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Item No. 9.1.4
Transportation Standing Committee
January 22, 2015

TO: Chair and Members of Transportation Standing Committee

Original Signed

SUBMITTED BY:

Mike Labrecque, P.Eng., Deputy Chief Administrative Officer

DATE: December 22, 2014

SUBJECT: 2015-2016 Pedestrian Safety Action Plan

ORIGIN

Item 11.1.10 raised at the March 18, 2014 session of Halifax Regional Council:

MOVED by Councillor Craig, seconded by Councillor Johns that Halifax Regional Council:

- 1. Adopt the 2014/2015 Pedestrian Safety Action Plan, included as Attachment 1 to the February 24, 2014 staff report; and**
- 2. Direct staff to return, through the Transportation Standing Committee, not later than December 2014, with the annual Pedestrian Safety Action Plan for consideration in the 2015/2016 fiscal year.**

Staff recommendation report, dated July 9, 2014; Item 11.1.9 raised at the August 5, 2014 session of Halifax Regional Council.

LEGISLATIVE AUTHORITY

Part I, Section 21 "Standing, special and advisory committees", of the Halifax Regional Municipality Charter.

RECOMMENDATION

It is recommended that the Transportation Standing Committee forward the 2015-2016 Pedestrian Safety Action Plan, included as Attachment 1 to this report, to Regional Council for approval.

BACKGROUND

The 2014-2015 Pedestrian Safety Action Plan was created in order to provide a review of activities carried out in promoting pedestrian safety as well as an assessment of any trends or recurring issues impacting the safety of pedestrians on Halifax's roadways. Through the on-going review of activities and information gathered over the course of the year, the document also serves as the plan for staff to use in determining what activities should be undertaken in the following year in order to address the issues identified as having the most positive impact to improving pedestrian safety. The document focuses on the "three E's" – Engineering, Education and Enforcement – and so encompasses a number of Municipality's departments and programs.

In order to ensure the most effective approach is taken when planning future activities, continuous evaluation of relevant data and current programs is on-going over the course of the year as well as engagement activities involving internal and external groups occurs through various avenues.

DISCUSSION

As part of the update for this year (2014) a consultant was engaged to provide an overall assessment of Halifax's pedestrian collision data in comparison with other jurisdictions. The intent of the study was to provide an objective review of the situation in Halifax and how it compares to other municipalities in order to determine where we stand in terms of pedestrian safety.

The study indicated that, in general terms, the rate of pedestrian fatalities in Canada has remained more or less unchanged in the last five years or so, while this statistic has increased steadily in the United States (US). For jurisdictions surveyed within Canada, Halifax is below average when assessing total number of pedestrian collisions and number of injury collisions (per 100,000 population) and is near the average rate for fatal pedestrian collisions. The study also noted that Halifax has a lower rate of injury collisions which may indicate that there are many minor incidents being reported here that would not be recorded in other jurisdictions. If these minor incidents were not reported, Halifax's overall collision rate would be lower.

In addition to the information taken from the consultant report, the 2015-2016 Pedestrian Safety Action Plan outlines the programs and processes focusing on pedestrian safety covering the three E's (engineering/education/enforcement) that took place over the past year (2014) and moving forward for the upcoming year (2015/2016) and also outlines evaluation and engagement activities from the previous year and plans for moving forward.

Following are the key points outlined in The Pedestrian Safety Action Plan:

Engineering

Looking Back (2014)

- Continuation of upgrades to signalized intersections to include pedestrian count-down timers and adjustments to pedestrian crossing times.
- All RA-5 crosswalks assessed for identification of infrastructure/equipment upgrades and prioritized. RA-5 locations with overhead flashers were upgraded to include larger (300 mm) beacons, increased walk (flash) time and addition of pedestrian extend feature. LED down-lighting modules ordered.
- All uncontrolled, marked crosswalks were assessed for signage position and condition (retro-reflectivity) and all locations were upgraded to include zebra crosswalk markings.
- Pavement marking program expanded to include re-painting of crosswalks in high pedestrian areas. New paint introduced that exhibits some improvement in durability and allows for broader range of application conditions.

Moving Forward (2015/2016)

- Continuation of equipment (pedestrian count-down timers) and signal timing upgrades at signalized intersections.
- Begin trials of rectangular rapid flashing beacon crosswalk treatment.
- Assess performance of new pavement marking paint introduced in 2014.
- Pursue potential use of fluorescent yellow-green crosswalk signage.
- Implement traffic calming policy.
- Begin implementing RA-5 crosswalk improvements to address prioritized list produced in 2014.

As part of the 2014-2015 Pedestrian Safety Action Plan, staff assessed all existing RA-5 crosswalk locations against the updated standard for this type of facility which includes:

- Larger flashing beacons (300 mm instead of 200 mm)
- Increased walk time
- Capability to extend crossing (flash) time
- Additional side-mounted flashing beacons
- Brighter LED down-lighting
- Accessibility of push-buttons (hard surface surrounding poles)
- Proper pole location (downstream of approaching traffic)

Through work carried out in 2014, staff completed the upgrades related to the first three items listed above. The remaining items were used to create a prioritized list of crosswalk locations with the associated costs. Based on preliminary estimates, staff has identified the requirement for approximately \$4.3 million to implement a program to upgrade all 182 RA-5 crosswalks (average of approximately \$23,500 per location). However, given that collision statistics illustrate a low incidence of pedestrian collisions occurring at RA-5 crosswalks, staff plans to carry out the necessary upgrades, where conditions permit, through integration with other capital projects and regular maintenance activities. This would allow for the upgrades to be done as part of existing capital and operating budgets, minimizing costs.

Education

Looking Back (2014)

- Major education campaigns carried out for two, six-week periods in February/March and November/December.
- Crosswalk Safety Day campaign implemented on November 5th.
- Monthly HRP/RCMP media releases related to collision information and safety themes.
- HRP participation in television spot (CTV) ridealongs provided to journalists.

Moving Forward (2015/2016)

- Continue with major, on-going education campaigns run over multiple six-week periods.
- HRP to continue with media releases related to monthly safety themes and vehicle-pedestrian collision information.
- "Traffic Cop" social media sites (Facebook / Twitter) to be reinstated by HRP.

Enforcement

Looking Back (2014)

- Implementation of annual Traffic Safety Plan encompassing monthly traffic safety themes.
- Carried out targeted enforcement campaigns throughout the year dealing with distracted driving/speeding (National Road Safety Week) and cell phone/mobile device use while driving (October).
- Carried out targeted education/enforcement around schools in September.

Moving Forward (2015/2016)

- Continued implementation of the Traffic Safety Plan encompassing monthly traffic safety themes with enhanced communication, prevention and enforcement.
- Continue with deployment of the Traffic Unit to problem areas as identified through on-going data assessment for targeted enforcement.

Engagement

Looking Back (2014)

- Collaboration with community groups related to implementing community led installation of crosswalk flags and on-going collaboration with the Crosswalk Safety Advisory Committee.
- Continued on-going Police/Traffic Management meetings with focus area on pedestrian safety.
- Initiation of collision reporting centre at HRP headquarters providing for enhanced service to citizens for reporting of collisions that do not require an officer to attend the scene.

Moving Forward (2015/2016)

- Staff will continue to collaborate with community groups seeking to implement crosswalk flag programs, support and collaborate with the Crosswalk Safety Advisory Committee and continue with Police/Traffic Management meetings.
- HRP will evaluate the collision reporting centre initiative to determine if the program should continue or expand.
- Staff will be participating in an open-house session facilitated by Dalhousie University's transportation research group (DalTraC) related to crosswalk safety.
- Staff will continue to liaise with Provincial traffic staff in relation to the update planned for the Motor Vehicle Act.

Evaluation

Looking Back (2014)

- Processes surrounding data collection, sharing among groups (Traffic, Police, Communications, etc.) and analysis were improved. HRP provided monthly vehicle-pedestrian collision reports to Traffic Management for analysis and Traffic staff conducted field assessments of all collision locations to identify any engineering measures that may be appropriate. Collision information for the past 3 years has been compiled and assessed to provide statistics in an effort to identify patterns or trends.
- Consultant study undertaken to collect and assess jurisdictional pedestrian collision information for comparison to Halifax.
- HRP implementation and testing of computerized collision reporting software that interfaces with their records management system.

Moving Forward (2015/2016)

- Full implementation of HRP's electronic collision reporting software (including installation in police vehicles).
- Staff will continue with monitoring of collision statistics to assist in directing efforts related to engineering, education and enforcement.

The staff report (dated July 9, 2014) presented at the August 5, 2014 session of Halifax Regional Council provided a response to the action items outlined in the Crosswalk Safety Work Plan prepared by the Crosswalk Safety Advisory Committee. The report indicated how each action item was considered / incorporated into the 2014-2015 Pedestrian Safety Action Plan and identified six action items to be assessed as part of the production of the 2015-2016 Pedestrian Safety Action Plan. These items were reviewed in conjunction with the production of the current update to the Pedestrian Safety Action Plan and are discussed below.

1. *Recommend that the Province re-define the role of the Traffic Authority to reflect the modern transportation reality in HRM.*

The Traffic Authority is responsible for ensuring the safety of traffic operations on HRM's roadways according to the regulations as set out in the MVA and through the application of widely accepted engineering standards and practices and sound engineering judgement. The Province is continuing with a project to update and modernize the MVA through a major rewrite that will see the current Motor Vehicle Act replaced by the Traffic Safety Act and it is anticipated that the new Act will incorporate a definition of the role and responsibility of the Traffic Authority as it fits with the new Traffic Safety Act. Municipal staff liaises with Provincial staff on a regular basis and will continue to do so in relation to this project as appropriate. This on-going, interagency cooperation is identified in the Engagement section of the 2015-2016 Pedestrian Safety Action Plan.

2. *In consultation with the CSAC, revise the warrant system for installing and removing crosswalks to be tailored for urban vs. suburban/rural vs. school situations.*

Traffic Management staff use the Transportation Association of Canada (TAC) Pedestrian Crossing Control Guide, 2nd Edition (2012) when assessing requests for the installation of marked crosswalks or when assessing existing marked crosswalk locations for potential upgrade or removal. This guide was produced through extensive research into best practices followed by municipalities and jurisdictions across Canada with the main objective of promoting uniformity in the approach used when providing pedestrian crossing control, while improving road safety for pedestrians.

The guide aids in identifying the need for, and type of, traffic control device that would be most suitable based on the geometry and cross section, vehicular exposure, and pedestrian demand at the crossing location (i.e. urban, suburban, rural, schools, nearby facilities, etc.) and therefore would take into account the different areas and conditions throughout the Municipality.

Through application of the principles outlined in the guide, the warrant procedure does not favour any one type of location over any other simply based on whether it is urban, suburban, rural or other and instead focuses on site specific information as it relates to nearby facilities, roadway characteristics and pedestrian and vehicle volumes; providing an objective assessment of the location being investigated based on conditions and resulting requirements.

Given the extensive research encompassing input from engineers, planners and other practitioners from jurisdictions across the country that went into the production of the guide and its methodologies, Halifax being one of the contributors, staff do not see the benefit of "revising" these warrants as they already provide for an appropriate and objective evaluation of potential and existing crosswalk locations. As indicated in the Engineering section of the 2015-2016 Pedestrian Safety Action Plan, staff will continue to apply the warrants outlined in the TAC guide when considering installation, or removal, of marked crosswalks.

3. *Installation of reflective tape on all crosswalk sign poles.*

The RA-4 crosswalk signs installed at marked crosswalks are 60cm x 75cm and employ a high grade of retro-reflective material, providing a reflective area of 0.45m². The proposed reflective tape, which should be of equivalent retro reflectivity to the sign, would be approximately 2cm x 2m, providing approximately .04m² of reflective area (only about a 10% increase of overall reflective area).

The addition of reflective tape to crosswalk poles appears to provide only a minimal benefit and would require considerable staff resources for the initial placement and on-going maintenance of the tape at the over 500 uncontrolled, marked crosswalks (each crosswalk having two poles,

each pole needing 2 strips would result in over 2000 strips of tape to be applied/maintained). As such, staff will not be pursuing the use of reflective tape on crosswalk posts.

Alternatively, measures such as zebra crosswalk markings, addition of side-mounted flashers, increased size of flashing beacons, replacement of old/faded crosswalk signs, improved down-lighting, etc. as outlined in the 2014-2015 and 2015-2016 Pedestrian Safety Action Plan will all combine to provide increased crosswalk visibility at uncontrolled, marked locations.

4. *Continue to investigate and define use of solar pole flashing beacons to increase additional visibility of crosswalks.*

As outlined in the attached 2015-2016 Pedestrian Safety Action Plan, staff has identified several locations which may be appropriate for trial installations of rectangular rapid flashing beacons (RRFB) to bridge the gap between standard uncontrolled, marked crosswalks and crosswalks with overhead flashing beacons or pedestrian half signals. A recent study and pilot testing in other jurisdictions has revealed some issues related to the reliability of solar power for (RRFB), however staff will be investigating the potential to use AC hard-wiring as a power source in order to move forward with pilot testing of this equipment at crosswalks in Halifax.

5. *Investigate and define the use of in-road crosswalk signs at appropriate locations.*

The TAC Pedestrian Crossing Control Guidelines identifies in-road crosswalk signs as an optional treatment. The guidelines indicate that this type of treatment should only be used for marked, uncontrolled school crosswalks, placed in conjunction with zebra crosswalk markings and is to be temporary in nature (removed when school children are not present). Both the Pedestrian Crossing Control Guidelines and the Manual of Uniform Traffic Control Devices for Canada (MUTCDC) indicate that these signs should only be used at key locations which may include: high pedestrian volume crosswalks; locations with higher than usual collision frequencies; or locations with sight obstructions.

Benefits of these signs may be limited given that locations that would qualify to be considered for use of the sign will already be school crosswalks that have been upgraded with zebra markings, are likely to have a crossing guard and likely be located within a school area that would be subject to the reduced 30 km/h speed limit when children are present. Also, given the temporary nature of the sign, it would only be permitted to be in place when school children are present so requirements to continually install and remove the sign multiple times per school day could prove cumbersome and be difficult to implement.

Given the limited benefit associated with this type of signage and difficulties associated with its implementation, staff will not be pursuing its use.

6. *Recommend to the Province the use of neon coloured signs to identify crosswalks.*

As outlined in the 2015-2016 Pedestrian Safety Action Plan, staff has engaged the Province regarding the use of fluorescent yellow-green crosswalk signs at uncontrolled, marked crosswalks. In addition, staff has received approval for initiation of a TAC project to investigate the use and potential inclusion of these signs in the national signage standard.

FINANCIAL IMPLICATIONS

There are no new financial implications associated with this report. All activities outlined within the 2015-2016 Pedestrian Safety Action are anticipated to be carried out as part of existing capital and operating budgets.

COMMUNITY ENGAGEMENT

Community engagement was not undertaken as part of this report as the document produced provides plans for on-going engagement with the public through education campaigns, enforcement programs and participation with the Crosswalk Safety Advisory Committee.

ENVIRONMENTAL IMPLICATIONS

There are no environmental implications associated with this report.

ALTERNATIVES


There are no recommended alternatives.

ATTACHMENTS

Attachment 1 – 2015-2016 Pedestrian Safety Action Plan

A copy of this report can be obtained online at <http://www.halifax.ca/commcoun/index.php> then choose the appropriate Community Council and meeting date, or by contacting the Office of the Municipal Clerk at 902.490.4210, or Fax 902.490.4208.

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2015-2016

**Pedestrian Safety
Action Plan**



INTRODUCTION

In recent years, many jurisdictions have seen an increase in the number of people walking. This increase in pedestrian activity can be generally attributed to two major factors, both of which are prevalent and very applicable to Halifax:

1. Increased emphasis on walking for health and enjoyment, leading to many jurisdictions providing improvements to the walkability of communities and encouraging walking as a viable transportation mode;
2. Aging population, leading to more seniors walking, some because they can no longer drive.

Given the increase in pedestrian activity, the occurrence of vehicle-pedestrian collisions is a safety topic that is of high priority to many jurisdictions, including Halifax.

Over the past year or so it has become evident that Halifax is experiencing an increase in the number of vehicle-pedestrian collisions being reported to Police, which is leading to the perception that our streets are unsafe for pedestrians. In an effort to shed light on this perception, a consultant was engaged to provide an objective assessment of Halifax's vehicle-pedestrian collision data and comparison to other jurisdictions.

The information presented in the consultant report outlines the total number of pedestrian fatalities in Canada and the United States (US) for the period from 2005-2012. The US data indicated a steady decrease in fatalities between 2005 and 2009 but then a steady rise from 2009 to 2012. The Canadian data showed a rise in pedestrian fatalities between 2005 and 2007 but then a sharp drop from 2007 to 2008 and then remaining largely unchanged from 2008 to 2012.

To gain a better understanding of the pedestrian safety situation in Halifax, the consultant undertook a survey of Canadian jurisdictions in order to provide comparative statistics related to vehicle-pedestrian collisions. In total 13 municipalities, with populations ranging from 57,000 to 2.5 million, were surveyed. The study aimed to use data from a five-year period (2009-2013) for comparison purposes, however not all jurisdictions surveyed had data for the full period requested. Six of the municipalities surveyed were able to provide data for the full period with the remaining municipalities providing between 2 and 4 years of data within the study period. Given the flat trend in the national data for pedestrian fatalities, it was deemed by the consultant that it would be appropriate to include all jurisdictions surveyed in order to increase the reliability of the database. Also, since complete data for Halifax was only available for 2012 and 2013, a second comparison was done using only those jurisdictions (8 municipalities) that provided data for those years. The following table outlines the results of the study carried out using the total combined information averaged over the five-year period (2009-2013) as well as the data for the common two-year period (2012-2013).

	Total Pedestrian Collisions per 100,000 Population	Fatal Pedestrian Collisions per 100,000 Population	Injury Pedestrian Collisions per 100,000 Population
Halifax	39.4	0.63	29.5
13 Jurisdictions (Average of 2 - 5 years of data)	51.9	0.77	42.4
8 Jurisdictions (2012-2013 data only)	47.2	0.58	39.9

The comparison carried out by the consultant shows that the total collision rate for Halifax is approximately 24% below the average of the full surveyed dataset and 17% below the average of the jurisdictions included in the 2012-2013 dataset. The fatal collision rate, which is very sensitive as one more or fewer collision can greatly change the rate, is between the averages for the full survey dataset and 2012-2013 dataset. As can be seen in the table, the rate of pedestrian injury collisions in Halifax is approximately 30% below the average rate for all jurisdictions surveyed and 26% below the average for the 2012-2013 comparison.

Based on the information gathered and comparisons undertaken, the consultant report indicates that the rate of vehicle-pedestrian collision occurrence for Halifax is below the Canadian average. Fatal collisions (for 2012-2013) are near or below the Canadian average, and significantly below the equivalent US rate.

It is worth noting that the study identified that collision severity in Halifax was the third lowest of all jurisdictions surveyed, less than 75% of collisions resulting in injury. This is significant since a pedestrian is almost always injured when involved in a collision with a motor vehicle and typical rates for injury collisions are 85-90% or higher. This shows in the low rate of injury collisions for Halifax and indicates that there are some very minor vehicle-pedestrian collisions, with no injuries, being reported here that might not be recorded in other jurisdictions. In general, if these minor collisions were not reported, the overall collision rate for Halifax would be even lower than the 39.4 per 100,000 population as identified in the study.

EVALUATION

Systems and procedures have been greatly improved in 2014 as compared to previous years. Improved data collection, reporting, sharing and analysis processes have provided for a focussed approach in the areas of the “Three E’s” – Engineering, Education and Enforcement – allowing staff to target specific issues as they relate to their areas of responsibility as well as identify where information may be lacking and how it may be enhanced. This helps to ensure solutions are tailored to the problem at hand as opposed to taking a general blanket approach.

LOOKING BACK ON 2014

HRP/RCMP analysts tracked all pedestrian-vehicle collisions and gathered the data, which was shared with Traffic Management. This included factors such as time of day, gender and age of driver and pedestrian, collision location, any violations, etc. Additionally, Divisional Commanders monitored the locations of pedestrian-vehicle collisions to determine if patterns emerged for targeted enforcement. The data also took into consideration collisions at all intersections, whether a pedestrian was involved or not, to identify hot spots.

HRP initiated a partnership with Accident Support Services International (ASSI) in September 2014. Collision information is collected and entered into their Collision Reporting and Occurrence Management System (CROMS) software, which allows for data analysis to be conducted in all data fields. The plan includes an interface to the police Records Management System (RMS); final testing is being completed for the interface in early November with the goal of making it fully operational in the near future.

Over the course of 2014, Police and Traffic Management have worked closely in the collection, assessment and sharing of vehicle-pedestrian collision information. Locations where a collision occurred were assessed by Traffic Management staff, taking into consideration information provided in the police report, in order to identify any engineering related issues that may have contributed to a collision.

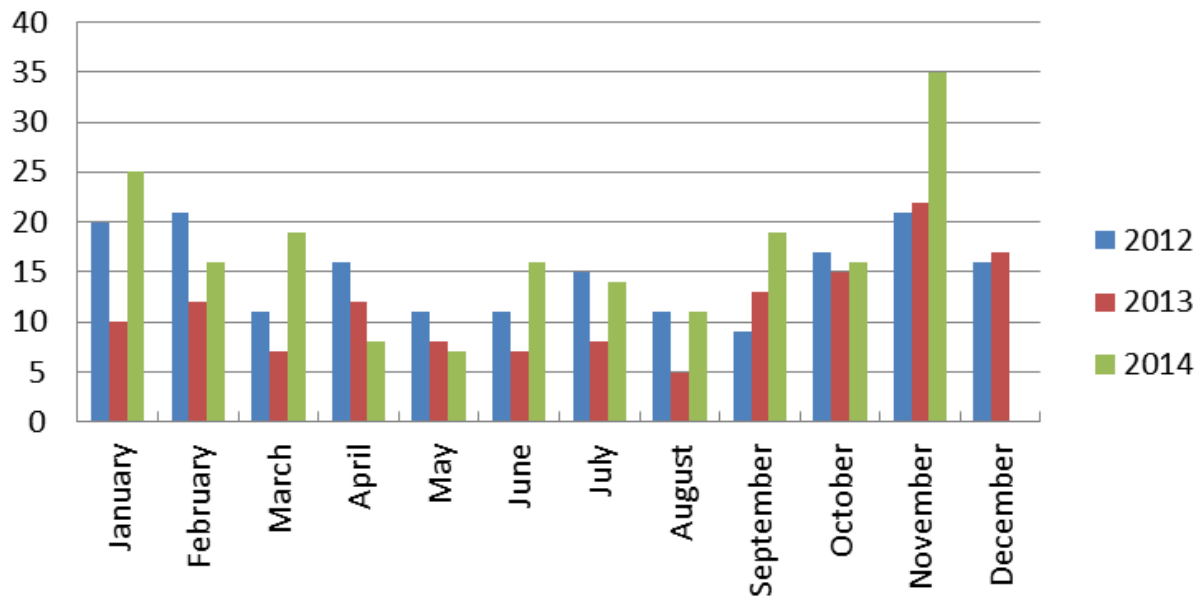
In addition to on-site assessments of collision locations, staff has compiled statistics from police reports for 2014, 2013 and 2012 in an attempt to identify any trends in the data that might indicate a particular location or issue that needs to be addressed. Traffic Services staff filtered the data provided by Police to focus only on vehicle-pedestrian collisions that occurred within the public right-of-way (collisions involving bicycles or taking place in parking lots were removed), as is the practice of the majority of jurisdictions across the country. The following tables and figures provide a summary of findings to date.

Pedestrian Collision History

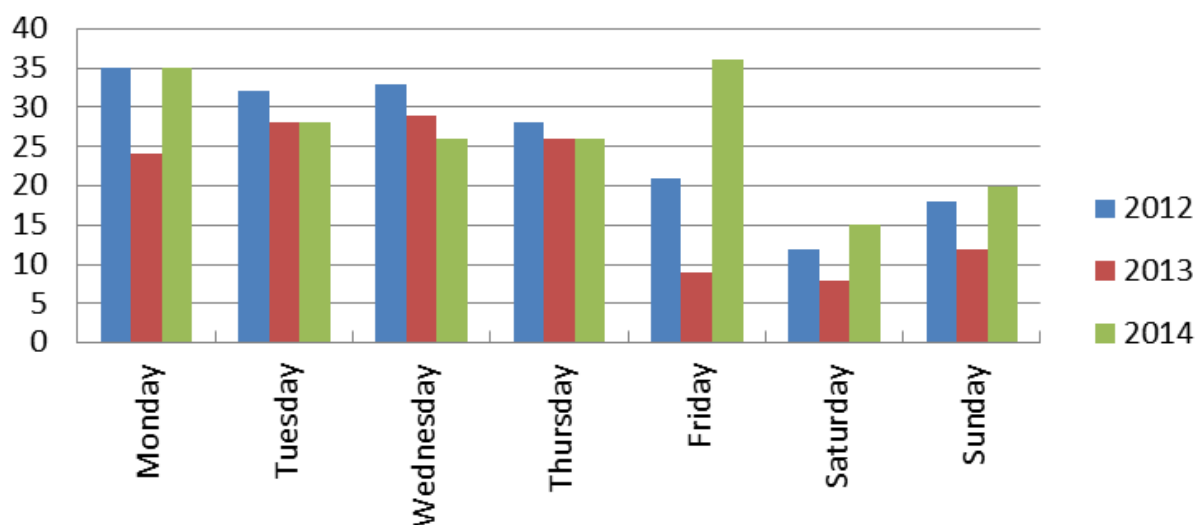
	2012	2013	2014*
Total Pedestrian Collisions Occurring within ROW	179	136	186

**2014 data includes information up to November 30th*

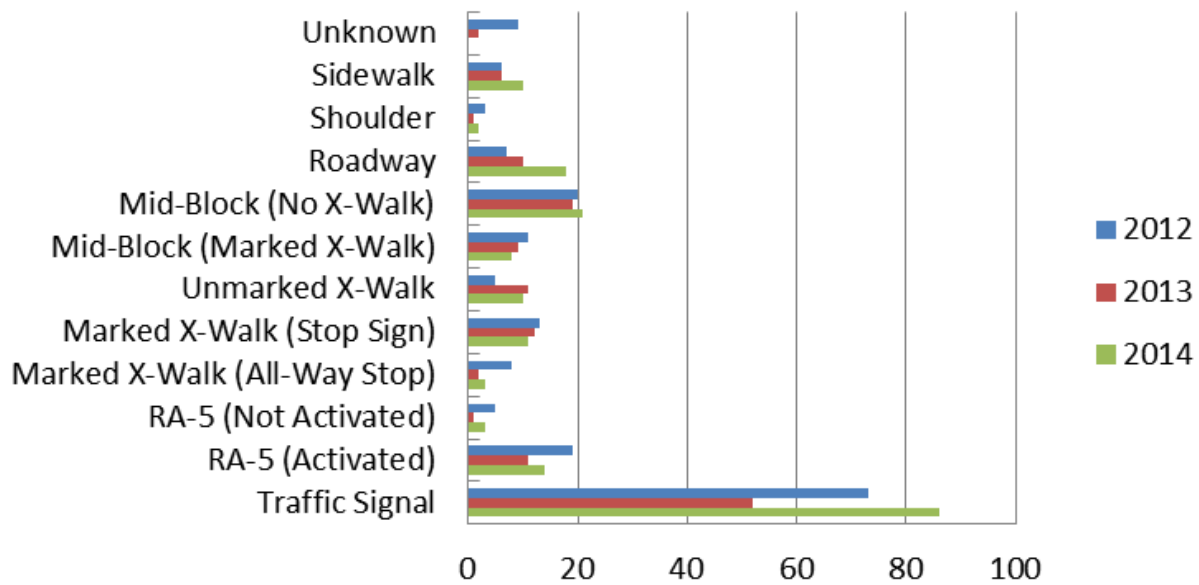
Pedestrian Collisions by Month



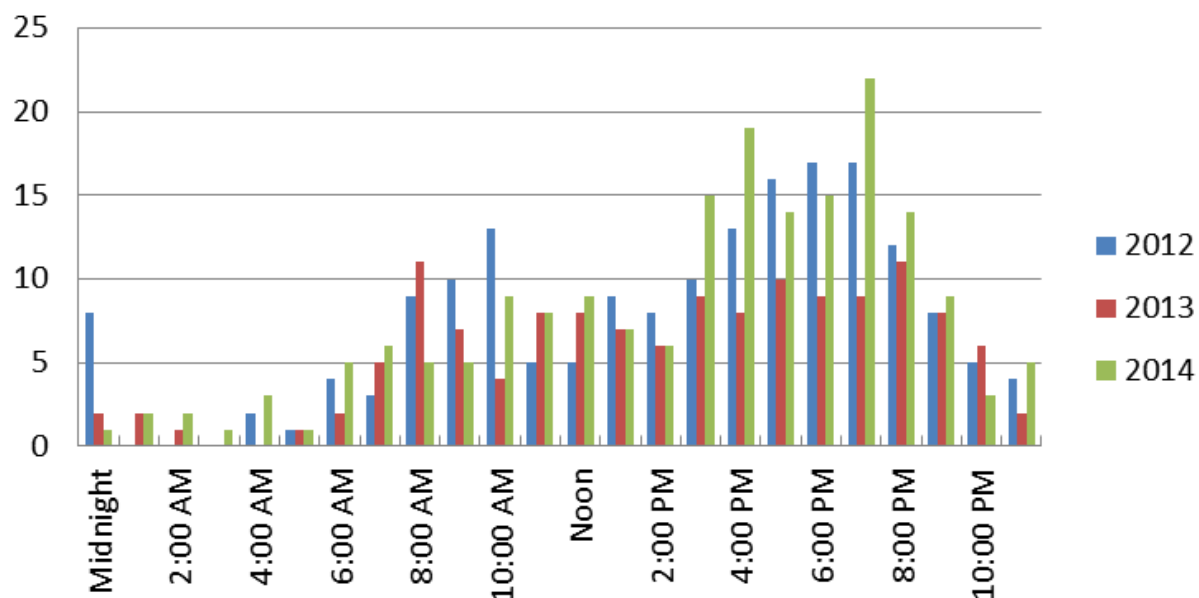
Pedestrian Collisions by Day of the Week



Pedestrian Collisions by Control Type



Pedestrian Collisions by Time of Day



Assessment of the data compiled for the last three years shows that the majority of vehicle-pedestrian collisions are occurring at traffic signals during the pm peak traffic period. Additional information obtained from the police reports indicated that the majority of collisions occurred during daylight hours, on clear weather days and involved vehicles that were making left or right turns.

Site investigations undertaken by Traffic Management staff at all collision locations reported in 2014 did not result in the identification of any outstanding engineering related issues contributing to the collisions. Nearly all locations had clear sightlines and all appropriate signage and equipment was found to be in place and in working order. Evaluation of the data so far, coupled with the site assessments conducted, appear to be indicating that issues surrounding vehicle-pedestrian collisions are not engineering related and may be of a nature more appropriately addressed through on-going targeted education and enforcement. It should be noted that assessments so far are based on a small sample size, 3 years of data, and typically larger sample sizes of at least five years of data are required in order to reasonably identify trends.

MOVING FORWARD IN 2015/2016

Staff will continue to make use of the new data collection processes and systems, including the new ASSI/CROMS system, to evaluate and assess vehicle-pedestrian collisions on a “real time” basis in order to identify any hotspots or trends that may appear. This on-going evaluation process will be used by staff to identify the most appropriate approach (engineering, education or enforcement) to effectively address the particular issue.

It is through information/data sharing that we understand where our information is lacking and how it needs to be enhanced for effective analysis. As a result, HRP will be educating officers as to what is required of them with respect to accurately completing an accident report (58A) at the time of their response to a collision.

It is the goal of police to have CROMS available in HRP patrol vehicles in 2015; software solutions are currently being explored. What this means is that when a police officer responds to a collision in the future, s/he will enter data into RMS which will be downloaded directly into CROMS to allow for enhanced information sharing and data analysis. Improved access to data on a timely basis will allow police to deploy resources more effectively and efficiently to hot spots. A point of note is that Halifax District RCMP is not currently using ASSI's services and so collision data from their jurisdiction within HRM is not being inputted into the CROMS database. RCMP has requested time to have a Privacy Impact Assessment conducted in relation to this matter. Another point of note is that it is anticipated CROMS will interface with the provincial government in the future.

Staff intends to update the jurisdictional scan and comparative statistics outlined in the consultant's report summarized in the introduction of this report. In order to continue to track where Halifax fall in relation to other jurisdictions, it is anticipated that the study be updated every three years.

ENGINEERING

This past year saw an increased focus on pro-active assessment coupled with the implementation of various initiatives and equipment / infrastructure upgrades. Activities were guided by the objectives set out in the 2014/2015 Pedestrian Safety Action Plan as well as goals outlined in the Crosswalk Safety Work Plan produced by the Crosswalk Safety Advisory Committee.

LOOKING BACK ON 2014

Signalized Intersections

Work continued on the installation of pedestrian count-down timers at intersections where the pedestrian crossing distance is 14 m or greater. In addition to the installation of pedestrian count-down timers, efforts to adjust traffic signal timings to increase pedestrian crossing times, based on a reduced walking speed of 1.0 m/s, continued. Approximately 40% of signalized intersections have had signal timings adjusted as of the date of this document and work to complete the adjustments at all locations will continue.

RA-5 Crosswalks

As per the objective outlined for 2014, staff completed assessments of all 182 RA-5 crosswalk locations. The assessments focused on accessibility (pedestrian ramps, push button locations, appropriate hard surface, etc.), visibility (sight obstructions, pole locations, lighting, etc.), equipment (flashing beacons, controllers, down-lighting, etc.) and crosswalk warrant. A prioritized list of locations requiring upgrades was produced along with cost estimates to carry out the proposed upgrades for inclusion in future budgets, which is outlined in the Moving Forward section of this plan.

In conjunction with the assessment program, staff also completed equipment upgrades at existing RA-5 locations in 2014, including:

- All locations with existing overhead flashing beacons were upgraded to larger 300 mm lights (previously 200 mm)
- All locations equipped with pedestrian activated flashing beacons had timings adjusted to provide for increased walking time (flash time) based on the reduced walking speed of 1.0 m/s
- All locations equipped with pedestrian activated flashing beacons will have had controller upgrades to allow for pedestrian extension of the walk time (flash time) by the end of 2014
- LED down-lighting modules have been ordered and an installation program will begin when the equipment is received

Uncontrolled, Marked Crosswalks

These crosswalks include any marked crosswalk not associated with a traffic control device (traffic signal or stop sign). Requests for new marked crosswalks are assessed when they are received and as part of the capital project review process, existing locations reviewed when a capital works project occurs at the crosswalk location to determine if improvements/upgrades (new/adjusted pedestrian ramps, new/adjusted signage, re-located/adjusted, etc.) are required or if the crosswalk should be removed based on volume (vehicle and pedestrian) or safety concerns because of the location. The following table shows the number of crosswalks that were installed, upgraded or removed in 2014.

Uncontrolled Marked Crosswalks (2014)	
Installed	6
Upgraded	13
Removed	3

In addition to assessments done as part of capital works projects, staff also carried out visual inspections of the side mounted RA-4 signs at all 300+ uncontrolled, marked crosswalk locations. Inspections focused on location of the post/sign for optimum visibility and visual assessment of the reflectivity of the sign. As a result of the inspections, work orders have been submitted to have signage replaced at 133 locations in 2014. Remaining locations that have been identified as requiring signage adjustment or replacement will be completed through the regular maintenance program.

The 2014 pavement marking program was expanded to include the addition of zebra markings at all 500+ uncontrolled, marked crosswalk (this includes RA-5) locations to help improve visibility of the crossing. This upgrade was in addition to any other measures identified through other programs or initiatives already described.

Pavement Marking Maintenance at Crosswalks

As part of the 2014 pavement marking program, staff began using a new paint that appears to be performing well to date and allowed for a broader range of application conditions. This resulted in the expansion of the pavement marking program so that pavement markings in the downtown areas were re-painted a second time during the fall where they would normally only be painted once during the pavement marking program.

MOVING FORWARD IN 2015/2016

Signalized Intersections

Staff will complete signal timing adjustments to provide for increased pedestrian crossing time at all signalized locations as well as continue with the installation of count-down timers at locations where the crossing distance is 14 m or greater.

RA-5 Crosswalks

Using the evaluations completed in 2014, staff has produced a list of all existing RA-5 locations with their associated upgrades identified based on Traffic Management's updated standard for RA-5 crosswalks. The updated standard includes:

- 300 mm beacons (increased from 200 mm)
- Additional side-mounted flashing beacons
- Brighter LED down-lighting modules
- Controllers allowing for pedestrian extension of the walk (flash) time
- Poles located downstream from approaching traffic
- Accessibility of push button and pedestrian ramp



RA-5 Crosswalk on Cole Harbour Road at Bissett Road – Before and After Lighting and Signage Upgrades

Preliminary cost estimates have been prepared for each location based on the upgrades required and then all locations have been prioritized considering the required upgrades and warrants. The upgrades required at each location range from the relatively minor, such as addition of LED down-lighting modules or adding side mounted flashers, to near complete reconstruction, or removal, of the entire facility.

Based on the preliminary costing, it is estimated that upgrading all RA-5 locations would cost approximately \$4.3 million. Considering all 182 RA-5 crosswalks, this would be an average of approximately \$23,500 per location. Given that the collision statistics illustrate a low incidence of pedestrian collisions occurring at RA-5 crosswalks, staff is recommending that instead of implementing a capital program to carry out the upgrades, work could be done through integration with other capital projects and through regular maintenance programs. This would enable completion of the upgrades at all locations, where conditions permit, within existing capital and operating budgets by taking advantage of integration opportunities and reducing costs.

Rectangular Rapid Flashing Beacons (RRFB)

The Transportation Association of Canada (TAC) is currently reviewing rectangular rapid flashing beacons (RRFB) as a crosswalk treatment to bridge the gap between standard marked crosswalks and special crosswalks (overhead flashing RA-5 and pedestrian half signals) in terms of structure and cost. The study has not yet been completed, but initial information contained in an interim report indicates very good rates for compliance of drivers yielding to pedestrians at locations where a standard crosswalk has been upgraded to include RRFB modules.

As part of the assessments that were completed for all 500+ marked, uncontrolled crosswalk locations, staff identified potential locations that may be appropriate for the installation of RRFB equipment. Although this treatment is not currently included in the TAC Pedestrian Crossing Control Guidelines, staff recognizes the potential benefit to including this equipment as an enhancement to existing crosswalks. Locations would include standard RA-4 crosswalks (those with side mounted signs and zebra markings) where it has been determined, based on conditions at the particular location that the installation of an increased level of control may be beneficial, but would not be appropriate for an overhead RA-5. Similarly, some older RA-5 locations that do not meet the standards to have an RA-5 installed, but could



benefit from a treatment above the standard RA-4 infrastructure would be considered for replacement of the RA-5 equipment with RRFB.

RRFB Crosswalk Treatment

Policies and Standards

In 2014, staff engaged their counterparts with the Province about use of fluorescent yellow-green crosswalk signs. A project initiation form was submitted to TAC, and approved in September, to investigate the use, and potential inclusion, of these signs in the national standard. Staff will continue to engage the Province about this type of signage and track the progress of the TAC project.

Staff recently initiated the process to develop a policy on traffic calming for residential streets. Although this policy would not be considered to be directly related to crosswalk safety, the secondary benefits of reduced vehicle speeds would generally lead to improved safety in and around crosswalks in residential neighbourhoods. It is anticipated that the draft policy will go before the Transportation Standing Committee in 2015.

Initial observations of the durability of the new paint being used for pavement markings are showing positive results. The new paint appears to be holding up fairly well and moving forward, it is intended to continue with the expanded pavement marking program which will see the downtown areas painted twice each pavement marking season.

Staff will continue to use the warrants outlined in the TAC Pedestrian Crossing Control Guidelines when assessing requests for the installation of marked crosswalks or when assessing existing marked crosswalk locations for potential upgrade or removal. This guide was produced through extensive research into best practices followed by municipalities and jurisdictions across Canada with the main objective of promoting uniformity in the approach used when providing pedestrian crossing control, while improving road safety for pedestrians.

Measures such as use of zebra crosswalk markings, addition of side-mounted flashers, increased size of flashing beacons, replacement of old/faded crosswalk signs, improved down-lighting, etc. as outlined

above and in the 2014/2015 Pedestrian Safety Action Plan combine to increase crosswalk visibility at uncontrolled, marked crosswalks.

EDUCATION

Pedestrian safety requires the efforts of individuals involved with each of the “Three E’s – Engineering, Education and Enforcement”. As a result, efforts to educate and inform the public are shared among several groups, each providing information related to their specific areas of expertise, and coordinated through a broad campaign drawing on expertise as to how best get the message out.

LOOKING BACK ON 2014

The CRA survey conducted in early 2014 after the last public awareness campaign showed that running a campaign longer and more frequently would directly contribute to achieving the goal of influencing positive motorist and pedestrian behaviors by raising awareness of the individual responsibility for safety we all share in Halifax. To that end, two six-week campaigns with a total budget of \$170,000 were planned for fall 2014 and spring 2015.

The campaign would be insight-driven, be applicable to all the ways that people move around Halifax, and be based on a flexible creative platform that could support diverse pedestrian and traffic safety topics.

While the original Pedestrian Safety Action Plan indicated that the existing Distraction Kills campaign concept would be reused in 2014-15 to leverage cost efficiencies with creative development, the call to action in this campaign proved too weak to sustainably support the education goals of the Plan. Distraction Kills is also not aligned with the new master brand platform that has since been adopted by the municipality. Corporate Communications worked with the Crosswalk Safety Advisory Committee to develop a new campaign theme based on the call to action Heads up Halifax, which is a naturally recognizable and compelling messaging to be alert and avoid danger. It also can be a direct reference to asking people to get their heads up from the handheld devices that are often associated with distracted drivers and pedestrians (texting, phone calls, etc.).

The campaign leveraged Heads-Up Halifax creative elements and messages through print, broadcast, digital and social media. The concept was also used to promote the Crosswalk Safety Awareness Day event on November 5th, using key messages, creative development and media buy from the broader campaign elements. The activities for the day included:

- Safety messages released through a number of media channels
- Participation by the Mayor and members of Regional Council, representatives from Halifax Regional Police, volunteers, local businesses and schools helping to engage citizens at crosswalk locations throughout the municipality
- Campaign-branded items distributed including *Did You Know?* postcards with facts and insights that would increase public awareness of the circumstances associated with vehicle-pedestrian collisions

CRA undertook a pre-wave survey for the Heads-Up Halifax campaign in October 2014, and the results will serve as a benchmark for ongoing survey results. These results reveal that the topic of traffic safety

is clearly a high profile issue among Haligonians, with a strong majority of residents reporting having recently seen or heard advertisements and/or messaging related to pedestrian, cyclist or driver safety. The first phase of this study also revealed a clear majority of residents perceive the responsibility of road and sidewalk safety to reside at the individual level and is shared among everyone. In the survey, half of the municipality's motorists reported having been distracted while driving in the past month, while only a small number of pedestrians reported having been distracted while walking through a marked or unmarked crosswalk in the past month. That said, there appears to be higher concern regarding pedestrian safety in locations involving unmarked crosswalks compared with marked crosswalks specifically.

Residents expressed less confidence that pedestrians and vehicles will stop and check to ensure that an area is clear when using an unmarked crosswalk compared to a marked crosswalk. There also appears to be some notable confusion as to whether or not pedestrians have the right of way when using an unmarked crosswalk, with fewer than half of residents correctly indicating pedestrians have the right of way when using an unmarked crosswalk.

The first phase of this research reveals that the issue of traffic safety remains an area of growing concern amongst municipal residents. When comparing the 2014 pre-wave results to the post-wave results from the 2013 Crosswalk Safety Study it appears a growing number of residents are not confident that vehicles will stop when they are walking through both marked and unmarked crosswalks. Moreover, results from this current phase of research reveals there may be opportunities to raise awareness on certain issues, particularly among specific segments of the population – namely, males, younger residents and employed residents.

CRA also conducted a post-wave survey for the Heads-Up Halifax campaign in November 2014. Results from this survey show strong recall, message awareness, changes in attitudes, etc.

Halifax Regional Police and Halifax District RCMP fully participated in and supported both major communications campaigns regarding pedestrian safety and the concept of shared responsibility of drivers and pedestrians for road safety. HRP and RCMP provided funding for the Distractions Kill campaign, provided communications support and created/purchased supporting communications collateral in the form of reflective armbands which contained the campaign website, HRP, HRM and RCMP logos and the verbiage, "I see you. Do you see me?" This campaign was promoted through a media release as well as social media posts, which included locations of officers for the armband giveaways. For the Heads Up Halifax campaign, HRP's involvement was more grassroots; the HRP Public Relations team was involved in discussions on the creative concepts, provided verbiage and statistical information to support the campaign, and created guidelines for the Crosswalk Captains regarding their role. The RCMP supported the campaign by placing the Head Up Halifax logo on our vehicles within the District and shared messages on social media. The Integrated Traffic Unit supported both of these campaigns from an operational perspective, distributing educational material and communications collateral, and enforcing the rules of the road.

The Halifax Regional Police Public Relations Unit and RCMP Strategic Communications Unit educated the public through the use of various communication campaigns and vehicles. Beginning in December 2013, HRP and RCMP communications staff issued a media release for every pedestrian-motor vehicle collision, regardless of the circumstances and whether there were injuries or not. Effective August 2014, we modified the reporting process whereby media releases are only issued when a vehicle/pedestrian collision results in injuries requiring transport to hospital. In addition, a media release is issued at the

start of each month containing an analysis of all pedestrian/vehicle collisions for the previous month, including the ones already reported. This analysis includes the number of collisions, time and day of the week, weather conditions, if the collision occurred at a crosswalk; any injuries, if a ticket was issued, age and gender of pedestrians and drivers and locations of collisions, including maps. All incidents involving a pedestrian being struck by a vehicle are a part of the monthly analysis, including collisions that occur in marked and unmarked crosswalks, in the roadway but not at a crosswalk, and in parking lots. This new and improved way of reporting collisions streamlines the process while providing citizens with a better understanding of the circumstances surrounding collisions. The monthly reports and the accompanying media release are posted to HRP's website and HRP and RCMP social media sites (Facebook and Twitter).

Each year, Halifax Regional Police sets monthly traffic themes to be followed by the Patrol Division, which encompasses the Integrated Traffic Unit. The officers in the Traffic Unit issue educational materials and communications collateral, when available, in relation to the monthly traffic themes during checkpoints. From a communications perspective, the HRP Public Relations Unit issues a monthly media release and creates accompanying social media postings. The messaging highlights the current month's theme and related safety messages as well as the number of tickets issued in relation to the previous month's theme. Of note this year was that the theme for March 2014 was pedestrian safety. The Public Relations Unit also issued media releases for specific prevention and/or enforcement activities. For example, in September when the Integrated HRP/RCMP Traffic Unit was focussed on school zone safety, the HRP Public Relations Unit issued a number of media releases and created accompanying social media posts in relation to 10 school zone-related infractions, with a particular emphasis on tickets issued when drivers were not stopping for school buses and were putting school-aged pedestrians in harm's way.

HRP has offered local journalists a number of opportunities to ride-along with the Integrated HRP/RCMP Traffic Unit. As a result, media have attended road checks and interviewed Traffic Unit officers on the road. The most recent television spot was on CTV news on the subject of distracted driving, for which officers seized the opportunity to discuss the impact of distracted driving on pedestrian safety.

The HRP Traffic Cop Facebook page and Twitter feed were relatively active for the first six months of year, however, this activity dropped off significantly when one of the officers left the Integrated Traffic Unit in the summer for a United Nations Peacekeeping Mission. These social media sites are an ideal venue for communicating about pedestrian safety and the rules of the road and will be reinstated.

The Traffic Unit was invited to attend the Chief's Professional Executive Development meeting in March 2014 along with members of the HRP and RCMP management teams as the presenter was crosswalk safety advocate Norm Collins. Further, Cst. Ray Quesnel of the HRP/RCMP Integrated Traffic Unit attended a community meeting in North-end Dartmouth, where he addressed crosswalk safety and other issues. Additionally, Sgt. Reynolds, who was the Sergeant in charge of the Traffic Unit until his retirement in July, conducted a presentation on distracted driving at the Westin Hotel during a safety conference sponsored by Safety Services Nova Scotia.

MOVING FORWARD IN 2015/2016

Given the success of the Heads-Up Halifax campaign concept, staff will continue sustaining the awareness campaign building upon the momentum of the current creative and messaging approach, with ongoing pre- and post-campaign surveys to help evaluate how effective and relevant the approach

is in ultimately influencing ongoing positive behaviour change among all users of the roadway, with a particular emphasis on the circumstances and implications associated with crosswalk-related collisions.

HRP and the RCMP are committed to continuing to play a key role in Corporate Communications' campaigns on pedestrian safety and shared responsibility of pedestrians and motorists for road safety. HRP Public Relations will continue to issue communications in relation to the monthly traffic theme as well as the monthly pedestrian-vehicle collision data.

The Integrated Traffic Unit is requesting more robust communications collateral to support officers' role in educating the public about the rules of the road, with an emphasis on enhancing citizens' knowledge about the shared responsibility of pedestrians and motorists for road safety and decreasing distracted driving.

The HRP Traffic Cop social media sites will be reinstated, regularly populated with information and used as a key means to communicate with citizens about pedestrian safety and the rules of the road. These posts will also be cross-promoted through HRP's corporate social media Facebook page and Twitter feed.

ENFORCEMENT

LOOKING BACK ON 2014

In its annual Traffic Safety Plan, Halifax Regional Police sets monthly traffic themes to be followed by the Patrol Division, which encompasses the HRP/RCMP Integrated Traffic Unit. In 2014 the HRP/RCMP Integrated Traffic Unit themes were aligned with the RCMP in Nova Scotia as much as possible, understanding that some deviations were necessary to address the differences between urban and rural environments. They were as follows:

- January: driving for conditions
- February: seatbelt enforcement
- March: crosswalk safety and impaired driving
- April: inattentive/distracted driving
- May: bicycle and motorcycle safety
- June: speeding and impaired driving
- July: speeding
- August: child restraints and seatbelts legislation
- September: back-to-school safety/school bus safety
- October: inattentive/distracted driving
- November: crosswalk safety
- December: Operation Christmas (impaired driving)

In March 2014, the Integrated Traffic Unit, Community Response Officers and Patrol Officers participated in the Distractions Kill campaign and distributed reflective armbands to citizens at major intersection in downtown Halifax with a high volume of pedestrian traffic.

From May 13-16, 2014, Traffic Unit officers conducted education and enforcement efforts during National Road Safety Week, an annual campaign conducted by police agencies across the country. Officers conducted numerous checkpoints to address distracted driving violations and speeding. They also attended major crosswalks with a high volume of pedestrian traffic to address violations and handed out another 1000 reflective armbands.

As is noted above, the September traffic theme was school zone safety. The Traffic Unit, Community Response Officers and School Liaison Officers spent a considerable amount of time in school zones monitoring speed, parking, and crosswalks as well as school buses picking up and dropping off children. With a focus on education over enforcement, Officers in the Traffic Unit handed out pamphlets on safety around school buses and conducted park and walks around schools. They also issued ten tickets for school zone-related offences, with these enforcement efforts communicated to the public via a media release and social media posting. This enforcement in school zones received significant media attention.

Recognizing that distracted driving is a key contributor to collisions based on our data and other studies, the Traffic Unit combined education and enforcement as part of their efforts in October when the monthly theme was inattentive/distracted driving. They held two mini enforcement blitzes on two separate dates and issued 30 and 24 tickets respectively. Of note is that officers in HRM have issued over 1,800 tickets so far this year (and over 12,000 since the law came into effect in 2008) for using a

mobile device while operating a vehicle, an offence which largely contributes to distracted driving and jeopardizes pedestrian safety.

The HRP/RCMP Integrated Traffic Unit was actively involved in the Heads-Up Halifax campaign on Crosswalk Safety Day on November 5th, and conducted high-visibility proactive educational checkpoints for drivers near a number of crosswalks to help promote the event and reinforce campaign messaging about the importance of shared responsibility around pedestrian safety. So far this year, officers in HRM have issued over 250 tickets to drivers and pedestrians for violations in and around crosswalks.

MOVING FORWARD IN 2015/2016

In addition to the monthly themes, the 2015 Traffic Safety Plan will be more robust in relation to communication, prevention and enforcement initiatives for each month, building on the monthly themes used in 2014. HRP will continue to report to the Board of Police Commissioners monthly on these themes and related education and enforcement efforts. It is important to note that the monthly themes do not preclude officers from addressing other traffic safety infractions; throughout the year, the HRP/RCMP Integrated Traffic Unit will continue to execute targeted enforcement in relation to on-going issues, including cell phone violations/distracted driving, crosswalks and jaywalking, speeding, etc. to encourage behavioural changes.

HRP and RCMP will continue to deploy the Traffic Unit to known problem areas based on intelligence-led-policing and conduct significant enforcement efforts.

ENGAGEMENT

LOOKING BACK ON 2014

Community Engagement / Collaboration

Over the course of 2014, Traffic Management staff has begun collaborating with community groups and crosswalk safety advocates in the placement of crosswalk flags at various locations. This initiative is completely community driven, and all costs associated with their installation and maintenance is covered by the particular community group. Traffic Management staff provided advice and guidance in the placement of the flag installations in order to ensure safety and consistency.

Crosswalk Safety Advisory Committee

The Crosswalk Safety Advisory Committee continued to provide a key public engagement role related to pedestrian safety throughout 2014. The Sergeant in charge of the Integrated Traffic Unit, along with staff from Traffic Management attended all meetings of the Crosswalk Safety Advisory Committee over the past year, and both Police and Traffic Management have assigned staff to progress the recommendations of the Crosswalk Safety Action Plan that fall within each of their respective areas of responsibility.

Police/Traffic Engineering Meetings & Interdepartmental Coordination

These meetings include senior managers in HRP, HRM Corporate Communications and Traffic Management discussing traffic related issues, including crosswalks and pedestrian safety on a regular basis, which has led to clarity in requests for data and suggestions for improvement in the overall information flow between the key players. As a result, the dialogue has progressed from pedestrian safety to a more holistic and strategic focus on overall traffic safety in our community.

Collision Reporting Centre

On September 10, HRP announced an initiative which provides an enhanced level of service when reporting motor vehicle collisions. Citizens who are involved in an accident that doesn't require an officer to come to the scene, can drive their vehicle or have it towed to the Halifax Collision Reporting Centre located at Police Headquarters, 1975 Gottingen Street in Halifax. Staff members help citizens complete an electronic copy of the police collision report and take photos and measurements of the damage to their vehicle. This information can be shared electronically with insurance companies, resulting in a faster insurance claim response. The centre is part of the pilot phase of a partnership between Accident Support Services International Ltd. (ASSI) and Halifax Regional Police. The ASSI model increases efficiency and data integrity and reduces insurance fraud. In addition to enhanced service to citizens, through its Microsoft award-winning Collision Reporting and Occurrence Management System (CROMS), ASSI provides real-time access to collision data and reports for police agencies and participating insurance companies. Traffic Management will also have access to this system, providing for enhanced, up-to-date information to be used in assessing collision locations and identifying trends in order to determine if, where, and what engineering countermeasures are required.

Collaboration with Other Groups and Organizations

Traffic Management will be participating in an “Idea Café”, open house style meeting being held by Dalhousie’s transportation research group DalTraC in early 2015. This session will provide an opportunity for staff to provide information and share ideas as it relates to pedestrian and traffic safety.

The Province is continuing with a project to update and modernize the MVA through a major rewrite that will see the current Motor Vehicle Act replaced by the Traffic Safety Act. Traffic Management staff work closely with their Provincial counterparts and will provide input, where appropriate, into the drafting of the new Traffic Safety Act which is anticipated to incorporate a definition of the role and responsibility of the Traffic Authority as it fits with the new Act.

Traffic Management will continue to collaborate with community groups interested in installing crosswalk flags at locations within Halifax as well as monitor any issues that may arise from their placement.

Police/Traffic Engineering Meetings & Interdepartmental Coordination

Collaboration will continue among HRP, HRM Corporate Communications and Traffic Management to continue the dialogue on traffic safety from a holistic and strategic perspective.

Collision Reporting Centre

HRP will evaluate the one-year pilot project with ASSI in the third quarter of 2015 to determine if will continue and/or expand.

Crosswalk Safety Advisory Committee

In 2015, staff will continue to support the Crosswalk Safety Advisory Committee and its activities recognizing the committee as the key public engagement conduit feeding into future revisions of this plan.