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**Item No. 8.1**  
**Transportation Standing Committee**  
**January 21, 2021**  
**February 25, 2021**

**TO:** Chair and Members of Transportation Standing Committee

**SUBMITTED BY:** - Original Signed -  
\_\_\_\_\_  
Brad Anguish, P.Eng., Executive Director, Transportation & Public Works

- Original Signed -  
\_\_\_\_\_  
Jacques Dubé, Chief Administrative Officer

**DATE:** January 12, 2021

**SUBJECT:** Pedestrian Push Buttons

**ORIGIN**

Item 15.2 of the September 17, 2020 session of the Transportation Standing Committee.

MOVED by Councillor Mason, seconded by Councillor Cleary THAT the Transportation Standing Committee request a staff report to be completed within 120 days that outlines how, generally, pedestrian push buttons in the regional centre, the predominantly residential Transit Suburb areas of the attached map, and in other appropriate areas throughout HRM can be used to activate audible pedestrian beacons only and be prominently labelled as such with the work to be completed by September 2021.

MOTION PUT AND PASSED

**LEGISLATIVE AUTHORITY**

*HRM Charter*, Part XII, subsection 321(8), "The traffic authority for the Municipality has, with respect to highways in the Municipality, excluding those for which the Provincial Traffic Authority has authority, the powers conferred upon a traffic authority by or pursuant to the Motor Vehicle Act."

*Nova Scotia Motor Vehicle Act*, Part V, subsection 89(1), "...traffic authorities in regard to highways under their respective authority may cause appropriate signs to be erected and maintained designating business and residence districts and railway grade crossings and such other signs, markings and traffic control signals as may be deemed necessary to direct and regulate traffic and to carry out the provisions of this Act."

**RECOMMENDATIONS ON PAGE 2**

**RECOMMENDATION**

It is recommended that the Transportation Standing Committee recommend that the Traffic Authority:

1. Implement changes to traffic signal programming at 93 signalized intersections to activate automatic display of the pedestrian walk signal without requiring pedestrians to use the push button for all crosswalks (23 locations) or side street only crosswalks (70 locations) as indicated in Attachment 1 of this report; and
2. Adjust activation times at 144 signalized intersections such that the push button will not be required to be pressed to activate the pedestrian signal between 6 am and midnight (12 am), except to activate the audible tone where Accessible Pedestrian Signals are also present; and
3. Adjust the programming of the Accessible Pedestrian Signals at all locations to remove the requirement for the push button to be held for 3 seconds to activate the audible tone and allow for single press activation.

**BACKGROUND**

Traffic signals are designed to assign right of way to vehicle and pedestrian movements at an intersection with the objective to balance demand, minimize delay and provide the necessary information for all users to safely navigate through the intersection.

At the time of writing this report, HRM had 274 active signalized intersections. Of these, 219 have push buttons to activate the pedestrian signals for one or more of the crossing directions (crossing the main street or crossing the side street) during part, or all, of the day.

Currently, 80 intersections are set to automatically display the pedestrian walk signal during part, or all, of the day for all crossing directions. The following table identifies the general area (district) where these intersections are located (specific intersections are identified in Attachment 1).

<b>District</b>	<b>Automatic Pedestrian Signal Display All Crossings</b>	<b>Total Signals in District</b>
5	1	35
7	40	40
8	24	29
9	10	22
10	4	17
16	1	25

There are also twenty-five (25) additional locations that are currently set to automatically display the pedestrian walk signal for the side street crossing only. These 25 locations are primarily along busy corridors where the signals are set to rest in green on the major road or have coordinated signal operation along the main road which is used to maintain efficient traffic flow along the busy corridor. Many of these locations also have limited demand for pedestrian crossings of the main road. The following table identifies the general area (district) where these intersections are located (specific intersections are identified in Attachment 1).

<b>District</b>	<b>Automatic Pedestrian Signal Display Side Street Crossings</b>	<b>Total Signals in District</b>
3	1	10
5	1	35
8	1	29
9	3	22
10	7	17
15	1	16
16	11	25

Attachment 1, included with this report, provides a list of HRM's signalized intersections and indicates the following:

- If push buttons are present or not;
- If the pedestrian signal is currently displayed automatically for all crossings;
- If the pedestrian signal is currently displayed automatically for side street crossings only;
- If automatic display of the pedestrian signal will be added for all crossings;
- If automatic display of the pedestrian signal will be added for the side street crossing only;
- Whether the intersection falls within the "Gordon Active Core" or "Gordon Transit Suburb".

## **DISCUSSION**

As a first step to identify which traffic signals could potentially be placed on pedestrian recall, where the walk signal comes up automatically, staff began by looking at locations that fell within the "Active Core" and "Transit Suburb" maps as outlined in the Gordon study, which can be found at the following website (<http://www.canadiansuburbs.ca/novascotiapdfmaps.html>). The maps presented as part of this study were based on census data up to 2016 and made use of population density along with active transportation and transit use data to determine the two areas.

Once the initial review was undertaken, it was noted that there were some locations that seemed as though they should be within the "Transit Suburb", given current transit service and facilities, but were not included. This could simply be a result of the method that was used to create the zones and the data that was available. In order to ensure a complete review was done, staff decided to simply go through all traffic signal locations, regardless of whether they were included on one of the Gordon maps or not, to ensure all locations were considered.

### **Intersection Review and Proposed Adjustment**

As noted in the background section of this report, HRM currently operates 274 traffic signals, 105 of which are already set to automatically display the pedestrian walk signal for either all crossing directions or for the side street crossings only (80 for all crossings / 25 for side street crossings only). These 105 locations will continue to be operated with the pedestrian walk signal automatically displayed as they currently do, but with changes to the times when the push button will need to be pressed to get the walk signal (activation times will be discussed later in the report).

The remaining 169 signalized locations that require pedestrians to activate the push button to get a walk signal were reviewed to determine which would be appropriate to have changes made to allow the walk signal to come up automatically. Of these, it was identified that 23 locations could be adjusted to allow for the pedestrian walk signal to automatically be displayed for all crossing directions, and another 70 could be adjusted to allow the walk signal to be automatically displayed for the side street crossings only. The assessment resulted in an additional 93 locations where adjustments will be made to automatically display the pedestrian walk signal for all or some of the crossing directions.

The following table provides a summary of the assessment.

	All Crosswalks	Side Street Crosswalks	Total
Existing Pedestrian Recall	80	25	<b>105</b>
New Pedestrian Recall	23	70	<b>93</b>
<b>Total Signals for Pedestrian Recall</b>			<b>198</b>

The locations that were determined to be inappropriate to implement automatic display of the pedestrian walk signal, for all or some of the crossing directions, are primarily along major arterial corridors such as Bedford Highway, Bayers Road, Portland Street, Main Street, etc., that serve very heavy traffic volume and are major transit corridors and within business parks (Bayers Lake, Burnside and Dartmouth Crossing) where pedestrian volumes are minimal. There are also five locations that are pedestrian half-signal crosswalks that are only operated by pressing the push button and are intended to be operated by demand only.

Locations where push buttons exist and currently display the walk signal automatically operate on varying schedules when the push button is active. In order to ensure consistency of operation and simplicity for pedestrians to know when the push-buttons need to be pressed, all locations will be set to the same schedule. To ensure the pedestrian signal is automatically displayed during times when most pedestrian activity is anticipated to occur, staff are proposing to set all locations with the automatic walk signal display to operate between the hours of 6 am – midnight (12 am). This means that the push button will only need to be used to call the walk signal during the overnight hours. A decal will be created and placed at locations where the automatic pedestrian display is in effect to indicate to pedestrians when the buttons are active and are required to be used to obtain the walk signal. As per the motion, once the changes outlined above are completed, locations where the pedestrian walk signal is to be automatically displayed will only require the push button to be used (between the hours of 6 am and midnight) to activate accessible pedestrian signals (APS) if present at the location.

#### Accessible Pedestrian Signals (APS)

Staff has recently been engaging with members of the blind and visually impaired community regarding the operation and activation of the APS systems. One of the concerns raised has to do with the requirement to press and hold a push button for a minimum of 3 seconds to activate the audible signal. Some of the issues identified with this concern were related to difficulty in having to press and hold the button while also trying to manage other mobility aids such as a white cane or guide dog, as well as potential physical limitations that may make it difficult to hold the button. The requirement to hold the push button for 3 seconds to obtain the audible signal at APS locations is based on nationally accepted guidance related to the operation of APS systems. The rationale being that the audible signal would be available for those who required it by pressing and holding the button, but would not continuously sound at all times, thus reducing the potential for noise pollution (especially in primarily residential areas). As part of the changes being proposed to pedestrian signal operation staff are proposing to adjust the APS equipment at all locations so that the audible signal would be activated by a single press of the button without requiring it to be held for an extended period.

#### Implementation

When considering implementation of the proposed changes (adding new locations to automatically display the pedestrian walk signal and adjusting the time for exiting locations), there are 54 locations that currently do not have push buttons (all except 3 are located within the former Halifax city limits and primarily on the Halifax Peninsula), and so no changes are required to those. The remaining 144 locations would require programming changes and installation of a decal to notify pedestrians of the need to press the push button between midnight (12 am) and 6 am. The work required to undertake the changes is primarily programming

work. Many of the intersections are connected to the centralized traffic control system and the changes can be done remotely from the office and deployed via the central system without requiring staff to visit the site. Given the decals required to notify pedestrians of the button operation cannot be applied to the poles during cold weather, work would not begin until early spring. There are currently three Traffic Signal Analysts who would undertake the programming changes, which would result in 48 intersections each. It is anticipated that if this work is started in early spring when the temperatures will allow application of the decals, the work should be able to be completed at all locations by the end of September 2021.

Proposed changes to the APS buttons would require staff to visit each location and it is anticipated the work would take approximately an hour per location. This work can be started immediately and would not need to wait until the other programming work is done. It is anticipated that this work can be carried out with internal staff (Traffic Signal Electricians) and could also be completed by the end of September 2021.

### Impacts

Undertaking the proposed changes as outlined above will not come without impacts. The proposed changes to the signal programming to automatically bring up the pedestrian signals regardless of pedestrian demand at a crossing, will result in increased delay for all users (pedestrians, cyclists, transit, goods movement and passenger vehicles) and congestion.

Changing the operation of the APS system to remove the requirement for the button to be held for 3 seconds and activating the audible signal with a single press will also have an impact. During the overnight hours (between midnight and 6 am) when all users will be required to press the push button to get a walk signal, the audible signal will be activated as well. This has the potential to create increased noise pollution, especially during the overnight period, and lead to resident complaints (particularly in / near residential areas).

### **FINANCIAL IMPLICATIONS**

There are no significant financial implications associated with the content of this report. Existing staff can undertake the programming work and application of the adhesive decals. The decals can be produced in-house, and it is anticipated that cost associated with this will be relatively minimal and can be accommodated within existing operating budgets.

### **RISK CONSIDERATION**

There are no significant risks associated with the recommendations or alternatives outlined in this report.

### **COMMUNITY ENGAGEMENT**

The information provided in this report was a result of input received through the Transportation Standing Committee from submissions and input from the public. Also, as noted in the report, staff have recently been engaging with members of the blind and visually impaired community in relation to accessible pedestrian signals.

### **ENVIRONMENTAL IMPLICATIONS**

Environmental implications associated with the recommendations and alternatives included in this report are anticipated to be primarily related to potential for increased noise pollution, particularly in / near residential areas as a result of proposed changes to the operation of the Accessible Pedestrian Signals (APS).

There is potential for increased greenhouse gas emissions due to the anticipated increase in vehicle congestion.

### **ALTERNATIVES**

Based on the review conducted and information provided in this report, the following alternatives are presented for consideration:

1. Recommend the Traffic Authority undertake recommendations 1 and 3, and amend recommendation 2 to remove the requirement to press the push button to display the pedestrian signal for all times of the day (24 hrs) so that the push button would only be required to activate the audible signal where APS units are present and the APS unit would be activated with a single press of the button (no requirement to press and hold). This alternative will result in the greatest impact related to unnecessary delay to road users since the signals will continuously cycle to serve movements with no demand while those with demand will be forced to wait.
2. Recommend the Traffic Authority undertake recommendations 1 and 2, but not recommendation 3. This would result in the push button only being required to activate the audible tone where APS units are present between the hours of 6 am – midnight (outside those hours the button would be required to activate the walk signal as well) and would retain the requirement to press and hold the push button for 3 seconds in order to activate the audible tone where APS units are present. This alternative would not address the issue identified by the visually impaired community that was outlined in this report.

### **ATTACHMENTS**

Attachment 1 – HRM Signalized Intersections

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A copy of this report can be obtained online at [halifax.ca](http://halifax.ca) or by contacting the Office of the Municipal Clerk at 902.490.4210.

Report Prepared by: Roddy MacIntyre, P.Eng., Senior Traffic Operations Engineer 902.490.8425

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**Attachment 1**

Location	District	Push Buttons Present	Existing Pedestrian Recall (All Crossings)	Existing Pedestrian Recall (Side Street Only)	New Pedestrian Recall (All Crossings)	New Pedestrian Recall (Side Street Only)	Gordon Active Core	Gordon Transit Suburb
Fall River Rd at Route #2 Sobeys	1	Y						
Baker at Basswood	3	Y				Y		
Cow Bay Rd at Caldwell Rd	3	Y						
Eastern Passage at Bonaventure Ave	3	Y				Y		
Eastern Passage at Cowboy at Shore Road	3	Y						
Main Rd at Morris Ave / Autoport	3	Y						
Mount Hope at Baker	3	Y						
Pleasant St at Imperial Oil	3	Y		Y				
Portland St at Bus Depot	3	Y				Y		
Portland St at Caldwell at Dorothea	3	Y				Y		
Portland St at Regal Rd	3	Y				Y		
Cole Harbour Rd. at Forest Hills Dr.	4	Y						
Cole Harbour Rd. at Hugh Allen Dr.	4	Y				Y		
Cole Harbour Rd. at Otago Dr	4	Y				Y		
Forest Hills Dr. at Canadian Tire	4	Y				Y		
Forest Hills Dr. at Circassion	4	Y				Y		
Forest Hills Dr. at Cole Harbour Place	4	Y				Y		
Forest Hills Dr. at Taranaki at Flying Cloud	4	Y				Y		
Forest Hills Parkway at Auburn Dr	4	Y				Y		
Main St at Forest Hills Dr	4	Y				Y		
Main St at Lake Major	4	Y						
Main St at Montague	4	Y				Y		
Main St at Panavista Dr	4	Y				Y		
Main St at Westphal Trailer Park	4	Y				Y		
Alderney Dr at King St	5	Y			Y			Y
Alderney Dr at Ochterloney	5	Y			Y		Y	
Alderney Dr at Portland	5	Y			Y			Y
Alderney Dr at Queen	5	Y			Y			Y
Micmac Blvd at Glen Manor	5	Y						
Micmac Blvd at Kent Store Driveway	5	Y				Y		
Micmac Blvd at Mall Entrance ( Brookdale )	5	Y						
Nantucket Ave at Sportsplex (Pedestrian half signal)	5	Y					Y	
Ochterloney St at Maple	5	Y			Y			Y
Pleasant St at Acadia	5	Y			Y			
Pleasant St at Atlantic	5	Y			Y			
Pleasant St at Everette	5	Y				Y		
Pleasant St at Hwy111	5	Y						
Portland St at Prince Albert at Alderney	5		Y					Y
Portland St at Chestnut at Manor	5	Y		Y				
Portland St at Gaston	5	Y				Y		Y
Portland St at Penhorn Mall	5	Y				Y		
Portland St at Pleasant	5	Y			Y			Y
Portland St at Prince Arthur St	5	Y				Y		Y
Portland St at Green Village Ln (Sears Entrance)	5	Y				Y		
Prince Albert Rd at Hawthorne	5	Y						Y
Victoria Rd at Highfield Park	5	Y						Y
Victoria Rd at Albro Lake	5	Y			Y			Y
Victoria Rd at Boland	5	Y			Y		Y	
Victoria Rd at Nantucket	5	Y			Y		Y	
Victoria Rd at Primrose	5	Y						Y
Victoria Rd at Thistle	5	Y			Y		Y	
Victoria Rd at Woodland	5	Y			Y			Y
Windmill Rd at Wyse Rd	5	Y					Y	
Woodland Ave at Micmac at Lancaster	5	Y						

**Attachment 1**

Location	District	Push Buttons Present	Existing Pedestrian Recall (All Crossings)	Existing Pedestrian Recall (Side Street Only)	New Pedestrian Recall (All Crossings)	New Pedestrian Recall (Side Street Only)	Gordon Active Core	Gordon Transit Suburb
Woodlawn Ave at Valleyfield / Settle	5	Y						
Wyse Rd at Albro Lake	5	Y			Y			Y
Wyse Rd at Boland Rd	5	Y			Y		Y	
Wyse Rd at Nantucket	5	Y					Y	
Wyse Rd at Thistle	5	Y					Y	
Akerley at Joseph Zatzman	6	Y						Y
Akerley at n/a Savage	6	Y						Y
Akerley Blvd at Mosher Dr	6	Y						Y
<b>Burnside at Akerley</b>	<b>6</b>							Y
Burnside at Commodore at Ronald Smith	6	Y						Y
Burnside Dr at Wright Ave	6	Y						Y
Commodore at Brownlow	6	Y						Y
Commodore at Countryview	6	Y						Y
Commodore at Eileen Stubbs at Spectacle Lake	6	Y						Y
Commodore at Finlay	6	Y						Y
Countryview at McClure	6	Y						Y
Countryview at Shubie	6	Y						Y
Cutler Ave at Ikea	6	Y						Y
Finlay at McClure	6	Y						Y
Finlay at Shubie	6	Y						Y
Ilisley at Ronald Smith	6	Y			Y			Y
Main St at Caledonia at Woodlawn	6	Y				Y		Y
Main St at Hartlen	6	Y				Y		
Main St at Major -Gordon	6	Y				Y		
Main St at Ridgecrest	6	Y				Y		
Main St at Weyburn (Pedestrian 1/2 Signal)	6	Y						Y
Portland St at Carver at Eisener	6	Y				Y		
Portland St at Hwy 111	6	Y				Y		
Portland St at Spring at Portland Estates	6	Y				Y		
Portland St at Woodlawn	6	Y				Y		
Waverley at Montebello	6	Y				Y		
Windmill Rd at Akerley	6	Y						
Windmill Rd at Albro Lake	6	Y			Y			Y
Windmill Rd at Princess Margaret -Yorkshire	6	Y				Y		Y
Windmill Rd at Ralston at SeaPoint	6	Y				Y		
Windmill Rd at Victoria at Lynch Crt	6	Y				Y		
Windmill Rd at Wright at Bancroft Dr	6	Y						
Woodlawn Ave at Athorpe Dr	6	Y				Y		
Woodlawn Ave at Mt. Edward	6	Y						
Wright at John Savage	6	Y						Y
Wright at Williams at Garland	6	Y						Y
Wright Ave at Finlay	6	Y						Y
Wright Ave at Ilisley at Isnor	6	Y						Y
Wright Ave at Joseph Zatzman at Raddall	6	Y						Y
Wright Ave at MacDonald	6	Y						Y
Wright Ave at Wilkinson	6	Y						Y
Barrington St at Cogswell St	7		Y				Y	
Barrington St at Cornwallis St	7		Y				Y	
Barrington St at Duke St	7		Y				Y	
Barrington St at Morris St	7		Y				Y	
Barrington St at Prince St	7		Y				Y	
Barrington St at Sackville St	7		Y				Y	
Barrington St at Spring Garden Road	7		Y				Y	
Bell Road at Sackville St. at South Park St.	7		Y				Y	



**Attachment 1**

Location	District	Push Buttons Present	Existing Pedestrian Recall (All Crossings)	Existing Pedestrian Recall (Side Street Only)	New Pedestrian Recall (All Crossings)	New Pedestrian Recall (Side Street Only)	Gordon Active Core	Gordon Transit Suburb
Bell Road at Summer at Trollope	7	Y	Y				Y	
Brunswick St at Cogswell Street	7		Y				Y	
Brunswick St at Duke St. at Rainnie Dr.	7		Y				Y	
Brunswick St at North Street	7		Y				Y	
Brunswick St at Prince Street	7		Y				Y	
Brunswick St at Sackville Street	7		Y				Y	
Coburg Rd at Oxford Street	7		Y				Y	
Coburg Rd at Robie St. at Spring Garden Rd.	7	Y	Y				Y	
Cogswell St at Gottingen Street	7		Y				Y	
Cornwallis St at Gottingen St	7		Y				Y	
Dresden Row at Spring Garden Rd	7	Y	Y				Y	
Duke St at Hollis Street	7		Y				Y	
Duke St at Upper Water	7	Y	Y				Y	
George St at Hollis Street	7		Y				Y	
George St at Water Street	7		Y				Y	
Hollis St at Morris Street	7		Y				Y	
Hollis St at Prince Street	7		Y				Y	
Hollis St at Sackville Street	7		Y				Y	
Inglis St at Robie St	7	Y	Y				Y	
Inglis St at Tower Rd	7	Y	Y				Y	
Jubilee Rd at Oxford St	7		Y				Y	
Jubilee Rd at Robie St	7	Y	Y				Y	
Morris St at South Park St. at University Ave.	7		Y				Y	
Queen St at South St	7	Y	Y				Y	
Queen St at Spring Garden Rd	7	Y	Y				Y	
Quingate Place at Quinpool Road at Vernon Street	7		Y				Y	
Robie St at South Street	7	Y	Y				Y	
Robie St at University Avenue	7	Y	Y				Y	
South Park St at Spring Garden Road	7	Y	Y				Y	
South St at South Park Street	7		Y				Y	
Spring Garden Road at Summer Street	7		Y				Y	
Robie Street at Quinpool Road / Bell Road / Cogswell Street	7		Y				Y	
Agricola Street at Almon Street	8	Y	Y				Y	
Agricola Street at North Street	8		Y				Y	
Agricola Street at Young Street	8	Y	Y				Y	
Almon St at Gottingen St	8	Y	Y				Y	
Almon St at Gladstone (Pedestrian 1/2 signal)	8	Y					Y	
Almon St at Oxford St	8		Y				Y	
Almon Street at Robie Street	8		Y				Y	
Almon Street at Windsor Street	8	Y	Y				Y	
Barrington St at Niobe Gate	8	Y					Y	
Barrington St at North St	8	Y		Y			Y	
Bayers Road at Connaught Avenue	8		Y				Y	
Bayers Road at Oxford Street	8	Y	Y				Y	
Bayers Road at Windsor St at Young St	8	Y	Y				Y	
Brunswick St at Cornwallis Street	8		Y				Y	
Chebucto Rd at Oxford St / North St at Oxford St	8		Y				Y	
Cunard Street at Robie Street	8	Y	Y				Y	
Devonshire Ave at Duffus St. at Novalea Dr.	8	Y	Y				Y	
Gottingen St at North Street	8		Y				Y	
Gottingen St at Novalea Dr. at Young St.	8		Y				Y	
Kempt Rd at Young St	8	Y	Y				Y	
Kempt Road at Windsor Street	8	Y			Y		Y	
Lady Hammond Rd at Robie Street	8		Y					Y

**Attachment 1**

Location	District	Push Buttons Present	Existing Pedestrian Recall (All Crossings)	Existing Pedestrian Recall (Side Street Only)	New Pedestrian Recall (All Crossings)	New Pedestrian Recall (Side Street Only)	Gordon Active Core	Gordon Transit Suburb
North St at Oxford St ( see Chebucto St at Oxford St )	8		Y				Y	
North St at Robie Street	8		Y				Y	
North St at Windsor Street	8		Y				Y	
Oxford Street at Quinpool Road	8		Y				Y	
Preston St at Quinpool Road	8	Y	Y				Y	
Quinpool Rd at Harvard St (Pedestrian 1/2 signal)	8	Y					Y	
Robie St at Young St	8	Y	Y				Y	
Almon Street at Connaught Avenue	9		Y				Y	
Bayers Road at Halifax Shopping Centre	9		Y				Y	
Bayers Road at Joseph Howe Drive	9	Y				Y	Y	
Bayers Road at Pennington at Petro Canada	9	Y				Y	Y	
Bayers Road at Romans Avenue	9		Y				Y	
Chebucto Rd at Connaught Avenue	9	Y	Y				Y	
Chebucto Rd at Cunard St. at Windsor St.	9		Y				Y	
Chebucto Rd at MacDonald St. at Mumford Rd.	9	Y	Y				Y	
Connaught Ave at Quinpool Rd	9	Y	Y				Y	
Connaught Ave at Windsor St	9		Y				Y	
Cowie Hill at Herring Cove Rd	9	Y				Y		Y
Dutch Village Road at Joseph Howe Drive	9	Y				Y	Y	
Herring Cove Rd at Old Sambro Road	9	Y			Y			Y
Herring Cove Rd at Williams Lake Rd	9	Y				Y		Y
Joseph Howe Dr at Hwy #102	9	Y		Y			Y	
Joseph Howe Dr at Mumford Road	9	Y		Y			Y	
Joseph Howe Dr at Scot St	9	Y		Y			Y	
Joseph Howe Dr at Springvale	9	Y				Y	Y	
Joseph Howe Dr at Superstore	9	Y				Y	Y	
Mumford Rd at Hfx. Shopping Centre at West End Mall	9		Y				Y	
Mumford Rd at Romans Avenue	9		Y				Y	
Quinpool Rd at Beech St (Pedestrian 1/2 signal)	9	Y					Y	
Alma Cres. at Dutch Village Road	10		Y				Y	
Bayview Road at Bedford Highway	10	Y		Y				Y
Bayview Road at Clayton Park Dr. at Lacewood Dr.	10		Y					Y
Bedford Hwy at Civic #50 Bedford Hwy	10	Y		Y				Y
Bedford Hwy at Flamingo Dr	10	Y		Y				Y
Bedford Hwy at Kearney Lake Road	10	Y		Y				
Donaldson Ave at Dunbrack St. at Kearney Lake Rd.	10	Y		Y				
Dunbrack at Radcliffe - Meadowlark	10	Y		Y				Y
Dunbrack St at Farnham Gate Rd	10	Y				Y		
Dunbrack St at Knightsridge at Langbrae	10	Y				Y		
Dunbrack St at Lacewood Drive	10	Y				Y		Y
Dunbrack St at Main Ave	10	Y				Y		Y
Dunbrack St at Willett St	10	Y		Y				Y
Kearney Lake Rd at Parkland Dr	10	Y				Y		
Kearney Lake Rd at Castlehill Dr	10	Y				Y		
Main Ave at Titus Street	10		Y					Y
Main Ave at Willett St	10		Y					Y
Dentith Rd at Herring Cove Road	11	Y			Y			Y
Dentith Rd at Old Sambro Road	11	Y						Y
Northwest Arm Dr at Old Sambro Rd	11	Y						Y
St. Margarets Bay Rd. at Northwest Arm Dr. Connecto	11	Y						
Chain Lake Dr.- Hobson Lake at Horseshoe Lake	12	Y						
Chain Lake Dr.- Kent at Costco Driveway	12	Y				Y		
Chain Lake Dr.- Superstore Driveway	12	Y				Y		
Chain Lake Dr.- Susie Lake	12	Y				Y		

**Attachment 1**

Location	District	Push Buttons Present	Existing Pedestrian Recall (All Crossings)	Existing Pedestrian Recall (Side Street Only)	New Pedestrian Recall (All Crossings)	New Pedestrian Recall (Side Street Only)	Gordon Active Core	Gordon Transit Suburb
Chain Lake Dr. at Civic #201 (Dairy Queen)	12	Y				Y		
Chain Lake Dr. at Lakelands Blvd.	12	Y						
Hobson Lake Dr at Susie Lake Dr	12	Y						
Horseshoe Lake at Susie Lake	12	Y						
Lacewood at Radcliffe at Bus Depot	12	Y				Y		Y
Lacewood Dr at Fairfax	12	Y				Y		Y
Lacewood Dr at Parkland	12	Y				Y		Y
Lacewood Dr at Sobeys at McDonald's	12	Y				Y		Y
Lacewood Dr at Stratford Way	12	Y				Y		Y
Lacewood Dr at Willett St	12	Y				Y		Y
Trunk #3 at Lakeside Industrial Park	12	Y						
Hammonds Plains at Glen Arbour Way	13	Y						
Hammonds Plains at Kingswood	13	Y						
Hammonds Plains at Lucasville	13	Y						
Hammonds Plains at Pockwock Rd	13	Y						
Hammonds Plains at Westwood at Flatlake	13	Y						
Sackville Dr at Millwood	14	Y				Y		
Beaverbank Rd. at Stokil & Millwood	15	Y						
Cobequid Rd at Zinck Ave ( Medical Center )	15	Y				Y		
Glendale Dr at Beaverbank Rd.	15	Y						
Glendale Dr. at Cobequid Rd.	15	Y						
Glendale Dr. at McDougall at Sportsplex	15	Y		Y				
Glendale Dr. at Metropolitan Ave.	15	Y				Y		
Glendale Dr. at Riverside Dr.	15	Y				Y		
Metropolitan Ave. at First Lake Dr.	15	Y			Y			
Sackville Dr at Beaverbank Rd.	15	Y						
Sackville Dr at Downsview Mall	15	Y				Y		
Sackville Dr at Florence at Leaside	15	Y				Y		
Sackville Dr at Pinehill Dr.	15	Y				Y		
Sackville Dr at Riverside Dr.	15	Y				Y		
Sackville Dr at Sackville Cross Road	15	Y				Y		
Sackville Dr at Skyridge Ave.	15	Y				Y		
Sackville Dr at Superstore at Walmart	15	Y						
Bedford Hwy at Bedford Place Mall North ( River Ln)	16	Y		Y				
Bedford Hwy at Bedford Place Mall South	16	Y		Y				
Bedford Hwy at Convoy at Holland	16	Y		Y				
Bedford Hwy at Dartmouth Road	16	Y		Y				
Bedford Hwy at Hammonds Plains Road	16	Y		Y				
Bedford Hwy at Hatchery Ln	16	Y		Y				
Bedford Hwy at Larry Uteck Blvd ( Royal Hemlocks)	16	Y				Y		
Bedford Hwy at Meadowbrook	16	Y		Y				
Bedford Hwy at Moirs Mill Road	16	Y		Y				
Bedford Hwy at Rocky Lake Drive	16		Y					
Bedford Hwy at Southgate Rd	16	Y						
Bedford Hwy at Sunnyside Mall	16	Y		Y				
Bedford Hwy at Union Street	16	Y		Y				
Damascus Rd at Verdi	16	Y						
Damascus Rd at Walmart	16	Y						
Dartmouth Rd at Ridgevale	16	Y		Y				
Duke St at Damascus Rd	16	Y						
Hammonds Plains at Basinview	16	Y				Y		
Hammonds Plains at Gary Martin Dr	16	Y						
Hammonds Plains at Innovation Dr	16	Y						
Hammonds Plains at Larry Uteck	16	Y						

**Attachment 1**

Location	District	Push Buttons Present	Existing Pedestrian Recall (All Crossings)	Existing Pedestrian Recall (Side Street Only)	New Pedestrian Recall (All Crossings)	New Pedestrian Recall (Side Street Only)	Gordon Active Core	Gordon Transit Suburb
Kearney Lake Rd at Larry Uteck Blvd	16	Y						
Larry Uteck at Broad Street	16	Y						
Larry Uteck at Southgate	16	Y			Y			
Starboard at Peakview	16	Y			Y			