



**i** Transport Canada is closely monitoring the COVID-19 situation. In response, we have issued some transportation-related measures and guidance. Please check if any of these measures apply to you.

You may experience longer than usual wait times or partial service interruptions. If you cannot get through, please contact us by email.

For information on COVID-19 updates, please visit [Canada.ca/coronavirus](https://Canada.ca/coronavirus).

## Joint Guidance Document Transport Canada and CSA D250 School Bus Technical Committee

---

### Purpose

To provide guidance to those considering the installation of a shield or enclosure system with the intent to protect a school bus driver from exposure to COVID-19.

### Context

In some cases, school bus operators may consider adding shields or enclosure systems to limit the spread of COVID-19 between the driver and children during boarding or off-loading the school bus and the duration of the trip. In certain scenarios, these types of protective barriers, made of transparent materials, have been installed in an attempt to offer protection where a two metre physical distance is not possible. As these measures are considered in the context of a school bus, it will be important to weigh their benefits against additional risks they may create (such as during a collision or emergency situation).

Transport Canada is responsible for establishing the Motor Vehicle Safety Regulations, which include specific safety requirements for school buses, such as occupant protection, body joint strength, rollover protection, structural integrity, bus window retention, release and emergency exit requirements, as well as pedestrian safety devices, brake systems and stability control. Similar to other classes of vehicles, school buses must also meet requirements for lighting, tires, wheels, mirrors and other safety equipment. Newly manufactured and imported vehicles are subject to the requirements of the Motor Vehicle Safety Regulations at the time they are manufactured or imported. The CSA D250 School Bus Standard is a manufacturing standard intended to apply to original equipment supplied by the bus manufacturer. Any equipment installed on a school bus by original equipment manufacturers are subject to all applicable Canadian Motor Vehicle Safety Standards under the Motor Vehicle Safety Regulations and to applicable CSA D250 Standards.

During the global COVID-19 pandemic, Transport Canada remains committed to its top priority: the safety and security of Canadians and Canada's transportation system, as well as ensuring the continued flow of essential goods and services that Canadians need to remain healthy. COVID-19 measures, updates, and guidance for road issued by Transport Canada are available here: <https://www.tc.gc.ca/en/initiatives/covid-19-measures-updates-guidance-tc/covid-19-measures-updates-guidance-tc.html>.

Although both Transport Canada and CSA standards apply to the manufacture of a vehicle, this guidance is being issued to help decision makers determine what should be considered should they choose to equip a school bus with a shield or enclosure intended to protect a driver from exposure to COVID-19.

In the particular context of COVID-19, there are different measures which provide a varying degree of protection against infection. This document does not include information related to Personal Protective Equipment such as medical and non-medical masks, face coverings, eye protection or gloves, or other measures and interventions to reduce the risk of exposure to COVID-19 to drivers and passengers (please refer to Transport Canada COVID-19 Guidance page above). All those involved in the road transportation system should follow advice and recommendations published by local and national public health authorities. For the efficiency of shield and enclosure systems to limit the spread of COVID-19 please refer to public health authorities. Information regarding COVID-19 continues to evolve and as such this guidance will be updated as appropriate.

### **Shields and Enclosure System Safety Considerations**

As decision makers consider adding shields or enclosure systems to limit direct contact between the driver with children boarding the school bus, it will be important to weigh their benefits against additional risks they may create including affecting the driver's field of view, access to controls and equipment and affects during a collision or other emergency situation. The shield or enclosure must not distract the driver or hinder the normal operation of the school bus in any way. For aftermarket installations of shields or enclosure systems, the provincial and territorial authorities maintain jurisdiction and are responsible for setting and enforcing any requirements.

Existing standards for glazing materials are well established and must be adhered to when choosing materials for the shield or enclosure. Canadian Motor Vehicle Safety Standard 205 – Glazing Materials which references ANSI Z26, takes into account how a material breaks and how it affects

visibility requirements. ANSI Z26 defines functional properties (mechanical or optical) of safety glazing materials for use in motor vehicles. Therefore, it is important that the installation of a shield or enclosure around the driver does not hinder or distort the driver's views – directly or through mirrors - of the road, students around the bus or of passengers. Similarly, due consideration must be given to ensure the shield or enclosure system does not create undesired reflections that could limit the driver's visibility. Reflections could also be limited by including a mechanism like a sun visor that the driver can engage/disengage as needed throughout a trip. Provincial vehicle standards may also provide guidance and should be taken into account.

Considerations must be given to the impact any modifications may have on driver or passenger safety in case of a collision. For rigid shield constructions, materials with higher impact resistance and good optical characteristics are recommended, while brittle transparent materials may increase the risk of injuries in collisions. Specific performance testing is required to determine the suitability of glazing in the driver's compartment, for this reason materials chosen for the shield or enclosure must be chosen based on Canadian Motor Vehicle Safety Standard 205 – Glazing Materials and ANSI Z26.

It is important to remember that school bus passengers are protected through compartmentalization, by using high back padded seats that are closely spaced together. No modifications can be made that would increase the stiffness of seats or add rigid barriers in the area ahead or above the benches as this may increase the risk of injury in the event of a collision. Compartmentalization requirements detailed in Canadian Motor Vehicle Safety Standard 222 – School Bus Passenger Seating and Crash Protection, must be maintained if a shield or enclosure is installed.

The shield or enclosure must also adhere to Canadian Motor Vehicle Safety Standard 302 – Flammability of Interior Materials. In addition, the shield or enclosure system cannot have exposed sharp edges and must remain fixed in place either when in use or if stored away, while the vehicle is in motion. The shield or enclosure must also be designed in such a way to prevent entanglement of a passenger's coat or bag and so as not to become entangled around the driver or a passenger while entering or exiting the bus. The shield or enclosure must be affixed to the vehicle in such a way that it will not become unattached or a projectile in the event of a collision and allows for immediate access to the driver and controls should the driver become incapacitated.

Considerations should also be given to when a shield or enclosure is put to use. Should the risks of exposure to COVID-19 be assessed to occur when children embark or disembark the school bus, the shield or enclosure could be put in place for these events and stored when the vehicle is in motion to limit risks to the driver and passengers in a collision. It is also important to ensure that the driver is able to quickly intervene to assist passengers when needed and that the shield or enclosure does not block access to emergency exits for the driver or passengers.

When considering the installation of a shield or driver enclosure on a school bus it is important to consider that compliance with provincial and territorial requirements, including compartmentalization, must be maintained. Existing standards must be considered to assist in the design choices surrounding the types of shields or driver enclosures to be installed on school buses. The school bus manufacturer should also be consulted as they may be able to provide additional information concerning modifications and their potential effects to the safety performance of the vehicle. Note that provincial and territorial Transportation authorities maintain jurisdiction over aftermarket modifications to school buses.

**Date modified:** 2020-05-29