LCQ16: Improving traffic light control system

Following is a question by Professor the Hon Lau Chi-pang and a written reply by the Secretary for Transport and Logistics, Mr Lam Sai-hung, in the Legislative Council today (February 28):

Question:

There are views that Hong Kong's conventional traffic light control system and its ancillary facilities are lagging behind, and fail to allocate green signal time flexibly according to actual pedestrian and vehicular flows, causing unnecessary delays to road users. In this connection, will the Government inform this Council:

(1) as the Transport Department (TD) proposed in July last year to install at about 50 road junctions a real-time adaptive traffic signal system (RTATSS), which would, through the use of artificial intelligence, analyze images and data of real-time vehicular and pedestrian flows collected by sensors to allocate signal time at road junctions, whether TD will consider implementing RTATSS across the territory; if so, of the specific plan and timetable; if not, the reasons for that;

(2) as it has been reported that the Government commenced a trial of a new type of "pedestrian traffic light countdown device" in Tung Chung in December last year, but there are views that such type of traffic light timers have not been made available to drivers after a prolonged period of time, whether the Government will consider introducing on a full scale traffic lights with countdown devices for drivers; if so, of the specific plan and timetable; if not, the reasons for that and the relevant considerations;

(3) as it has been reported that about 12 000 pedestrian crossings in Hong Kong have been installed with units of the Electronic Audible Traffic Signals system, commonly known as "yellow boxes", but members of the public generally do not understand their functions and the ways of using them, or they ignore such units, resulting in their effectiveness being minimal, whether the Government will plan to step up efforts in publicizing the yellow boxes to members of the public, for example, by displaying signs or instructions for use near traffic lights; if so, of the specific plan; if not, the reasons for that; and

(4) as it is learnt that in the past, a number of District Councils (DCs) put forward to the Government their views on the traffic light waiting time in their districts with specific data, of the Government's specific plan to work with various DCs, so as to improve the traffic light waiting time in various districts?

Reply:

President,

Having consulted the Transport Department (TD) in respect of traffic signal control system, my reply to various parts of the question raised by Professor the Hon Lau Chi-pang is as follows:

(1) The TD completed the real-time adaptive traffic signal system (RTATSS) pilot project at five selected independent signalised junctions in 2021. Taking into account the experience gained, the Government has consulted the Legislative Council (LegCo) Panel on Transport in July 2023 and plans to seek funding approval from the LegCo Finance Committee this year for installing sensors and ancillary equipment for implementing the RTATSS at about 50 suitable independent signalised junctions, with a view to promoting smart traffic management.

Furthermore, the TD began the installation and further trial of the RTATSS at eight linked signalised junctions at Tung Chung Town Centre in 2022, which is expected to complete in mid-2024. The TD will consider further extending the RTATSS to other suitable linked signalised junctions in due course. When developing new development areas, the TD will also liaise with relevant government departments to implement the RTATSS at suitable signalised junctions.

(2) The TD has installed a new type of pedestrian traffic light countdown device at the signalised junction of Tat Tung Road/Mei Tung Street in Tung Chung, with the countdown starting to display when the "Green man" light is on, such that pedestrians can gauge the total green time remained and cross the junction. The new type of pedestrian traffic light countdown device has started operating and testing since mid-December 2023. The TD has engaged a local university to conduct survey and study on the impact of the device on pedestrian crossing behavior. The trial is targeted for completion in mid-2024.

As for the "vehicular traffic light countdown device" for motorists, there is still no general consensus worldwide on its benefits. We note that motorists' responses to the remaining green time displayed on the device could be very different. Some drivers might decide to slow down and stop when noticing the green time is coming to an end whilst some might choose to rush through the junction, thus increasing the risk of head-rear collision. In view of road safety, the "vehicular traffic light countdown device" is not implemented in Hong Kong. The TD will continue to closely monitor the development and effectiveness of the relevant device.

(3) The TD currently installs a device commonly called "yellow box" at pedestrian crossings. The device is a component of the electronic pedestrian crossing device. There are two types of these vibrating units: the first type has a "palm" symbol and a "Please wait" display with a pedestrian crossing button function. When a pedestrian touches the pedestrian crossing button, a visual and audible acknowledgement signals will be displayed and emitted by the device respectively, and turn the pedestrian crossing signal to green as soon as possible. The second type, which has words and figure of "Aids for Visually Impaired Persons" printed on it, consists of a vibrating unit at the

bottom. It helps the visually impaired persons cross the road by means of different vibrating patterns indicating pedestrian signals. This type of vibrating unit does not have a pedestrian crossing button but denotes the status of pedestrian traffic signals.

On publicity, the TD pastes a label (as shown in the photo at Annex) on the traffic signal poles installed with a pedestrian crossing button, reminding pedestrians to press the button to cross the road.

(4) Signal time plans are devised to co-ordinate vehicles and pedestrians from different directions to pass through the junctions safely and orderly. Signal time plans should balance the needs of vehicles and pedestrians from various directions, reducing unnecessary delays. Generally, signal time plans are devised with regard to characteristics of individual junctions as well as historical traffic and pedestrian flows during different periods (e.g. morning/evening peak and non-peak hours) and different days (e.g. weekdays and weekends). Moreover, through the area traffic control system, the TD monitors the traffic conditions and operation of traffic signals in various regions in real-time, and makes adjustments as and when necessary in response to emergency situations.

The TD takes into account feedback from road users and stakeholders (including District Councils) for reviewing and adjusting the traffic signal time as appropriate. The TD will continue to keep close contact with the District Councils in this regard. Meanwhile, the TD will further enhance the efficiency of traffic signal control systems with new technologies, including the implementation of the RTATSS.