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Panel on Transport
Meeting on 25 May 2012

**Updated background brief on measures
to enhance safety of reversing goods vehicle**

Purpose

This paper provides background information on the measures to enhance safety of reversing goods vehicles (GVs) and summarizes the major concerns expressed by the Panel on Transport (the Panel) on the subject.

Background

2. In September 2006, a few fatal accidents involving reversing GV's happened. They led to concerns about the safety of GV's when reversing. The Administration has subsequently taken the following measures to enhance the safety of reversing GV's.

Publicity and Education

3. As driver and pedestrian behaviour is one of the contributory factors to traffic accidents, publicity and education efforts promoting responsible driving and usage of roads are crucial to enhancing road safety. Since 2006, various publicity and education measures targeting at safety of GV's have been undertaken. These include radio announcements, leaflets, specific training and refresher courses, talks organized by the Police regional road safety teams, safety campaign organized by the Road Safety Council, as well as delivery of safety messages to the GV trade through various channels of contacts. Details of these measures are given in **Appendix I**.

Review of road environment

4. In 2007, the Transport Department (TD) consulted with the District Councils (DCs), and identified a total of 129 priority road sections across the territory for detailed investigations on measures that could be implemented to enhance safety of reversing vehicles. A breakdown of these locations by districts is at **Appendix II**. Specific measures on the priority road sections were considered on a case-by-case basis, taking into account the physical environment, practical needs of the local residents and commercial activities, and impact on local traffic. The improvement measures include restricting vehicular access (for all vehicles or by vehicle types; at all times or during certain periods), designating no-stopping restrictions, installing crash barriers, steel bollards or amenity railings, providing loading/unloading bays, widening carriageways/pavement or changing road layout, and erecting suitable traffic and warning signs. TD has completed the necessary measures at the aforementioned 129 locations.

Installation of reversing aids to enhance safety

Commonly used reversing devices

5. With effect from 1 April 2000, the Administration made it mandatory for all GVs to be fitted with an automatic device capable of giving an audible warning to nearby pedestrians when reversing¹. Installation of reversing sensor², reversing video device (RVD) or additional rear view mirror³ is permitted under the current legislation. With these additional devices, the drivers' view of the area around the rear

¹ It should be noted that audible warning device is to warn the pedestrian of a reversing vehicle. It cannot assist the driver to reverse the vehicle more safely.

² The sensor relies on ultrasonic, radar or infrared technologies to detect the presence of an object in the vicinity of the sensor. A visual and/or audible alarm will then be sent to the driver in the driving compartment. The object sensor can only detect objects within a limited horizontal/vertical detection range of usually less than 1.8 metres. While it may be useful to assist a driver when he is parking the vehicle in a car park where it has to detect either a stationary vehicle or a wall at the rear end, it is much less effective in detecting moving objects, such as in the case of a pedestrian walking on the carriageway. Besides, it is not suitable for use on goods vehicles with highly-mounted vehicle body because there can be many blind spots.

³ This is a convex cross-view mirror installed at the rear end of the vehicle giving the view behind the vehicle that is normally not visible to the driver. The image is reflected to the driver through the normal external rear view mirror next to the driver. Installation of an additional cross-view mirror at the rear end of the vehicle may improve the driver's view of the area around the rear of his vehicle, especially for goods vehicle with goods compartment that obstructs the rear view. However, the image produced may have some distortions and is very much affected by the external environment e.g. in rain or at places with poor illumination. Besides, the effective range between the normal external rear view mirror and the additional cross-view mirror is practically limited to about 5 metres. Hence, it is not suitable for most goods vehicles exceeding 3.5 tonnes and is more commonly used by van-type light goods vehicles.

of their vehicles may be improved. However, the effectiveness and reliability of the devices would depend on the vehicle type, vehicle body form and maintenance condition.

Study on installation of reversing devices on goods vehicles

6. To follow up on the suggestion for mandating the installation of RVD on GVs, TD had commissioned a study to identify suitable reversing devices for GVs which are available in the local market and to establish performance requirements for these devices. At the Panel meeting on 25 May 2007, the Administration briefed the members on the findings of the study.

7. The study found that RVD was generally speaking more effective than a warning sensor as a reversing aid as the latter's detection range was usually less than 1.8 metres. As far as RVD was concerned, having considered the range of devices available in the market, structures of different GVs and overseas experience, the study recommended that the scope of vision covered by the produced image by RVD should meet the following requirements (see **Appendix III**) -

- (a) minimum width = vehicle overall width + 0.5 metre on each side;
- (b) minimum distance = 3.2 metres from vehicle rearmost; and
- (c) minimum height = 0.3 metre above ground.

8. However, the study also revealed that some technical problems had yet to be resolved and that RVD had its limitations -

- (a) of the some 26 GV types more commonly found in Hong Kong, about 15 (58%) of them should be able to meet the proposed performance requirements without major difficulties, since camera mounting locations at a height of over 1.5 metres above ground could be identified for such GV types. However, for the remaining types, the mountable locations were at a height below 1.5 metres above ground due to their construction and body forms. These vehicles were tippers, pick-ups, tractor cranes, tractors, container trailers and those goods vehicles with platform or demountable bodies, etc. Most of these vehicles would have to install additional fittings and/or more than one camera in order to meet the performance requirements, resulting in higher capital and maintenance

costs;

- (b) it was found that RVD might not be able to pick up reliable images at all times since it would be affected by the external environment such as weather conditions or the illumination level (e.g. inside car parks or in rural areas at night time); and
- (c) drivers' attitude and behaviour were of paramount importance in the safe reversing of vehicles. RVD could only be regarded as an auxiliary device to assist reversing. The speed of the reversing vehicle, the level of driver's attention, the reaction of the driver, etc, would affect the effectiveness of the device and hence the safety of reversing vehicles.

Guide for the installation of devices to assist reversing of GVs

9. To encourage the GV owners to install reversing aids, TD published in August 2007 "A Guide for the Installation of Devices to Assist Reversing of Goods Vehicles" which set out the advantages and limitations of these reversing aids so that GV owners could have some reference when choosing an equipment appropriate to their vehicle type/body. The Guide also included a recommended scope of vision for RVDs to help owners select from the market the RVDs which could meet such performance requirements. The Guide was updated in September 2009 to take into account the availability of RVDs with wider viewing angles in the market, which would allow more GV types (mainly those with lower bodies) to be fitted with RVDs which could achieve the recommended scope of vision. Surveys indicated that the percentage of GVs fitted with RVDs voluntarily rose from around 6% to 15% between 2009 and 2011, suggesting an increased acceptance by GV owners of such device.

Major concerns expressed by the Panel on measures to enhance safety of reversing goods vehicle

10. The safety of reversing GVs was discussed at the Panel meetings on 24 October 2006 and 25 May 2007. On the improvements to the road environment to enhance safety of reversing GVs, the Panel noted that there were some narrow roads or cul-de-sacs in the older built-up areas, where turning of vehicles might be difficult or impossible and vehicles had to reverse for access inevitably. The Panel requested the Administration to liaise closely with DCs to identify road sections with potential risks for reversing vehicles in each district. Where appropriate, TD should

consider whether it was necessary to implement additional measures, such as provision of facilities to segregate pedestrians and vehicles, installation of signs to warn drivers and pedestrians of possible reversing vehicles, imposition of restrictions on the time or locations of loading/unloading activities or restrictions on access by certain types of vehicles to enhance road safety.

11. The Panel called on the Administration to actively explore with manufacturers of vehicles to see how reversing sensors or video systems could be installed on different types of GVs, with a view to specifying the related technical requirements and standards, so as to facilitate effective implementation. To speed up the related work, the Panel also suggested that the Administration could consider introducing the relevant legislation governing different types of GVs in batches, having regard to the actual technical problems involved and the practicalities of putting in place clear statutory requirements for effective implementation.

12. On a suggestion of requiring all professional drivers to undergo annual medical examination and to attend road safety refresher courses on a regular basis, the Panel noted the Administration's view that it might not be reasonable to impose such a requirement as the large majority of drivers had good driving practice and were law-abiding citizens. It would also cause them inconvenience and extra cost.

13. Recognizing that the safety awareness and driving attitude of drivers were of prime importance in preventing traffic accidents involving reversing vehicles, the Panel reminded the Administration to strengthen publicity on road safety awareness for pedestrians, especially the elderly and children.

14. The progress of the various measures taken to enhance the safety of reversing GVs was discussed by the Panel on 24 June 2011. The Panel noted the Administration's efforts in implementing various measures, including traffic management improvements at 129 locations across 18 districts, promotion of safe driving among GV drivers, and stepping up of publicity and education efforts to encourage GV owners to install reversing aids in their vehicles. Moreover, since 2000, it had been made a statutory requirement for all GVs to be fitted with an automatic device capable of giving an audible warning to nearby pedestrians when it reversed. The Panel noted that besides the audible warning device, there were other auxiliary devices, e.g. RVDs to assist drivers to reverse more safely. However, as the GV owners were required to install these reversing aids only on a voluntary basis, the percentage of GVs fitted with RVDs voluntarily was only around 6% to 15% between 2009 and 2011.

According to the Administration, given the current state of technology and the RVDs available in the market, not all GVs could be fitted with RVDs with the necessary scope of vision.

15. Panel members considered that the percentage was far from satisfactory and in order to enhance the safety of reversing GVs, the Administration should consider enacting legislation to mandate the installation of RVDs at least on all new GVs in the first phase and on old GVs in the second phase. To this end, the Administration was requested to come up with a legislative timetable for members' consideration.

Latest developments

16. The Administration will consult the Panel on a legislative proposal on installation of reversing video device on new GVs at the Panel meeting on 25 May 2012.

Relevant papers

17. A list of relevant papers is in **Appendix IV**.

Council Business Division 1
Legislative Council Secretariat
21 May 2012

Publicity and education for improving behaviour of goods vehicle (GV) drivers

Since late 2006, the following publicity and education activities/events have been undertaken:

- (a) A radio Announcement of Public Interest reminding GV drivers about safe reversing has been broadcast on a regular basis;
- (b) A leaflet to remind drivers, vehicle owners, shop and factory owners as well as pedestrians on actions that they can take to enhance safety in respect of reversing vehicles has been distributed through the GV trades, district offices, car parks and Transport Department (TD)'s licensing offices and vehicle examination centres;
- (c) TD and the Police have conveyed safety messages to the GV trades through meetings, talks and seminars;
- (d) TD, in conjunction with other institutions, has organized specific training and refresher courses as well as safety workshops and driving safety seminars for drivers of public service vehicles and GVs;
- (e) The Police regional road safety teams have organized talks at elderly centres, kindergartens and schools in order to reach the senior citizens and children who are the high-risk groups in traffic accidents; and
- (f) The Road Safety Council has launched Campaigns such as "Safe Driving Campaign for GV Drivers". The main objective of this publicity activity was to reduce traffic accidents involving GVs by raising road safety awareness.

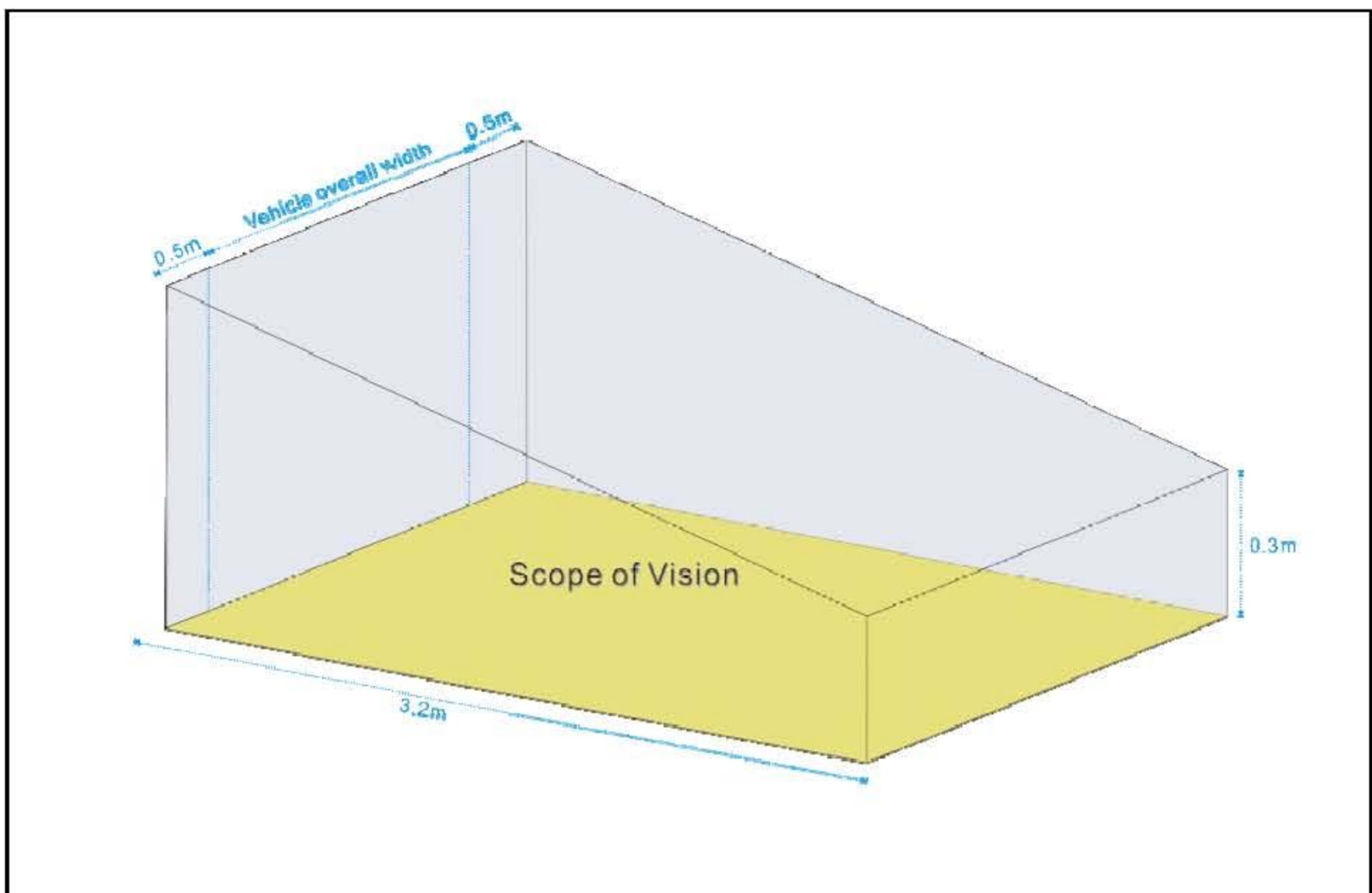
**Locations with traffic management measures
to enhance safety of reversing goods vehicles**

District Council	No. of locations
<u>Island</u>	
1. Central & Western	49
2. Eastern	5
3. Wan Chai	6
4. Southern District	1
<u>Kowloon</u>	
5. Yau Tsim Mong	12
6. Kowloon City	6
7. Wong Tai Sin	2
8. Kwun Tong	3
9. Sham Shui Po	9
<u>New Territories East</u>	
10. Sha Tin	2
11. Tai Po	2 + 1 [#]
12. Sai Kung	4
13. North	2
14. Islands	3
<u>New Territories West</u>	
15. Tsuen Wan	4
16. Kwai Tsing	6
17. Tuen Mun	7
18. Yuen Long	5
Total	129

Traffic management measures to be completed in July 2011

**Proposed performance requirements of
the Reversing Video Device (RVD) -**

- Minimum width = vehicle overall width + 0.5 metre on each side;
- Minimum distance = 3.2 metre from vehicle rearmost; and
- Minimum height = 0.3 metre above ground



Appendix IV

Measures to enhance safety of reversing goods vehicle

List of relevant papers

Date of meeting	Meeting	Minutes/Paper	LC Paper No.
24/10/2006	Panel on Transport	Administration's paper Minutes of meeting	CB(1)110/06-07(04) http://www.legco.gov.hk/yr06-07/english/panels/tp/papers/tp1024cb1-110-4-e.pdf CB(1)294/06-07 http://www.legco.gov.hk/yr06-07/english/panels/tp/minutes/tp061024.pdf
15/11/2006	Council meeting	Hon Andrew CHENG raised a question	http://www.info.gov.hk/gia/general/200611/15/P200611150141.htm
25/5/2007	Panel on Transport	Administration's paper Minutes of meeting	CB(1)1611/06-07(04) http://www.legco.gov.hk/yr06-07/english/panels/tp/papers/tp0525cb1-1611-4-e.pdf CB(1)2021/06-07 http://www.legco.gov.hk/yr06-07/english/panels/tp/minutes/tp070525.pdf
19/12/2007	Council meeting	Hon CHEUNG Hok-ming raised a question	http://www.info.gov.hk/gia/general/200712/19/P200712190141.htm
24/6/2011	Panel on Transport	Administration's paper	CB(1)2514/10-11(03) http://www.legco.gov.hk/yr10-11/english/panels/tp/papers/tp0624cb1-2514-3-e.pdf

Date of meeting	Meeting	Minutes/Paper	LC Paper No.
		Minutes of meeting	CB(1)2950/10-11 http://www.legco.gov.hk/yr10-11/english/panels/tp/minutes/tp20110624.pdf

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