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**Item No. 12.1.1**  
**Transportation Standing Committee**  
**June 14, 2016**

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

Original Signed

**SUBMITTED BY:**

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

**DATE:** May 20, 2016

**SUBJECT:** **Side Guard Protection on HRM Fleet**

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**ORIGIN**

At its meeting on March 24, 2016 Transportation Standing Committee requested a staff report that:

- a) Assuming all new heavy trucks shall be equipped with side guards, outlines the annual additional cost required to ensure all trucks are equipped with side guards by 2022, starting in fiscal 2017/18.
- b) Outline the cost and legal authority of requiring long-term contractors (such as garbage collection and snow removal) to install side guards on all heavy vehicles.
- c) The cost and legal authority of requiring all city-contracted (including hourly/daily jobs) vehicles to be equipped with side guards.

**LEGISLATIVE AUTHORITY**

*Halifax Regional Municipality Charter ("HRM Charter")*, subsection 61(3) "The property vested in the Municipality, absolutely or in trust, is under the exclusive management and control of the Council, unless an Act of the Legislature provides otherwise."

*HRM Charter*, subsection 75(1) "The Municipality may agree with any person for the provision of a service or a capital facility that the Municipality is authorized to provide."

**RECOMMENDATION**

It is recommended that the Transportation Standing Committee recommend that Regional Council:

1. Direct staff to require side guard protection to achieve an approximate maximum ground clearance of 350mm, except where impractical, on:

- a. vehicles over 4500kg purchased or leased by Halifax Regional Municipality after April 1, 2017, and;
  - b. contracted service provider vehicles over 4500kg on contracts awarded after April 1, 2017; and,
2. Direct staff to include sufficient funding in the preliminary 2017-18 Budget and Business Plan to acquire side guard protection on all appropriate vehicles purchased by, leased by, or contracted to deliver service to Halifax Regional Municipality; and
  3. Direct staff to submit a report to Transportation Standing Committee in mid-2018 detailing:
    - a. the status of side guard protection implementation at that time; and
    - b. recommendations on a retrofit program to complete the implementation of fleet vehicles not subject to replacement by 2022; and,
  4. Request that Halifax Water Commission review and report to Regional Council on the application of side guard protection to their fleet and contracted vehicles for 2017 and beyond.

## **BACKGROUND**

Large truck crashes are more likely to result in a pedestrian or bicyclist fatality than crashes involving passenger vehicles and more likely to be side-impact crashes. Side guards are vehicle-based safety devices that prevent pedestrians and cyclists, and in some instances motorcyclists, from falling into the exposed space between the axles of trucks with high ground clearance.

In a recently published report by the United States National Transportation Systems Center prepared for the City of New York (NYC), a review of available information related to side guard design and crash outcomes in countries requiring these safety devices indicated that, "the safety effectiveness of side guards has been well established." The fatality rate for bicyclists and pedestrians colliding with the side of a truck decreased by 61% and by 20%, respectively, following a national side guard requirement in the United Kingdom in the 1980s.

The City of New York reviewed regulatory and voluntary side guard precedents, as well as existing international technical specifications, to develop a foundation for NYC-based side guard standards. The review tailored the recommendations to focus on the most relevant types of vehicles in NYC's municipal fleets. These recommendations build upon existing European and United Kingdom side guard standards and are intended to advance the Safe Fleet Transition Plan for NYC fleet vehicles. This is the largest potential truck side guard pilot deployment for bicyclist and pedestrian safety in the United States.

Recognizing the diversity of vehicle types used by a municipality, the New York City review identified those types that may be exempted from side guard requirements:

- Street Sweepers
- Fire engines
- Car carriers
- Snow Clearing Equipment
- Special purpose vehicles where side protection is impractical

## **DISCUSSION**

### **HRM Vehicles**

The municipality has approximately 83 heavy vehicles in its fleet to which side guard protection would be applicable. These vehicles generally have service lives of between 7 and 12 years. In any given year approximately 10 to 14 per cent of these vehicles are replaced.

Should Regional Council wish to implement side guard protection, staff would recommend that side guards be incorporated into the technical specifications when purchasing new vehicles/equipment. Staff does not recommend a retrofit program of existing vehicles at this time, because side guard protection is still in the early stages in North America and the industry specifications and senior government regulations will continue to evolve.

Vehicle manufacturers have not consistently adopted side guard protection equipment as part of their normal equipment offering. The approach recommended by staff will place the responsibility for equipment selection and installation with the vehicle supplier, and reduce the need for the municipality to be responsible for integration. To estimate the additional vehicle purchase cost with side guard protection included, staff applied the average retrofit cost of \$4,000 per vehicle. This would apply to between 9 to 12 vehicles per year, for an estimated total additional cost of up to \$ 50,000 (including net HST) annually. At this rate, between 60 and 84 percent of the fleet would be equipped by 2022. To achieve 100 per cent implementation by 2022, staff recommends that they report back in 2018 on the progress and the state of the industry with a recommendation on retrofitting fleet vehicles which will not be replaced by 2022.

### **Contracted Service Provider Vehicles/Equipment**

The municipality contracts with a large variety of service providers who use heavy trucks to deliver service to the municipality. Examples of these contracted services include snow and ice clearing, road and facility construction, and waste management collection. Some of these vehicles due to their current design already have a maximum ground clearance of 350mm; and, other vehicles (e.g. loaders used for snow clearing) could not be equipped with side guard protection without interfering with their intended operation.

During the procurement process the municipality could include the requirement, where appropriate, to equip vehicles with side guard protection to meet contract specifications. Since side guard protection is not commonly present on most heavy trucks operating in Halifax today, it is anticipated that the retrofit cost to contractors would initially be included in the tender offers until the collective fleets are equipped.

The municipality has a large number of contracts with a variety of contract specifications and completion timeframes. For example, there are 34 winter snow and ice clearing contracts renewing after the 2016/2017 season. Two of these are street snow and ice control contracts that currently use approximately 10 heavy trucks to deliver the service. Another four snow and ice contracts expire after the 2018/19 season but contain options to extend up to 2022/23. Side guard requirements could be included in the renewal contracts impacting approximately 75 additional vehicles.

## **FINANCIAL IMPLICATIONS**

The average side guard protection retrofit cost per vehicle is estimated at approximately \$4,000. It is assumed the incremental additional cost to purchase a new vehicle equipped with side guards will be similar. Based on this assumption, the estimated total additional annual cost applicable to fleet replacement vehicles will be up to \$50,000 (net HST included).

Should Regional Council direct staff to implement a change, staff will include sufficient funds in the preliminary 2017/18 Budget and Business Plan submission to Regional Council.

The incremental cost to contracts resulting from a side guard protection requirement is difficult to predict accurately and will vary from year to year depending upon contract renewal timeframes.

**RISK CONSIDERATION**

There are no significant risks associated with the recommendations in this Report. The risks considered rate Low. To reach this conclusion, consideration was given to operational and financial risks.

**COMMUNITY ENGAGEMENT**

No community engagement has taken place.

**ENVIRONMENTAL IMPLICATIONS**

There are no environmental implications associated with this report.

**ALTERNATIVES**

Transportation Standing Committee could recommend that Regional Council direct staff to retrofit with side guard protection all or some portion of the fleet not subject to replacement each year; and/or direct staff to negotiate with existing contracted service providers the retrofitting of side guard protection to their vehicles as of a specified date. Staff does not recommend either of these alternatives because side guard technology and usage is not yet mature in North America; and, retrofitting reduces clear lines of responsibility should issues arise. Accordingly staff has recommended that this be re-visited after gaining some direct experience.

**ATTACHMENTS**

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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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