ecologie urbaine de Montréal*, 2017). The purpose was to better understand travel patterns, the frequency of site visitations, the level of satisfaction with different components of the project as well to gain feedback on what elements could be improved (Ville de Montréal, 2017; n.d.7). The response rate was good – over 500 people completed the survey either on location or online in 2017 – and the results have been documented in a User Survey Report prepared by municipal staff in the Transportation Branch of the City of Montreal. Highlights include 61% of respondents reporting satisfaction with the first temporary installation of Place Wellington with suggestions to allocate more space to pedestrians and cyclists (as car traffic was found to disrupt the atmosphere when trying to enjoy the space), add more vegetation, and install features that provide shade and shelter from rain (Ville de Montréal, 2017). There were, however, some concerns pertaining to circulation, that the site was too crowded (both with people and with design features), and that a high structure part of the installation obstructed views of the street (M. Bedard, personal communication, May 2019). Generally, however, feedback from the community was positive (ibid).

In response to suggestions made after the first installment of the project, AdHoc Architects revisited the alternative design that had not been selected in the prior year and presented a new concept titled "The Gardens of the Well" – strongly oriented on relaxation through the addition of vegetation (see Figures 21 and 22) (Ville de Montréal, n.d.7). While the first year's installations were located either side of Wellington Street, the second year's design elements were concentrated on the west side of the street, directly adjacent to the church (ibid). Traffic lanes were reduced to a minimum width and shifted to the east side of the street, thereby allocating more space for pedestrian use (ibid). The second round of the citizen satisfaction survey not only received more responses (approx. 1,100) but also indicated that this configuration was viewed more favourably by the public, rating 10% better (Ville de Montréal, 2017). The third edition of the project is currently underway during summer 2019 (see Figure 23). The design will mimic the configuration of the previous year with minimal aesthetic changes.

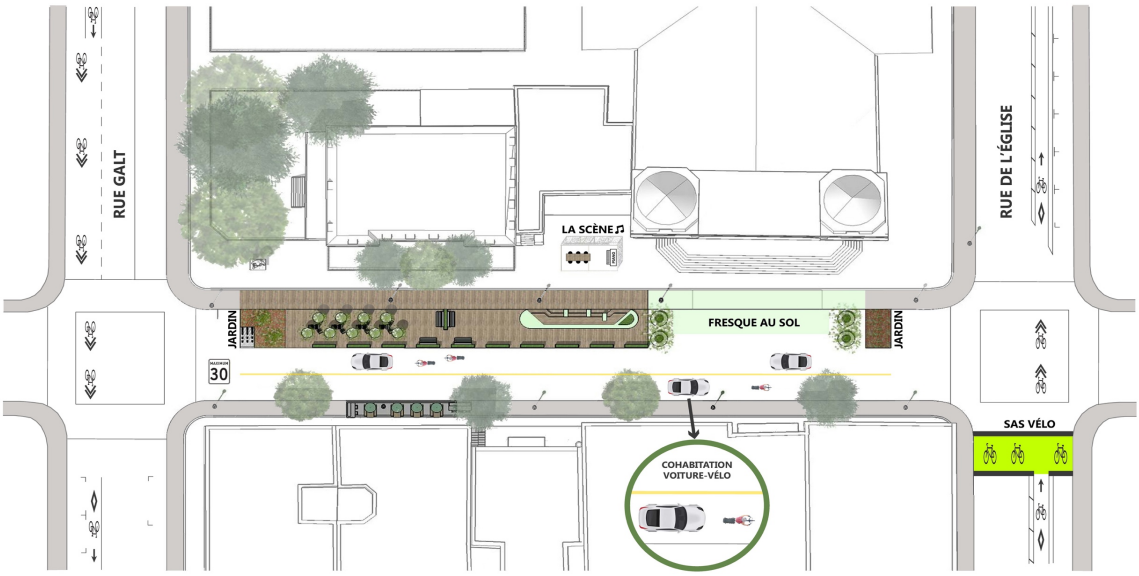

Figure 21: Map of Wellington Street temporary installation in 2018. (Source: Ville de Montréal, n.d.7)

Figure 22: “The Gardens of the Well” temporary installation on Wellington Street in 2018: rendering (top), implementation (bottom). (Source: Ville de Montréal, n.d.7; Ville de Montréal, 2019a)

4.4.4 PROJECT-SPECIFIC ENABLING FACTORS & CHALLENGES

A key factor that enabled the Place Wellington project is strong public and political support (M. Bedard, personal communication, May 2019). Given the site’s prominence in the borough and function as a high traffic area, discussions about creating a meeting place began under the previous borough administration (M. Bedard, personal communication, May 2019). Additionally, public surveys conducted at various points in the past to assess whether a project would be of interest to citizens at this site, led to favourable results every time (ibid). Therefore, the project was easily viewed as a positive investment and receiving Council approval was not a challenge (ibid).

A challenge experienced during the implementation of Place Wellington, however, is accommodating the project during a time of major construction work in the city that is impacting traffic through the borough. Consequently, the borough administration decided to extend the length of project's implementation process to five years instead of the initially projected three years (M. Bedard, personal communication, May 2019). This gives the borough more time to pilot temporary configurations before a permanent design is implemented in 2021 (ibid).

As a result of this time extension, however, the borough is financially constrained for this year's edition of the project (M. Bedard, personal communication, May 2019). Due to the structure of the PIRPP, funding is only provided for two editions of temporary installations and then for the implementation of the permanent design. Therefore, this year, as the project is undergoing its third temporary installation, the borough is not receiving any funding through the program and must rely on internal funding (ibid). Luckily, the borough has a skilled in-house team making it capable to handle this year's project internally without hiring external assistance (ibid).

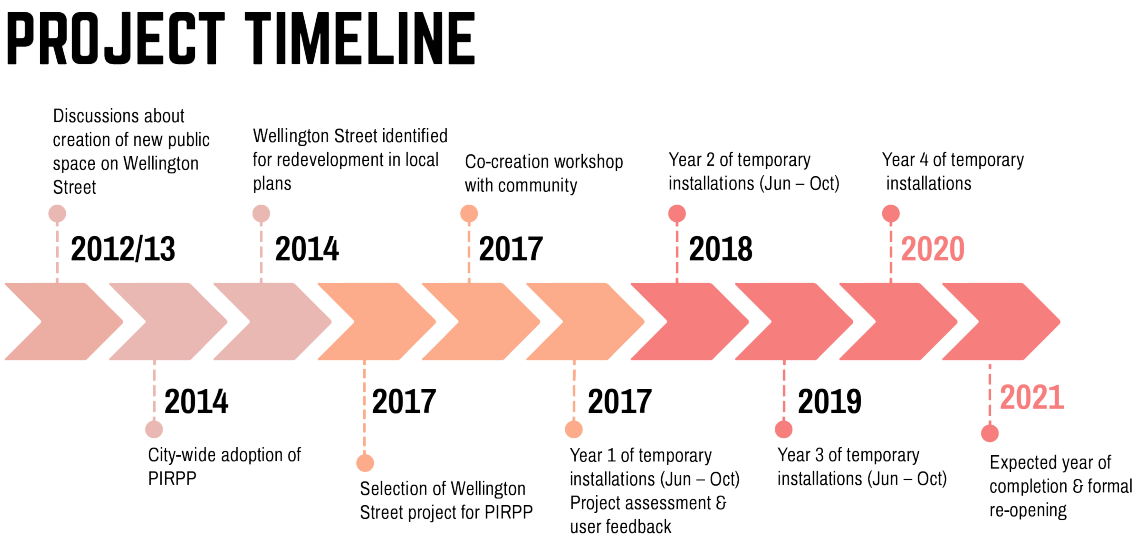

Figure 23: Timeline of the Place Wellington project

A design challenge that has become evident through the temporary reconfigurations of Wellington Street is allocating enough space for the road to be shared by pedestrians, cyclists, and motorists, but specifically in accommodating cyclists (M. Bedard, personal communication, May 2019). Between the narrowing of the traffic lanes on this segment of Wellington Street and the project's installations extending into pre-existing parking spaces, no road space is available for a bike lane. Currently, when passing through the project site, cyclists must go ahead of vehicles which is a potential safety risk (ibid). And while the traffic speed on Wellington Street has already been reduced from 40 to 30 km/hr, the borough administration hopes to do more to safely accommodate cyclists (ibid). This is why, as the project progresses towards its final rendition, the project team is extending its focus beyond the project site and considering options for redesigning the full length of the street (ibid).

The project's location on a busy commercial artery also poses a challenge as it affects local businesses. While business owners have been more critical of the project than the general public, they are not opposed to it (M. Bedard personal communication, May 2019; *Centre d'ecologie urbaine de Montréal,* 2017). Both the project team and business owners recognize that the transitionary phases will present some challenges for business since there will be construction activity and parking will not be available (M. Bedard, personal communication, May 2019). However, in the long-term, it is recognized that this project will be beneficial to business (ibid). Furthermore, access to parking spaces is not an issue as indicted through a study conducted at an earlier time (ibid). There are many parking spaces available in areas surrounding Wellington Street, therefore, a claim that businesses would be negatively impacted through the removal of parking spaces would not be a valid argument in Verdun (ibid). [4]

4.5 STRENGTHS OF THE PEDESTRIAN & SHARED STREETS IMPLEMENTATION PROGRAM

Building upon Montreal's supportive policy context, the PIRPP is the primary enabler of the transformation of conventional streetscapes into vibrant, dynamic public spaces in the city's boroughs. There are many strengths and benefits associated with the program, including that it enables localized streetscape projects through financial and technical support; follows a flexible and scalable design approach; commits to participatory planning; and necessitates pilots to test and evaluate interventions prior to the construction of permanent infrastructure.

4.5.1 ENABLING STREETSCAPE PROJECTS TECHNICALLY & FINANCIALLY

Through the PIRPP, the municipality provides borough administrations with technical support for the streetscape projects by providing access to tools, advising on design, and assisting with construction and installation (Ville de Montréal, 2019a). The City also provides financial support through phased funding. Boroughs with selected projects receive "financial assistance equivalent to 50% of the costs, up to a maximum of $100,000" in the first year to go towards planning, citizen engagement, communication with project stakeholders, design, and the installation of temporary traffic calming measures (ibid, n.p.). In subsequent years, the boroughs receive another lump sum of $100,000 for a second temporary installation, and up to $400,000 for the implementation of the permanent design (ibid). This totals to $600,000 of funding provided by the municipality alone for the completion of each streetscape project. Additional costs are supplemented by the borough administration.

In this way, the program is credited for enabling projects that would otherwise not be financially possible given limited funding budgeted for streetscape work in the city which is primarily used for major development projects and general maintenance activities (e.g. road repair). The PIRPP assures funding is reserved specifically for local streetscape

[4] Additional enabling factors, challenges, and barriers associated with the Place Wellington project and other PIRRP streetscape projects, are discussed in the rest of this chapter as well as in Chapter 6.

projects, covering most of the related expenses. This is important because not every borough administration has access to the same resources (e.g. personnel, financial capital, know-how) needed to implement these projects independently. While the program directs boroughs to form an internal "multidisciplinary project team made up of representatives from urban planning, economic development, technical studies and roads, parks, culture, communications and administrative services" to oversee the different stages of this project, this is not always a possibility (Ville de Montréal, 2019a, n.p.). For example, the Borough of Mercier-Hochelaga-Maisonneuve has very limited personnel and financial resources (and lacks in-house expertise) to execute such a project internally even though there is strong interest and support for it from the public, borough staff, and local council (F. de la Chevrotiere, personal communication, April 2019). Yet with financial support provided through the program, the borough was able to commission a final design for the Place Simon-Valois project from an external design firm. In this way, the PIRPP helps to build internal capacity within the borough administrations to spearhead the projects independently.

4.5.2 GIVING BOROUGH ADMINISTRATIONS AUTONOMY TO MANAGE SMALL-SCALE PROJECTS LOCALLY

The success of the PIRPP can partially be attributed to the scale at which the projects are managed. Borough administrations are supported by the City technically and financially but are otherwise quite autonomous in leading the streetscape projects. Though there is collaboration between project leaders from the borough and staff from different departments in the municipality, the majority of the work pertaining to design generation, public engagement, and stakeholder management, is dealt with at the borough level. This is important because ultimately it is the borough administration that has the best knowledge of the local context, the needs of the community, and has a direct relationship with the population (M. Bedard, personal communication, May 2019; F. de la Chevrotiere, personal communication, April 2019; A. Saint-Laurent & C. Caya, personal communication, April 2019). This scale of operation ensures projects are appropriate to the local context and representative of the unique character and culture of the borough. This is a huge factor contributing to greater social acceptability of the projects (ibid).

In addition, the scale *of* the projects undertaken through the program also makes them much more realistic, feasible, and quicker to implement. The area under intervention is typically about a block or two in length. Therefore, these are not massive construction projects that significantly disrupt all street level activity. Concepts are implemented on the ground rather quickly and easily as is an assessment of the intervention.

4.5.3 FLEXIBLE BY DESIGN

a) FLEXIBLE PROGRAM STRUCTURE

The PIRPP is structured to permit flexibility in the timeline for implementing a final design. Now its fifth edition, the program has evolved since its adoption in 2014 with the primary change a revision to its structure and scheduling. Borough administrations now have up to five years to implement a permanent configuration, an extension from the original three

years allotted during the program's earlier editions (Ville de Montréal, 2019a). Instead of two years of pilots and a permanent design implemented in the third and final year of the program, project managers now have up to four years to test temporary installations before a permanent installation in the fifth year. This is a helpful improvement because not all years may be suitable for conducting a pilot for a variety of reasons (e.g. conflicting construction work) (A. Saint-Laurent, personal communication, April 2019; C. Caya, personal communication, April 2019). Instead of rushing to implement a haphazard design that would not be worthwhile to test, it is better to wait longer, perhaps even skip a summer, to more thoroughly develop a design for which feedback would be more meaningful and useful towards the final design (ibid).

Another key aspect pertaining to the flexibility of the PIRPP is that it allows boroughs to propose a project that has already been initiated within the borough (Ville de Montréal, 2019a). This means that it is not necessary for the proposed project to be a novel idea in order for it to be qualified for the program. Boroughs can use the technical and financial support provided through the program to pursue ongoing initiatives and in many cases, this is exactly what happens.

b) FLEXIBLE STREET CONFIGURATIONS

While the PIRPP is best recognized for supporting the creation of pedestrian or shared streets (hence its name), the types of street configurations implemented, and the degree to which the street is pedestrianized, vary. This flexibility is a key strength of the program as it permits a design that is most suitable to the local context.

Different street typologies are tested each year to determine which configuration is most suitable to the context. Some sites become fully pedestrianized while others are transformed into a shared or hybrid street. In these instances, the amount of road space allocated to pedestrians ranges from 60-80% of the street, giving pedestrians priority while still maintaining a single lane of vehicle traffic that permits a speed of 20-30 km/hr (see Figure 24) (Ville de Montréal, 2019a). Yet another configuration option is what the program refers to as 'meeting zones' (*zone de recontre*) where two lanes of vehicle traffic are maintained but speeds are reduced to 20 km/hr and anywhere between 50-80% of the street is allocated to pedestrians (ibid).

Based on a review of the projects completed under the program and discussions with key informants, most of the transformations inevitably result in the creation of a shared or hybrid street given the challenges associated with completely closing a street to vehicular traffic. In many cases, access must be maintained for delivery trucks, buses (if the street is a transit route), and other service and emergency vehicles, particularly in areas within commercial zones or where no alternative routes exist. However, regardless of the street typology applied, the precise street geometry will vary on a site-by-site basis. This is because the sites selected are often atypical streetscapes to begin with (e.g. a connecting road between two parks or a shortcut to a destination). Other factors that influence the new street configuration are existing or newly added bicycle lanes, parklets, and whether or not there will be installations in the middle of the roadway or strictly on the edges.

Figure 24: Gilford Road, Borough of Plateau-Mont-Royal. (Source: Ville de Montréal, n.d.1)

4.5.4 PARTICIPATORY PLANNING & ITERATIVE DESIGN PROCESS

Co-creating the streetscape projects with the local community is at the core of the PIRPP. Citizens are engaged early on, contributing to the generation of ideas during the design phase and sought afterwards to provide feedback with each edition of transitional measures. The capacity of different boroughs to conduct engagement activities varies which is why borough administrations may collaborate with organizations such as the Montreal Urban Ecology Centre and La Pépinière | *Espaces Collectifs*.

This strong commitment towards integrating community input provides added value to the program and does seem to manifest in practice based on the experiences of the project managers interviewed. “The work before the project, with citizens, is very important” (M. Bedard, personal communication, May 2019). A participatory planning approach ensures that the project is designed by the community for the community and is therefore unique and suitable to the local context.

The PIRPP also favours an iterative design approach: transitional measures that evolve into the final permanent design. Gradual development is considered to be more effective – it allows experimentation with preliminary versions of what the future street will look like, considering different street typologies and design configurations. Advantages to this implementation approach are both tangible and intangible: developing a better understanding of the needs of the community, improving upon the design from year to year, and progressively normalizing the idea of changing the design of the street into something that is not conventional (Ville de Montréal, 2019a). This approach also ensures the permanent installation has greater longevity as the materials used in the installation are tested for durability (ibid).

With each year, detailed evaluations are conducted to assess the impact of the project on the local context. This includes measuring metrics such as changes in pedestrian and traffic volume, studying the diversity of the users frequenting the site and how the space is used through field observations, conducting a user satisfaction survey, and analyzing if universal accessibility is achieved (Ville de Montréal, 2019a; Société Logique, 2018). This work is completed by the City of Montreal, sometimes with support from the Montreal Urban Ecology Centre and La Pépinière | *Espaces Collectifs*. These studies garner public feedback and identify learning outcomes that help to evolve the design in the subsequent year.

Participatory planning, testing designs, and extensive evaluations are essential to the long-term success of the projects. More immersive stakeholder involvement encourages a sense of ownership over a project and is therefore, more likely to garner proponents. Also, by the time the project becomes permanent, it is considered that the best design option for the context that has been developed with full public support.

4.6 LIMITATIONS OF THE PEDESTRIAN & SHARED STREETS IMPLEMENTATION PROGRAM & PROGRAM-RELATED CHALLENGES

Though highly regarded for its innovative approach to investing in Montreal's streets and public spaces, the PIRPP nevertheless has some limitations which contribute to the ongoing barriers of implementing pedestrian-oriented streetscapes in Montreal. A few that have been commented on by key informants interviewed include the program's funding distribution schedule; the short-time frame to move the project from an idea to an on-the-ground installation (even during a transitional year); limited connectivity to Montreal's bike network; and the reach of the program to different boroughs in the city.

4.6.1 RIGID FUNDING DISTRIBUTION SCHEDULE

Despite the timeline extension for the implementation of a final design, the distribution of funding from the municipality remains unchanged. Funding is available for two years of temporary installations and then for the final year of the project (whether that be the third, fourth, or fifth year) to construct the permanent design. Under the program's original structure, which allotted three years for project completion, funding was available every year. However, now that the timeline has been extended to a maximum of five years, there may be two years of additional pilots for which no funding is available. This presents a challenge for boroughs with a small project budget who opt to extend the timeline of the implementation process.[5]

Another potential limitation of the program is the lack of funding for ongoing maintenance of the site beyond the program's five years. Borough administrations must pay for ongoing maintenance internally (M. Bedard, personal communication, May 2019). While this could

[5] The Borough of Verdun is currently experiencing this with the Place Wellington project – now in its third year of temporary installations and the first year in which municipal funding is not provided.

be a potential issue, it is unknown or perhaps too early to tell, how significantly this is impacting the quality of the sites as many of them are still in transitionary phases or have only recently been completed.

4.6.2 SHORT TIME FRAME FOR IMPLEMENTATION OF TEMPORARY INSTALLATION

A strength of the PIRPP is that it encourages rapid implementation of design concepts. This is good because it ensures ideas are applied in practice quickly and can be tested. However, this can also present a challenge for the design teams responsible for applying ideas generated with the public into conceptual and then finalized designs before implementing them at the intervention site. There is only about 1-1.5 months between the time that a design team becomes involved with a project (after the year's selected sites are announced) to the pilot (A. Zarzani, personal communication, April 2019). This is a short amount of time to produce a good project with engagement from the local community (ibid). Even though it is only a temporary installation, and more tests will follow, there is still a desire to introduce a good product (ibid). However, in the extent of 1-1.5 months, not enough time is allotted to develop every aspect of the project (ibid). A similar challenge was experienced during the first edition of the Place Simon-Valois project in the Borough of Mercier-Hochelaga-Maisonneuve. Due to time constraints and limited staff, the intervention was mostly just a re-painting of the street in a bright colour to attract attention to the site (F. de la Chevrotiere, personal communication, April 2019). For this reason, ongoing collaboration between a design team and the borough administration is important and helpful as it allows the designers to build upon the previous years' work (ibid). Furthermore, a tight implementation schedule is not necessarily problematic nor a limitation, but it does present an additional challenge for boroughs with limited resources.

4.6.3 LIMITED CONNECTIVITY TO MONTREAL'S CYCLING NETWORK

A key goal of the PIRPP is to promote active transportation. While the program can be credited for improving pedestrian infrastructure to encourage walkability, supporting cycling has not been accomplished as easily. The City of Montreal does not have a well-connected cycling network to begin with, and thus far, the projects implemented under the PIRPP have not significantly improved connectivity (T. Gonzalez, personal communication, April 2019). If anything, accommodating cycling infrastructure is an additional challenge, as evidenced through projects such as Place Wellington. Between trying to reconcile space for both pedestrians and motorists at the intervention site, limited road space is available for introducing a bike lane if one does not already exist. This, however, relates to a more general problem in Montreal: there are not enough incentives to encourage active transportation and simultaneously, not enough disincentives to discourage vehicular use (T. Gonzalez, personal communication, April 2019). Nevertheless, the PIRPP has the potential to influence a change if projects are more strategic about connecting the city's cycling infrastructure.

4.6.4 SPATIAL CONCENTRATION OF PROJECTS

While the PIRPP is a city-wide program and intended for any and every borough, a review of the projects completed under the program shows a high concentration in the city's central boroughs (Ville-Marie, Le Plateau – Mont-Royal). Even the majority of Montreal's long-existing pedestrianized streets that pre-date the program, are heavily concentrated in downtown areas (see Figure 16 above).

Ensuring a more equitable spatial distribution of the projects is challenging because it is up to the borough administrations to apply to the PIRPP and subsequently commit to the 3-5-year implementation process – and this is largely dependent upon local public and political demand. While support for such projects exists in some boroughs, this is not consistent throughout all of Montreal (M. Bedard, personal communication, May 2019; T. Gonzalez, personal communication, April 2019). Yet the boroughs that do take advantage of the program, showcase the potential of realizing such streetscape projects and are thereby influential in raising interest for the program in other boroughs (ibid). This is beginning to happen as increasingly more of the recent projects are taking place in non-central boroughs (Mercier – Hochelaga-Maisonneuve, Saint-Laurent, Le Sud-Ouest). This is significant because some of these non-central boroughs may have fewer parks and public spaces to begin with so investments in the public realm are that much more necessary. In this way, the PIRPP has the potential to improve the quality of streets – and by extension, the public realm – in areas that are not traditionally targeted for such interventions, if local interest exists.

4.7 BROADER IMPACT OF THE PROGRAM: SMALL BUT EFFECTIVE TRANSFORMATIONS

The PIRPP has had a positive impact on Montreal. A summary of its defining characteristics is provided below in Table 4. Highly advocated for by local non-profit organizations and community groups, its popularity is growing as more and more boroughs become sites for intervention. Benefits such as improving neighbourhood walkability and creating lively new spaces that stimulate public life are quickly realized and appreciated by the community (Ville de Montréal, 2019a). Though many of the projects are still in transitionary phases or have only recently been completed, they are already considered to be successful. All projects have progressed beyond their trial phase in the first year, evolving into spaces that are increasingly pedestrian-oriented. Evaluations show pedestrian volumes have risen at intervention sites and user satisfaction measures at 90% or above for all projects (Ville de Montréal, 2019a). Even despite some initial hesitation or occasional opposition, the social acceptability for the projects grows with each year of a project's implementation (T. Gonzalez, personal communication, April 2019).

The PIRPP has been recognized for its innovative approach towards redesigning streetscapes and for providing inspiration for how this can be accomplished through relatively simple and cost-effective measures. The program has received two excellence awards – the Sustainable Mobility Award from the Quebec Association of Transportation

and Roads (AQTR) in 2017 and the Sustainable Community Award from the Federation of Canadian Municipalities (FCM) in 2018 (Ville de Montréal, 2019a).

The PIRPP fulfills and exceeds the goals outlined in the Pedestrian Charter (2006) and Transportation Plan (2008). While the plans encourage the creation of pedestrian-only streets, the PIRPP adopts a more flexible approach as streets do not necessarily have to be pedestrian-only to benefit pedestrians – a shared or hybrid space can be equally effective in supporting active transport. It is perhaps this regimented view that streets need to be either for cars or for people that has generated so much contention around redesigning streets to better accommodate pedestrians. When in reality, more flexible approaches can be much more favourable and realistic to implement.

The program represents a clear shift in the City of Montreal, as it showcases the City's proactive approach towards improving the quality of its streets and public spaces. Supported by complementary plans, strategies and policies and a ripe context for implementing pedestrian-oriented streetscapes, the PIRPP is both "economically and strategically good for the City of Montreal" (T. Gonzalez, personal communication, April 2019). It is contributing to a greater awareness of the need to invest in the public realm for economic, ecological, and social purposes, as well encouraging the sharing of ideas and coordinating the efforts of a multitude of actors in different boroughs. This is important given that "Montreal has to act to keep families in the city rather than leaving for the suburbs" (ibid). The program aids in the creation of a community life that Montrealers find attractive and want to be part of (ibid). While improvements can be made, the program has been influential in promoting social acceptability of redesigning streets for people in Montreal (ibid).

Table 4: Overview of the Pedestrian and Shared Streets Implementation Program (PIRPP) in the City of Montreal

MONTREAL	
Program	Pedestrian and Shared Streets Implementation Program
Year Initiated & Completed	Program adopted in 2014 Initiation and completion of projects varies
Types of Projects	Varied street typologies/ configurations; ranging in degree of pedestrianization (full pedestrianization, shared or hybrid space, meeting zones)
Site Description	Sites selected vary (section of commercial street; residential zone; street adjacent to institutional buildings, a park, metro station, etc.)
Initiated By	Borough administrations: Project proposals must be submitted to city program and go through formal review and selection process by City committee (3-5 projects selected annually)
Goals / Objectives	Program sets overarching goals Objectives of individual projects are site-specific

Process	Multiple small-scale projects throughout the city implemented over several years
Engagement	Program commitment to co-creation process with local community; in practice, varies across projects User satisfaction surveys and assessments reports conducted by City
Design	Design concept varies across projects Iterative, multi-year process: entails learning from piloted temporary installations, making improvements / re-designing site and testing again during following year until final design is decided upon and permanently constructed
Impacts	Always positive with improved user satisfaction More specific impacts vary by project but generally improve public realm by making it more attractive, increasing opportunities for lingering and social interaction
Enabling Factors	Provision of municipal funding and technical support to borough administrations Flexible program structure and design of street configuration Participatory planning approach Iterative design process and use of pilots to evolve final design (Additional project-specific enabling factors vary; overarching factors in Chapter 6)
Challenges & Barriers	Funding schedule is fixed; projects must be completed within 5 years Quick turnaround between idea generation and implementation of temporary installations Limited connectivity to city's bike network Concentration of project in central boroughs Seasonal and weather considerations for design and materials used (Additional project-specific challenges vary; overarching challenges in Chapter 6)
Learning Outcomes	Co-creation with community is key to increase public support for project and ensure context-appropriate design Better to spend time realizing a high-quality design than rush towards permanent installation Managing the projects locally at the borough level is favoured (Additional learning outcomes discussed in Chapter 6)
# of Related Projects	15 and counting in at least 10 different boroughs (Contribute to network of approx. 50 temporary, seasonal, or permanent pedestrian zones in the city)

CHAPTER 5: VANCOUVER

This chapter provides an overview of the city and policy context of the City of Vancouver with a specific focus on the Jim Deva Plaza. Interviews with a selection of key informants provided insight on the approach towards undertaking more pedestrian-oriented streetscape initiatives in the Vancouver context.

Image: View of City of Vancouver. (Source: Twitter, n.d.)

5.1 CANADA'S GREEN CITY LEADER

With a reputation for progressive environmental initiatives, it is not surprising that Vancouver would be an example to look to when considering active transport, particularly pedestrian-oriented streetscape projects in an urban context. As the most populous city in British Columbia, and the 8th largest municipality in Canada, the City of Vancouver is internationally recognized for its natural surroundings, progressive values, ethnically diverse population, innovative economy, and vibrant neighbourhoods (City of Vancouver, 2012b). The city is part of Metro Vancouver, a region comprised of 21 municipalities in addition to one treaty First Nation and one electoral area (see Figure 25) (City of Vancouver, 2015e).

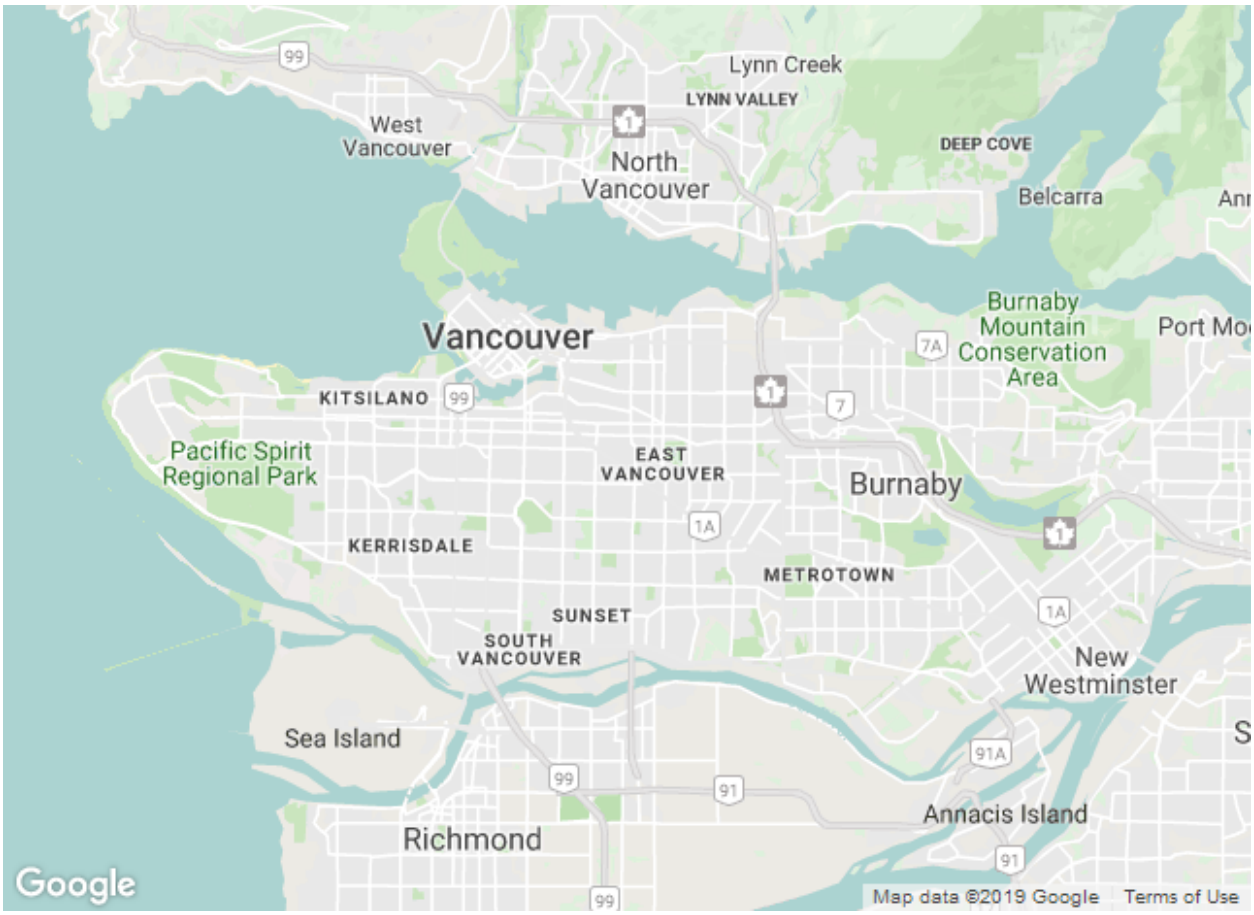

Figure 25: Map of City of Vancouver and neighbouring regions. (Source: Snazzy Maps, data courtesy of Google Maps, 2019)

As the regional centre for economic and educational activity, the City of Vancouver is growing quickly (City of Vancouver, 2015e). Its 2016 population of 631,486 is projected to increase by approximately 130,000 new residents by 2040, with an estimated 90,000 of new jobs to be created (City of Vancouver, 2012b). Associated pressures include service and transit provision, access to resources, land use management, as well as overarching challenges pertaining to growing inequality, affordability, rising fuel costs, and climate change. Given the accelerated rate of development in recent years, Vancouver

has limited land available for future development, let alone for the creation of new parks and public spaces, particularly in the downtown core. Downtown Vancouver makes up only 4% of the city's land supply yet is home to 20.2% of the city's population (City of Vancouver, 2017c). In this densely populated area, residents reside in vertical communities (in condominiums and apartment buildings), and are heavily relying upon neighbourhood parks, plazas, and streets to serve as their backyards (City of Vancouver, 2017c; van Stavel, 2017). As the city continues to densify, the demand for high-quality public space in the urban core to fulfill the need for gathering, socializing, and relaxing, will continue to grow. Thus, the City of Vancouver must be strategic with provision and management of public space to serve both its current and future population.

This urban densification has also resulted in the consolidation of living, working, and leisure in the downtown core. Walking has been on the rise (City of Vancouver, 2012b); from 14% of all trips made on foot in 1994, the proportion increased to 17% in 2011, with a 2040 target set for 22% of all trips to be made on foot and over 50% of trips to be made on foot, bike, or via transit (ibid). Despite this, pedestrians continue to be the most vulnerable road users. Though they are only involved in 1% of all road collisions in Vancouver, pedestrians account for 45% of total fatalities annually (ibid). A safe, connected, and walkable environment for pedestrians must be ensured. This requires directed attention and investment in the city's streets and sidewalks.

There are ample opportunities for improving public spaces and streetscapes in the City of Vancouver. The variety of public spaces in the city is quite extensive and includes parks, squares, plazas, laneways, greenways, a waterfront, a seawall, and, of course, streets (City of Vancouver, 2017c). The City is prioritizing green spaces and sustainability, seeking out locations for new public spaces and improving safety and accessibility (ibid). Streets are a promising source of new public spaces; Vancouver's streets make up 35% of the city's total land area, a greater portion than all the public parks combined (van Stavel, 2017). Vancouver recently completed or is currently in the process of developing several innovative streetscape and laneway projects, specifically in the downtown core. One such transformative project is the Jim Deva Plaza in Davie Village in the West End.

5.2 PROGRESSIVE ORIENTATIONS FOR SUSTAINABLE URBAN DEVELOPMENT & PUBLIC SPACE PLANNING

The City of Vancouver's progressive framework is reflected in several key plans, strategies, and programs adopted in recent years. To understand the policy context, a sample of key documents were reviewed, namely: the Greenest City 2020 Action Plan (2012); Transportation 2040 (2012); the Renewable City Strategy: 2015-2050 (2015); and the Healthy City Strategy 2014-2025 (2014). VIVA Vancouver, the city's formal tactical urbanism and placemaking program, and Places for People: Downtown, a public space planning strategy currently underway, were also reviewed, as both of these frame the City's approach towards public realm planning.[6]

[6] Two concurrent initiatives are not further addressed: Vancouver's Parks and Recreation Services Master Plan (VanPlay) and City Core 2050, a high-level framework for future development in the city core.

5.2.1 SUSTAINABILITY, TRANSPORTATION & HEALTHY CITY PLANS

The City of Vancouver seeks to become "a global leader in addressing climate change" (City of Vancouver, 2012a, n.p.). The Greenest City 2020 Action Plan, adopted in 2012, set out targets for ten goal areas, ranging from eliminating dependence on fossil fuels to improving access to green spaces, clean air, and local food (ibid). The bold targets of the Greenest City 2020 Action Plan set a precedent for the actions outlined in Transportation 2040, adopted the same year. Transportation 2040 is the City of Vancouver's comprehensive strategy for long-term transportation and land use planning. Key objectives of the plan specifically address streets and public spaces. These include: improving pedestrian connectivity by addressing gaps in the network; improving accessibility and safety for all road users; and enabling more creative uses of streets and public spaces to support a vibrant public life (City of Vancouver, 2012b). The plan also notes that the city's street design guidelines "will support high-quality, pedestrian-friendly streets that feel safe and are interesting and comfortable" with a goal to "provide a blueprint for great pedestrian realm design" (p. 61). Recommendations for diversifying the use of streetscapes include the creation of new public plazas and gathering spaces throughout the city while also exploring the potential for seasonal or permanent pedestrian-priority streets through the reallocation of road space (ibid).

At the time of the production of the report (2012), the City of Vancouver had only occasionally implemented pedestrian-priority spaces on street rights-of-way. It had done so primarily for street festivals, initially linked to the Vancouver 2010 Olympic Winter Games, when several urban streets were temporarily closed to vehicular traffic and turned over to pedestrians (City of Vancouver, 2012b). Realizing the popularity of this endeavour and the support received from residents and visitors alike, the City has since explored replication through short- to medium-term placemaking initiatives in downtown neighbourhoods. Additionally, sites for more extensive streetscape projects were put forward, including Yaletown's Mainland Street, Gastown's Water Street, and West End's Robson Street (ibid).

In this way, Vancouver's transportation plan recognizes the multiplicity of functions that streets serve. Some streets are identified as predominantly thoroughfares while others can also serve as gathering spaces (City of Vancouver, 2012b). Furthermore, it is recognized that well-designed streets and attractive public spaces can incentivize active transportation, enhance opportunities for social interaction, support local commerce, and contribute to ecological benefits (ibid). The importance of streets for meeting ecological, social, and transportation objectives is explicit in this plan, thus illuminating Vancouver's progressive approach to its urban streets.

Building upon the Greenest City 2020 and Transportation 2040 plans, Vancouver's Renewable City Strategy: 2015-2050 (adopted in 2015) also promotes an urban sustainability agenda. The strategy targets two of the biggest energy users, buildings and transportation, as key to a transition to renewable energy. Stated goals include developing complete streets, enhancing the pedestrian network, and reducing dependency on vehicular use (City of Vancouver, 2015e). These can be achieved by

applying “land-use and zoning policies to develop complete communities and complete streets that encourage active transportation and transit” (City of Vancouver, 2015e, p. 42).

The Renewable City Strategy: 2015-2050 is the first municipal document to explicitly refer to the concept of ‘complete streets’. However, the concept and its associated design principles are embedded in the street-oriented objectives of both the Greenest City 2020 Action Plan and Transportation 2040. A formal Complete Streets Policy Framework was adopted in Vancouver in April 2017, which resulted in amendments to the city’s Street and Traffic By-law (Centre for Active Transportation, n.d.3). It is only recently that complete streets guidelines are created or that complete streets design principles are actively and intentionally implemented in streetscape projects in Vancouver – most notably, for the Gastown neighbourhood in downtown Vancouver (City of Vancouver, n.d.1).

Beyond advocating for the creation of pedestrian-priority streets and high-quality public spaces from an ecological and transportation-oriented perspective, these objectives can also be approached from a social and health perspective. The City of Vancouver’s Healthy City Strategy (2014) does exactly that by introducing a long-term, integrated action plan to improve the health and well-being of Vancouver residents (City of Vancouver, 2014). A survey completed by the Vancouver Foundation indicated that only 54% of Vancouver residents expressed a sense of community belonging (van Stavel, 2017). Recognizing that social relationships are one of the key aspects of health, the Healthy City Strategy is an effort to improve social connectedness, among other determinants of health. Key aspects of this plan pertain to promoting safety and inclusion, cultivating liveable environments, and offering more opportunities to form social connections (City of Vancouver 2017a; 2014). Achieving these goals requires coordinated efforts and targeted investment in the public realm.

5.2.2 SPOTLIGHT ON *VIVA VANCOUVER*

VIVA Vancouver is the City of Vancouver’s placemaking program. Managed by the municipality’s Engineering Services, the program staff, in partnership with other City departments, Business Improvement Associations (BIAs), and community groups, explore opportunities to “make better use of public space” through programming and activation (City of Vancouver, 2017a; n.d.4). Introduced in 2009 and formalized in 2011 (City of Vancouver planners, personal communication, April 2019), the program operates through an officially-sanctioned ‘tactical urbanism’ approach in which new, innovative placemaking ideas are tested out in public spaces and their impact is assessed through feedback from local community groups and the wider public. The objectives of the program go beyond just physically enhancing the public realm; the aim is to make spaces more attractive and enjoyable, whether for gathering or passing through. VIVA is also intended to “support the local economy, build community, promote social inclusivity, encourage active transportation, and empower members of the public” by removing barriers that discourage participation in public life (City of Vancouver, 2017a, p.2)

Projects implemented with support from the VIVA Vancouver program vary widely. In addition to organizing numerous pop-up activations throughout the city each year, VIVA also participates in the piloting process of new public space projects and programs (City of Vancouver, n.d.4). Among these is the Pavement-to-Plaza program, which transforms street rights-of-way into pedestrian-oriented spaces. The street-to-plaza conversions range from short- to long-term initiatives that either fully close a street section to vehicular traffic or only partially. The projects originate as pilots to test the impact of vehicle restrictions and public space activation on adjacent roads, neighbouring businesses, residents, and community life. Successful initiatives are carried forward, resulting in the permanent reallocation of road space and complete restriction of vehicular traffic. VIVA has supported the creation of Jim Deva Plaza, Bute-Robson Plaza, Main-14th Ave Plaza, Cambie-18th Ave Plaza, and Adanac-Vernon Plaza through the Pavement-to-Plaza program (see Figure 26) in addition to Jack Poole Plaza, Helena Gutteridge Plaza, and 800-Block Robson and šxʷƛ̓ənəq Xwtl'e7énk̲ Square (formerly known as the Vancouver Art Gallery North Plaza) with no association to the program. In a similar initiative, laneways are also undergoing transformations into pedestrian zones: with Council approval, the Downtown Vancouver Business Association is spearheading the conversion of downtown laneways into colourful, dynamic, and programable public spaces (City of Vancouver, 2017a). The two laneway projects that have already been completed are Alley Oop and Ackery's Alley.

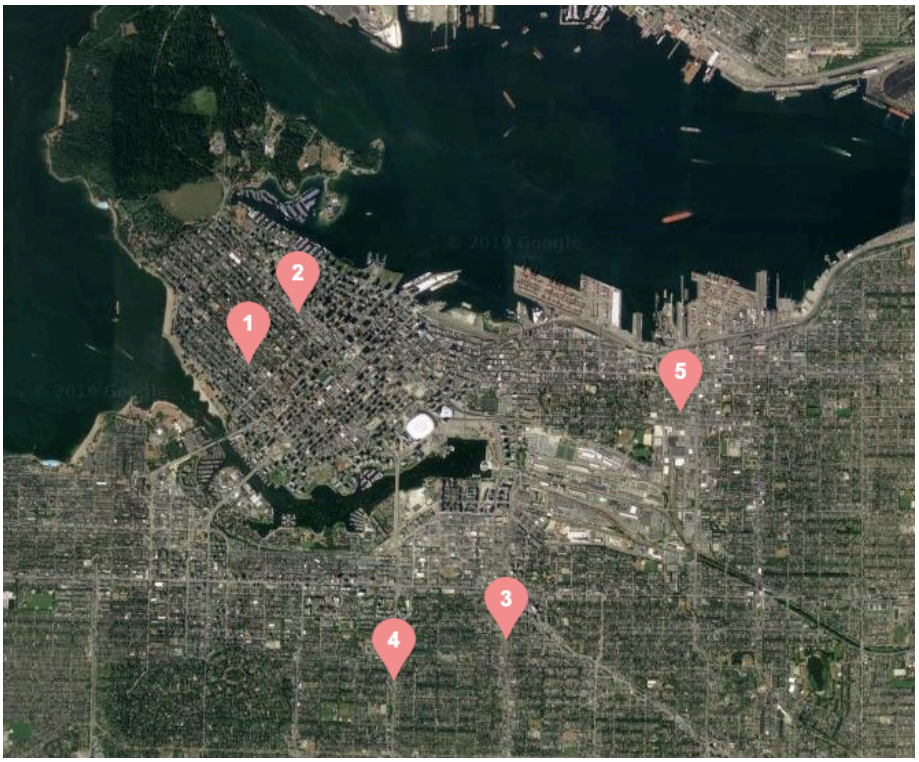

Figure 26: Map of urban plazas created through the Pavement-to-Plaza program. (Source: City of Vancouver, n.d.4)

The City of Vancouver has also recently implemented an Official Parklet Program and Patio Program. In 2016, after a three-year pilot study, City Council approved a regular, ongoing program for parklets – small, modular sidewalk extensions which typically entail the conversion of on-street parking spaces into new public spaces (City of Vancouver, 2017a). In 2017, Council approved an expansion of the Patio Program to support the

creation of more private patios, specifically to identify where restaurants can extend seating to curbside patios that are not adjacent to buildings (ibid). VIVA Vancouver is actively involved in the transformation of these spaces while also supporting the City's Green Streets Program, mural and public art initiatives, and providing assistance to residents in hosting neighbourhood block parties (City of Vancouver, n.d.4).

The success of the program is highly dependent upon strong partnerships with external organizations and community groups as well as monitoring the impact of the interventions (VIVA Vancouver, 2017a). VIVA Vancouver staff "work with community partners to navigate permitting processes as well as insurance and structural review requirements, testing new approaches and sharing learnings to improve established processes" (City of Vancouver, 2017a, p. 6). Data collection to determine the success of the pilots consists of measuring neighbourhood impacts through spot observations (to understand how and when the site is used and for what purpose); traffic counts (e.g., volume of cars and cycling speeds) on adjacent streets; on-site public engagement; and an online survey (ibid). This enables VIVA to continually "build [up]on established best practices" and tailor interventions to the unique character of the sites and needs of the community (City of Vancouver, n.d.4).

As the VIVA Vancouver program evolves, the number of initiatives undertaken has increased. And while it predates Transportation 2040, the program responds to and ultimately fulfills the plan's directions pertaining to investment in the public realm. The program has been influential in supporting the creation of new public spaces and the animation of existing and perhaps underutilized spaces in the city.

5.2.3 PLACES FOR PEOPLE: DOWNTOWN

Launched in 2017 by the City of Vancouver's Planning, Urban Design & Sustainability department, Places for People: Downtown is the City's ongoing initiative to guide the development of a comprehensive public space planning strategy for Downtown Vancouver (City of Vancouver, 2017b,c; n.d.3). The initiative emerged from a recognition that the city lacked such an overarching framework and, given anticipated growth, a coordinated approach was needed to guide the development and management of public spaces. The future Downtown Public Space Strategy is intended to provide:

> 1) a clear vision, values, and principles for downtown public spaces;
> 2) an inventory of existing public spaces, with an understanding of what's missing and could be improved;
> 3) guidance on privately-owned public spaces (POPS), usage and design, and direction on other key public space issue (diversity of space, programming and design, sponsorship, stewardship, etc.); and
> 4) a strategic framework to prioritize and coordinate the delivery of public space initiatives, to shape a vibrant public space network
>
> (City of Vancouver, n.d.3, n.p.).

Other objectives of the strategy include “elevat[ing] public dialogue on public space in Vancouver”, supporting the creation of high-quality, meaningful public spaces that respond to local needs, and fostering partnerships between different stakeholders to strengthen community connections (City of Vancouver, 2017a,b,c, n.p.).

Places for People: Downtown will address all components of the public realm (City of Vancouver, 2017c). Opportunities for new public spaces will be considered for both publicly and privately-owned land including street rights-of-way to explore the potential for widening sidewalks, converting streets into plazas, and improving laneways (ibid). Among the emerging opportunities is the intention to develop a hierarchy of streets to differentiate the role of each street and identify suitable locations for implementing pedestrian-priority streets, especially in areas where a high volume of pedestrian traffic already exists (ibid).

Extensive public engagement has been conducted to inform the strategy. A Public Space and Public Life Study, organized with support from Gehl Studio, together with other engagement activities identified guiding principles for both existing and future public spaces (City of Vancouver, 2017c). These include: ensuring that public spaces are safe, inclusive, permit freedom of expression, are active, attractive, walkable, offer opportunities cultural expression, foster social connections, are developed with support from the community and local organizations, and recognize First Nations culture and history (City of Vancouver, 2017c).

An overview of the policy context in the City of Vancouver (as described above and depicted in Table 5 below) shows recognition of the urgency with which sustainability-oriented actions need to be undertaken. Additionally, the prevalence of objectives pertaining to the public realm in these documents makes it clear that streets and public spaces require investment in order to allow the City to achieve its ecological, economic, transportation, social, and health goals. Collectively, these complementary plans, strategies, and programs comprise a positive setting for public space initiatives and should help to guide the transformation of more street rights-of-way to become pedestrian-oriented. A number of such initiatives are already taking place as a result of coordinated efforts among municipal departments, business improvement associations, non-profit organizations, and community groups, as illustrated by the Jim Deva Plaza case described below.

Table 5: Summary of the policy framework for the City of Vancouver

VANCOUVER			
Policy / Program	**Year**	**Reach of Policy**	**Overview of Applicable Objectives / Actions / Goals / Priorities**
Greenest City 2020 Action Plan	2012	City-wide	Outlines priorities for 10 sustainability-oriented goals including: • Reducing dependence on fossil fuels • Promoting active transportation and public transit
Transportation 2040	2012	City-wide	Directs enhancements to pedestrian network including improvements in accessibility and walkability Encourages more varied use of streets through expansion of public space programming initiatives and creation of plazas and other gathering spaces
Healthy City Strategy 2014-2025	2014	City-wide	Seeks to improve well-being, sense of belonging, safety, and create opportunities for social connectedness through public realm improvements
Renewable City Strategy: 2015-2050	2015	City-wide	Calls for changes in land-use and zoning regulations to improve pedestrian network, expedite development of complete streets, support active transportation, manage congestion, and improve safety for all road users
VIVA Vancouver	Introduced in 2009; formalized in 2011	City-wide	City placemaking program that works with partners to: • *Identify, test and monitor potential new public spaces;* • *Activate and help people reimagine existing underused public spaces;* • *Foster a culture shift to enliven public spaces by removing barriers to public life and building community capacity; and* • *Pilot new programs and policies to enable more and better public spaces and public life. (p. 2)* Intended to "support local economy, build community, promote social inclusivity, encourage active transportation, and empower members of the public" (p. 2) (City of Vancouver, 2017a)
Places for People: Downtown	TBD	City-wide	A Downtown Public Space Strategy that will provide: • *A clear vision, values, and principles for downtown public spaces;*

			• *An inventory of existing public spaces, with an understanding of what's missing and could be improved;* • *Guidance on privately-owned public spaces (POPS), usage and design, and direction on other key public space issue (diversity of space, programming and design, sponsorship, stewardship, etc.); and* • *A strategic framework to prioritize and coordinate the delivery of public space initiatives, to shape a vibrant public space network* (City of Vancouver, n.d.3, n.p.)
West End Plan	Adopted in 2013 Amended in 2017	Local	Key priorities for the neighbourhood include: • Supporting the LGBTQ2+ community of Davie Village and promoting the area as a community hub for gathering, celebration, events, etc. • Identifying a 'heart' of Davie Village to function as a new gathering place characteristic of the neighbourhood • Fostering a vibrant public life through enhanced street design, public realm improvements (creation of new plazas and public spaces), and programming • Improving walkability by making walking safer and more convenient for all ages and abilities • Supporting commercial activity through targeted investments on main commercial arteries such as wider sidewalks, additional seating, decorative lighting, and street vegetation
Vancouver's Parks and Recreation Services Master Plan (VanPlay)	TBD		
City Core 2050	TBD		

5.3 CASE STUDY: JIM DEVA PLAZA

The following case study focuses on the creation of Jim Deva Plaza, a vibrant new public space in the West End neighbourhood of Vancouver (see Figure 27). The south side of the Davie and Bute Street intersection is the site of the City of Vancouver's first street-to-plaza conversion project. The transformation of the street right-of-way has resulted in an attractive pedestrian thoroughfare, formally opened in July 2016, that links the West End's residential streets to its commercial artery.

Figure 27: Jim Deva Plaza. (Source: Jim Deva Plaza Twitter account, n.d.)

The project was initiated through the West End Community Plan, which identified local interest in the development of a 'heart' of Davie Village (City of Vancouver, n.d.2,4). The plaza concept was first piloted between 2013 and 2014 (ibid). After positive public reception and public engagement over the design, the 789 m^2 plaza, named after a local community activist and champion for LGBTQ2+ rights, represents an important public space initiative for the West End (City of Vancouver, n.d.2). Contributing to goals outlined in overarching plans such as Transportation 2040 and the Healthy City Strategy, the Jim Deva Plaza sets an important precedent for similar projects throughout the city.

5.3.1 ABOUT THE WEST END – NEIGHBOURHOOD PROFILE

The West End neighbourhood is located in the heart of downtown Vancouver, bounded by Stanley Park to the north, West Georgia Street to the east, Burrard Street to the south, and the English Bay to the west (see Figure 28) (City of Vancouver, 2013). The West End

makes up 35% of the downtown peninsula (excluding Stanley Park), comprising of prominent communities such as Davie Village, Robson Village, and Denman Village (ibid).

Figure 28: Map of the West End on the Downtown Peninsula. (Source: City of Vancouver, 2013)

In addition to serving as a major employment centre, the West End is also a diverse residential neighbourhood that is home to people of all ages, ethnic, and socio-economic backgrounds (City of Vancouver, 2017c). It is one of the main receiving areas for newcomers to the city and has a prominent LGBTQ2+ community (ibid). With a population of approximately 45,000 residents and 216.9 people per hectare, according to 2011 census data, it is Vancouver's fourth most densely populated residential neighbourhood (City of Vancouver, 2013).

5.3.2 SPOTLIGHT ON DAVIE VILLAGE

Davie Village, located on Davie Street between Burrard and Jervis Streets, is a district of the West End neighbourhood known for locally serving commercial activity and vibrant nightlife (see Figure 29) (City of Vancouver, 2015d). Historically and culturally significant as the hub of Vancouver's LGBTQ2+ community, Davie Village is notably where the gay

rights movement began in Canada (City of Vancouver, 2017c; 2013). The district is characterized by predominantly low-rise, mixed-use residential and commercial buildings and numerous bars and restaurants. Attractive to both locals and visitors, the area is a walkable thoroughfare that receives some of the highest pedestrian volumes in Vancouver (ibid).

Figure 29: Map of Davie Village in the West End. (Source: Snazzy Maps, data courtesy of Google Maps, 2019; City of Vancouver, 2013)

5.3.3 A COMMUNITY-DRIVEN PLAN FOR THE WEST END

The West End Plan was a community-initiated planning process (H. Sovdi & J. Grottenberg, personal communication, April 2019). Due to growth and speculative development, there was pressure from the West End community for a neighbourhood plan to be completed as one had not been done in 25 years (ibid). The West End Community Plan was completed through an extensive engagement process with members of the community (ibid). Adopted in 2013 and amended in 2017, the plan outlines opportunities for the neighbourhood based on local needs, desires, and values. Important objectives include: supporting the area's local businesses, LGBTQ2+ community, and function as a nightlife area; creating more opportunities for social gathering through community programming and events; and improving pedestrian connections to ensure safety through better sidewalks, additional pedestrian traffic signals, decorative lighting, and signage (City of Vancouver, 2015a-d; 2013). The commercial streets (Robson, Denman, and Davie Streets) were targeted for

improvements in walkability while Bute Street was to be promoted as a main pedestrian and cycling route (City of Vancouver, 2013).

Through this planning process, Davie and Bute Streets were identified as the 'heart of Davie Village' by the community with a desire to invest in the public realm of this area (City of Vancouver, 2013). This led to the exploration of how to reallocate road space for pedestrian use in order to create new community gathering spaces (ibid). Consequently, the Davie Village Public Space Improvement Project was proposed, which included but was not limited to the Jim Deva Plaza and associated transportation modifications.
The Heart of Davie Village Public Space Improvement Project had three key components:

(1) a new permanent plaza along one block of Bute Street, south of Davie Street;
(2) complementary public space improvements – widening of sidewalks, addition of decorative lighting, landscaping, and public art – on the blocks of Bute Street directly north of Davie Street and Burnaby Street; and
(3) a new mid-block pedestrian crossing on Davie Street between Bute and Thurlow Streets, with an improved public space (City of Vancouver, n.d.2).

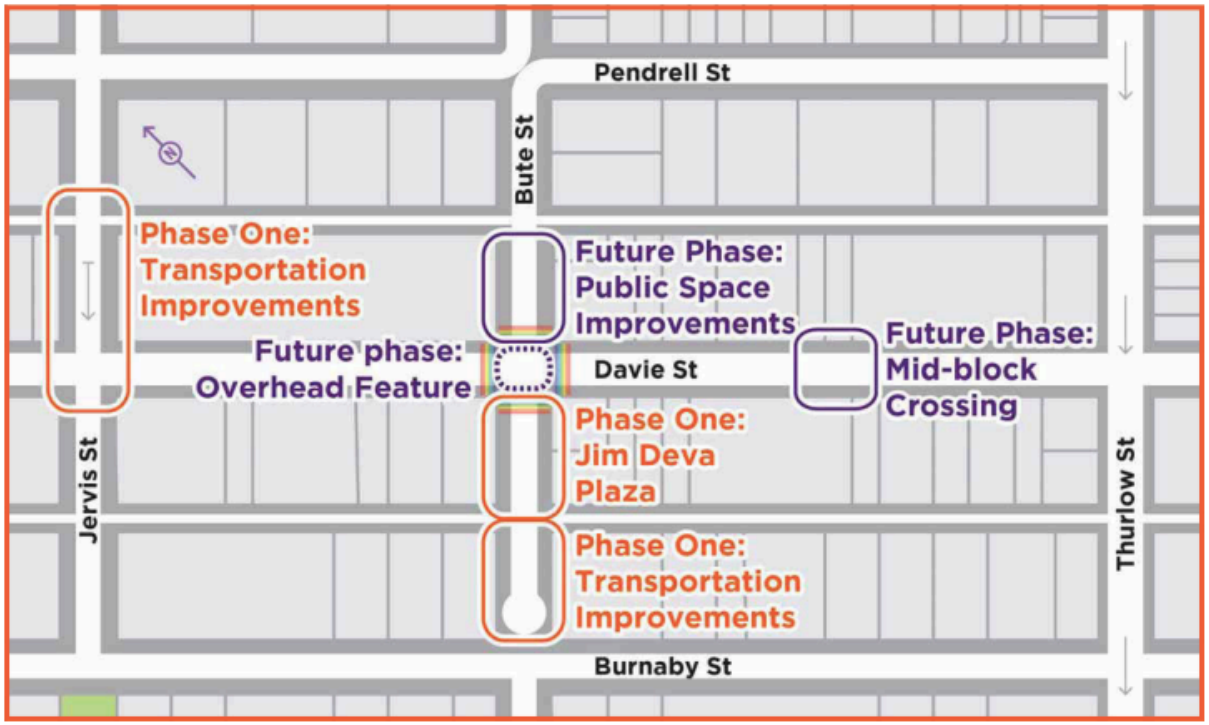

Figure 30: Map of public space improvements in Davie Village (Source: City of Vancouver, 2015d)

The Project would be implemented in stages, beginning with the construction of what is presently known as Jim Deva Plaza, a new public space, permanently closed to vehicular traffic. Additionally, given that the permanent closure of one street would have implications on the adjacent road network, including pedestrian crossings, cycling connections, transit stops, parking, and vehicle circulation, associated transportation modifications were included as part of phase one of the project (see Figure 30) (City of Vancouver, 2015a,b,c; n.d.2).

5.3.4 PILOTING A PLAZA

During the process of developing the West End Plan, municipal planning staff piloted a plaza in Davie Village, doing so in partnership with VIVA Vancouver staff, the West End Business Improvement Association (WEBIA), Qmunity, and Gordon Neighbourhood House, among other local community organizations (City of Vancouver, n.d.2). From July 2013 to September 2014, a portion of Bute Street was closed to vehicular traffic and replaced with colourful, moveable seating and tables, enhanced landscaping, and the addition of decorative lighting to activate the space (ibid). The additions complemented the adjacent rainbow crosswalks, an iconic feature painted at the intersection of Davie and Bute Streets to mark the 35th anniversary of Pride and the neighbourhood's historical and cultural significance to the LGTBQ2+ community (ibid). During this time, the space was activated with programming and numerous events, thus enhancing opportunities for social gathering.

The purpose of the year-long Heart of Davie Plaza pilot project was to test the viability of Davie and Bute Streets to function as a plaza. It also served as a way to gauge public support for the project; in-person surveys which were conducted on the street along with a questionnaire distributed to residents and businesses during spring and summer 2014 (City of Vancouver, n.d.2). Overall, the initiative was well received by the local community, with strong support for it to become a permanent plaza from 85% of the people surveyed in person on site, and 80% of the residents and businesses that completed the questionnaire (City of Vancouver, 2015d, n.d.2). Consequently, Council approved a motion for the creation of a permanent plaza at this site in 2015 (ibid).

5.3.5 PROJECT TIMELINE & PUBLIC ENGAGEMENT

Public engagement associated with the West End community planning process and the Heart of Davie Village Plaza pilot project collectively generated many ideas for the future plaza and adjacent public realm improvements (City of Vancouver, 2015d). Input received during these earlier stages of the development process was complemented by additional discussions with stakeholders and three rounds of public engagement events, held to showcase the transition of the design from preliminary to conceptual to final by City staff and design consultants, PFS Studio. Each event has been documented with materials made publicly-available online.

In March 2015, municipal staff met with residents, business owners, and other community stakeholders to discuss opportunities and challenges associated with the site (City of Vancouver, n.d.2). Subsequently, PFS Studio was hired to prepare three preliminary design concepts for a new permanent plaza on Bute Street, south of Davie Street (City of Vancouver, 2015a,b,c; n.d.2). In April 2015, these three conceptual design options were presented to the public along with complementary public space improvements on the remaining sections of Bute Street (City of Vancouver, 2015c). This first stage of public engagement comprised of workshops with business owners and other stakeholders, two public open houses, and a questionnaire (ibid). Feedback received during this stage was applied to develop a preferred design concept, which was prepared and presented to the

community during the second round of public engagement events held in June 2015 (City of Vancouver, 2015b).

Figure 31: Final renderings of Jim Deva Plaza. (Source: City of Vancouver, 2015a)

On July 22, 2015, Council approved City staff's recommendation for the permanent closure of a half-block of Bute Street, south of Davie Street, along with the conceptual design for the plaza and associated public spaces (City of Vancouver, n.d.2; City of Vancouver, 2015d). At this time, Council also approved naming the plaza 'Jim Deva Plaza' to honour the late Jim Deva, a local community activist for the LGBTQ2+ community and advocate for free speech (ibid). With this approval, City staff and PFS Studio prepared a final detailed design for the plaza and associated public spaces and presented it to the community in October 2015 (see Figure 31) (ibid). This marked the third and final stage of public engagement, which included another round of public open houses and the completion of a questionnaire (ibid). In December 2015, Council approved the detailed design and funding for phase one the Davie Village Public Space

Improvements Project (City of Vancouver, n.d.2). Construction on the plaza began in early 2016 and was completed in the summer, officially opening on July 28th, 2016 (ibid). A summary of the project timeline is depicted below in Figure 32.

All public engagement sessions were well attended by residents of the neighbourhood, business owners, and community groups. From over 600 in attendance during the April 2015 public open houses, to over 1,500 in June and over 1,100 in October (City of Vancouver, 2015a,b,c). Support for the project increased with each stage of the consultation process: from 64% during the introduction of preliminary designs to 76% upon the completion of a final preferred concept (ibid).

Throughout the stages of public consultation, concerns were raised by stakeholders that ultimately informed the final design of the project. These included the importance of making the space feel like a plaza rather than a closed road; producing a high-quality public space that would be properly managed and maintained to ensure cleanliness; creating a comfortable, safe, and inclusive environment; reducing public nuisance such as excessive noise and disturbance; accommodating adjacent business by permitting them to extend into the plaza and benefit from it; and designing with protection from inclement weather in mind (City of Vancouver, 2015a,b,c). Concerns over how a permanently closed-off road would affect circulation in the area were also raised, with fears that the removal of traffic lanes would result in spillover on adjacent streets (ibid). However, based on collected data and an analysis of the road network, it does not appear that the closure of this portion of Bute Street has had a significant impact on adjacent traffic (ibid). Public safety emerged as another top priority, with encouragement for more on-street lighting, patios, and increased programming to add more 'eyes on the street' (City of Vancouver, 2015b).

The combination of formats for input – one-on-one meetings with property and business owners, City advisory committee meetings (LGBTQ2+ Advisory Committee, Active Transportation Policy Council, Seniors' Advisory Committee, and Persons with Disabilities Advisory Committee), stakeholder workshops, public open houses, community outreach events, and questionnaires conducted in-person and online (City of Vancouver, 2015d) – has resulted in a seemingly extensive and thorough public engagement process. However, while the project itself was initiated because of the community's push for a public gathering place in the heart of Davie Village, the degree to which community members could be considered co-creators of the project is unclear. This is primarily because the importance of co-creating the project with the local community is not explicit in project documents nor does the public engagement process appear to go beyond standard procedures. Furthermore, no municipal staff or other actors who worked on the project directly were interviewed to confirm the degree of public engagement. Nevertheless, the public engagement process does appear to have been thorough, with the final design informed by community input, as evident in the design outcomes described below.

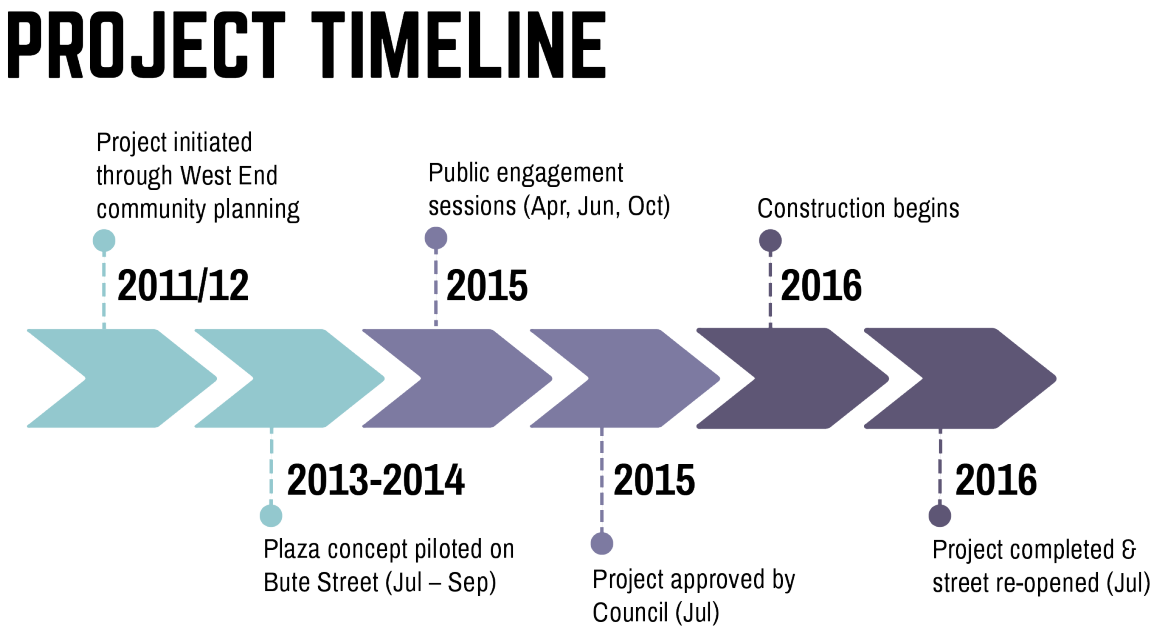

Figure 32: Timeline of the Jim Deva Plaza project.

5.3.6 KEY DESIGN FEATURES OF THE PLAZA

The final design of the Jim Deva Plaza is the product of collective work by municipal staff, City Advisory Committees, the WEBIA, PFS Studio, local businesses, and community stakeholders. The completed project has resulted in the permanent closure of a section of Bute Street from vehicular traffic (City of Vancouver, n.d.2). When not programmed, this space is to be shared by pedestrians and cyclists (ibid). To establish the plaza concept, consistent paving was applied throughout the entire stretch of the site creating a unified feel of the space between the former roadway and sidewalks (City of Vancouver, 2015a;d). The removal of parking spaces along the street created new space for landscaping and other amenities. It also presented opportunities for adjacent businesses to expand their outdoor patios, a concern that emerged through the engagement process (ibid). The addition of both formal and informal street furniture, including standard benches, fixed tables as well as moveable chairs and tables, permits users to adapt the space to their needs. Other key design features of the plaza include the addition of decorative lighting, public art installations, and improved wayfinding and signage (see Figure 33) (ibid). In memory of the plaza's namesake, a large distinctive megaphone installation is featured in the plaza to pay tribute to Jim Deva's advocacy efforts for free speech (ibid).

There were also several important design considerations and constraints that had to be addressed. These included: accommodating the mature street trees lining the street and improving conditions for their continued healthy growth; creating some protection from inclement weather; ensuring the space is universally accessible; and maintaining service parking spots and access for emergency vehicles (City of Vancouver, 2015d; H. Sovdi & J. Grottenberg, personal communication, April 2019). Additionally, given that a key objective of the new plaza is to facilitate community programming and events, the

provision of infrastructure such as power outlets, water connections, grey water disposal and storage space was an important design aspect (City of Vancouver, 2015a,d). Beyond the plaza site itself, the area's commercial through traffic and transit routes needed to be accommodated as did existing infrastructure (e.g., hydro poles).

Figure 33: Key design features of Jim Deva Plaza. (Source: City of Vancouver, 2015d)

5.3.7 FEEDBACK FROM COMMUNITY

Public engagement conducted as part of the Places for People: Downtown strategy revealed that, overall, the Jim Deva Plaza project is considered to be a valuable addition to the West End as it helps to activate the neighbourhood (City of Vancouver, 2015a,b,c). The project continues to have strong public support from the community and local businesses (H. Sovdi & J. Grottenberg, personal communication, April 2019). Findings from a recent well-being assessment report on the Pavement-to-Plaza program, show similarly positive results (Happy City, 2019). All the plazas created through this program, including the Jim Deva Plaza, have been found to function well as social spaces that foster greater opportunities for social interaction and contribute to feelings of safety and inclusion (see Figure 34) (ibid).

There also is room for improvement and the impact reports can be useful in identifying and addressing current limitations. Some suggestions for future additions and/or accommodations to the Jim Deva Plaza include more dog-friendly features; quiet, unprogrammed days; additional parklets; and drinking permits (City of Vancouver, 2015a; Vancouver Public Space Network, 2015). There are also some criticisms that have

emerged, specifically regarding the use of the plaza space. The Jim Deva Plaza project was accompanied by changes to several by-laws that regulate permitted activities, one of which is the Street and Traffic By-law (City of Vancouver, 2015d; Vancouver Public Space Network, 2015). A potentially problematic aspect of this by-law was identified by the Vancouver Public Space Network (VSPN). Since activity in the plaza is regulated, the by-law prohibits use of the plaza after hours (between 11 pm and 6 am) for fear of public nuisance; night-time use carries a $100 fine (Vancouver Public Space Network, 2015). The VPSN points out that public nuisance in the form of excessive noise, disturbance and the like, is already prohibited through other long-standing municipal by-laws pertaining to parks and public spaces (ibid). Therefore, all this by-law really does is "penalize legitimate users of a public space," which directly contradicts the goal of creating a safe and inclusive public space (ibid). The Jim Deva Plaza is not uniquely targeted; activity restrictions exist for other public spaces in Vancouver. This example exposes an aspect of public space planning that can be considered problematic.

Figure 34: Jim Deva Plaza used as a social space. (Source: Jim Deva Plaza Twitter account, n.d)

5.3.8 A CITY-WIDE PLAZA STEWARDSHIP STRATEGY

A common theme that emerged throughout the consultation process for the Jim Deva Plaza project was concern that recurrent public nuisance or negative behaviour would undermine public safety and cleanliness (City of Vancouver, 2015a,b,c). From these discussions, the need for a comprehensive strategy outlining how the plaza should be managed, maintained, and programmed quickly emerged as a key priority (City of Vancouver, 2017d). It was an opportunity that the municipal planning department "needed

to get ahead of" and became almost more important than the actual design of the Jim Deva Plaza (H. Sovdi & J. Grottenberg, personal communication, April 2019).

Recognizing that a plaza stewardship strategy is critical to the long-term success of Jim Deva Plaza and all future Pavement-to-Plaza projects, City staff are currently working with community partners and stakeholders, including the West End BIA, to develop a city-wide plaza stewardship strategy (City of Vancouver, 2017d). The purpose of the strategy is to outline the most appropriate ways to manage, maintain, and program these new public spaces in a manner that will ensure safety, comfort, and inclusivity (City of Vancouver, 2017d, 2015a). This entails identifying "anticipated levels of everyday use and events in the plaza; key elements and duties essential to the smooth year-round operations of the plazas; key community groups involved in operating the plaza in partnership with the city; [as well as instituting] a process for resolving issues or concerns that may emerge as the strategy establishes itself" (City of Vancouver, 2015a).

The strategy is also intended to help identify a long-term funding model for plaza stewardship (City of Vancouver, 2017d; 2015a; van Stavel, 2017). As these new spaces are expected to be of a higher standard than the average street, a "higher standard of care" is necessitated which requires special budgeting (Representative from West End BIA, personal communication, April 2019). Providing such care is complicated by the fact that ownership of the plazas falls across multiple municipal departments (H. Sovdi & J. Grottenberg, personal communication, April 2019). Therefore, identifying from which department's budget to direct funds for plaza stewardship is a challenge that brings some contention (ibid). While ownership of the plazas is expected to remain public (at least for the foreseeable future), determining which stakeholders will be responsible for oversight, management, etc. as well as how the stewardship strategy will be funded is currently under consideration (H. Sovdi & J. Grottenberg, personal communication, April 2019; City of Vancouver, 2017d; van Stavel, 2017). In the meantime, as there are many different ideas proposed, a Plaza Oversight Committee has been formed for the Jim Deva Plaza comprised of members from local community groups, businesses, and property owners (H. Sovdi & J. Grottenberg, personal communication, April 2019). Its purpose is to provide guidance, help resolve issues, provide direction and advice on the development of the strategy (ibid).

5.4 CONCLUSION

This chapter described the policy framework for streetscape work in Vancouver and presented the illustrative case of Jim Deva Plaza, an overview of which is provided in Table 6, presented below. Key enabling factors and ongoing challenges and barriers associated with implementing pedestrian-oriented streetscapes in the Vancouver context, are referred to collectively in Chapter 5.

While the Jim Deva Plaza is Vancouver's first significant pavement-to-plaza transformation – the first true urban plaza that has involved the conversion of a street right-of-way into a public space, since its completion, at least four other plazas have been created or are in the process of development (City of Vancouver, n.d.4). This indicates

recognition of the benefits such spaces provide with both public support for such projects and municipal interest to invest in the transformation of underused street rights-of-way into pedestrian-oriented spaces. While these efforts are supported through the work of VIVA Vancouver, the sites for intervention are predominantly identified from a variety of planning processes, independent of each other. Consequently, a more coordinated approach to streetscape initiatives and public realm planning is needed which the forthcoming Places for People: Downtown strategy is expected to fulfill. Furthermore, the City has stated that public space planning needs be guided and supported by active community groups, business associations, and non-profit organizations that, along with strong public support, have generated momentum for public space initiatives in recent years (City of Vancouver, 2017c). Coordinating the efforts of the many actors involved in public realm planning will ensure the best use of resources and aid in identifying solutions to common challenges, thereby contributing to the long-term success of the projects. This is likely to help with the proliferation of such initiatives, normalizing them, and standardizing the implementation process. As Vancouver strives to promote its green city leader image, it is expected that innovative public space and streetscape projects will continue to be undertaken.

Table 6: Overview of the Jim Deva Plaza project in the City of Vancouver

VANCOUVER	
Project	Jim Deva Plaza
Year Initiated & Completed	Early considerations beginning in 2011/2012 Piloted in 2013-2014 Completed and formally opened in July 2016
Site Description	Semi-commercial artery in downtown residential neighbourhood (part of Davie Village in the West End)
Initiated By	Community-driven through local community plan (West End Plan)
Goals / Objectives	Invest in public realm to create new community gathering spaces Improve walkability Support neighbourhood's function as a nightlife area Contribute to neighbourhood's LGBTQ2+ identity
Process	Plaza concept piloted followed by stages of design creation until final concept approved and permanently implemented
Engagement	Phased, multi-stakeholder, neighbourhood-based
Design	Plaza concept, design informed through stakeholder input
Impacts	First street-to-plaza conversion project; set precedent for others Generally positive feedback; approval for plaza concept increased throughout development process Found to contribute to increased opportunities for social interaction and improved feelings of safety and inclusion
Enabling Factors	(All discussed in Chapter 6)

Challenges & Barriers	Designing to protect from inclement weather Accommodating existing features on the site including mature street trees and restaurant patios Managing public nuisance (actual or perceived) (Additional challenges & barriers discussed in Chapter 6)
Learning Outcomes	Need for city-wide plaza stewardship strategy to aid City in managing new plazas across the city Designated funding required for ongoing maintenance More coordinated efforts for public space planning needed (Additional learning outcomes discussed in Chapter 6)
# of Related Projects	7 other plaza projects; other placemaking and public space initiatives

CHAPTER 6: DISCUSSION OF KEY THEMES & LEARNING OUTCOMES

Image: Parklet on Ontario Street, Borough of Mercier – Hochelaga – Maisonneuve.
(Source: Ville de Montréal, n.d.1)

THE IDENTIFICATION OF GOOD PRACTICES FOR SUCCESSFUL IMPLEMENTATION & ONGOING MAINTENANCE OF PEDESTRIAN-ORIENTED STREETSCAPES

A conducive policy environment was the critical first step in enabling the pursuit of pedestrian-oriented streetscape projects in Halifax, Montreal, and Vancouver. Without this precondition, no such projects would have been initiated. Despite somewhat different features in the three cities, the policy context constituted a basis for a more detailed and nuanced examination of factors that enabled or presented barriers to the implementation of the streetscape projects analyzed.

The following chapter details common themes that emerged through interviews with key informants and project stakeholders. Topics pertain to enabling factors and the ongoing challenges and barriers experienced through the execution of the projects analyzed. Additionally, broader considerations associated with introducing novel street configurations are also presented. Many of the themes are common across all three case studies. As well, they relate to the conditions for the successful implementation of pedestrian-oriented streetscapes found in literature reviewed. This has exposed learning outcomes associated with such projects, resulting in the identification of good practices that can be applied in other contexts.

6.1 ENABLING FACTORS & KEYS TO SUCCESS

This section identifies some of the factors that enabled the streetscape projects to be undertaken, beyond the existence of a supportive policy framework. Enabling factors and keys to success are predominately linked to the project's governance, as follows:

Leadership and political and stakeholder support

- Project champions to advance the projects
- Ongoing support from political leaders and the business community

Relationship-building

- Strong interdepartmental relationships within municipal governments
- Collaboration with different stakeholder groups

Interdepartmental coordination of logistics

- Coordination with other similar infrastructure projects (especially through the alignment of underground infrastructural repairs with at-grade level enhancements/full redesign)

Iterative learning and co-creation

- Phasing that includes a pilot approach to test new street configurations
- Co-creating the design with the community at large

6.1.1 POLITICAL APPROVAL, SUPPORT FROM BUSINESS COMMUNITIES & PROJECT CHAMPIONS

Without the support of political leaders, business associations, and dedicated municipal staff acting as project champions, none of the streetscape projects studied would have been implemented successfully. Commitment from these actors is critical to making such projects possible and ensuring their long-term success. Dedicated leadership and support from decision-makers and the business community are considered important enabling factors by Carmona et al. (2018), Nieuwenhuijsen et al. (2018), von Schönfeld & Bertolini (2017), Nieuwenhuijsen & Khreis (2016), and Bain, Gray & Rodgers (2012).

"Explicit council support is huge for a project like this", especially for the transformation of a conventional street into a shared space that prioritizes pedestrians (J. Ritchie, personal communication, February 2019). It is much different than what is normally done and introduces a completely novel concept to Halifax (ibid). Unanimous approval from Council for the Argyle & Grafton Shared Streetscape Project was significant in allowing the initiation of the project, and then because it could be used as leverage throughout the challenging construction process (ibid). The "breakthrough mandate from Council provided the political pressure to make the project work" (P. MacKinnon, personal communication, March 2019). Whenever the project team was faced with pushback from the municipal engineering department over design elements (particularly the addition of non-standard items), project managers were "able to point to council direction and say that Council expects a street that has a different profile than the other streets in Halifax because that is what they voted on" (J. Ritchie, personal communication, February 2019). In this way, council support was used as a "lever in internal negotiations to get the design exceptions that were needed" (ibid). In Montreal, given the organizational structure of the municipality, streetscape projects are only implemented in boroughs where they have strong local political support.

Most streetscape projects are in areas with some commercial activity. As such, support from the business community (Business Improvement Areas (BIAs), business associations, commissions, etc.) is important, especially since businesses could be opponents of pedestrian-oriented initiatives (Carmona et al., 2018; Nieuwenhuijsen et al., 2018; Parajuli & Pojani, 2018; Soni & Soni 2016, Zehngebot & Peiser, 2014).

In the case of the Argyle & Grafton Shared Streetscape Project, the business commission itself is largely credited for initiating the project. The DHBC was a major proponent of the project, heavily involved throughout the implementation process, and "a fantastic partner to the HRM" (H. Koblents, personal communication, February 2019; J. Ritchie, personal communication, February 2019). The DHBC was an early advocate for the redesign of Argyle Street, consistently lobbying for street improvements to better support the local businesses as early as the 1990s. This made the project quite different than other streetscape projects in the HRM; "most projects for transit priority or active transportation are for a public good and abutters are usually the biggest opponents […] because of parking loss and access to loading" (H. Koblents, personal communication, February 2019). In this case, however, "the immediate abutters [(the businesses)] had the most to

gain" (ibid). Even though parking was removed on three city blocks, "nobody really complained about it, which was new" (ibid). In this way, the project is significant because it demonstrates that different stakeholders' objectives can align. Improving conditions for pedestrians and supporting local businesses can be addressed simultaneously through a street design that benefits both stakeholders.

In instances where such projects are not initiated by the business community, such as the case studies examined in Montreal and Vancouver, it is important to not only gain support from businesses but also to make efforts to engage these stakeholders throughout the development process (Adams, Cavill & Sherar, 2017; Nieuwenhuijsen & Khreis, 2016). If their presence is acknowledged and they are given a platform to participate and provide feedback, it makes the business community feel recognized as a stakeholder in the project, and therefore more likely to support it (M. Bedard, personal communication, May 2019). Extensive engagement with the business community is evident in the Argyle & Grafton Shared Streetscape Project but it is also an important component of the projects enabled through the PIRPP in Montreal. In the Place Wellington project, the project manager visited abutting businesses to speak with business owners directly and in person (M. Bedard, personal communication, May 2019). This was incredibly helpful in gaining their support for the project and for initiating ongoing communication (ibid).

The role of good project managers and other leaders of staff who champion the projects is vital (Adams, Cavill & Sherar, 2017; Bain, Gray & Rodgers, 2012). A lot of responsibility falls upon planners in terms of mediating between different interests and handling opposition, among other tasks. However, having senior leaders in other municipal departments, organizations, and stakeholder groups who are supportive, committed, and willing to find solutions to challenges and logistical and operational barriers, is critical towards ensuring that an unconventional project moves forward (J. Ritchie personal communication, February 2019). Coordinator alignment at the senior level cannot be overstated, as without it, there would not even be council approval (ibid).

In Halifax, there were many project champions in senior leadership within municipal departments, including the Chief Planner, Chief Financial Officer, Chief Administrative Officer, Municipal Engineer, and the Director of Transportation and Public Works (J. Ritchie, personal communication, February 2019; P. MacKinnon, personal communication, March 2019; R. LeBlanc & D. Segal, personal communication, March 2019). All were very important in enabling the Argyle & Grafton Shared Streetscape Project to move forward (ibid). In Montreal, Marie-Hélène Armaund, Planning Advisor in the City of Montreal's Transportation Branch, is responsible for creation of the PIRPP program and deserves credit for pushing for a comprehensive city-wide streetscape program with designated funding (T. Gonzalez, personal communication, April 2019). Having a champion for such projects internally, within the municipal government, is a key factor in ensuring that these types of streetscape initiatives can be funded, coordinated, and successfully implemented (ibid). It is also important to recognize the dedicated project managers in borough administrations who lead the projects implemented under the

PIRPP – especially since it may sometimes only be one staff member who spearheads the project locally.

6.1.2 INTER-DEPARTMENTAL COLLABORATION & STAKEHOLDER PARTNERSHIPS

The degree of interdisciplinary collaboration that was needed to implement the streetscape projects examined meant that a lot of different actors were involved in the process. This included various departments within the municipalities, business associations/commissions, engineering and design consultants, landscape architects and non-profit organizations. While working across municipal departments is hardly novel, in the context of a streetscape project that extends beyond just routine improvements (i.e. repaving), it sometimes was. In this way, the degree of interdepartmental collaboration within the City especially, was somewhat precedent-setting as it is typically the role of engineers to oversee the domain of streets and their maintenance (Dumbaugh & King, 2018; Hess, 2009). However, with increasingly more elaborate streetscape projects, different actors who are not typically involved with streetscape work must come together.

Establishing these initial relationships was sometimes a challenge. In many instances, these projects were the first time that members of staff from different municipal departments and service groups had to sit, discuss, and work together on a streetscape project. This was the case for Halifax's Argyle & Grafton Shared Streetscape Project as well as for many of the projects completed under the PIRPP in Montreal.

The Argyle & Grafton Shared Streetscape Project was a "capital project managed by the planning department; capital projects are not typically managed by the planning department" (J. Ritchie, personal communication, February 2019). Normally, it is the Transportation and Public Works department that oversees the contracting process, but in this case, the HRM Planning and Development department handled a lot of things and stayed engaged as the project went on (ibid). This was not a regular model for neither department so there was some contention around it at first (ibid).

With so many different groups working together on an atypical streetscape project, different concerns were raised than what is normally expected (J. Ritchie, personal communication, February 2019). Also, the involvement of the municipal planning department altered the approach to the project. Municipal engineers, the finance department, utility groups, etc., are involved in every municipal project and conduct street repairs without the involvement of planners all the time (ibid). This project however, and this new approach towards redesigning streetscapes, brought these groups outside of their regular processes (ibid). They were challenged because after being used to doing things a certain way, they were asked to do something differently (ibid).

Although building these interdisciplinary relationships may have been a challenge at first, particularly in terms of developing a mutual understanding of concepts, learning how to speak the same language, cultivating a sense of trust, etc., it has created a solid foundation for future collaboration (H. Koblents, personal communication, February 2019;

J. Ritchie, personal communication, February 2019; R. LeBlanc & D. Segal, personal communication, March 2019). For example, as the second of the two priority streetscape projects moves ahead in Halifax, the relationships cultivated during the planning, design, and construction phases of the Argyle & Grafton Shared Streetscape Project, have set the groundwork for good relations on the Spring Garden Road project and beyond (H. Koblents, personal communication, February 2019). Internally, many of the same people who worked on the Argyle & Grafton Shared Streetscape Project are also working on Spring Garden Road (ibid). This is helpful because it means that the people involved are more ready to understand that different materials might be recommended, that there might be special features proposed in the design, that all of this will be dealt with through a formal process, etc. (ibid). Additionally, the project team now has more experience handling opposition, has a better idea of what challenges to expect and when and how to address them, who to involve at what point in the project process, etc. (ibid). For example, it is important to involve operations and maintenance staff early on, especially when new materials and new forms of maintenance are introduced, to ensure that the maintenance crew will know how to maintain the site upon completion (ibid). This is essential to ensure the long-term success of the project.

Completion of the projects was highly dependent upon successful collaboration between the many different actors and stakeholders involved. This collaborative work has, in turn, strengthened interdisciplinary relationships and stakeholder partnerships. Consequently, there has been an improvement in the level of coordination and communication between these different groups of people who may not often work together, especially on streetscape projects and public space initiatives. This is beneficial and a huge learning outcome because it is helping to break down internal silos, align goals of different city divisions, streamline information sharing, collectively resolve issues, establish trust, and develop knowledge for how to coordinate similar projects moving forward.

6.1.3 COORDINATING INFRASTRUCTURE PROJECTS & ALIGNING OBJECTIVES

According to Nieuwenhuijsen et al. (2018), the alignment of overarching policies can be useful for attaining the objectives of pedestrian-oriented streetscape projects. Beyond complementary plans and programs, an important learning outcome that has emerged is the value of coordinating streetscape initiatives with other construction work. Given the age of some North American cities, the time is ripe for replacing underground infrastructure such as watermains and sewers. For this reason, it is becoming increasingly more common to combine below ground infrastructural work with ground-level streetscape improvements.

The City of Montreal encourages borough administrations to integrate development projects. Many of the streetscape projects completed through the PIRPP are accompanied with road maintenance work such as the replacement of watermains, sewers or public utility networks; repaving the street and/or sidewalks; adding bike lanes; planting trees; and converting streets lights with LED lighting (Ville de Montréal, 2019a). This is occurring on both a small, localized scale as well as with major street redevelopment projects in Montreal. For example, the ongoing construction on portions

of Saint-Catherine Street West and Saint-Hubert Street are a combination of underground and ground-level streetscape work.

The Argyle & Grafton Shared Streetscape Project differs as it was deemed that replacing the watermain on Argyle Street was not necessary. While it is old, it is still in good and functional condition and replacing it would have further prolonged the construction period (J. Ritchie, personal communication, February 2019). However, the streetscape project was coordinated with construction of the Nova Centre, the new convention centre, on the same street. (Additionally, some of the property and business owners renovated their businesses). A benefit to aligning the two major construction projects was that, in theory, it would concentrate the majority of the noise and disruption within a shorter time period (J. Ritchie, personal communication, February 2019). Inevitably, however, the cumulative construction phase was longer than expected leading to contention around both projects (ibid). Despite this, it was still better to coordinate the projects because now the newly completed convention centre is further enhanced by the complementary streetscape improvements (ibid).

Beyond coordinating underground and surface level work, it is also important to use this opportunity to consider how to redesign streets and construct underground infrastructure to ensure that future technical work will not require tearing up the whole street (E. Roux, personal communication, April 2019). Some innovation emerging in this area includes the construction of infrastructure tunnels that can be accessed at designated spots without ripping apart any paving (ibid). The short-term challenge is that this would require a higher upfront financial cost and an extended construction period to complete (ibid). However, in the long-term, it would help to ensure that the pedestrian and vehicular traffic experience is not compromised every time underground infrastructure needs to be accessed.

6.1.4 TESTING INITIATIVES THROUGH A PILOT APPROACH

Common among all three case studies was the utilization of a pilot (or numerous editions of temporary installations) to inform the final, permanent design of the streetscape. This has quickly become a preferred approach as it is much more technically and financially feasible to initiate a project with a pilot or temporary installation. Additionally, it is much more effective in garnering support for a project, especially if it is not easily and immediately endorsed by all stakeholders. Through this tactic, a redesigned street is not imposed upon the context through a top-down planning approach. Instead, it is introduced through transitional stages and improved upon based on public response before investments in a permanent reconfiguration. Pilots are helpful in understanding what design concepts will work and which would not work at a specific site. Such an approach also presents less risk; if a pilot is not successful and if there is not enough public support to move forward with it, then the temporary installations can easily be removed. Furthermore, a smaller budget is spent on a pilot than on a permanent design which is why testing out design concepts before making expensive permanent changes is also much more financially strategic. Many of these points have also been discussed by

Nieuwenhuijsen et al. (2018), Parajuli & Pojani (2018), Adams, Cavill & Sherar (2017), Sadik-Khan & Solomonow (2016), and Bain, Gray & Rodgers (2012).

Allotting time to design the site through temporary installations is one way of ensuring the projects are not seen as "definitive decisions made by the city" without the involvement of the public (*Vivre en Ville* contact, personal communication, April 2019). In this regard, "the PIRPP in Montreal is fairly exemplary" – the municipal staff behind the program have been very thorough in how to manage it (ibid).

Given the novelty of pedestrian-oriented or shared streets in certain contexts, in the Halifax Regional Municipality specifically, a pilot is also an important way of alleviating concerns and potential fears. A pilot will prove that the proposed concept either works or does not work and post-mortem evaluations will supply the data necessary to justify whether or not the project will proceed to the next stage of development. This relates to the importance of data collection as noted by Nieuwenhuijsen et al. (2018), Carmona et al. (2018), Anciaes & Jones (2016), Sadik-Khan & Solomonow (2016).

In Halifax, even the experience of conducting a pilot is relatively new, and an atypical form of public engagement compared to what measures the municipality normally facilitates. This shows that even though pilots and shared streets are not such radical concepts, given their prevalence in many other cities, they may be radical in a certain context, making it that much more important for incremental changes to be undertaken rather than full, permanent implementation at the outset.

In Vancouver, the VIVA Vancouver program is useful for guiding the city's direction on future public space initiatives. Exploring options for realizing the potential of underused public spaces through pilots is the essence of the program. VIVA adopts a quick and inexpensive approach to placemaking where the feasibility and appropriateness for a transformation at a given site can be determined rather quickly. Work conducted by VIVA Vancouver has enabled very localized public realm improvements resulting in either repeated temporary or seasonal activations or more permanent projects to be undertaken. The existence of VIVA Vancouver has undoubtedly helped to usher in a cultural shift around placemaking and public space planning in the Vancouver context. In this way, it is also contributing to a greater recognition of streets as public spaces which hold a lot of potential for meeting an array of ecological, economic, and social benefits.

6.1.5 REALIZING PROJECTS WITH INPUT FROM THE LOCAL COMMUNITY

In addition to piloting the transformative streetscape projects in Halifax, Montreal, and Vancouver, community engagement has also been identified as a key factor for the successful implementation of a permanent design concept. This is consistent with what is discussed in literature by Adams, Cavill & Sherar (2017), Kaparias et al. (2015), and Bain, Gray & Rodgers (2012), among others. While a pilot can definitely be considered to be a form of public engagement, as its purpose is to test a design concept and evaluate its success and appropriateness to the context based on public response and feedback, more can be done to ensure the project is community-driven.

Of all three case studies, Montreal appears to have the most extensive public engagement framework in place to guide streetscape projects; a key aspect of the PIRPP is co-creating the projects with the local community. While it is unknown if all PIRPP projects are in fact executed with a high degree of public involvement, there is evidence of general commitment towards applying local input to evolve the project's design. In this way, the projects result in an appropriate, publicly supported context-sensitive design that has been developed by the community for the community. This is not to say that the level of public engagement conducted for the streetscape projects in Halifax and Vancouver was inadequate. The Argyle & Grafton Shared Streetscape Project built upon previous engagement work during early design renditions of the shared street. The Jim Deva Plaza project underwent three phases of public engagement to develop the final design of the plaza. Nonetheless, the explicit framing of public involvement as not just a form or consultation but as a co-creation process, makes Montreal's PIRPP stand out among the case studies.

6.2 CHALLENGES & BARRIERS

This section outlines some of the main barriers and ongoing challenges associated with realizing pedestrian-oriented streetscape projects in the Canadian context. The types of problems identified are often quite distinct from governance-related enabling factors, mentioned above. Though also revolving around logistics, they more heavily revolve around the economics of such projects, specific design dilemmas, and addressing opposition. These are as follows:

Dedicated funding stream for projects

- Securing sustained funding for project implementation and ongoing maintenance

Logistical and operational challenges

- Maintaining vehicle access and finding alternatives to on-street parking
- Accommodating local businesses and minimizing negative impacts during the construction period

Seasonal and weather considerations

- Designing sites and utilizing materials to withstand inclement weather and seasonal variation

Overcoming opposition

- Changing deep-rooted habits and mentalities associated with car-dependency
- Managing perceptions of risk through education and media presentation

6.2.1 DEDICATED FUNDING STREAM FOR STREETSCAPE PROJECTS

Despite growing interest in public space initiatives and streetscape projects, a major barrier remains funding. Each of the case studies analyzed were completed under different funding models. While some ensured more financial security than others, it is

evident that there is generally still a lack of clarity on how to create sustainable funding mechanisms for both the construction and ongoing maintenance of streetscapes.

As the Halifax case study exemplifies, there is limited funding actually available from different levels of government despite such funding allocations outlined in the economic strategies. For this reason, the list of twelve priority streetscape projects had to be narrowed down to only two. However, through the completion of the Argyle & Grafton Shared Streetscape Project and ongoing work on Spring Garden Road, the value of such investments has been realized. Consequently, establishing a long-term streetscape fund in the HRM has become a priority; not only will it pay for the upkeep of the completed projects, but it will enable continued investment in the HRM's streetscapes, both in the Regional Centre and beyond.

Borough administrations in Montreal benefit from municipal funding received through the PIRPP. While this has been attributed as the primary enabling factor for pursuing localized streetscape projects, there are no financial provisions available beyond the project's completion – a maximum time frame of five years. Nevertheless, it seems reasonable for borough administrations to dedicate a portion of their budgets towards the ongoing maintenance of the sites. It is unknown, and perhaps too early to tell, if the quality of the permanent installations is compromised due to a lack of funding available from the municipality for upkeep.

To the best of the researcher's knowledge, it does not appear that Vancouver has a dedicated funding mechanism for public space initiatives nor streetscape projects. (There is no such mention of anything of the kind in the Vancouver Economic Action Strategy (Vancouver Economic Commission, 2011)). Despite this, funding is available through Community Amenity Contributions (CACs) – in-kind or cash contributions the City acquires from property developers (H. Sovdi & J. Grottenberg, personal communication, April 2019). CACs are used to fund streetscape projects such as pavement-to-plaza conversions (e.g., Jim Deva Plaza). These projects are predominantly initiated through independent local community plans (i.e. West End Plan), as thus far, there has been no coordinated, city-wide approach to identifying, constructing, funding, and maintaining streetscape projects. This has resulted in a fundamental issue: while there is abundant ad-hoc funding available for project implementation, given the amount of development in the city, there is no funding designated for ongoing site maintenance (something the CACs cannot be used for) (ibid). This will hopefully be addressed through the forthcoming Downtown Public Space Strategy and city-wide Plaza Stewardship Strategy.

To ensure a project's long-term success, a one-time investment towards its construction is not enough. A sustained funding mechanism dedicated specifically for streetscape initiatives is needed, especially as redesigning streets becomes more common across Canada. For this reason, it is essential that new funding strategies are established. Apart from Nieuwenhuijsen et al., (2018), there is currently limited academic literature that explicitly identifies the need for dedicated funding mechanisms for streetscape initiatives. However, recommendations have been made by Carmona et al. (2018) and Bain, Gray

& Rodgers (2012) for how to ensure a transformation is attained despite limited financial capital available.

6.2.2 LOGISTICAL CHALLENGES:

Every potential pedestrian-oriented streetscape presents a unique set of challenges. Logistically, these challenges may be ensuring some degree of vehicle access, particularly for deliveries, service, and emergency vehicles; accommodating transit and bike lanes; as well as maintaining parking spaces. Logistical accommodations during the period of construction are equally important and must be addressed. These may include maintaining pedestrian and vehicle access on the street as well as to adjacent businesses, if present. The following are logistical challenges that were experienced during the implementation of the case studies analyzed.

a) MAINTAINING VEHICLE ACCESS & ADDRESSING LOSS OF PARKING

A major concern raised over streetscape initiatives that aim to prioritize pedestrians is that motorists will be disadvantaged due to the loss of vehicle access and parking spaces, which will in turn negatively impact local businesses. While these concerns have also been identified in literature pertaining to pedestrian-oriented streetscapes, they are debunked by empirical evidence that indicates otherwise including work by Carmona et al. (2018), Nieuwenhuijsen et al. (2018), Soni & Soni, (2016) and Zehngebot & Peiser (2014).

The real issue, however, is not the lack of parking spaces – in Montreal's downtown, for instance, there is plenty of parking available – but rather that it is private and therefore not publicly accessible (E. Roux, personal communication, April 2019). The possibility of making private parking spaces accessible to downtown visitors on weekdays (outside of work hours) or weekends can be viewed as an opportunity for the City and business associations to explore new parking options (ibid). Providing an alternative will resolve the issue associated with removing on-street parking. Otherwise, "if we do not address this issue, people will always go with the wrong argument regarding pedestrian spaces, saying that it is inherently against cars. This is not the case at all, and it is not the point, the point is recognizing that having a car-oriented downtown street is not the best for showcasing the downtown and what [it] has to offer" (ibid).

b) ACCOMMODATING BUSINESSES DURING CONSTRUCTION

Another key logistical challenge experienced during the implementation of the streetscape projects was accommodating local businesses during the construction period. "People are not against the idea of pedestrian streets they are against how long it is going to take; people are very short-term" (E. Roux, personal communication, April 2019). This is especially true for small business owners because the short-term impact matters; a long construction schedule can be detrimental to a small business, particularly if it is during seasonal peaks (ibid).

This issue was particularly felt in Halifax during the concurrent construction of the Argyle & Grafton Shared Streetscape Project and the Nova Centre. This was further worsened by protracted construction on the Nova Centre and then also on the streetscape project due to its complexity and the addition of many non-standard elements (J. Ritchie, personal communication, February 2019). Both of these developments made downtown a mess for a prolonged period of time (ibid). Adjacent businesses were particularly affected as they suffered financially from lower traffic due to excessive dust, noise, and lost patio season(s). In response, there were a lot of frustrations coming from individual property and business owners, though it is difficult to differentiate between frustrations over the streetscape project from those pertaining to the massive new convention centre (J. Ritchie, personal communication, February 2019; Councillor W. Mason, personal communication, March 2019). In this case, the concerns were not about the loss of parking spaces on the street, but instead over the completion of the projects.

For this reason, the HRM and DHBC undertook a massive effort to deal with construction mitigation that entailed extensive ongoing communication with stakeholders on the project's progress (H. Koblents, personal communication, February 2019; J. Ritchie, personal communication, February 2019). Additionally, since businesses remained open throughout construction, the contractors were required to maintain pedestrian and some vehicle access on Argyle and Grafton Streets. The DHBC also promoted the area by advertising the local businesses and offering discounts (Downtown Halifax Business Commission, 2018). Occasional programming on Argyle Street also took place amid the construction whenever possible, which included a makeshift art gallery, street art, and product sampling (ibid).

Coordination and consistent communication with stakeholders have been identified as important conditions for transformational streetscape projects by Nieuwenhuijsen et al. (2018) and Adams, Cavill & Sherar (2017). Members of the project team also consider these to be among the most important efforts to have been undertaken that ensured greater success and stakeholder support for the project. Nevertheless, these were also some of the most challenging aspects of the implementation process (H. Koblents, personal communication, February 2019).

6.2.3 DESIGNING NEW STREETS FOR ALL SEASONS

Given the climate and variable weather across Canadian cities, designing a new streetscape that is suitable for all seasons and weather conditions presents a challenge. From an operational and functional perspective, special considerations and accommodations may have to be made to ensure proper maintenance of the site. In Halifax, this meant budgeting had to be allocated for an enhanced snow removal plan which included purchasing specialized equipment that would not damage the new street pavers (H. Koblents, personal communication, February 2019; R. LeBlanc & D. Segal, personal communication, March 2019). While unconventional street configurations may present additional maintenance-related expenses (depending also on the site's features and materials used), the hope is that as more of such projects are undertaken, any special financing required will be considered an economic investment (H. Koblents, personal

communication, February 2019). Nevertheless, snow removal practices are often at odds with pedestrian-oriented streetscape interventions as pedestrianization, and even traffic calming measures, are a disruption to regular snow removal and require site-specific accommodations.

Furthermore, while activation and programming can attract the public in favourable weather conditions, excessive rain and snow will do the opposite. Cultivating a vibrant public life in all weather conditions is the paramount challenge of public space planning. It is perhaps for this reason that fully pedestrian streets are not popular in Canada, as they are not likely to attract many people in the winter (*Vivre en Ville* contact, personal communication, April 2019). Instead, a shared street or seasonal pedestrianization are much more realistic and feasible to implement. Exploring different street configurations to ensure seasonal attractiveness is needed. This topic is perhaps not given enough attention in literature on streetscape initiatives and requires further exploration.

6.2.4 MANAGING NEGATIVE PERCEPTIONS & ATTITUDES TO OVERCOME OPPOSITION

A key ongoing challenge with pushing forward more pedestrian-oriented street design is the opposition or hesitancy to accept an unconventional street configuration (Nieuwenhuijsen et al., 2018; Cervero, Guerra & Al, 2017; Sadik-Khan & Solomonow, 2016) – "the fear of something new" (J. Ritchie, personal communication, February 2019). This can perhaps be attributed to North America's risk averse culture and lack of general knowledge on best practices in street design including concepts such as 'complete streets' and 'shared streets'. To influence more openness and social acceptability of unconventional street configurations, more awareness of and education on these concepts is needed (*Vivre en Ville* contact, personal communication, April 2019). This way, people will be more aware of what is happening and is successful in other similar contexts and become more knowledgeable on the numerous long-term benefits which outweigh any short-term inconveniences (ibid). Consequently, the implementation of pedestrian-oriented streetscapes will become more normalized.

An important part of this is addressing public perception and what is depicted in the media (Nieuwenhuijsen et al., 2018; Nieuwenhuijsen & Khreis, 2016; Sadik-Khan & Solomonow, 2016). Problematically, media outlets sometimes overexaggerate the perspective of one entity. This may be a negative opinion of one angered stakeholder which then dominates the project's narrative. For example, in Halifax, while the business commission was strongly lobbying for the Argyle & Grafton Shared Streetscape Project, and many of the property and business owners were proponents, there were some individuals who were not as supportive (J. Ritchie, personal communication, February 2019). They expressed their frustrations publicly and loudly with some even claiming they were driven out of business (ibid). Media attention latched on to this issue, skewing the narrative towards potential negative impacts rather than the many benefits of the project.

Managing this perception of risk and the public narrative of the project is important; work must be done in terms of public outreach and media relations (J. Ritchie, personal communication, February 2019; E. Roux, personal communication, April 2019).

6.3 WIDER CONSIDERATIONS FOR INTRODUCING NEW STREET CONFIGURATIONS

This section presents a few overarching considerations important for the introduction of unconventional street configurations including wider policy framing and equity impacts. They are as follows:

Updating policies to support new street-building practices

- Recognition of emerging concepts such as 'shared streets' and other pedestrianization schemes to ease implementation process and standardize enforcement

Ensuring equitable distribution of projects

- Investing in streetscapes across varied contexts to extend benefits of pedestrian-oriented design beyond central areas

Learning collectively

- Acceptance that unconventional street configurations are relatively new in the Canadian context and that projects initiated are still very much experimental and precedent-setting

6.3.1 POLICY RECOGNITION OF NEW STREET TYPOLOGIES

A review of pertinent plans, strategies, and programs for the cities of Halifax, Montreal, and Vancouver reveals a general direction for the creation of more pedestrian-priority spaces in each of the cities. However, this is not always supported through overarching policies. For example, there is currently no designation for a 'shared street' in neither the Nova Scotia Motor Vehicle Act nor the British Columbia Vehicle Act (Government of British Columbia, 2019; Government of Nova Scotia, 2019). For this reason, Argyle and Grafton Streets are not considered to be authentic shared streets as the same right-of-way rules apply for them as for any other streets in Halifax – pedestrians only have the right-of-way at intersections and crosswalks (Halifax Regional Municipality, n.d.2).

The Quebec Highway Safety Code was revised in 2018 to permit municipalities to implement a 'shared street', defined as a street where pedestrians have the right-of-way to cross at any point (Government of Quebec, 2018a). Specific requirements entail that the street be clearly identified, and vehicular traffic speeds not exceed 20 km/hr (ibid). While this is an important sign of progress, anything that is not classified as a 'shared street' is still under contention (M. Bedard, personal communication, May 2019). In Montreal, this presents a challenge for projects that introduce a new hybrid of pedestrian and vehicle space. For example, a 'meeting zone' (*zone de recontre*) is one of the street configurations under the PIRPP. The City of Montreal is defining this term independently as it is not codified in the Highway Code (*Vivre en Ville* contact, personal communication,

April 2019). In such non-standard street configurations, it is challenging to permit mid-block pedestrian crossings. The Place Wellington project is one such example as it is a combination of a shared street and public space (M. Bedard, personal communication, May 2019). While an objective of the project is to introduce more modal flexibility to the site, figuring out what the site's designation is, and in what alternative ways traffic rules could be enforced, is part of the challenge (ibid).

As more unconventional street typologies are introduced into new contexts, it will be important for policies to recognize these new designs to enable their creation and provide guidance about how they should be enforced.

6.3.2 ENSURING EQUITABLE DISTRIBUTION OF PROJECTS

Based on the review of streetscape projects prevalent in Halifax, Montreal, and Vancouver, it appears that most initiatives are concentrated in the urban core of the municipality. Both Halifax's Argyle & Grafton Shared Streetscape Project and Vancouver's Jim Deva Plaza are located downtown, as is the second major streetscape project in Halifax (Spring Garden Road) and other pavement-to-plaza projects in Vancouver. The City of Montreal displays the most variability in the location of streetscape projects undertaken through the PIRPP program, though it is only recently that site selection has extended beyond central boroughs.

It is understandable why such initiatives are concentrated in central areas – a more populated urban area supports a higher level of pedestrian traffic and attracts greater volumes to public spaces (Nieuwenhuijsen et al., 2018; Bain, Gray & Rodgers, 2012). Urban dwellers are also more likely to look to the public realm for leisure, recreational, and social purposes (Mehta, 2019). Urban contexts are therefore more conducive to public space planning and urban populations are more likely to support unconventional street configurations than their suburban counterparts where land-use, habits, and mentalities may be too fixated on automobile primacy. However, this is also where change is most needed. As more streetscape and public space projects are implemented in Canadian cities, a more equitable distribution of investment in such initiatives would be considered good practice. Thus, suburban contexts and small- and mid-sized cities should receive more attention in both research and practice to ensure these areas can equally benefit from the advantages of pedestrian-oriented streetscapes and a reduction in automobile dependency.

6.3.3 COLLECTIVE LEARNING ON NEW APPROACHES TO STREET DESIGN

Inspiration for many of these streetscape projects has been sourced from European and other North American city examples. These includes initiatives such as the pedestrianization of Times Square and Broadway in New York City, and the parklet and plaza programs of San Francisco, Los Angeles, and New York City, among others (A. Zarzani, personal communication, April 2019; R. LeBlanc & D. Segal, personal communication, March 2019; H. Sovdi, personal communication, April 2019; J. Grottenberg, personal communication, April 2019).

Despite many influential transformations to look to, these types of streetscape projects are still very much new in the North American, and specifically, Canadian context. All of the case studies analyzed are recent projects. Of the cities studied, only Montreal has been experimenting with and successfully maintaining pedestrian spaces, since their first introduction in the 1980s (and even there, local actors consider the PIRPP program to be an opportunity to learn and experiment with innovative configurations). Whether it is the project managers behind the individual streetscape projects or senior leaders in municipal departments, these projects are often a new experience for everyone involved. Municipalities are still learning how to improve and streamline processes to make better use of streets as public space. As each project is different given the varying contexts they are implemented in, they lead to different learning outcomes. In this way, all of the projects are precedent-setting examples in their own contexts and beyond.

6.4 MAKING STRIDES TOWARDS IMPROVED STREET DESIGN

As noted in literature, to influence a change in street-building practice, an understanding of factors that enable, challenge, or present barriers to implementing pedestrian-oriented streets is needed. Research conducted on initiatives in Halifax, Montreal, and Vancouver identified common factors.

In addition to a supportive policy framework, key enabling factors include dedicated leadership and political and stakeholder support; strong relationships across municipal departments and collaboration with external stakeholder groups; alignment of objectives and logistical coordination of associated projects; and the application of iterative learning and co-creation processes with local community members to develop a context-sensitive design. All of these factors are discussed in literature and have been reaffirmed through the analysis of the three selected case studies with the exception of coordination of associated projects. This factor was found to be conducive to the implementation of streetscape projects in practice as identified by the key informants interviewed.

Governance-related enabling factors are challenged by logistical barriers such as dedicated funding for streetscape projects; operational accommodations during the period of construction; seasonal and weather considerations; and overcoming opposition. Academic literature recognizes opposition towards pedestrianization schemes, particularly as they relate to the loss of parking and the introduction of new street typologies, and how good communication can help to mitigate this. However, the remaining barriers have largely been encountered in practice, through the process of developing the streetscape projects.

Additional considerations include updating policies to reflect new street building practices; ensuring more equitable distribution of streetscape projects; and the acceptance of collective learning. All of these broader considerations came to light through this research, as these topics are not widely discussed in the literature reviewed or fall outside the scope of the literature review conducted for this project.

A summary of which enabling factors, challenges, and barriers have been articulated in the literature reviewed versus identified in practice is provided below in Table 7. Collectively, these factors can be interpreted as learning outcomes that can be used to inform planning and policy practitioners in other contexts with implementing pedestrian-oriented streetscapes.

Table 7: Summary of enabling factors, challenges, and barriers discussed in literature reviewed and/or found in practice.

Enabling Factor / Challenge / Barrier	**Discussed in Literature Reviewed**	**Identified in Practice**
Dedicated leadership, political and stakeholder support	Yes	Yes
Strong interdepartmental and stakeholder collaboration	Yes	Yes
Alignment of overarching objectives	Yes	Yes
Logistical coordination of associated projects	No	Yes
Iterative learning and design process	Yes	Yes
Co-creation with local community to develop a context-sensitive design	Yes	Yes
Dedicated funding for streetscape projects	No	Yes
Operational accommodations during the period of construction	No	Yes
Seasonal and weather considerations	No	Yes
Overcoming opposition through communication	Yes	Yes
Policy recognition of new street typologies	No	Yes
Equitable distribution of streetscape projects	No	Yes
Acceptance of collective learning	No	Yes

CHAPTER 7: CONCLUSION

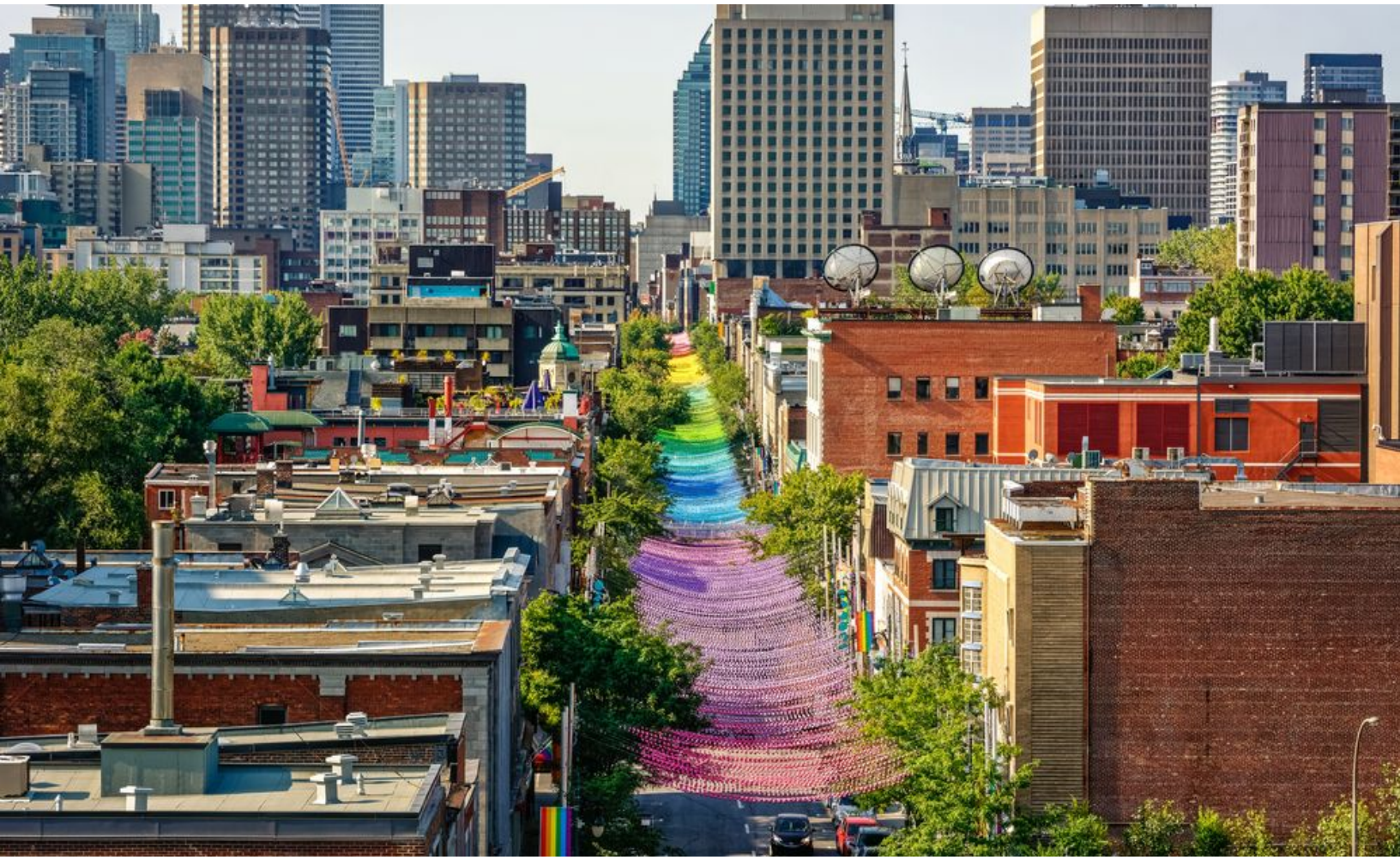

Image: Sainte-Catherine Street, Montreal. (Source: KAYAK, n.d.)

7.1 RESEARCH OVERVIEW

The purpose of this research project was to analyze pedestrian-oriented streetscape initiatives in the North American context. A review of secondary sources and personal interest directed this research towards a Canadian focus and the documentation of projects in Halifax, Montreal, and Vancouver. The three selected cities are all mid or large in size, old enough to experience the challenge of retrofitting the urban fabric, and exhibit tensions over the pedestrianization of streets that must be reconciled. Furthermore, media evidence of recently completed or ongoing pedestrian-oriented streetscape initiatives make these three cities worthwhile examples to study as other Canadian municipalities and beyond may be looking to these as precedents.

Interviews with key informants and stakeholders involved with the recently completed and/or ongoing projects in Halifax, Montreal, and Vancouver led to (a) the identification of key factors enabling such projects, (b) ongoing challenges and barriers, and (c) wider considerations associated with implementing neotraditional street configurations in an urban Canadian context.

Key enabling factors were found to be as follows:

- leadership through support from decision-makers, business communities, and project champions;
- strong interdepartmental relationships, collaborations, and partnerships with stakeholders;
- coordination of projects with similar objectives;
- testing initiatives through pilots and incremental measures; and
- development of context-sensitive projects with local input.

By contrast, common challenges and barriers were found to be as follows:

- logistical issues such as maintaining vehicle and pedestrian access during construction and accommodating local businesses;
- securing a dedicated funding stream for both the development and ongoing maintenance of project sites;
- designing for all seasons and weather conditions; and
- overcoming opposition by promoting a change in the perceptions and attitudes towards unconventional street design.

Additional considerations associated improving conditions for the pursuit of streetscape projects include:

- recognition of new street typologies in policy;
- ensuring equitable distribution of projects; and
- learning collectively through precedent-setting streetscape initiatives.

These learning outcomes provide insight on the conditions that are needed to successfully implement pedestrian-oriented streetscapes as well as what challenges and barriers are commonly experienced and therefore limit the more widespread adoption of unconventional street typologies. These findings can be useful to decision-makers,

planners, practitioners, and community builders looking to implement pedestrian-oriented streetscapes in other contexts.

7.2 RESEARCH LIMITATIONS & AREAS FOR FURTHER RESEARCH

There are two main research limitations to note. First, as noted from the outset, the case studies selected are not entirely comparable. The Halifax case study focuses on a single major streetscape project in the Halifax Regional Municipality – the Argyle & Grafton Shared Streetscape Project. The Montreal case study predominantly focuses on assessing the robustness of a city-wide program – the Pedestrian and Shared Streets Implementation Program – that leads to the creation of a variety of pedestrian and shared street spaces across the city. One example of these initiatives is highlighted through a small case study on the Place Wellington project in the Borough of Verdun. The Vancouver case study notes the variety of street-oriented placemaking projects in the city and presents the Jim Deva Plaza project as one example of the city's Pavement-to-Plaza program. Nevertheless, despite different street design concepts analyzed, themes pertaining to enabling factors and main barriers or challenges experienced through the process of implementing these projects could be identified, most of which were common across all case studies.

Second, the degree of detail to which each project is described, including associated learning outcomes, is dependent upon secondary sources of information available online as well as access to and the responsiveness of key informants and stakeholders. An additional barrier for the Montreal case study was the French language. This affected which key informants and stakeholders could be interviewed. For this reason, the degree of detail for each case study varies depending on documented content, the number of contacts interviewed from each city, and how closely associated they are or have been with the projects under investigation.

The focus of this research was on the development process of pedestrian-oriented streetscape initiatives and therefore largely based on the perspectives of key informants and stakeholders either directly or indirectly involved with the projects. The research was not focused on the ecological, economic, social, or health impacts of such initiatives. Addressing these topics would require a different research focus and one which would best be undertaken at a later time given that the projects discussed in this report have only recently been completed or are still underway. Therefore, it is premature to assess their local and broader impacts. Additionally, a public engagement component in the research would be vital to gauge what the public opinion is on the streetscape initiatives, thus aiding in the analysis of their impact and success.

The topic of pedestrian-oriented streetscape initiatives opens up a larger discussion on active transport and pedestrianization that is beyond the scope of this research. This includes discourse on:

- the context in which pedestrian-oriented streetscape initiatives are implemented (i.e. the concentration of interventions in predominantly pre-war urban fabrics in

central parts of city regions which make up a minority of the vast metropolitan landscapes most Canadians live, work, and play in);
- the generally slow uptake of strategies in support of active transport as a result of the interlinked problems of institutional path-dependency in municipal governance, intersectoral collaboration, and the 'real' agency of public policy in market-led contexts, among other factors; and
- and how pedestrianization, walkability, and investments in the public realm are often associated with contexts of power and privilege.

All of these are important topics worthy of investigation that would require a different framing of the research topic and objectives.

7.3 A PARADIGM SHIFT IN STREET BUILDING PRACTICE: CHANGING THE STREET STATUS QUO & OVERCOMING A RISK-AVERSE CULTURE

As in any growing urban region, there are complex ecological, economic, social, health, and transportation-oriented challenges that require attention. The growth and densification of cities makes public space an increasingly important resource to look to in order in to alleviate some of the overarching urban pressures. This requires better use of the public realm, much of which is in the form of streets predominantly occupied by private motorized vehicles. Discourse on streets and street building practice has thus far heavily revolved around accommodating automobiles, but this must change if decision-makers and practitioners are serious about improving livability in cities. Greater knowledge of alternative street design possibilities and their benefits, combined with an openness to try new things among elected officials, planning and policy practitioners, urban designers, engineers, business organizations, and even the general public, is contributing to a change in how streets are viewed with the realization that they can fulfill additional purposes.

This research report has documented this paradigm shift in the Canadian context through examples of current streetscape initiatives that are prioritizing pedestrians over private vehicles. While the ideas and concepts are not new, what has emerged through this research is that the conditions needed to enable these approaches to street building are finally becoming conducive and increasingly improving. Given that most of the projects documented in this report are the first of their kind in their respective city, it is evident how recent the context has been favourable towards facilitating a change in street building practice in Canada. Yet it also evident, particularly through interviews with key informants, that there is a general interest and eagerness to pursue transformational street projects, especially considering the positive responses and recognition the cities have received as a result of their pursuits. This interest is expected to evolve into priority as redesigning streetscapes is becoming associated with ecological benefits, economic prosperity, improved road safety, public health and well-being among other favourable outcomes, ultimately improving the quality of urban life.

The case studies demonstrate that pedestrian-oriented streetscapes do work in Canada and that despite a variety of institutional, resource-based, logistical, and attitudinal

barriers and challenges, there are enough enabling factors that present opportunities to successfully implement them. The context is ripe for the implementation of pedestrian-oriented streets and hopefully, such projects will continue to proliferate throughout Canada's urban regions and beyond. The more examples that exist, the more good precedents of its own Canada will have, and the more normalized the practice of designing streets to better accommodate road users beyond the private automobile will become.

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APPENDICES

APPENDIX A: LIST OF INTERVIEWS

HALIFAX

Hanita Koblents
Principal Planner (HRM Project Manager)
Urban Design – Streetscapes
Halifax Regional Municipality
Interviewed February 2019

Jacob Ritchie
Former Urban Design Manager
Halifax Regional Municipality
Interviewed February 2019

Councillor Waye Mason
District 7 – Halifax Regional Municipality
Interviewed March 2019

Paul MacKinnon
Executive Director
Downtown Halifax Business Commission
Interviewed March 2019

Rob LeBlanc & Devin Segal
Ekistics Plan + Design – Halifax
Interviewed March 2019

Representatives from Planning & Design Centre / Cities & Environment Unit
Halifax
Interviewed March 2019

MONTREAL

Alessia Zarzani
La Pépinière | Espaces Collectifs
Montreal
Interviewed April 2019

Representative
Vivre en Ville – Montreal
Interviewed April 2019

Tania Gonzalez
Conseil Régional de L'environnement de Montréal / Regional Council of the Environment of Montreal
Interviewed April 2019

Emile Roux
Director General
Destination Centre-Ville – Montreal
Interviewed April 2019

Francois de la Chevrotiere
Technical Studies Division
City of Montreal: Borough of Mercier – Hochelaga – Maisonneuve
Interviewed April 2019

Antoine Saint-Laurent
Acting Division Leader
Urban Planning Division
City of Montreal: Borough of Saint-Laurent
Interviewed April 2019

Catherine Caya
Landscape Architect
City of Montreal: Borough of Saint-Laurent
Interviewed April 2019

Manon Bedard
Research Officer, Planning Division
Urban Planning & Business Services Branch
City of Montreal: Borough of Verdun
Interviewed May 2019

VANCOUVER

Holly Sovdi
Senior Planner
Planning, Urban Design & Sustainability
City of Vancouver
Interviewed April 2019

John Grottenberg
Planner
City of Vancouver
Interviewed April 2019

Other planners from City of Vancouver
Interviewed April 2019

Representative from West End BIA
Vancouver
Interviewed April 2019

APPENDIX B: INTERVIEW GUIDE

This is a general template for interviews with key informants (planners, urban designers, city staff, municipal government officials, members of Business Improvement Area (BIA) associations, local community groups, and non-profit organizations). Specific subjects will also have questions asked of them that pertain to their areas of expertise and specific responsibilities.

1. What was/is your personal/organization's involvement with (insert project name)?

2. How did this project come about? Please describe the project from initial visioning to development into its present state.

    a) How was the site for the project selected? What factors made this a suitable location?

    b) Who was involved?

3. What policies, programs, tools, strategies, etc. enabled the implementation of (insert project name) in (insert city name)?

4. What were the challenges or particular considerations that had to be addressed (either prior to, during the process of development, or presently)?

5. What effect does your organization think the project has had on various stakeholders and the quality of the neighbourhood/surrounding context?

6. To what extent does your organization consider this project to be a success?

7. What feedback has your organization received from residents and community members?

8. What could have been done differently? What recommendations do you have for similar projects in other contexts?