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Item No. 12.1.2
Transportation Standing Committee
February 22, 2018

TO: Chair and Members of the Transportation Standing Committee

Original Signed

SUBMITTED BY:

Bruce Zvaniga, P.Eng., Director, Transportation and Public Works

DATE: January 2, 2018

SUBJECT: South Park Street Bicycle Lane Extension and Improvements

ORIGIN

Halifax's recently adopted Integrated Mobility Plan (IMP) includes South Park Street in a network of bicycle routes designed for users of all ages and abilities to be implemented by 2022. The IMP identifies a protected bikeway as the preferred facility type for South Park Street.

Recommendation #17 of the Halifax Active Transportation Priorities Plan 2014-2019: The municipality should consider protected bicycle lanes wherever there are candidate bicycle routes on Maps 2A, B, & C, and aim to implement at least one protected bicycle lane pilot project in the next five years

Recommendation #20 of the Halifax Active Transportation Priorities Plan 2014-2019: To achieve the goal of doubling of AT mode share, the municipality needs to focus AT plan implementation for cycling on the types of infrastructure preferred by new bicyclists.

Recommendation #22 of the Halifax Active Transportation Priorities Plan 2014-2019: To achieve the goal of doubling of AT mode share, the municipality should put particular emphasis on the Regional Centre for the cycling component of implementing the AT Plan.

When making decisions about potential trade-offs needed to establish bicycle lanes in the Regional Centre, recommendation #23 of the Halifax Active Transportation Priorities Plan 2014-2019 states there should be:

1. More detailed review of each corridor under criteria listed in Appendix E of the plan;
2. Public engagement; and
3. Regional Council approval.

LEGISLATIVE AUTHORITY

Halifax Regional Municipality Charter section 79 (1) (aa): "The Council may expend money required by the Municipality for... (aa) streets, culverts, retaining walls, sidewalks, curbs and gutters;"

Halifax Regional Municipality Charter section 322(1) states that "Council may design, lay out, open, expand, construct maintain, improve, alter, repair, light, water, clean and clear streets in the Municipality."

Motor Vehicle Act, subsection 90 (3) “The traffic authority may also mark lanes for traffic on street pavements at such places as he may deem advisable, consistent with this Act and may erect traffic signals consistent with this Act to control the use of lanes for traffic.”

Administrative Order One, the Procedures of Council Administrative Order, Schedule 7, Transportation Standing Committee Terms of Reference, clause 7(b) which states: “The Transportation Standing Committee shall... (b) promote and encourage the Municipality’s Active Transportation corridor initiatives which supports the overall Transportation Strategy as outline in the Regional Plan.”

RECOMMENDATION

It is recommended that the Transportation Standing Committee recommend that Halifax Regional Council approve the installation of 1.2 km of protected bicycle lanes and related changes to the right-of-way on both sides of South Park Street between Sackville Street and Inglis Street as described in this report.

BACKGROUND

Integrated Mobility Plan Action Items

Action #72 of Halifax’s recently adopted Integrated Mobility Plan (IMP) provides direction to “deliver the Regional Centre all ages and abilities bicycle network by 2022.” South Park Street is a key north-south route in the IMP’s bicycle network (see Figure 17 on page 92 of the [Integrated Mobility Plan](#)).

Existing Bicycle Facility

Originally installed in 2008 as part of a pavement micro-surfacing project on South Park Street, the existing South Park Street bike lanes connect bicyclists to a vibrant downtown Halifax mixed-use corridor that includes the Public Gardens and Victoria Park (part of the Halifax Common); shops, cafes and restaurants; mid-to-high density residential uses; and the QEII Victoria General hospital site.

The existing 550 metres of painted on-street bicycle lanes (see figure 1) on both sides of South Park Street begin just south of the bike lanes on Bell Road at Sackville Street and terminate just north of the University Avenue/Morris Street intersection. The current bicycle lanes do not extend up to the intersections and therefore, are not considered to be designed for all ages and abilities.

Figure 1: Existing bike lanes between Sackville Street and University Ave.
Source: WSP



A temporary bicycle counter on the northbound side of South Park just north of Spring Garden Road has generated some all-day bicycle volume data, recording an average of 161 bicycles per day travelling north on South Park since it was installed on August 23, 2017. It also recorded peaks of up to 255 bicycles per day (one-way northbound) in August and September.

Bicycle Network Connections

South Park Street is a key north-south spine route in the Halifax peninsula's bicycle network (refer to figure 2 on page 3). To the north, there is an existing connection to the Bell Road bicycle lanes which connect with points further north via the Halifax Common and a planned bicycle facility on Ahern Avenue. To the south, there is a planned route to Point Pleasant Park via a future local street bikeway on Young Avenue. South Park Street also intersects University Avenue which is part of the Integrated Mobility Plan's bikeway network.

South Park Street Context

South Park Street is a collector street with one travel lane in each direction and on-street parking on both sides (refer to figure 1: existing cross sections in attachment B). Painted bicycle lanes exist between the parking lanes and travel lanes from Sackville Street to University Ave/Morris Street. Average Daily Traffic volumes on South Park are 9,500 vehicles per day north of South Street and 6,500 vehicles per day south of South Street. The posted speed limit is 50 km/h with the average speed being 41 km/h and the 85th percentile speed being 51 km/h, as determined by a 2016 speed study. The 85th percentile speed represents the speed at or below which the majority of drivers tend to travel based on roadway design and conditions.

Halifax Transit routes 10, 14, 17 and 18 run on South Park Street south of Spring Garden Road and are served by a total of ten bus stops along the corridor. Up to 20 southbound buses per hour and 13 northbound buses serve the street during peak periods.



Figure 2: Planning context – Candidate Bicycle and Greenway Network (Map 2C) from HRM's Active Transportation Priorities Plan

DISCUSSION

Enhancing and extending the bicycle lanes on South Park Street presents an opportunity to implement an all ages and abilities facility on a key north-south spine route on the Halifax Peninsula which would support achieving the number one ranked priority of the AT Priorities Plan: implementation of the Regional Centre Bikeway network.

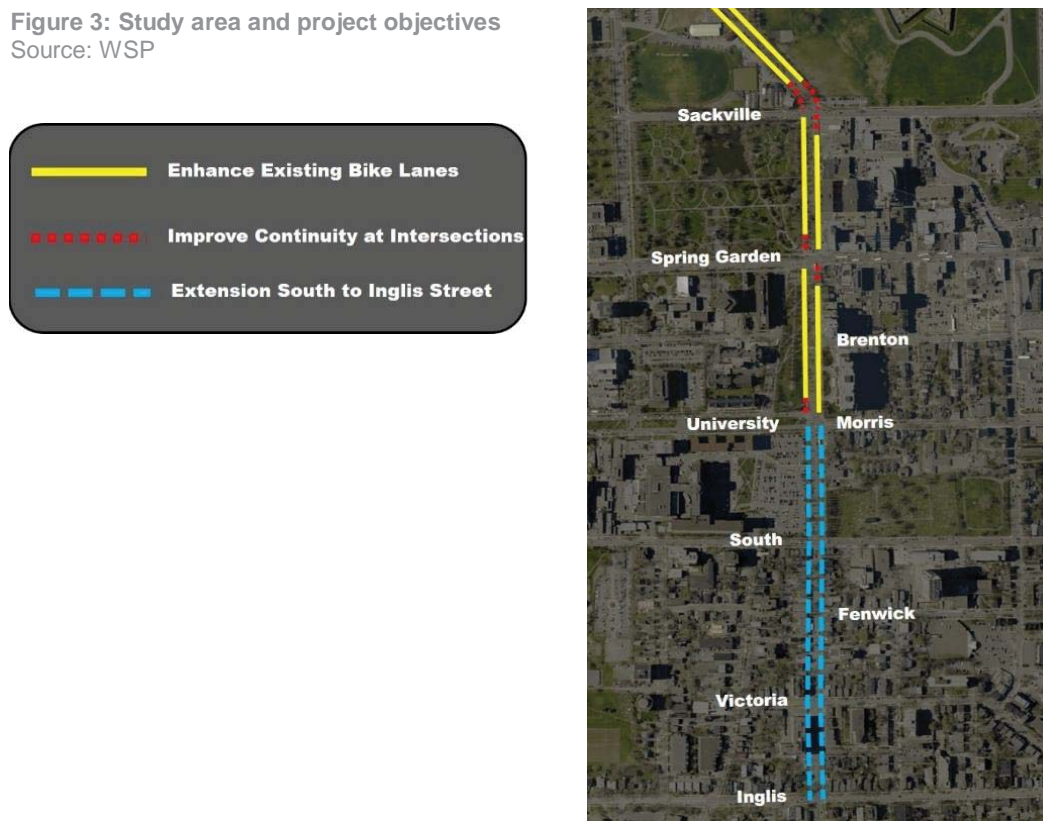
Project Objectives and Scope

To support the Regional Council-approved policy directions as described above in the “Origin” section of this report, the following objectives were identified for the South Park Street Bicycle Lane project (refer to figure 3 on the following page for a map of the study area and project objectives):

- Explore opportunities to make the existing bike lanes safer based on current professional design guidance
 - Improve continuity at intersections
 - Increase separation from vehicles
- Extend the bike lanes south to Inglis Street
- Gather information necessary to evaluate the options as per Appendix E of the AT Priorities Plan: “Evaluation Criteria for New Bicycle Facilities”

WSP consultants were engaged by city staff in 2015 to design and evaluate options for enhancing and extending the existing bicycle lanes on South Park Street. The scope of work included analysis of and strategies to mitigate potential impacts to the on-street parking supply and traffic capacity in the study area.

Figure 3: Study area and project objectives
Source: WSP



Bicycle Facility Options

WSP explored three options for bicycle facilities on South Park Street from Sackville Street to Inglis Street:

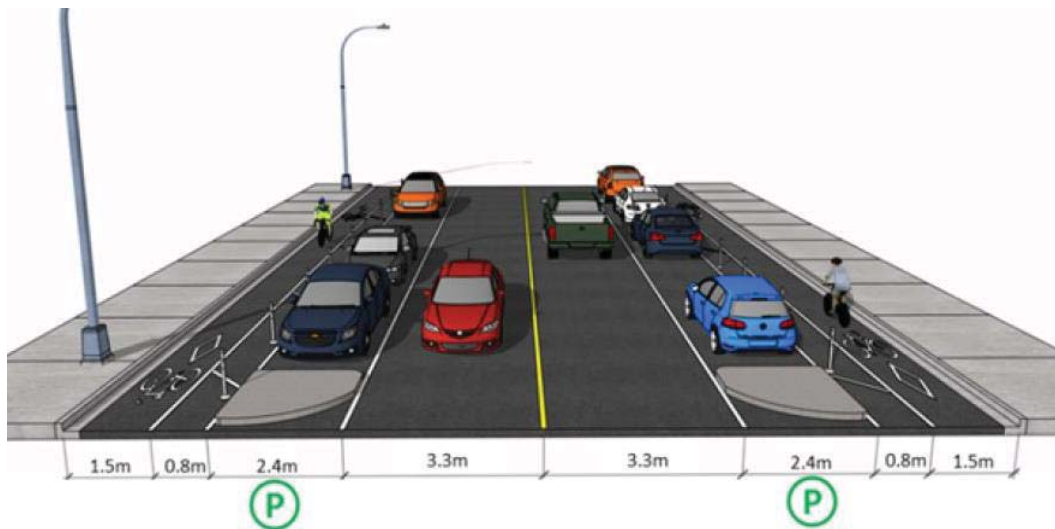
1. *Buffered Bicycle Lanes*: an enhanced version of the existing facility that incorporates a painted buffer area between the bike lane and adjacent traffic and/or on-street parking.
2. *Protected Bicycle Lanes*: bike lanes that are physically separated from the traffic lanes. Refer to figure 4 on the following page for an illustration of this proposed cross section.

2A. *Protected Bicycle Lanes with Off-Street Sections*: a variation of the protected bike lanes option that incorporates off-street sections of bike path on the southbound side only between Sackville Street and University Avenue. The concept includes a one-way bicycle facility installed within the existing green space between the sidewalk and the tree line next to the Public Gardens and in Victoria Park.

WSP's comparative analysis (see figure 5 on page 6) of the three options concluded that Option 2 (protected bicycle lanes) is the preferred facility type for the South Park Street corridor as it provides the greatest opportunity to achieve the project objectives through significant improvements to virtually all aspects of the existing facility. A protected facility is consistent with professional bikeway design guidance that recommends consideration of physical separation when traffic volume and speed thresholds as seen on South Park Street are reached.

While WSP carried both Options 2 and 2A through to the preliminary design stage, Option 2A is not being recommended as it presents several challenges that would add significant cost and complexity to the project while offering relatively few benefits.

Figure 4: Proposed cross section for parking-protected bike lanes between Spring Garden Road and University Avenue/Morris Street
Source: WSP



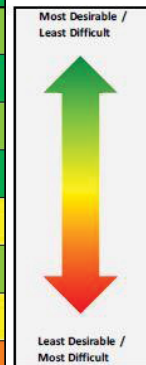
Evaluation of Options

WSP’s comparative analysis of the three options (see figure 5 below) considered multiple criteria drawn from Appendix E (*Evaluation Criteria for New Bicycle Facilities*) of the AT Priorities Plan.

Figure 5: Options Evaluation Matrix

Source: WSP

Evaluation Criteria		Bicycle Facility Options			
		Existing Conditions	1. Enhanced Buffered Bike Lanes	2. Protected Bike Lanes	2a. Protected Bike Lanes (with off-street section)
1. Best Practice Design	Cycling safety, comfort and convenience	Orange	Yellow	Green	Green
	Intersection safety and comfort	Red	Yellow	Green	Green
	Bus stop safety and comfort	Red	Orange	Green	Green
2. Connectivity	Connections to broader cycling network	Yellow	Light Green	Light Green	Light Green
	Continuity of the bike facility to Inglis Street	Red	Green	Green	Green
3. Implications	Impact to Pedestrians	Light Green	Light Green	Green	Yellow
	Impact to Transit	Green	Light Green	Light Green	Light Green
	Impact to Motor Vehicles	Green	Yellow	Yellow	Yellow
	Impact to Commercial or Residential Parking	Green	Orange	Orange	Orange
	Impact to Accessible Parking Spaces	Green	Light Green	Light Green	Light Green
	Impact to Taxi Stands	Green	Green	Orange	Green
	Impact to Green Space and Urban Forest	Green	Green	Green	Orange
	Maintenance	Green	Green	Orange	Orange
	Capital Cost	Green	Light Green	Yellow	Orange
	4. Public Support	Overall level of public / stakeholder support	Yellow	Yellow	Light Green



Bicycling Improvements: Separation from Traffic

The proposed cross section for the protected bicycle lane option uses a combination of the existing parking lanes to create *parking protected* bicycle lanes and, on sections with no parking, another measure for physical separation is proposed.

Separation With a Parking Lane

The existing parking spaces would be moved away from the curb such that they “float” between the bicycle lane (located next to the curb) and the adjacent traffic lane – parked cars would effectively provide the physical barrier that protects cyclists from motor vehicle traffic. A 0.6 to 1.0-metre painted buffer area between the bike lane and parking spaces provides cyclists with protection from opening doors on the passenger side of vehicles, and gives passengers a safe space to step into as they exit their vehicle. A physical barrier (e.g., pre-cast concrete curb, planter boxes, flexible bollards) to prevent drivers from infringing on the bike lane or buffer area when parking their vehicles is also proposed.

Separation Without a Parking Lane

For the sections of the corridor where there is insufficient room to maintain an on-street parking lane, the barrier in the buffer will provide the physical separation and will prevent vehicles from entering and blocking the bike lane.

There are many factors to consider when selecting an appropriate physical separation treatment, including: effectiveness, durability, maintenance, curb access needs (i.e., loading, parking, bus stops, emergency vehicles), public input, capital cost and lifecycle cost. Based on a review of professional design guidance

and input from multiple HRM business units and the public, staff have arrived at a preferred option for physical separation. The proposed configuration would include a continuous row of pre-cast concrete curb sections with planter boxes and/or flexible delineators placed on top of the curb at strategic locations, such as the start and end of a parking lane. On the parking-protected segments of the facility, the concrete curb sections would be spaced to allow gaps so that people exiting vehicles could cross the bicycle lane to access the sidewalk. The concrete curb will provide a durable, horizontal barrier that will prevent vehicles entering the bike lane and will provide a guide for snow clearing equipment (see figure 7). The planter boxes and flexible delineators add a vertical element that improves visibility of the barrier, especially in the winter when the concrete curb sections may be covered by snow. The planter boxes also add visual appeal to the facility and streetscape (see figure 6).

Figure 6: Planter boxes with curb
(Seattle, WA; source: www.seattlebikeblog.com)

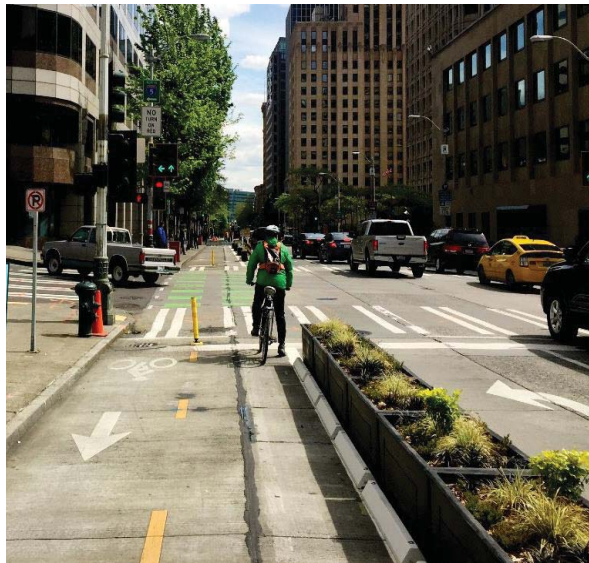


Figure 7: Example of low-profile pre-cast concrete curb
(Washington, DC; source: M. Connors)



Bicycle Improvements: Continuity at Intersections

Currently the bicycle lanes end before South Park Street's four signalized intersections to accommodate multi-lane approaches, providing no guidance for cyclists on how to navigate the intersections or for motorists on what to expect from bicyclists travelling straight through or making turns. Intersections on busy streets (i.e., more than two traffic lanes; vehicle speeds >30km/hr) are associated with a significantly higher risk of injury than intersections on quiet, local streets. Designing to improve visibility of bicyclists, eye contact between users, and clarity regarding the intended path and right-of-way for all modes can reduce conflicts, thus improving the safety and comfort of the facility.

Improving bike lane continuity at intersections on South Park Street will require several modifications to the existing lane configurations:

- Removal of one northbound through lane at Bell Road/Sackville Street
- Removal of the southbound right turn lane at Spring Garden Road
- Removal of the southbound right turn lane at University Avenue
- Modification to the northbound and southbound lane configurations at South Street
- Removal of the southbound right turn lane at Inglis Street

In addition to continuing the bicycle lanes all the way to the intersections, pavement markings in the intersections to indicate the intended path of cyclists and highlight conflict zones are also proposed. The use of “elephant’s feet” markings to extend a bike lane through an intersection, combined with the use of green markings to highlight areas of potential conflict with motor vehicles, are consistent with the most current bikeway design guidance (see figures 8 and 9). To facilitate safe left turns for bicyclists, especially at intersections with existing or planned bikeways, staff will consider the addition of intersections treatments such as green bike boxes or two-stage turn boxes.

Staff are investigating the use of permanent pavement markings, such as thermoplastic products, as an alternative to conventional painted markings for this project and other upcoming bikeway projects. The experience of other jurisdictions, such as Ottawa, ON, indicates that thermoplastic markings can last up to five years compared to one year (or less) for paint. This could result in reduced costs to maintain the facility over the long-term and would help to ensure the quality of the facility does not rapidly degrade as painted markings wear away.

Figure 8: Intersection crossing markings with green conflict area
(Source: NACTO.ORG)



Figure 9: Intersection crossing markings on bi-directional bikeway in Vancouver
(Source: Alexander Pope, flickr.com; creative commons license)



Bicycle Improvements: Manage Bus/Bicycle Interactions

Meeting the needs of transit riders and operators while maintaining a safe and comfortable bicycle facility at bus stops is a key consideration for this project. The current approach to accommodating bicyclists at bus stops on South Park is the use of a curbside mixing zone where bicyclists and buses share the road. This is neither comfortable nor convenient for bicyclists as it exposes them to buses crossing the bike lane and can require them to stop behind a bus and wait. WSP and staff explored two alternatives to the curbside mixing zone: *island bus stop platforms* and a *shared cycle track-bus stop*.

Island platforms

Island platforms shift transit passengers off the curb onto a dedicated space that “floats” within the right-of-way, which allows bicyclists to stay against the curb, separated from bus movements. While this is very advantageous for bicyclists and is a viable solution for some bus stops on South Park Street, island platforms require significant space and would add considerable cost to the project. Island platforms may be most appropriate where sufficient space in the right-of-way exists and where there is a desire to add space for transit passengers (i.e., shelter, benches) that is not available between the curb and sidewalk.

Shared Cycle Track-Bus Stop

Given the width constraints along South Park Street, introducing a shared cycle track-bus stop treatment at bus stops is the preferred solution to ensure the continued safety and comfort of the South Park bicycle facility for the length of the corridor. This treatment consists of a shared space for bicyclists and transit passengers at a bus stop, with the bike lane ramping up to sidewalk level on the approach to the bus stop,

and back down to street level after the bus stop (see figures 10, 12 and 13). Transit passengers wait on the sidewalk outside of the bicycle facility, but must enter the raised cycle track for boarding and alighting. Bicyclists can ride through the boarding area when no buses are present, but must yield the space to boarding and alighting passengers when a bus is at the stop.

The raised cycle track/boarding area is a shared space that introduces potential conflicts between bicyclists and transit passengers. Various treatments can be used to alert all users to the potential conflict, such as coloured pavement markings, bicycle symbols and tactile strips. Nova Scotia's Traffic Sign Regulations enables the use of the "bicycles yield to pedestrians" sign (see figure 11), which would be installed as part of implementing the shared cycle track-bus stop treatment on South Park Street. Both Ottawa and Toronto, ON have had this type of treatment in operation for several years (2014 and 2015 respectively) and have received no negative feedback from transit operators or bicyclists, and there have been no reported collisions at bus stops (as of January 2017). Halifax Transit staff have been consulted on the potential implementation of this treatment on South Park Street, though further consultation is needed to inform detailed design to ensure the treatment accommodates Transit's operational requirements.

A shared cycle track-bus stop is a treatment that could be applied to other future bikeway projects, or upgrades to existing facilities, where a protected facility is desired along a corridor also used by transit and where right-of-way width is limited.

Figure 10: Proposed shared cycle track-bus stop treatment on South Park Street at Spring Garden Road
(Source: WSP)

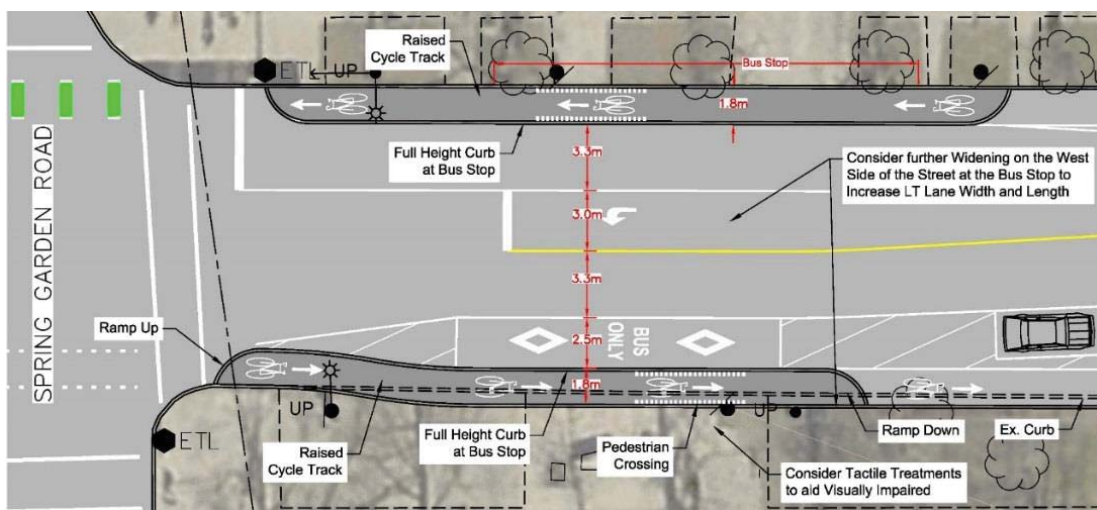


Figure 11: Cyclists yield to pedestrians sign
(Source: Bikeway Traffic Control Guidelines for Canada, Transportation Association of Canada)



Figure 12: Shared cycle track-bus stop
on Sherbourne Street, Toronto
(Source: www.westsideaction.com)



Figure 13: Shared cycle track-bus stop
on Roncesvalles Avenue, Toronto
(Source: MTO Book 18)



Traffic and Intersection Performance Analysis

To understand the potential impacts of the proposed changes at intersections along South Park Street WSP completed an intersection performance analysis for AM and PM peak hour conditions for each of the corridor's five intersections. Extending the bike lanes up to the intersection at Bell Road/Sackville Street requires that one northbound through lane be removed. Though the intersection analysis indicates that the modified configuration will decrease performance marginally beyond HRM guidelines, since the existing second northbound receiving lane on Bell Road is dropped just beyond the intersection, the overall change to traffic operation is expected to be limited. The results of the analysis show that all other proposed changes can be completed without decreasing performance beyond HRM guidelines.

On-Street Parking Supply in the Study Area

The following is a summary of the 450 on-street parking spaces located on South Park Street and adjacent streets in the study area. For a more detailed summary refer to figure 3 in attachment B.

- 105 spaces on South Park Street north of South Street
- 167 spaces on adjacent streets north of South Street
- 56 spaces on South Park Street south of South Street
- 122 spaces on adjacent streets south of South Street

Off-Street Parking Supply in the Study Area

In order to provide a complete picture of the parking supply in the vicinity of South Park Street, the off-street parking supply was approximated based on an inventory of public parking spaces in existing and proposed buildings within a 400-metre radius (approximately a 5-minute walk) of the South Park Street-Spring Garden Road intersection. There are approximately 445 off-street public spaces currently available, with an additional 174 expected in approved future developments (see figure 4 in attachment B for a more detailed summary). This total does not include the parking associated with Nova Scotia Health Authority facilities in the area (1043 spaces).

On-Street Parking Utilization

WSP and HRM staff completed parking occupancy and turnover surveys in May 2015, October 2015 and September 2016. License plate numbers were recorded at 30 minute intervals between 9:00 am and 4:30 pm to determine which spaces were occupied and the average parking duration for occupied spaces. Results of the parking surveys are illustrated in attachment B (figures 5 and 6) and summarized below:

- Parking is generally well utilized throughout the area, with over half of the on-street parking sections 60-80% occupied throughout the day.
- Parking has relatively short turnover periods, with the majority of streets in the 1 to 2-hour range.

Overnight Parking Study

Staff also completed an overnight parking study of South Park Street and adjacent streets south of South Street in November 2017. License plate numbers were recorded during three intervals beginning at 5:00 pm, 12:00 am and 6:00 am. Overnight parking utilization on the west side of South Park Street is in the 80-90% occupancy range, while utilization on the east side is in the 0-40% occupancy range. Utilization on adjacent streets ranged from a low of 13% to a high of 83%. See figure 7 in attachment B for a more detailed summary.

Implications for On-Street Parking Supply

All three bikeway options require re-allocating space currently used for parking to the bicycle lanes and buffer, but the protected bicycle lane option has the largest impact of the three. This re-allocation of space is supported by the IMP's Curbside Priority Chart that assigns a higher priority to travel modes than to on-street parking, with the exception of accessible parking (see Figure 25 on page 139 of the [Integrated Mobility Plan](#)).

The protected bicycle lane option requires the following changes to the on-street parking supply on South Park Street (see figure 14 on the following page):

- Removal of approximately 20 parking spaces north of Spring Garden Road (10 spaces from each side of the street). Among the 20 spaces are 16 metered spaces and a 4-car taxi stand located opposite the Lord Nelson Hotel.
- Removal of approximately 5 metered spaces between Spring Garden Road and University Avenue.
- Removal of approximately 30 spaces (not metered) south of South Street.
- Overall, a total of 55 parking spaces would be either removed or relocated, representing approximately 12% of the on-street parking supply on South Park Street and the immediately adjacent streets (see figure 15 on the following page).

Some changes to on-street parking regulations in the blocks south of South Street, where the impact to on-street parking is the greatest, are being considered to facilitate improved availability of parking for residents, visitors and customers. Staff are currently exploring the addition of parking on Victoria Road (west of South Park Street) and changes to existing parking regulations on South Park Street (Fenwick Street to South Street) and Rhuland Street to assist in meeting the parking demand from residents.

The implementation of this facility would result in a loss of 21 metered spaces, which equates to a lost revenue of approximately \$30,000 per year. However, this could partly be mitigated by the fact that there are other metered spaces available within the area, which are not fully utilized. It is expected that these will be used more extensively, once the 20 metered spaces are eliminated.

Figure 14: Comparison of parking impacts of the three design options
 (Source: WSP)

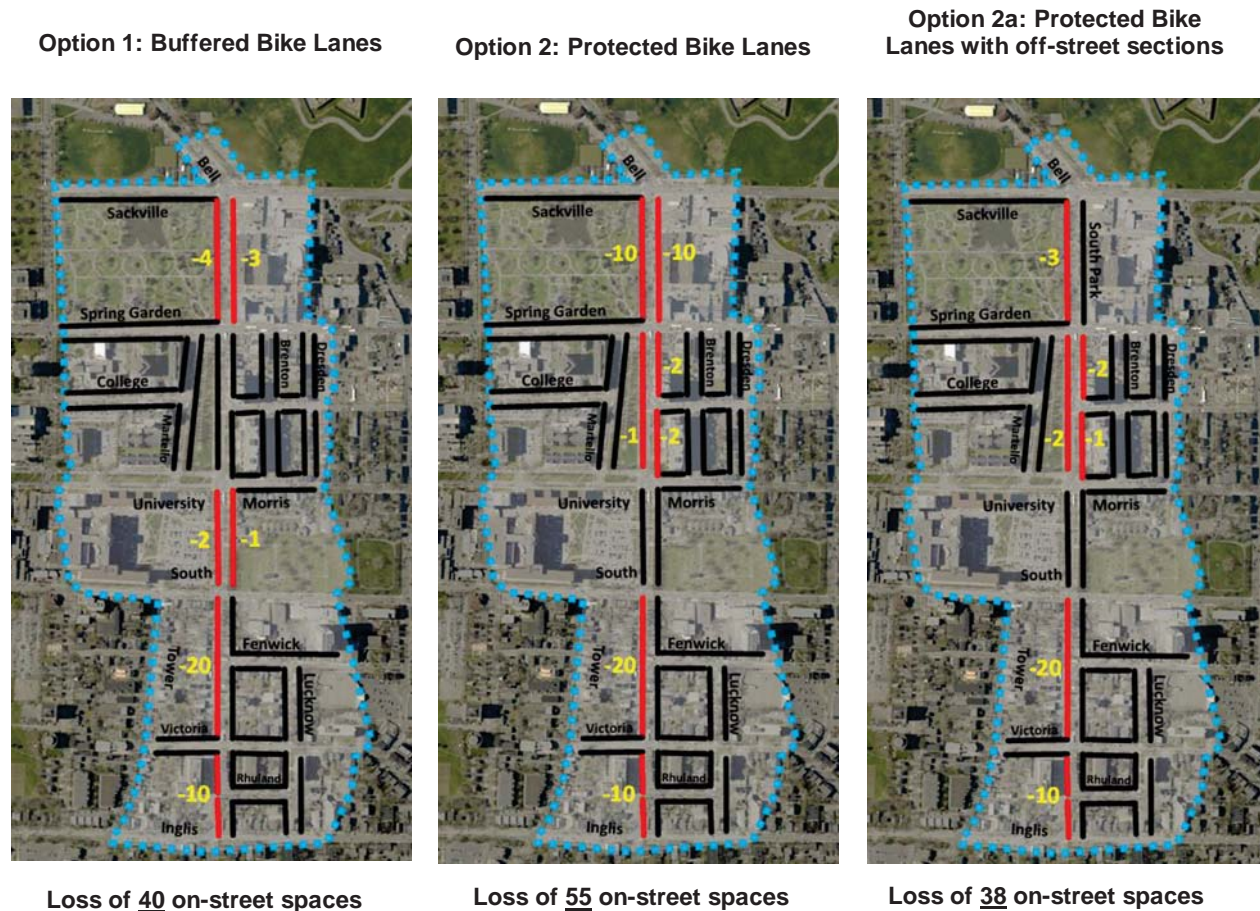
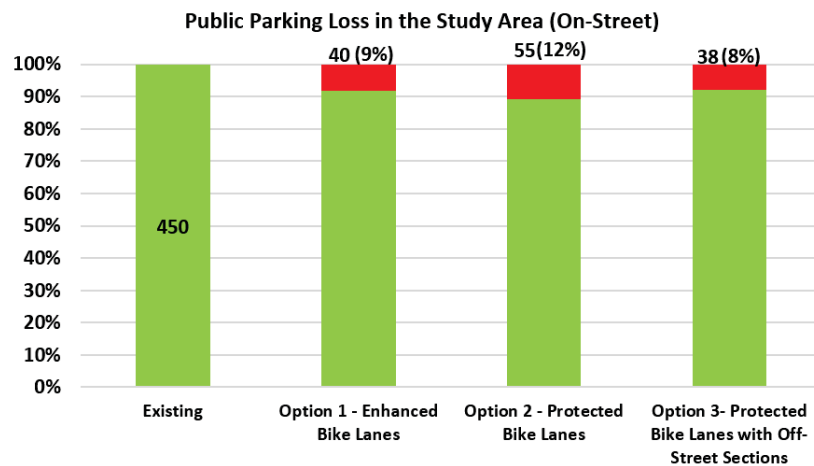


Figure 15: Potential changes to on-street parking supply
 (Source: WSP)

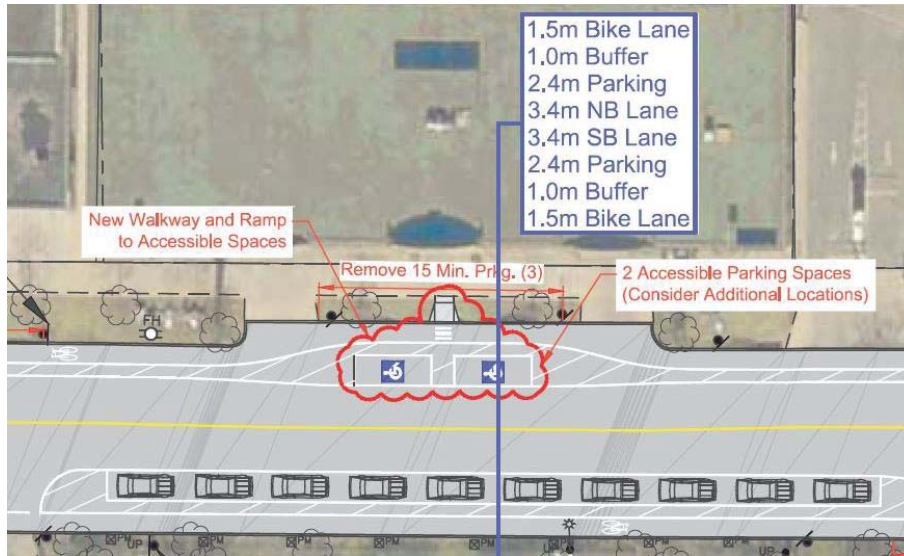


Relocation/Reconfiguration of Accessible Parking

There are currently 4 accessible parking spaces on South Park Street between Sackville Street and Inglis Street. All 4 spaces can remain with implementation of the protected bike lane option, though one would require relocation and all would require reconfiguration as they would move to the “floating” parking lane. A crossing treatment has been incorporated into the design to facilitate safe access across the bicycle lane to the curb from the accessible spaces (see figure 16). HRM and community accessibility advisors will be

engaged during the detailed design phase of the project to provide feedback on the reconfigured accessible parking spaces and other aspects of the facility.

Figure 16: Floating accessible parking with crossing treatment
(Source: WSP)



Relocation of Taxi Stands

Staff have identified five possible new locations for the 4-car taxi stand opposite the Lord Nelson Hotel that would need to be relocated with implementation of the protected bike lane option:

1. North of the taxi stand's current location on the west side of South Park Street (convert 4 of the retained "floating" metered spaces to taxi spaces)
2. Cathedral Lane opposite Smitty's restaurant (currently metered parking).
3. Cathedral Lane in front of Smitty's restaurant (currently metered parking).
4. In front of the entrance to civic 1464 Cathedral Lane (currently parking restricted).
5. Spring Garden Road eastbound in front of Smitty's restaurant (currently metered parking).

Staff will consult with the Taxi and Limousine Liaison Group before proceeding with relocation of the taxi stand, which likely will not occur before spring 2019 as per the proposed phased implementation of this project (see below). Three other taxi stands along the corridor can remain in their existing locations, but will be reconfigured in that they will move to the "floating" parking lane between the bike lane and traffic lanes.

Implications for Curbside Loading

With the many commercial spaces on the east side of South Park Street (mostly located north of South Street) and some residential properties that lack driveways, consideration of how to continue to accommodate loading along South Park Street is an important aspect of this project. The bike lanes protected by a buffer and physical barrier will necessitate crossing the bike lane in order to load. There may be specific options to facilitate loading that will be identified during the detailed design phase of the project.

Phased Implementation

Detailed design of the protected bike lane option for the full corridor and construction of the section between Spring Garden Road and Inglis Street is proposed for 2018/2019.

Due to the ongoing construction of the Pavilion development and related encroachment into the right-of-way on South Park Street at Sackville Street, construction of the bikeway between Spring Garden Road and Sackville Street is proposed for spring 2019, pending removal of the encroachment. There is an opportunity to integrate with a resurfacing project for this segment of the corridor in 2019 as well as with the reinstatement of the curb and sidewalk next to the Pavilion site.

Potential Future Development on South Park Street

Staff are aware of two proposed development projects (corner of South Street and South Park Street; and South Park Street at Victoria Road) that may impact the right-of-way on South Park Street. It is too early in the application process for both projects to know if any encroachments are likely in 2018. Halifax Water is in the early stages of planning a sewer separation project on South Park Street, between Spring Garden Road and South Street, with a target to construct in 2020.

In planning the South Park Street bicycle facility consideration was given to integrating with the forthcoming Spring Garden Road streetscaping project. The streetscaping project is still in a preliminary phase, but staff will continue to look for opportunities to coordinate changes to the South Park Street-Spring Garden Road intersection.

FINANCIAL IMPLICATIONS

The class B cost estimate for construction of the recommended South Park Street protected bike lanes and associated changes to the right-of-way for phase 1 from Spring Garden Road to Inglis Street is \$435,000. This amount is reflected in the proposed 2018-2019 Active Transportation Capital Budget. Removing the 21 metered parking spaces on South Park Street, necessary to implement the recommended facility, could result in a net loss of parking revenue up to approximately \$30,000 per year.

COMMUNITY ENGAGEMENT

Stakeholders and the general public were invited to learn more about the project and provide their feedback on the preliminary design options. Information about the project is available on the Halifax.ca website at: www.halifax.ca/transportation/cycling-walking/cycling-projects/south-park-street-bike-lane.

A summary of public input is available on the Halifax.ca website in the *What We Heard Report*: https://www.halifax.ca/sites/default/files/documents/transportation/cycling-walking/SouthPark_BikeLanes_WWH_2017-11-23.pdf

A public open house was held on April 25, 2016 at the Halifax Central Library to gather feedback on two options for extending and improving the South Park Street bike lanes. During and following the open house staff received 75 submissions - 17 by email and 58 by comment card. In total, 77% were supportive of cycling infrastructure, with general comments encouraging Halifax to build dedicated cycling facilities. Among the comments supportive of cycling infrastructure, many expressed the need for all ages and abilities design, sharing the road with all users, a desire for feeling safe on the road and the benefits of increasing the number of cyclists.

Active transportation stakeholders were engaged via the Active Transportation Advisory Committee (ATAC) and through a meeting for external stakeholders hosted by HRM staff on January 17, 2017 from 2:00 PM to 4:00 pm at the Halifax Central Library. At this meeting participants were invited to provide feedback on the three design options presented in this report.

HRM staff met with members and staff of the Spring Garden Area Business Association (SGABA). SGABA

staff and members expressed support for encouraging bicycling and bike lanes generally, but communicated their concern about the potential loss of on-street parking that would result from implementing any of the bikeway options. They also mentioned concerns about a variety of competing demands for space within the right-of-way in their district, including construction site encroachments, transit stops, taxi stands, on-street bicycle parking (“corrals”) and loading. HRM staff have not received an official position on the South Park Street bikeway options from SGABA, though they did express a preference for Option 2a (Protected Bike Lanes with off-street sections) at the January 2017 meeting because this option retained parking on both sides of South Park Street from Sackville to Spring Garden Road. There was a particular concern for the loss of parking on the blocks between Spring Garden Road and University Avenue, however, the recommended design retains most of this parking. Businesses toward the south end of the corridor near Inglis Street are not members of SGABA and did not communicate a position on the project.

A second public engagement session was held on January 31, 2017 from 6:30 pm to 8:30 pm at the Halifax Central Library, and a survey was available online at Shape Your City between February 1-24, 2017. A few public comments were also received by email. Input was provided by close to 400 participants, 300 of these were via the survey:

- 76% of survey participants prefer a protected bike lane option
- 13% chose enhanced painted bike lanes as their preferred option
- 11% had other suggestions

Fifty-four percent of general comments were positive, 34% negative, and 12% offered suggestions. Positive comments relate to:

- Increased safety for all road users
- An enhanced cycling network
- Improved physical health and well-being

Top concerns of those opposed to the project include:

- Insufficient cycling ridership to justify the project
- Loss of parking impacts to residents, businesses, and institutions
- Relocation of accessible parking spots

All property owners and residents on South Park Street were informed of the planning project and were provided with staff contact information.

ENVIRONMENTAL IMPLICATIONS

This project is supportive of the sustainability objectives of the municipality as it aims to make it safer and more comfortable for residents to choose sustainable transportation options for everyday transportation purposes.

ALTERNATIVES

The Transportation Standing Committee may recommend to Regional Council that this project not proceed. This is not recommended as this project is key to achieving Integrated Mobility Plan and Active Transportation Priorities Plan objectives.

The Transportation Standing Committee may recommend to Regional Council implementation of option 1 (buffered bike lanes) or option 2a (protected bike lanes with off-street sections) instead of the recommended option.

ATTACHMENTS

Attachment A: Appendix E from the Active Transportation Priorities Plan.

Attachment B: Existing and Proposed Cross Sections and Parking Occupancy Study Figures

A copy of this report can be obtained online at halifax.ca or by contacting the Office of the Municipal Clerk at 902.490.4210.

Report Prepared by: Mark Nener, Active Transportation Planner, 902.490.8474

ATTACHMENT A: Appendix E from Active Transportation Priorities Plan

Appendix E Evaluation Criteria for New Bicycle Facilities

Potential for Use/ Connectivity

High density of existing/ planned origins and destinations

- Residences
- Workplaces
- Shops
- Community Facilities
- Schools
- Other destinations
- Other AT infrastructure (bike lanes, local street bikeways, AT greenways)

Street Characteristics

- Favourable grades (preferably 6% or less)
- Low volume of motor vehicle traffic
- Low volume of large vehicles
- High volume of existing cyclists
- Speed of traffic
- Few complex intersections
- Safety issues
- Impact on traffic (i.e. of reducing vehicle travel or turn lanes to add a bike facility).
- Impact on green space
- Impact on commercial or residential parking
- The ability to mitigate losses to on-street parking

Alternative Route Analysis

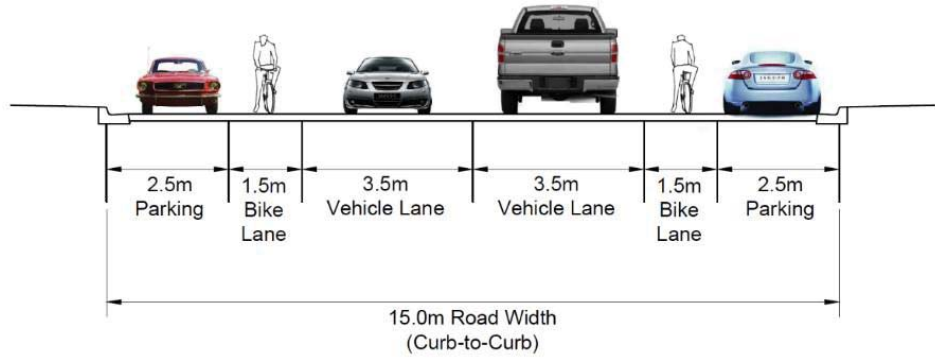
- Consideration of the suitability of adjacent corridors (if applicable) which could be alternatives to the proposed route. Alternatives would be subject to the same criteria.

Public and Stakeholder Feedback

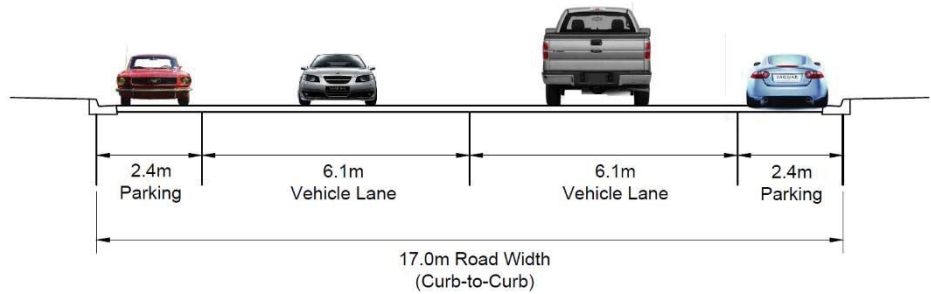
- Public support for the facility
- Stakeholder support for the facility
- Internal (HRM) review of the facility

ATTACHMENT B: EXISTING AND PROPOSED CROSS SECTIONS AND PARKING OCCUPANCY STUDY FIGURES

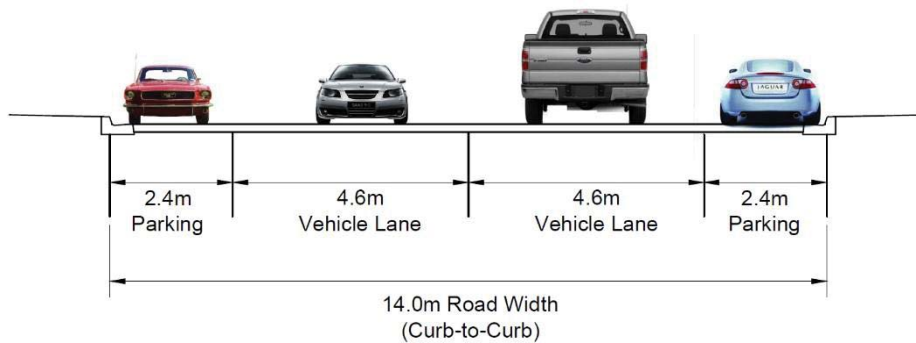
Figure 1: Existing South Park Street cross sections Source: WSP
 Sackville Street to University Ave.



University Ave. to South Street



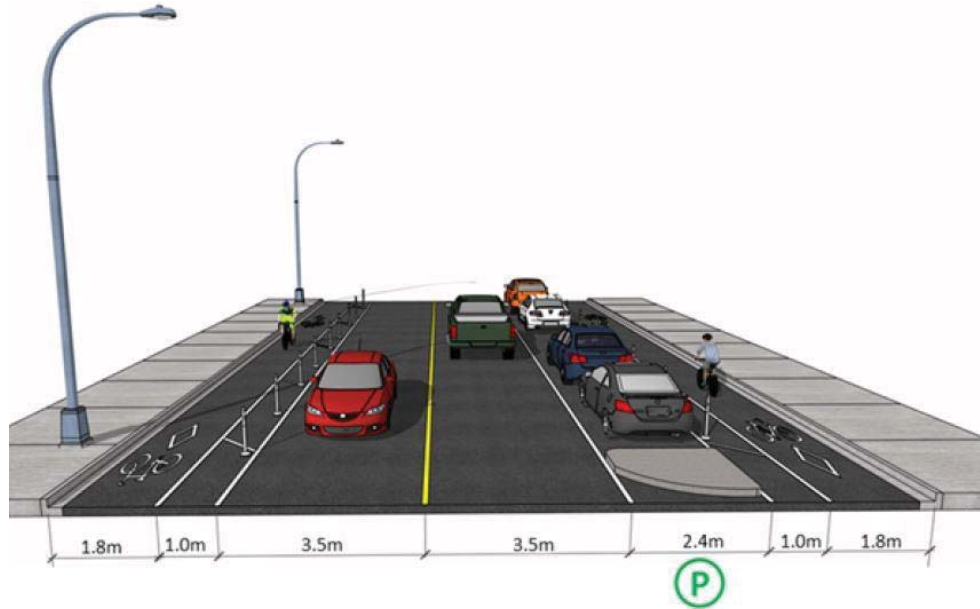
South Street to Inglis Street



South Park Street cross sections
 Source: WSP

Figure 2: Proposed

Sackville Street to Spring Garden Road



Spring Garden Road to University Avenue/Morris Street

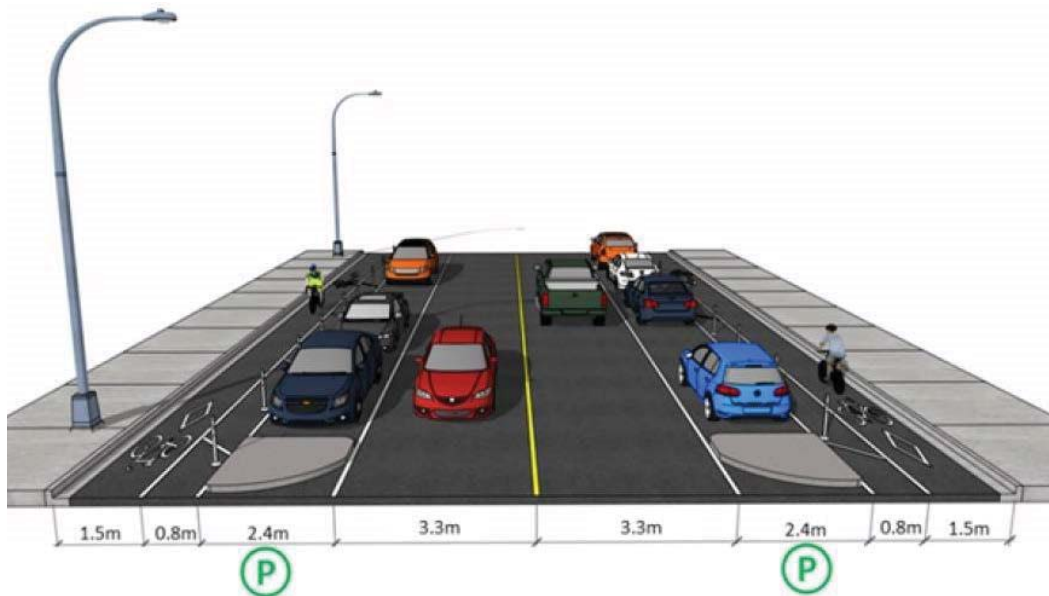


Figure 2: Proposed South Park Street cross sections (continued)
Source: WSP

University Avenue/Morris Street to South Street



South Street to Inglis Street

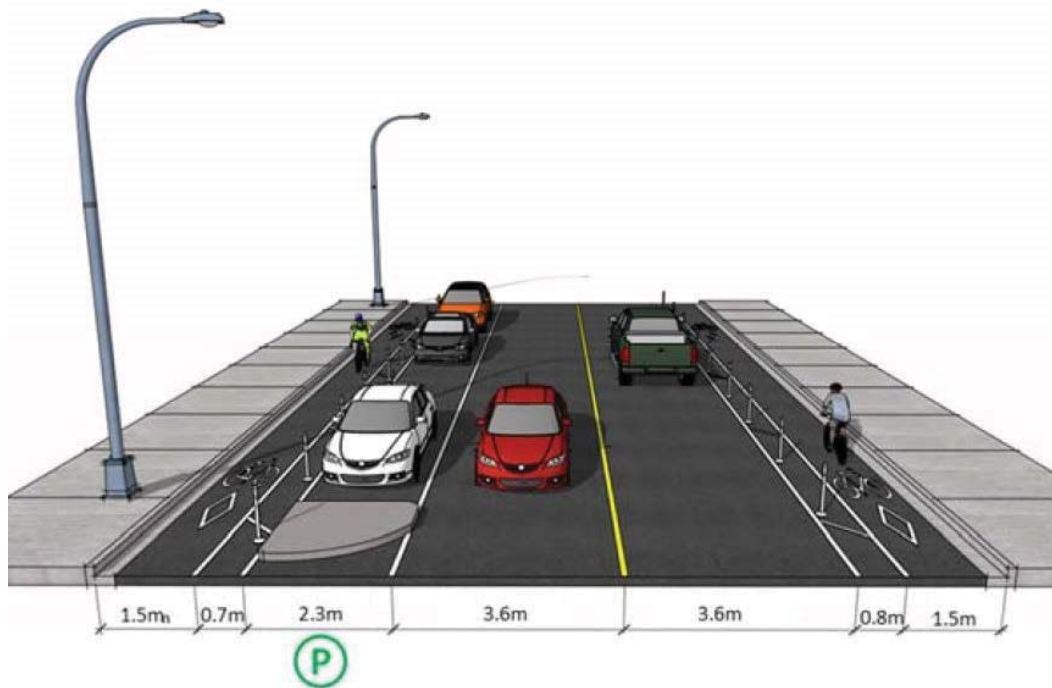


Figure 3: On-street parking supply in study area
(Source: WSP)

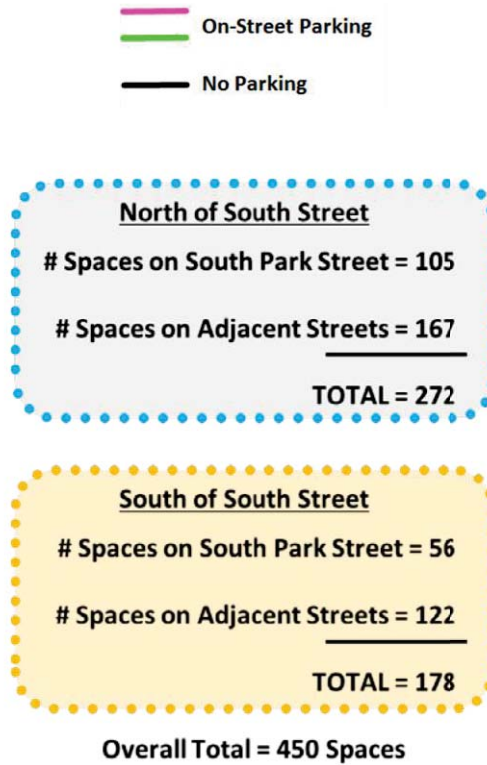
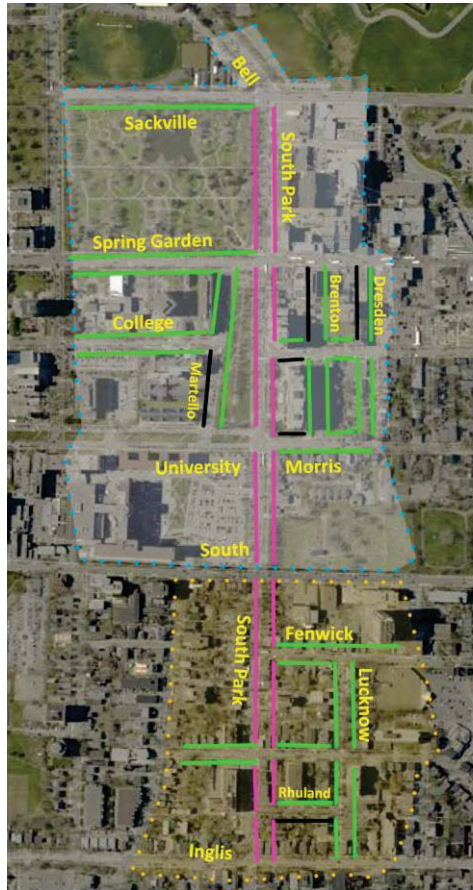
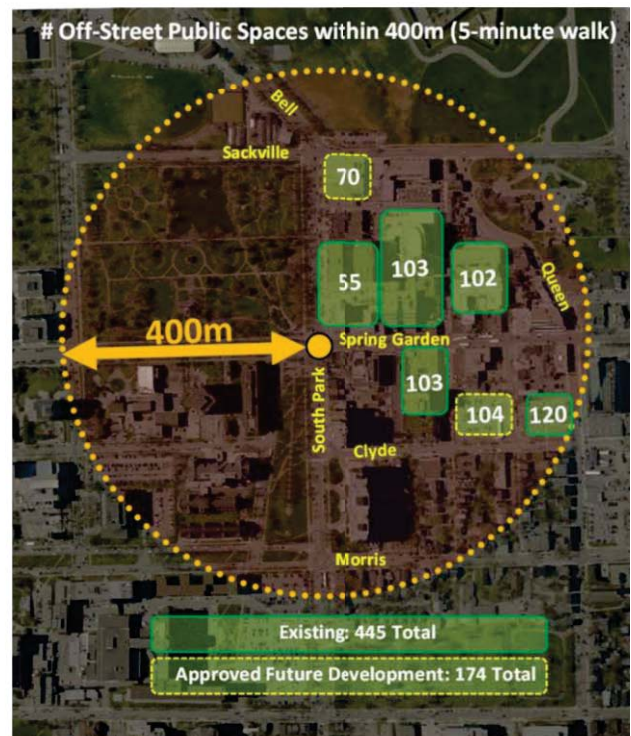


Figure 4: Off-street public parking within a 5-minute walk
(Source: WSP)

EXISTING OFF STREET PARKING		
	Spaces	Public
Lord Nelson	317	55
Spring Garden Place	310	65
Park Lane	440	103
City Centre Atlantic	193	102
The Mary Ann	179	120
Total		445

APPROVED OFF STREET		
	Spaces	Public
Brenton Place	35	0
The Margareta	260	104
Pavilion & Rental Building	389	70
Total		174

Figure 5: Average parking occupancy
(7.5-hr average; 9:00 am – 4:30 pm)



(Source: WSP)

Figure 6: Average parking duration

(7.5-hr average; 9:00 am – 4:30 pm)

(Source: WSP)

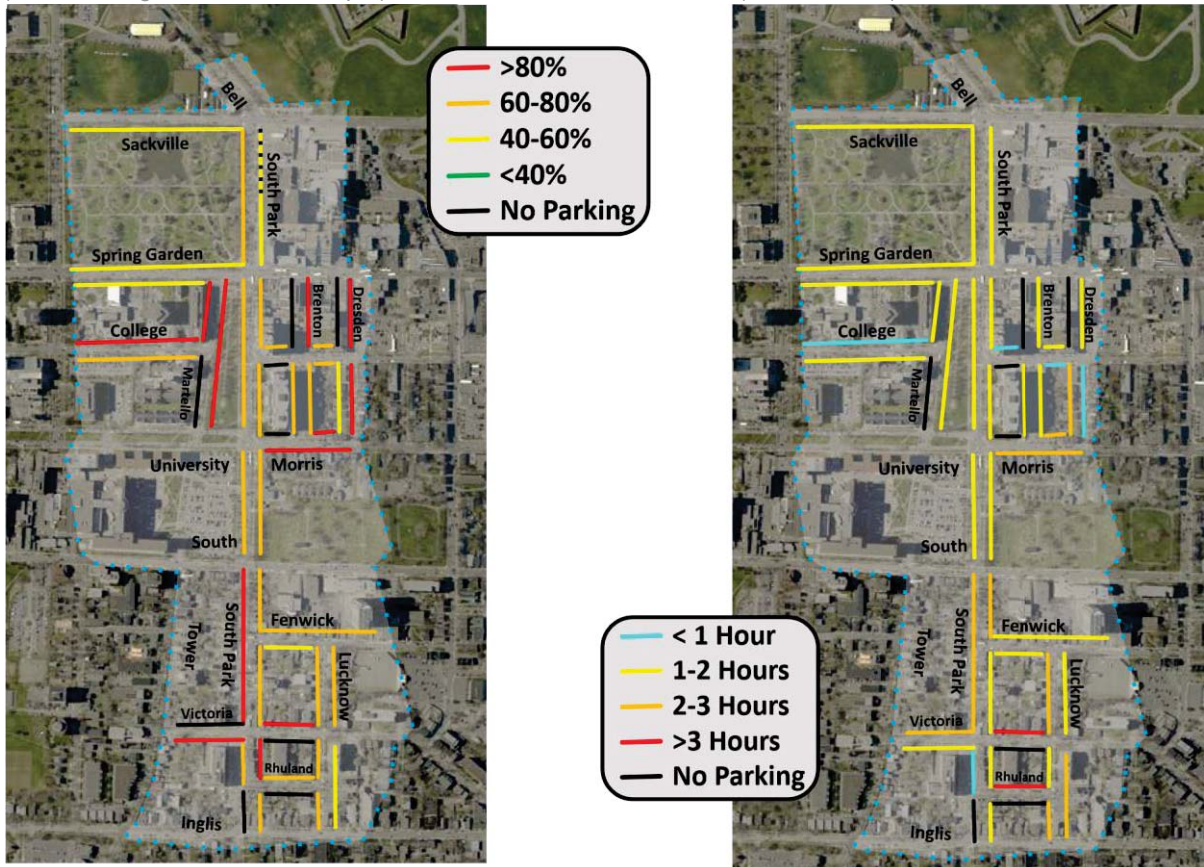


Figure 7: Average overnight parking occupancy

(Recorded at 5:00pm, 12:00am & 6:00am in November 2017)

