



Bureau de normalisation
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BNQ 1030-100/2026

Heavy Vehicle Risk Index —
Vision and Detection of Vulnerable Road Users

STANDARD

BNQ 1030-100/2026

Heavy Vehicle Risk Index —
Vision and Detection of Vulnerable Road Users

Indice de risque des véhicules lourds — Vision et détection des usagers vulnérables



Bureau de normalisation du Québec

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INTRODUCTION

Numerous collisions are reported each year between heavy vehicles and vulnerable road users, such as pedestrians and cyclists. This situation represents a major safety issue due to the potential consequences, which can result in serious or fatal injuries. In urban environments, these collisions are often explained by the interaction of several factors, including human factors, road design characteristics, and the specific features of heavy vehicles. In recent years, at the international level, road safety has generally been addressed as a systemic issue that requires improvements in vehicles, road infrastructure, behaviours, and post-collision care.

This standard focuses on the characteristics of heavy vehicles and establishes a classification approach based on technical criteria and the presence of certain safety features. It aims to provide an assessment and decision-support tool to compare vehicles according to characteristics that are relevant for coexistence in a shared environment. The proposed methodology is based in particular on an index calculated from a predefined scale that quantifies the visibility offered by the heavy vehicle, the presence of vision-assistance devices, and the mitigation of collision risks. This approach makes it possible to compare different models and to guide vehicle design and selection choices, particularly for urban use.

The application of this standard can help reduce risks, but it is not intended to guarantee a level of safety, nor the occurrence or severity of collisions, as these also depend on many factors outside the scope of the standard. This clarification is intended to prevent any interpretation suggesting a guarantee of safety and to clearly position the document as an objective assessment and decision-support tool based on the technical characteristics of heavy vehicles.

1 PURPOSE

This standard establishes a methodology for assigning a risk index to heavy vehicles that coexist with vulnerable road users, based on an objective assessment of direct vision, indirect vision, and other auxiliary safety equipment.

NOTE — Direct vision is considered a priority in determining risk index to heavy vehicles (RIHV) [see Annex A].

2 SCOPE

This standard applies to heavy vehicles operating in a shared environment with vulnerable road users. Its scope is limited to the physical features of the vehicle and its indirect vision systems and other auxiliary safety equipment.

NOTE — Heavy vehicles are divided into two categories: completed vehicles (vehicles already on the road, vehicles ready to be put on the road, modified vehicles) and incomplete vehicles.