

SPRING GARDEN ROAD

FUNCTIONAL PLAN & SCHEMATIC STREETSCAPE DESIGN

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BACKGROUND ANALYSIS REPORT

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CHAPTER 01
BACKGROUND ANALYSIS

Prior to presenting the Functional Plan options in the next chapter, this chapter covers the background analysis that will influence the Functional design. The analysis includes a policy assessment to uncover policies that will inform the eventual design for the street, the inventory of existing conditions, the Multimodal Transportation Demand Projections, the Level of Service (LOS) analysis, the Multi-Modal Level of Service (MMLOS), the archaeological findings and finally the preliminary engagement findings and survey results. This chapter summarizes many of the issues that will inform the subsequent functional plans in the next phase of the project. The Archaeological investigation (appendix A) and detailed traffic assessment (Appendix B) findings are found in the appendix.

POLICY ANALYSIS

There are a wide variety of background documents which include policies to help inform the preferred solution for Spring Garden Road. Some documents are more peripheral as it relates to the public space vision for Spring Garden Road, and more specific as it relates to the private development expectations for surrounding properties. The following summary of policies will help shape the eventual Functional Plan options.

HALIFAX MUNICIPAL PLANNING STRATEGY (JULY 2015)

The Halifax MPS sets out statements of policy with respect to:

- *present and future land use,*
- *transportation facilities,*
- *service facilities (schools, parks, open spaces),*
- *budgeting and*
- *citizen participation.*

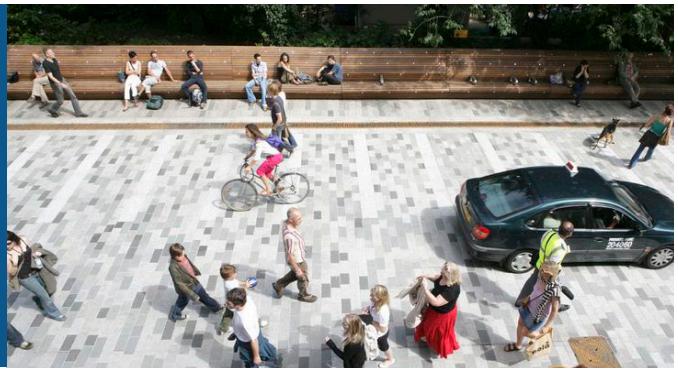
The objective of the Halifax MPS is to enhance the physical, social, and economic well-being of the citizens of Halifax through the preservation, creation, and maintenance of an interesting and livable City, developed at a scale and density which preserve and enhance the quality of life.

The MPS lays out a series of policies which may influence the functional design of Spring Garden Road including:

- *1.1.1 The City should take action on matters within its jurisdiction to compete effectively in the Atlantic Region and the metropolitan area for potential development opportunities*

"Complete Streets are streets for everyone. They are designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities. Complete Streets make it easy to cross the street, walk to shops, and bicycle to work. They allow buses to run on time and make it safe for people to walk to and from train stations."

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that add to its position in Atlantic Canada.

- *3.1.3 Major commercial centres should service a market area comprising most or all of the City. These centres may include major offices and hotels, in addition to uses suggested for minor commercial centres. The City should encourage parking facilities in these centres to serve several businesses in order to limit nuisance impact.*
- *8.9 The City shall maintain the planting and protection of shade trees within its control, and should develop a tree planting program which will improve the quality of the urban environment.*
- *8.10 The City should protect existing green areas and attempt to create new green areas. Every effort should be made to protect existing boulevards, tree-lined streets, and small parks.*
- *9.1 The City shall encourage an efficient transit system linking major employment areas and community facilities with community centres and neighbourhoods.*
- *9.3 Design standards for all streets within the City shall pay particular attention to the provision of adequate and safe pedestrian routes.*
- *9.6.3 In designing, constructing, upgrading or maintaining principal streets, priority shall be given to the needs of public transit, rather than to those of private automobiles. (Note: Spring Garden is a Principal Street).*
- *SECTION IX - SPRING GARDEN ROAD COMMERCIAL AREA PLAN was deleted in Jun 16/09 and was not replaced.*

DOWNTOWN HALIFAX SECONDARY MUNICIPAL PLANNING STRATEGY

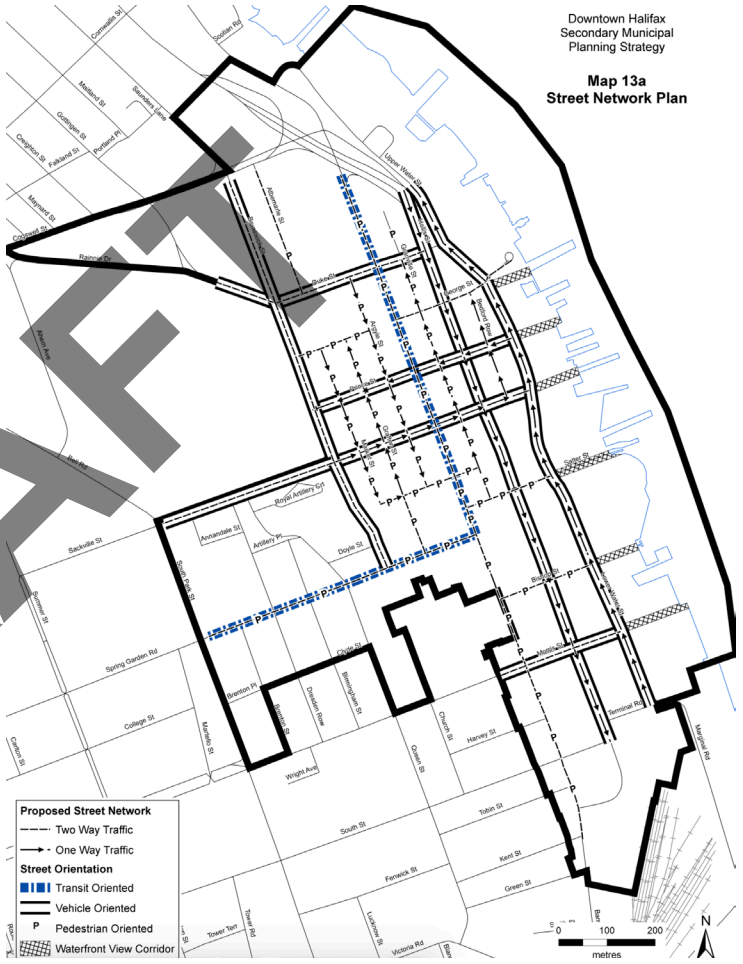
The Secondary planning strategy (Oct 2014) is the MPS covering the downtown core of Halifax and includes Spring Garden Road east of South Park Street. West of South Park Street is covered by the Halifax MPS. Some of the relevant goals, objectives, and policies of the DHSMPS include:

- *"Being the location of almost half of the region's jobs, downtown Halifax is the dominant employment center and is the single largest focal point for HRM's office supply, thus providing a centrally located economic cluster at the convergence of major public transit routes."*
- *The streetscape experience will be improved through redevelopment which incorporates active street level shops and activities. Infill development and redesigned streetscapes will encourage a culture of walking.*
- *Restore the pursuit of longevity, civic pride, visual appeal, and inspiring qualities to the design, improvement and construction of streets, open spaces and buildings.*
- *The amount and quality of public open space and amenities must increase in parallel with the increase in residents and workers downtown. A variety of high quality open space types are proposed to complement adjacent uses, to provide signature destinations downtown, ensure amenities for high-density residential living and to stimulate the downtown revitalization.*
- *Improved streetscapes are intended to enhance the downtown experience, supplement the open space network, promote a culture of walking, support street level retail operations, and strengthen precinct identities. Beautiful, well-designed, pedestrian-friendly streets will inspire more people to explore downtown shops, restaurants and entertainment venues.*
- *Building on the goals of the Regional Municipal Planning Strategy, this Plan promotes access to downtown and the Capital District primarily through investment in public transportation, providing alternatives to the dependence on the automobile. Development in turn should be provided*

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at appropriate densities to support continued transit use and much greater emphasis shall be placed on walkability and cycling in the downtown. Public transportation must progress into a whole new level of public acceptability by making its use vastly more convenient and with much improved levels of service.

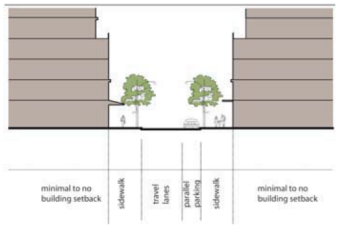
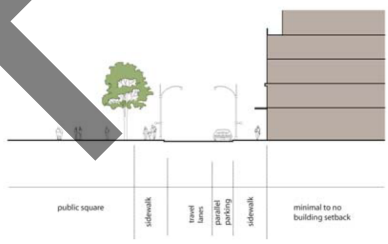
- *Defining landmark developments and improvements will include the enhancement of Spring Garden Road as the key east-west downtown pedestrian connection that links the Public Gardens to the Barrington Street Heritage Conservation District..*
- *Policy 5 :HRM shall designate Barrington Street and Spring Garden Road as primary pedestrian-oriented commercial streetscapes and establish requirements for retail and other commercial uses at street level.*
- *Policy 28 HRM shall not undertake substantial street widenings in the DHSMPS plan area shown on Map 1 that would materially alter the character of the street grid.*
- *Streets are the primary component of the public realm in downtown Halifax. As such they must be designed to promote a culture of walking through widened sidewalks along major pedestrian corridors, to provide much needed public amenities, and to feature undergrounded electrical and telecommunications utilities wherever possible.*
- *In Halifax, it has been recognized that providing one-way flow on the narrow streets can be beneficial in reducing the needed width for traffic flow and optimizing on-street parking, cycling infrastructure, and sidewalk extension opportunities.*
- *Streets designated for higher-order traffic flow are Lower Water, Hollis, Prince, Sackville, Duke and Brunswick. With those streets handling the bulk of traffic, other streets in the network can assume roles focused on transit (Barrington and Spring Garden) or pedestrian (Bedford Row, Granville, Argyle, Market, Albemarle, George and Carmichael, Bishop, Salter, Blowers, and Grafton).*
- *Policy 74 HRM shall implement a downtown shuttle program that will service the needs of the downtown enabling connections to employment, shopping and cultural areas of the downtown for residents and visitors.*
- *An overall transportation plan is required to implement this Plan's transportation objectives for the downtown core of Halifax. The transportation plan will be addressed in the combined Transportation & Streetscape Design Functional Plan to ensure that both of these issues are studied in consideration and in cooperation with one another.*
- *7.5.1 Transit Corridors: Designation of transit corridors will provide a focus for land use, urban design and the public investment strategy laid out in this plan. The Regional Municipal Planning Strategy designates regional transit corridors that must be implemented at the local planning level. The Transportation & Streetscape Design Functional Plan will support the full integration of the regional transportation vision with the objectives of this plan.*



- *Policy 82 HRM shall consider undertaking a Downtown Halifax Capital Investment Functional Plan that outlines and prioritizes all of the areas where future public investment is necessary to support the goals and objectives of this Plan. The Plan shall include a multi-year implementation schedule.*

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FIGURE 1. DHSMPS Streetscape Topologies for Spring Garden Road (west of Brunswick Street, SGR is designated "Avenue" and east of Brunswick, SGR is designated as "Civic Avenue")

Streetscape Typology	Primary Purpose	Defining Features	Cross Section
1. Avenues (Barrington and Spring Garden)	Avenues are the primary pedestrian-oriented shopping streets in downtown. They are also focused on the provision of public transit.	• Broad, distinctively paved sidewalks and crosswalks • Sidewalk 'bump-outs' at intersections • Unique lighting, banners and furnishing • Trees/landscaping where possible • Roadway width reduced to minimum requirements • Well designed transit stops	
2. Civic Avenue (Hollis Street, South Park Street, vicinity of Spring Garden Road/ Barrington intersection, Cogswell Street, portion of Gottingen)	The primary north-south connection (Hollis Street) linking major civic and cultural attractions including Cornwallis Park. Linking landmark buildings in park-like settings on the eastern end of Spring Garden Road and along a portion of Barrington Street. Linking the Halifax Commons to the downtown and waterfront (Cogswell & Gottingen Streets). Linking Citadel to Public Gardens and Victoria Park (South Park Street). Linking Victoria Park to the site of the future Central Public Library on the old Infirmary site (Clyde St.))	• Iconic view termini and landmarks • Distinctive paving in "civic" vocabulary along sidewalks, at crosswalks and across the roadway at strategic civic locations (Cornwallis Park, Government House, Province House/Gallery, Provincial Courthouse, Memorial Library, Clyde Street, future Flatiron Plaza) • Where paving extends across the roadway, it should seamlessly integrate with adjacent public space treatments • Sidewalk 'bump-outs' at intersections • Unique lighting, banners and furnishing • Trees/landscaping where possible	

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DOWNTOWN HALIFAX LAND USE BYLAW (LUB)

The Downtown Halifax Bylaw covers the eastern end of SGR from Barrington Street to South Park Street aligning withn the DHSMPS. The western end is covered by the Peninsula Bylaw. The regulations in the LUB cover mostly private lots and private developments but there are aspects of these regulations which could impact the streetscape of Spring Garden.

- *11 (3) On the south side of Spring Garden Road, between Queen Street and South Park Street, and on the east side of South Park Street between Spring Garden Road and Sackville Street, above a height of 17 metres measured at the streetline, buildings shall be setback an additional 0.9 metres from the streetline, for every 0.6 metres in height.*
- *14(1) Accessory Surface Parking Lots shall be prohibited in the following areas as depicted on Map 2: Precinct 3: Spring Garden Road Area.*

The minimum setbacks map (Streetwall Placement) in the LUB has a minimum 4m setback for all future developments between Barrington Street and Brunswick Street with the remainder in the 0-1.5m range from Brunswick Street to South Park Street. This extra setback could presumably be used for additional public space if needed at some point in the future.

From South Park Street to Brunswick Street, Spring Garden Road is designated as a **Pedestrian-Oriented Commercial Street**. Regulation 7(2) in the bylaw has different land use requirements than in other parts of downtown Halifax and these changes are listed below:

(2) Notwithstanding subsection (1), only those uses listed below shall be permitted on the ground floor of a building in the DH-1 Zone immediately abutting the streetline of Pedestrian-Oriented Commercial Streets, as identified on Map 3:

(a) The following commercial uses:

- *Banks and related uses;*
- *Licenced alcohol establishments;*
- *Personal service uses;*
- *Eating establishments; (RC-Mar 26/13;E-Apr 13/13)*
- *Movie theatres; (RC-Mar 26/13;E-Apr 13/13)*

» *Commercial recreation uses; and (RC-Mar 26/13;E-Apr 13/13)*

» *Retail uses;*

(b) Cultural uses; and

(c) Uses accessory to the foregoing.

(3) Notwithstanding subsection (2), pedestrian entrances and lobbies associated with any use permitted pursuant to subsection (1) may face and have access onto Pedestrian-Oriented Commercial Streets.

HALIFAX PENINSULA LAND USE BYLAW (LUB)

The area west of South Park Street including the public gardens is covered by the Peninsula land use bylaw. HRM is considering a Plan amendment and DA by Dexel for a major development called Spring Garden West at the end of Spring Garden Road. However, the remainder of the bylaw has no specific regulations which would influence land uses fronting on SGR as part of this LUB. The city is currently undertaking a Halifax Commons Master Plan which is still in draft format. It will include the lands of the Public Gardens and possibly the old Commons land further west.

HALIFAX REGIONAL MUNICIPAL PLANNING STRATEGY

The Regional Plan sets broad regional policies for HRM and is a foundation document for all other land use related plans in HRM. Specifically, The Regional Plan sets a target for at least 25% of new housing units to be located within the Regional Centre over the life of the Plan. The relevant policies include:

» *1.3 Transportation (1) Implement a sustainable transportation strategy by providing a choice of integrated travel modes emphasizing public transit, active transportation, carpooling and other viable alternatives to the single occupant vehicle;*

» *1.3 (4) Design complete streets for all ages, abilities, and modes of travel.*

» *E-10 The recommendations of the Urban Forest Master Plan, adopted in principle by HRM in September 2012, shall be considered in planning, programming and regulatory activities related to managing and enhancing the urban forest cover in HRM.*

» *T-8 Transit priority measures, such as designated transit lanes, transit signal priority, and queue jump lanes may be made to improve the reliability and travel time of public transit vehicles.*

» *8.1.4. Reduce above grade electrical and telecommunication lines;*

» *8.1.5. Encourage the development of an comprehensive natural gas distribution system;*

» *SU-8 HRM may consider regulatory and operational measures to reduce the quantity and improve the quality of stormwater entering public stormwater facilities and watercourses including, but not limited to, public education programs, animal waste control, spill prevention plans, removing illegal connections, enhanced street sweeping, reduction in road salts, land use restrictions and revisions of development standards. Any such measures may apply in whole or in part of HRM and may require approval of the Review Board.*

» *SU-9 HRM may consider supporting retrofits to existing stormwater facilities where it has been determined that such retrofits could be expected to mitigate flooding or to improve the quality of stormwater entering watercourses*

» *SU-10 Where public stormwater collection infrastructure must undergo significant repair or replacement, HRM may consider supporting funding for daylighting of the watercourse involved*

» *SU-23 When planning streetscape improvement projects for commercial areas or heritage districts within HRM, consideration shall be given to the underground placement of electrical and communication lines. Highest priority shall be given to projects within the Regional Centre. HRM shall work with utilities that have overhead wiring infrastructure to develop a design standard for underground retrofitting and a policy respecting ownership of underground wiring under the municipal right of ways.*

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DRAFT CENTRE PLAN

3.2.5 SPRING GARDEN ROAD CENTRE

Draft Policy 15 :Development standards shall be established in the Land Use By-law within the Spring Garden Road Centre consistent with Fig 1 of this Plan to permit high-rise buildings. Development standards will support transitions to adjacent residential areas and complement the Public Gardens, Camp Hill Cemetery and adjacent heritage properties and streetscapes. Provisions shall be made for at-grade commercial uses on developments fronting on Spring Garden Road and on Robie Street.

FIGURE 2. Draft Centre Plan for west SGR



INTEGRATED MOBILITY PLAN

In 2014, the Regional Plan set the target that by 2031, at least 30% of trips will be made by walking, bicycling or transit. Increasing the number of trips made by active transportation and transit from 20% today to 30% in 2031 requires an integrated approach. Specifically, it targets an increase of transit use from 12% to at least 16% and active transportation use from 11% to at least 14%. The IMP estbalishes SGR as a **Transit Priority** street.

The Regional Centre offers the highest potential for walking, bicycling and transit use. Another key initiative of the IMP includes implementing additional Transit Priority Measures to improve the reliability and speed of buses in downtown traffic.

The Complete Streets approach outlined in the IMP promotes multi-modal people-moving capacity and strategically prioritizes transit and active transportation links. "Places", as described in the IMP, are streets with clusters of activity, particularly high densities of pedestrians intended to provide pleasure, improve the street's attractiveness and/or define the character of an area; these can include

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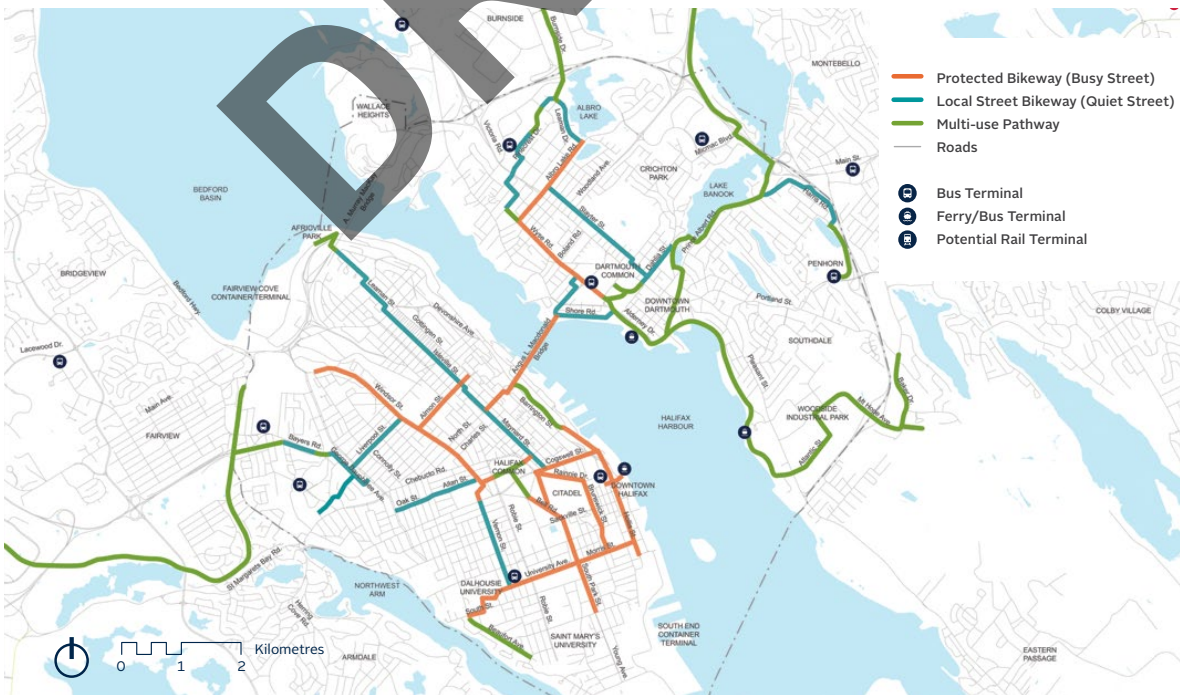


FIGURE 3. Integrated Mobility Plan : Proposed Bike Network

decorative sidewalk pavers, light poles, ornamental plants and public art. Trees are an essential component of every street and are particularly important in "places" to improve aesthetics, provide a sense of enclosure and regulate the micro climate. These features combined often contribute to a "main street" character that defines these places.

Relevant components of the recently adopted IMP that will be considered for the Spring Garden Road Streetscape project are described and summarized below. The notion of 'Complete Streets' will guide many of the design approaches and decisions through the process.

- *Action 38: Rehabilitate streets based on their intended functions and using the Complete Streets approach, with first priority given to improving safety and comfort for pedestrians through design treatments such as barrier free routes, visual and sensory cues, curb extensions, widened sidewalks, street trees, traffic calming and benches in mixed use commercial areas or adjacent parks.*
- *C) For street design projects, incorporate elements that create a sense of place.*
- *Action 41: Identify streets that are considered "places", based on their key characteristics and their local or regional significance.*
- *Action 42: Prioritize "place" streets and develop enhancement plans, emphasizing streets with high volumes of pedestrian activity and of regional significance.*
- *Action 43: Develop plans for the enhancement of "places" (streetscaping plans) at the same time as the functional characteristics are worked out.*
- *Action 44: Apply progressive best practices based on research and experience in Canada and comparable northern climates.*
- *Action 45: Consider opportunities for winter use, activities and attractions.*
- *Action 46: Include artwork appropriate to the regional and community context.*
- *Action 48: Support pilot projects for creative street uses, such as community events or temporary infrastructure to test new ideas for how streets can function.*
- *Action 49: Support more frequent and widespread Open Streets initiatives.*
- *D) For street design projects, incorporate opportunities to support the Urban Forestry Master Plan to improve local ecology and integrate with the Halifax Green Network Plan (once approved).*
- *•Action 50: Consult the future Halifax Green Network Plan to determine how streets can improve their open space functions.*
- *Action 51: Consult the Urban Forest Master Plan to determine tree canopy targets and appropriate species to plant.*
- *Action 52: Replace any trees that must be removed during a project, as determined by the Urban Forester. If there is no space within the nearby street right-of-way, trees may be planted nearby.*
- *Action 53: Explore ways to provide incentives for owners to plant trees on private property adjacent to a street.*

ENGAGEMENT & CONSULTATION

HRM and the SGR Design team are placing a strong emphasis on cooperation, engagement, and partnerships throughout the process. As discussed in the Integrated Mobility Plan, "the notion of Complete Streets requires cooperation, engagement, and partnerships across municipal departments, government, communities, businesses, and other organizations." The team is committed to gathering feedback and insight from the public, businesses, and other interest groups throughout the design process. The engagement summary is found at the end of this chapter.

MULTI-MODAL TRANSPORTATION

According to the IMP, "the Complete Streets approach implements multiple design features in different contexts to accommodate various combinations of transportation modes and uses – it should accommodate not only active transportation like walking and biking but also transit".

UNIVERSAL ACCESSIBILITY

The IMP notes the importance of acommodating people with visual and mobility challenges to ensure the widest range of residents and visitors can comfortably and safely

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FIGURE 4. Integrated Mobility Plan : Transit Priority Corridors Map

access the public spaces along Spring Garden Road.

SAFETY CONSIDERATIONS

Street safety is about reducing the frequency and severity of collisions, particularly for the most vulnerable road users on pedestrian oriented streets like SGR. The physical design of the street must consider safety measures for all users (transit, walers, drivers, cyclists) that increase the feeling of security.

AMENITY ENHANCEMENT

Places to pause, features that create intrigue and enjoyment, and features that functionally improve user experiences can promote the sense of place in the streetscape design. The SGR Team will not only consider how to enhance amenities but is also how the HRM will maintain these elements long-term. Streets with high 'place' value such as Spring Garden Road must serve open space functions as well as providing multi modal connections. Character, scale, and neighbourhood needs will all guide the design of amenities.

MOVING FORWARD TOGETHER PLAN

The Moving Forward Together Plan (MFTP) is intended to initiate the restructuring of the transit network and guide the implementation of service improvements. It proposes new service types, service guidelines, and performance measures, along with a network redesign. The MFTP increases the proportion of resources allocated towards high ridership services by establishing ten high ridership Corridor Routes that form the spine of the transit network, providing expanded commuter focused services to move large volumes of passengers during peak periods, providing coverage service in off-peak periods, and by reducing or eliminating low ridership services.

The MFTP identifies Spring Garden Road as a Transit Priority Corridor. The street should be designed considering the following MFTP policies and actions:

- *b) Accommodate Transit Priority Measures in strategic locations by reallocating road right-of-way capacity from private vehicles and parking to transit.*
- *Action 90: Prioritize transit in locations identified on the Transit Priority Corridors Map (see Figure 20) through the use of transit priority measure (e.g. queue jump lanes, dedicated bus lanes).*
- *Action 92: Continue to implement Transit Priority Measures where opportunities exist and priority is*
- *required to reduce transit delay or increase operating efficiency. This could include:*
  - *Priority at individual intersections or corridors.*
  - *Transit-only shortcutting.*
  - *Strategic removal of parking along certain roads to increase the right-of-way capacity dedicated to transit.*
- *Action 94: Improve passenger waiting environments at bus stops, as per the Passenger Amenity Classifications described in the Moving Forward Together Plan (Section 5.1).*

GREEN NETWORK PLAN

The 2018 Green Network Plan is focused on creating an integrated network of open space throughout HRM. There are no specific policies relating to Spring Garden Road or the Public Gardens in the Green Network Plan but there is one general policy:

- *Action 7: Continue to implement the Urban Forest Master Plan.*

URBAN FOREST MASTER PLAN

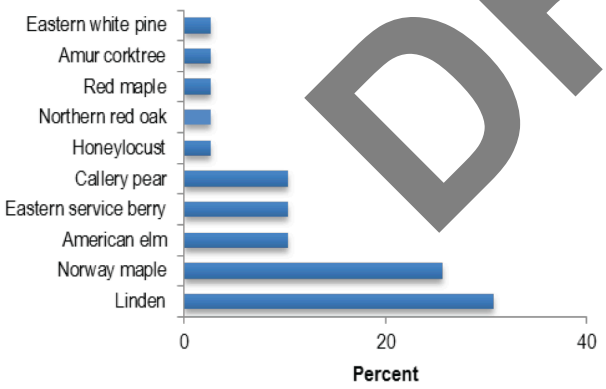
Much of Spring Garden Road has a significant urban forest canopy with many mature species. However, the four blocks between South Park Street and Queen Street has a narrow right of way width of about 18m and in this narrow stretch of road, there are only two small trees and one medium sized tree. While the entire length of the road is playing its part in meeting the objectives of the Urban Forest Master Plan (downtown Halifax has an area of ap-

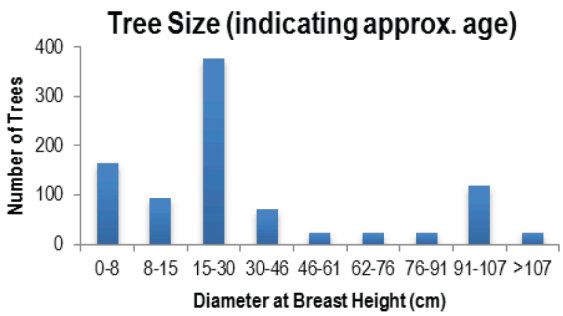
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FIGURE 5. Moving Forward Together Plan



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proximately 208 acres with a current canopy cover of 11% and a canopy target of 12%), the main 4 blocks could do a better job of contributing to the 1% growth target. The downtown has low species diversity, and as with much of the Halifax Peninsula, there is an over-representation of linden, elm, and Norway maple so these species should not be considered for new plantings.

FIGURE 6. Halifax Urban Forest Plan - Downtown Species Mix & Size

MUNICIPAL SERVICE ASSESSMENT

SEWER SYSTEM

Spring Garden Road has a combined sewer system along the full length from Robie Street to Barrington Street. The system discharges to various side streets along the route. A combined sewer is defined as a sewage collection system of pipes designed to collect wastewater as well as surface runoff resulting from rainfall and snowmelt events. New road construction projects typically include separate storm and wastewater sewers, but many older part of cities include the legacy of these combined systems. Separating sewers in these old areas is a major undertaking. Recapitalization and upgrade projects, often seize the opportunity to separate systems, however, due to various constraints, this is not always possible.

Halifax Water is currently undertaking stormwater separation projects in various areas within the Municipality. One of these areas, the Spring Garden Pocket, includes a new storm sewer (450 and 900mm) on Spring Garden Road from Robie Street to South Park. This work is anticipated for construction between 2023-2024.

Existing sewer pipe sizes vary significantly along Spring Garden Road (300mm to 900mm). There are several areas without confirmed sizing. Record drawings for the area indicate that much of this existing infrastructure includes brick lined sewer pipes of various sizes and non-circular configurations.

Halifax Water has confirmed that a condition review of the existing sewers from Robie Street to Barrington Street will be undertaken. It is expected that this include closed-circuit television inspection and will be completed within a few months.

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FIGURE 7. Halifax Water GIS



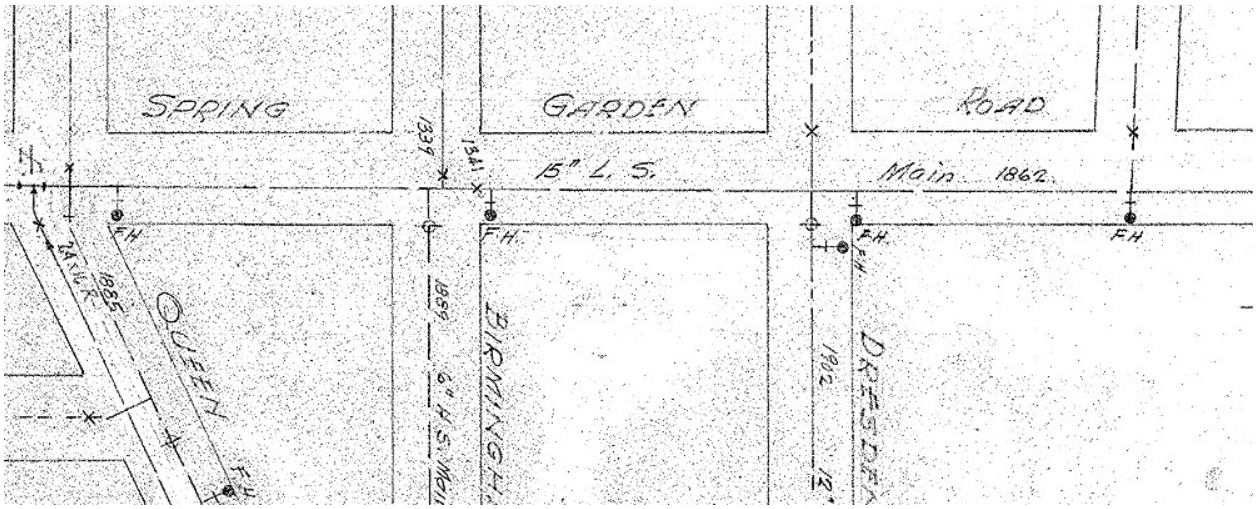


FIGURE 8. Halifax Record Drawing - Provided by Halifax Water

FIGURE 9. Halifax Water GIS

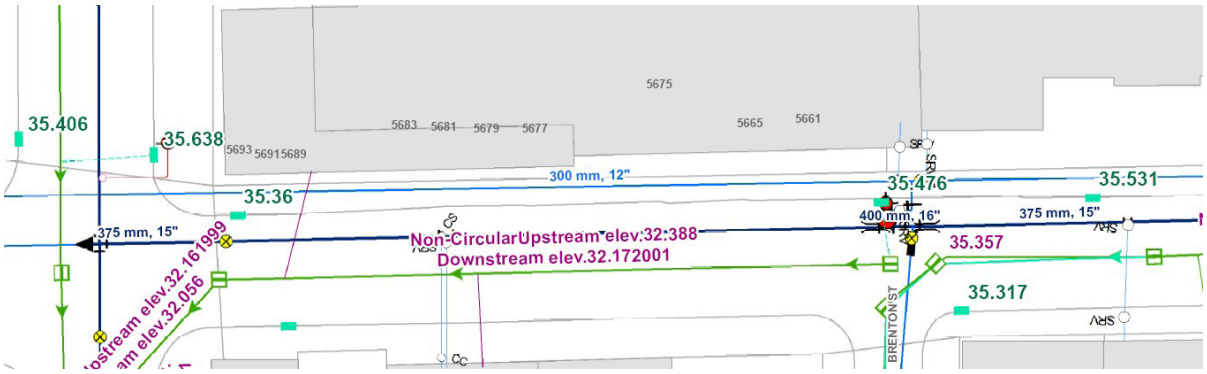
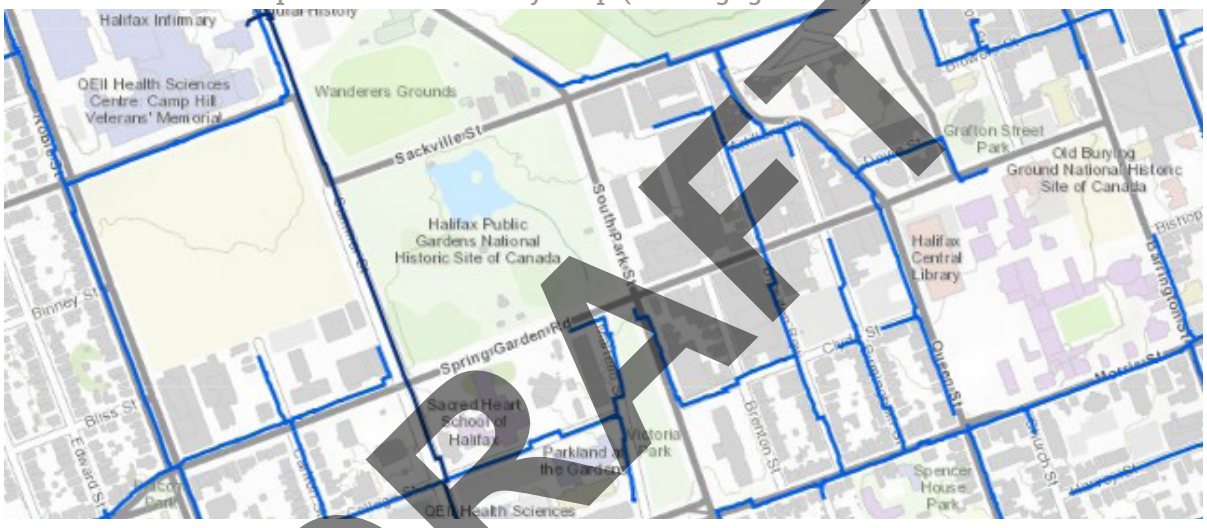


FIGURE 10. Excerpt from Availability Map (heritagegas.com)



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WATER SYSTEM

Based on available record information, Spring Garden Road, from Robie Street to Barrington Street, has a domestic and fire protection water system within the road right of way to serve the adjacent properties. This system is part of the overall network and is supplied from the Pockwock Lake treatment plant. Typical watermain sizes are 300mm to 375mm, with some of the watermain being very old. Records indicate that some of the water pipe in this section dates back as far as 1862. Hydrants for fire protection are located within the sidewalks and boulevards along the length of Spring Garden Road.

Records indicate that a second watermain (300mm) is installed in a section of Spring Garden Road from South Park to Dresden Row under the north sidewalk.

Halifax Water has indicated that they have no immediate plans to replace the water infrastructure along Spring Garden Road as part of this streetscaping project. They may, however, review the potential for watermain renewal to be incorporated as part of the storm separation project west of South Park Street.

NATURAL GAS

Based on the Availability Map from Heritage Gas, sections of Spring Garden Road currently have natural gas (shown in blue below). Heritage Gas has indicated that they intend to do a detailed review once the final details of the project have been confirmed. They have indicated that majority of buildings within this area are serviced from the rear or from side streets but there may be opportunity to install new gas infrastructure such as short mainlines or laterals to un-serviced "land locked" buildings (such as the Queen-Brenton blocks).

ELECTRICAL AND COMMUNICATIONS INVENTORY AND ANALYSIS

S.G.R. – BARRINGTON TO GRAFTON:

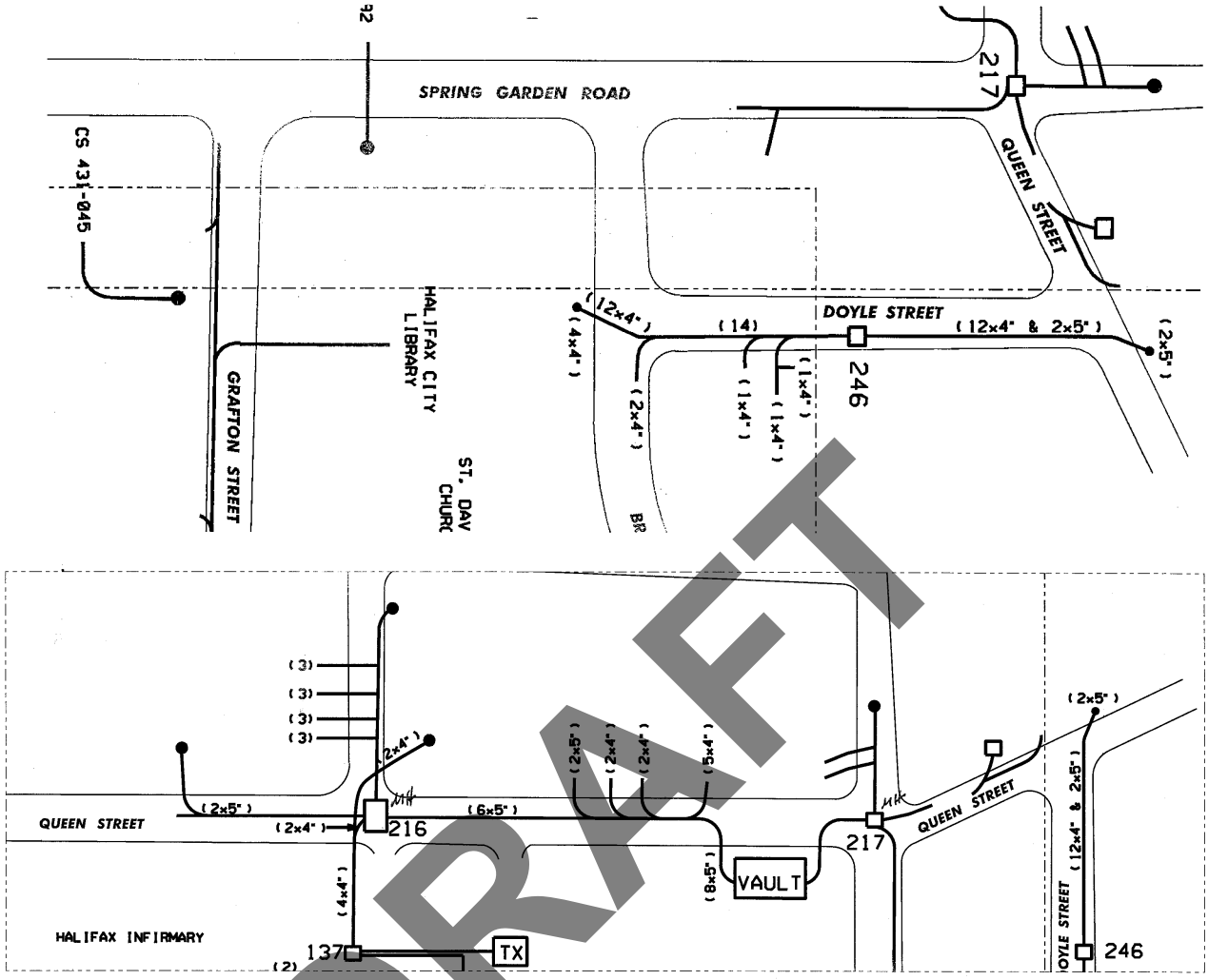
- Power, communications and street lighting infrastructure is underground at the intersection of Barrington and Spring Garden Road. Very minimal or no work is required in this intersection to underground the utilities.
- Two (2) utility poles are located on the north side of Spring Garden Road on either side of St. Mary's Cathedral. These poles carry HRM street lighting circuits and HRM street lighting fixtures. In addition, these two poles have one flood light mounted to each pole aiming at the facade of St. Mary's Cathedral. The flood lights appear to be powered from one HRM lighting circuit.
- Two (2) steel poles are located on the south side of the street adjacent to the Old Burying Grounds. These poles carry HRM street lighting circuits and HRM street lighting fixtures. The pole nearest to the Provincial Court House carries HRM overhead wiring to various flood light fixtures located within the Old Burying Grounds. When these poles are removed, a new service to the lighting within the Old Burying Grounds will be required. Arrangement of this new service limited by the characteristics of the surrounding properties. A new underground service to the Burying Grounds originating from Spring Garden Road would require excavation of the rock wall surrounding the Burying Grounds and installation of a new utility pole within the boundary of the Burying Grounds to run new overhead wiring to the existing light fixtures. An alternative, and less disruptive location to run a new overhead service into the Burying Grounds from an existing pole on Barrington Street is recommended.
- Additional poles are located on the south side of Spring Garden Road at the intersection with Grafton. These poles carry HRM street lighting circuits and high voltage overhead. High voltage overhead runs from a pole at the intersection of Spring Garden Road and Grafton to a pole approximately 33 meters north on Grafton and terminates. This is the last remaining utility pole on Grafton Street. Consideration should be given to removing it as part of this project. A new underground duct bank would be required to replace the overhead wiring.
- A new manhole is required at the Grafton intersection to accommodate Nova Scotia Power equipment.

S.G.R. – GRAFTON TO BRUNSWICK:

- Existing HRM street lighting circuits and high voltage overhead run on the south side of Spring Garden Road on this short section.
- Two (2) utility poles are located on the north side of Spring Garden Road. These poles accommodate HRM street lighting fixtures and circuits.
- High Voltage wiring runs on the north side of Spring Garden Road from the intersection with Grafton St. This high voltage then continues running north up Brunswick St. from the intersection of Brunswick and Spring Garden Road. Three (3) poles on the east side of Brunswick St. can potentially be removed and replaced with a new underground duct bank. This section of high voltage overhead along with the short run of high voltage up Grafton St. discussed previously are continuous. This overhead wiring would be most efficiently removed in a single phase.
- A new manhole is required at the Brunswick intersection to accommodate Nova Scotia Power equipment.

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FIGURE 11. Existing SGR NSP underground without notes



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S.G.R. – BRUNSWICK TO QUEEN:

- There is no existing overhead wiring on this block. Underground infrastructure and new HRM street lighting was installed in 2013 and in conjunction with construction of the new library.
- There is one existing pole located on the south side of Spring Garden Road strictly for the purpose of guying the utility pole across the Brunswick St. intersection. This pole can be removed when the poles on Spring Garden Road between Grafton St. and Brunswick St. are removed.
- There is an existing N.S.P. manhole at the intersection of Queen and Spring Garden Road.
- There is an existing N.S.P. vault located near the Halifax Central Library.

S.G.R. – QUEEN TO BIRMINGHAM:

- One new HRM street light is installed on the north side of Spring Garden Road.
- Two (2) existing poles on the south side of Spring Garden Road carry HRM street lighting circuits and HRM street lighting.
- There is an existing N.S.P. manhole located at the intersection of Queen and Spring Garden Road.

S.G.R. BIRMINGHAM TO DRESDEN:

- A main communications line runs overhead down Birmingham St. across the intersection of Spring Garden Road.
- An existing pole on the southwest side of the inter-

section of Spring Garden Road and Birmingham accommodates multiple low voltage communication services to surrounding properties.

- Existing poles on the north side of Spring Garden Road carry high voltage overhead, low voltage overhead HRM street lighting circuits and communication services.
- Overhead high voltage wiring begins at the intersection of Birmingham and Spring Garden Road and continues to Breton St.
- One existing pole on the south side of Spring Garden Road carries a HRM street lighting circuit and fixture.
- A new N.S.P. vault will be required near the intersection of Birmingham and Spring Garden Road.

S.G.R. DRESDEN TO BRENTON

- Two (2) existing poles on the north side of Spring Garden Road carry high voltage overhead, low voltage overhead, HRM street lighting and communications services
- The intersection of Dresden and Spring Garden Road has a crossing of high voltage overhead.
- One (1) pole on the south side of Spring Garden Road carries HRM street lighting and a communications service.

S.G.R. BRENTON TO SOUTH PARK

- There are no existing overhead services on this block.
- A new NSP vault will be installed on Brenton St. in conjunction with a new development. This vault can potentially be used to refeed low voltage and high voltage services in this area.

S.G.R. AND SOUTH PARK ST./S.G.R. AND CATHEDRAL LANE INTERSECTIONS

- HRM street lighting has been recently updated in these intersections. A mixture of Washington and Pechina style fixtures are installed.
- There is a mixture of high voltage overhead, low voltage overhead and communications services in and around this intersection.
- Multiple power and communications services are feed from the poles in and around this intersection, particularly on the east side of South Park St. Particular attention will need to be given to the impact removal of the poles around the intersection will have on the surrounding services.
- Undergrounding of electrical services in this area will require a new NSP vault.

S.G.R. – SOUTH PARK TO SUMMER

- Existing poles on the north and south sides of Spring Garden Road carry communications wiring and HRM street lighting circuits and fixtures.
- No high voltage overhead wiring is existing on this block with the exception of overhead high voltage wiring on two (2) poles on the south side of Spring Garden Road, one (1) located at the southeast corner of the intersection with Summer St. and another located adjacent to the driveway for Sacred Heart School.
- Street lighting has been recently updated to Washington style fixtures at the intersection with Summer St.
- High voltage overhead, low voltage overhead, HRM lighting circuits and communications wiring run down Summer St. through the intersection with Spring Garden Road on the west side of the street.
- High voltage overhead, low voltage overhead, HRM lighting circuits and communications wiring run down Spring Garden Road through the intersection with Summer St. on the south side of the street.

S.G.R. – SUMMER TO ROBIE

- High Voltage overhead, low voltage overhead, HRM street lighting circuits and communication wiring run down the south side of Spring Garden Road for the entire length of the block.
- Multiple power and communications services originate from these poles, NSP vaults and Aliant manholes will be required in this area to accommodate reconnection to the existing services.
- There is an existing run of fibre optical cable running overhead from Dalhousie University, down Robie street to the intersection with Spring Garden Road

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then down Summer St. to the QEII Hospital.

INTERSECTION OF S.G.R. AND ROBIE

- High voltage overhead, low voltage overhead, HRM street lighting circuits and communication wiring run in all directions at this intersection.
- Further investigation of the existing infrastructure including coordination with the utilities is required to fully understand the impact removing the overhead wiring will have on the surrounding utility and HRM infrastructure.
- An NSP vault will be required at this intersection.
- An Aliant manhole will be required at this intersection.

Additional Points of Interest

- It was noted during the walkthrough with the Bell Aliant representative that the individual customers will have to coordinate with their individual service providers to have their communications services reconnected. There are numerous service providers. Coordination by HRM with the property owners will be required to provide notification and coordinate reconnection.
- Existing NSP customers fed overhead from a utility pole will have an existing weatherhead and conduit mounted to the exterior of the building being serviced. The overhead wiring runs into the weatherhead, down the conduit and into the top of a meter base. When a new underground service is brought to the building the customer has the option to:
  - *Have conduit run from underground up the side of the building to the location of the existing weatherhead. In this case NSP will reconnect power to the customer for free.*
  - *Have their existing weatherhead, conduit and meter base removed and a new bottom feed meter base installed. Conduit would run from underground directly into the bottom of the meter base. The customer would have to pay to have the weatherhead, conduit and meter base removed and a new meter base installed. HRM coordination with the individual customers would be required.*

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CONFIDENTIAL
INFORMATION FROM PRIVATE UTILITY

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Pizza Delight
Pizza Deligh
Rooftop
Patio
Scotiabank
TURKISH
DELIGHT
petvalu
BOOKM
petvalu
Now Open
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TRAFFIC ASSESSMENT

This section of the report was prepared to summarize the findings of the roadway and intersection Level of Service (LOS) analysis for existing vehicular conditions along the Spring Garden corridor. A significantly more detailed report on the transportation analysis is included in Appendix B.

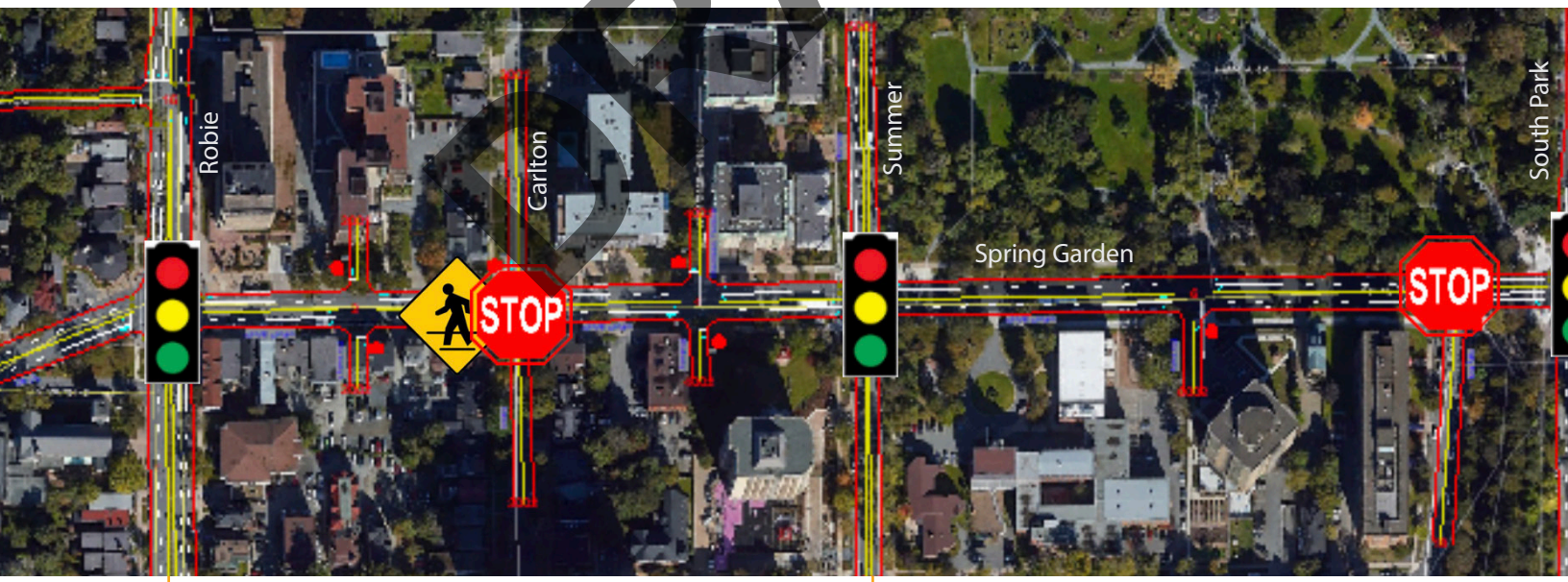
The analysis focused on the various transportation elements that impact roadway and intersection performance, and less on the roadside environment, transit performance, or the pedestrian experience along the corridor as these items are addressed in greater detail in other sections of the report. This LOS analysis included review, analysis and summary of:

- *Existing conditions including roadways, intersections, traffic control, general roadside usage, pedestrian operations at crosswalks, and modal impacts on the roadway;*
- *Data inputs and assumptions related to the LOS analysis including volumes, signal timings, lane configurations, etc;*
- *Synchro model construction, data imports, testing and extraction of results;*
- *Preliminary measures of performance including average delays, capacity utilization, and queuing; and,*
- *Analysis of the findings and impacts on the project.*

The Spring Garden Road corridor extends from Robie Street at the west end to Barrington Street at the east. The corridor includes six signalized intersections, six stop-controlled intersections (minor side road stop controlled), five mid-block cross walks, plus a variety of driveways with direct access to Spring Garden Road.

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FIGURE 12. Spring Garden Road Topologies



ROBIE TO SUMMER

Wider 4-lane roadway cross section with moderate pedestrian volumes, adjacent residential buildings and limited small scale commercial activity.

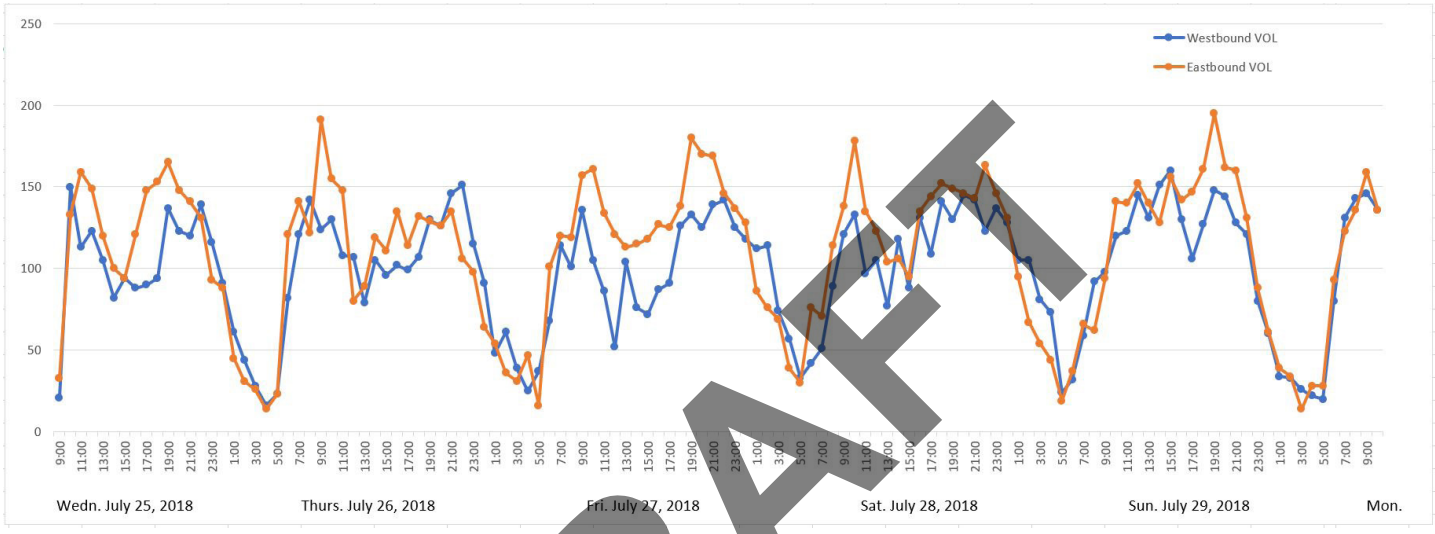
SUMMER TO SOUTH PARK

Wider 4-lane roadway cross section with moderate pedestrian volumes. Residential on the south side and Halifax Public Garden on the north.

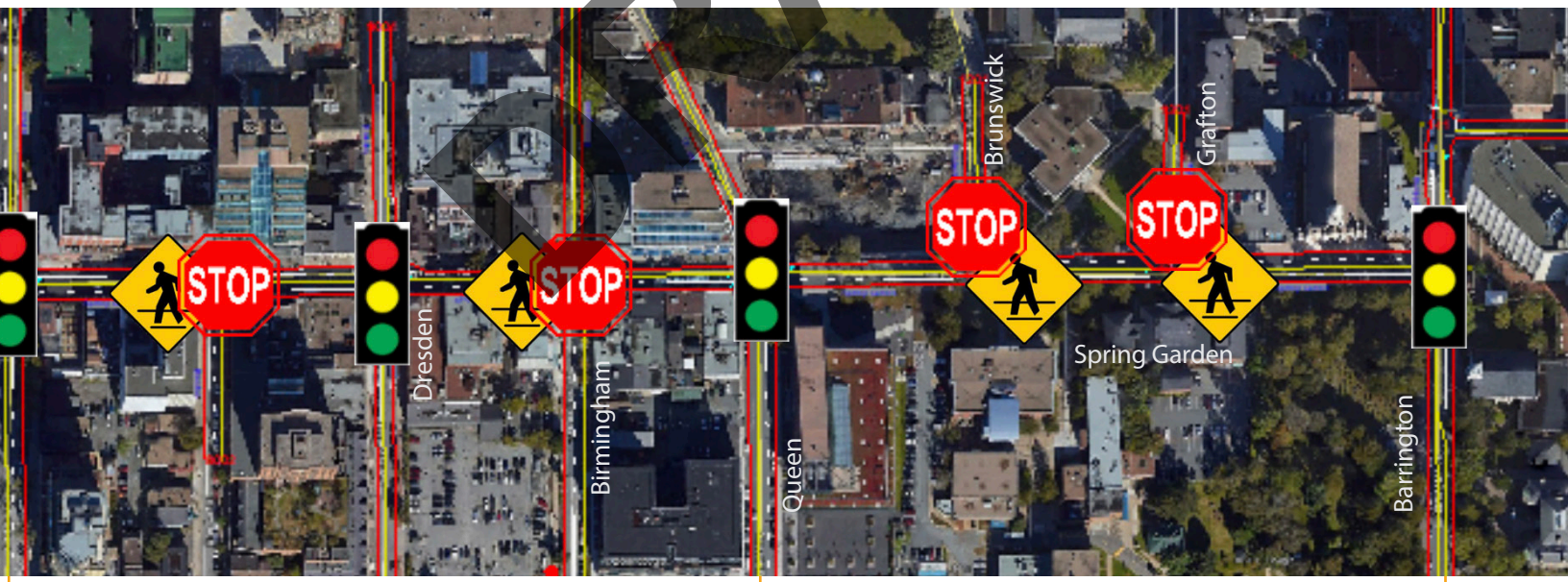
VOLUMES

Recent traffic counts were provided by HRM for many of the intersections and some road sections. Available data was supplemented by Miovision automated traffic counts at various intersections (some ongoing) and manual counts/ob-

FIGURE 13. Daily Traffic - Spring Garden between Dresden Row and Birmingham



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SOUTH PARK TO QUEEN

Narrower 3/4 lane cross section, very high pedestrian volumes and frequent pick-up/drop-off/loading activity. Dense commercial / retail land use and some local residential development.

QUEEN TO BARRINGTON

Narrower 3/4 lane cross section with moderate/ high pedestrian activity. More institutional land uses including the Halifax Public Library, Dalhousie University, the Law Courts.

FIGURE 14. Historical Taffic Counts

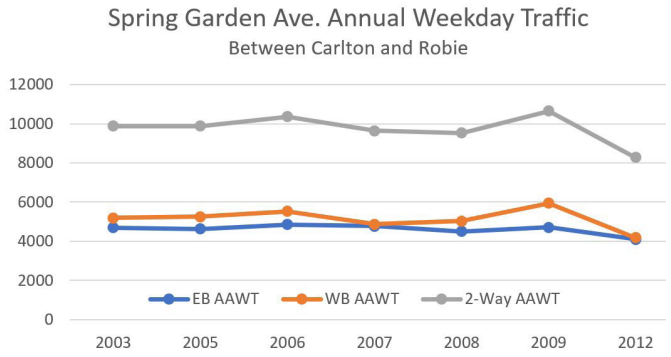


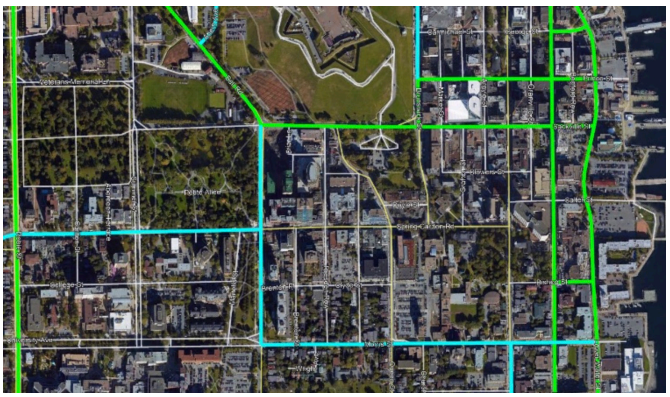
FIGURE 15. 2011 HRM Modal Share Estimates

MODE	REGIONAL CENTRE%	SUBURBAN%
Car as Driver (%)	44.4	72.2
Car as Passenger (%)	6.5	8.56
Public Transit (%)	19.3	13.7
Walked (%)	24.7	3.8
Bicycle (%)	3.5	0.4
Other Methods (%)	1.5	1.3

FIGURE 16. Transit Routes



FIGURE 17. Truck Routes



servations as required. Figure 17 shows the directional volumes and variations in daily traffic patterns based on counts carried out on Spring Garden Road between Dresden Row and Birmingham Street in July 2018.

HISTORIC GROWTH

Historic traffic counts were reviewed and where consistent historical traffic count data was available, charts were prepared to identify general growth trends. The chart to the left shows road section count data between 2003 and 2012 on Spring Garden Road between Robie and Carlton Street and suggests volumes have been relativley consistent with no notable growth and potentially a slight decline in volumes.

ACTIVE TRANSPORTATION (AT)

Peninsular Halifax including the Spring Garden Road corridor and surrounding area has documented high levels of cyclist and pedestrian activity resulting from many large and active origins and destinations as well as recent infrastructure upgrading projects in the area. General modal share estimates for the regional center in comparison to suburban areas (from 2011) are shown in the table to the left. Screenline counts carried out in 2018 on Spring Garden Road near Birmingham Street showed that about 20% of people past that point were in passanger vehilces, 36% used transit, 43% were pedestrinas and about 1% were cyclists.

TRANSIT

Fifteen transit routes are present on Spring Garden Road with 5 additional adjacent routes on Morris Street and 2 on South Street. Routes primarily use Barrington Street, Summer Street or Robie Street as connecting cross routes.

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TRUCK ROUTES

Halifax's By-Law T-400 identifies the routes shown to the right as "Daytime Truck Routes" (blue) and "Full-Time" truck routes (green). While Spring Garden Road is not specifically identified as a truck route, provisions in the by-law provides guidance for off-route deliveries.

FIGURE 18. Speed Study Summary

	WESTBOUND JULY 2017	EASTBOUND MAY 2018	WESTBOUND JULY 2017	EASTBOUND MAY 2018
85th percentile speed (km/hr)	31	38	33	40
% of vehicles over 50 km/hr	0.1%	0.9%	0.2%	1.7%
Average Speed (km/hr)	21	30.7	23	32.1
Max Speed		72		83

SPEED STUDIES

Various speeds studies carried out east of South Park Street suggest 85th percentile speeds well under the speed limit with only a small percentage of vehicles traveling over the 50 km/hr posted speed. It is expected that speed studies taken west of South Park would result in higher overall speeds.

COLLISION STATISTICS

Collision data between 2015 and August 2018 included 25 total collisions (betwen South Park and Barring Street) with 11 of these collisions occuring in 2017. A more detailed summary can be found in the Appendix report, but key results include:

- *3 car/bike collisions, 3 car/bus collisions, 3 car/pedestrian collisions, and 16 car/car collisions;*
- *5 collisions occurred in parking lots or driveways to parking lots;*
- *10 collisions at or near the Queen Street intersection;*
- *23 property damage only collisions (no injuries), and 2 collisions resulted in moderate injury; and,*
- *No reported collisions west of South Park Street (to be confirmed).*

ANALYSIS

A Synchro/SimTraffic microsimulation model was prepared for the Spring Garden Road corridor. Adjacent intersections (i.e. on Sackville or Morris Street) were not included as they were deemed to have little impact on operation on Spring Garden Road. Critical periods for analysis were defined as the weekday AM and PM peak hours due to the combination of commercial and commuter traffic, though general consideration of weekend and evening traffic will be important to consider in design development. Consideration should also be given to some midday peaks that occur ouside of typical AM and PM peak hours. The models include the most recent available information including updated signal timings (including LPI phases at Barrington and South Park Street).

Detailed summaries of the results, Synchro reports, traffic volume assumptions and more are included in the Appendix report and higher-level findings are summarized in the Discussion section below.

DISCUSSION

The existing conditions analysis for the Spring Garden Road corridor included the review of a wide variety of available data, all of which provides input for a meaningful level of service analysis for the corridor. Additional data is currently being collected which will help supplement or expand upon discussions already included in this report and provide further input into the design development phases of the overall project. The following discussion points were extracted from the existing conditions analysis for consideration as the project moves forward.

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ROAD NETWORK CONSIDERATIONS

- *Spring Garden Road is well connected to a variety of major perpendicular roadways and parallel routes that provide alternatives to travel anywhere on peninsular Halifax, including major routes entering or exit the peninsula;*
- *Traffic volumes along Spring Garden Road are relatively low throughout the corridor and are not representative of a major commuter through route;*
- *Major north/south movements occur on Robie Street, Summer Street, South Park Street and Barrington Street, all signalized intersections;*
- *The section of Spring Garden between South Park and Queen appears to serve as a traffic centroid (origin/destination) for commuter traffic with outbound traffic generally destined away from this block and inbound traffic toward it.*

TRAFFIC / PEDESTRIAN OPERATIONS

- *From a vehicular traffic perspective, Spring Garden Road and its connecting streets have more than adequate capacity to service the vehicles that elect to travel along the corridor, though a few critical movements exist that warrant further consideration;*
- *Pedestrians play a significant role in the operations and capacity availability at intersections and along all road sections in the corridor. This is particularly true between South Park and Queen Street;*
- *As there is adequate capacity and relatively low delays throughout the corridor, the discussion changes from providing an adequate level of service for vehicle operations, to providing a safe and efficient environment for all road corridor users. This suggests focusing on improvements that enhance pedestrian and transit experiences rather than focusing on improvements related to passanger vehicle operations;*
- *Lane configurations and associated signal timings at the Robie / Spring Garden intersection should be reviewed, particularly the use of the shared through / left movement in the north and southbound directions;*
- *Going forward, it is recommended to reduce pedestrian crossing widths to the minimum width required while still allowing accommodation of the adjacent traffic movements;*
- *High volume and frequency pedestrian crossings should be reviewed in greater detail during design development to define ways to limit exposure and risk to all users.*

INTERSECTIONS

- *All traffic signal equipment has been replaced within the past 5 years. This allows more flexibility in operations and the ability to implement more advanced signal features in the future as warranted without significant capital cost expenditures;*
- *Use of LPI signal phases appears appropriate at some intersections and there appears to be adequate capacity to accommodate such phasing without significant detriment to vehicles;*
- *Consideration should be given to providing LPI phases as all remaining signalized intersections along the corridor.*

LOADING

- *Loading operations are essential in the corridor and therefore must be accommodated. Determining the best way to accommodate loading activities will impact pedestrian and vehicle level of service. Such considerations should not only include the location of loading zones, but also the duration of the activity, incentives to vacate the area as quickly as possible, coordinating loading activities to minimize impacts on the corridor, and enforcement to limit abusive use of loading areas.*

ROAD SAFETY

- *There are many areas of Spring Garden Road as well as many of the side streets that have poorly defined lanes or inefficiently used space resulting improper use of lanes and parking areas;*
- *Between Robie and South Park there is adequate lane width over the 4-lane cross section to limit the interference on through traffic caused by right or left turning vehicles. The lane layout, use of curbside areas and intersection operations are reasonably defined and predictable, though these sections would benefit from further improvements to lane use definition and protection of the functional areas surrounding intersections;*
- *Between South Park and Barrington, the corridor is very unpredictable and often confusing. There are very high driver workload requirements resulting from the combination of high pedestrian and transit volumes, significant loading activities, pickups/drop-offs, poorly defined lane configurations and varying lane widths and uses.*

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MULTIMODAL TRANSPORTATION ANALYSIS

HALIFAX TRANSIT ENGAGEMENT

Based upon discussions with Halifax Transit, we have developed a better understanding of bus operational needs along the Spring Garden Road corridor. This includes a review of the following:

- *bus ridership along the routes serving Spring Garden Road;*
- *operating schedules (i.e. timepoint holding locations);*
- *pilot project initiatives which have been undertaken to enhance the public realm (i.e. stoplet); and*
- *general issues which have added complexity to the transit analysis (i.e. construction between Robie Street and Summer Street).*

TRANSIT POLICY & STANDARDS REVIEW

MOVING FORWARD TOGETHER PLAN

The Moving Forward Together Plan was endorsed by Regional Council in 2014. There are four (4) key principles which provide guidance for Halifax Transit service improvements over next 20 years. These include the following:

- *Increase the proportion of resources allocated towards high ridership services.*
- *Build a simplified transfer based system.*
- *Invest in service quality and reliability.*
- *Give transit increased priority in the transportation network.*

The plan identifies Spring Garden Road as a transit corridor providing a high level of service, with connections to all of the terminals within the Halifax Transit network. Spring Garden Road currently provides stops for up to 15 bus routes, including their branches, along sections of the corridor between Barrington Street and Robie Street. The proposed plan also includes 16 bus routes (and their branches) along the sections of the corridor, which are comprised of approximately 6 routes classified as corridor, local, local peak, and rural routes, and up to 10 routes classified as peak express and regional express routes.

The Moving Forward Together Plan will be incorporated and considered in the development of the functional road plan options as part of the Spring Garden Road Streetscaping project. The four (4) key principles, particularly investments to improve the level of service (quality and reliability) as well as potential transit priority initiatives will be included as criteria towards the evaluation of each option.

HALIFAX BUS RAPID TRANSIT FEASIBILITY STUDY

Halifax Transit has outlined within their Moving Forward Together Plan guidelines and performance measures to provide direction related to ridership, bus stop locations and quality of service.

A Bus Rapid Transit (BRT) Feasibility Study is also currently under review by HRM. This study began in Spring 2017 and will be completed around Spring 2018. The intent of the study is to consider BRT within HRM to provide higher quality service within key corridors across the region to support community development, including higher density intensification along key corridors and nodes. The BRT Feasibility Study has been undertaken, recognizing that transit is a key mobility option to alleviate traffic congestion. We will be coordinating with HRM and incorporating the recommendations from that study within the functional plan for Spring Garden Road.

We will also be considering transit priority measures for implementation along this corridor, a review of the locations for bus stops and improvements that could be undertaken to create a better passenger waiting experience at bus stops. We understand that Spring Garden Road itself is a major destination for many passengers – it includes residential, office, commercial, retail and institutional uses. In this sense, the first mile / last mile experience will be critical given the various destinations for transit passengers.

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INVENTORY OF EXISTING CONDITIONS

MULTIMODAL LEVEL OF SERVICE (MMLOS)

Multi-modal analysis (MMLOS) provides an opportunity to review and analyze impacts of non-auto trips (i.e. pedestrian, cycling and transit) and to encourage the development of good infrastructure that supports these modes to reduce the overall number of single occupancy trips. It recognizes the various opportunities for travel to / from a site or along a corridor.

MMLOS studies, compared to standard transportation studies, also review pedestrian, cycling and transit volumes with the understanding that higher volumes are indicative of a successful underlying urban fabric. In cases where high volumes of pedestrians, cyclists, or transit riders present an operational issue, an additional operational review will be conducted to understand, on a case-by-case basis, alternative methods to accommodating volumes and improving the quality of the supportive infrastructure.

CRITERIA FOR EVALUATION

MMLOS analysis involves both qualitative and quantitative components. It reviews, from a qualitative perspective, the existing conditions and focusses on the quality of the pedestrian, cycling and transit experience. The purpose of this review is to recognize the user experience and quality of the public realm within the surrounding context. The provision of quality connections and linkages encourages and influences pedestrian, cycling, and transit activity.

As part of the analysis, travel demand forecasts are established to reflect modal share assumptions within the vicinity of the site, with an understanding of future transportation changes in the area at large. These travel demand forecasts also reflect the existing travel characteristics of an area.

DATA COLLECTION ZONES

The study area considered includes the length of Spring Garden Road, between Barrington Street to Robie Street. We have adopted a zonal approach in this review, to appropriately understand the level of activity and issues that may range within Spring Garden Road. The study area has been further separated into zones, with subsequent analysis to be focussed and discussed by area. The 4 zones are as follows:

Zone 1: Barrington Road to Queen Street

Zone 2: Queen Street to South Park Street

Zone 3: South Park Street to Summer Street

Zone 4: Summer Street to Robie Street.

At this juncture, we are collecting information and developing a better understanding of the baseline volumes, demands, activities and operational needs of the Spring Garden Road corridor.

PEDESTRIAN TRAVEL & ACTIVITY ASSESSMENT

A pedestrian travel assessment reviews the pedestrian facilities provided along the corridor. It requires both qualitative and quantitative reviews of the existing conditions. The qualitative review includes a site visit that considers pedestrian conditions within a segment and at the intersection. These conditions can be experienced through five (5) different lenses, which comprise our review of existing conditions. These include waiting, walking, crossing, connecting, and accessibility.

The quantitative pedestrian level of service (LOS) assessment utilizes look-up tables that evaluate pedestrian infrastructure at segments and intersections. These capture, to the extent possible, the physical nature of the existing pedestrian facilities. Physical infrastructure elements are also collected as part of this assessment. These recognize the importance of the path that pedestrians utilize in their travels along the corridor and at intersections. Examples of these elements include: sidewalk widths, AADT of the adjacent road, width of buffers, presence of on-street parking, signal phasing plans, pedestrian crossing volumes and types of pedestrian treatments.

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As part of the pedestrian travel assessment, other industry guidelines (i.e. Gehl and Fruin) related to sidewalk widths will also be consulted to develop a well-rounded understanding of the space needed to accommodate pedestrian density and activity. Inputs into this analysis include pedestrian volumes, buffer from window shoppers and considerations for any impediments along the travel path.

Spring Garden Road is an excellent candidate for MMLOS analysis. It is a well-utilized commercial street, connecting Dalhousie University and providing retail, office, and residential uses. It is also a major transit corridor across the downtown and as such, generates a high level of pedestrians. The current pedestrian realm includes narrow sidewalks for pedestrians and transit waiting areas.

A high-level inventory has been completed for the corridor, with positive infrastructure/qualities and challenges to the pedestrian realm illustrated in the following figures. Generally, the sidewalks vary in size with the widest sidewalks found in Zones 3-4 near the Public Gardens. The sidewalk tends to narrow as pedestrian volumes increase, towards the east end of Spring Garden Road, in Zones 1-2.

TRANSIT TRAVEL ASSESSMENT

The transit travel assessment section reviews the transit facilities provided within the vicinity of the site or along the corridor. It also includes both qualitative and quantitative reviews of the existing conditions. The goal of this analysis is to provide an assessment of the level of service of transit services available in the area. It does not assess the operations of individual transit lines / routes from a reliability or capacity standpoint. Notwithstanding the above, these types of studies are important, but are more appropriately undertaken by Halifax Transit.

The elements evaluated in transit travel include the transit infrastructure (type of transit stop, weather protection, signage, etc), access to key destinations, headway for periods studied, service span and type of shelter available.

Transit services provided along this corridor include up to 15 bus routes (and their branches) with buses operating in mixed traffic, affected by the same delays and congestion challenges experienced by vehicle drivers. Based upon our initial discussions with the team and Halifax Transit, we understand that the routes along Spring Garden Road are well utilized, particularly during the peak period where waiting, boarding, and alighting activities of passengers can conflict with pedestrian flow within the public realm.

As part of a pilot project, HRM has implemented a "stoplet" to provide additional space for these activities. This pilot project, as we understand, was in place until October 31, 2018. In developing options for the functional road plan, we will consider amenity improvements for transit users, which would be ideal to improve the waiting facility, as well as the improvement of transit operations to decrease the waiting period for services.

CYCLIST TRAVEL ASSESSMENT

includes both qualitative and quantitative review of the existing conditions. Elements that are considered in this review include: cycling facilities, cycling facility setbacks, crossing and waiting facilities, connections to the area network, lane configurations, dimensions and adjacent road operating speed.

There currently are no cycling lanes along Spring Garden Road. HRM has reviewed the existing conditions and proposed a network within the Integrated Mobility Plan (IMP) that is appropriate for "All Ages & Abilities". The intent of the network is to assist with reaching regional cycling targets by 2026. Based upon a review of the Integrated Mobility Plan, Spring Garden Road is not indicated as a location for a suggested bike route on a main road. Instead, it is connected to north-south protected bikeways (South Park Street and Brunswick Street), which provide options to connect to east-west routes across Downtown Halifax.

Cycling amenities are also provided in the area, with bicycle parking on the side streets, which connect to Spring Garden Road. A seasonal bicycle corral is also available for bicycle parking on the southwest corner of Spring Garden Road / Brenton Street.

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FIGURE 19. Zone 1: Queen Street to Barrington Street

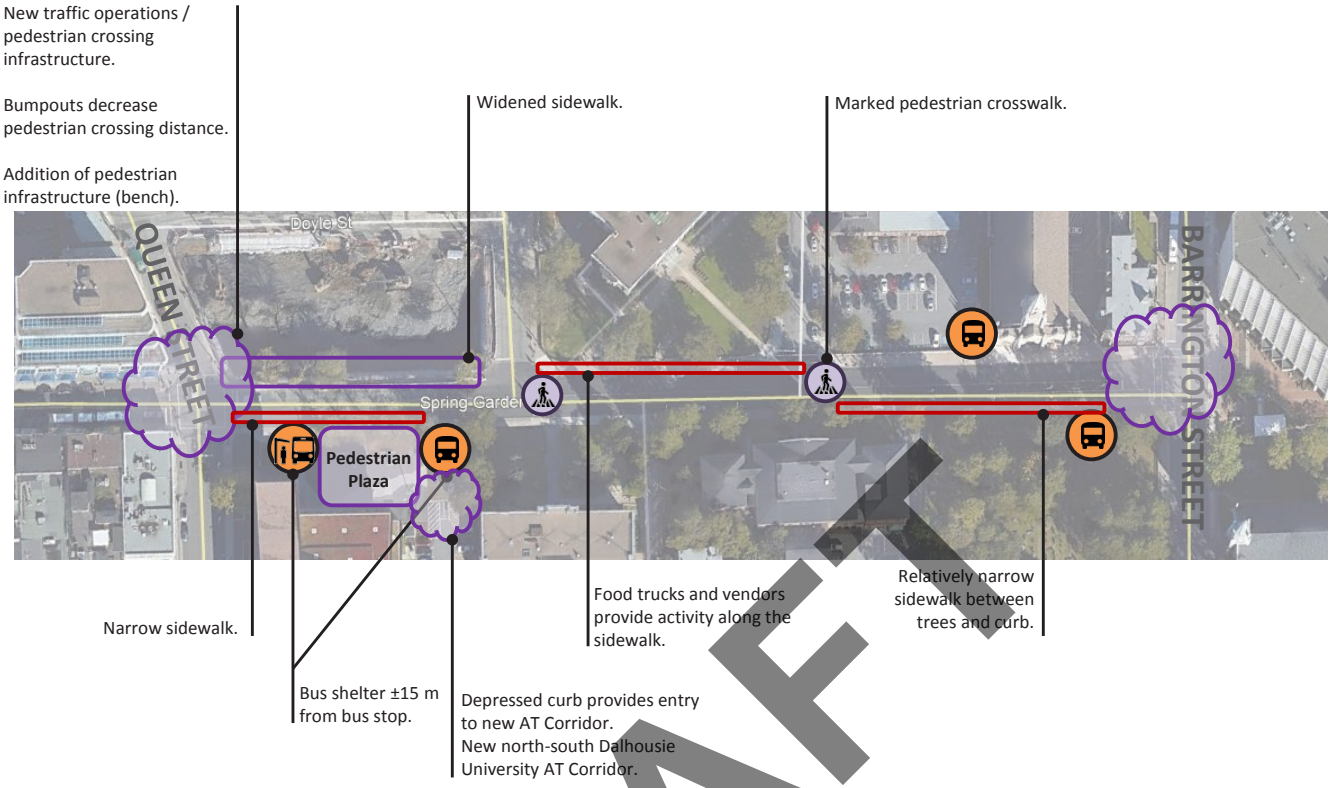
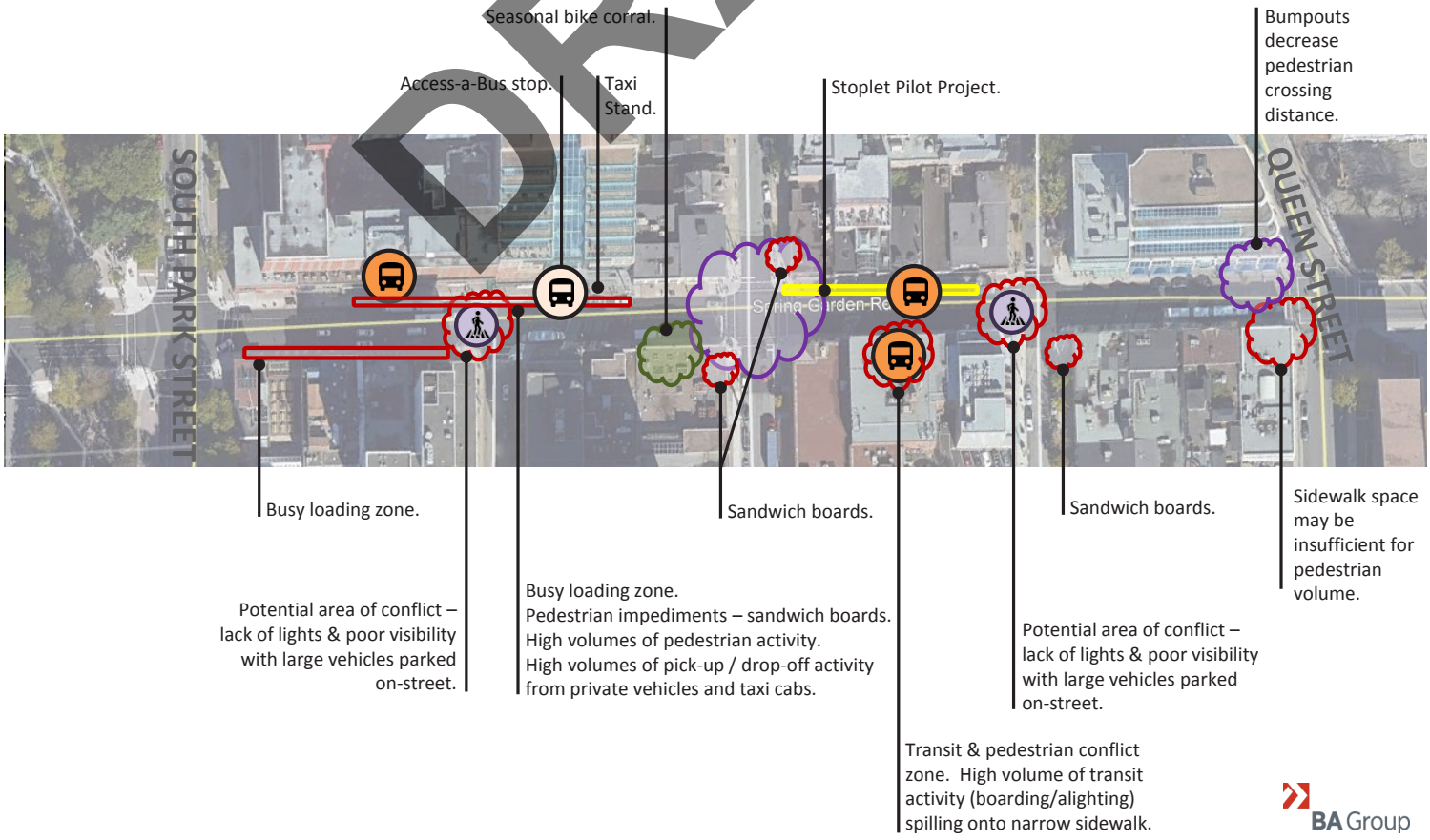


FIGURE 20. Zone 2: South Park to Queen Street



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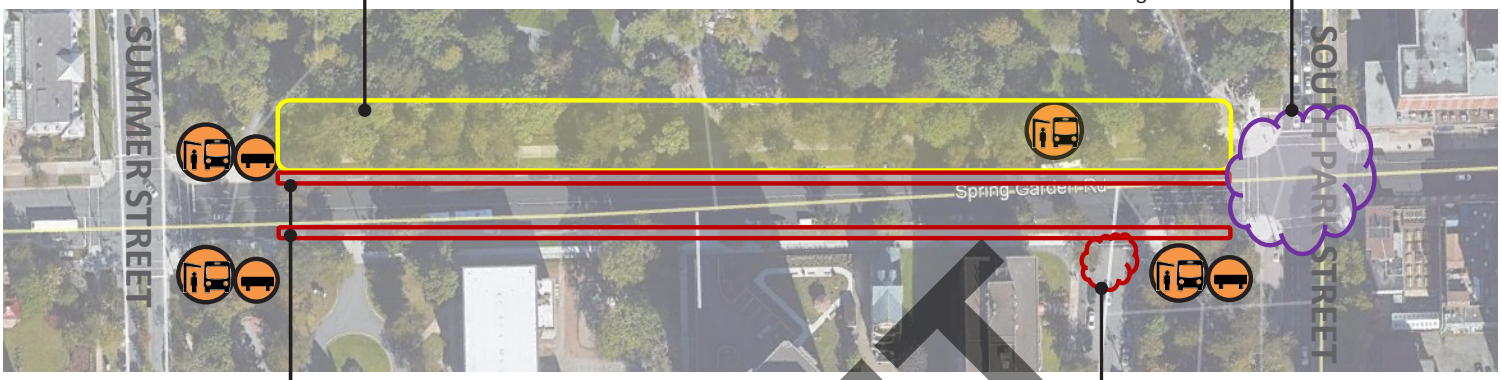
BA Group

FIGURE 21. Zone 3: Summer Street to South Park Street

Pleasant pedestrian experience (mature trees, wide sidewalks, & public gardens).

High volume of pedestrian activity into/out of Public Gardens. Visitors and pedestrians on the sidewalk may be competing for the same space.

New traffic operations / pedestrian crossing infrastructure.



Parking meters along street.

Wide pedestrian crossing in close proximity to major intersection – potential for pedestrian-vehicular conflicts.

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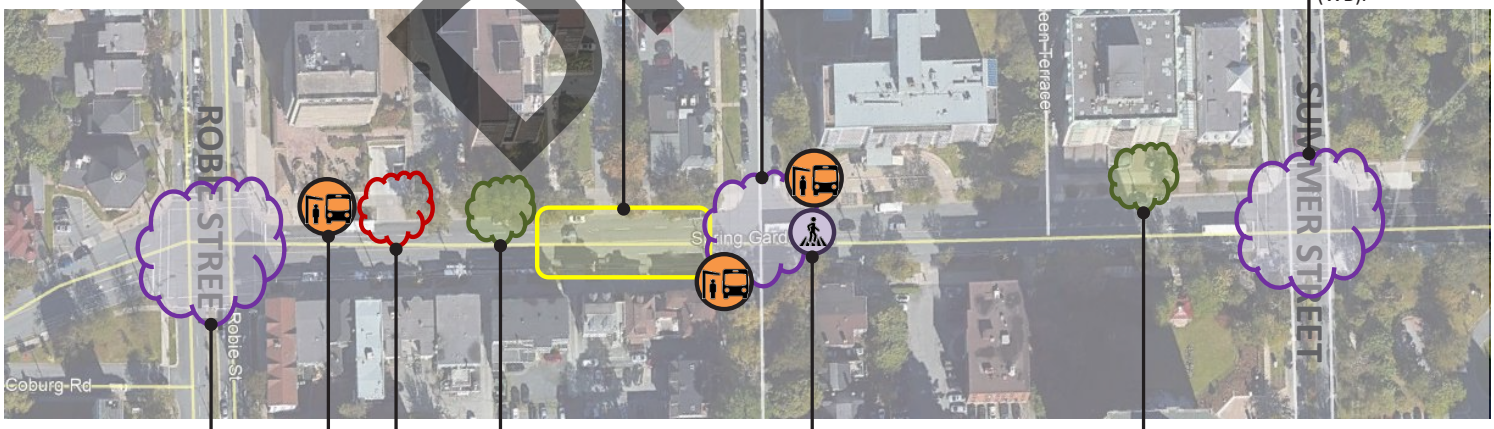
FIGURE 22. Zone 4: Robie to Summer Street

New traffic operations / pedestrian crossing infrastructure.

Pleasant pedestrian experience (mature trees).

Bumpouts to decrease pedestrian crossing distance.

Long crossing width on side street.
Transit priority signal (WB).



Bikes locked to traffic poles.

Pedestrian Crossing (PXO).

Bikes locked to trees and traffic poles.

High volume pedestrian intersection.

Potential area of conflict – articulated buses may impede private driveway.

Potential area of conflict – high pedestrian volumes & boarding/alighting activity.

LOADING/PARKING ACTIVITY

MMLOS assessments typically do not include a review of loading/parking activity. However, we understand that Spring Garden Road is an important commercial corridor with a variety of land uses relying on this corridor for goods movement activity including loading, deliveries, and passenger pick-up / drop-off.

These activities are part of the day-to-day operations for the uses along this corridor. As such, a review of these activities will also be undertaken to inform and assist with the development of options for a practical and acceptable solution.

INFORMATION COLLECTION AND CAPACITY BUILDING

A series of discussions with Halifax Transit and other major stakeholders have been conducted to establish a greater understanding of the current operational characteristics, needs and factors that would be pertinent to the development of a well-conceived, responsive and functional streetscape plan for Spring Garden Road. Considerations, including curbside needs and public realm priorities, will also form part of the scope and focus.

The inventory of pedestrian, cyclist, transit, and curbside activity and infrastructure is expected to continue into November 2018. The information gathered in each of the sections above will form the inputs into the development of a functional streetscape plan that best responds to user needs and meets user anticipated demand levels in a reasonable manner.

The further development of the functional plan, including physical design elements, universal accessibility standards, and any management protocols for Spring Garden Road, will be defined in consultation with a working / stakeholder group and HRM, to finalize appropriate measures to best accommodate the activity along Spring Garden Road

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TRANSIT OPERATIONS REVIEW

INTRODUCTION & METHODOLOGY

Transit operations have been reviewed consistent with the zonal approach adopted for the MMLOS assessment, as described in the previous section.

In order to gain insight into existing multi-modal traffic operations along the Spring Garden Road corridor between Barrington St and Robie St, BA Group processed and summarized travel time data associated with public transit and private vehicles travelling along said corridor.

Public transit travel times were obtained from converting vehicle location data made available under the General Transit Feed Specifications (GTFS) format through the Halifax Transit website. Data requests were made every 30 seconds, which corresponds to the frequency at which Halifax Transit vehicles upload their latitude and longitude coordinates and hence allowed for a granular mapping of individual vehicle locations.

Private vehicle travel times were, on the other hand, obtained from the Google Maps Distance Matrix API, which provides real-time vehicle travel time information based on the movement of large samples of anonymized mobile devices. To ensure the validity of data obtained in such fashion, both its accuracy and responsiveness were previously assessed and confirmed by BA Group as part of past project work, through comparisons with travel times collected by individual vehicles equipped with GPS sensors and travelling within the same area.

This section provides and summarizes the following:

- *results from BA Group's Spring Garden Road multi-modal travel times investigation,*
- *a discussion related to the potential for improving operations along urban transit corridors;*
- *a summary of the insight gathered thus far, and*
- *the next steps to be undertaken as part of the data analysis work supporting the broader study.*

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24-HOUR CORRIDOR TRAVEL PROFILES – PUBLIC TRANSIT & PRIVATE VEHICLES

First, travel time data collected over a period of 10 weekdays (Tuesdays, Wednesdays and Thursdays exclusively) is summarized and presented in Figure 24, which illustrates overall 24-hour travel profiles for both public transit and private vehicles along the Spring Garden Rd corridor segment located between Barrington St and Robie St, in both the westbound and eastbound directions.

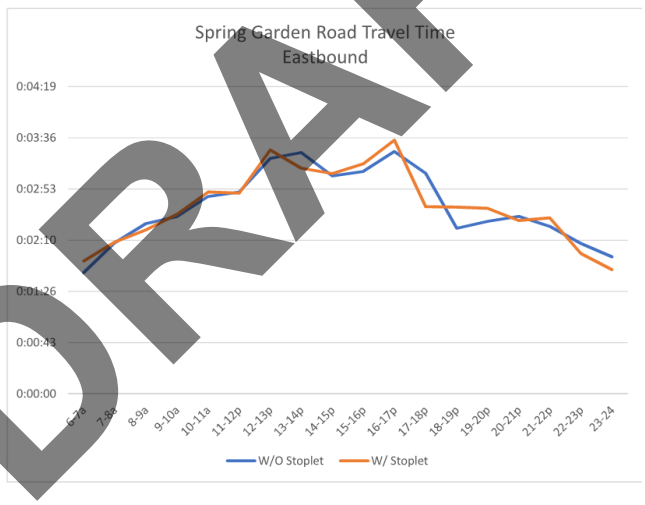
As shown in Figure 27, public transit travel times are consistently higher than private vehicle travel times along Spring Garden Rd, in both the eastbound and westbound directions, as is customary along busy transit routes operating in an urban context. Also illustrated in Figure 27 is the larger difference between public transit and private vehicle travel times in the westbound direction than that observed in the eastbound direction. In fact, the additional delay incurred by buses over private vehicles is approximately 1.5 minutes and 3 minutes in the westbound direction, compared to 1 minute and 45 secs in the eastbound direction, during the morning (AM) and afternoon (PM) peak hours, respectively.

HRM has also provided eastbound and westbound bus travel time data, which compares Spring Garden Road before South Park Street to Spring Garden Road after Queen Street (eastbound travel) and Spring Garden Road before Queen Street to Spring Garden Road after South Park Street (westbound travel). The following graphs illustrate the differences in delay for eastbound and westbound routes, before and after the implementation of the stoplet.

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FIGURE 23. Travel Times

W/O Stoplet	W/ Stoplet	+/-
0:02:41	0:02:45	3%
0:06:30	0:08:22	29%
0:00:36	0:00:42	17%
0:01:42	0:01:52	10%
0:02:07	0:02:08	1%
0:02:24	0:02:18	-4%
0:02:30	0:02:31	1%
0:02:46	0:02:50	2%
0:02:50	0:02:49	-1%
0:03:19	0:03:26	4%
0:03:24	0:03:10	-7%
0:03:04	0:03:06	1%
0:03:08	0:03:14	3%
0:03:24	0:03:34	5%
0:03:06	0:02:38	-15%
0:02:20	0:02:37	13%
0:02:26	0:02:36	7%
0:02:30	0:02:26	-2%
0:02:21	0:02:28	5%
0:02:07	0:01:58	-7%
0:01:56	0:01:45	-9%



nd Travel Time from Spring Garden before South Park to Spring Garden after Queen St

Westbound

W/O Stoplet	W/ Stoplet	+/-
0:03:25	0:03:43	9%
0:08:50	0:10:00	13%
0:01:08	0:01:00	-12%
0:02:12	0:02:01	-8%
0:02:31	0:02:39	5%
0:02:49	0:03:00	6%
0:03:11	0:03:15	2%
0:03:16	0:03:31	7%
0:03:41	0:03:53	5%
0:04:31	0:05:01	11%
0:04:19	0:05:23	25%
0:04:10	0:04:56	18%
0:03:57	0:04:31	15%
0:05:07	0:04:56	-4%
0:04:07	0:03:26	-17%
0:03:30	0:03:54	11%
0:03:13	0:03:18	2%
0:02:50	0:03:03	8%
0:02:48	0:02:49	0%
0:02:25	0:02:09	-11%
0:02:09	0:02:03	-5%

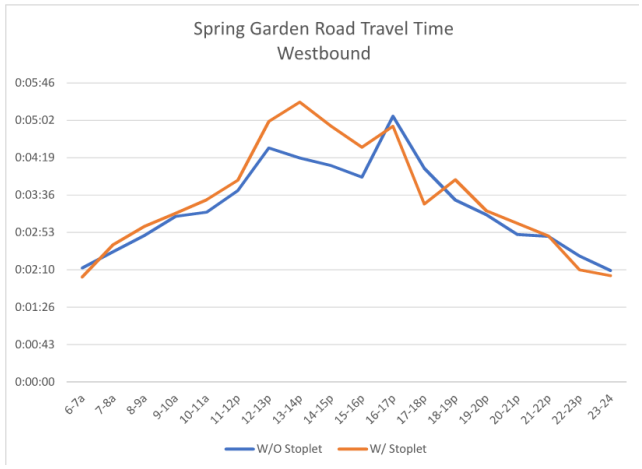
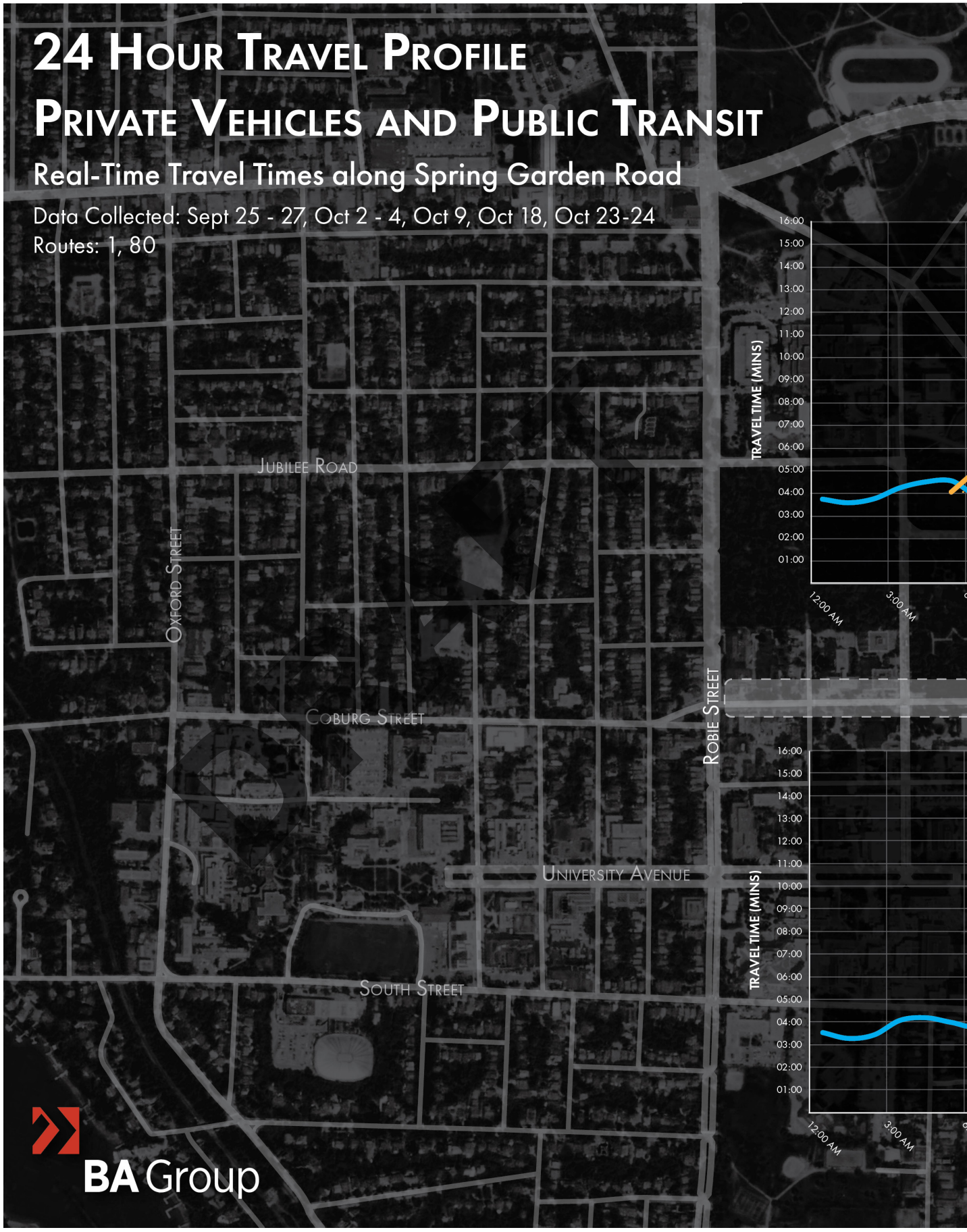


FIGURE 24. 24 Hour Travel Profile: Private Vehicles and Public Transit



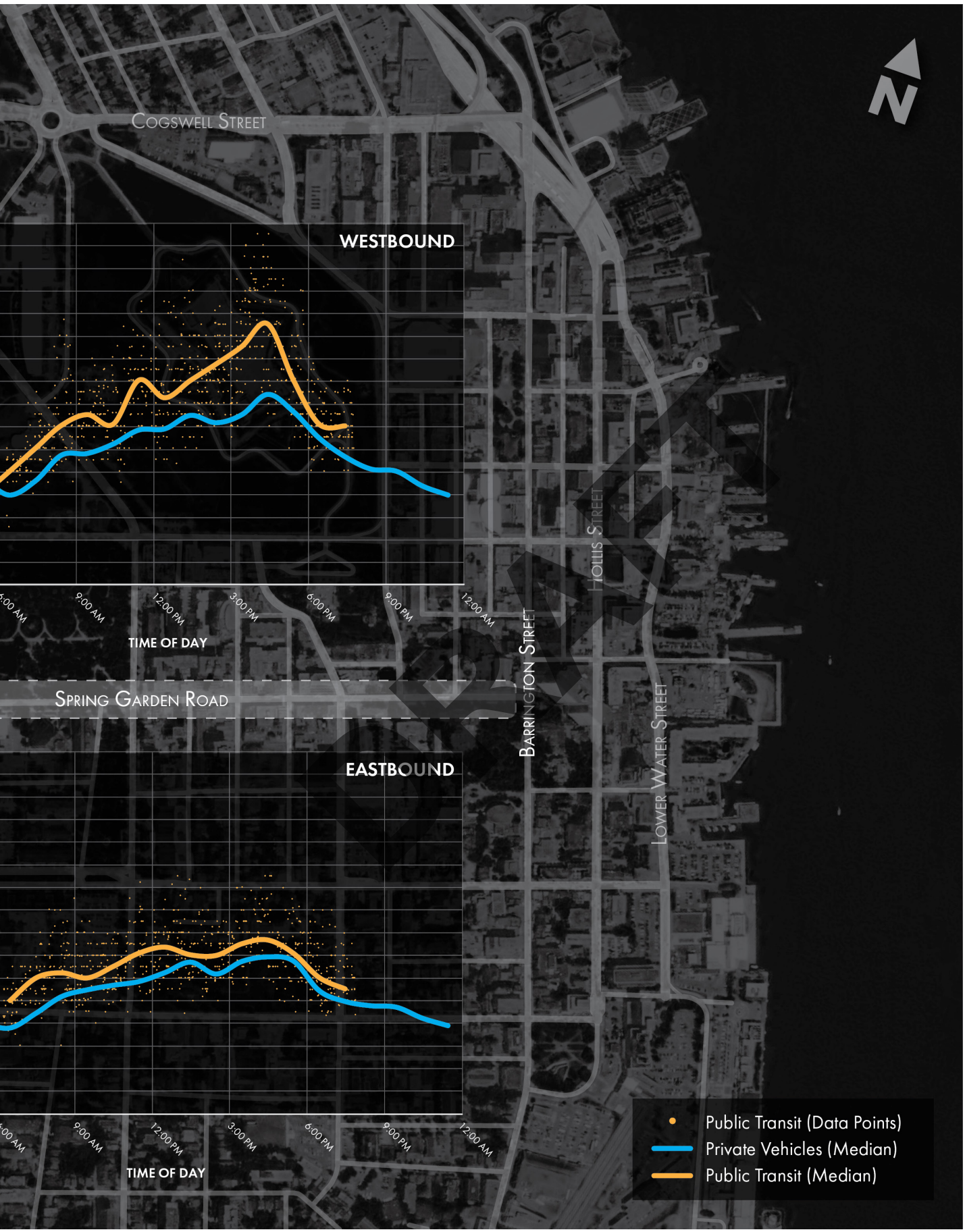
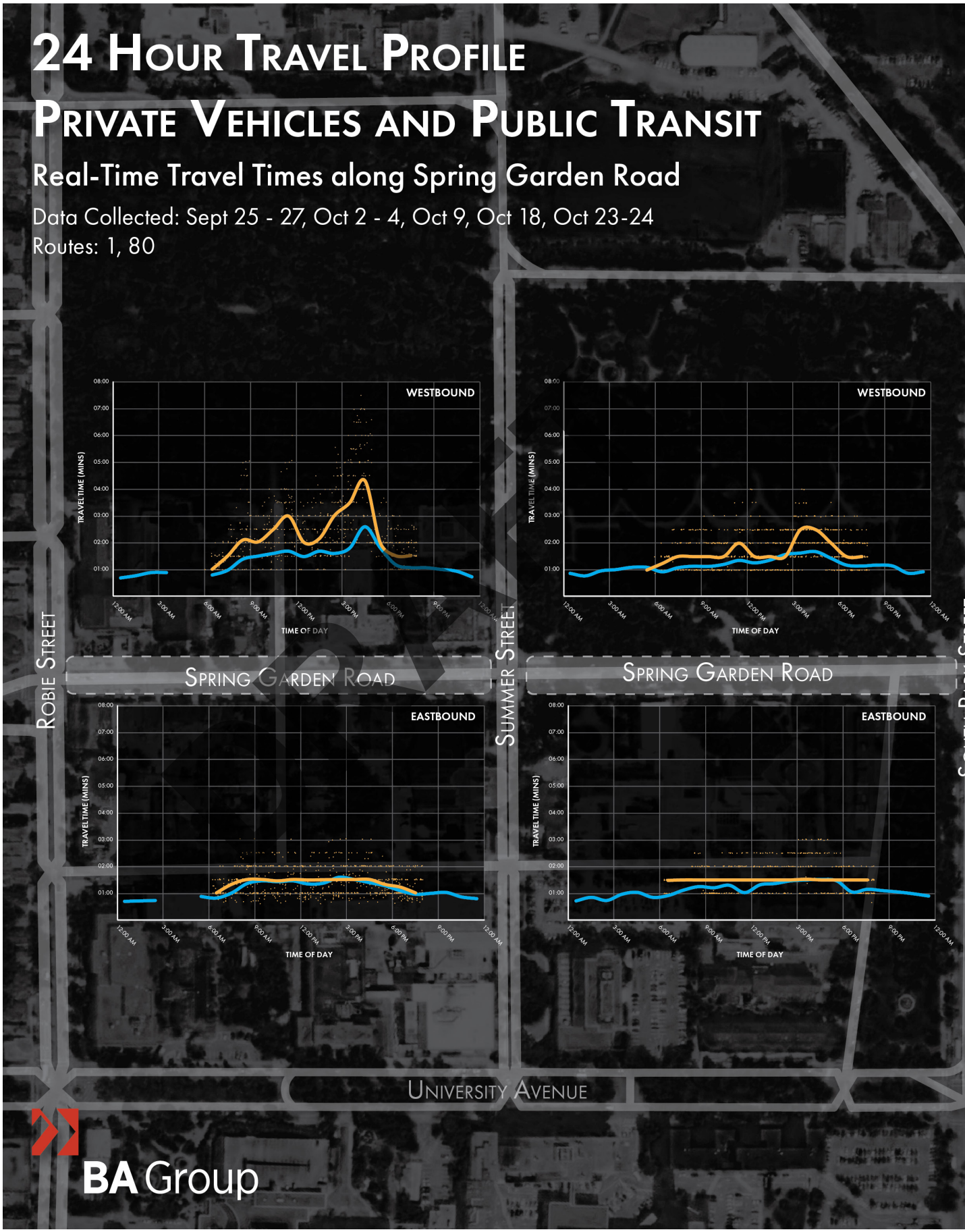

COGSWELL STREET
WESTBOUND
6:00 AM
9:00 AM
12:00 PM
3:00 PM
6:00 PM
9:00 PM
12:00 AM
TIME OF DAY
SPRING GARDEN ROAD
BARRINGTON STREET
HOLLIS STREET
LOWER WATER STREET
EASTBOUND
6:00 AM
9:00 AM
12:00 PM
3:00 PM
6:00 PM
9:00 PM
12:00 AM
TIME OF DAY
Public Transit (Data Points)
Private Vehicles (Median)
Public Transit (Median)

FIGURE 25. 24 Hour Travel Profile: Private Vehicles and Public Transit



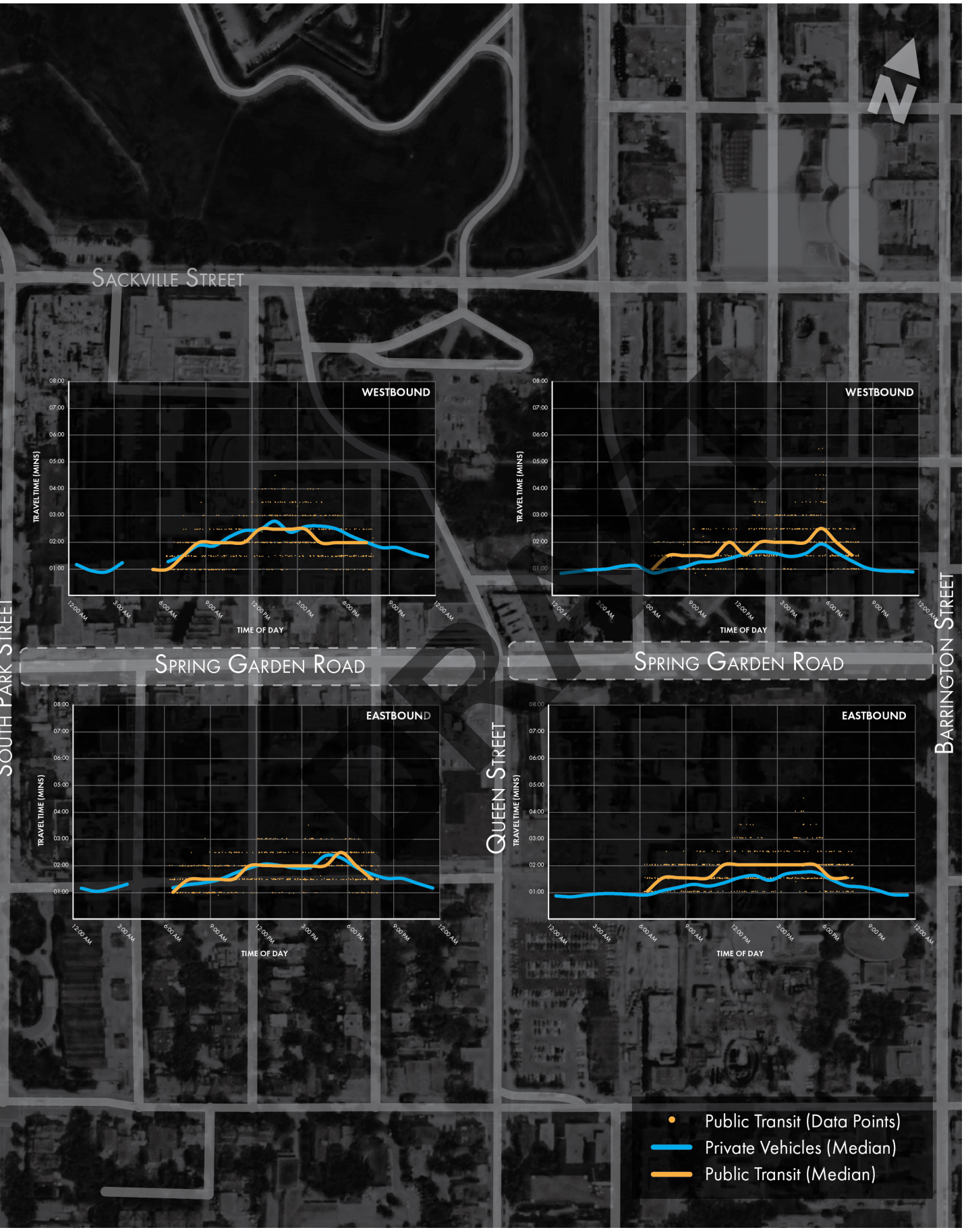
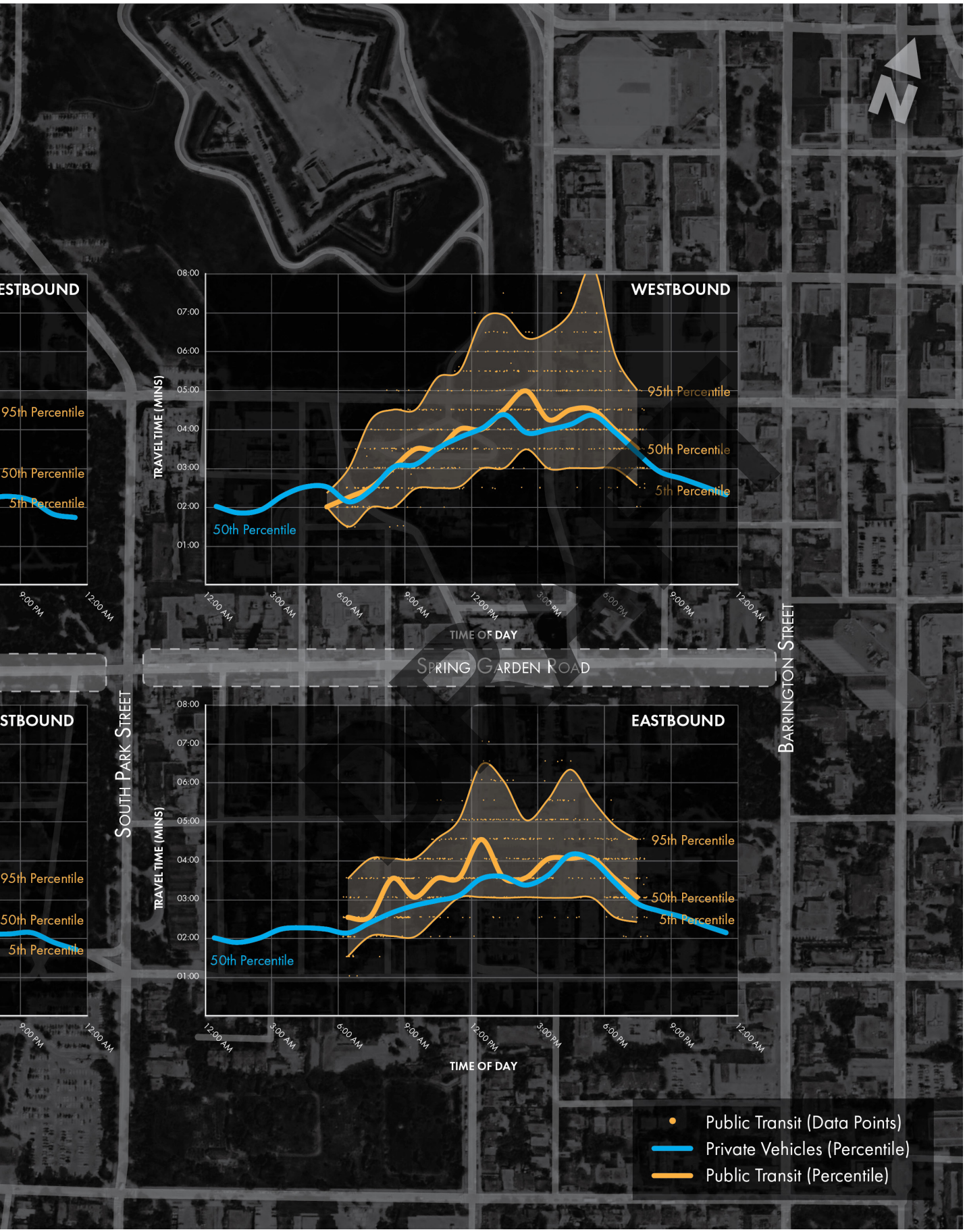

SACKVILLE STREET
SOUTH PARK STREET
QUEEN STREET
BARRINGTON STREET
SPRING GARDEN ROAD
SPRING GARDEN ROAD
WESTBOUND
TRAVEL TIME (MINS)
TIME OF DAY
WESTBOUND
TRAVEL TIME (MINS)
TIME OF DAY
EASTBOUND
TRAVEL TIME (MINS)
TIME OF DAY
EASTBOUND
TRAVEL TIME (MINS)
TIME OF DAY
Public Transit (Data Points)
Private Vehicles (Median)
Public Transit (Median)

FIGURE 26. 24 Hour Travel Profile: Private Vehicles and Public Transit




WESTBOUND
TRAVEL TIME (MINS)
08:00
07:00
06:00
05:00
04:00
03:00
02:00
01:00
95th Percentile
50th Percentile
5th Percentile
50th Percentile
12:00 AM
3:00 AM
6:00 AM
9:00 AM
12:00 PM
3:00 PM
6:00 PM
9:00 PM
12:00 AM
TIME OF DAY
SPRING GARDEN ROAD
SOUTH PARK STREET
BARRINGTON STREET
EASTBOUND
TRAVEL TIME (MINS)
95th Percentile
50th Percentile
5th Percentile
TIME OF DAY
Public Transit (Data Points)
Private Vehicles (Percentile)
Public Transit (Percentile)

BREAKDOWN OF 24-HOUR TRAVEL PROFILES BY INDIVIDUAL CORRIDOR SEGMENTS

Travel time data along Spring Garden Rd was disaggregated along four short corridor sub-segments: from Barrington St to Queen St (Zone 1), Queen St to South Park St (Zone 2), South Park St to Summer St (Zone 3), and Summer St to Robie St (Zone 4). The investigation of traffic operations along corridor sub-segments was performed in order to identify the potential presence of isolated "bottlenecks", where travel times are significantly higher than those along locations immediately upstream or downstream.

As illustrated in Figure 26, there is little difference between public transit and private vehicle travel times on seven of the eight total sub-segments, which is indeed expected when said sub-segments are short (approximately 300m) and include only a single transit stop with relatively few boarding and alighting passengers. However, Figure 25 also shows that the westbound sub-segment from Summer St to Robie St exhibits high travel times for both public transit and private vehicles. While such patterns usually indicate the presence of a "bottleneck" , we understand, based on a recent discussion with Halifax Transit that this occurrence is related to ongoing construction activity.

PUBLIC TRANSIT TRAVEL TIME VARIABILITY

Transit travel time variability has the ability to create a strong alienating effect on public transit users, particularly those who may experience significant delays on a small number of their daily trips. This experience, unfortunately, discourages transit use among non-captive riders. Based on the above, travel time variability is a considered to be a significant transit performance metric that should be considered as part of corridor traffic operations improvement exercises.

The data analyzed by BA Group was used to assess the variability in public transit travel times along Spring Garden Rd. Figure 27 illustrates the differences in travel times which can be expected when riding on either Route 1 or Route 80 through both the eastern and western portions of the Spring Garden Rd corridor area under study.

Figure 26 illustrates the observed variability in transit travel times along Spring Garden Road, which is lowest in the eastbound direction. In the westbound direction, high variability unrelated to ongoing construction activity is observed along the corridor segment located between Barrington St and South Park St, with the 95th percentile travel times during the weekday afternoon (PM) peak period reaching over 8 minutes, compared to median travel times of 4.5 minutes. Further investigation into the specific causes of this high variability should be undertaken through the review of intersection video footage, site visits and/or discussions with transit vehicle operators.

EFFECTIVENESS OF TRANSIT DELAY MITIGATION MEASURES – KING STREET TRANSIT PILOT PROJECT

To understand the effectiveness of public transit delay mitigation measures, BA Group has reviewed the results of the King Street Pilot Project, which was a transit priority initiative undertaken by the City of Toronto within their downtown core. The Pilot provided priority to streetcars along King Street by implementing through restrictions at each intersection. Private vehicles were required to turn onto the side streets. The goal of this project was to improve streetcar transit reliability, capacity and efficiency through the enhancement of the public realm.

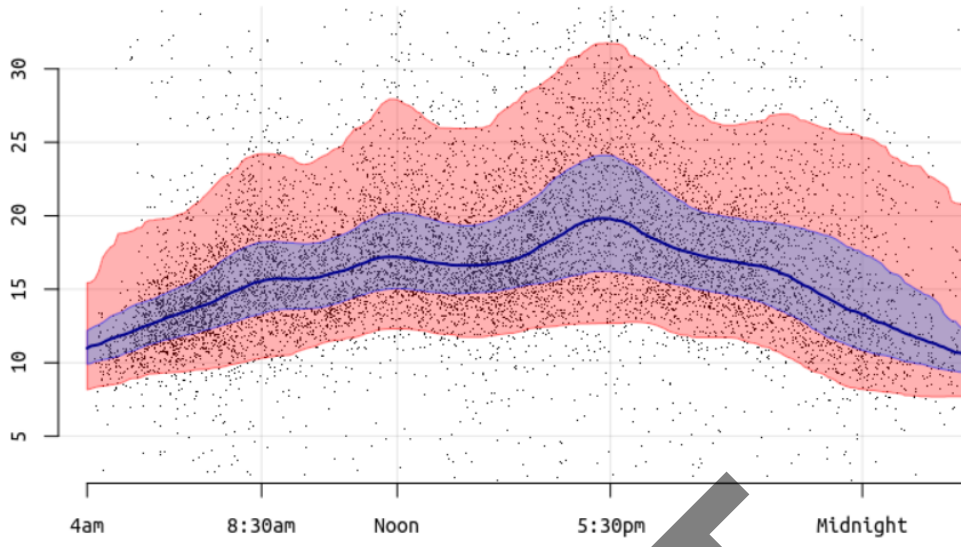
To demonstrate the potential impact of public transit delay mitigation measures, BA Group has reviewed figures produced by the University of Toronto's Spatial Analysis of Urban Systems (SAUSy) research lab highlighting the effectiveness of Toronto's King Street pilot project. These figures are shown on the next page.

The purpose of the inclusion of this example is to demonstrate the effectiveness of significant transit priority measures. To clarify, we are not implying that this specific measure needs to be adopted by HRM; rather, that the understanding of these results is critical to understanding how transit signal priority measures can yield significant benefits, which include two (2) key impacts – 1) a lower median or average vehicle travel time and/or 2) decreased variability in vehicle travel time.

The following figure illustrates day-long travel time profiles and variability corresponding to pre-pilot project conditions along the King St Corridor.

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FIGURE 27. King Street Streetcar Travel Times Pre-Pilot

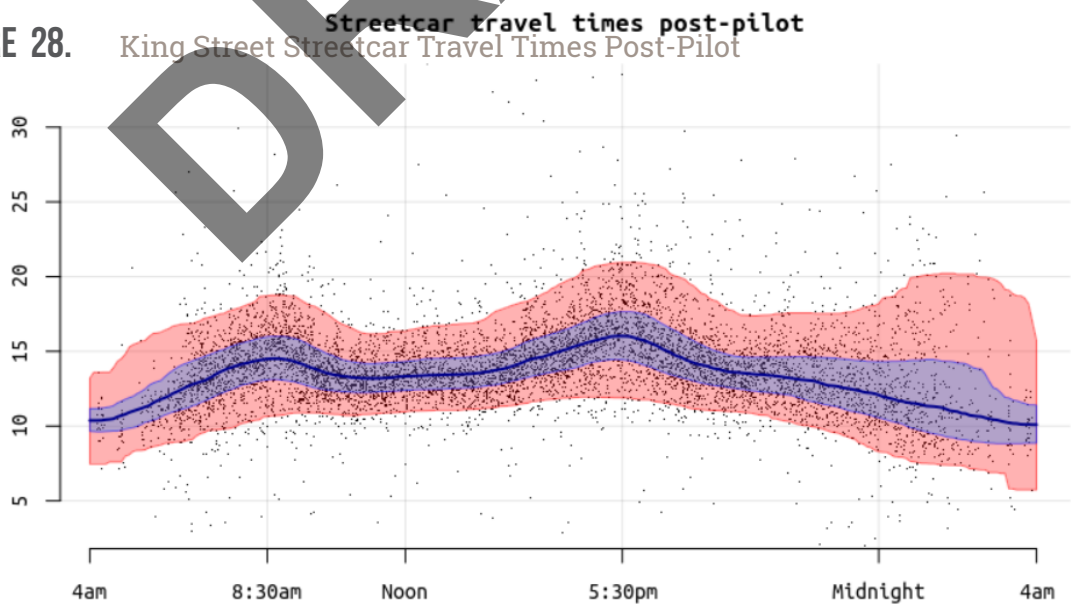


f streetcar travel times between Bathurst and Jarvis (either direction) by time of day. The red ar

While corridor travel times displayed in the above figure are high, especially during the weekday morning and afternoon peak periods, the large variability in said travel times represents a similarly significant takeaway, given, as mentioned above, the alienating effect of journey time variability on transit users. Post-pilot project implementation conditions are presented in the next figure.

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FIGURE 28. King Street Streetcar Travel Times Post-Pilot



f streetcar travel times between Bathurst and Jarvis (either direction) by time of day. The red area shows 5th-95th percentile range. Blue shows the interquartile range (25-75th percentile). The blue line is the median.

As shown in the previous figures, not only did median travel times decrease as a result of the mitigation measures implemented as part of the King Street pilot project, but, more importantly and relevant to the context of the current Spring Garden Road study, the variability of travel times also decreased significantly.

We anticipate that the streetscaping improvements undertaken by the current exercise will also result in a modest reduction in public transit travel times along the Spring Garden Road corridor. The variability in travel times is also anticipated to be significantly reduced as well, which would also benefit transit ridership.

KEY CONCLUSIONS

This section provides a brief summary of the insight into the existing multi-modal traffic operations that was gathered from the travel time data analysis exercise conducted by BA Group. Key observations and takeaways are presented below:

- *Public transit vehicle travel times along the Spring Garden Road corridor are consistently higher than those of private vehicles, as is customary of busy transit routes operating in an urban context.*
- *The average additional delay (i.e. the difference between median transit travel times and median private vehicle travel times) incurred by transit vehicles is relatively modest, especially in the eastbound direction, which suggests that dwell times due to the boarding and alighting of passengers at transit stops are not overly excessive for the majority of transit trips.*
- *The highest transit-related delay observed on the corridor (notwithstanding the construction zone between Summer St and Robie St) is observed to take place during the weekday afternoon (PM) peak period, in the westbound direction along the corridor segment located between Barrington St and South Park St. This segment is the one along the corridor where the greatest number of passengers board and alight transit vehicles, which suggests that this delay is related to dwell time at transit stops.*
- *There is high variability in transit travel times along some specific corridor segments, especially in the westbound direction during the weekday afternoon (PM) peak period, which indicates that a minority of transit vehicles (on the order of one in ten vehicles) will be subjected to very significant delays, while a majority of public transit users will experience travel times similar to those of private motorists.*
- *Other than for the temporary presence of a construction zone along the corridor segment located between Summer St and Robie St, the data reveals that there does not appear to be a clear and severe "bottleneck" (e.g. overcapacity at an intersection due to suboptimal signal timings or inefficient lane configurations) along the corridor, where private vehicles and transit users experience much lower travel times both upstream and downstream of said "bottleneck".*

NEXT STEPS

Given the insight gathered from the travel time data analysis exercise, as well as the ultimate objective of formulating recommendations leading to the implementation of mitigation measures that will result in improved multi-modal traffic operations along the Spring Garden Rd corridor, the following steps should/will be undertaken next:

- *Additional travel time data should be processed and summarized following the completion of the current construction activity taking place on Spring Garden Rd between Summer St and Robie St in order to ensure that the "bottleneck" identified along that specific corridor sub-segment is indeed temporary and related to said construction activity.*
- *Further investigation, either through the review of intersection video footage, site visits and/or discussions with transit vehicle operators, should be undertaken in order to determine the targeted cause(s) of the high variability observed in public transit travel times, especially in the westbound direction along the corridor segment located between Barrington St and South Park St.*
- *Once the cause(s) of this additional delay has been identified, tailored mitigation measures should be implemented in order to reduce variability in transit travel times. Such mitigation measures can take many forms depending on the specific root cause of the high variability. Common recommendations include implementing transit malls at locations where buses have to wait behind one another to access a stop and let passengers on or off, incorporating all-door boarding and alighting when dwell times and number of passengers are excessive at specific stops, etc.*

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ARCHAEOLOGICAL RESOURCE IMPACT ASSESSMENT SUMMARY

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The full archaeological assessment is found in Appendix B in this report.

In September 2018, Davis MacIntyre & Associates Limited was contracted by Ekistics Plan + Design to conduct an archaeological resource impact assessment for the schematic design of Spring Garden Road between Queen Street and Cathedral Lane. The schematic plan is intended to guide future upgrades to the road and is intended to strengthen the street's sense of place and focus on pedestrians and transit passengers.

The purpose of the archaeological assessment is to determine the potential for archaeological resources, to compile an inventory of known archaeological resources, to provide baseline data for future planning within the study area and to provide recommendations for further mitigation, if necessary.

Land use and occupation of the peninsula and, indeed, Halifax extends back to time immemorial when the Mi'kmaq and their ancestors hunted, fished, gathered and camped on these lands. Ceremonial use and burial is also known to have occurred in the near vicinity of the Common lands. In historic times, the Mi'kmaq had a notable presence on the peninsula and it is well established that they hunted and fished on what would eventually become the Halifax Common, and likely had short-term or seasonal encampments here as well.

When the first British settlers arrived in 1749 and began building the town, what became Spring Garden Road was initially located outside of the palisade but property was quickly granted in the east end the study area by the 1760s. Notable areas of 18th century occupation include Bellevue House, Pyke's Ropewalk, the poor house complex and poor house burying ground, all located to the east of the study area. By the early 1800s, residential occupation began to grow along the street and by the mid 19th century, Spring Garden was a mostly residential landscape. The block from Birmingham to Queen Street appears to have been a small commercial district, dominated by shops and businesses since the at least the 1870s.

Gradually throughout the early to mid 20th century, the commercial district in the east end of the study area began to spread west and by the 1960s, most of the street was commercial. Late 19th and 20th century infrastructure along Spring Garden Road included a cobble stone road surface and trams operating along the street.

The results of the reconnaissance and georeferencing of historic maps indicates that the study area is generally of low to moderate potential for archaeological resources associated with midden or garbage deposits and early infrastructure like sewers and cobblestone road surfaces. Several areas of moderate potential have been identified around standing older buildings where resources may be present under adjacent sidewalks.

Areas of moderate to high potential have been identified in seven areas in and around the study area, including Freshwater Brook and Pyke's Bridge at the east end of the study area, possible 18th century resources under the streets and sidewalks of Dresden Row, Birmingham Street and Doyle Street (north of Spring Garden), resources associated with the Bellevue property in front of the Halifax Central Library, and potential burials and human remains associated with the Poor House Burying Ground,

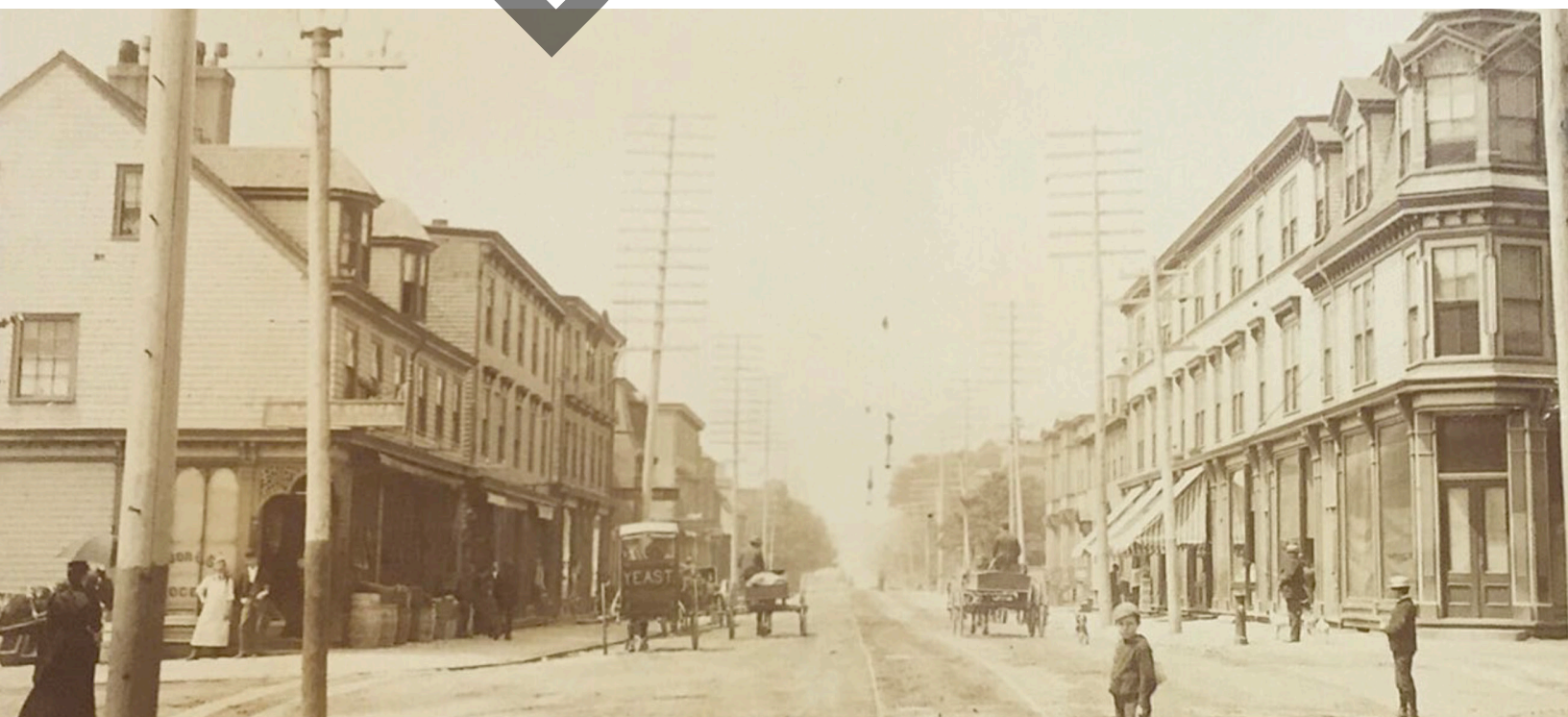
Catholic Burying Ground and Old Burying Ground along the north and south sides of Spring Garden Road and sidewalk from Brunswick to Barrington Street, as well as the east side of Brunswick Street.

It is recommended that archaeological monitoring be conducted for any ground disturbance associated the schematic design project of Spring Garden Road. Areas of low to moderate potential may require only periodic check-ins or for the archaeologist to be "on-call" for construction crews to notify if they encounter archaeological resources. However, in areas of moderate potential or moderate to high potential, archaeological monitoring will be required until the archaeologist can make a determination that the area has been disturbed to the extent that intact archaeological resources will not be expected to be encountered.

In the event that intact archaeological features are encountered during archaeological monitoring, archaeological mitigation will be required to a level determined by the Department of Communities, Culture & Heritage in consultation with the archaeologist and Halifax Regional Municipality. The level of archaeological mitigation required will depend on the nature, age, and significance of the resource, as well as the level of disturbance.

While the high potential area of burials and human remains is located east of the schematic design study area, it is recommended that if any ground disturbance is expected for this area, an archaeological protocol should be developed prior to any ground disturbance. The protocol should be developed with consultation from the Department of Communities, Culture & Heritage, Halifax Regional Municipality, the Sustainability & Applied Science Division - Nova Scotia Environment and other relevant stakeholders. The protocol should include the methodology for the mitigation of intact burial features and disarticulated human remains, the level of recording and analysis to be conducted for skeletal remains, and must clearly lay out where any encountered human remains will be reinterred. Additionally, Mi'kmaw individuals are known to have been present in the Poor House and Poor House Burying Ground and the Catholic Burying Ground. Therefore, the protocol should be developed with consultation from the Sipekne'katik Chief and Consultation Coordinator and the Archaeological Research Division at Kwilmu'kw Maw-klusuaqn Negotiation Office (KMKNO-ARD).

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COMMUNITY ENGAGEMENT SUMMARIES

SPRING GARDEN ROAD AREA SURVEY SUMMARIES

IMAGINE SPRING GARDEN ROAD

Halifax Regional Municipality (HRM) in full partnership with the Spring Garden Area Business Association (SGABA) developed several surveys to gather input and feedback from the public. There was an on-street survey conducted by staff on Spring Garden Road, an Online Survey, and a less formal public engagement meeting survey. Although different questions were asked in each of the three surveys, there were some questions asked in multiple surveys and the results of those questions have been described and summarized in this report.

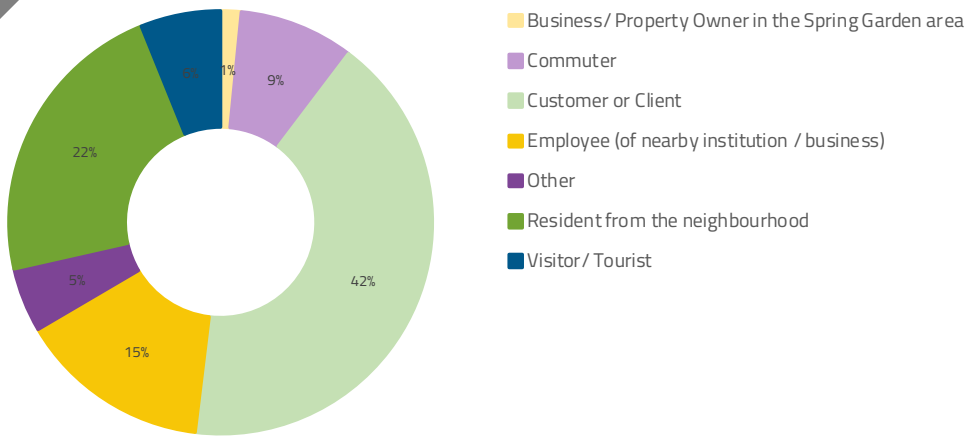
Staff from HRM conducted a survey through July and August on the street to gather feedback on the stoplet pilot project. Feedback was gathered from 380 pedestrians on Spring Garden Road. The Imagine Spring Garden Road online survey was conducted from July 3, 2018 to September 24, 2018. Feedback was gathered from 866 participants. In these two surveys, participants were asked what is their favourite thing about the Spring Garden Road area and what is the one thing they would change about Spring Garden Road. In both instances, these questions did not have a pre-defined list of possible answers and responses were open-ended so participants could elaborate on their responses. These open-ended questions had similar results in both surveys and the thematic results have been summarized below.

ONLINE SURVEY PARTICIPANTS: DEMOGRAPHICS AND ACTIVITY

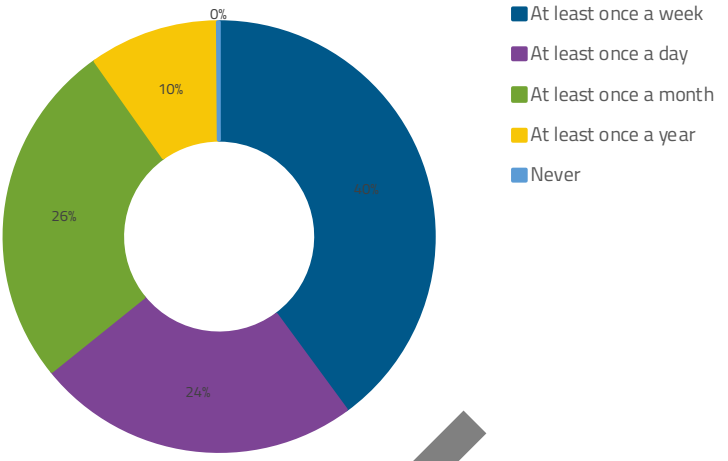
The following charts are a breakdown of those who participated in the online survey, how they travel to the Spring Garden Road area, and how they use the area. 42% of survey participants were customers or clients of the area.

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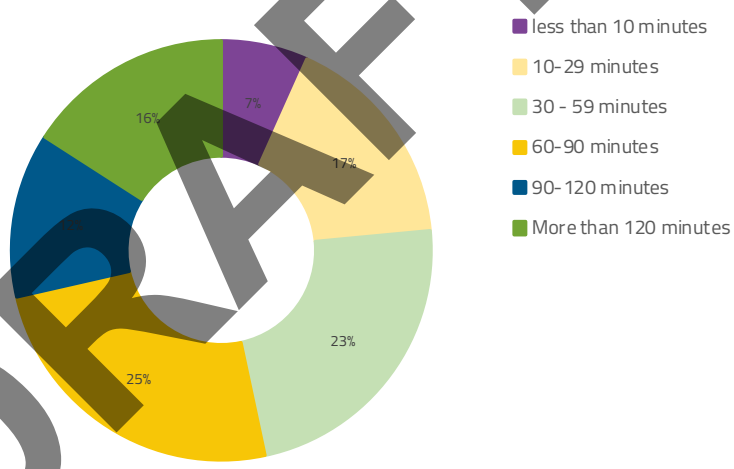
How would you best describe your relationship with the Spring Garden area?



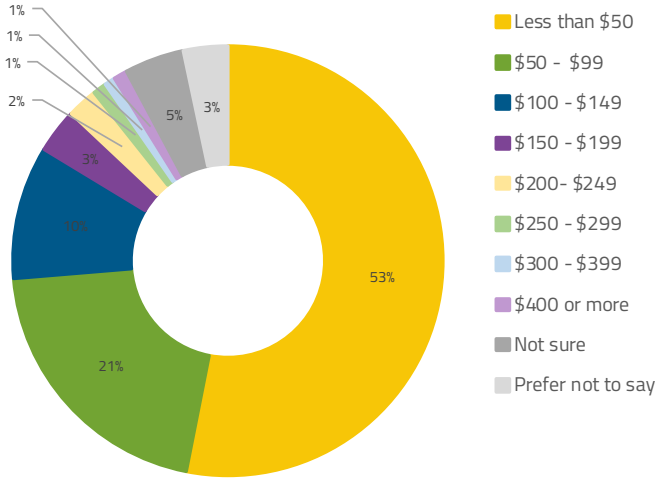
Finish the sentence: I visit the Spring Garden area...



How much time did you spend in the Spring Garden area on your last visit?

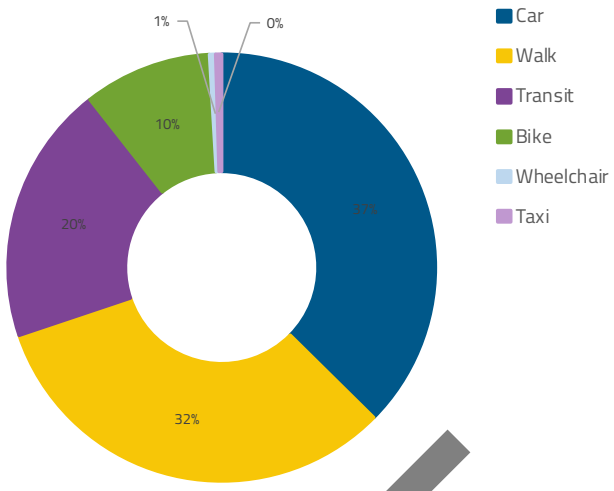


Approximately how much money did you spend in the Spring Garden area on your last visit?

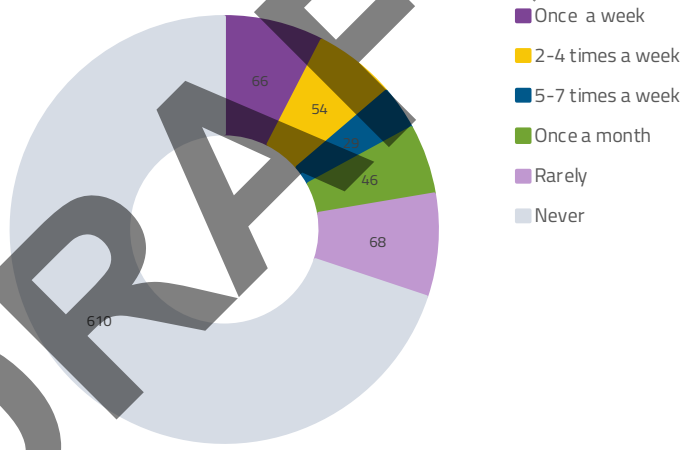


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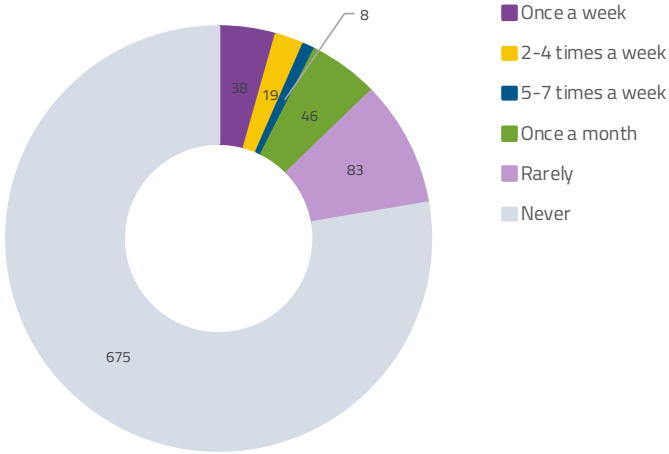
How did you get to the Spring Garden area on your last visit?



From May to October, how often do you ride a bike to the Spring Garden area?

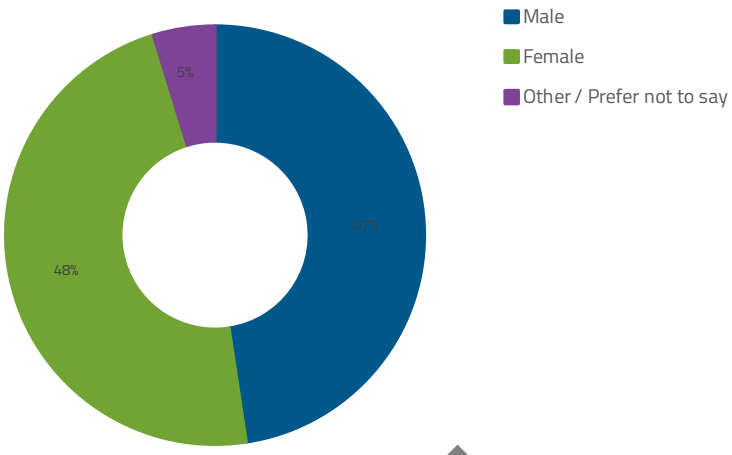


From November to April, how often do you typically ride a bike to the Spring Garden area?

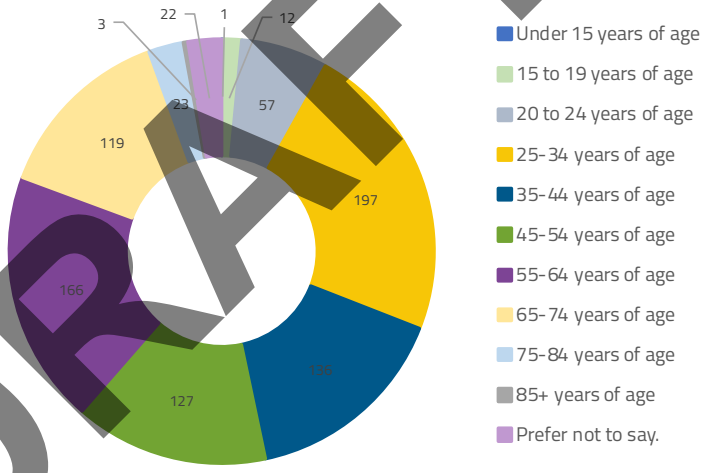


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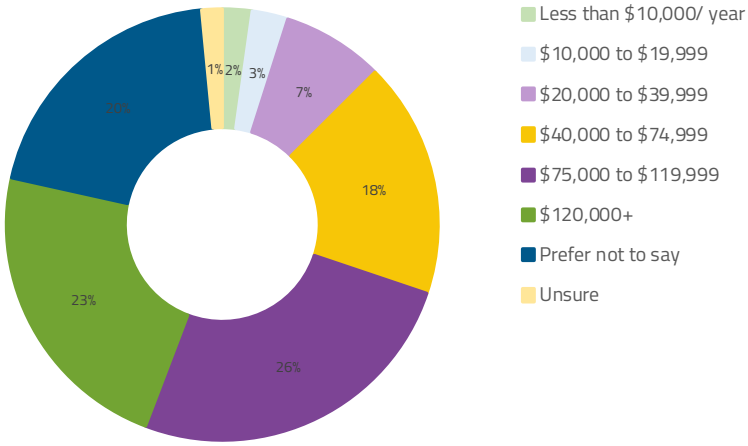
How do you identify?



What is your age?



What is your household income before tax?



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IMAGINE SPRING GARDEN ROAD

What will improve your expe

(Place your dots)













Restrict loading to certain times of day





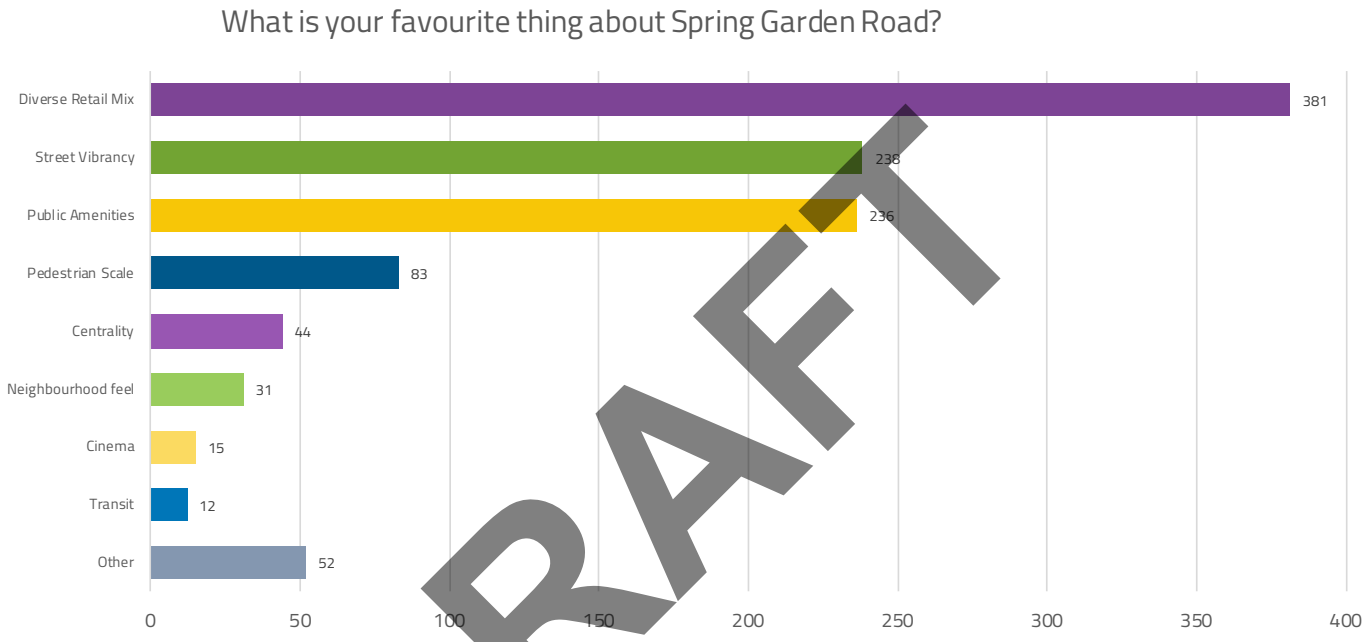
On-street loading on Spring Garden Road

#ImagineSGR


BREWING SINCE 1964
erience?
Additional Item A:
Additional Item B:
Additional Item C:
Additional Item D:
Additional Item E:
HALIFAX
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WHAT IS YOUR FAVOURITE THING ABOUT THE SPRING GARDEN AREA?

Of the responses provided, the top answers by count have been broadly categorized and graphed into the following themes: diverse retail mix, street vibrancy, public amenities (specifically the Halifax Central Library and Halifax Pubilc Gardens), pedestrian scale, centrality, neighbourhood feel, cinema (specifically Park Lane), transit, and other. Responses in the "other" category, although not included in the graph below, highlighted many other important features of the Spring Garden Road area, such as history and special events, that the public values. The top three responses were diverse retail mix, street vibrancy, and public amenities categories.



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DIVERSE RETAIL MIX:

The businesses and services in the area have been identified as a positive feature in the Spring Garden Road area. The public mentions that it is not simply that there are shops and services provided, but the quality and mix of shop and service types that exist make the experience positive. Furthermore, many people valued the number of independent businesses in this area and appreciated that this provides a unique experience reminiscent of historic streetscapes.

STREET VIBRANCY:

The vibrant character of the Spring Garden Road area was often identified as a favourite feature by survey participants. Responses made frequent mention of people being a contributing factor to this vibrant street culture. The diversity of people and the number of people help make this street bustling and active. Many people made mention of the fact that they enjoy that this is a friendly street and there are lots of locations along the street that make for an ideal meeting spot. It was also often described as a great place to sit and watch people. The busy and bustling nature of the street gives an atmosphere to the area. Many participants stated that there is an energy about Spring Garden Road and that it has a pulse like a community.

PUBLIC AMENITIES:

Public spaces, specifically the Halifax Public Gardens, the Halifax Central Public Library, and Victoria Park were identified as the third most favourite thing about the Spring Garden Road area by survey participants.

PEDESTRIAN SCALE:

The scale of the architecture and the compactness of the community contribute to the pedestrian scale in the Spring Garden Road area that was identified by numerous survey participants. Responses made mention that the area is walkable and that the street is accessible, active, and the you can get to everything you need without a car. One participant also described that they enjoy that the street is almost entirely universally accessible with barrier-free access to businesses, amenities, and services. Building heights and storefront frequency also contribute to the pedestrian scale.

CENTRALITY:

Spring Garden Road is a complete community and survey participants made mention of the convenience and the variety as a favourite feature about the Spring Garden Road area. Many people stated that their favourite thing about the Spring Garden Road Area was that they could do everything in one part of the city. People enjoyed that this part of the city truly is a "Live-Work-Play" neighbourhood. The mix of shops, restaurants, services, public amenities, homes, hospitals and health care, the courthouse, and activities provides not only convenience but also creates a "neighbourhood" atmosphere that is bustling. The 10-minute neighbourhood that is Spring Garden Road gives a character to the existing streetscape that is valued in the community.

NEIGHBOURHOOD FEEL:

Responses described the friendliness of the area and made mention of the area being a great place to run into friends or meet with friends. The proximity of the area to home was also mentioned in this response.

PUBLIC TRANSIT:

Although public transit was not mentioned often, some members of the public valued the availability of buses and routes. The convenience of frequent buses to all parts of the city provides a valuable amenity in the area.

WHAT IS THE ONE THING YOU WOULD CHANGE ABOUT SPRING GARDEN ROAD?

In both the on-street and online surveys, participants were asked to identify one thing that they would change about Spring Garden Road. These were open-ended questions in which a list of possible answers was not provided to participants and participants could elaborate on their responses. Over 1300 suggestions were made by survey participants and those suggestions were categorized based on theme.

Among the top categories of improvements for Spring Garden Road were:

- *Less panhandlers*
- *Increase sidewalk width*
- *Improve pedestrian experience*

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- *Implementing a bus, pedestrian, or bike only street*
- *Less car traffic*
- *Implementing a bike or pedstrian only street*
- *Refresh streetscape*

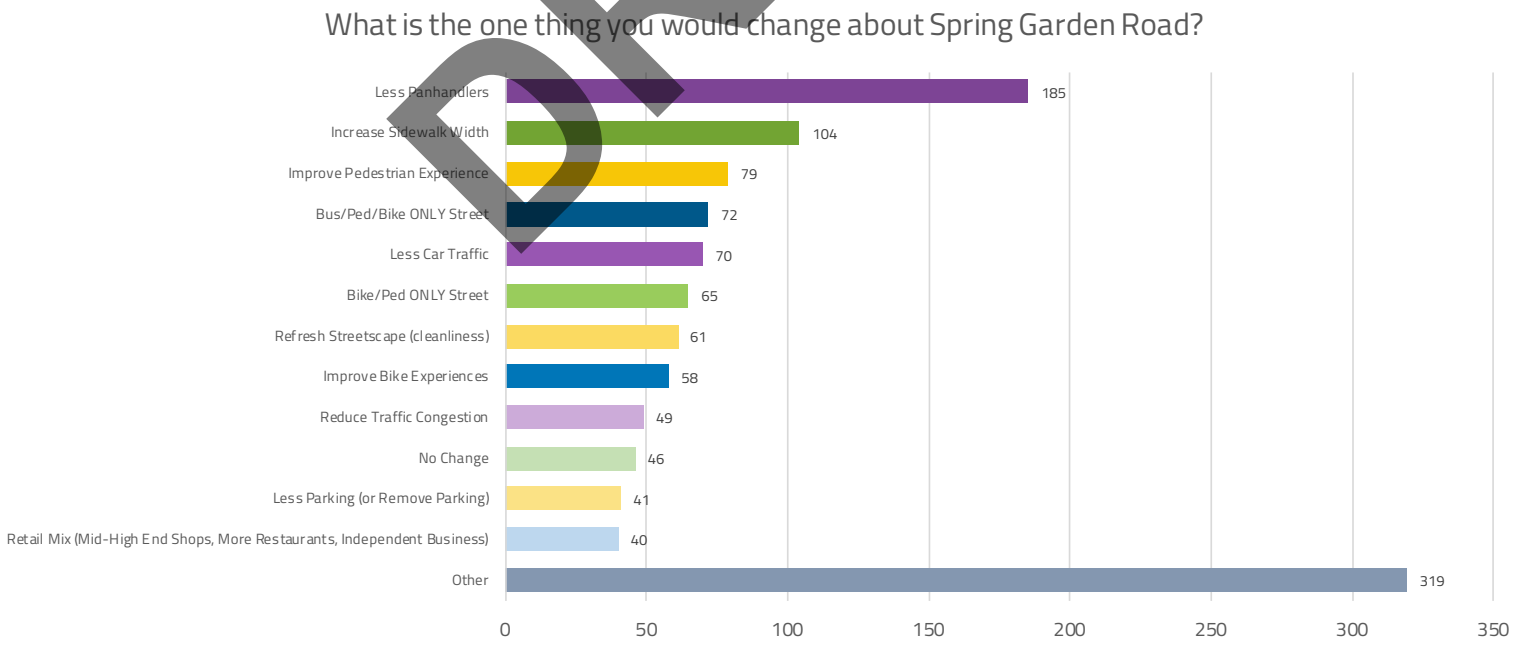
Concerns regarding panhandlers in the area were frequently raised in both surveys. Many participants commented that additional support services in the area should be considered to alleviate the broader social issue at hand.

Increasing sidewalk width and improving pedestrian experience were frequently suggested by survey participants. Specific comments included improving crosswalk safety, eliminating sandwich boards from the sidewalk, and sidewalks that can accommodate outdoor restaurant seating. Increasing sidewalk space for transit passengers and pedestrians was also a top priority in question 14 in which participants were asked on a Likert-type scale how important certain elements were in imagining the future of Spring Garden Road.

Many survey participants expressed interest in making the street more pedestrian, bike, and transit-friendly, or more pedestrian and bike-friendly, through car-free days or times or making certain areas of Spring Garden Road car-free. Both on-street and online survey participants frequently cited car traffic as one thing they would like reduced on Spring Garden Road. Comments and feedback relating to the topics of vehicular traffic and active transportation included concerns about traffic flow and traffic congestion, safety concerns for pedestrians due to traffic flow bottlenecks, safety concerns for bicycles, eliminating unnecessary vehicular traffic, and making the street more pedestrian, bike, and transit friendly.

Refreshing the streetscape, which included comments regarding additional green space on the street, was also a top priority in question 14 for survey participants in improving their experience on the street.

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QUESTION 14: WHEN IMAGINING THE FUTURE OF SPRING GARDEN ROAD, ESPECIALLY IN THE BUSINESS AREA BETWEEN QUEEN AND SOUTH PARK STREET, HOW IMPORTANT ARE THE FOLLOWING ELEMENTS TO IMPROVING YOUR EXPERIENCE ON THE STREET?

In the online survey, participants were asked to indicate how important the following elements were to improving their experience by selecting "Not important at all", "somewhat important", "very important", "extremely important":

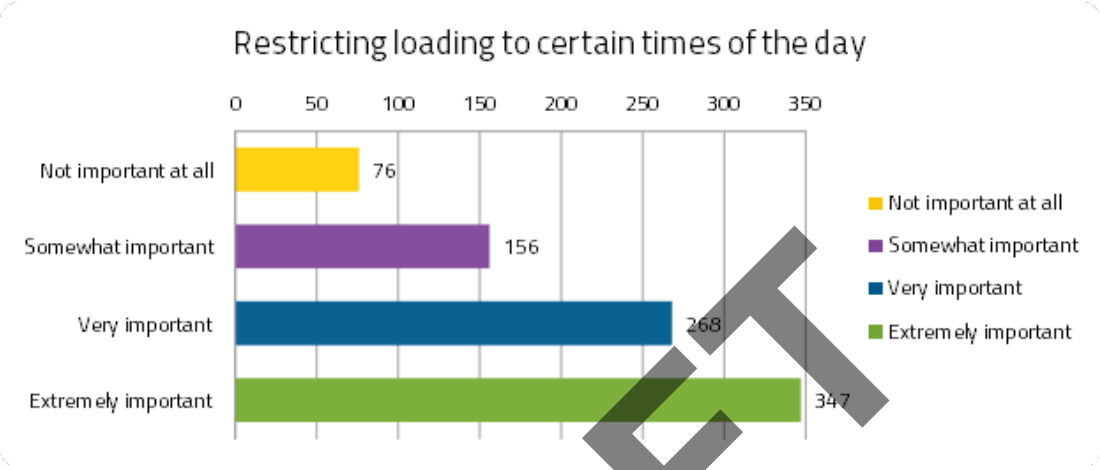
- *Bus shelters;*
- *Benches / more places to sit;*
- *Using high quality materials, such as paving and ornamental lighting;*
- *Greening the street – more trees and flowers;*
- *On-street loading on Spring Garden Road;*
- *Relocating loading to side streets;*
- *Restricting loading to certain times of the day;*
- *Nearby off-street parking;*
- *Nearby on-street parking;*
- *Better information to help you find your way around;*
- *Bicycle parking;*
- *Better pedestrian lighting;*
- *Additional decorative lighting, such as string lighting;*
- *Reducing sandwich board clutter;*
- *Placing utility wires underground;*
- *Public art;*
- *Drinking fountains;*
- *Notice boards;*
- *More space on the sidewalk for patios / sidewalk sales;*
- *More space on the sidewalk for transit passengers and pedestrians;*

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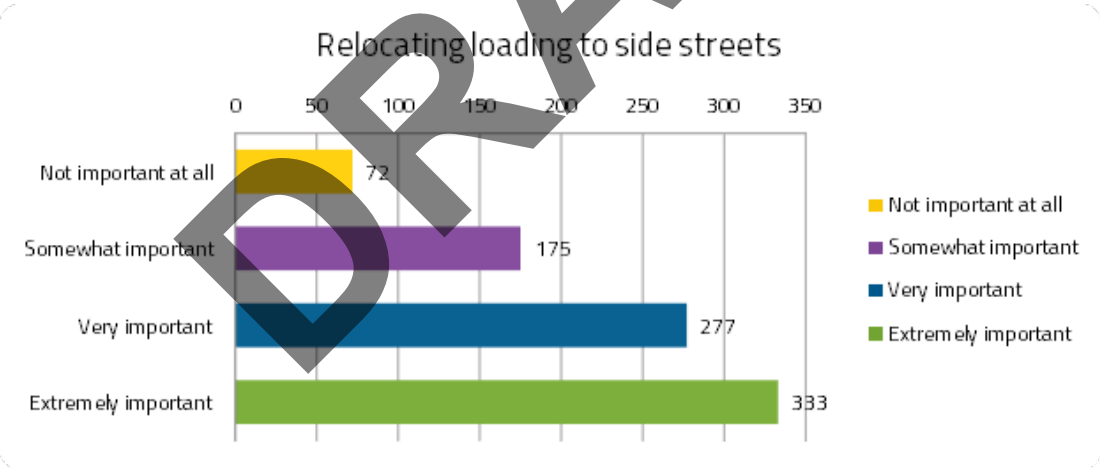
Of these, the top five most important were determined to be those with the most "Extremely Important" votes as well as the most combined "Very Important" and "Extremely Important" votes. These top five have been summarized and outlined below.



73% of survey participants indicated that greening the street with more trees and flowers was very important or extremely important to improving their experience. Given that Victoria Park and the Halifax Public Gardens were frequently referenced in the on-street and online surveys as a favourite feature of the Spring Garden Road area, there appears to be high value placed on vegetation and green space amongst survey participants.

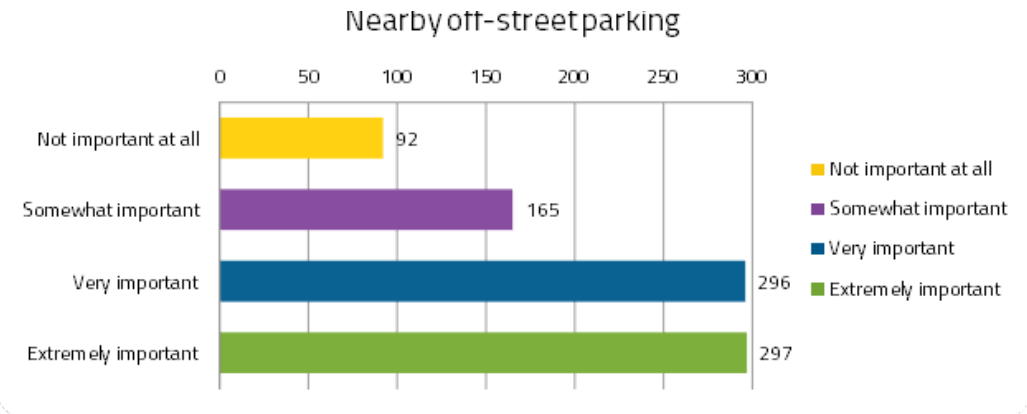


73% of survey participants indicated that restricting loading to certain times of the day was very important or extremely important to improving their experience.

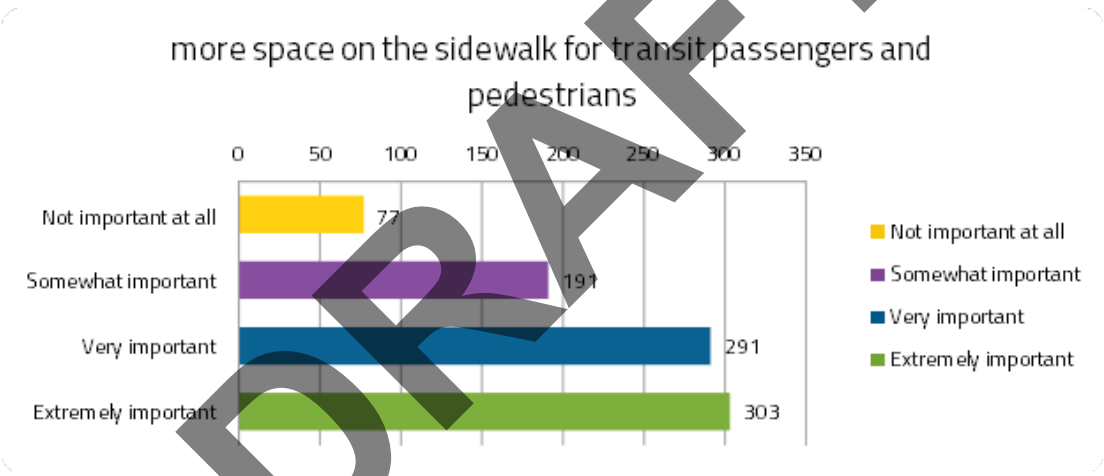


71% of survey participants indicated that restricting loading to certain times of the day was very important or extremely important to improving their experience. Given that two of the top five responses related to loading restrictions, addressing this issue should be a high priority in the area. The issue of loading on Spring Garden Road affects the quality of user experience in the area.

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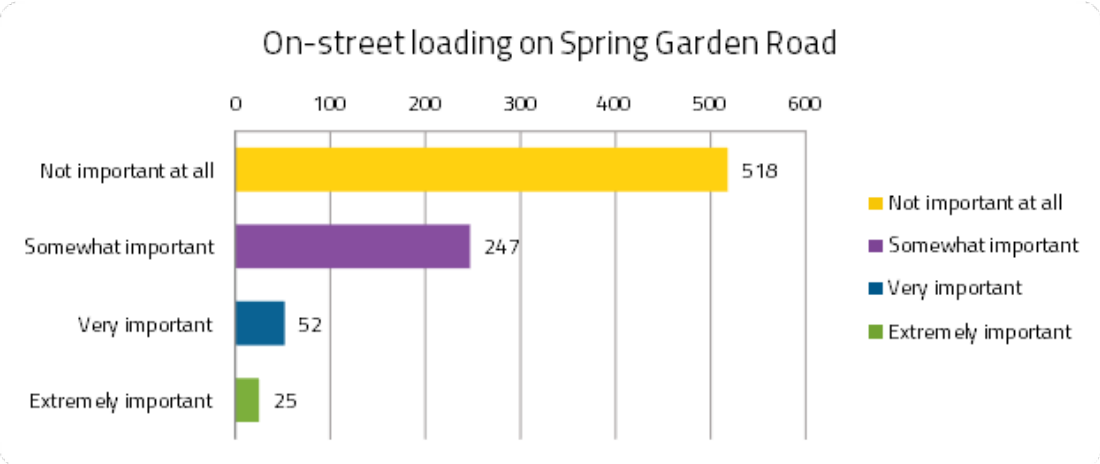
70% of survey participants indicated that nearby off-street parking was very important or extremely important to improving their experience.



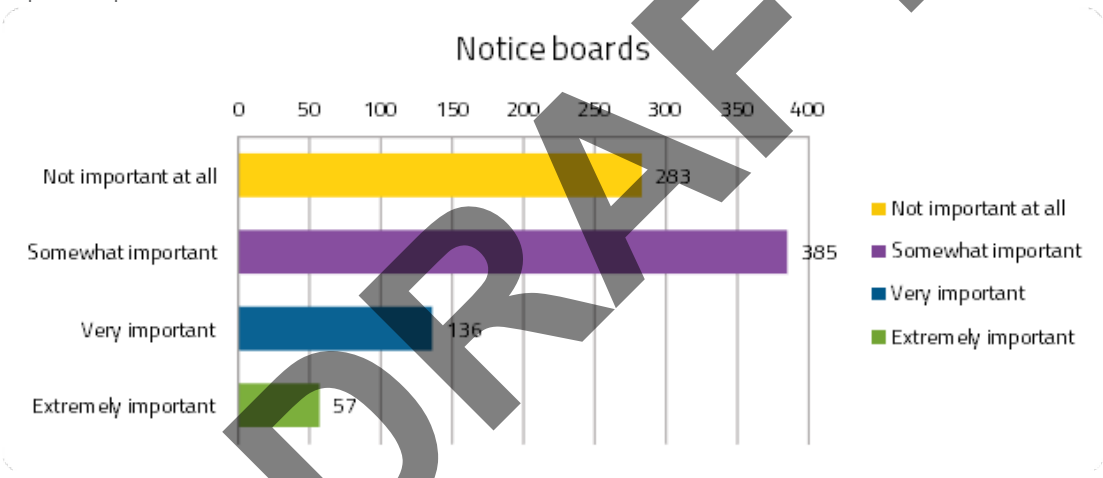
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69% of survey participants indicated that more space on the sidewalk for transit passengers and pedestrians was very important or extremely important to improving their experience.

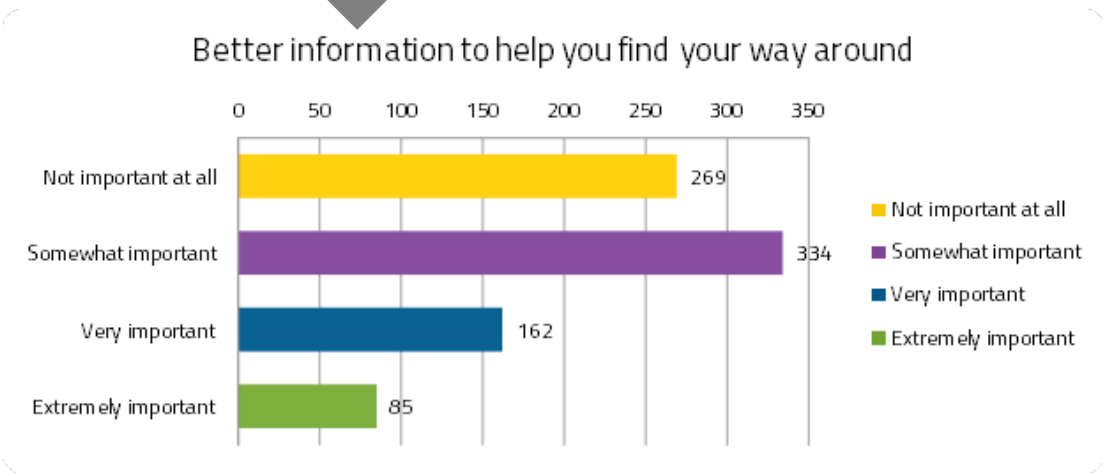
The five least important were determined to be those with the most combined “Not important at all” and “somewhat important” votes. These bottom five have been summarized and outlined below.



91% of participants indicated that on-street loading on Spring Garden Road was not important at all or somewhat important. Given the relative importance of relocating loading to the side streets amongst participants, the framework and schematic designs will have an important opportunity to address the issue of Spring Garden Road loading zones and improve experiences for area users.

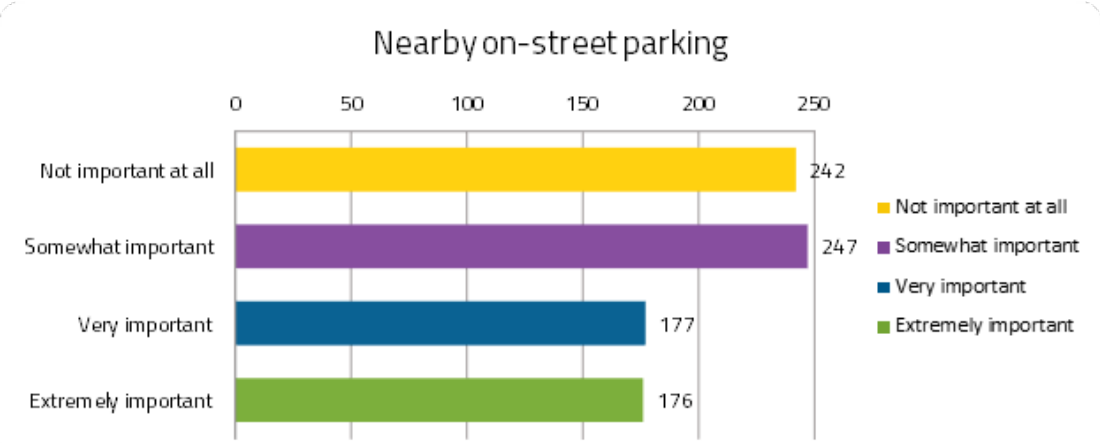


78% of participants indicated that notice boards were not important at all or somewhat important.

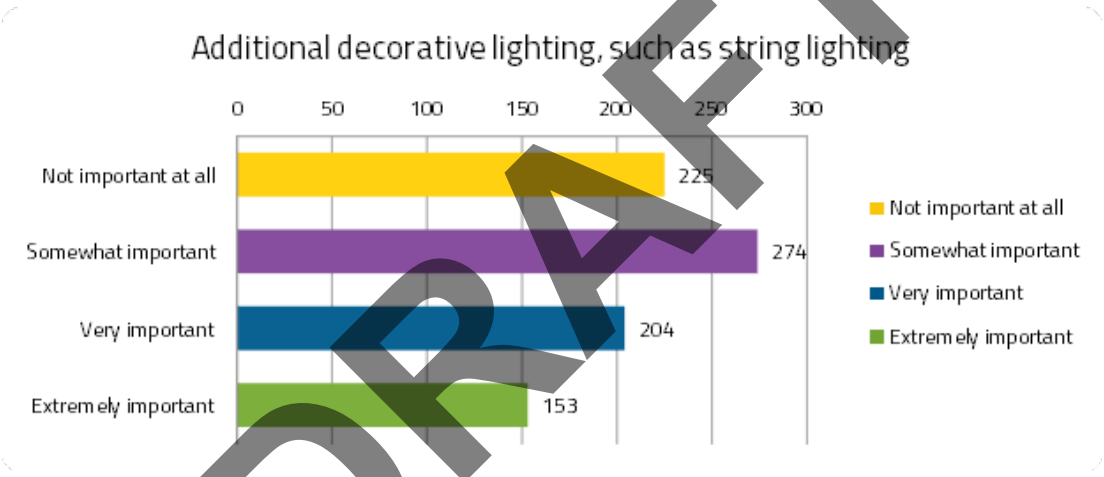


71% of participants indicated that better information to help you find your way around was not important at all or somewhat important.

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58% of participants indicated that nearby on-street parking was not important at all or somewhat important. Nearby off-street parking was a top choice for survey participants so the design phases of the project will provide an important opportunity to address these issues.



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58% of participants indicated that additional decorative lighting, such as string lighting, was not important at all or somewhat important. Better pedestrian lighting, although not in the top five elements, placed high amongst the elements for very important to extremely important. This could indicate that elements of a more functional nature may be a higher priority for survey participants. This sentiment appeared to be reflected in the comments provided at the public engagement session with regards to visibility safety concerns for all users at all times of the day.

PUBLIC ENGAGEMENT MEETING

On September 17, 2018, a public engagement meeting was held to gather input from members of the community. The results of group exercises and dot-mocracy style voting activities have been discussed.

WHAT'S YOUR VISION EXERCISE

"What is your vision for Spring Garden Road?" was an open-ended question in which participants of the September 17 Public Engagement Session were asked to provide three ideas for how the new street might look and feel and three ideas for how they would use this street.

WHAT'S YOUR VISION EXERCISE RESULTS

Some of the general themes identified in the vision exercise include, but are not limited to, the following:

- *Improved wayfinding and signage for all modes of transportation;*
- *Public art;*
- *Inclusive and friendly;*
- *Clean;*
- *Car-free at times*
- *Safe and secure;*
- *Enhanced lighting / lighting styles;*
- *Reduced congestion;*
- *Public gardens through street / more green space;*
- *Events and programming;*
- *Parking / improved signage for parkades;*
- *Bus stop comfort;*
- *Fun and social;*
- *Wider sidewalks;*
- *Cohesive facades that are welcoming and have improved overhangs;*
- *Spring Garden Road as a destination;*
- *10-minute neighbourhood.*

"WHAT WILL IMPROVE YOUR EXPERIENCE?" IS SIMILAR TO QUESTION 14 ASKED IN THE ONLINE SURVEY HOWEVER VOTES WERE BASED ON DOT-MOCRACY STYLE INPUT WITH VOTING TRANSPARENCY SO OPINIONS MAY BE INFLUENCED BY OTHERS.

Participants were provided six color-coded dots, categorized into residents, customers, business owners, employees, to indicate which of the following streetscape elements would most improve their experience on Spring Garden Road:

- *Places to sit*
- *Bury utility lines*
- *Better pedestrian lighting*
- *Restrict loading times to certain times of day*
- *On-street loading on Spring Garden Road*
- *Directional Signage*
- *Clutter reduction (e.g. restricting sandwich boards)*
- *Relocate loading to side streets*
- *Bus shelters*
- *Drinking fountains*
- *Notice boards*
- *Bicycle parking*
- *Nearby on-street parking*
- *Additional feature lighting*
- *Accessibility improvements*
- *Nearby off-street parking*
- *Extra commuter and pedestrian space*
- *More space for patios / sidewalk sales*
- *More trees and flowers*
- *Public art*
- *Use high quality materials for street treatment*

DOT EXERCISE RESULTS

The dot exercise did not have an overwhelming winner. Lots of different things are important to people. Examples of some popular choices: commuter and pedestrian space, trees and flowers, street treatments, accessibility, lighting, seating, and signage.

SWITCH DOT-MOCRACY RESULTS

On Sunday September 23, 2018 between 11am and 3pm

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during the annual Switch Open Street Sunday event in Halifax, a dot-mocracy board gathered votes from the public asking the same question as the public engagement meeting: "What will improve your experience on Spring Garden Road?" Approximately 538 participants were each provided six dots for a total of 3230 dots placed on the board.

The top five based on number of votes were:

- *Places to sit (269 dots);*
- *Trees and flowers (235 dots);*
- *Public art (219 dots);*
- *Space for patios & sidewalk sales (198 dots);*
- *Additional feature lighting (196 dots).*

The bottom five, not including the additional ideas added by the public, based on number of votes were:

- *On street loading on Spring Garden Road (9 dots);*
- *Notice Boards (50 dots);*
- *Restrict loading to certain times of day (58 dots);*
- *Nearby on-street parking (65 dots);*
- *Directional Signage (78 dots).*

There were several items added by the public throughout the day for which votes could be cast. These were:

- *Closed to vehicles on weekends / entire summer (137 dots);*
- *Public washrooms (107 dots);*
- *Keep buses / more garbage and recycling bins (39 dots);*
- *Re-route buses off Spring Garden Road (38 dots);*
- *More activities or places for children (33 dots);*
- *Closed forever; pedestrian only (8 dots);*
- *Limit amount of construction in a neighbourhood (1 dot).*

Although restricting loading times and locations was significant in the online survey, the dotmocracy survey result showed that members of the public at the Switch event voted much more for pedestrian amenities (places to sit and space for patios and sidewalk sales) and streetscape elements (trees and flowers, public art, additional feature lighting) than did those who voted in the online survey. As with the online survey, increasing trees and flowers on the street received a high number of votes.

COMMUNITY ENGAGEMENT CONCLUSION

In on-street and online surveys, HRM asked "What is your favourite thing about Spring Garden Road" as an open-ended question. Although in both instances many participants provided thorough answers, the results could be categorized into several recurring themes. Both the on-street and online surveys indicated that the top three responses for favourite things were the business and services, street vibrancy, and public spaces categories amongst participants.

In the online survey, when participants were asked to indicate how important various elements were in improving their experience on the street, the top five indicated different types of elements. Two related to loading on Spring Garden Road, one related to greening the street, one parking, and finally sidewalk space. All of these can contribute to a positive streetscape experience if addressed tactfully in the design phases of this project. Gathering more feedback on approaches to addressing these issues to make it functionally and experientially desirable for residents, business owners, customers, and employees will be an important step in the project process.

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IMAGINE
SPRING GARDEN ROAD
(Place your dots)
Places to sit
Bury utility lines
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BUSINESS/PROPERTY OWNER ENGAGEMENT SUMMARIES

BUSINESS & PROPERTY OWNER WORKSHOP

On October 4th, 2018, a meeting and workshop was held with project stakeholders. Invited to this event were members of the Spring Garden Area Business Association (SGABA) and business and property owners/operators located outside the boundaries of the district on Spring Garden Road between South Park Street and Robie Street. There were 16 attendees in total including two HRM Staff, three members of the Consultant team, the Executive Director of the SGABA, four area landlords, two area residents, and two couples who each own retail stores on Spring Garden Road.

The session began with presentations by HRM and Ekistics staff. This included an introduction of the Consultant team, confirmation of the study area, project schedule and timeline, project goals and objectives, and methodology. Following this presentation, Paul MacKinnon, Executive Director of the Downtown Halifax Business Commission spoke about his membership's experience with the redevelopment of Argyle and Grafton Street, Halifax's most recent major streetscape redesign and construction project.

For the workshop portion of the evening, participants were divided into three tables and asked to complete the following four exercises on provided cards:

1. Tell us about your clients/customers/tenants:

- *Who are they?*
- *Where do they come from?*
- *When do they come?*
- *How do they get here?*
- *What kind of experience are they looking for?*
- *What kind of feedback do you get?*

2. The public has voiced the following three priorities for improving the street:

- *Restrict loading to certain times of the day*
- *"Green" the street - more trees and planters*
- *Relocate loading to side streets*

Do you agree/disagree? Why?

3. Using the map provided, identify opportunities with the green pen and challenges with the red pen

- *On the green card list the top three (3) opportunities on which to capitalize*
- *On the red card list the top three (3) challenges to address*
- *Using the map, identify opportunities with the green pen and challenges with the red pen*
- *On the green card list the top three (3) opportunities on which to capitalize*
- *On the red card list the top three (3) challenges to address*

4. Why are you here?

- *List the top three (3) reasons why your business or property is located on spring garden road. what's working well?*
- *If you could have your business or building on any other street in the world, where would it be? Why?*
- *What makes this street memorable? Does it have a distinct character and/or features?*

Feedback from this session was collected by the Consultant team and recorded in meeting minutes. Attendees were also asked if they would like follow-up one-on-one interviews by indicating their preference on the workshop sign-in sheet. Following the meeting. the slide show presentation was posted on the HRM Shape Your City web portal and a questionnaire including the excercises from the workshop was posted by SGABA on their website. The questionnaire also asked respondants if they would like to

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have a follow-up one-on-one interview with the Consultant. No questionaires had been filled out and returned as of Dec 31, 2018.

BUSINESS & PROPERTY OWNER ONE-ON-ONE INTERVIEWS

On October 16th, 2018, the HRM Project Manager and Consulatant Project Manager met with stakeholders who requested follow-up interviews at the October 4th workshop. Impromptu visits were also made to other business and property onwers on Spring Garden Road. This resulted in 16 total meetings with individuals from different businesses including representation from retail, restaurants, and office. The questions asked to interviewees were of a more technical nature to get an undersatanding of each businesses' operations and how a street redesign may impact logitics such as loading, garbage removal, fuel delivery, and future building renovations. Feedback was documented by the Consultant team and will be taken into consideration in the fuctional planning and schematic design phases of the project.

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APPENDIX A

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APPENDIX B

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