

# BC BUILDING CODE INTERPRETATION COMMITTEE

A joint committee with members representing  
**AIBC, EGBC, BOABC**

**File No: 18-0064**

**INTERPRETATION**

**Page 1 of 2**

<b>Interpretation Date:</b>	July 21, 2020
<b>Building Code Edition:</b>	BC Building Code 2018
<b>Subject:</b>	Structural Design Loads for Exterior and Interior Areas Subject to Vehicular Traffic
<b>Keywords:</b>	Structural, design loads, vehicular traffic, fire trucks, physical barriers
<b>Building Code Reference(s):</b>	4.1.5.5.(1), A-4.1.5.5.(1)

## Question:

1. For exterior areas of a building that are accessible to vehicular traffic, is it mandatory to install physical barriers at the entrances to these areas if the structure supporting these areas is not designed to carry the weight of firefighting equipment or other similar heavy vehicles?
2. For interior areas of a building that are accessible to vehicular traffic, is it mandatory to install physical barriers at the entrances to these areas if the structure supporting these areas is not designed to carry the weight of firefighting equipment or other similar heavy vehicles?

## Interpretation:

1. Yes

Sentence 4.1.5.5.(1) states that exterior areas **accessible** to vehicular traffic shall be designed for their intended use, including the weight of firefighting equipment, but not less than the snow and rain loads prescribed in Subsection 4.1.6.

A-4.1.5.5. in Notes to Part 4 states that in Article 4.1.5.5., "**accessible**" refers to the lack of a physical barrier that prevents or restricts access by vehicles or persons to the site in the context of the specific use.

So if the vehicle entries to exterior areas of a building are not provided with physical barriers to prevent high trucks from entering the areas, the structure supporting these areas must be designed to carry the weight of fire trucks or other similar heavy vehicles.

If a barrier is provided, highly visible signage is required on the barrier which clearly indicates the headroom clearances and the maximum gross vehicle weight.



Patrick Shek, P.Eng., CP, FEC, Committee Chair

The views expressed are the consensus of the joint committee with members representing AIBC, EGBC and BOABC, which form the BC Building Code Interpretation Committee. The Building and Safety Standards Branch, Province of BC and the City of Vancouver participate in the committee's proceedings with respect to interpretations of the BC Building Code. The purpose of the committee is to encourage uniform province wide interpretation of the BC Building Code. These views should not be considered as the official interpretation of legislated requirements based on the BC Building Code, as final responsibility for an interpretation rests with the local *Authority Having Jurisdiction*. The views of the joint committee should not be construed as legal advice.

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Page 2 of 2

2. No (except in certain circumstances)

Table 4.1.5.3. describes 3 different live loads for “garages” of 2.4, 6.0, and 12.0 kPa depending upon the weight of vehicles that are anticipated within the garage, or portions of a garage which vary from less than 4000 kg to more than 9000 kg gross vehicle weight.

A-4.1.5.3. in Notes to Part 4 states “A special study should be undertaken to determine the distributed loads to be used for the design of floors and areas used by vehicles exceeding 9 000 kg gross weight and of driveways and sidewalks over areaways and basements. Where appropriate, the designer should refer to CSA S6, “Canadian Highway Bridge Design Code.”

In most cases, the height of the garage itself will act as a physical barrier to prevent heavy vehicles from entering. Overhead signage is commonly provided at the entry to the garage to describe the maximum headroom available within the garage.

In some cases, there may be interior areas with high ceilings that are accessible to vehicular traffic and could accommodate heavy vehicles. The structural engineer must assess the potential use of such spaces and select a live load that is consistent with the intended use. If the selected design load is less than 12 kPa, clearly visible signage is required to indicate the maximum gross vehicle weight permitted. If there is a risk of overweight trucks from entering these areas, physical barriers may be appropriate provided they do not compromise the height of vehicles for the intended use from entering the area.



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