Barrington Street

Inspiration for Halifax's Historic Streetscape

Final Report

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BCD Honours Thesis

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DALHOUSIE UNIVERSITY

Inspiring Minds

Cover Image Sources:

1860:
The Illustrated London News. (1860). The Prince of Wales in Halifax, p207.

1915:
Notman. (1915). Retrieved from http://www.mccord-museum.qc.ca/en/collection/artifacts/VIEW-5489

EXECUTIVE SUMMARY

Background

In 2009, Council approved a Downtown Plan envisioning Barrington Street as a pedestrian- and transit-oriented shopping street with a reinforced historic character. Experts in urban design are promoting a similar prioritization. A revitalized streetscape catering more to people than cars would give more reasons for people to experience Barrington Street and Downtown Halifax.

Since amalgamation in 1996, Halifax Regional Municipality (HRM) has produced multiple reports, plans and documents hinting at various design proposals for Barrington Street. Little has changed physically. The intent of this report is to:

1. define HRM's vision for Barrington Street.
2. further understanding of the study area.
3. condense previous streetscape ideas.
4. explore current streetscaping best practices.
5. develop streetscape design criteria.
6. test the different ideas and evaluate them.
7. present a schematic design for the concept that best meets HRM's vision and streetscape criteria.
8. make recommendations and excite change.

Upon review of the past documents, four different concepts are evaluated and a fifth 'inspired' concept is proposed.

An Inspired Concept

Based on review of the proposed concepts, expert opinion and an extensive site analysis, a fifth concept was developed to maximize and enhance the pedestrian realm while maintaining the street's functionality as a transit corridor. This concept is called 'Eastern Amenity'.

Evaluating the Concepts

The existing street and the five design concepts were applied to a test-block. Each were evaluated considering:

- principles of the Downtown Plan.
- criteria related to safety.
- construction cost.
- expert opinion.

Experts in fields related to streetscape design were asked to prioritize principles of streetscape design. The results were used to help evaluate the five concepts. The 'Eastern Amenity' concept resulted in the highest score, providing for:

- expansion of the pedestrian realm.
- more sidewalk space on the side of the street that receives afternoon sun.
- bus priority over vehicle traffic.
- loading and parking opportunities.
- minimal alteration of underground services, reducing construction costs.

Schematic Design

The 'Eastern Amenity' concept was explored through schematic design for the entire study area. The concept features a hybrid sidewalk zone (similar to Granville Street in Vancouver) which can be used for loading and potential parking during defined times. The concept balances sidewalk widths with pedestrian counts while minimizing the area required for vehicles.

Understanding Barrington Street

This project includes an in-depth site analysis of Barrington Street. Some highlights of the findings include:

- Pedestrian levels are approximately 60% of the recommended minimum for a successful street.
- 64% of Pedestrians walk on the east side.
- Barrington Street receives little sunlight.
- Traffic noise far exceeds comfortable conversation levels with buses being a major contributor.
- Over 1100 transit buses per weekday travel through the study area.
- It is common for loading vehicles to park on the sidewalk constricting available sidewalk width for pedestrians.
- Much of Barrington Street does not meet HRM's standard for lighting.
- Low lighting levels on side streets further reduce pedestrian connectivity and comfort.
- Many different surface materials are used on Barrington Street and it's sidewalks. Asphalt is often used for repairing surfaces, leaving a patchwork appearance.
- Only two formal seating options exist in the study area.

636
pedestrians per hour (peak count)

64%
of pedestrians use the eastern sidewalk

70
Decibel level at which people have difficulty communicating

85
Average decibel level of an accelerating bus

1,124
bus trips pass through study area on a typical weekday (2008)

7.2
Average number of riders on buses passing through the study area (2008)

Key Recommendations

Bring street and sidewalk lighting up to standard, in consideration of pedestrian comfort and safety.

Consider the low transit ridership numbers in the study area, and investigate an alternative approach to transit downtown.

Explore ways to reduce traffic noise, specifically fom buses.

Reconsider the one-way street network plan. Typically, one-way streets promote speed and aggressive traffic rather than a hospitable pedestrian environment.

Encourage additional formal and informal seating options.

Undertake temporary tests of the concepts to see how they may function if built. Engage public to foster excitement, input and support.

Investigate options for redirecting natural light into the street (including building window materials, mirrors and heliostats).

ACKNOWLEDGEMENTS

Special thanks to Cecilia Alstrom-Rapaport, Eric Rapaport and John Zuck for their dedication, guidance and valuable input. I would also like to thank those who have taken time out of their busy schedules and provided further insight:

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I could not have done this without you.

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Figure 1: Barrington and Prince, looking North

"Once the bustling heart of the city, it is now economically and visually diminished".
(Halifax Regional Municipality (HRM), 1998, p26)

1.0 INTRODUCTION

Barrington Street is the historic main street in downtown Halifax, Nova Scotia. Defined by a 260-year-old street grid, it intersects the city's financial centre and is lined with many prominent heritage buildings (HRM, 2009a, p.3). On June 16, 2009, Halifax Regional Council adopted a Downtown Plan following an extensive community engagement process called HRMbyDesign. The Downtown Plan provides a vision for Barrington Street to become a pedestrian and transit oriented shopping street (HRM, 2009b, Appendix A). Under the new downtown plan, Halifax Regional Municipality (HRM) has also established a Heritage Conservation District for Barrington Street. Since amalgamation in 1996, HRM produced a variety of studies, plans and reports proposing different designs for the street. Considering Barrington Street is a Heritage Conservation District, how appropriate are the proposed designs today? What would the street look like if the designs were applied, and is there a more appropriate design?

2.0 STUDY AREA

The study area for this project is the public street right-of-way (ROW) within the Barrington Street Heritage Conservation District (See Figure 2). The study area is 719 meters in length and accounts for approximately 24% of the Heritage District. Of the entire study area, 66% is currently road surface dedicated to vehicle use.

Figures 3 through 11 provide an overview of the current state of Barrington Street. Further detailed analysis of the study area is provided in Section 7.0 - Inventory / Outcomes.

Figure 2: Study Area. Base Imagery (Microsoft, 2011)

Figure 3: The street consists of a mix of materials including historic granite curbs, concrete, asphalt and red brick.

Figure 4: Repairs to the road surface are typically done with asphalt, leaving a patchwork appearance.

Figure 5: Streetscape elements including this planter and bench are in a state of disrepair.

Figure 6: Halifax's climate is tough on streetscape materials, which require significant maintenance.

Figure 7: Lamp posts double as bike racks.

Figure 8: Signs of poor maintenance and petty crime are common.

Figure 9: Buses weave around parked cars blocking lanes and slowing traffic.

Figure 10: Loading vehicles often park on the sidewalk, temporarily constricting sidewalk width.

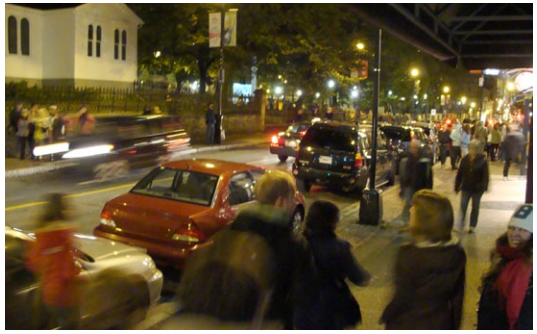


Figure 11: Barrington Street is a major destination for pedestrians, especially during special events.

3.0 BACKGROUND

3.1 HISTORIC BARRINGTON STREET

Dating back to the original grid plan for Halifax in 1749 (See Figure 12), Barrington Street is the main downtown street connecting the north and south ends of Halifax along the eastern edge of the peninsula, halfway between Citadel Hill and the waterfront. It runs adjacent to historic civic landmarks including Grand Parade, City Hall, St. Paul's Church and the Old Burial Grounds. Barrington Street has been Halifax's principal commercial street since the city was settled over 260 years ago (HRM, 2009a, p. 7). It is a main street with heritage character defined by many Victorian, Edwardian and Early Modern commercial buildings. Once a bustling commercial destination with streetcars and crowds of shoppers, Barrington Street is suffering a decline due in part to recent changes in the retail markets (HRM, 2009a, p.3).

From a transportation perspective, Barrington Street was a primary route for Halifax's horse-drawn street railway (Figure 13), which began in 1866. By 1896 an electric streetcar system (Figure 14) had developed, confirming the street's role as a major transit artery. During the 1920s 'heyday' of Barrington Street (Figure 15) (HRM, 1998), Birney Safety Cars (Figure 16) replaced the electric streetcars. The Birney system lasted 29 years before ceasing operation in 1949. From 1949 to 1969, electric trolley buses operated (Figure 17) and were replaced by motorbuses in 1970 (Cunningham & Artz, 2009). With a rich historic character and central location, Barrington Street has great "potential for revitalization as the symbolic heart of downtown" (HRM, 2009a, p. 7).

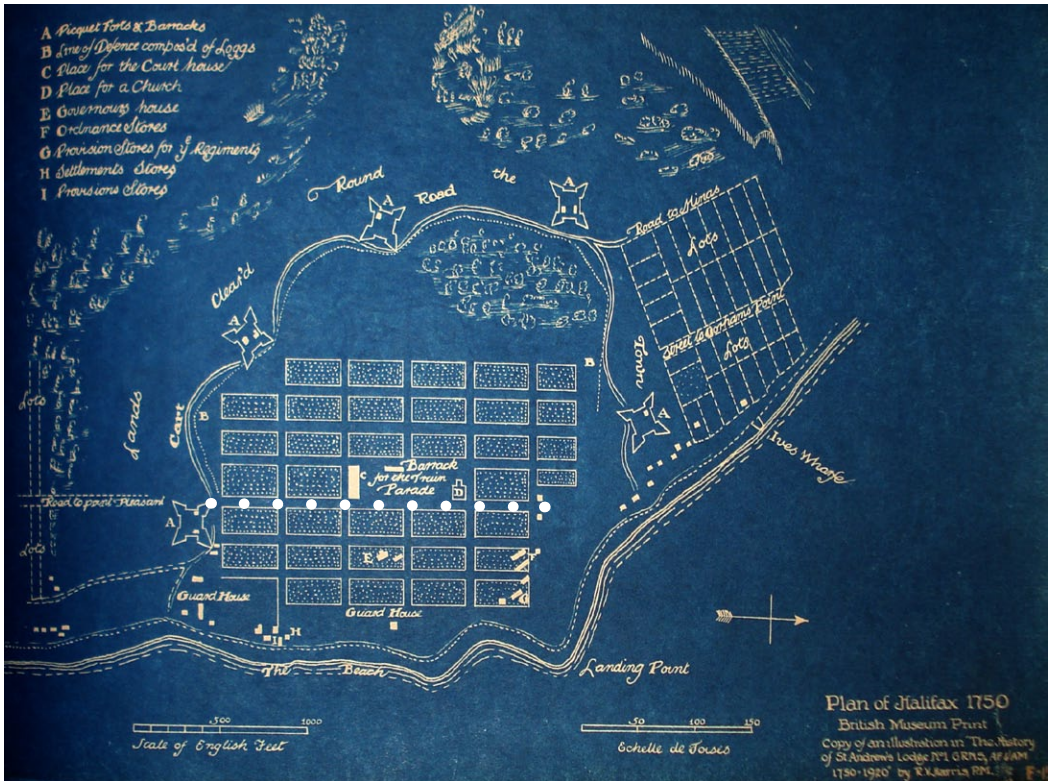


Figure 12: Plan of Halifax (1750) with Barrington Street highlighted by a white dotted line, (Provincial Surveying and Pub. Co, 1878)

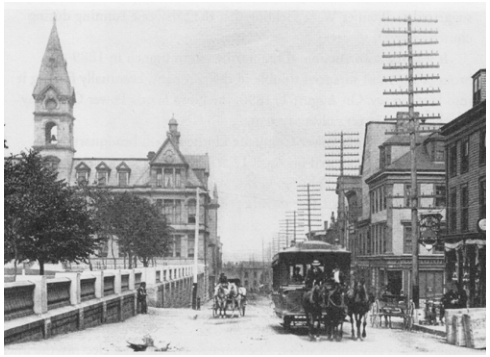


Figure 13: Horse-drawn Tram (1894),
(Cunningham & Artz, 2009, p. 12).

Figure 14: Electric Street Car (1902),
(Cunningham & Artz, 2009, p. 17).

Figure 15: Barrington Street in it's heyday (circa 1930) (HRM, 1998, p. 3).

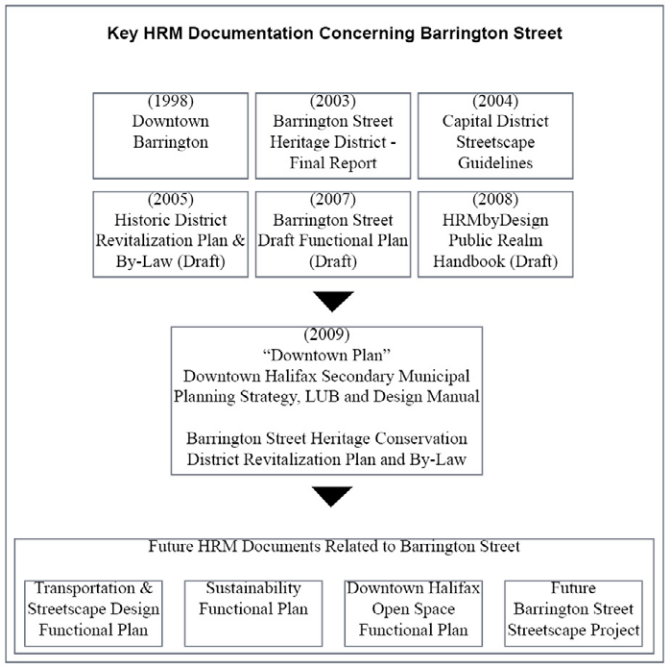
Figure 16: Birney (1942),
(Cunningham & Artz, 2009, p. 51).

Figure 17: Electric Trolley Bus (1957),
(Nova Scotia Archives and Records Management (NSARM), 1957).

3.2 ESTABLISHING THE CURRENT VISION FOR BARRINGTON STREET

Since amalgamation in 1996, Halifax Regional Municipality has produced numerous reports and documents relating to Barrington Street with little impact to the study area, save for a few improvements regarding seating, poster kiosks, and a new section of sidewalk in front of Government House. An exploration of applicable documents (Figure 18) was undertaken to understand the range of enhancements and to determine what HRM's future plans are for the street. What follows is an overview of the ideas each document proposes relating to streetscape design.

Figure 18: Key HRM Documents Concerning Barrington Street



3.2.1 Downtown Barrington - A Strategy for the Rejuvenation of Barrington Street (HRM, 1998)

The Downtown Barrington report by David F. Garrett Architects envisions a Barrington Street with expanded sidewalk areas to promote street activity. The key concept is to concentrate kiosks, bike racks, trees, bus stops, vendors and other elements in mid-block sidewalk extensions (Figures 19, 20, 21). Recognizing the level of jaywalking, additional crosswalks are proposed at the mid-block extensions (Figure 20). The extensions and crosswalks would also act as a form of traffic calming for the district. It is proposed to maintain two-way auto and bus traffic, with a significant reduction to traffic speeds. The report also suggests eliminating 'no left turns', reducing the number of transit trips, providing on-street parking and concentrating the loading and transit stops on one side of the street. Several amenity features are proposed including a gateway at Prince Street (Figure 22), a canopy from Prince to Spring Garden (Figure 23), a park at St. Mary's Basilica service entrance, an access to Grand Parade at City Hall (Figure 24), and public washrooms under Grand Parade. Lighting is envisioned as being similar to the fixtures found in Grand Parade, along with architectural lighting and bollard lighting in activity areas. It is also proposed to rename the district to something upbeat (Downtown Barrington, The Light & Power District, The Barrington Parade, B Street or The Parade District) (HRM, 1998).

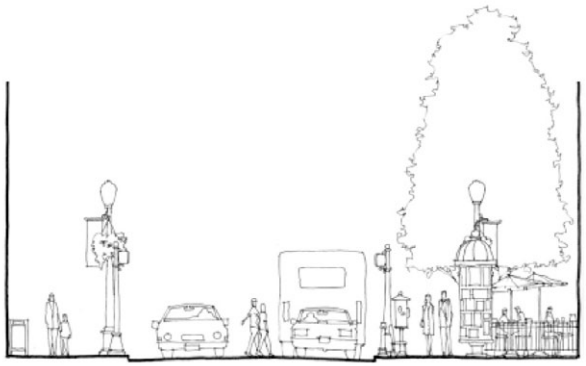


Figure 19: Cross-section of typical sidewalk extension (HRM, 1998, p. 52).

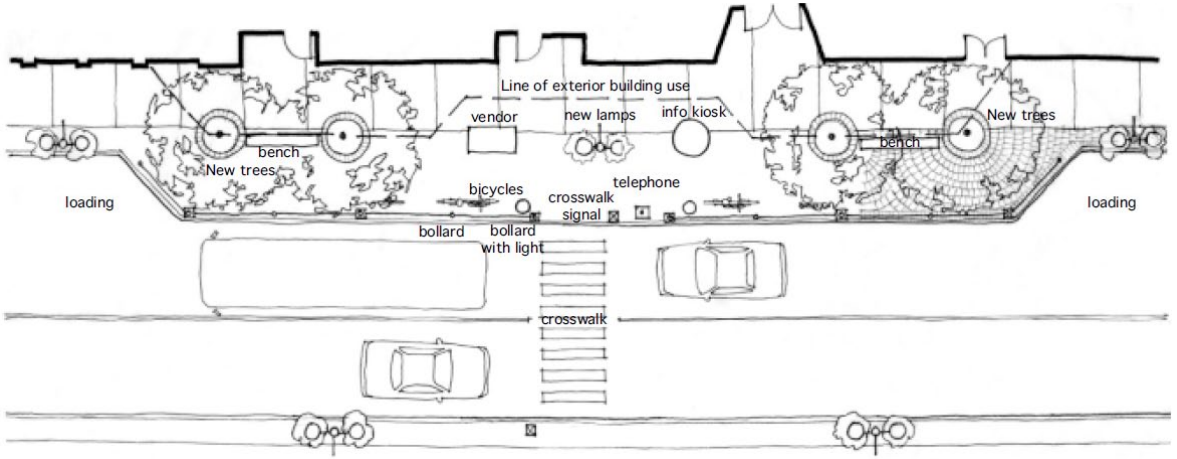


Figure 20: Plan of typical sidewalk extension (HRM, 1998, p. 49).

Figure 21: Sidewalk extension and amenities (HRM, 1998, p. 51).

Figure 22: Gateway feature at Prince Street (HRM, 1998, p. 56).

Figure 23: Canopy (HRM, 1998, p. 58).

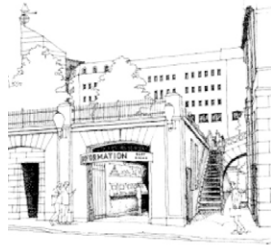


Figure 24: Grand Parade access (HRM, 1998, p. 55).

3.2.2 Barrington Street Heritage District (HRM, 2003)

The Barrington Street Heritage District report by Ekistics Planning and Design calls for a strict approach to historic revitalization of the district, selecting a specific heritage period. It is proposed to use 1925 as the date to target restoration. The 1925 streetscape features streetcars, two-way traffic, and parking on each side of the street, providing a physical separation between the sidewalks and moving vehicles. The street would also feature a straight curb alignment consisting of simple concrete sidewalks and granite curbs with elegant, simple curb depressions, evident from period photography. Recommended is the use of original historic materials such as granite curbs where possible. Substitute materials should only be used as a last resort. Proposed again is the idea of a stairway access to Grand Parade near City Hall along with public washrooms under Grand Parade. Rather than planting trees along the street, the report suggests limiting green areas to the historic parks and open spaces. A service entrance at St. Mary's Glebe would also become a park or green space. The use of heritage elements, awnings on buildings and ambient lighting (showcasing the architecture) are encouraged (HRM, 2003).

3.2.3 Capital District Urban Design Project (HRM, 2004)

Completed in 2004, the Capital District Urban Design Project (CDUDP) includes streetscape plans and wayfinding guidelines for much of Downtown Halifax and Dartmouth. The intention of the project is to create attractive, interesting and functional public spaces downtown. Key principles outlined in the CDUDP include: pedestrian prioritization, accessibility for all ages and levels of mobility along with investment in and protection of existing trees. For Barrington Street, the project proposes amenity features such as a mid-block seating node at the Old Burial Ground and an alternative concept for a stairway to Grand Parade near City Hall (Figure 25). Though the design proposal for Barrington Street maintains the existing curb alignment, a recommendation for future widening of sidewalks is suggested upon completion of a transportation study. Proposed elements included street trees, pedestrian level lighting, more seating, more refuse containers, more bike parking and the installation of wayfinding signage (HRM, 2004).

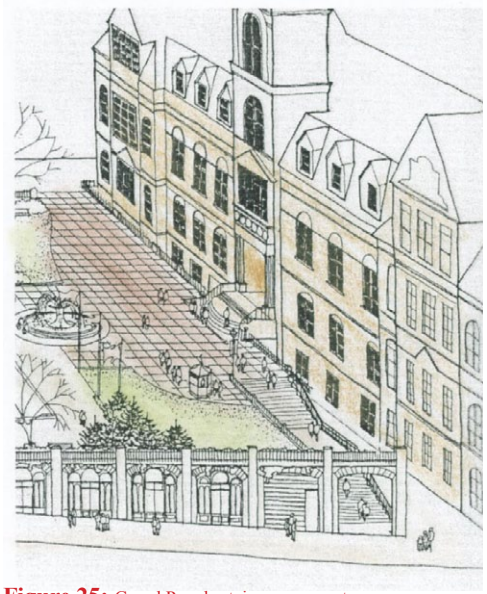


Figure 25: Grand Parade stairway concept (HRM, 2004, Figure 10.3).

3.2.4 Barrington Street Historic District Revitalization Plan & By-Law (Draft - Not adopted by Council) (HRM, 2005)

This draft of the revitalization plan contains guidance for the public realm. Referencing much of the 1998 'Downtown Barrington' report, it was later refined and included as part of the 2009 Downtown Plan. Though the public realm components were removed prior to council approval in 2009, this version provides many ideas for revitalization of Barrington Street. The plan calls for granite curbs and mid-block pedestrian amenity areas combining bus stops, street trees, seating and other furniture elements. The plan proposes features that slow vehicular traffic and encourage parking during peak hours. Lighting would use the current fixtures, or switch to the style found in Grand Parade. Pedestrian level lighting would be provided for lower and brighter lighting on the sidewalk. Other elements include transit stops, telephone booths, wayfinding (as per Capital District Plan) and a stairway concept near City Hall (HRM, 2005).

3.2.5 Functional Design for Barrington Street (Draft Only) (2007)

A draft schematic design for Barrington Street was completed by HRM in 2007 (Figures 26, 27). The draft proposes a serpentine alignment of the roadway, with a reduced number of bus stops located on alternating sides of each block through the study area. The minimum standard lane width used is 3.6m, allowing for significant expansion of sidewalks and integration of street trees and amenity features. 'Appendix A - 2007 Functional Design' shows a reproduction of the draft functional design.

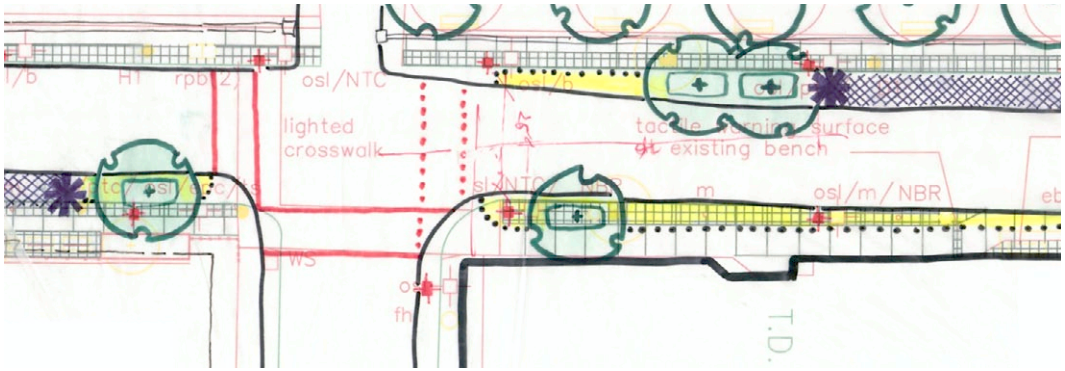


Figure 26: Draft schematic for the Intersection of George and Barrington Streets (HRM, personal communication, January 20, 2011)

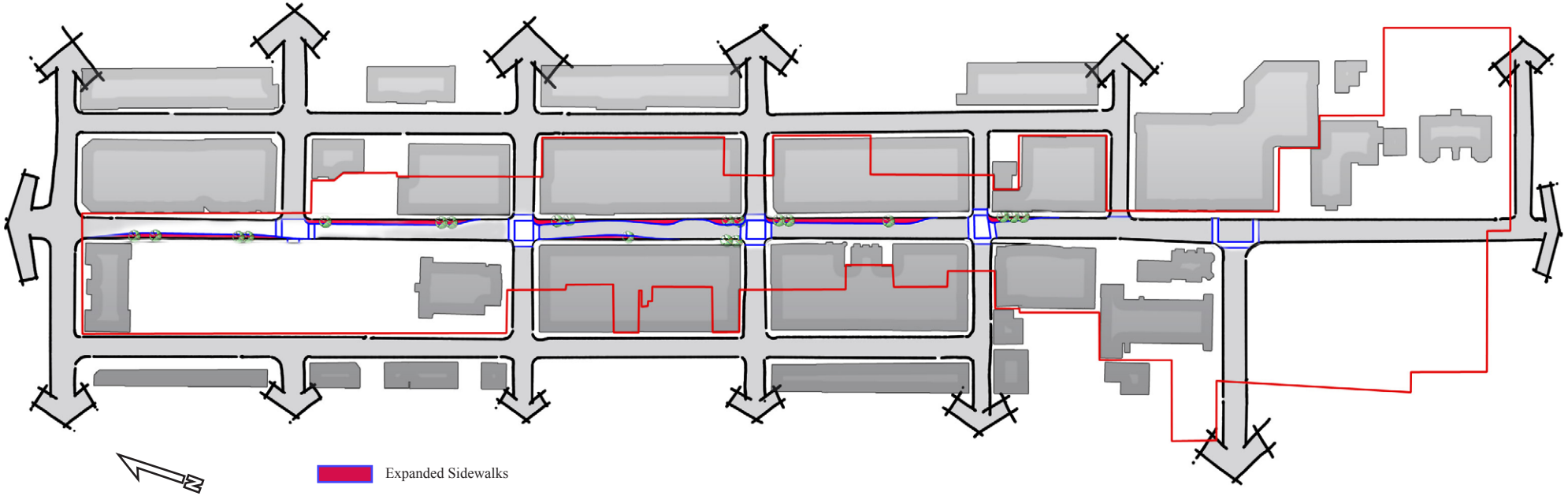


Figure 27: Sketch showing 2007 Functional Design, based on concept plan provided by Halifax Regional Municipality (Refer to Appenix A for detailed view)

3.2.6 Public Realm Handbook (Draft 2 – Not adopted by Council) (HRM, 2008)

The Public Realm Handbook was developed during the HRMbyDesign public consultation process but it was not adopted by Council. The Handbook includes details of the intended design for Barrington Street (Figure 28) and states "the design of streetscapes is intended to enhance the downtown experience and nurture a culture of walking" (HRM, 2008, p.1). Barrington Street is defined as an Avenue, a "primary pedestrian-oriented shopping street", in keeping with the vision of the Downtown Plan (HRM, 2008, p.2). The Handbook calls for minimizing vehicular space, maximizing sidewalk widths, 'bump-outs' at intersections, and combining elements to reduce clutter. Street trees are to be provided where possible, and where trees are not possible, vertical elements such as bollards and light standards would be located to define the pedestrian zone. Other elements include public art, transit stops, lighting, universal access and wayfinding signage (as per the Capital District Plan) (HRM, 2008).

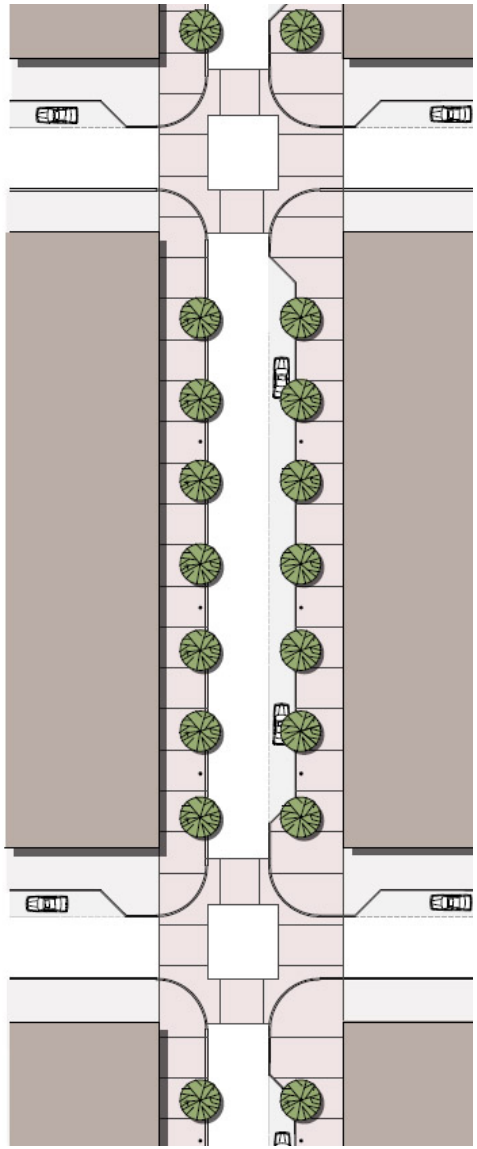


Figure 28: Public Realm Hanbook - Avenue Concept (HRM, 2008, p. 2)

3.2.7 Downtown Plan (HRM, 2009a,b,c)

On June 16, 2009, Halifax Regional Council approved an urban design plan for Downtown Halifax. The plan, developed through the HRMbyDesign public consultation process, includes five documents relating to Barrington Street and the Heritage Conservation District:

1. Downtown Halifax Secondary Municipal Planning Strategy
2. Downtown Halifax Land Use By-law and Design Manual
3. Barrington Street Heritage Conservation District Revitalization Plan
4. Barrington Street Heritage Conservation District By-law
5. Barrington Street Heritage Conservation District Incentives Program

The first three contain information relevant to the public Right of Way (ROW) of Barrington Street.

1. Downtown Halifax Secondary Municipal Planning Strategy (DHSMPS) (HRM, 2009b)

A vision for the future Barrington Street is provided within the Downtown Halifax Secondary Municipal Planning Strategy (DHSMPS). It envisions a Barrington Street that

is "one of the downtown's key destinations for shopping, dining, galleries, entertainment and cultural attractions" (HRM, 2009b, 2.3.5). Barrington Street is intended to become a primary pedestrian and transit oriented commercial streetscape (HRM, 2009b, Map 13a). Some design features are hinted at in the form of reduced road width, broad sidewalks and sidewalk 'bump-outs' at intersections (HRM, 2009b, Appendix A). Heritage conservation is also a key policy, calling for the protection and conservation of character-defining elements and heritage resources (HRM, 2009b, Policy 40).

Barrington Street is intended to become a primary pedestrian and transit oriented commercial streetscape.

The DHSMPS also provides a vision for many of the streets intersecting Barrington Street. George Street is proposed as a 'Grande Promenade', providing a formal link from the waterfront to the Town Clock on Citadel Hill. Duke, Prince, Sackville, Salter, and Bishop Streets are designated as 'Harbour View' streets, with distinct sidewalk and crosswalk paving patterns. The intention is to have street trees and landscaping located wherever possible. Finally, Blowers Street is envisioned as a pedestrian priority street with broad sidewalks, continuous street trees, unique lighting, banners and furnishings. Blowers street would have fixtures installed to support street closures for festivals and other events (HRM, 2009b, Appendix A).

Heritage conservation is also a key policy, calling for the protection and conservation of character-defining elements and heritage resources.

2. Downtown Halifax Land Use By-Law and Design Manual (DHLUB&DM) (HRM, 2009c)

The DHLUB&DM provides guidelines for private property and outlines the site plan approval process for development applications. One criterion found in the Design Manual provides insight into the intention for the street: it is important to "conserve the historic character of Barrington Street…while not necessarily mimicking heritage architecture" (HRM 2009c, Schedule S-1: 2.5(d)). Although this statement refers to buildings, it hints at a vision for the entire district.

3. Barrington Street Heritage Conservation District Revitalization Plan (BSHCDRP) (HRM, 2009a)

Under the BSHCDRP, the purpose of the heritage district is to "encourage commercial revitalization and restoration of Barrington Street buildings" (HRM, 2009a, 2.3). The BSHCDRP establishes the character of Barrington Street and offers many private realm policies including design guidelines, conservation standards and financial incentives for restoration. The public realm section makes general statements of previous work completed and also lists proposed changes, but offers no specific policies. The plan describes the recent Capital District streetscape program (outlined in 3.2.3) along with a draft functional design for the street (See 3.2.5 for the proposed plan). To date HRM has not fully realized the functional design, but has addressed some components, including the sidewalk in front of Government House and the nearby Scotia Square Transit Terminal.

3.2.8 Downtown Street Network Changes (HRM, 2010a)

In November of 2010, HRM released a project plan titled 'Downtown Street Network Changes'. The project involves converting more of the downtown streets to the one-way system. While Barrington Street remains a two-way street, George, Sackville and Blowers Streets are changed to one-way streets with an eastern traffic direction (HRM, 2010a). In a presentation to

Council, HRM staff rationalizes the proposed changes, including:

- "Pattern of streets in Downtown Halifax is disjointed and inconsistent"
- "Two key one-way streets (Hollis, Prince) do not have a one-way 'partner'"
- "HRM by Design recognized benefit of one-way streets in optimizing 'non-traffic' uses"
- "Challenge: other cities are converting downtown streets from one-way to two-way" (HRM, 2010b, p. 1)

The presentation lists benefits of a one-way system including "up to 40 new spaces for on-street parking or loading [and] better maneuverability for tour buses and large trucks" (HRM, 2010b). The project description further rationalizes the one-way system claiming the additional benefit of increased sidewalk café opportunities. This change conflicts with the Downtown Plan as one-way streets promote speed and aggressive traffic rather than a hospitable pedestrian environment (Gehl, 2010, p.242). Barrington Street remains a two-way street; however, the side-street modifications would impact future design proposals. The switch is scheduled for June 2011 (HRM, 2010a).

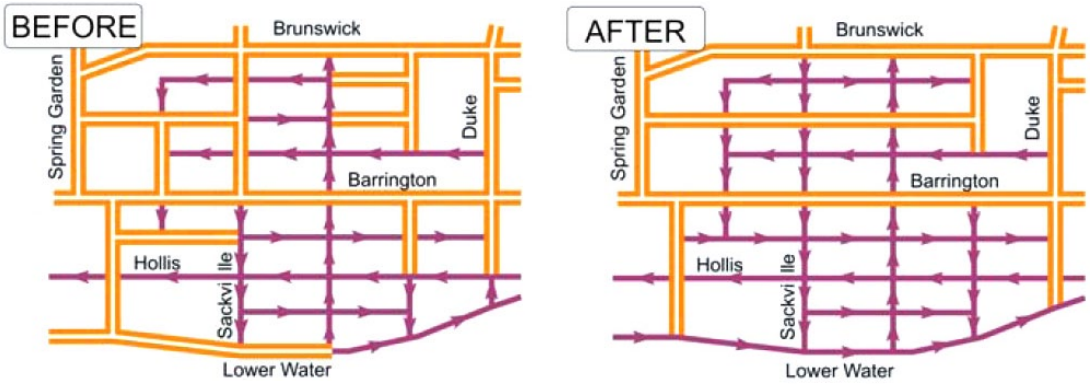


Figure 29: Street Network Changes (HRM, 2010a, p. 1)

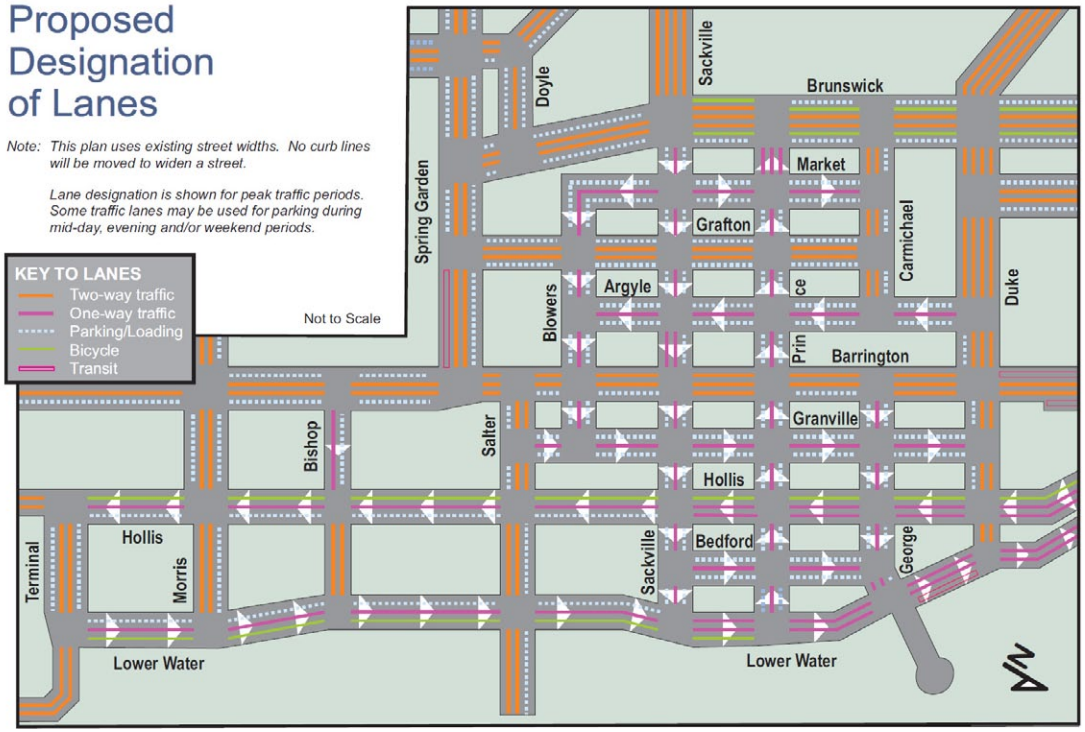


Figure 30: Street Network Changes and Lane Designations (HRM, 2010a, p. 3)

3.2.9 Future Documents

The 2009 Downtown Plan identifies future HRM plans and projects that will likely have an impact on Barrington Street, including:

1. A Transportation & Streetscape Design Functional Plan
2. A Sustainability Functional Plan
3. A Downtown Open Space Functional Plan
4. A Barrington Street Streetscape Project

The observations and recommendations in this thesis project may provide insight for future work and improvement to the streetscape.

3.2.10 Vision Summary

The reviewed documents are consistent in proposing enhancement of the pedestrian environment by changing priorities - catering more to people, less to cars. The documents suggest a variety of design solutions. Only the 1998 report and the 2005 draft propose similar solutions in the form of mid-block sidewalk extensions (Figure 20). The 2003 and 2004 reports encourage use of a linear curb alignment. The 2003 report recommends reverting to the 1925 alignment for historic reasons (HRM, 2003) while the 2004 report favors maintaining the existing street until a transportation study is completed (HRM 2004, 10.7). The 2008 Public Realm Handbook promotes the Avenue concept with 'bump-outs' at intersections. The 2009 Downtown Plan describes the 2007 Functional Design consisting of significant sidewalk extensions and a serpentine road alignment. Multiple options are presented in the documents covered, but all documents recognize the need for future streetscape improvement for Barrington Street.

For the purpose of this report, the visionary elements found in the Council-approved 2009 Downtown Plan will be referred to as the guiding principles of streetscape improvement. Barrington Street is envisioned to:

1. Be pedestrian and transit oriented with two-way traffic (HRM, 2009b, Map 13a)
2. Be a central retail spine (HRM, 2009b, Section 2.3.5)
3. Have a reinforced historic character (HRM, 2009b, 2.3.5)

These principles provide a broad vision for Barrington Street. Guiding principle one is supported by all of the documents and is likely to bring significant change to Barrington Street. Guiding principle two is implied in all documents through revitalization of the once vibrant commercial streetscape. Principle three is also supported, though only the 2003 report encourages a strict conservation approach. The following three sections look for further justification and support of the guiding principles.

"21st century transportation has to be about people and communities, not any specific mode of travel or type of infrastructure — not cars, not bridges, not bikes." (Toth, 2011)

"The number one attraction in any city isn't the buildings, the parks, the sculptures or the statues. It's people. First we need people, then spaces, then buildings." (Gehl, 2011)

3.3 CHANGING PRIORITIES – CATERING TO PEOPLE, NOT CARS

Is HRM's desired shift in priorities towards pedestrians supported by experts in urban design and downtown revitalization? Organizations and professionals around the world are encouraging a change in our urban environments to cater to the pedestrian. Vehicles and the road surfaces consume much of the public space in cities. A transformation is needed to make our streets more accessible and inviting for pedestrian activity. Inviting people will attract more people, leading to an increased opportunity for revitalization of the downtown (Whyte, 2009, p. 10).

Project for Public Spaces (PPS) proposes that we change the way we think about our public spaces, transforming them from spaces that cater to cars to places that are designed for people (PPS, 2005). In Table 1, Project for Public Spaces identifies 10 qualities of a great street:

> *"In almost every U.S. city the bulk of the right of way is given to vehicles; the least, to people on foot. This is in inverse relationship to need"* (Whyte, 2009, p. 69)

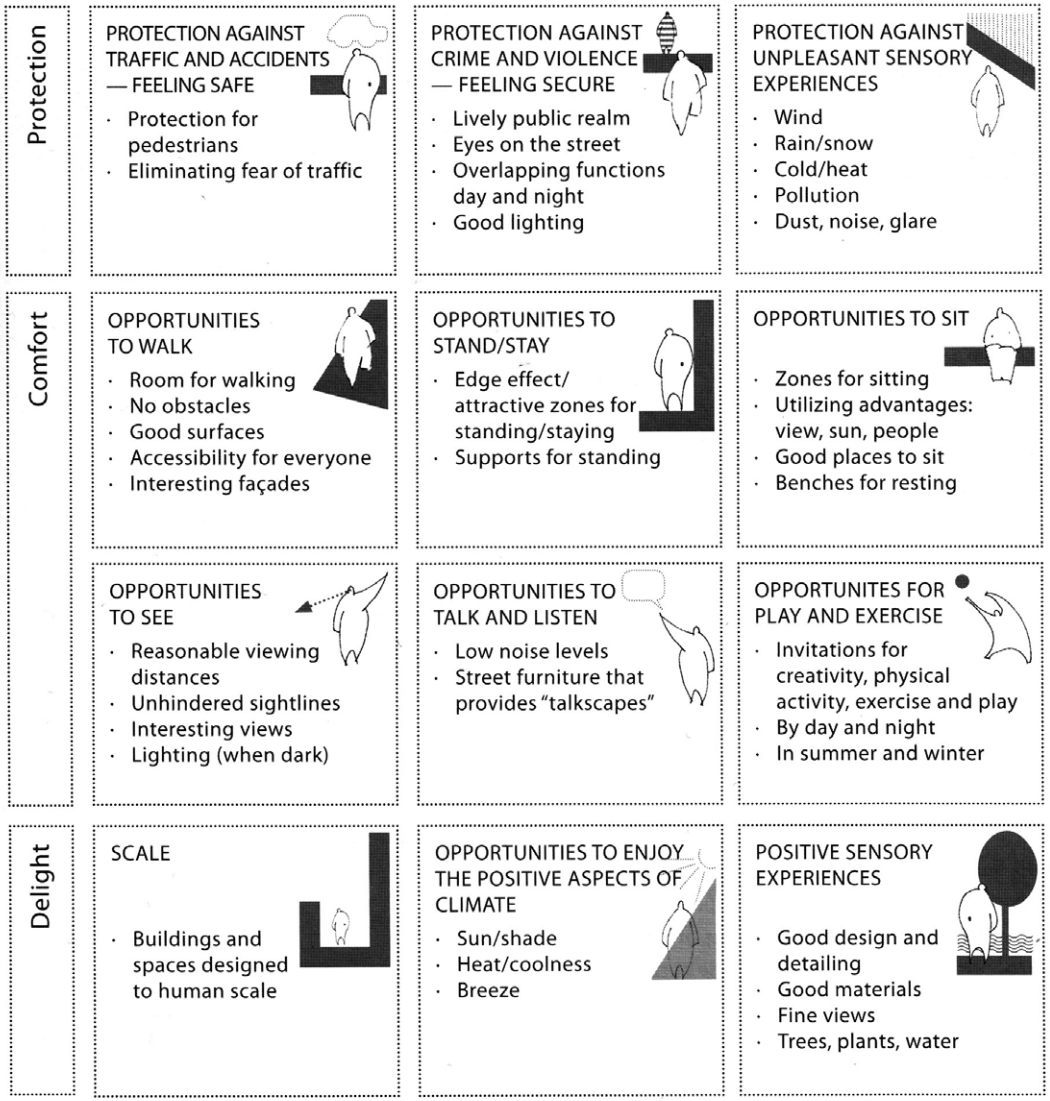
Table 1: 10 Qualities of a Great Street (PPS, 2011a)

Attractions & Destinations
Having something to do gives people a reason to come to a place—and to return again and again. When there is nothing to do, a space will remain empty, which can lead to other problems. In planning attractions and destinations, it is important to consider a wide range of activities for: men and women; people of different ages; different times of day, week and year; and for people alone and in groups. Create an enticing path by linking together this variety of experiences.
Identity & Image
Whether a space has **a good image and identity is key to its success**. Creating a positive image requires keeping a place clean and well-maintained, as well as fostering a sense of identity. This identity can originate in showcasing local assets. Businesses, pedestrians, and driver will then elevate their behavior to this vision and sense of place.
Active Edge Uses
Buildings bases should be human-scaled and allow for interaction between indoors and out. Preferably, there are active ground floor uses that create valuable experiences along a street for both pedestrians and motorists. For instance, a row of shops along a street is more interesting and generally safer to walk by than a blank wall or empty lot. **Sidewalk activity also serves to slow vehicular traffic**. At the very minimum, the edge connection should be visual, allowing passers-by to enjoy the activity and aesthetics of the indoor space. These edge uses should be active year-round and unite both sides of the street.
Amenities
Successful streets provide amenities to support a variety of activities. These include attractive waste receptacles to maintain cleanliness, street lighting to enhance safety, bicycle racks, and both private and public seating options—the importance of **giving people the choice to sit where they want** is generally underestimated. Cluster street amenities to support their use.
Management
An active entity that manages the space is central to a street's success. This requires not only keeping the space clean and safe, but also managing tenants and **programming the space to generate daily activity**. Events can run the gamut from small street performances to sidewalk sales to cultural, civic or seasonal celebrations.
Seasonal Strategies
In places without a strong management presence or variety of activities, it is often difficult to attract people year-round. Utilize seasonal strategies, like holiday markets, parades and recreational activities to activate the street during all times of the year. If a street offers a unique and attractive experience, **weather is often less of a factor than people initially assume**.
Diverse User Groups
As mentioned previously, it is essential to **provide activities for different groups**. Mixing people of different race, gender, age, and income level ensures that no one group dominates the space and makes others feel unwelcome and out of place.
Traffic, Transit & the Pedestrian
A successful street is easy to get to and get through; it is visible both from a distance and up close. Accessible spaces have high parking turnover and, ideally, are **convenient to public transit and support walking and biking**. Access and linkages to surrounding destinations must be a part of the planning process. **Automobile traffic cannot dominate the space** and preclude the comfort of other modes. This is generally accomplished by slowing speeds and sharing street space with a range of transportation options.
Blending of Uses and Modes
Ground floor uses and retail activities should spill out into the sidewalks and streets to **blur the distinction between public and private space**. Shared street space also communicates that no one mode of transportation dominates.
Protects Neighborhoods
Great streets support the context around them. There **should be clear transitions** from commercial streets to nearby residential neighborhoods, communicating a change in surroundings with a concomitant change in street character.

The right streetscape design can help transform our downtowns into people places that provide for more amenities and activities, giving people a reason to come to the street. Our streets should be designed as destinations and connections. Great streets must cater to the pedestrian and not be dominated by automobile traffic. A truly great street can add to the city's image and help foster positive community identity (PPS, 2011a).

Jan Gehl is a world-renowned Danish architect and professor of urban design. He proposes that our streets should be designed to be inviting to pedestrians, encouraging participation in public life (Gehl, 2006, p.17). In his book 'Cities for People', Gehl argues "cities must urge urban planners and architects to reinforce pedestrianism as an integrated city policy to develop lively, safe, sustainable and healthy cities" (Gehl, 2010, p.6). In designing our streets, we should start with the human dimension, considering its interaction with children, elderly and people with disabilities (Gehl, 2010, p.93). He also mentions how something as simple as slowing vehicular traffic speed can have a significant impact on the amount of pedestrian activity (Gehl, 2006, p.77). Gehl identifies a list of 12 quality criteria concerning the pedestrian landscape of which most can be applied to streetscape design (Figure 31).

Figure 31: Quality concerning the pedestrian landscape. (Gehl, 2010, p. 239)



"It is on the small scale, in the 5km/h (3mph) urban landscape that people encounter the city close up. It is here that the individual out walking has time to enjoy quality – or suffers from its lack."
(Gehl, 2010, p. 118)

"...pedestrians can thrive with other forms of traffic as long as it is crystal clear that all movement is based on the premise of pedestrians." (Gehl, 2010, p. 94)

Changing Barrington Street to a more pedestrian-friendly environment could help revitalize the once thriving shopping street and enhance downtown Halifax.

3.4 ACCEPTED PRACTICES FOR PEDESTRIAN ORIENTED SHOPPING STREETS

HRM is willing to consider changes to its own Municipal Design Guidelines (HRM Red Book) that are in support of the Streetscape Typologies mentioned earlier, and in Appendix A of the DHSMPS (HRM, 2009b, Policy 51). International standards for streetscape design are invaluable references for re-designing the civic environment. They can provide insight into modern trends in streetscape re-development. Accepted United Kingdom (UK) (Figure 32) and New York (Figure 33) standards propose:

- Lowering traffic speeds to reinforce 'sense of place' in an area (Homes and Communities Agency (HCA), 2007, p.76). This can be done by limiting traffic speed or introducing traffic calming measures. As a key concept, slower streets are also safer for pedestrians as well as cyclists, who can share the road with vehicles when speeds are 30km/h or slower (HCA, 2007, p.73). For urban streets the key is integration, designing for all uses and users (HCA, 2007, p.75).

- Consideration of the pedestrian experience. The street should cater to the senses through sight, sound, touch and smell (HCA, 2007, p.100).

- A strengthening of local identity to create a distinctive place. This can be accomplished by using local materials, historical elements, interactive features, public art and elements proposed by community design competitions (HCA, 2007, p.101).

Figure 32: London Standards (Transport for London, 2009)

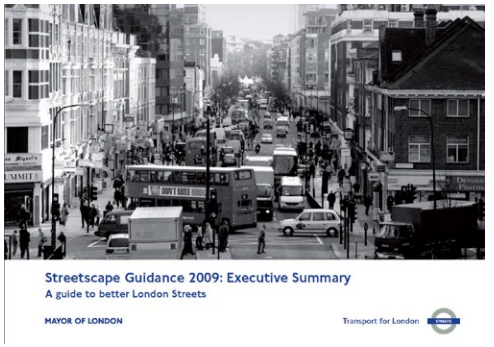
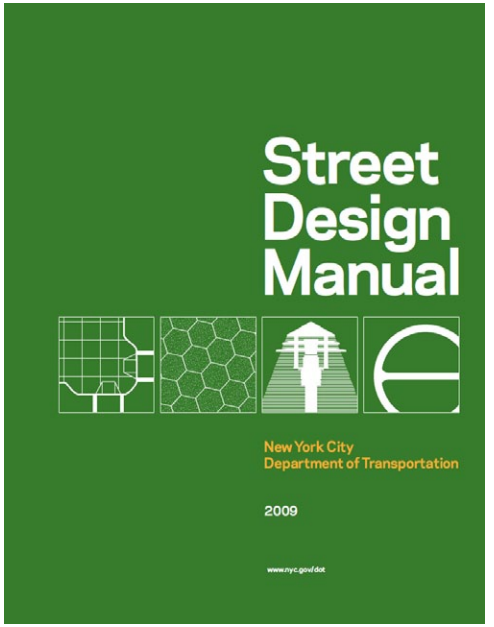


Figure 33: New York Standards (New York City Department of Transportation, 2010)



- The need to design for pedestrians, including pedestrian lighting, uncluttered footways and safe streets as key design principles (Transport for London, p.5).

- The importance of designing streets that encourage physical activity, include public seating and recognize the importance of connecting open spaces (New York City Department of Transportation, 2010, p.23).

3.5 HERITAGE CONSERVATION STANDARDS

Canadian standards for conservation inform how a Heritage Conservation District could help transform Barrington Street. Highlights from the standards include:

- conserving heritage value and character-defining elements
- recognizing the place as a record in time
- repairing elements rather than replacing them
- replacing any missing features and making new works visually compatible

(Canada's Historic Places, 2010)

If the above standards are to be respected, a moment in time should be selected that best represents the character of the streetscape to be preserved. The 2003 Barrington Street Heritage District Report reflects this requirement, suggesting 1925 as the ideal moment in time for Barrington Street (HRM, 2003, p.56).

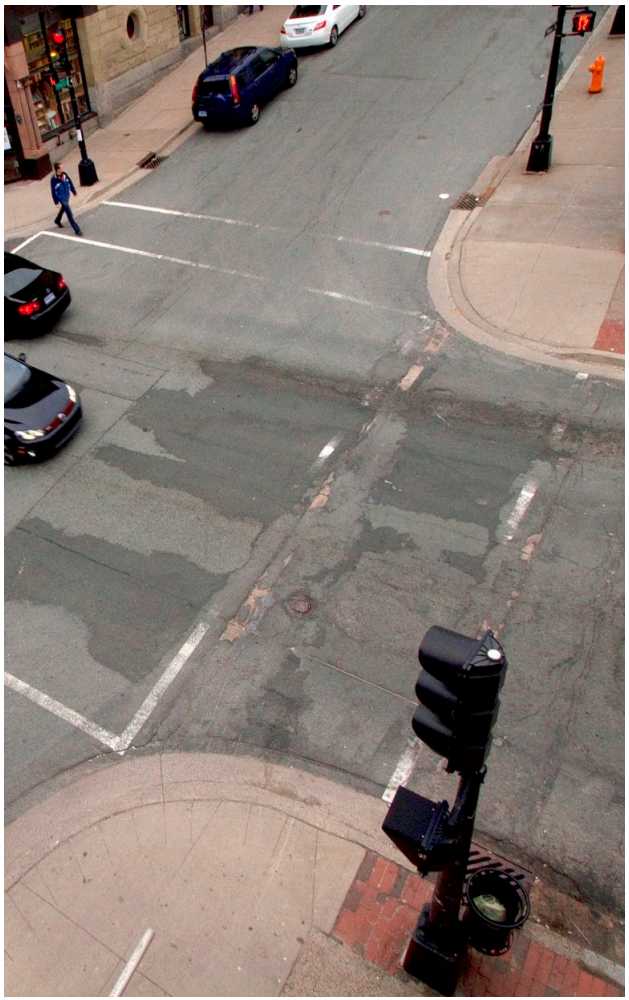
3.6 CONSISTENT PRIORITIES

The vision for Barrington Street to become a pedestrian and transit oriented street while reinforcing historic character is an accepted approach for future streetscape improvement. HRM's desired shift in priorities towards pedestrians is supported by experts in urban design (Gehl and Project for Public Spaces) and internationally accepted standards (UK and New York).

Barrington Street is in need of improvement as seen by it's visibly diminished state (Figure 34). Almost 90 years since its 'heyday', now is the time to enhance the streetscape and begin shifting the priority back from cars to people and transit.

"After almost 50 years of neglect of the human dimension, here at the beginning of the 21st century we have an urgent need and growing willingness to once again create cities for people." (Gehl, 2010, p. 29)

Figure 34: Visibly diminished state of Barrington Street



4.0 PROBLEM STATEMENT

In 2009, Halifax Regional Council approved a Downtown Plan that includes a Heritage Conservation District designation for Barrington Street. Though the plan contains many policies for private property, it offers little more than guiding principles for the street itself, merely calling for Barrington Street to become a pedestrian and transit oriented shopping street. Since amalgamation, multiple streetscape design approaches have been proposed by HRM with few physical changes to Barrington Street. Considering the new Barrington Street Heritage Conservation District (BSHCD) Designation, are any of the past proposals appropriate for the BSHCD? If not, do other alternatives exist? By exploring previous design proposals and exploring alternative solutions, it is possible to evaluate the proposals and resurrect some of the ideas presented. Conceptual design can be used to test and evaluate the various design approaches. Finally a detailed concept, illustrated design and policy recommendations can be made.

5.0 GOALS AND OBJECTIVES

The following goals and objectives outline general achievements and measurable activities for the project:

GOAL 1

Define HRM's intention for the Barrington Street Heritage Conservation District streetscape.

- Objective 1a: Define a list of guiding principles based on the 2009 Council Approved Downtown Plan.

GOAL 2

Develop an understanding of the existing study area.

- Objective 2a: Perform a site analysis.
- Objective 2b: Identify potential opportunities and ideas

GOAL 3

Explore and evaluate the proposed streetscape design options.

- Objective 3a: Apply each of the previous design proposals to a test-block at a conceptual level.
- Objective 3b: Prepare alternative design proposals.
- Objective 3c: Evaluate the concepts.
- Objective 3d: Select concept that best meets HRM's vision.

GOAL 4

Develop selected concept at a schematic level for the entire study area.

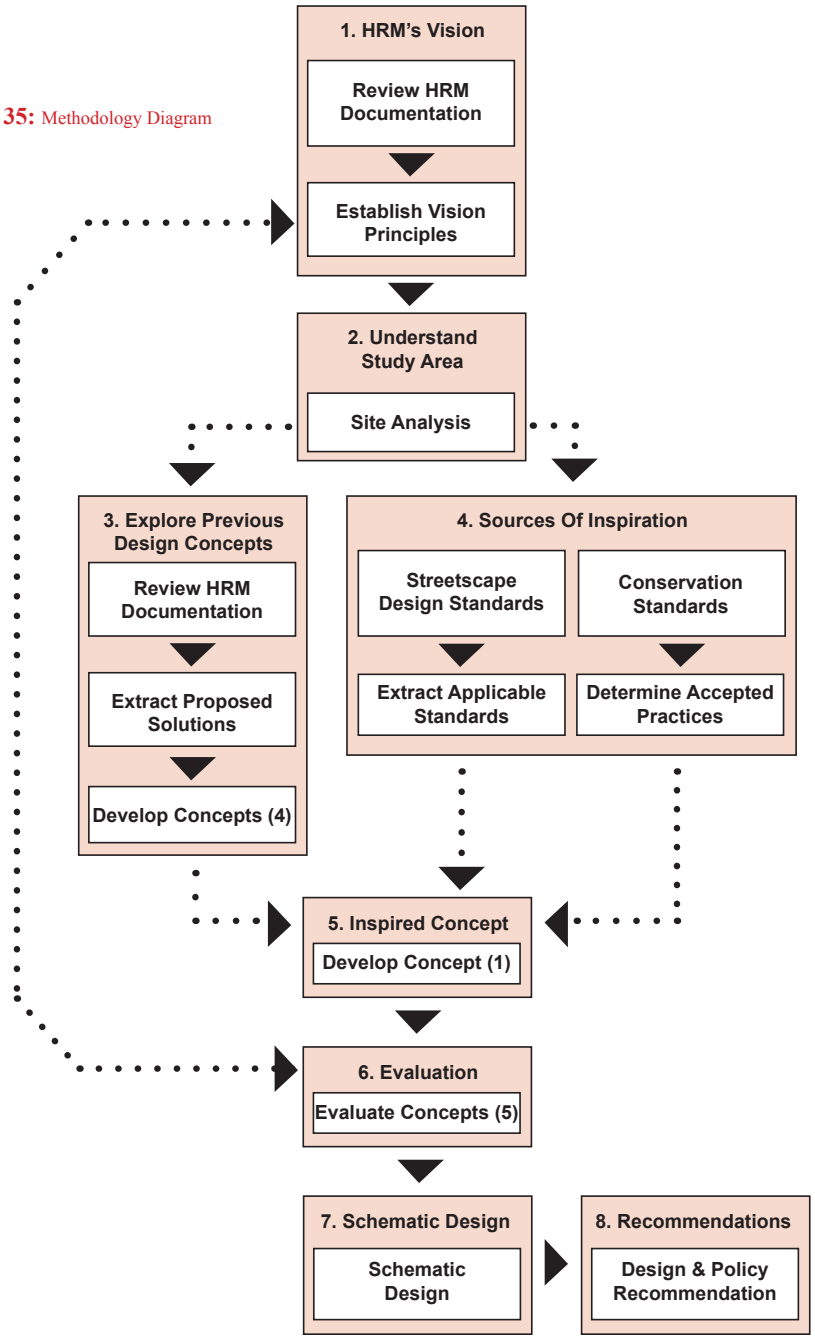
- Objective 4a: Develop a schematic design based on selected concept.

GOAL 5

Make recommendations.

- Objective 5a: Develop illustrated design and policy recommendations.

Figure 35: Methodology Diagram



6.0 METHODS

The Methods section is divided into eight steps outlined in Figure 35. The first step is to understand HRM's vision for Barrington Street.

6.1 ESTABLISH HRM'S VISION AND DETERMINE GUIDING PRINCIPLES

It is important to understand existing intentions for Barrington Street. A review was conducted of HRM documentation related to the Barrington Street Heritage Conservation District (See section 3.2).

6.2 UNDERSTAND THE EXISTING STUDY AREA

Site analysis is an important step in understanding a study area. The following methods were used for analysis:

6.2.1 Base Plan and 3D Models

Existing base mapping was provided by HRM showing buildings, streetscape elements and curb alignments. This was helpful in developing concepts and making calculations. For concept and schematic development, the sidewalk, road dimensions and other features were updated by making measurements on site using a laser disto-measuring device. Two 3D Sketchup models were also provided by HRM for reference. The first is a model of existing buildings in the study area. The second is a model of the entire downtown Halifax. The latter assisted in shadow analysis.

6.2.2 Site Visits:

Multiple site visits were made throughout the study period. Thousands of photos were taken of the study area for reference. In addition, Google Street View and Bing Maps were used for reference as required.

6.2.3 Daytime Analysis

Daytime analysis was conducted to better understand the study area. Items located include adjacent green spaces, windy areas, bus stops, common panhandler locations, vacant sites, paving materials, and intersections.

6.2.4 Shadows

Using Sketchup and the 3D model of downtown Halifax provided by HRM, a shadow analysis was undertaken to determine areas of light and shade within the study area. Hourly shadow calculations were exported and overlaid using Photoshop to highlight areas of continuous shade and areas of minimum shade. The analysis was undertaken for March 21, June 21 and Dec. 21, to represent conditions throughout the year.

6.2.5 Roadway Analysis

To understand the functionality of Barrington Street a plan showing current street allocation was prepared using HRM's mapping as a base. The various zones include parking, loading, bus stops and tow-away zones.

6.2.6 Traffic Analysis:

Pedestrian, vehicle and transit counts were undertaken on the block between Prince and Sackville Streets. To estimate peak hourly flows, 15 minute periods were observed for times of high traffic throughout the week. The counts were then multiplied to achieve an hourly flow.

Using data provided by Metro Transit, calculations were made to determine the number of buses passing through the study area on a typical weekday. Calculations regarding peak flow and frequency were also made.

A motion analysis was conducted using 20 photos taken from the same location and compared in Photoshop. The analysis only provides an indication of activity.

6.2.7 Sound Analysis

Using a sound meter, decibel readings were logged for various models of Metro Transit buses and other vehicle types to understand the sound levels experienced in the study area.

6.2.8 Historic Images

Historic photos provided insight into potential design solutions for the streetscape including paving materials, canopies, signage and street furniture. The photos were also used to calculate the historic sidewalk width. By measuring the same building features visible in the photo that are existing today, it was possible to scale the sidewalk width.

6.2.9 Heritage Resources

Heritage conservation is a key policy of the Downtown Plan, calling for the protection and conservation of character-defining elements and heritage resources (HRM, 2009b, Policy 40). Based on review of the background documents and the site analysis, a number of these resources and elements were identified. Also, ideas for reinforcing historic character were identified.

6.2.10 Night Time Analysis

Night analysis helped provide insight on issues related to lighting and safety and includes comments relating to maintenance and connectivity.

6.2.11 Lighting

A detailed lighting analysis was undertaken to determine lighting issues within the study area. The analysis was undertaken with a digital light meter the evening of February 17, 2011 from 10-10:30pm. Measuring in Lux (a measurement of light intensity), the light meter was held at approximately one meter above the ground. Values were noted on a base plan of the study area and then digitally reproduced in AutoCAD as topographic points. The points were then used to generate a 3D surface, to which a coloured elevation gradient was applied to highlight areas of inadequate lighting.

6.3 EXPLORE PREVIOUS DESIGN PROPOSALS

Many of the previous documents relating to Barrington Street have proposed designs or hinted at potential solutions. Using a test block, one concept for each of the key proposals is explored. The block between Prince and Sackville was selected as the test block for concepts for the reason that it still reflects the historic street grid, has two bus stops and has lighted intersections at either end. The concepts are:

1. Mid-Block Extension (referring to designs proposed in the 1998 and 2005 reports)
2. 2003 - 1925 Heritage Streetscape (referring to the design proposal in the 2003 report)
3. 2007 - Functional Design
4. 2008 - Public Realm Handbook

This process required the use of multiple design techniques including overlay mapping, on-site measurements and additional site visits. This iterative process required multiple drafts before final concepts were produced. Calculations were made for each concept for later evaluation.

6.4 SOURCES OF INSPIRATION

For inspiration, multiple standards and streetscape designs were studied. Applicable standards were extracted and used as a basis for developing further concepts for the test block (Prince to Sackville Streets). The design standards that were considered include:

1. Transport for London Streetscape Guidance (Transport for London, 2009)

2. New York Street Design Manual (New York City Department of Transportation, 2010)

3. Standards & Guidelines for the Conservation of Historic Places (Canada's Historic Places, 2003)

4. Granville Street Redesign Project (City of Vancouver, 2010a)

6.5 INSPIRED CONCEPT

Upon completion of steps three and four, an additional design solution was explored. It was inspired by the previous concepts and accepted streetscape standards. This step is intended for exploration of approaches not already considered.

6.6 EVALUATION

The concepts are then evaluated based on the HRM's guiding principles (from step one) and additional criteria relating to safety and construction costs.

A survey, prepared to determine the importance of each criterion, was submitted to professionals in fields relating to streetscape design. The survey included questions relating to profession, years of experience and indication of knowledge of the applicable HRM documents relating to Barrington Street. Once returned, the survey results were compiled in a spreadsheet and an average level of importance for each criterion was calculated for use as a weighting factor. It was possible to rank the criteria using calculations from each test-block concept. Using results from the survey, the concept's rank was multiplied by the criterion weight to determine a score. The total rank and total scores (weighted) were tallied. Finally, the total scores were subjected to a functionality test where non-functioning concepts (identified during concept development) had their scores multiplied by zero to eliminate them from the evaluation. The concept with the highest total score (weighted) was selected for schematic design.

The selected concept was subjected to a strengths and concessions critique based on the evaluation results. This part of the evaluation can provide insight by reviewing what criteria the selected concept out-performed the other concepts, and where the other concepts scored better.

6.7 SCHEMATIC DESIGN

Considering the results of the evaluation, a final concept was developed at a schematic level incorporating the design elements that best represent the intentions of the Barrington Street Historic District.

A schematic design was completed including plans, sections and perspectives to explore the selected concept and design solutions at a greater level of detail. Using the base mapping and 3D models provided by HRM, the schematic designs were developed using a combination of computer and hand-generated techniques. Once the schematic design was complete, it was possible to consider the design based on guiding principles and comment on potential changes to HRM policy and design standards.

6.8 RECOMMENDATIONS

Finally, policy and illustrated design recommendations were made as a result of the schematic evaluation.

For a list of software used throughout the project, see Figure 36.

Figure 36: Software Used

Software Used	Description
AutoCAD Civil 3D 2009	Used for initial development of base mapping, concepts and schematics.
Sketchup 7	Used for analyzing the 3D Model provided by HRM, shadow analysis, concept development, perspective views.
Adobe Photoshop CS4	Used for image processing and enhancing presentation graphics.
Adobe InDesign CS4	Used for generating charts, graphics and the final report document.
Microsoft Office	Excel and Word were used for report development and basic workflow.

7.0 INVENTORY / OUTCOMES

7.1 DAYTIME ANALYSIS

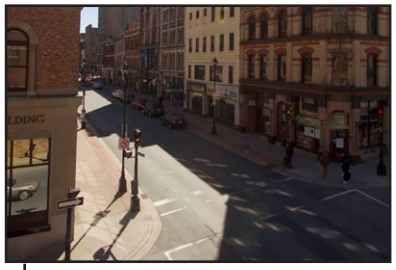
Daytime analysis is represented on the following three pages.

Opportunities for improvement include:

- Installing street trees or architectural elements to baffle wind
- A pedestrian access from St. Paul's Church to Province House
- Additional seating options
- Infill or activation of vacant storefronts
- Bike racks
- Maintenance
- Consistent use of materials

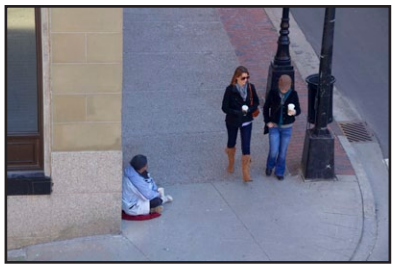
Bus Stops

There are ten bus stops in the study area, all on Barrington Street.



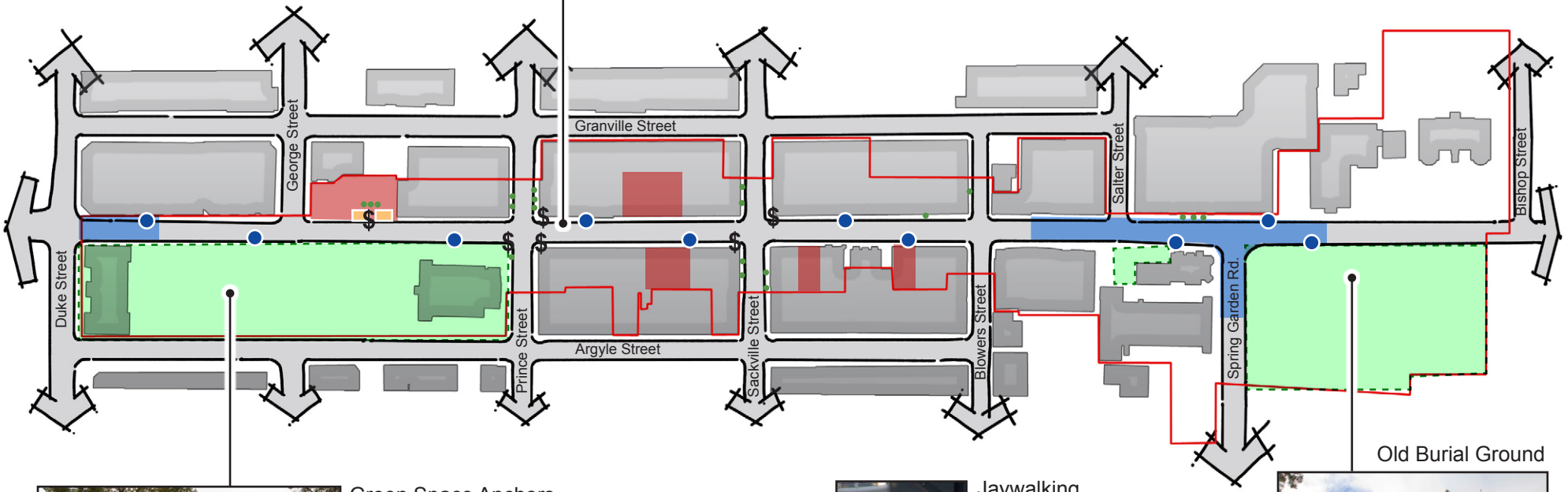
Afternoon Sun

The eastern sidewalk is subject to longer periods of afternoon sun.



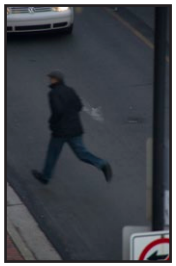
Panhandling

A common activity in the study area. There are multiple locations frequented by panhandlers.



Green Space Anchors

Significant green spaces anchor the study area. Grand Parade and the Old Burial Ground contain most of the vegetation.



Jaywalking

Jaywalking is a common activity for pedestrians in the study area.

Figure 37: Daytime Analysis

Green Space | Vacant Sites | Windy Area | Bus Stops | $ Common Panhandler Locations | Bike Rack

s 30 15 0 75 m

1 : 3,000

George Street

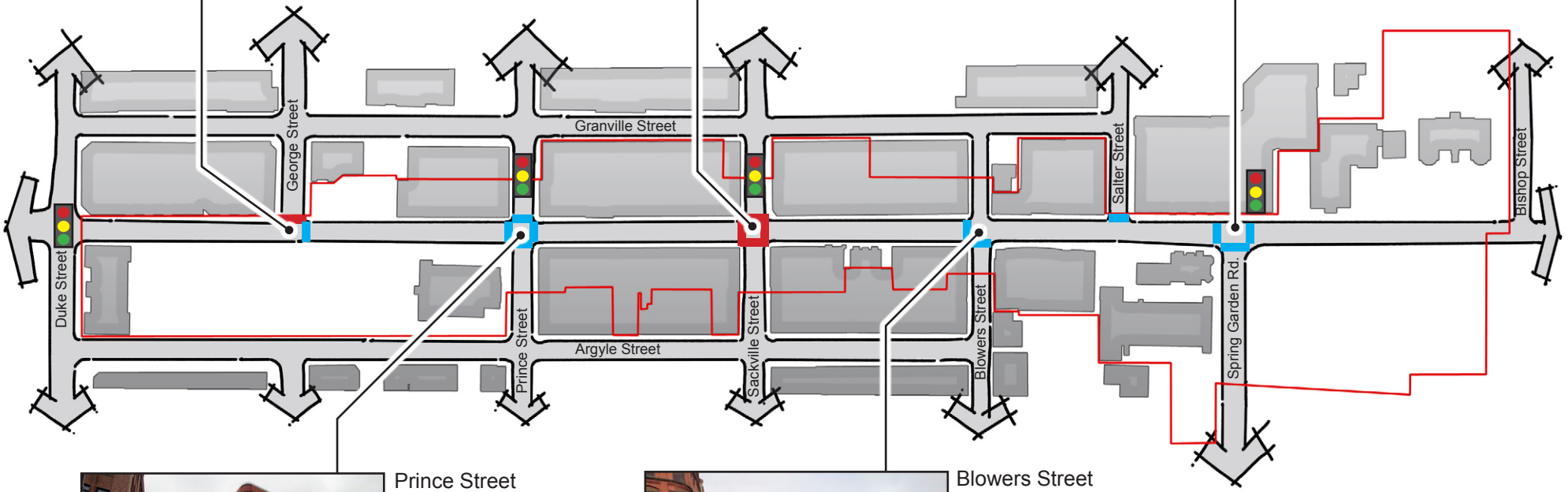
Over time, maintenance has led to a patchwork of exposed aggregate concrete and asphalt at this crosswalk. Only two of three possible cross-walks are defined.

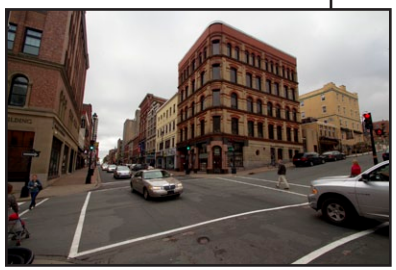
Sackville Street

Exposed aggregate crossings are found at this signalized intersection.

Spring Garden Rd.

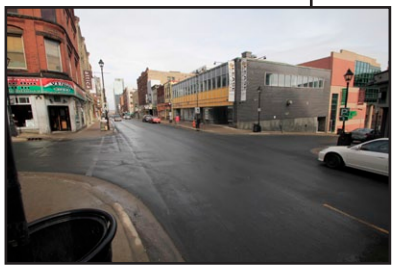
Painted crossings are found at this signalized intersection.





Prince Street

Painted Crossings.
Signalized intersection.



Blowers Street

Two of four possible crossings are defined. The painted lines that exist are well worn and likely difficult for drivers to see.

Figure 38: Daytime Analysis - Crosswalks and Intersections

Signalized Intersection

Concrete Aggregate Crosswalk
Painted Crosswalk

30 15 0 75 m
1 : 3,000

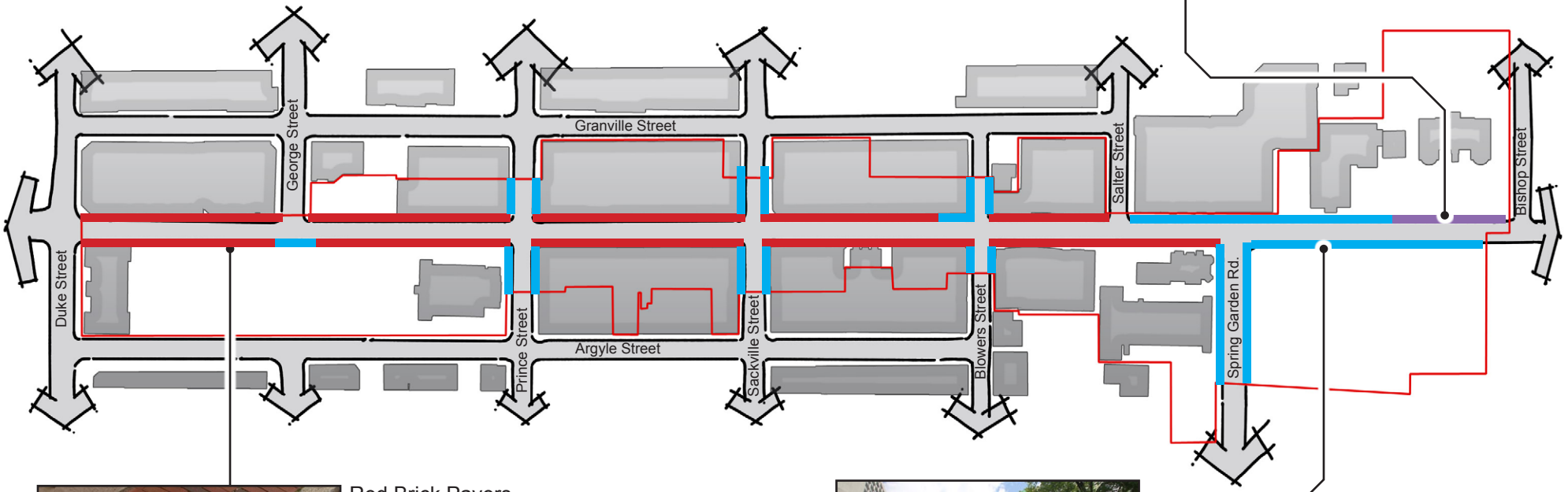
N

Maintenance

Pavers require constant maintenance. Relatively new concrete pavers used at the nearby Scotia Square Transit Terminal are already disintegrating.

Concrete Pavers

Concrete pavers have recently been added to the sidewalk in front of Government House.



Red Brick Pavers

Much of the study area has red brick pavers and concrete sidewalks. The blocks between Duke and Prince Streets have granite curbs instead of concrete.

Concrete Sidewalks

All side streets and a section near Spring Garden Road have concrete sidewalks with concrete curb and gutter.

Figure 39: Daytime Analysis - Sidewalk Materials

Concrete

Concrete sidewalk with red brick furnishing zone

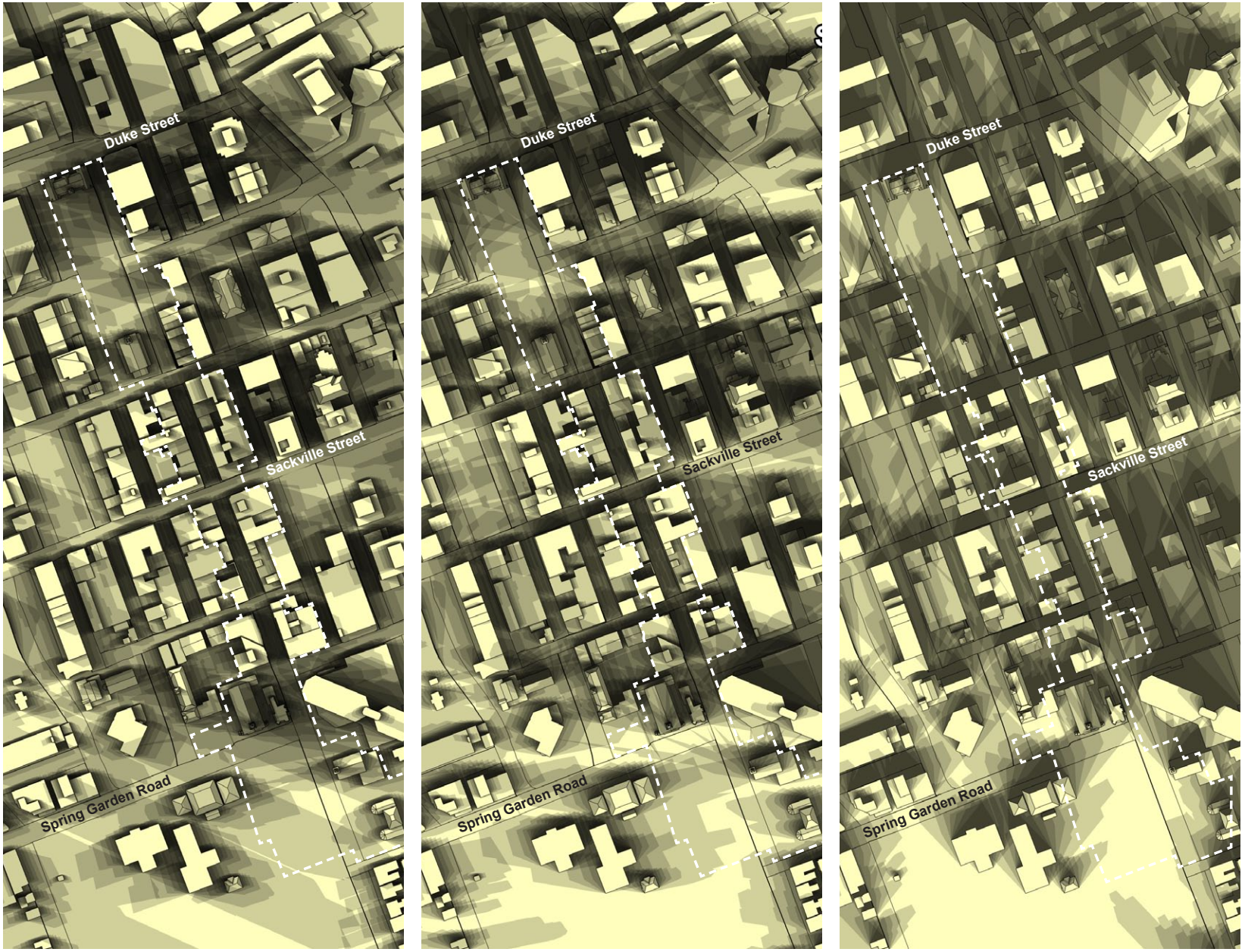
Concrete Sidewalk with concrete paver furnishing zone

30 15 0 75 m

1 : 3,000

N

Figure 40: Shadow Analysis



June 21 September 21 December 21

Base Data Source: 3D model (HRM, 2011)

7.2 SHADOW ANALYSIS

Most of Barrington Street has access to limited sunlight (Figures 40 & 41). Due to Barrington Street's north-south orientation, the street receives direct sunlight for a few hours at mid-day. The eastern sidewalk receives higher amounts of afternoon sun (Figure 41). Areas around Grand Parade and the Old Burial Ground receive the most amount of light.

In some cases the fencing, buildings and streetscape elements create interest by casting shadows on the street (Figure 42). Windows from adjacent buildings reflect sunlight into the street in interesting patterns (see Figure 41, 3pm).

Opportunities to improve access to sunlight:

- Concentrate pedestrian amenities in areas that receive the least shade or the most afternoon sun. Areas include the eastern sidewalk and blocks adjacent to Grand Parade and the Old Burial Ground.
- Install heliostats on top of nearby buildings with good solar exposure (Figure 43). Heliostats were installed above Teardrop Park in Manhattan, New York at a cost of $118,333 per unit (New York Times, 2005).

Figure 41: Sunlight on Barrington Street (March 27, 2011)

6

Hours of sunlight observed on the street in Figure 41.

Figure 42: Shadows can be used to create interest.

Figure 43: Heliostats can bring sun to Barrington Street (New York Times, 2005)

7.3 TOPOGRAPHIC ANALYSIS

Barrington Street has a linear grid alignment, but the street varies 10 meters in elevation from Duke Street to Spring Garden Road (Figure 45). Due to its location on the side of a hill, the street also has significant cross-slopes in places, meaning one side is higher than the other, as seen in Figure 44. For example, expansion of the sidewalk in front of Starbucks would create a higher than standard curb. Any proposed sidewalk expansions will need to address the challenge of cross-slopes. Many of the intersections feature steep sidewalks (10-15%) and can be a hazard for pedestrians during slippery conditions. The steep sidewalks can also act as a deterrent to pedestrians, cyclists, and the mobility impaired.

Opportunities to improve topography:

- Use of inflected sidewalks with a centre gutter to allow for sidewalk expansion in areas of steep cross-slope.
- Install a narrow strip of steps on side street slopes (maintaining at least a minimum clear path for typical use and wheelchairs) (Figure 46).
- Install a pulley system to assist cyclists, wheelchairs, skateboarders up hill.

Figure 44: Barrington Street Elevation

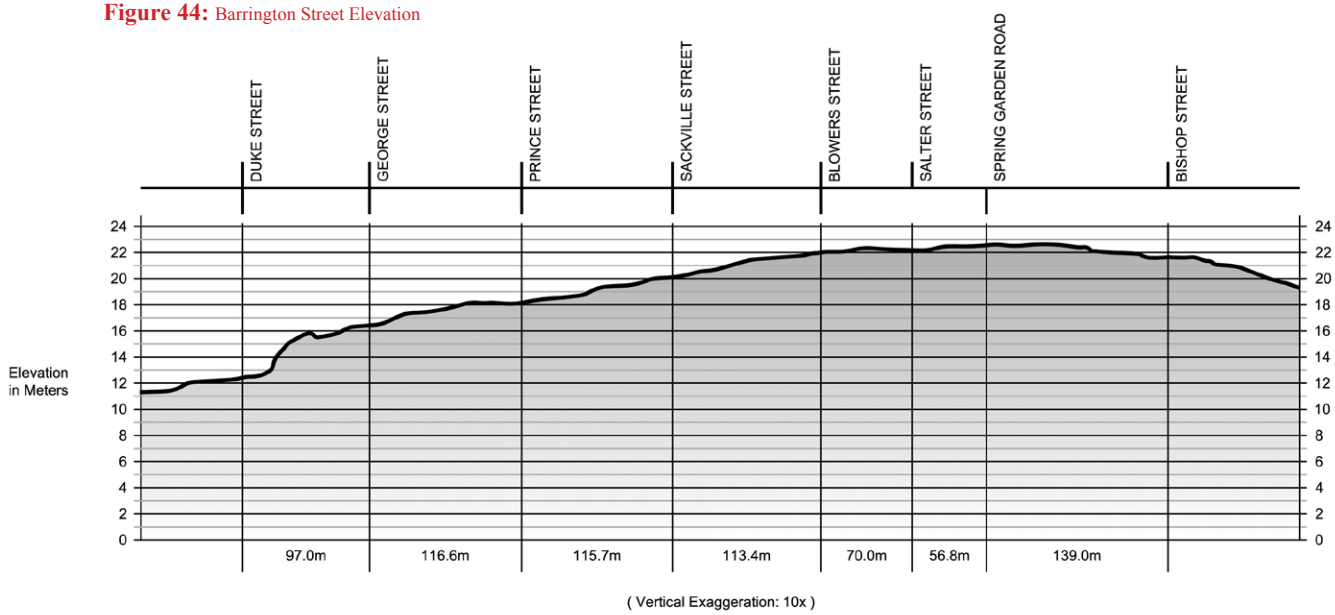


Figure 45: Cross Slope (Just North of Sackville Street)

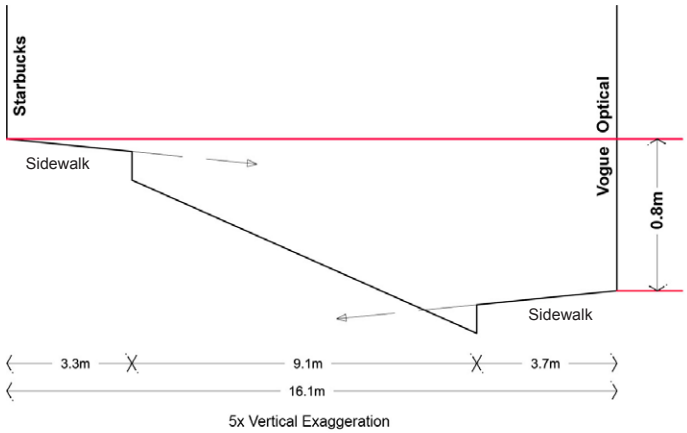


Figure 46: Steep sidewalk steps (123RF, 2011)

7.4 ACCESSIBILITY ANALYSIS

As identified in the topographic analysis, most of the side streets intersect Barrington Street at steep grades. The slopes are a challenge to connectivity and may not meet standards for accessibility. All intersections have crosswalks with curb cuts. All street intersections are legal crosswalks (corner to corner) and pedestrians have the right-of-way (HRM, 2011b). Some intersections on Barrington Street do not have marked crosswalks. From observations, the use of unmarked crosswalks promotes vehicle priority of the street and impedes pedestrian connectivity.

Formal seating is limited to two wooden benches near George Street. Informal seating includes building ledges, steps and walls (Figure 48). Panhandlers are commonly observed sitting on the ground, sometimes on top of a backpack or jacket. The three wooden benches are also a popular location for pedestrians and panhandlers.

Opportunities to improve accessibility

- Rolled or flush curbs to allow wheelchairs to informally cross street, not just at crosswalks.
- Mark all unmarked crosswalks.
- Slow traffic by narrowing road width to make crossing safer for pedestrians.
- Create more formal and informal seating options, catering to people of multiple sizes and abilities. Children require lower seats, while some people require places to rest.
- Add a small bench or seating option at common panhandler locations (as long as minimum sidewalk clear path remains).
- Install a pulley system to assist cyclists, wheelchairs, skateboarders up hill.

Figure 47: One of two formal seating options

2

Number of formal seating options in the study area.

Figure 48: Pedestrians taking advantage of an informal seating option

7.5 MATERIALS ANALYSIS

The road surface in the study area consists of a patchwork of asphalt and concrete framed by concrete gutters, and a mix of concrete and granite curbs. Granite curbs are found along the blocks between Duke and Prince Streets. The sidewalks along Barrington Street are also a mix of materials. The clear path is primarily concrete with patches of asphalt and an occasional steel grate. The furnishing zone, where most furniture elements are placed, is mostly red brick, though it switches to concrete on the side streets and south of Salter Street. Maintenance appears to be a challenge; repairs to concrete are undertaken with asphalt, creating an undesirable patchwork appearance (Figure 49). The furnishing zone in front of Government House is a recent addition, using concrete brick similar to that found at the Scotia Square terminal and Grand Parade.

Opportunities to improve streetscape materials:

- Use durable, long lasting and reusable materials such as granite (Figure 50).
- Improve streetscape materials maintenance program.
- Replace hodgepodge of materials with same material.
- Use of period materials.

Figure 49: Patchwork of materials (Corner of George & Barrington Streets looking south)

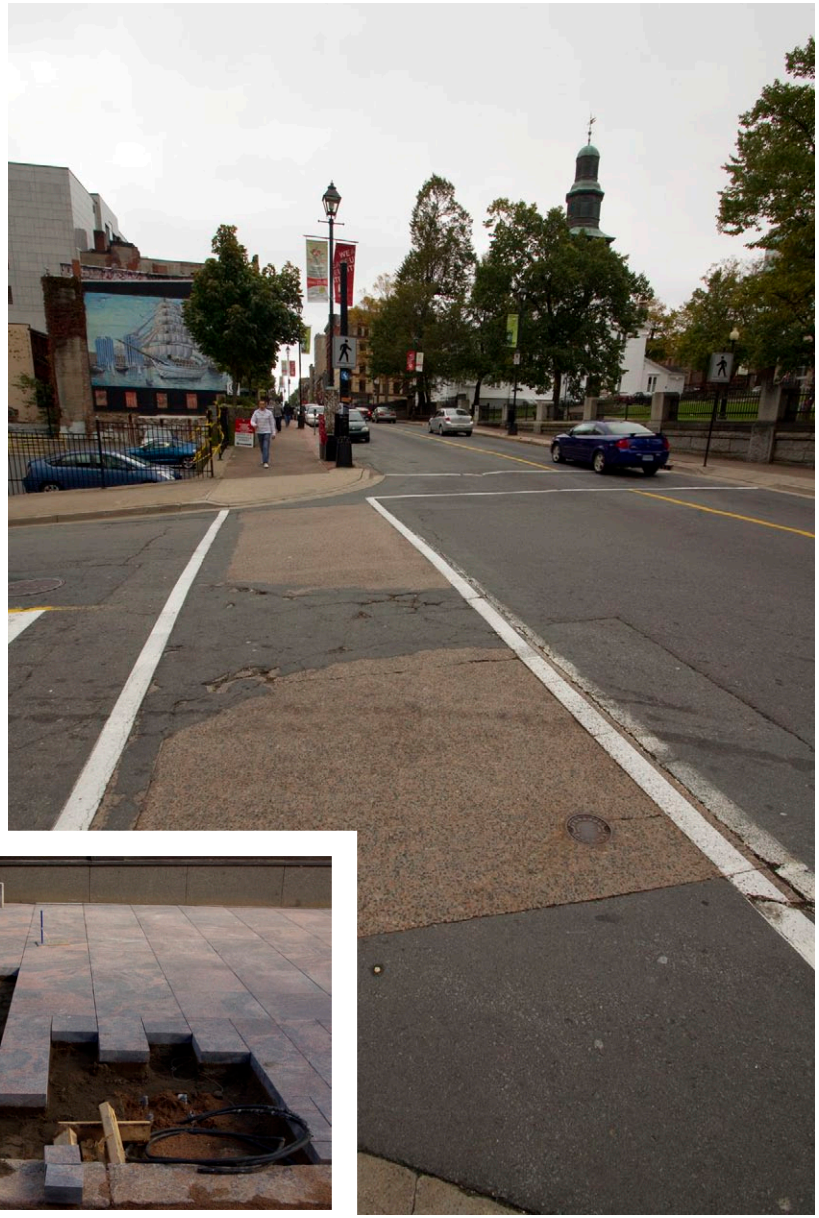
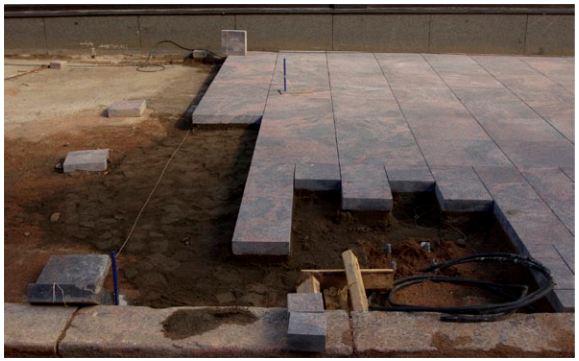


Figure 50: Granite is used for many commercial streets throughout Finland



7.6 STREETSCAPE ELEMENTS

The study area contains the following streetscape elements:

Table 2: Existing Streetscape Elements

Element	Count	Comments
Seating (formal)	2	Wooden planters and benches near George Street provide the only formal seating options on Barrington Street. Informal options include windowsills, planters and steps.
Light Standards	82	The light standards are approximately 8m tall with a historic fixture; support banners and are equipped with wreaths during the holiday season. The light standards are typically located in the furnishing zone (See Figure 52).
Parking Meters	33	33 parking meters on 22 posts (See Figure 53).
Traffic Signal Poles	32	Traffic signal poles are located at intersections, painted black and typically feature separate lights for vehicles and pedestrians.
Waste Receptacles	37	Most are pole mounted and painted black, though new grey pole mounted receptacles have been installed in a few locations (See Figure 51).
Poster Kiosks	7	Six pole mounted and one free standing kiosk. Poster kiosks are a means to communicate upcoming events to those passing.
Sign Posts	9	Typically parking related signage.
Fire Hydrants	7	Painted red, usually located near street corners.
Mail Boxes	7	Four red, three grey.
Payphones	2	The payphones are located near Venus Pizza and Vogue Optical.
Bus Shelters	1	Providing shelter from the wind in the area near St. Mary's Glebe at Barrington and Salter Streets. Made of concrete and glass, the shelter is very dark and tends to collect refuse inside.
Bike Racks	20	Stand alone, circle style, typically located on side streets.

Figure 53: Parking Meter

20
Stand alone bike racks in study area

Figure 51: Pole mounted waste receptacles

Figure 52: Typical Light Standard

Figure 54: Manhole cover with a message

7.7 PARKING ANALYSIS

Barrington Street has 33 parking spaces of which 14 are located on the block south of Spring Garden Road (see Appendix B). Up to eight spaces for accessible parking are available depending on time and day of the week, with only two north of Spring Garden Road.

Opportunities to improve parking:

- Use a demand-based charging system to maintain at least a few random vacant spaces (Shoup, 2005, p. 315).
- If parking is allowed on-street, consider dedicating a few spaces to car sharing programs or small cars.

"If cities charge the right price for curb parking, drivers will always be able to find a convenient place to park at their destination, without cruising. 'Get the prices right' is an axiom in public economics, and the right price for curb parking is the lowest price that will keep a few spaces vacant everywhere. But if cities charge the wrong price for curb parking, drivers waste an astonishing amount of time and fuel in cruising and create a catastrophic amount of traffic congestion" (Shoup, 2005, p. 315).

Loading vehicles typically use the No Parking and No Stopping zones and often drive up on the sidewalk to get out of the way of traffic. This activity encroaches on the pedestrian zone and creates a narrow canyon effect (Figure 56).

Opportunities to improve loading:

- Limit loading to a specific time period to minimize conflict with pedestrians.
- Use a stepped delivery process to eliminate unnecessary movement of goods (larger transfer trucks switching to medium trucks at the city outskirts switching to local delivery vehicles in the city centre). This strategy, known as 'City Logistik', works to minimize the impact of larger vehicles on downtown streets (Low, N. & Gleeson, B., 2003, p. 246).

Figure 55: Loading vehicles on sidewalk

7.8 TRAFFIC ANALYSIS

Traffic counts were conducted at various times during the week in February and March to understand the pedestrian and vehicular flows. The counts were observed just south of the intersection of Prince and Barrington Streets.

"If the pedestrian flows on the sidewalks are at a rate less than a thousand people an hour, the city could pave the streets with gold for all the difference it would make. The city is one that is losing its centre or has already done so. There are simply not enough people to make it work." (Whyte, 2009, p. 6)

Table 3: Traffic Counts

22/02/2011 Tuesday 8:15-8:30am	Sidewalk (east)			Lanes						Sidewalk (west)			Total		Total (per hour)	
	Direction			Direction						Direction						
	North	South	Total	North			South			North	South	Total	Pedestrians	Vehicles	Pedestrians	Vehicles
	35	30	**65**	**65**			**98**			32	13	**45**	110	163	440	652
	54%	46%	59%	Cars	Buses	Other	Cars	Buses	Other	71%	29%	41%				
				53	12	0	77	21	0							
Notes:	Overcast and -5 degrees. 1 jaywalkers observed at mid-block. A panhandler on south-east corner of Prince & Barrington															

16/03/2011 Wed. 12:10-12:25pm	Sidewalk (east)			Lanes						Sidewalk (west)			Total		Total (per hour)	
	Direction			Direction						Direction						
	North	South	Total	North			South			North	South	Total	Pedestrians	Vehicles	Pedestrians	Vehicles
	44	53	**97**	**59**			**77**			15	47	**62**	159	136	636	544
	45%	55%	61%	Cars	Buses	Other	Cars	Buses	Other	24%	76%	39%				
				51	8	0	67	6	4							
Notes:	Sunny, 3 degrees. 7 jaywalkers observed at mid-block. A panhandler on south-east corner of Prince & Barrington															

17/02/2011 Thursday 4:15-4:30pm	Sidewalk (east)			Lanes						Sidewalk (west)			Total		Total (per hour)	
	Direction			Direction						Direction						
	North	South	Total	North			South			North	South	Total	Pedestrians	Vehicles	Pedestrians	Vehicles
	62	40	**102**	**95**			**81**			27	19	**46**	148	176	592	704
	61%	39%	69%	Cars	Buses	Other	Cars	Buses	Other	59%	41%	31%				
				79	15	1	71	10	0							
Notes:	Sunny and 5 degrees. During winter games. Band practicing at Grand Parade. 6 Jaywalkers around mid-block															

19/02/2011 Saturday 3:15-3:30pm	Sidewalk (east)			Lanes						Sidewalk (west)			Total		Total (per hour)	
	Direction			Direction						Direction						
	North	South	Total	North			South			North	South	Total	Pedestrians	Vehicles	Pedestrians	Vehicles
	56	33	**89**	**88**			**53**			28	7	**35**	124	141	496	564
	63%	37%	72%	Cars	Buses	Other	Cars	Buses	Other	80%	20%	28%				
				84	4	0	52	1	0							
Notes:	Overcast and 2 degrees. During winter games. Band practicing at Grand Parade. Panhandler at south-east corner of Prince & Barrington. 4 jaywalkers observed at mid-block.															

20/02/2011 Sunday 3:15-3:30pm	Sidewalk (east)			Lanes						Sidewalk (west)			Total		Total (per hour)	
	Direction			Direction						Direction						
	North	South	Total	North			South			North	South	Total	Pedestrians	Vehicles	Pedestrians	Vehicles
	20	22	**42**	**70**			**51**			15	17	**32**	74	121	296	484
	48%	52%	57%	Cars	Buses	Other	Cars	Buses	Other	47%	53%	43%				
				66	4	0	50	1	0							
Notes:	Overcast and 3 degrees. Flurries. 2 jaywalkers observed at mid-block.															

636
pedestrians per hour
(peak count)

7.8.1 Pedestrians

The highest pedestrian levels observed were 636/hour (Wednesday lunch hour), while the lowest observed was 296/hour (Sunday afternoon) (See Table 3). According to William Whyte, Barrington Street does not have enough pedestrian traffic to make it work (Whyte, 2009, p. 6). He argues that a street needs more than a thousand people/hour. Pedestrians tend to favor the east sidewalk during the day (64%). Jaywalking is a common activity on Barrington Street (28/hour during the peak pedestrian count).

64%
of pedestrians use the eastern sidewalk

7.8.2 Vehicles

Vehicular counts ranged from 484 to 704 vehicles/hour. Typically, more vehicles than pedestrians are observed. A basic motion analysis conducted provides an indication that vehicles infrequently use the entire road width (Figure 56).

1.2
vehicles for every pedestrian

Figure 56: Traffic Motion Analysis

7.8.3 Transit

A high of 21 Metro Transit buses were observed in one 15-minute period (Table 3). Over 1100 buses travel through the study area during the typical weekday (HRM, 2011a) (see Figure 56). During hours of operation, this works out to an average of one bus/minute, with a peak of 1.88 buses/minute during afternoon rush hour. Calculations made using Metro Transit 2008 weekday counts show 8,130 weekday riders are on buses passing through the study area (averaging 7.2 riders per bus). Of these, 4,635 people get on or off the bus within the study area (averaging 4.1 riders per bus). (Halifax Metro Transit, personal communication, March 13, 2011). Transit is responsible for bringing many people to downtown and the study area. The low ridership levels can be explained. The Scotia Square transit terminal and Water St. Terminal are located blocks away from the study area, where most buses that travel through the study area begin or end their respective routes. Also, the above transit weekday count calculations do not include over 4,000 southbound riders that exited at Scotia Square (before the study area). Though the riders did not technically pass through the study area, some may have walked from the nearby bus stop.

Opportunities for improving Traffic

- Switch focus to the pedestrian instead of vehicles.
- Reduce area dedicated to vehicles
- Make the street more inviting to people
- Investigate low transit ridership numbers to see if they warrant the amount of buses travelling through the study area.

1,124

buses per typical weekday (2008)

4.1

riders per bus that either get on or off within the study area

Table 4: Barrington Street Transit Calculations (Between Duke & George)

Daily Counts (Weekday)				
	S Bound	N Bound	Both Directions	
	636	488	1124	
	636	488	1124	Buses / Day
	1125	1125	1125	Operating Minutes (5:55-12:40)
	33.92	26.03	59.95	Buses / Hour
	0.57	0.43	1.00	Buses / Minute
	106	138	60	Seconds / Bus

Peak Times (Weekday)				
Time	S Bound	N Bound	Both Directions	
7am-8am	70	33	103	
8am-9am	73	39	112	
4pm-5pm	49	64	**113**	(Peak Time)
	49	64	113	buses / hour
	0.82	1.07	1.88	buses / minute (Average)
	73	56	32	Seconds / Bus (Average)
	5	4	4	Longest Wait/Gap (Minutes)

Based on inspector card data provided by Metro Transit, dated February 28, 2011

7.8.4 SOUND LEVEL ANALYSIS

People typically talk at 55-65dBA and have difficulty communicating if their voices must be raised over 70dBA (American Planning Institute (APA), 2006, p. 174). Pedestrians having a conversation on the sidewalk during rush hour can expect to be interrupted by buses every 32 seconds (See Figure 56 and Table 5). Accelerating buses observed created sidewalk noise levels ranging from 80dBA to 102dBA (Table 5, Figure 58). In 2010, Metro Transit introduced articulated hybrid buses, offering a quieter, more comfortable ride with less emissions and fuel consumption (HRM, 2010c). These new buses are noticeably quieter than the older diesel buses (Figures 57 and Table 5). Though the level of bus noise is improving, it still interferes with pedestrian conversations.

Opportunities for improving sound levels:

- Encouraging use of quiet buses.
- Reducing the frequency of buses through the study area.
- Reducing large vehicle traffic.
- Slowing traffic speeds, and encouraging lighter acceleration of vehicles to reduce engine noise.

70
Decibel level at which people have difficulty communicating

85
Average decibel level of an accelerating bus

Figure 57: New Quieter Buses (Wikipedia, 2011)

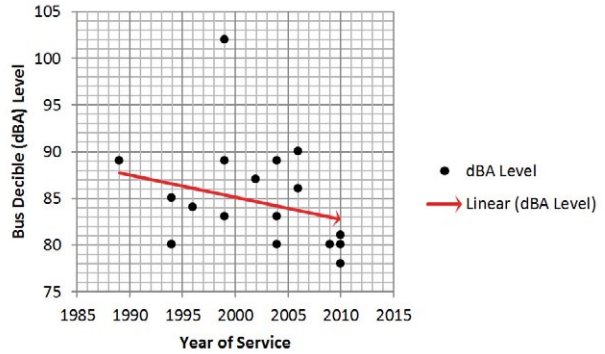
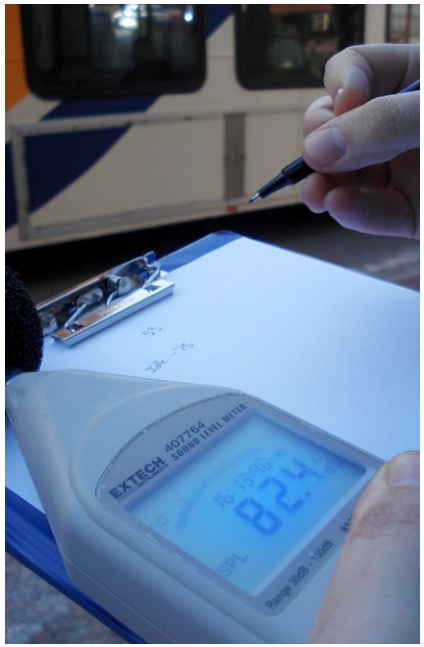


Table 5: Barrington Street Sound Levels (Wikipedia, 2011)

Year of Service	dBA Level	Manufacturer	Model	Bus#	Route #	Notes
1989	89	MCI	TC40-102N Classic	946	68	
1994	80	NovaBus	TC40-102N Classic	960	10	
1994	80	NovaBus	TC40-102N Classic	961	59	Squeaky brakes peaked to 90db
1994	85	NovaBus	TC40-102N Classic	965	80	
1996	84	NovaBus	TC40-102N Classic	982	81	
1999	102	NovaBus	Nova LFS	989	35	
1999	83	NovaBus	Nova LFS	995	41	
1999	89	NovaBus	Nova LFS	996	21	
2002	87	New Flyer	D40LF	1015	53	
2004	80	New Flyer	D40LF	1035	58	Air release peaked to 84db
2004	83	New Flyer	D40LF	1045	68	
2004	89	New Flyer	D40LF	1050	31	
2006	90	New Flyer	D40LF	1096	84	Air release peaked to 94db
2006	86	New Flyer	D40LF	1102	53	
2009	80	GMDD	Titan	516	34	Xpress Bus
2010	80	Novabus	Nova LFS Articulated	726	10	
2010	78	NovaBus	Nova LFS Articulated	727	1	
2010	81	NovaBus	Nova LFS Articulated	730	1	

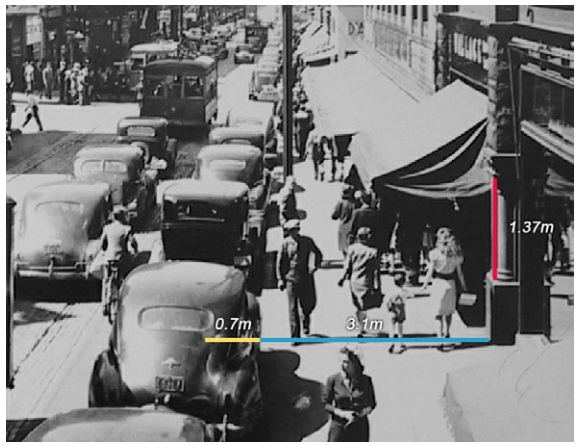
Figure 58: Sound Level Analysis



7.9 HISTORIC IMAGES

From 1896 to 1949 streetcars ran along Barrington Street. The street cross-section had four lanes, which allowed for parked cars on either side with one lane of streetcar and automobile traffic in each direction. Many of the historic buildings remain on Barrington, allowing for an approximate calculation of the old cross-section based on period photographs. The distance between buildings is typically 16.1m. The old sidewalk width for both sides was 3.1m wide. Using a parallel parking space of 2.0 meters, the travel lanes were likely 3.0m (10') wide. The west sidewalk appears to be in the same location for most of the study area (from Duke to Salter Streets). Since the 1950s, the east sidewalk has been widened by 0.6m (Figure 59).

Figure 59: Sidewalk width in 1950 (Blue), 2011 (Blue + Yellow), Base photo: (HRM, 1998, p. 3)



7.10 HISTORIC RESOURCES AND CHARACTER

Heritage Streetscape Resources:

- Granite curbs.
- Walls at Grand Parade, Old Burial Ground, St. Matthew's Church, St. Mary's Glebe.
- Granite survey markers (bottom of Spring Garden Road).

Character Defining Streetscape Elements:

- Linear curb alignment.
- Transit.
- Wide sidewalks.

Opportunities for reinforcing historic character:

- Granite block benches/bollards (to carry the use of granite through the streetscape). These could be sourced from the wall surrounding the parking lot on Grafton and Spring Garden.
- Pedestrian level lighting.
- Granite curbs.
- Granite cobble furnishing zone.
- Unearthing of streetcar tracks and cobble surfaces still under the asphalt.
- Stringing lights along the street to symbolize the streetcar wires.
- Bike racks that echo a window pattern in St. Paul's Church.
- Storytelling sidewalk markers, signage and public art.
- Informative plaques.
- Bringing back the seasonal evergreen archway at top of George Street (1860 sketch) for major events.
- Interactive statues of a few prominent Halifax citizens walking along or enjoying Barrington Street.
- Re-opening the public washrooms under Grand Parade.
- Bringing back a water fountain to Grand Parade.
- Encouraging more programmed events (Re-enactments) and continue events like the Parade of Lights.

7.11 NIGHT TIME / LIGHTING ANALYSIS

Much of Barrington Street does not meet HRM's standard of 21.5 Lux for street lighting (HRM 2009A, 9.2.1). Most of the side streets are visibly dark, discouraging street connectivity (Figure 60). Though private lighting adds to the level of street lighting it is often high contrast and creates visibly dark patches as it transitions back to street lit areas. Six of the seven intersections suffer from inadequate lighting, creating potential safety hazards for crossing pedestrians and vehicles. The light standards feature a square base that casts a large shadow directly underneath, creating an alternating pattern of dark spots throughout the streetscape. The street lights are amber colour and likely high-pressure sodium type. This type of light has poor colour retention and should be avoided (APA, 2006, p. 497).

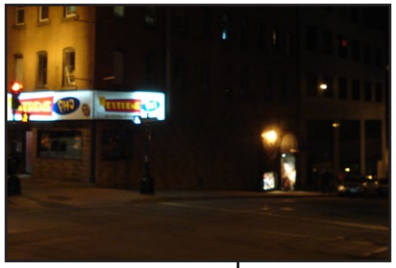
Opportunities for improving lighting include:

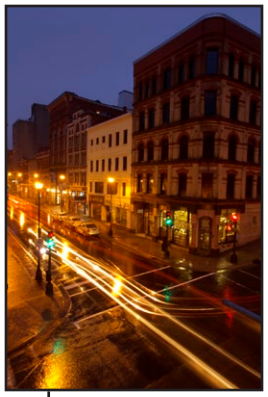
- Replacing light fixtures with metal halide or LED (white light).
- Ensuring light fixture bases cast minimal shadows.
- Increasing lighting levels at intersections.
- Increasing lighting levels on side streets.
- Avoiding high contrast lighting that creates visibly dark areas.
- Installing dimmable lights to save energy during periods of minimal pedestrian activity.

Much of Barrington Street does not meet HRM's standard of 21.5 Lux for street lighting (HRM 2009A, 9.2.1). The map below shows sub-standard lighting as shades of purple. Light levels observed range from 1 to 590 Lux. Typically any lighting over 35 Lux is caused by private lighting.

Dark Side Streets

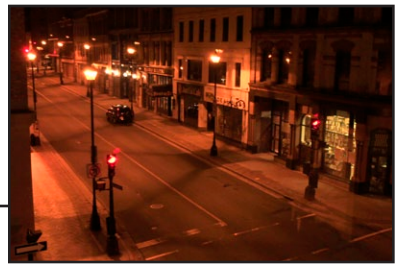
Visibly dark side streets deter pedestrian connectivity downtown.





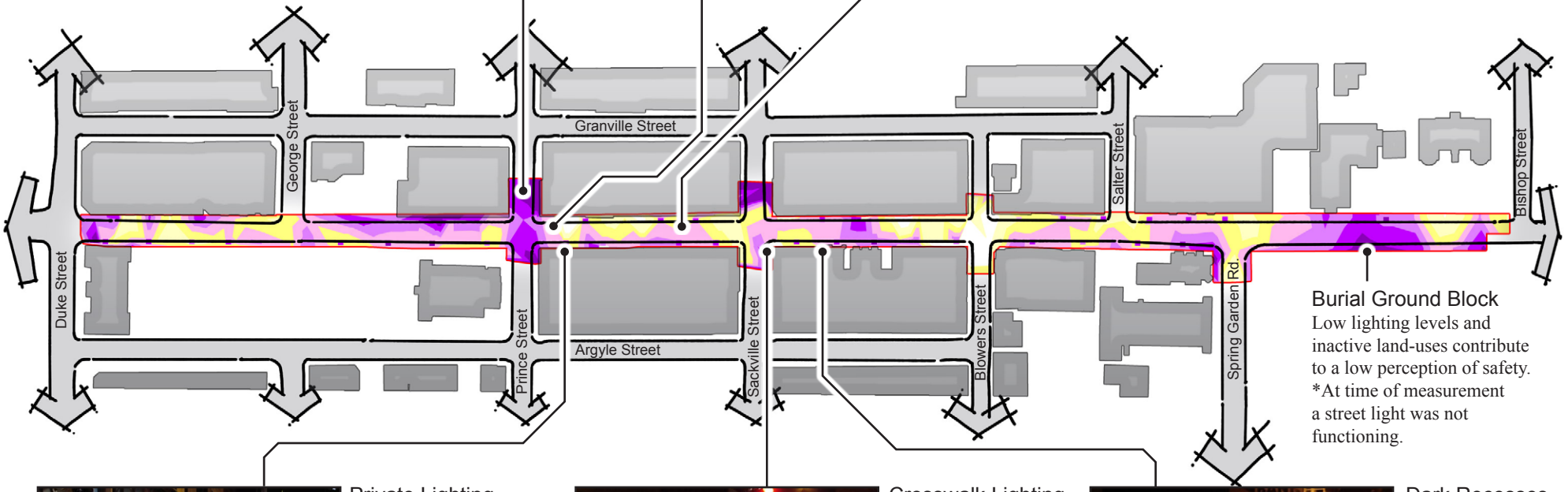
Desire Lines

Using a long exposure, it is possible to track vehicle desire lines. Further analysis may be valuable.



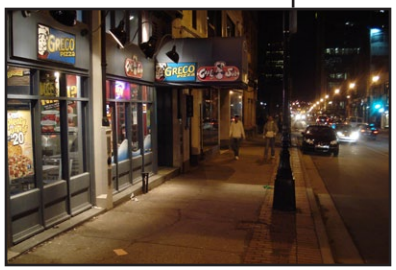
Visible Patterns

The existing street lights create a zig-zag shading pattern on the street. Though the pattern may be interesting from upper stories, it may be a distraction and safety hazard at street level. In addition to the zig-zag pattern, bases of most light standards are also poorly lit.



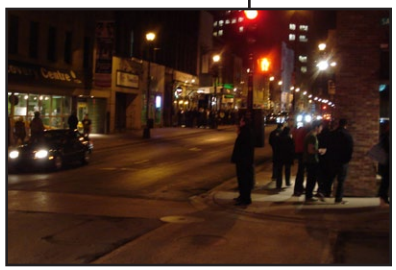
Burial Ground Block

Low lighting levels and inactive land-uses contribute to a low perception of safety. *At time of measurement a street light was not functioning.



Private Lighting

Private lighting adds to lighting levels on the sidewalks. Typically much brighter than the street lights, it can create visible dark areas as it transitions back to normal levels of street lighting.



Crosswalk Lighting

This corner is poorly lit. The bright private lighting nearby overpowers the street lighting, making the intersections appear dark.

Dark Recesses

This bank machine is located in a very dark recess.

Figure 60: Night Time Analysis

Lighting Levels (Measured in Lux)

0-5 | 5-10 | 10-15 | 15-21.5 | 21.5-30 | 30-50 | 50+

Note: Lighting measured on February 17, 2011. Conditions were mainly clear with a full moon.

30 15 0 75 m

1 : 3,000

7.12 CONCEPT DEVELOPMENT

Concepts for each of the major design proposals are provided on the following pages. An alternative approach titled ‘Eastern Amenity’ is a response to the previous concepts and exploration of alternative design standards.

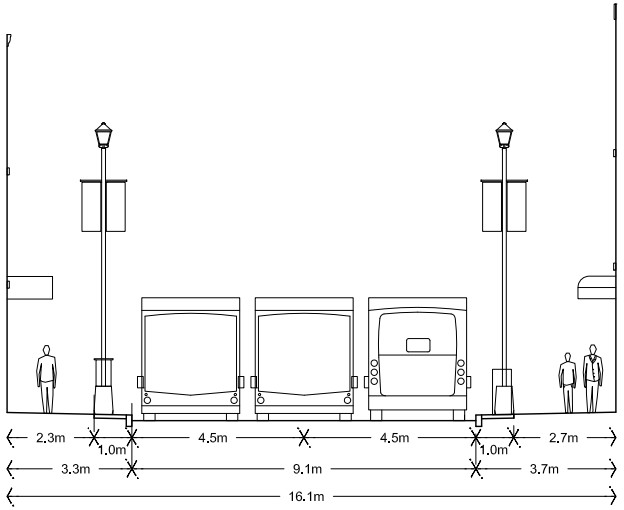
KEY PRINCIPLES

- Existing Street

CALCULATIONS

Block Area	2,209m²
	EXISTING
Road	1,359m² (61.5%)
Sidewalk	850m² (38.5%)
Crossing Distance (min)	9.1m
Crossing Distance (max)	9.1m
Parking (m)	39m
Loading (m)	52m
Bus (m)	38m

SECTION

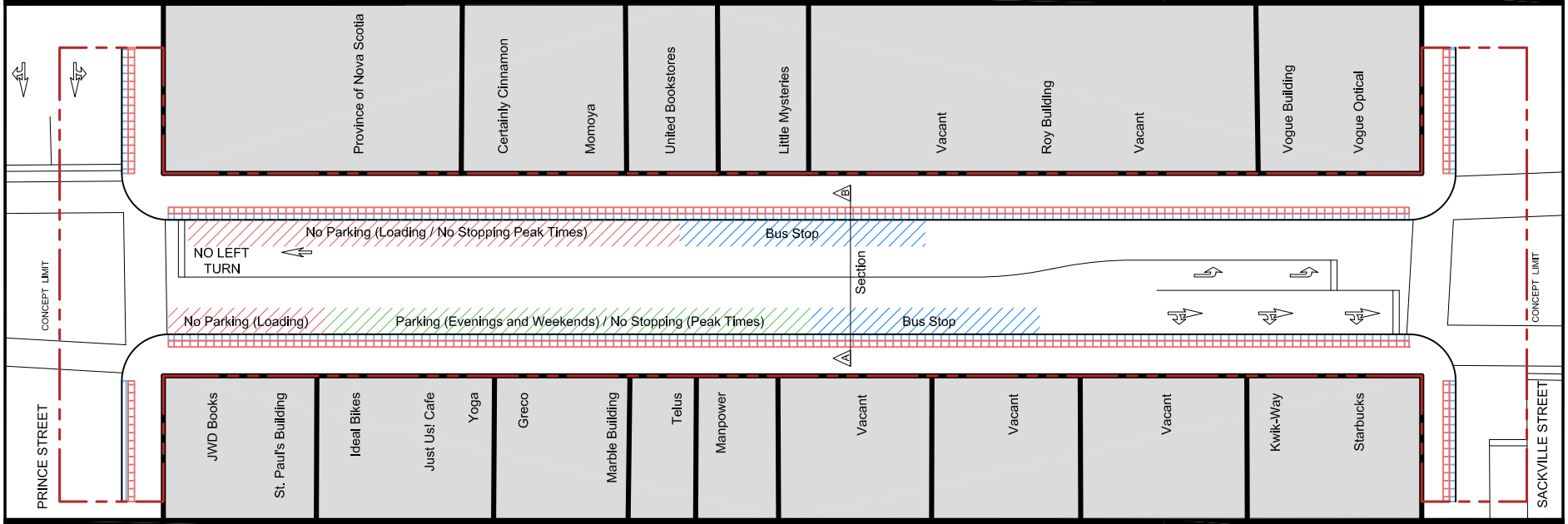


1:200

COMMENTS RELATING TO GUIDING PRINCIPLES

Barrington Street is intended to:	Positive	Negative
1. Be pedestrian and transit oriented with two-way traffic		• Vehicles have priority over 61.5% of street • Minimal opportunity for sidewalk amenities
2. Be a central retail spine	• Multi-functional lanes allow for parking/loading	
3. Have a reinforced historic character	• Linear curb alignment represents historic streetscape	

PLAN



SCALE

7.5 5 2.5 0 12.5 m

1 : 500

NORTH

Clear Zone
Furnishing Zone

Bus Stop
Parking
No Parking (Loading)

EXISTING STREET

PRINCE STREET - SACKVILLE STREET

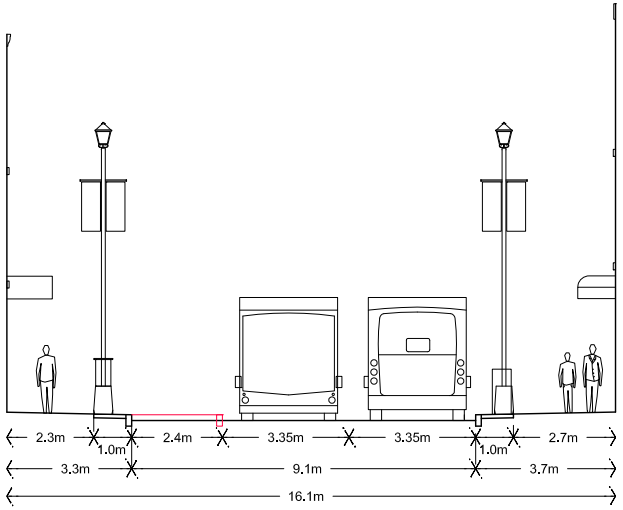
KEY PRINCIPLES

- Expanded sidewalk amenity areas for street activity
- Mid-block sidewalk extension includes kiosks, bike racks, trees, vendors and crosswalk.
- Reduced number of transit stops

CALCULATIONS

Block Area	2,209m²	
	EXISTING	PROPOSED
Road	1,359m² (61.5%)	1,283m² (58.1%)
Sidewalk	850m² (38.5%)	926m² (41.9%)
Crossing Distance (min)	9.1m	6.7m
Crossing Distance (max)	9.1m	9.1m
Parking (m)	39m	31m
Loading (m)	52m	14m
Bus (m)	38m	16m
New Curb (m)		36m
Expanded Sidewalk		76m²
Expansion Ratio (Expansion Area / m of new Curb)		2.11m² / m of Curb

SECTION

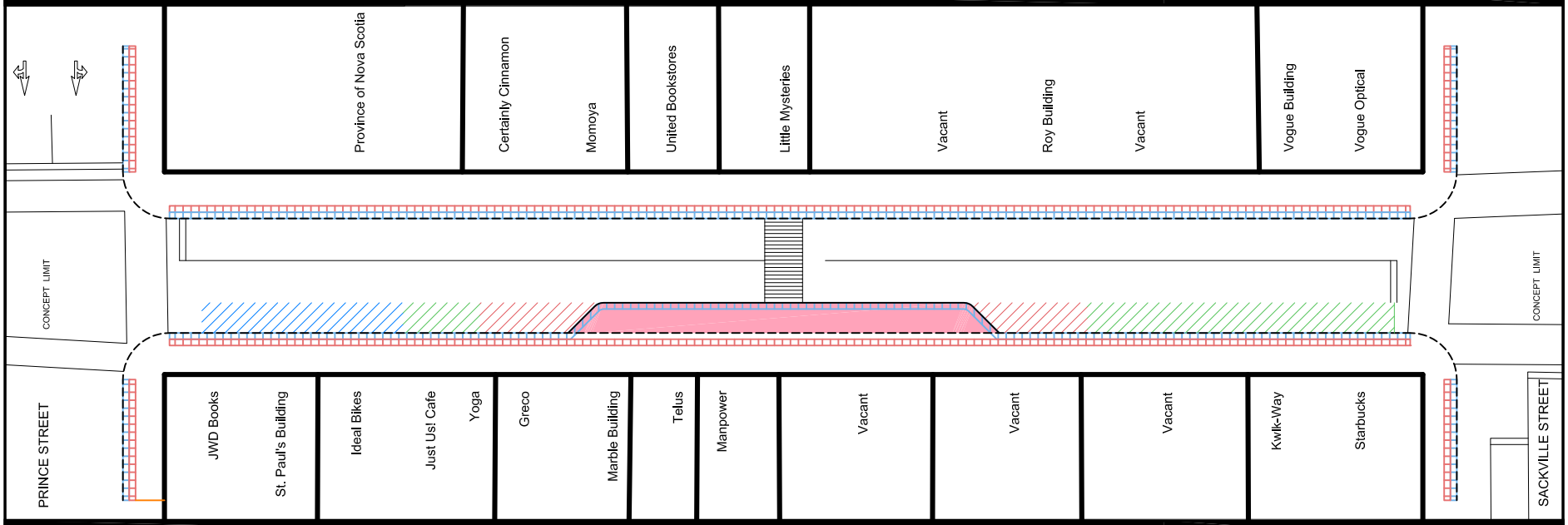


1:200

COMMENTS RELATING TO GUIDING PRINCIPLES

Barrington Street is intended to:	Positive	Negative
1. Be pedestrian and transit oriented with two-way traffic	• Moderate expansion of pedestrian realm (76m²) • Wide expansion allows for variety of amenity features	• Narrow lane widths do not meet HRM standard • Bus stop location requires bus to merge with moving traffic
2. Be a central retail spine	• Dedicated loading spaces	• Significant reduction in loading and bus zones • Slight reduction in parking
3. Have a reinforced historic character	• Linear curb alignment represents historic streetscape. Curb line could continue through extension.	

PLAN



7.5 5 2.5 0 12.5 m

1 : 500

Clear Zone
Furnishing Zone
Existing Curb Line
Bus Stop
Parking
No Parking (Loading)
Sidewalk Expansion

CONCEPT 1
(Mid-Block Extension)

PRINCE STREET - SACKVILLE STREET

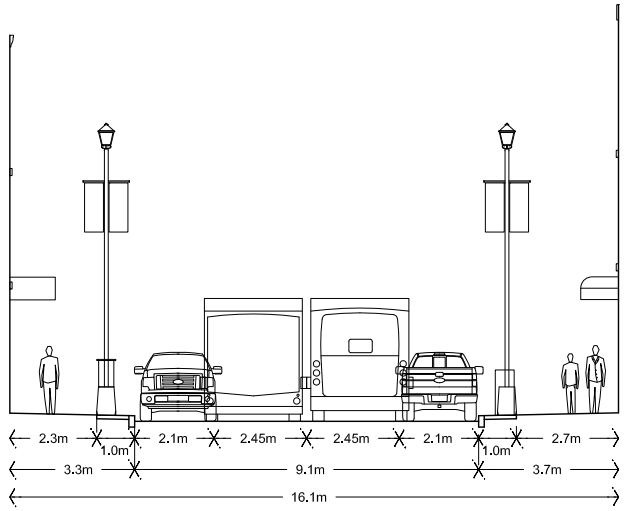
KEY PRINCIPLES

- Historic 1925 Streetscape
- 2 Lanes for Transit
- Parking on both sides

CALCULATIONS

Block Area	2,209m²	
	EXISTING	PROPOSED
Road	1,359m² (61.5%)	1,359m² (61.5%)
Sidewalk	850m² (38.5%)	850m² (38.5%)
Crossing Distance (min)	9.1m	9.1m
Crossing Distance (max)	9.1m	9.1m
Parking (m)	39m	194m
Loading (m)	52m	0m
Bus (m)	38m	0m
New Curb (m)		0m
Expanded Sidewalk		0m²
Expansion Ratio (Expansion Area / m of new Curb)		0m² / m of Curb

SECTION

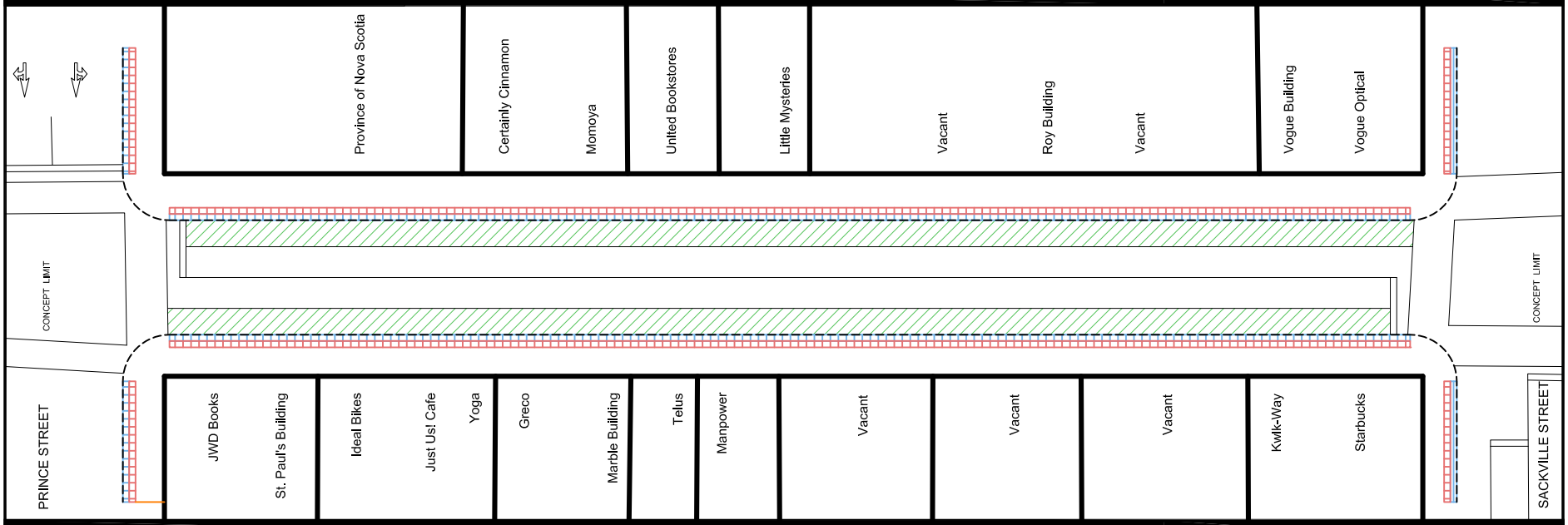


1:200

COMMENTS RELATING TO GUIDING PRINCIPLES

Barrington Street is intended to:	Positive	Negative
1. Be pedestrian and transit oriented with two-way traffic	• Parking provides a buffer between moving traffic and sidewalk.	• Transit will not work (Buses are wider than lanes) • Vehicles have priority over 61.5% of street • Significant reduction in sidewalk widths would be required to allow for two-way transit and parking on both sides.
2. Be a central retail spine	• Nearly 5 times as much parking as existing street.	
3. Have a reinforced historic character	• Street design represents historic 1920's streetscape.	

PLAN



7.5 5 2.5 0 12.5 m

1 : 500

Clear Zone
Furnishing Zone
Existing Curb Line
Bus Stop
Parking
No Parking (Loading)

CONCEPT 2
(Historic 1925 Streetscape)

PRINCE STREET - SACKVILLE STREET

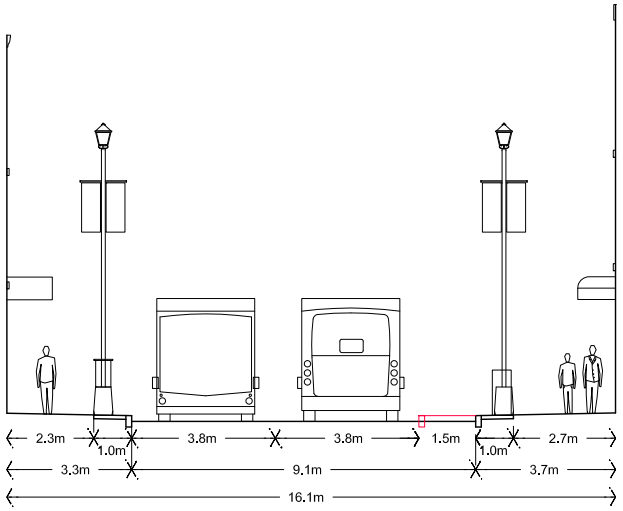
KEY PRINCIPLES

- Pedestrian and Transit Priority
- Sidewalk extensions
- Serpentine alignment and transit stops alternating sides each block.
- Reduced number of transit stops
- Street trees

CALCULATIONS

Block Area	2,209m²	
	EXISTING	PROPOSED
Road	1,359m² (61.5%)	1,242m² (56.2%)
Sidewalk	850m² (38.5%)	967m² (43.8%)
Crossing Distance (min)	9.1m	7.6m
Crossing Distance (max)	9.1m	10.0m
Parking (m)	39m	0m
Loading (m)	52m	8m
Bus (m)	38m	30m
New Curb (m)		156m
Expanded Sidewalk		117m²
Expansion Ratio (Expansion Area / m of new Curb)		0.75m² / m of Curb

SECTION



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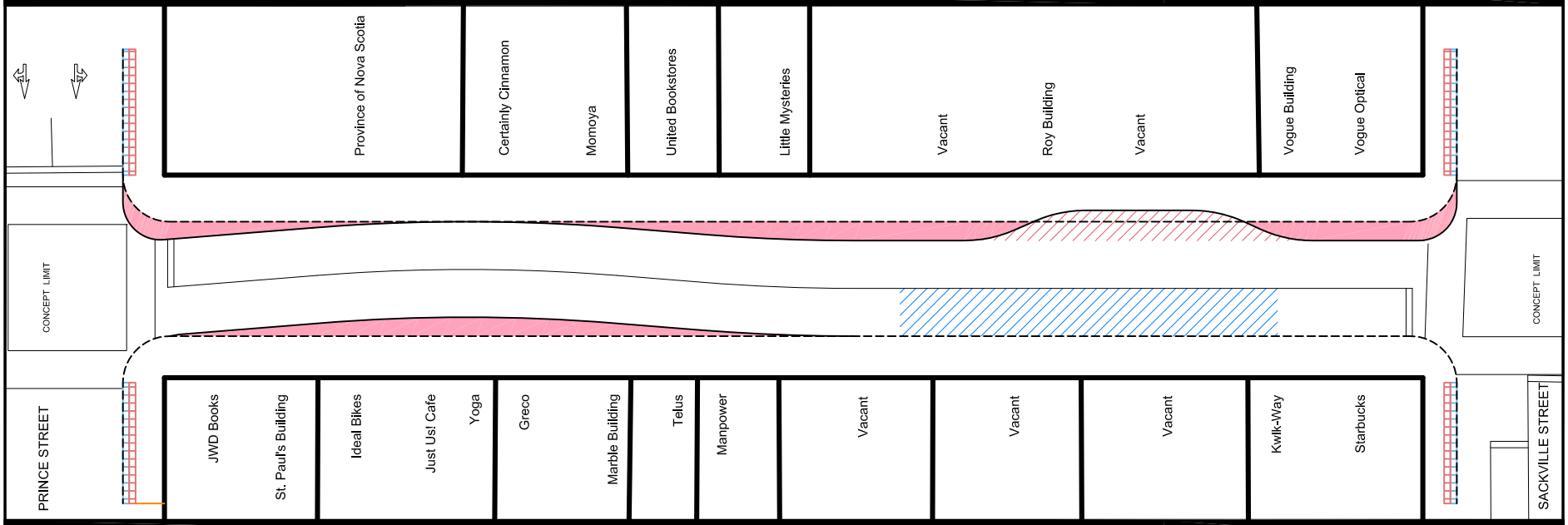
COMMENTS RELATING TO GUIDING PRINCIPLES

Barrington Street is intended to:	Positive	Negative
1. Be pedestrian and transit oriented with two-way traffic	• Transit has priority of road, controls traffic • Significant expansion of pedestrian environment (117m²) • Crossing distances for pedestrians are reduced	
2. Be a central retail spine	• Dedicated loading space	• Significant reduction in loading zones • No on-street parking
3. Have a reinforced historic character		• Historic linear alignment altered

PLAN



7.5 5 2.5 0 12.5 m

1 : 500

Clear Zone
Furnishing Zone
Existing Curb Line
Bus Stop
No Parking (Loading)
Sidewalk Expansion

CONCEPT 3
(2007 Functional Design)
PRINCE STREET - SACKVILLE STREET

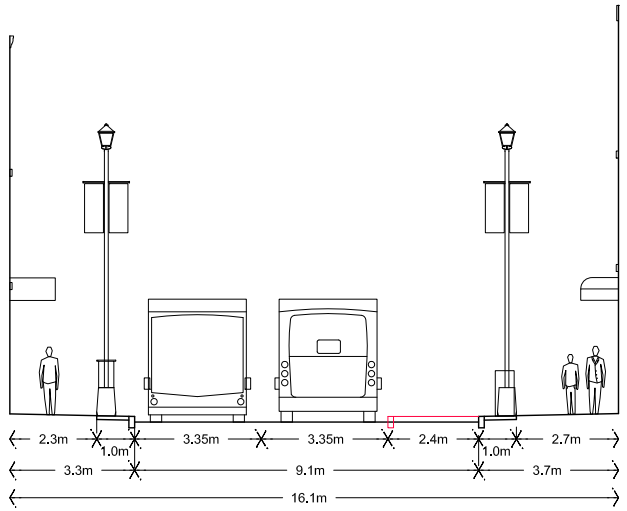
KEY PRINCIPLES

- Avenue Concept
- Pedestrian and Transit Priority
- Sidewalk 'bump-outs' at intersections
- Maximize sidewalk width
- Minimize vehicular space
- Improve transit stops

CALCULATIONS

Block Area	2,209m²	
	EXISTING	PROPOSED
Road	1,359m² (61.5%)	1,273m² (57.6%)
Sidewalk	850m² (38.5%)	936m² (42.4%)
Crossing Distance (min)	9.1m	6.7m
Crossing Distance (max)	9.1m	9.1m
Parking (m)	39m	66m
Loading (m)	52m	0m
Bus (m)	38m	38m
New Curb (m)		48m
Expanded Sidewalk		86m²
Expansion Ratio (Expansion Area / m of new Curb)		1.79m² / m of Curb

SECTION



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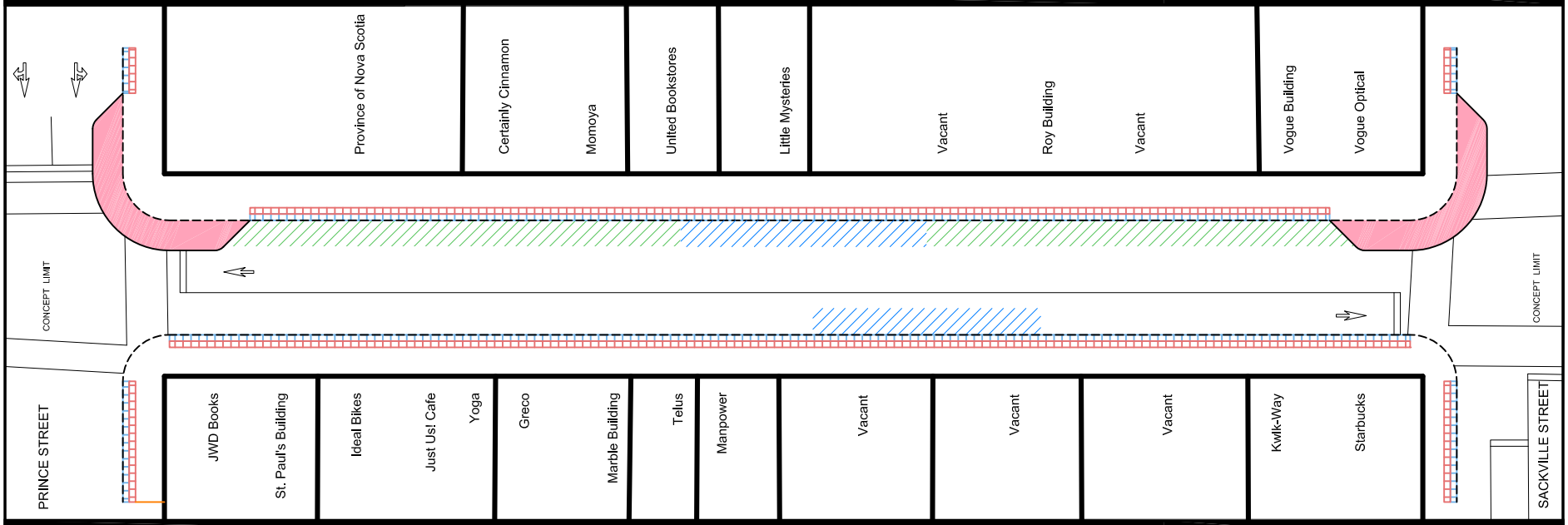
COMMENTS RELATING TO GUIDING PRINCIPLES

Barrington Street is intended to:	Positive	Negative
1. Be pedestrian and transit oriented with two-way traffic	• Southbound Transit has priority • Expansion of pedestrian environment (86m²) • Crossing distances reduced at crosswalks	• Narrow lane widths do not meet HRM standard • Bus stop location requires bus to merge with moving traffic
2. Be a central retail spine	• Additional parking provided	• Significant reduction in loading zones (may be accommodated in parking zone)
3. Have a reinforced historic character	• Minimal curb-line change, potential to maintain visual cue of historic alignment	

PLAN



7.5 5 2.5 0 12.5 m

1 : 500

Clear Zone
Furnishing Zone
Existing Curb Line
Bus Stop
Parking
No Parking (Loading)
Sidewalk Expansion

CONCEPT 4
(2008 Public Realm Handbook)

PRINCE STREET - SACKVILLE STREET

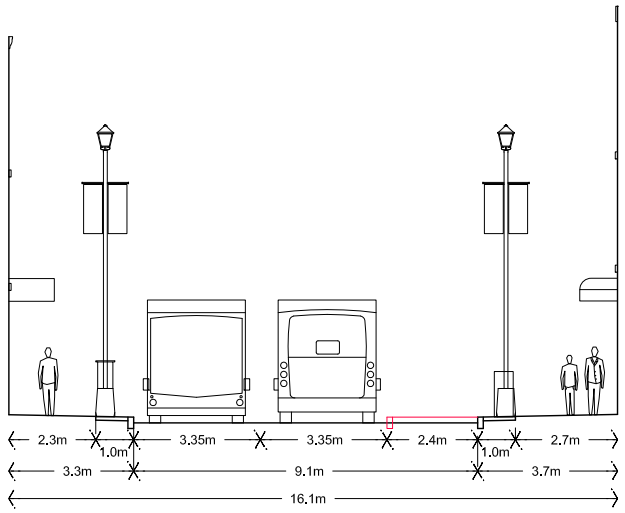
KEY PRINCIPLES

- Pedestrian and Transit Priority
- Sidewalk 'bump-outs' at intersections
- Maximize sidewalk width
- Minimize vehicular space
- Improve transit stops

CALCULATIONS

Block Area	2,209m²	
	EXISTING	PROPOSED
Road	1,359m² (61.5%)	1,016m² (46.0%)
Sidewalk	850m² (38.5%)	1,193m² (54.0%)
Crossing Distance (min)	9.1m	6.7m
Crossing Distance (max)	9.1m	6.7m
Parking (m)	39m	56m (Hybrid)
Loading (m)	52m	56m (Hybrid)
Bus (m)	38m	36m
New Curb (m)		166m
Expanded Sidewalk		343m²
Expansion Ratio (Expansion Area / m of new Curb)		2.07m² / m of Curb

SECTION



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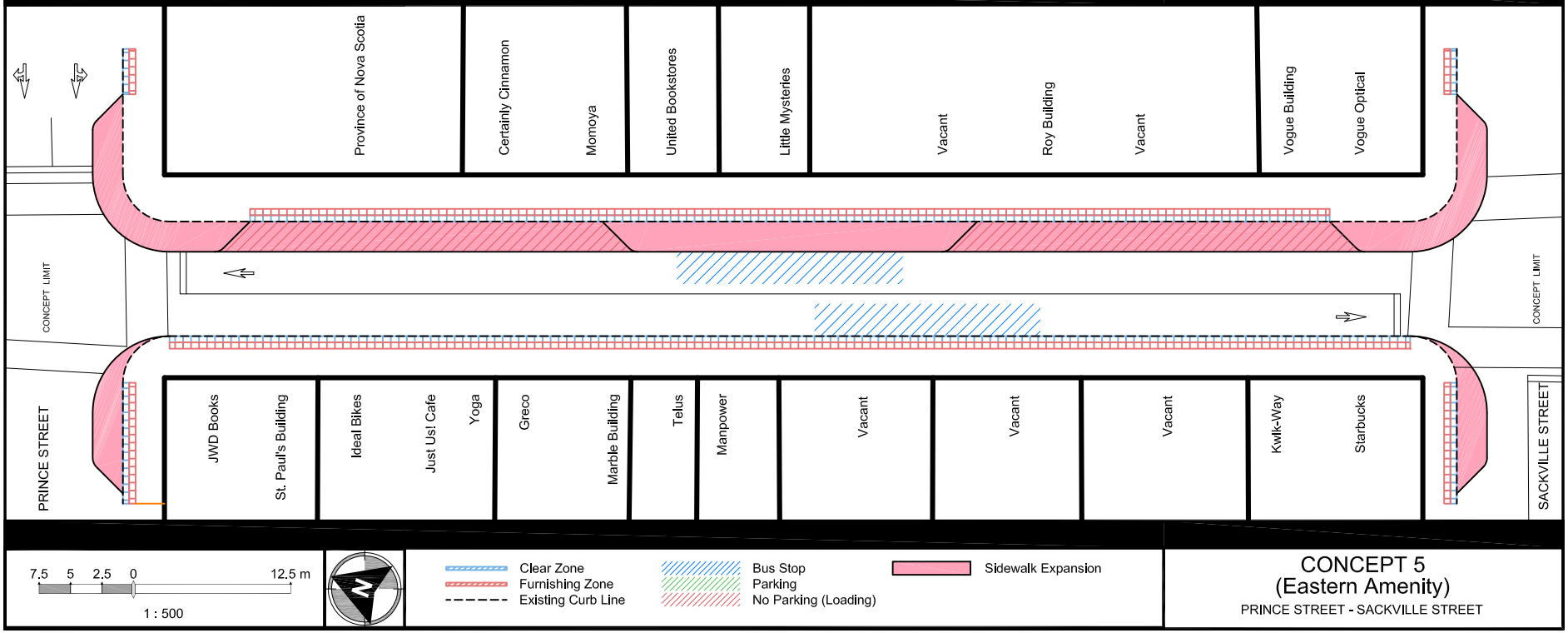
COMMENTS RELATING TO GUIDING PRINCIPLES

Barrington Street is intended to:	Positive	Negative
1. Be pedestrian and transit oriented with two-way traffic	• Significant expansion of pedestrian environment (56% of street is now pedestrian priority) • Transit has priority of road, controls traffic • Crossing distance minimized throughout entire block. • High sidewalk expansion ratio (2.07m2 / m of new curb)	• Narrow lane widths do not meet HRM standard
2. Be a central retail spine	• Hybrid zone allows for Loading, Parking and Sidewalk Amenity	
3. Have a reinforced historic character	• Potential to maintain visual cue of historic alignment	

PLAN



CONCEPT 5
(Eastern Amenity)

PRINCE STREET - SACKVILLE STREET

7.13 EVALUATION

The following criteria are used to evaluate the concepts with calculations and observations of a 2D concept plan. The criteria are categorized relating to the guiding principles, as well as safety and cost of construction. The ten criteria used for evaluation include:

Pedestrian Oriented

1. Expansion of pedestrian realm.
   (calculated by measuring percent of right-of-way dedicated to sidewalk)
2. More pedestrian space on east side.
   (calculated by measuring percent expansion of eastern sidewalk)

Transit Oriented

3. Bus priority of the traffic lanes.
   (the level of priority buses have over other vehicles, considering direction of travel, merging, and parked vehicles)

Reinforced Historic Character

4. A historic street alignment.
   (representation of historic 1925 alignment)

Retail Spine

5. Space for loading vehicles.
   (During period loading is permitted, the total length of proposed loading space compared to that existing)
6. Space for parking.
   (*During period parking is permitted, the total length of proposed parking space compared to that existing)*

Safety

7. Reduced crosswalk distance.
   (East-west curb-to-curb crossing distance)
8. Road width allowing an emergency third vehicle lane.
   (During the 2007 Functional Design process for Barrington Street, 7.6m was identified as an appropriate street width allowing for an emergency vehicle to pass an inoperable bus with oncoming traffic (B. Yanchyshyn, personal communication, March 10, 2011))

Cost of Construction

9. Efficient expansion of pedestrian realm.
   (calculated by dividing the total expansion area by length of new curb. A higher ratio implies a more efficient gain in pedestrian space)
10. Minimized construction costs.
    (calculated by making binary observation of impacted streetscape features. If the concept requires a feature to be moved, subsequent cost is anticipated)

7.13.1 Ranking Concepts

Figures 61 through 70 show how each concept was ranked by the criteria:

Figure 61: Criterion 1 - Expansion of pedestrian realm

	Rank = % of ROW dedicated to pedestrian (Existing is 38.5%)
Does Not Meet Criterion	0 = No Expansion or Reduction
Somewhat Meets Criterion	1 = 38.6-44.25%
Meets Criterion	2 = 44.25-50%
Exceeds Expectations of Criterion	3 = >50%

	Concepts					
	E	1	2	3	4	5
Percent Sidewalk	38.5%	41.9%	38.5%	43.8%	42.4%	54.0%
Rank (Out of 3)	0	1	0	1	1	3

Figure 62: Criterion 2 - More pedestrian space on east side

	East Side Expansion Rank = (% of existing east sidewalk)
Does Not Meet Criterion	0 = 100%
Somewhat Meets Criterion	1 = 100-125%
Meets Criterion	2 = 125-150%
Exceeds Expectations of Criterion	3 = >150%

	Concepts					
	E	1	2	3	4	5
East Sidewalk Area (m2)	446	446	446	517.4	489	745
% of Existing East Sidewalk	100%	100%	100%	116%	110%	167%
Rank (Out of 3)	0	0	0	1	1	3

Figure 63: Criterion 3 - Bus has priority of of travel lanes

	Rank
Does Not Meet Criterion	0 = Buses do not have priority
Somewhat Meets Criterion	1 = Buses have priority in one direction
Meets Criterion	2 = Buses have priority in both directions
Exceeds Expectations of Criterion	3 = Buses have priority in both directions, no parking

	Concepts					
	E	1	2	3	4	5
Rank	0	1	2	3	1	2

Figure 64: Criterion 4 - A historic (linear) street alignment

	Rank
Does Not Meet Criterion	0 = Non-Linear Curbline
Somewhat Meets Criterion	1 = Linear Curb Alignment Can Visually Remain
Meets Criterion	2 = Existing Curbline Remains
Exceeds Expectations of Criterion	3 = Actual 1925 Curb Alignment

	Concepts					
	E	1	2	3	4	5
Rank	2	1	2	0	1	1

Figure 65: Criterion 5 - Space on Barrington Street for Loading

	Rank
Does Not Meet Criterion	0 = No Loading
Somewhat Meets Criterion	1 = Some of Existing Loading Remains
Meets Criterion	2 = Existing Loading Remains
Exceeds Expectations of Criterion	3 = Additional Loading

	Concepts					
	E	1	2	3	4	5
Total Length of Street for Loading (m)	52	14	194	8	66	56
Rank (Out of 3)	2	1	3	1	3	3

*During period that Loading is permitted

Figure 66: Criterion 6 - Space on Barrington Street for Parking

	Rank
Does Not Meet Criterion	0 = No Parking
Somewhat Meets Criterion	1 = Some of Existing Parking Remains
Meets Criterion	2 = Existing Parking Remains
Exceeds Expectations of Criterion	3 = Additional Parking

	Concepts					
	E	1	2	3	4	5
Total Length of Street for Parking (m)	39	31	194	0	66	56
Rank (Out of 3)	2	1	3	0	3	3

*During period that parking is permitted

Figure 67: Criterion 7 - Reduced crosswalk distance

	Rank = Distance
Does Not Meet Criterion	0 = 9.1m
Somewhat Meets Criterion	1 = 8.0-9.1m
Meets Criterion	2 = 7.0-7.9m
Exceeds Expectations of Criterion	3 = <7.0m

	Concepts					
	E	1	2	3	4	5
East-West Intersection Crosswalk Distance	9.1	9.1	9.1	7.6m	6.7	6.7m
Rank (Out of 3)	0	0	0	2	3	3

*During period that parking is permitted

Figure 68: Criterion 8 - Road width allowing an emergency third vehicle lane

Criterion - Road width allowing an emergency third vehicle lane

	Rank = Distance
Does Not Meet Criterion	0 = <7.2m
Somewhat Meets Criterion	1 = 7.2m-7.6m*
Meets Criterion	2 = 7.6m**
Exceeds Expectations of Criterion	3 = >7.6m

	Concepts					
	E	1	2	3	4	5
Typical width of travel way***	7.0m	7.0m	4.9m	7.6m	4.4m	6.7m
Rank (Out of 3)	0	0	0	2	0	0

*Allows for emergency vehicle to pass an inoperable car
*Allows for emergency vehicle to pass an inoperable bus
***During period that parking is permitted

Figure 69: Criterion 9 - Efficient expansion of pedestrian realm

	Rank = Expansion Ratio (m2 of new sidewalk / m of new curb)
Does Not Meet Criterion	0 = 0
Somewhat Meets Criterion	1 = 0.1 - 1
Meets Criterion	2 = 1.1-2
Exceeds Expectations of Criterion	3 = 2+

	Concepts					
	E	1	2	3	4	5
Length of New Curb (m)	0	36	0	156	48	166
Sidewalk Expansion (m2)	0	76	0	117	86	343
Expansion Ratio (m2 / m)	0	2.1	0	0.8	1.8	2.1
Rank (Out of 3)	0	3	0	1	2	3

Figure 70: Criterion 10 - Minimize construction costs

	Rank = Number of untouched elements
Does Not Meet Criterion	0 = 0 Elements
Somewhat Meets Criterion	1 = 1 Element
Meets Criterion	2 = 2-4 Elements
Exceeds Expectations of Criterion	5 = 5 Elements

		Concepts					
		E	1	2	3	4	5
Cost Categories	Electrical (Lights)	1	1	1	1	1	1
	Additional Sidewalk	1	0	1	0	0	0
	Additional Road Bed	1	1	1	0	1	1
	Grading	1	1	1	0	0	0
	Catchbasins, Manholes Etc.	1	1	1	0	0	0
	Total Impact	5	4	5	1	2	2
	*Rank (Out of 3)	3	2	3	1	1	1

* Rank calculated by dividing 'Total Impact' by the number of 'Cost Categories', then multiplying by 3 for a score out of 3.

Changes to Elements
1 = No Change Required 0 = Change Required

7.13.2 Survey of Experts

12 experts in fields related to urban design and streetscaping responded to the survey by rating the level of importance for each criteria. The results are used as a weighting factor for the final evaluation. The results of the survey are shown in Figure 71 below.

The higher the number in the 'average' column, the more important the criteria is considered

Figure 71: Survey Results

Survey #	1	2	3	4	5	6	7	8	9	10	11	12	
Profession	Civil Engineer	Traffic Engineer	Planner	Planner	Engineer	Civil Engineer	Civil Engineer	Heritage Planner	Member / Heritage Trust	Planner	Conservation Planner	Landscape Architect	
Years of Experience	12	13	0-1	1	22	4	22	33	2	8	5+	30+	
Sector	Private	Private	Private	Private	Private	Private	Private	Public	NP	Other	NP	Public	
Criteria (0 = Not Important, 1 = Somewhat Important, 2 = Important, 3 = Very Important)													**Average**
Intended to be pedestrian oriented													
1 Expansion of Pedestrian Realm	2	1	3	3	3	1	3	2	2	3	3	3	**2.42**
2 More pedestrian space on east side	2	1	3	2	3	1	3	1.5	2	2	3	0	**1.96**
Intended to be transit oriented													
3 Buses have priority of road	1	2	3	1	1	0	0	1	3	3	2	2	**1.58**
Intended to have a reinforced historic character													
4 A historic (linear) street alignment	0	0	3	1	0	1	1	2	3	2	3	0	**1.33**
Intended to be a retail spine													
5 Space on Barrington Street for Loading Vehicles	1	1	2	0	1	0	2	2	1	1	2	2	**1.25**
6 Space on Barrington Street for Parking	1	0	1	0	1	0	0	2	1	0	1	0	**0.58**
Safety Considerations													
7 Reduced crosswalk distance	1	0	2	1	3	1	2	1	2	1	2	1	**1.42**
8 Road width allowing an emergency third vehicle lane	1	1	1	2	1	2	0	1	2	0	1	3	**1.25**
Economic Considerations													
9 Efficient expansion of pedestrian realm	2	2	2	2	2	3	3	1	2	2	2	0	**1.92**
10 Minimize construction costs	1	1	2	1	0	3	0	2	1	1	1	0	**1.08**

7.13.3 Evaluation

The concept ranks and criteria weights were applied in figure 72 to determine the selected concept (with the highest total score). The functionality test eliminated concept 2 from total scoring because it does not meet HRM standards with 2 lanes of parking and 2 lanes of bus traffic.

Concept 5 – 'Eastern Amenity' was selected as the concept that best meets the criteria. It outperformed all other concepts in 'Expansion of the Pedestrian Realm' and 'More pedestrian space on east side'. Other concepts outperformed Concept 5 in the following criteria:

- Bus priority – Concept 3 ranked higher because it does not have parking within the study area. Buses have priority and no interference from parking cars.
- Historic alignment – Concept 2 ranked higher because no change to the curb line is proposed.
- Road width allowing for an emergency third vehicle lane – Concept 3 ranks higher because it was designed to allow for a third lane. This criterion carries the second lowest weight of ten.
- Minimizing construction costs – Concept 2 ranked higher because no changes to the cost categories is required.

Figure 72: Concept Evaluation

Criteria Ranking: 0-Does Not Meet Criteria 1-Somewhat Meets Criteria 2-Meets Criteria 3-Exceeds Expectations
Criteria Weight: 0-Not Important 1-Somewhat Important 2-Important 3-Very Important

Category	Criteria Inspired by Downtown Plan Guiding Principles												Other Criteria											
	Pedestrian Oriented				Transit Oriented		Reinforcing Historic Character		Retail Spine				Safety				Economic							
Criteria	Expansion of pedestrian realm		More pedestrian space on east side		Buses have priority of road		A historic (linear) street alignment		Space on Barrington Street for Loading Vehicles		Space on Barrington Street for Parking		Reduced crosswalk distance		Road width allowing an emergency third vehicle lane		Efficient expansion of pedestrian realm		Minimize construction costs		Total Rank	Total Score (Weighted)	*Functionality Test	Final Score
Weight	2.42		1.96		1.58		1.33		1.25		0.58		1.42		1.25		1.92		1.08					
	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score				
Existing	0	0	0	0	0	0	2	2.67	2	2.50	2	1.17	0	0	0	0	0	0	3	3.25	9	9.58	1	**9.6**
Concept 1	1	2.42	0	0	1	1.58	1	1.33	1	1.25	1	0.58	0	0	0	0	3	5.75	2	2.60	10	15.52	1	**15.5**
Concept 2	0	0	0	0	2	3.17	2	2.67	3	3.75	3	1.75	0	0	0	0	0	0	3	3.25	13	14.58	0	**0**
Concept 3	1	2.42	1	1.96	3	4.75	0	0	1	1.25	0	0.00	2	2.83	2	2.50	1	1.92	1	0.65	12	18.28	1	**18.3**
Concept 4	1	2.42	1	1.96	1	1.58	1	1.33	3	3.75	3	1.75	3	4.25	0	0	2	3.83	1	1.30	16	22.18	1	**22.2**
Concept 5	3	7.25	3	5.88	2	3.17	1	1.33	3	3.75	3	1.75	3	4.25	0	0	3	5.75	1	1.30	22	34.43	1	**34.4**

* As per comments on associated concept plan. For concepts that do not work the total score is multiplied by '0' to eliminate it from final comparison.

The east/west sidewalk area ratio for Concept 5 is 62:38. This almost matches the pedestrian count ratio of 64:36 meaning sidewalk distribution is near equal based on current pedestrian use.

7.14 SCHEMATIC DESIGN

Based on the 'Eastern Amenity' concept, the idea of expanding the eastern sidewalk is applied through schematic design to most of the study area (Figure 75). The expanded sidewalks discontinue in front of the Old Burial Ground to act as a transition between the commercial area and the vegetated portion of the study area. A block-by-block plan of the schematic design is found on pages 57-61.

7.14.1 Schematic Design: Hybrid / Flexible Sidewalk

Approved by Vancouver Council in 2006, the 'flex boulevard' concept accommodates vehicle traffic within an expanded pedestrian realm (City of Vancouver, 2010a). The Granville Street Redesign Project in Vancouver, BC demonstrates how a hybrid/flexible sidewalk can work (Figures 73 and 74). The approach can be described as follows:

- The permanent sidewalk is separated from the flexible zone by a combination of light standards, bollards and other street furniture
- The sidewalk parking space is 2.5m wide (obstacle – curb face) by 6.5m long (Tree pit to Tree pit)
- The flexible zone transitions to road surface with roll over curb
- Bus lanes of 3.2m
- Internal lanes of 3.0m

The Vancouver approach provides a Canadian standard for sidewalk parking. The selected 'Eastern Amenity' concept differs from the Vancouver detail in that it does not have trees.

Figure 73: Granville Street, Vancouver (Plan) (City of Vancouver, 2011b)

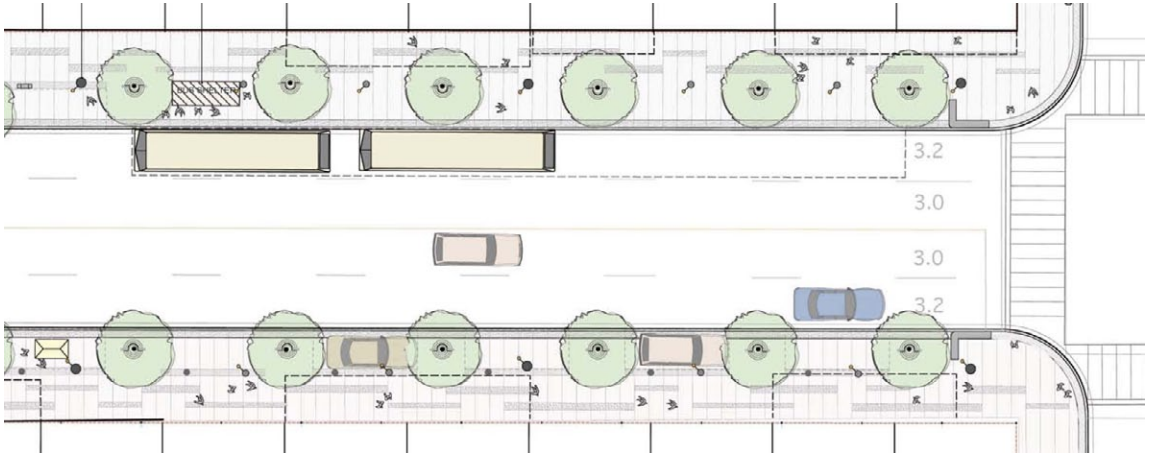


Figure 74: Granville Street, Vancouver (Perspective) (City of Vancouver, 2011b)

7.14.2 Strengths and Concessions of the Eastern Amenity Concept

18
dedicated parking spaces removed

42%
increase in pedestrian space

62%
of sidewalk is now on the east side

Strengths

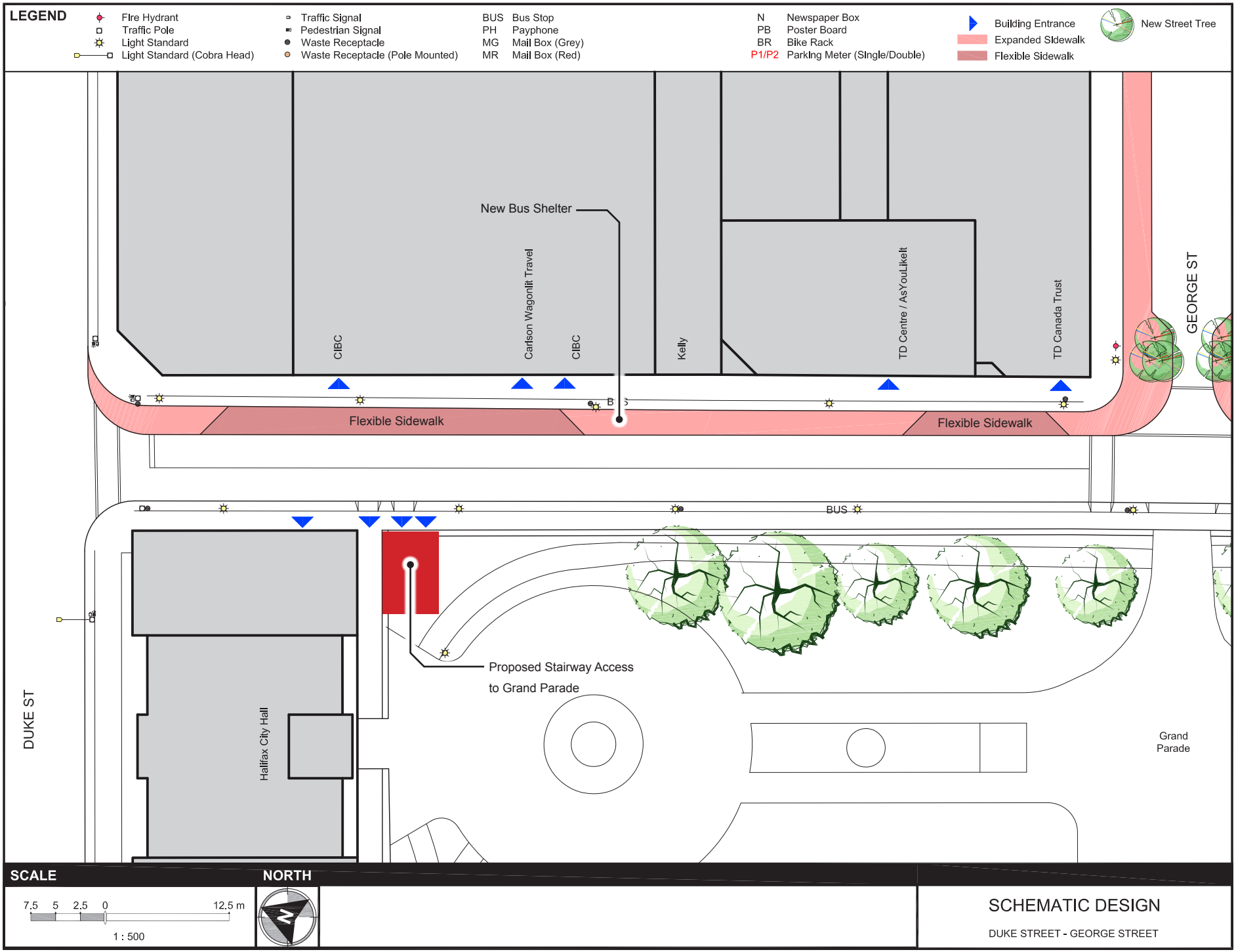
- 42% increase in pedestrian space.
- 62% percent of sidewalk space is located on east side, almost matching daytime pedestrian tendency.
- Parking and Loading are still possible.
- Furnishing zone does not move, minimizing potential construction costs.
- Linear alignment of curb remains, with the opportunity to maintain existing granite curb, recognizing historic use of material.

Concessions

- 18 dedicated parking spaces are removed (all within commercial portion of street).
- No loading or parking on west side of street.
- Narrow lane widths don't allow emergency third lane.

Figure 75: Schematic design

Base Mapping Sources: Site Measurements, Data provided by HRM, 2011, Microsoft (Bing Maps Aerial Photography), 2011



Data Sources: Partially based on mapping provided by Halifax Regional Municipality (2011)

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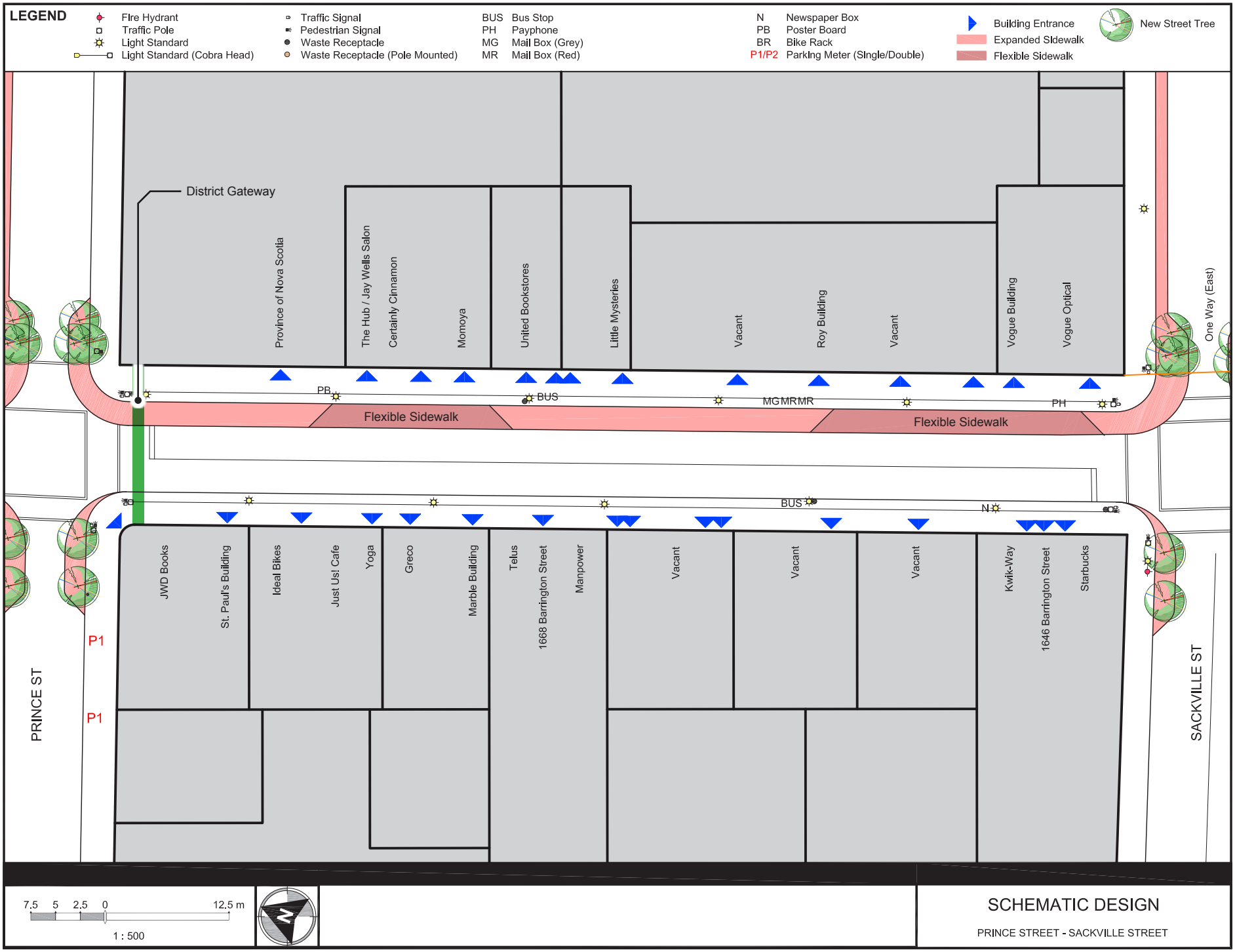
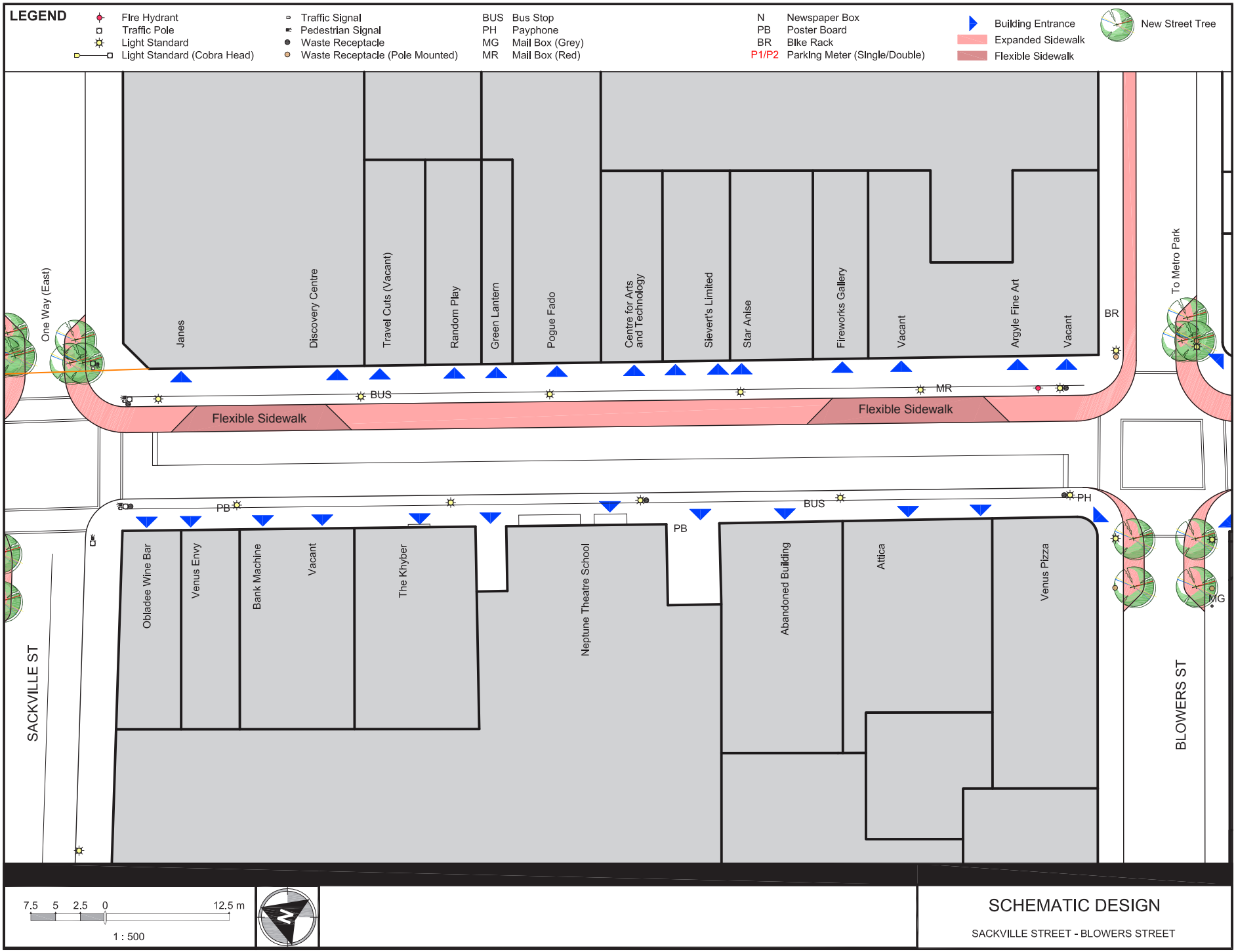
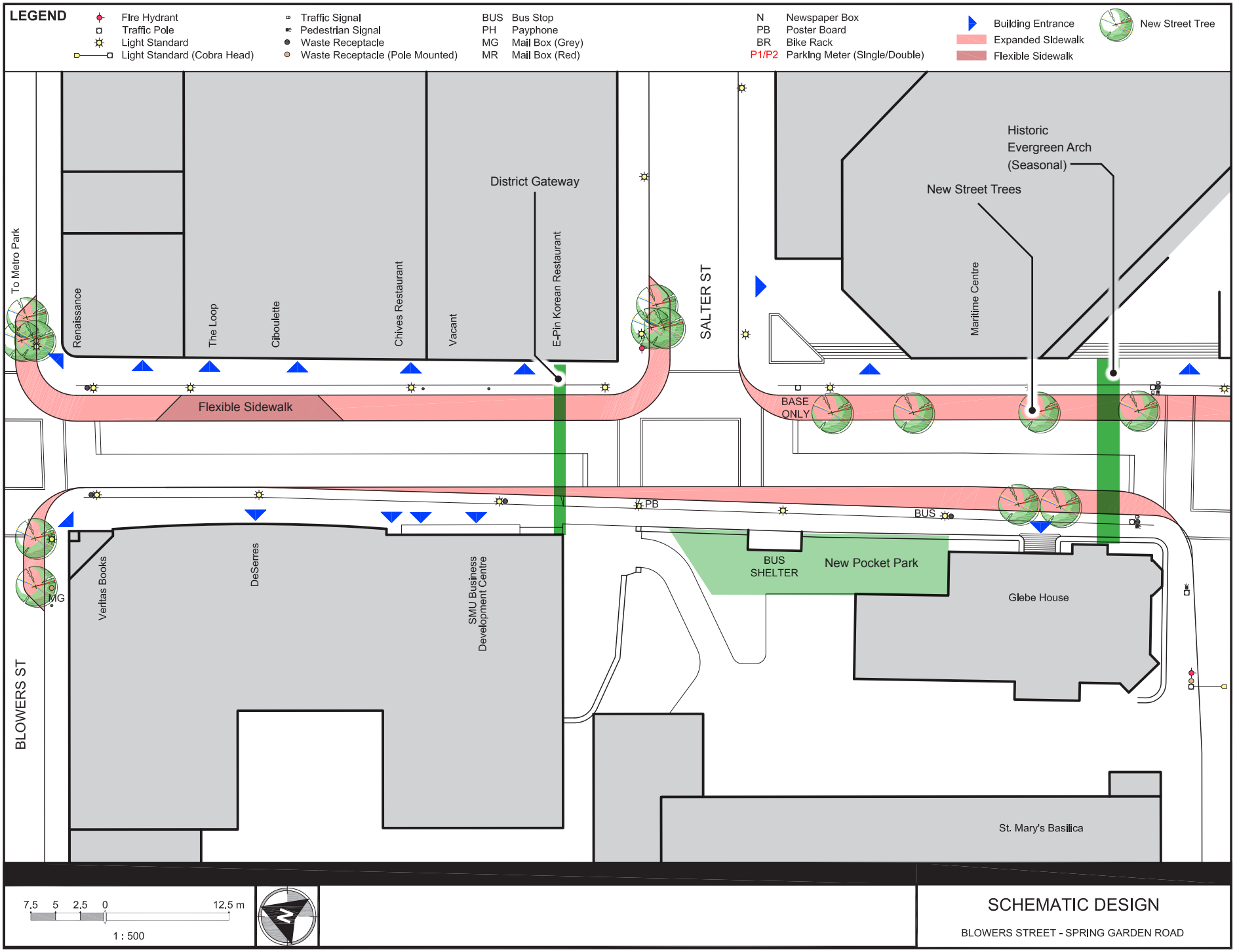


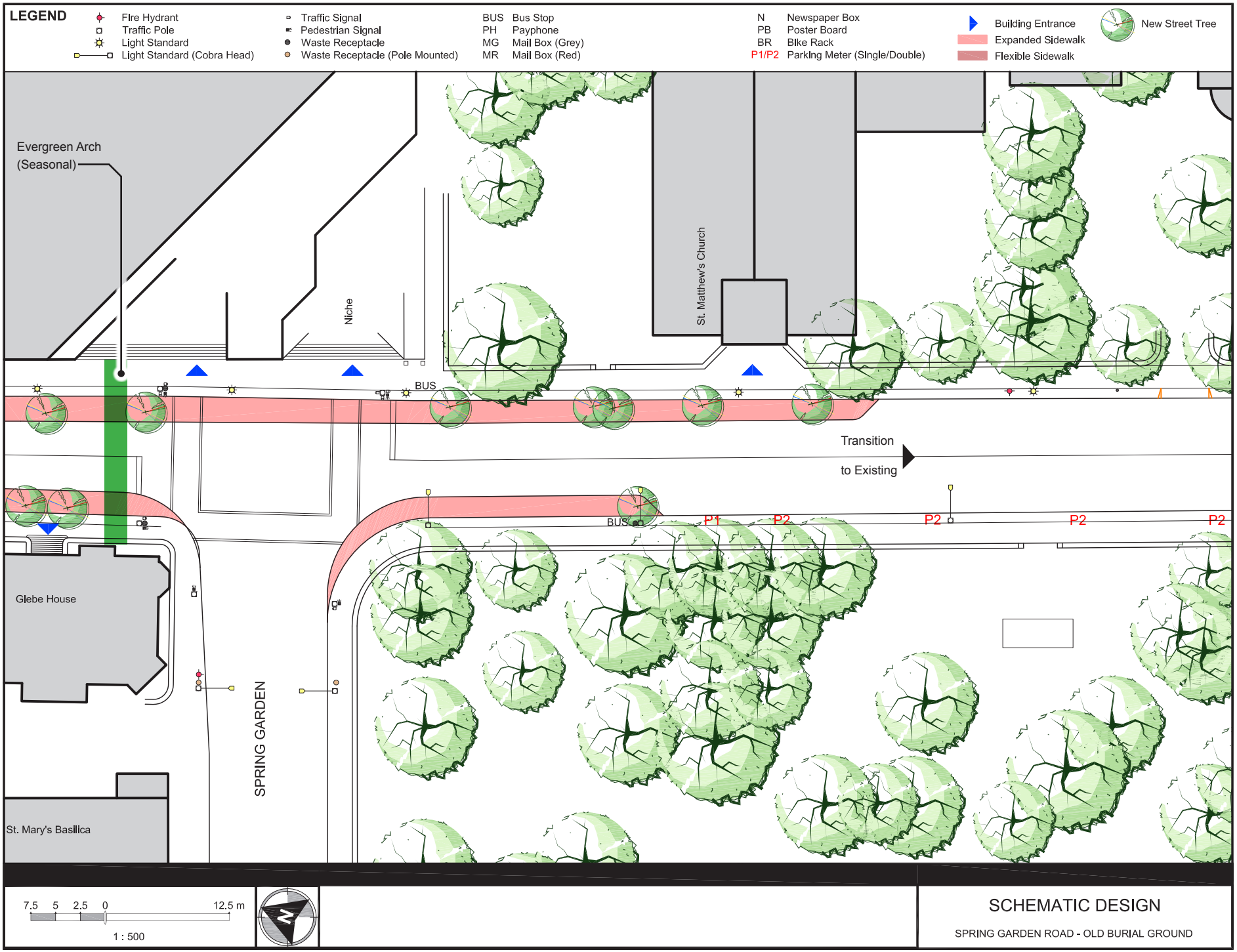
Data Sources: Partially based on mapping provided by Halifax Regional Municipality



Data Sources: Partially based on mapping provided by Halifax Regional Municipality



Data Sources: Partially based on mapping provided by Halifax Regional Municipality



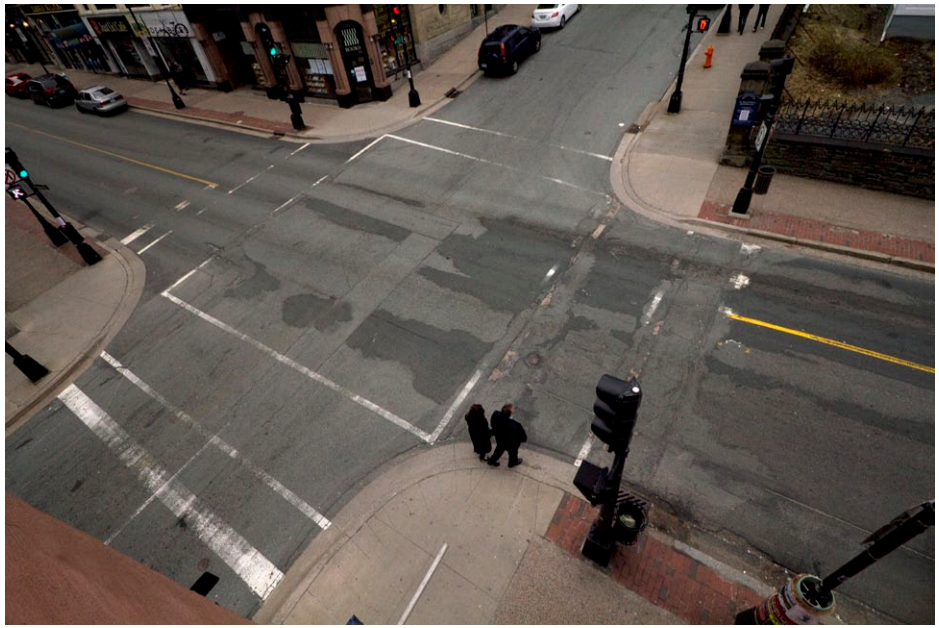
Data Sources: Partially based on mapping provided by Halifax Regional Municipality

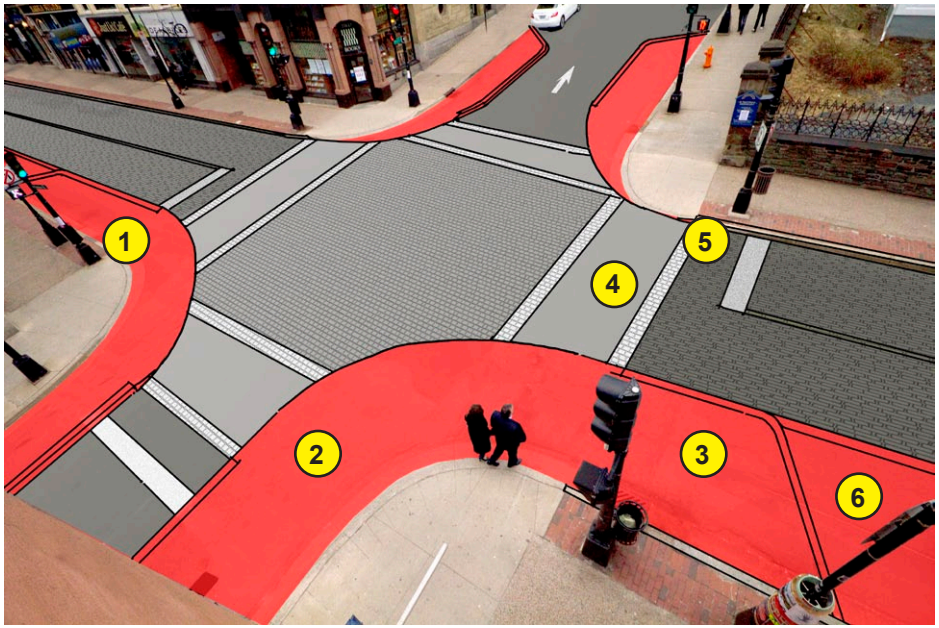
7.14.3 Intersection Comparison

Figure 76 demonstrates the impact of the 'Eastern Amenity' concept. Benefits include:

1. Additional separation between moving traffic and most pedestrians.
2. Significant space is now dedicated to the pedestrian.
3. Additional area provides opportunity for new amenities and commercial activity.
4. Reduced crosswalk distances
5. Opportunity to implement granite materials and textures.
6. Flexible parking/loading sidewalk.

Figure 76: Intersection Comparison (Prince and Barrington Streets)





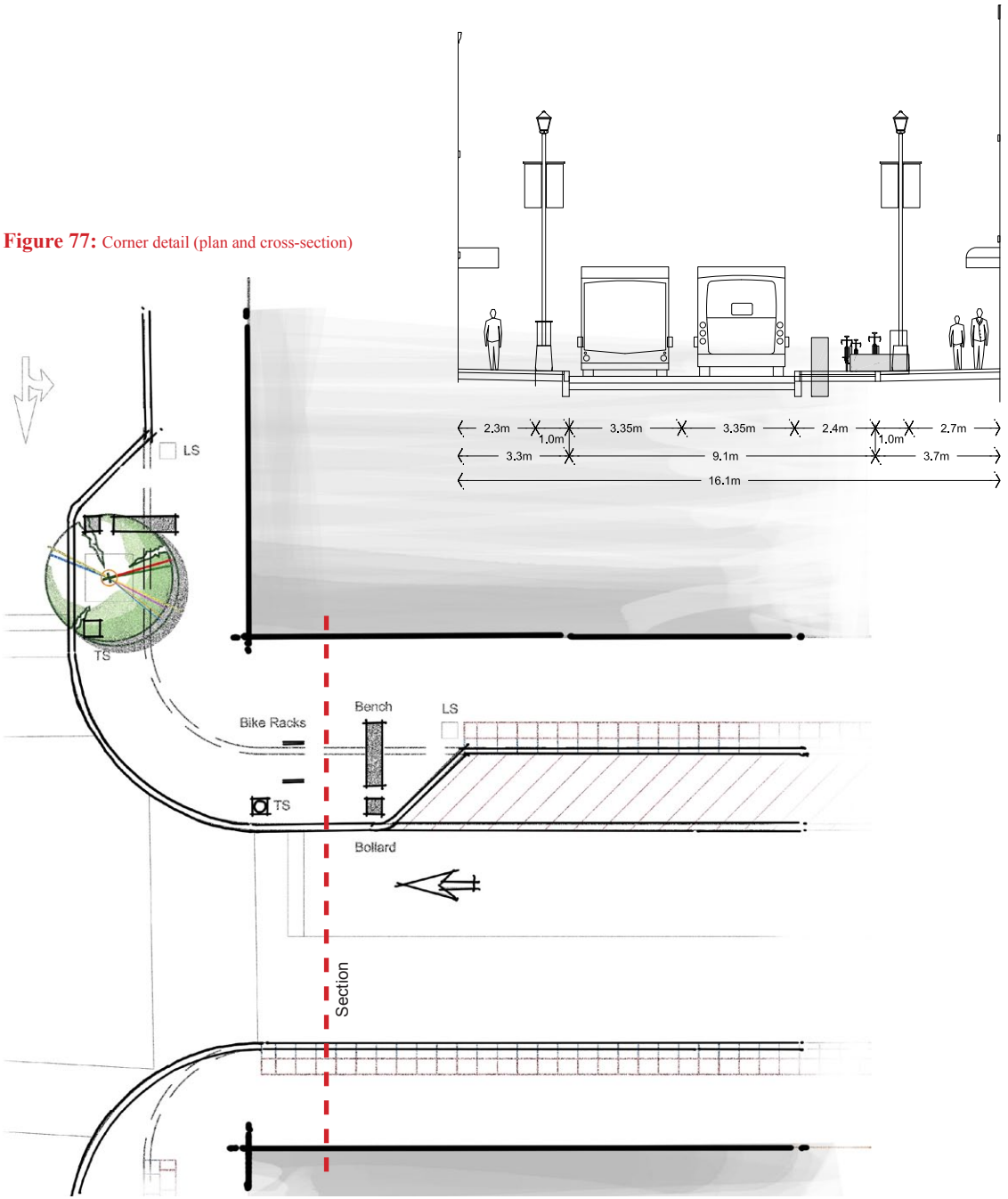
7.14.4 Corner Detail

Figure 77 is an example of how the additional sidewalk space could be used. Benches, bollards, bike racks and street trees are shown, but the space could be occupied by public art, kiosks, food vendors, sidewalk cafes, water features and business activities.

7.14.5 Additional Schematic Design Ideas

- Define all possible intersection crosswalks for improved pedestrian connectivity.
- Install multi-functional bollards to provide separation and also seating.
- Take advantage of vacant 'Birk's Site' to create a pedestrian access to Province House.
- Install the staircase at Grand Parade.
- Install a fountain at Grand Parade.
- Create a pocket park at St. Mary's Glebe.
- Install heliostats.
- Use granite blocks for bollards and benches to reinforce historic character.
- Extend vegetation from old burial ground through to Salter Street with street trees (baffle wind, visual connection).
- Re-create the evergreen gateway as shown in 1860 photograph (cover).

Figure 77: Corner detail (plan and cross-section)



8.0 CONCLUSION AND RECOMMENDATIONS

8.1 CONCLUSION

Change is overdue

Barrington Street is suffering from poor maintenance, inadequate lighting, traffic noise, low pedestrian numbers, vacant storefronts and minimal activities. Many of the street features contribute to a negative pedestrian experience.

Pedestrians first

HRM's downtown plan envisions a retail street designed for pedestrians and transit with a reinforced historic character. Experts in urban design agree with this vision. A revitalized streetscape would give people more reasons to come to Barrington Street. The additional pedestrian space creates opportunity for amenity and activities that attract people. If HRM is serious about making Barrington Street pedestrian and transit oriented, the first priority needs to be people, cyclists, transit, then other modes of transportation (Gehl, 2011). Simply expanding the sidewalks is not enough. Expansions must create usable space for functional amenities and programming. Consideration needs to be given to all users and how they can best enjoy the street. Once people are attracted to the street, they will in turn attract more people. A streetscape project can be a catalyst to improve the street's image and identity, exciting people and businesses to come back to downtown Halifax.

Lots of great ideas

HRM has undertaken multiple reports and plans that have many great ideas for Barrington Street as reviewed in the background section of this report. There are many more ideas for Barrington Street, It's about time we make them happen.

Taking action

We don't have to wait for a major streetscape project to fix Barrington Street all at once (Figure 78). Simple low cost additions like seating, flowers and interactive public art can help make the street more pedestrian friendly. In the interim, having a unified vision for the street can give direction to these incremental changes and contribute to the type of street we want.

Figure 78: Start with the petunias (Google, 2011),(PPS, 2011)

8.2 RECOMMENDATIONS

Action today

1. The concepts should be tested before being developed further. Using traffic cones, planters or other barriers to define the pedestrian realm, these tests could be marketed as events to the business community and public. People and shops could be invited to claim the pedestrian space for the day, week or even the summer season. This will excite the community and initiate the process of idea gathering for the creation of a streetscape citizens will truly take ownership of.
2. Investigate ways to reduce bus and other traffic noise.
3. Limit loading to times of minimal pedestrian activity.
4. Lower speed limit from 50km/h to 30km/h to reduce accidents and increase pedestrian perception of safety.
5. HRM should re-consider the one-way street network system downtown. One-way streets promote speed and aggressive traffic rather than a hospitable pedestrian environment (Gehl, 2010, p.242).

"Fast traffic results in lifeless cities."

(Gehl, 2010, p. 71)

Action tomorrow

1. Standards for downtown Halifax: A set of street design standards should be developed for Barrington Street and downtown Halifax. Many of the HRM standards do not function well downtown. Consideration should be made to the pedestrian-oriented ideals in the Downtown Plan and historic context.
2. Downtown Transit Study: Considering the low ridership numbers in the study area, an alternative approach to Downtown Transit should be investigated. A few key routes could remain (#1, #7, #80 etc.) and the rest could stop at new transit terminals at Cornwallis Park and Victoria Park. Eventually this could lead to a more pedestrian friendly street and the possibility of returning major downtown routes to a streetcar system.
3. Further investigation into the historic alignment of Barrington Street with the streetcar system should be undertaken. Calculations in this report indicate a likely cross-section, though further investigation is needed to confirm this for the entire street. Archived survey plans may lead to an accurate cross-section. It would also be interesting to investigate what elements made the 1920s street so successful.
4. Encourage a sense of place and community (through community judged public art design competitions and or locally sourced materials)
5. The future streetscape can take advantage of the historic granite curb found in the existing street. In conversations with various stakeholders, it is believed that the old granite road-bed and streetcar tracks are still under the asphalt. An opportunity exists to raise these to the surface and reinforce the historic character of the street.
6. Install mirrors and or heliostats on top of multiple buildings to reflect light into Barrington Street. ■

"After almost 50 years of neglect of the human dimension, here at the beginning of the 21st century we have an urgent need and growing willingness to once again create cities for people." (Gehl, 2010, p. 29)

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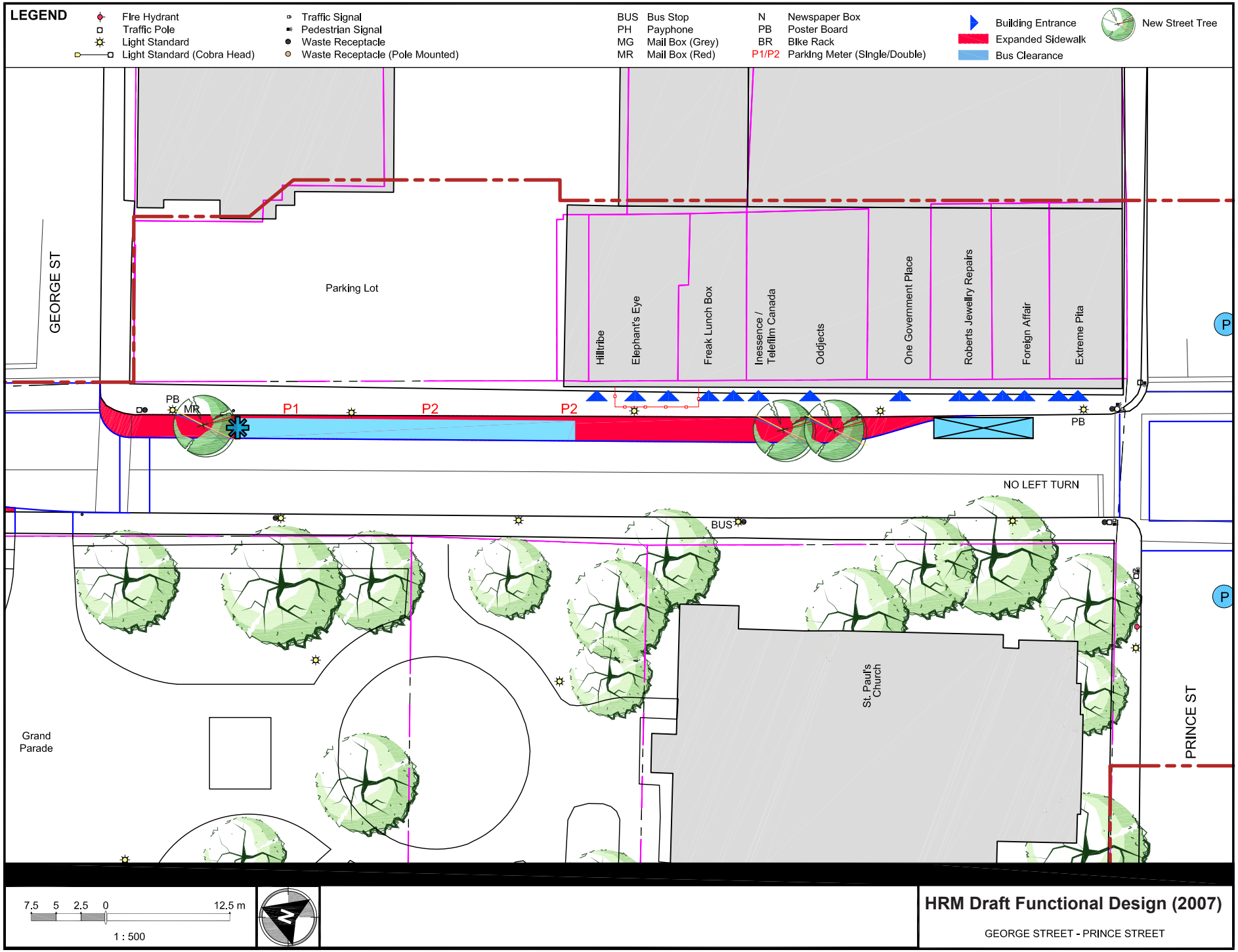
11.0 APPENDICES

Appendix A - 2007 Functional Design

Appendix B - Existing Street Plan

Appendix C - Criteria Survey Tempate

Data Sources: Partially based on mapping provided by Halifax Regional Municipality (2011)



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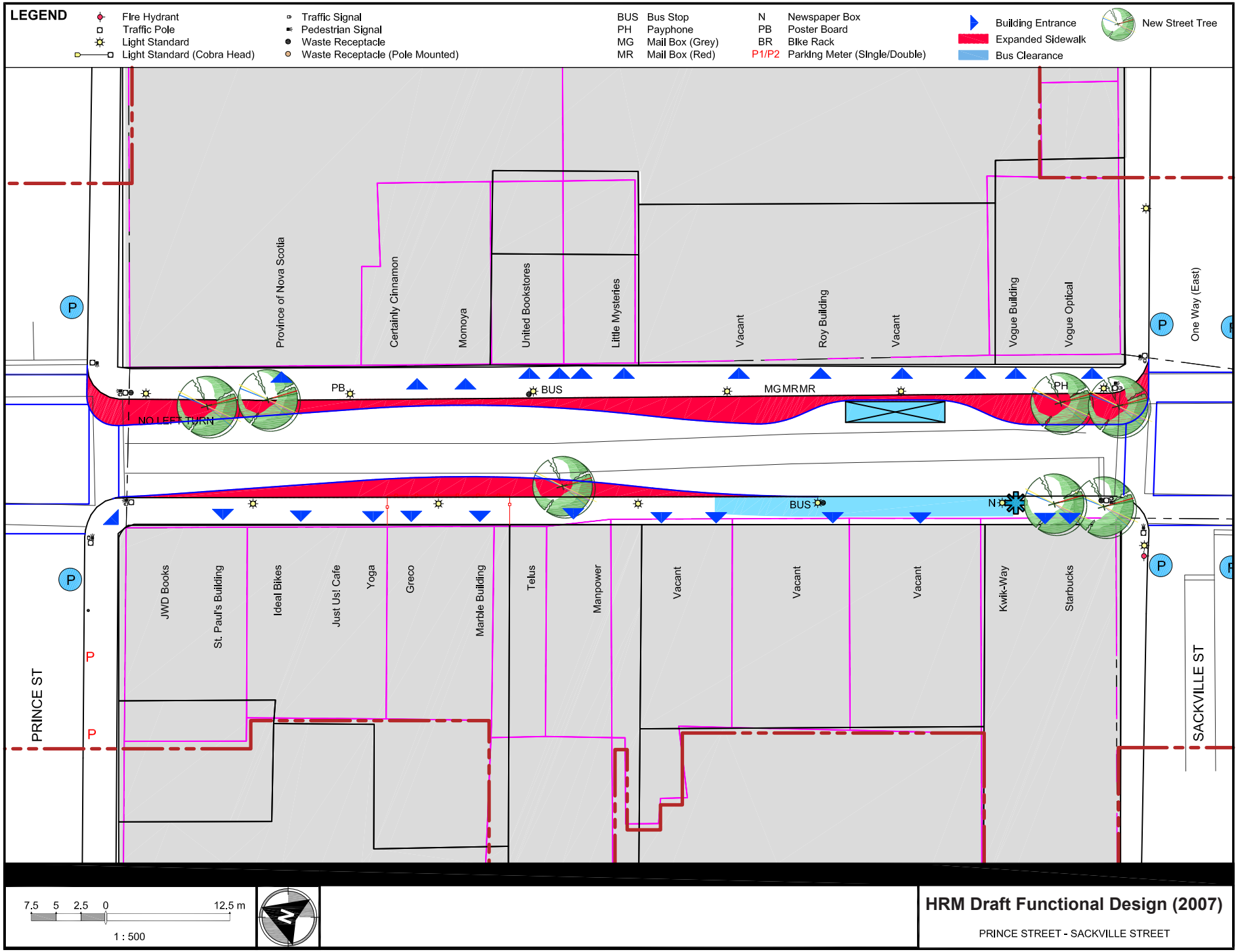

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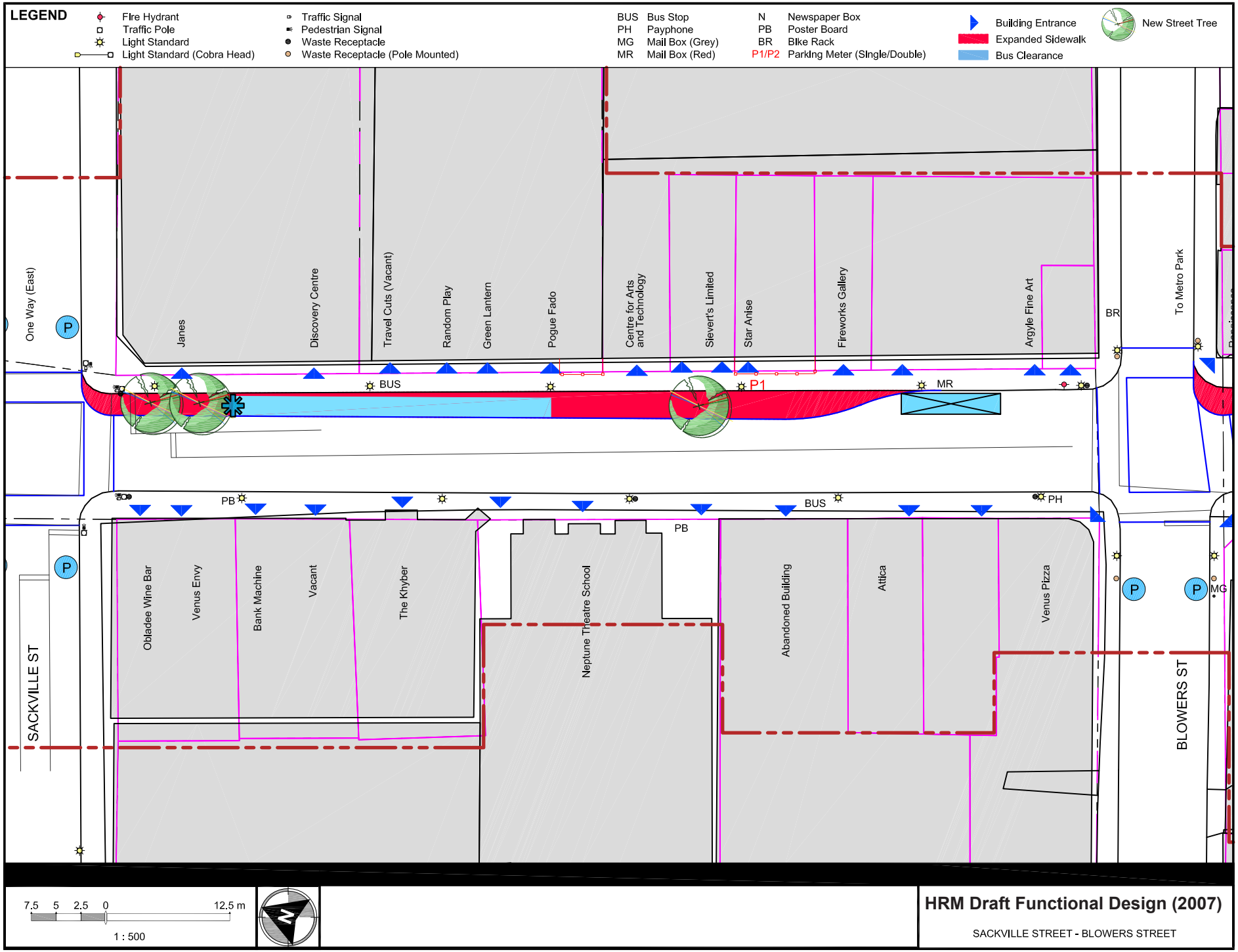

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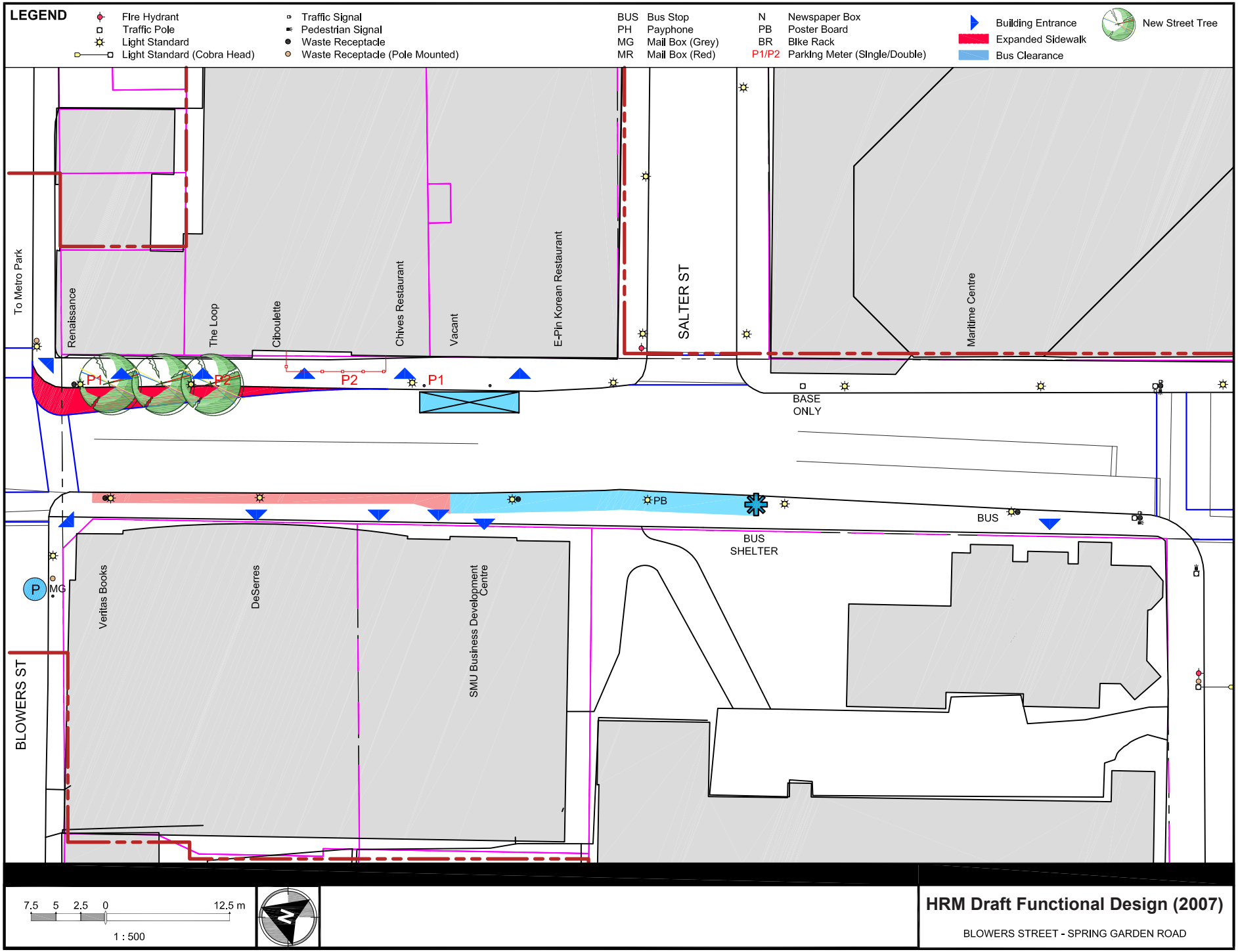

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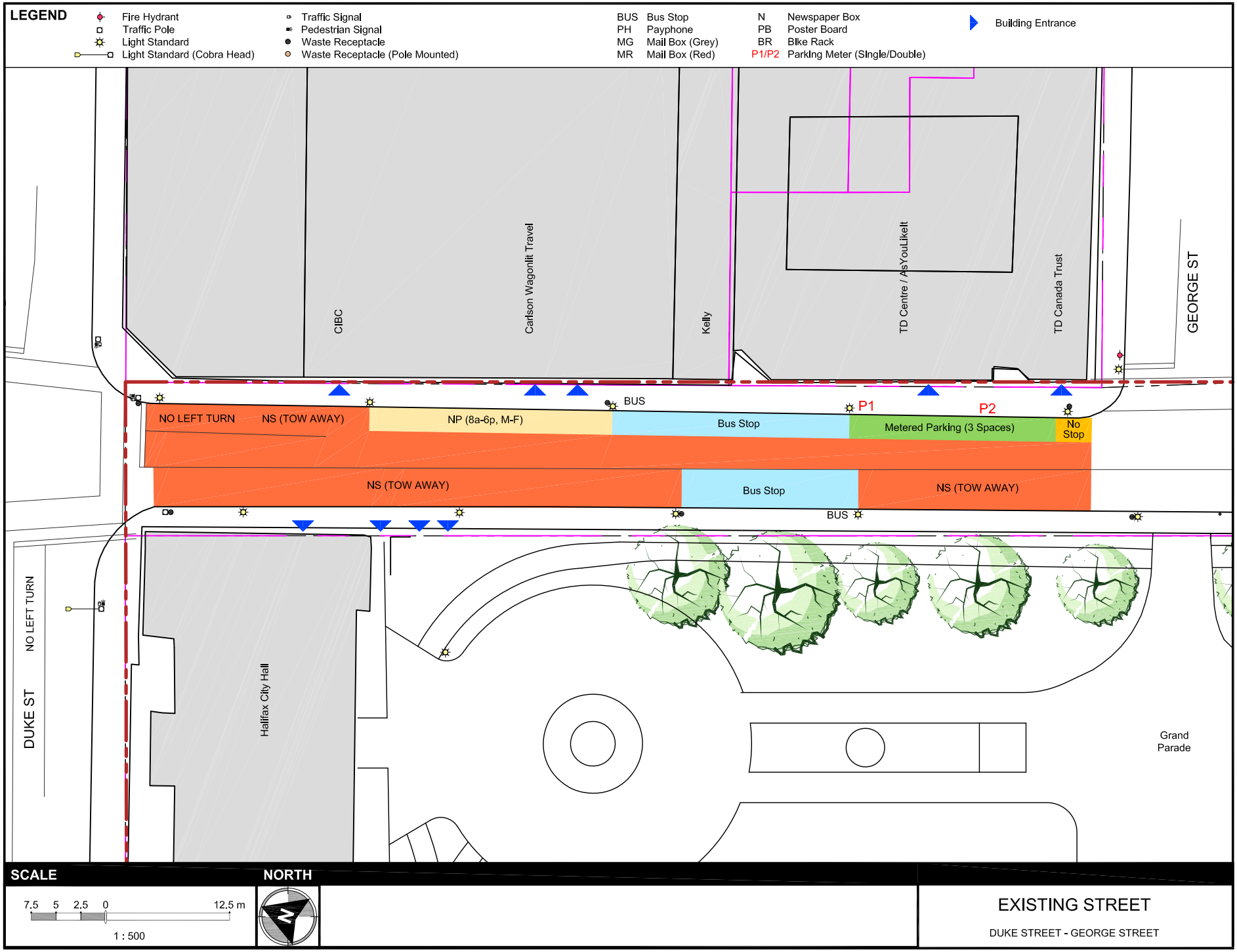

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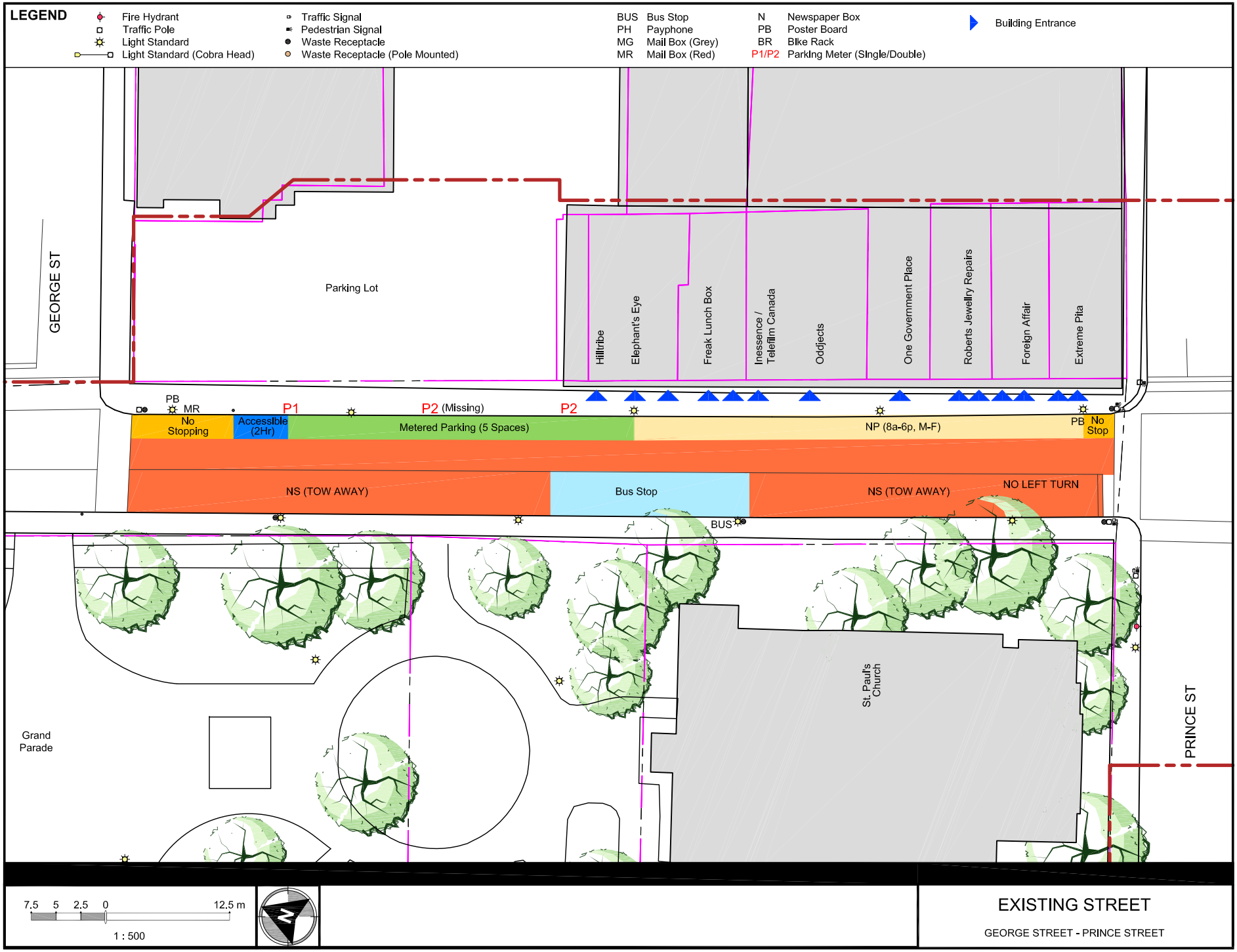

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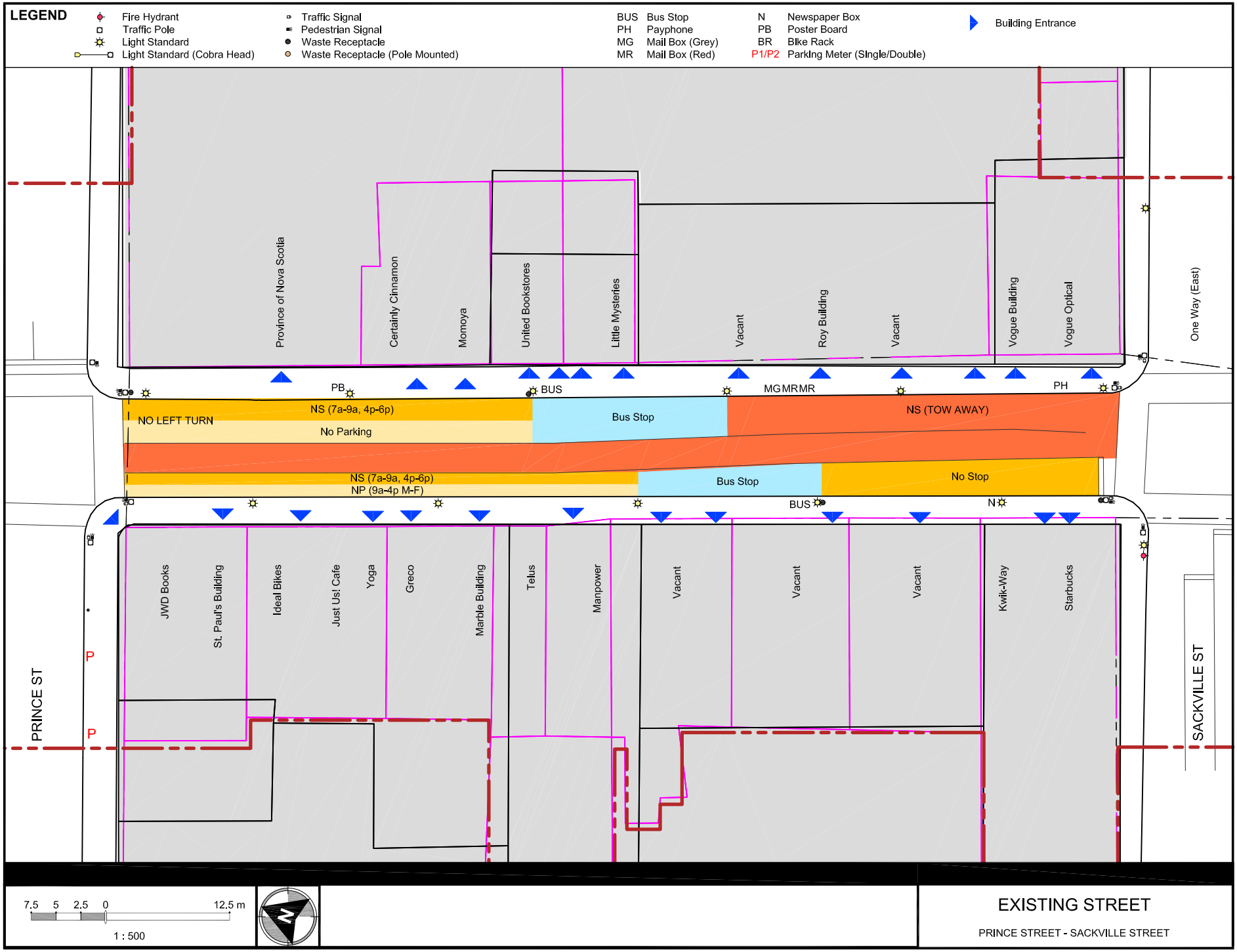

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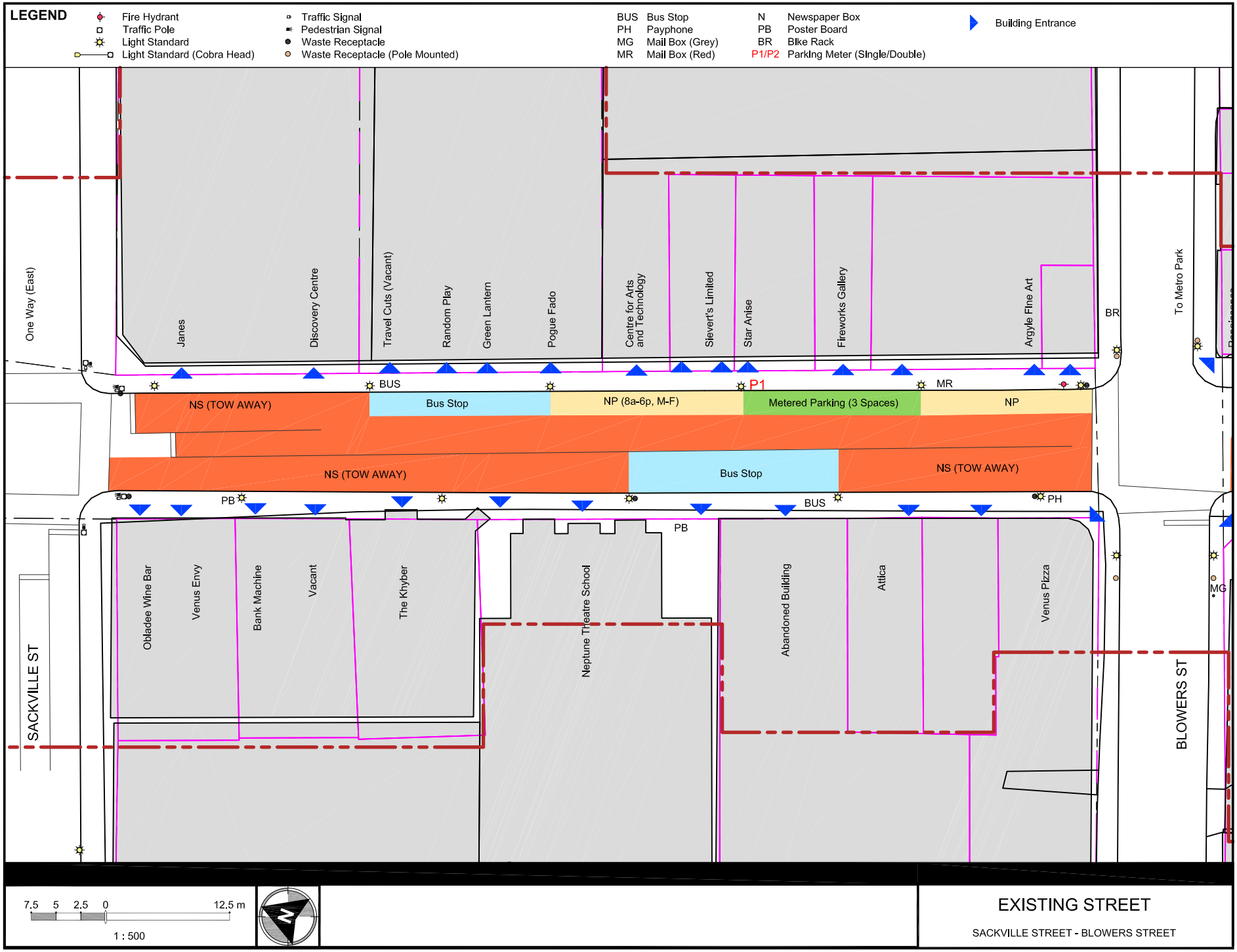

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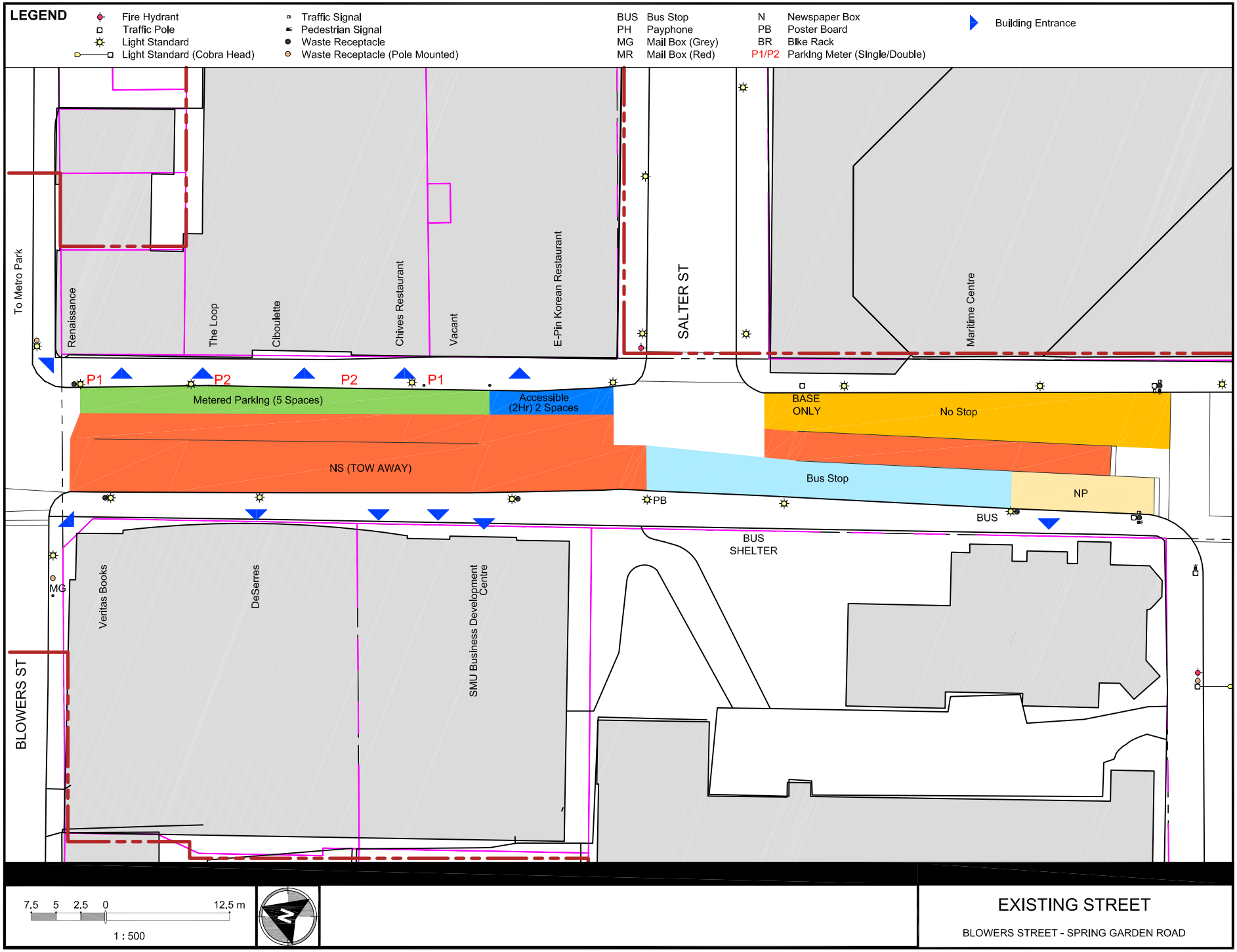
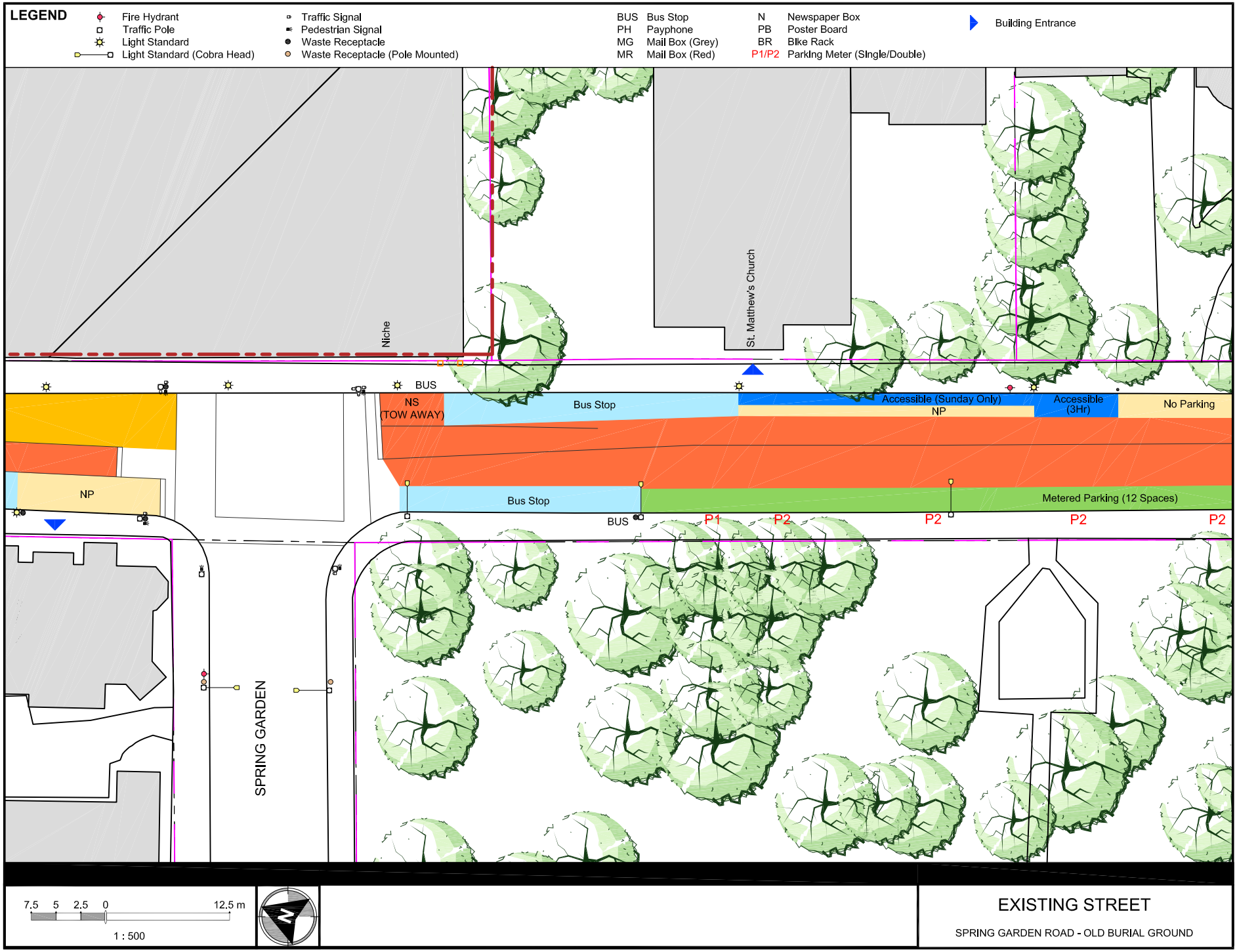


EXISTING STREET

BLOWERS STREET - SPRING GARDEN ROAD

Data Sources: Partially based on mapping provided by Halifax Regional Municipality (2011)



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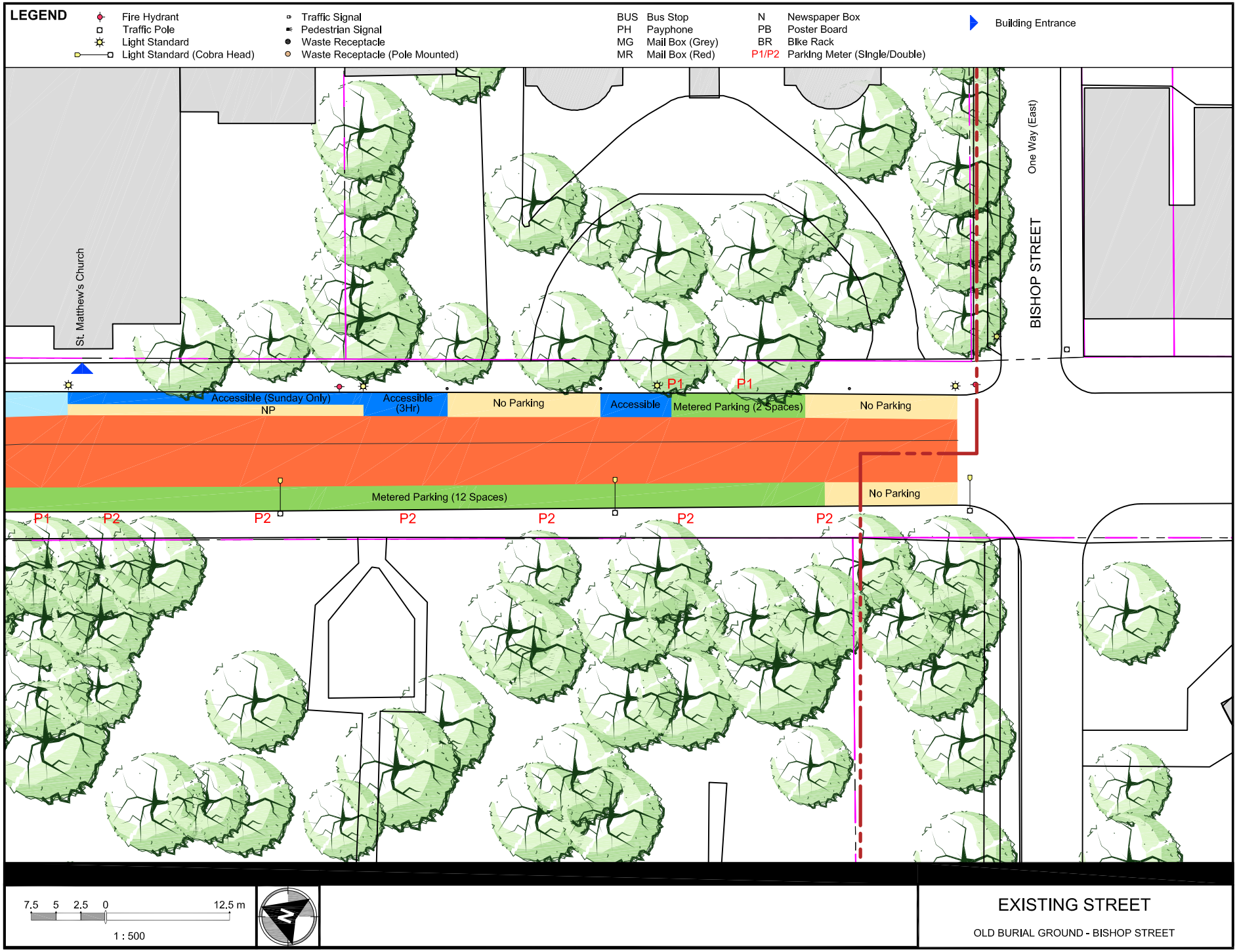

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THESIS PROJECT SURVEY

Barrington Street: Inspiration for Halifax's Historic Streetscape

I have identified you as an expert in a field related to streetscape design. I've prepared a quick survey for evaluating concepts. Your input will help in the completion of my honours thesis in the PLAN 4500 class at Dalhousie University. The data will be used for my thesis project.

My project involves an analysis of previously proposed designs for the streetscape area of Barrington Street. I have also developed additional concepts and I am evaluating each option before developing one at a schematic level.

If you have any questions, please feel free to contact me or my professor:

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902.830.0418
tmaguire@dal.ca

Eric Rapaport
Associate Professor, School of Planning, Dalhousie University
Eric.rapaport@dal.ca
902 494 7801

This survey is intended for evaluating test-block concepts strictly on proposed alignments and resource allocation.

Your Experience:

1. Your current profession is:
2. # of years experience in your current profession:
3. Do you work and or volunteer in the:
    - private sector [ ]
    - public sector [ ]
    - non profit organization related to historical, environmental, land use policy [ ]
    - Other [ ]

Your Knowledge of Barrington Street Reports:

1998 – Downtown Barrington (David F Architects)
Very familiar [ ], somewhat familiar [ ], Little bit familiar[ ], haven't read this report [ ]

2003 – Barrington Street Heritage District (Ekistics Planning & Design)
Very familiar [ ], somewhat familiar [ ], Little bit familiar[ ], haven't read this report [ ]

2004 – Capital District Streetscape Guidelines (Gordon Ratcliffe Landscape Architects)
Very familiar [ ], somewhat familiar [ ], Little bit familiar[ ], haven't read this report [ ]

2007 – Barrington Street - Functional Streetscape Design (Draft) (HRM)
Very familiar [ ], somewhat familiar [ ], Little bit familiar[ ], haven't read this report [ ]

2008 – HRMbyDesign - Public Realm Handbook (Draft 2)
Very familiar [ ], somewhat familiar [ ], Little bit familiar[ ], haven't read this report [ ]

2009 – Downtown Plan (HRM) (includes Secondary Municipal Planning Strategy, Land Use By-Law, Design Manual and Barrington Street Heritage Conservation District Revitalization Plan & By-Law
Very familiar [ ], somewhat familiar [ ], Little bit familiar[ ], haven't read this report [ ]

Survey continues on back…

Criteria Evaluation Survey

Under the new Downtown Plan, HRM intends for Barrington Street:
- To be pedestrian and transit oriented with two-way traffic.
- To be a central retail spine.
- To have a reinforced historic character.

Considering HRM's intentions, please rank each of the 10 criteria by level of importance.
(**0** being Not Important, **1** being Somewhat Important, **2** being Important, **3** being Very Important)

Pedestrian Oriented:
Criteria 1 - Expansion of Pedestrian Realm [ ]
(Explanation: e.g. wider sidewalks, amenity areas)

Criteria 2 - More pedestrian space on east side [ ]
(Explanation: On Barrington Street, the east side typically has higher pedestrian traffic and receives more afternoon sun)

Transit Oriented:
Criteria 3 - Buses have priority of road [ ]
(Explanation: Buses should dictate flow of traffic, not having to wait to merge again)

Reinforcing Historic Character:
Criteria 4 - A historic (linear) street alignment [ ]
(Explanation: Photo records show the curb alignment been linear for the past 100 years. Should the linear alignment be maintained?)

Retail Spine:
Criteria 5 - Space on Barrington Street for Loading Vehicles [ ]
Criteria 6 - Space on Barrington Street for Parking [ ]
(Explanation: Barrington street currently has road area dedicated to loading and parking)

Safety:
Criteria 7 - Reduced crosswalk distance [ ]
(Explanation: Reducing crosswalk is one way to improve pedestrian safety)

Criteria 8 - Road width allowing an emergency third vehicle lane [ ]
(Explanation: Should a car or bus break down, two lanes of traffic can still operate)

Economic:
Criteria 9 – Efficient expansion of pedestrian realm [ ]
(Explanation: Any expansion of the sidewalk should maximize potential use. Maximizing new sidewalk area while minimizing the amount of new curb required to do so.)

Criteria 10 - Minimize construction costs [ ]
(Explanation: Proposed alignment may require significant alteration, or have impact on other elements, services)

Comments:

For future studies, can you suggest any additional criteria that should be considered?

Additional comments:

That's it, thank you for your help,
TJ