Opportunities to Support Legislative Changes to Reduce Driver Blind Spots for Heavy Duty Trucks to Improve Road Safety

ISSUE

This report outlines the Administration's findings regarding potential opportunities for the City and City Council to influence changes to commercial vehicle standards and relevant regulations that would reduce driver blinds spots.

BACKGROUND

City Council, at its Regular Business Meeting held on April 24, 2024, considered the Road Safety Audit – College Drive and Wiggins Avenue report and resolved, in part:

> "2. That Administration report back on opportunities for the City and Council to support changes to commercial vehicle standards and relevant regulations that would reduce driver blind spots."

CURRENT STATUS

In Canada, the primary act that regulates motor vehicle safety is the federal Motor Vehicle Safety Act (MVSA). The MVSA provides the legislative framework to regulate the manufacture and importation of motor vehicles and motor vehicle equipment to reduce the risk of death, injury and damage to property and the environment.

Transport Canada (TC) is responsible for transportation policies and programs that promote safe, secure, efficient and environmentally responsible transportation. As part of their role, TC conducts research projects and studies, and these research findings may influence changes to existing legislative and regulatory frameworks. Research is the foundation before recommendations for legislative changes are brought forward.

TC officials have indicated that various approaches can be taken to reduce the risks for vulnerable road users. They have provided information on the effectiveness of different controls for mitigating the risk of collisions involving commercial vehicles and vulnerable road users. The hierarchy of controls from the most to least effective is found in Appendix 1. Briefly, the hierarchy illustrates that elimination of risk through infrastructure is the most effective control, while protective equipment provides least effective control.

The Administration has initiated a pilot project in 2024 to assess two different types of pedestrian and cyclist proximity detections systems as potential options for enhanced visibility for heavy duty trucks. The pilot project is ongoing and expected to be completed in 2025. The findings and recommendations of the pilot project will be brought forward to this Committee in a separate report and shared with TC to obtain feedback.

DISCUSSION/ANALYSIS

TC has been testing advanced vehicle technologies offered on the Canadian market for the last 16 years to assist regulator and policy initiatives. The Administration met with representatives from TC to gain an understanding of the research that has been done to date on interactions between commercial vehicles and vulnerable road users. TC has completed research on crash protection for vulnerable road users using side guards and found this type of intervention to be ineffective (see Appendix 1).

TC's recent studies focused on detection technologies, such as ultrasonic, radar, 360-degree video cameras, smart cameras and combinations of these sensors. These studies indicate that existing technologies have not fully matured to mitigate the risks of vulnerable road users being hit by turning commercial vehicles; however, technology is rapidly developing. TC is pursuing the evaluation of latest technologies as they can gain access to them. TC is also researching how to contextualize advances in Europe for the North American industry, such as:

- Direct visibility calculations (i.e., defining parameters for the assessment of direct visibility for North American truck configurations).
- Moving-off technology (i.e., systems that detect people and obstacles close to the front of the vehicle in situations involving moving-off and low-speed maneuvers).
- Direct vision cabs, etc.

The findings of this research will be used to help inform federal motor vehicle safety policy and potential legislative or regulatory changes. TC has indicated that the potential implementation of the new technologies and systems through deployment of legislative/ regulatory changes would likely occur over several years, possibly spanning a decade. Based on conversations with TC officials, there are no immediate legislative or regulatory changes to pursue aimed at reducing driver blind spots for heavy duty trucks.

However, given the existing legislative and regulatory framework in Canada for motor vehicle safety, the Administration believes that the most effective action would be to assist TC in field operational tests. The Administration has indicated a willingness to partner with and support TC on applicable research. This would be achieved by offering the use of the City's vehicles to collect real-world data in any upcoming studies, as well as by collaborating on the pilot project recently initiated by the Administration.

FINANCIAL IMPLICATIONS

There are no financial implications to the City for the collaborative efforts with TC outlined in this report. This work will be undertaken within existing budgets.

If funding is required for additional collaboration or research with TC, Administration will submit a funding request through the Multi-Year Business Planning and Budget deliberations process.

OTHER IMPLICATIONS

There are no other implications.

NEXT STEPS

Unless otherwise directed, the Administration will support Transport Canada's research initiatives related to the vulnerable road user detection technologies and direct visibility for heavy duty trucks through collaboration and information sharing as outlined in this report.

The Administration will report back to the Standing Policy Committee on Transportation as new information emerges and/or direction from City Council is required.

APPENDICES

1. Hierarchy of Controls Example from Transport Canada

Report Approval

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