

By post and by email at E-VAP-VSSD@td.gov.hk

7 October 2021

Vehicle Safety and Standards Division  
Transport Department  
10/F, South Tower  
West Kowloon Government Offices  
11 Hoi Ting Road  
Yau Ma Tei, Kowloon

Dear Sir/Madam


**Views from The Hong Kong Institution of Engineers  
Regarding the Technical Requirements for the Installation of  
Over-height Warning Device**

On behalf of the Institution, I am pleased to present to you our views and suggestions as set out in the enclosure for your consideration on the captioned subject.

The Institution welcomes the opportunity to work with the Government and offer our expertise and experience on the area of concern if and when it is needed.

Thank you.

Yours faithfully



Davis WONG (Mr)  
Director

CKH/DW/SS

**Enclosure**

**Views from The Hong Kong Institution of Engineers  
Regarding the Technical Requirements for the Installation of  
Over-height Warning Device**

The Hong Kong Institution of Engineers (HKIE) would like to provide the following views and suggestions regarding the technical requirements for the installation of over-height warning device for the Transport Department (TD)'s consideration:

2. The Institution is glad to learn that the proposal has rightly pointed out the risks of bridge or building structures (the Structures) above public roads being hit by motor vehicles without lowering or properly securing the on-board extendable aerial equipment (the Equipment,) and the Government is taking steps to prevent such accidents from happening by adding a warning device (the Device). Nevertheless, to address the issue, the Government is suggested to consider a holistic approach, covering driver awareness, highway infrastructure, design and installation specifications, vehicle interfaces, certification, maintenance, innovative technologies and implementation issues. For instance, relevant trade such as the vehicle trade might need to be consulted if they can afford the cost for retrofitting existing vehicles in order to adhere to the proposed requirements.

3. Drivers' awareness is the critical factor in avoiding traffic accidents. On top of audible/visual devices to remind drivers of the position of the Equipment, we urge the Government to consider incorporating an interlocking mechanism between the Device and the motor vehicle, such that when the Equipment is not in a secure position, the Device will stop the vehicle from travelling. The interlocking mechanism will also be activated when the Device detects excessive movement in or mis-positioning of the Equipment during driving, and stops the vehicle after a short delay of around 30 seconds.

4. While solutions may vary from vehicle to vehicle, we believe that vehicle manufacturers' involvement is essential in the design of the Device and the interlocking mechanism, in particular for cases involving retrofitting existing motor

vehicles.

5. The proposed Device, as well as the associated securing devices, should be of approved design and certified by a Registered Professional Engineer (RPE) of the relevant discipline. The design should include a locking mechanism to prevent undue movement of the Equipment. The excessive undue movement of the Equipment from a secure position will immediately trigger the Device to alert the driver. To ensure that the proposed design of the Device is up to standard, its certification should only be approved by an RPE of the relevant discipline, rather than other competent persons such as Registered Motor Mechanics.

6. Besides of the proposed Device suggested by the Government, to take a step forward, the Government is urged to consider the following simple and more effective solutions to tackle the problem.

7. Bridges and other structures built directly above public roads should be designed to comply with certain highway standards so that motor vehicles reaching the maximum of 4.6 metres in height would not hit the Structures. Therefore, it is proposed to install a simple gantry at a strategic location upstream of the traffic flow before the Structure, so that any motor vehicle with an overall height exceeding, either accidentally or worse, illegally, the sky clearance of the Structure would be caught by the gantry before the vehicle and the Equipment collides with the Structure.

8. The use of innovative technology such as the Internet of Things (IoT) on critical public roads may detect motor vehicles of excessive height and send warning messages, via a communication device, to the driver to stop the vehicle immediately and avoid hitting the Structure. The communication device should be turned on automatically during driving.