For Information

Legislative Council Panel on Transport

Design of Control Boxes Attached to Traffic Light Poles at Pedestrian Crossing and Pedestrian Flashing Green Countdown Displays

PURPOSE

In response to the request of a Member of the Panel, this paper sets out information and our analysis in relation to the design of the control boxes attached to traffic light poles at pedestrian crossings, and the Pedestrian Flashing Green Countdown Display (PFGCD) device.

DESIGN OF CONTROL BOXES ATTACHED TO TRAFFIC LIGHT POLES AT PEDESTRIAN CROSSINGS

Introduction

2. There are at present two different designs of electronic control boxes alongside tactile units for visually impaired persons attached at traffic light poles. A member considered this could cause confusion. He requested the Administration to conduct an overall review of the design of control boxes attached to traffic light poles and called for a standardised design of such facilities.

3. Accordingly, Transport Department (TD) has conducted a review. The following paragraphs report the result of the review.

Design of Control Boxes

4. Electronic control boxes attached to traffic light poles are usually installed at road junctions where the pedestrian flow is relatively light. Pedestrians may activate the unit by pushing a button thereon and the pedestrian phase at the crossing will then be activated. Vehicle traffic will be kept uninterrupted when the unit is not activated. Currently, there are two designs of control boxes in Hong Kong –

(a) *Pushbuttons (old PBs)* (**Figure 1 at Annex A**) – Some 500 pedestrian crossings in Hong Kong are provided with old PBs for activating the pedestrian phase at junctions where the pedestrian phase does not normally run. Old PBs have been introduced to signalised junctions since 1970s.

(b) *Electronic Audible Traffic Signals Pushbutton-cum-Tactile Unit (eATS PB)* (**Figure 2 at Annex A**) – an eATS PB serves the same function as the old PBs, but a vibrating unit is also installed at the bottom of each unit to facilitate visually impaired persons. eATS PBs have been introduced since early 2003 and there are approximately 3,600 of them in Hong Kong.

Tactile unit for visually impaired persons

5. eATS Tactile Units (**Figure 3 at Annex A**) are attached at traffic light poles at signalised junctions where activation of pedestrian phase by pedestrian is considered either unnecessary or undesirable, but assistance and warning for visually impaired persons is considered necessary. Similar to the eATS PBs, an eATS Tactile Unit is a yellow box mounted at elbow level of the pedestrian signal pole with a vibrating unit located at the bottom of the unit. It is however solely for the use of visually impaired persons. It does not have a button, nor does it have the function of activating the pedestrian phase of pedestrian crossings.

Way Forward

6. TD is currently testing new standalone PBs (**Figure 4 at Annex A**), which have the same functions and largely the same appearance as eATS PBs. Subject to satisfactory test result, TD plans to phase out all old PBs by gradually replacing them with new standalone PBs. The whole replacement exercise is expected to complete by 2010. Upon completion of the exercise, there will be a uniform design for all control boxes.

7. To facilitate pedestrians in distinguishing the control boxes and tactile units, stickers are placed on eATS Tactile Units to state that it is for the use of visually impaired person (**Figure 5 at Annex A**), while the eATS PBs and new standalone PBs have a symbol of a palm and will show the words "please wait" when they are activated. TD has also published and distributed a leaflet on the functions of eATS Tactile Units and PBs.

PEDESTRIAN FLASHING GREEN COUNTDOWN DISPLAY

Introduction

8. A PFGCD is a countdown facility provided at pedestrian signalised crossings. It is activated once the flashing green signal is on and it provides a countdown on the number of remaining seconds of the flashing green period before a red signal is on. Previously, TD received requests from the public to provide PFGCD at signalised crossings as it was considered that the additional information provided by the device had safety benefits for pedestrians to cross the road.

Trials and study findings

9. TD, in conjunction with the City University of Hong Kong, conducted a study on PFGCD from February to October 2006 on 15 trial crossing sites of different lengths, traffic flow, pedestrian flow and cycle time of traffic signals in five districts (**Annex B**)[1]. Before-and-after surveys showed that after the installation of the device, a higher proportion of pedestrians were at risk, i.e. being still on the crossing when the pedestrian signal turned to red. The findings also indicated that the information provided by the PFGCD "encouraged" pedestrians to start crossing the road during the flashing green signal, which was against the existing legislation[2]. Some pedestrians tended to under-estimate the time required to cross the road and therefore could not complete crossing the road before expiry of the flashing green period. Some pedestrians even rushed across the road in high speed, knowingly that the flashing green period would expire in only a few seconds. As such, the PFGCD device is found to have no particular advantage in improving the safety of pedestrians at signalized crossings. Instead, it tends to induce more aggressive behaviour in crossing the road which would have adverse impact on road safety.

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[1] TD conducted the first trial at one signalised crossing in mid-2000 but it showed no conclusive evidence on the expected safety benefits as a result of the PFGCD device. TD conducted another trial at 10 signalised crossings starting December 2002, and subsequently five more junctions were installed with the device since January 2005, making a total of 15 locations in order to have more representative results.

[2] Under Regulations 33(4)(c) of the Road Traffic (Traffic Control) Regulations (Cap. 374G), the flashing green signal shall indicate to a pedestrian –

(a) who is already on the crossing that he shall proceed to pass over the crossing with reasonable speed; and

(b) who is not already on the crossing that he shall not start to cross the carriageway at the crossing.

Research on overseas practice

10. TD has also conducted research on overseas practice in the use of PFGCD devices or similar devices and found that PFGCD devices or similar devices are not adopted worldwide. They are not standard equipment at signalized crossings in the countries studied. Also, the limited researches available show that there are no consistent findings on the effectiveness of the device on pedestrian behaviour.

Way forward

11. In the light of the study findings and research on overseas practice, and with the support of the Road Safety Research Committee of the Road Safety Council and the Road Safety and Traffic Management Sub-committee of the Transport Advisory Committee, TD has decommissioned the PFGCD installed at 15 trial locations since July 2007 on road safety consideration. TD has also provided detailed explanation in relation to the study findings and the plan to dismantle the PFGCD device to the Traffic and Transport Committees of the relevant District Councils. TD plans to dismantle the decommissioned PFGCDs in the second half of 2008.

12. Since the most appropriate approach to enhance pedestrian safety is through education and publicity, TD has worked with the Police and the Road Safety Council to enhance publicity by launching a specific publicity campaign, including newly-produced posters together with radio Announcement of Public Interest and etc., to remind pedestrians of proper behaviour during flashing green signal at light signal crossings and to attend to traffic conditions.

13. The Police will continue to organise visits to schools and elderly centres, in order to instill a sense of proper pedestrian behaviour in younger members and the elderly of the community. They will also continue to conduct on-street publicity campaigns from time to time to raise the pedestrians' awareness on road safety and take enforcement actions to deter jay-walking and improper use of road crossing facilities by pedestrians.

ADVICE SOUGHT

14. Members are invited to note the contents of the paper.

Transport and Housing Bureau
June 2008

Annex A

Control Boxes attached to Traffic Light Poles

Figure 1
(Pushbutton adopted since 1970s)

Figure 2
(eATS Pushbutton cum Tactile Unit)

Figure 3
(eATS Tactile Unit
without Pushbutton)

Figure 4
(New Standalone Pusbutton)

Figure 5
(Sticker on eATS Tactile Unit
without Pushbutton)

Annex B

The 15 Trial Sites Installed with PFGCD
(for study conducted in 2006)

District	Junction
Hong Kong Island	
1. Central	Queen's Road Central / Pedder Street
2. North Point (a)	King's Road / Tin Chong Street
3. North Point (b)	355 King's Road
4. North Point (c)	King's Road / Tong Shui Street
5. North Point (d)	King's Road / Shu Kuk Street
6. North Point (e)	King's Road / Kam Hong Street
Kowloon	
7. Cheung Sha Wan	Cheung Sha Wan Road / Nam Cheong Street
8. Kwun Tong	Kwun Tong Road / Hong Ning Road
9. Mong Kok	Nathan Road / Mong Kok Road
10. Wong Tai Sin	Tung Tau Tsuen Road / Tai Shing Street
New Territories	
11. Kwai Fong	Kwai Yan Road near Kwai Foo Road
12. Tai Po	Kwong Fuk Road / Po Heung Street
13. Tseung Kwan O (a)	Po Fung Road / Mau Yip Street
14. Tseung Kwan O (b)	Tong Chuen Street / Po Yap Road
15. Tsuen Wan	Chuen Lung Street / Sha Tsui Road