

LCQ15: Traffic light control system

Following is a question by the Hon Chan Siu-hung and a written reply by the Secretary for Transport and Logistics, Mr Lam Sai-hung, in the Legislative Council today (July 10):

Question:

The Transport Department (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, so as to assist pedestrians to gauge the total time remained for the "green man" light for crossing the junction, thereby enhancing pedestrian safety. The device has started operating and testing since December 2023, and the TD has engaged a local university to conduct survey and study on the impact of the device on pedestrian crossing behaviour. It is expected that the entire test scheme will be completed in the middle of this year. In this connection, will the Government inform this Council:

- (1) whether the aforesaid test scheme has been completed; if so, of the timetable for announcing the test results (including the effectiveness of the aforesaid device);
- (2) of the respective relevant expenditures involved in the aforesaid test scheme (including but not limited to the fees for the design of the system, procurement of components, and engagement of the university to conduct survey and study);
- (3) of the differences between the new type of pedestrian traffic light countdown device under the aforesaid test scheme and the pedestrian traffic light countdown device tested by the TD in 2006 and 2018; given that the two studies conducted in 2006 and 2018 concluded that the device concerned brought no material improvement and benefit to pedestrian safety and was therefore not further applied extensively, of the reasons for the TD to relaunch the test scheme of the countdown device last year;
- (4) how it assesses the effectiveness of the new type of pedestrian traffic light countdown device under the aforesaid test scheme, and of the criteria to be adopted for determining the installation of the device at other locations; and
- (5) whether it will consider, by drawing reference from the experience of other places in the world, conducting a trial on the "vehicular traffic light countdown device" for motorists, or studying the feasibility of applying such device in Hong Kong; if so, of the details; if not, the reasons for that?

Reply:

President,

Having consulted the Transport Department (TD) in respect of traffic light countdown device, my reply to the various parts of the question raised by the Hon Chan Siu-hung is as follows:

(1) and (4) TD has installed a new type of pedestrian traffic light countdown device (the new pedestrian countdown device) at the pedestrian crossing of Tat Tung Road/Mei Tung Street in Tung Chung in 2023 for testing. Unlike the pedestrian countdown device tested in 2006 and 2018 (which started counting down when the "green man" light began to flash), the new pedestrian countdown device starts counting down when the "green man" light is on, such that pedestrians can gauge the total green time remained. The aforementioned new pedestrian countdown device has started operating since mid-December 2023. To objectively evaluate the effectiveness of the countdown device at the above crossing, the TD engaged a local university to conduct study and surveys on its impact on pedestrian crossing behavior. The research team collected data on pedestrian crossing behavior using sensors and conducted on-site questionnaires at the end of 2023 (before the device started operating) and early 2024 (after the device started operating). Preliminary data shows that after the installation of the countdown device, there is an improvement in pedestrians completing crossing the road before the flashing "green man" light ends, showing that it is more effective than the tests conducted in 2006 and 2018. The research team is currently conducting detailed analysis and compiling report based on the collected data from the surveys, so as to summarise the results of the trial in Tung Chung and explore how to further validate the effectiveness of the new pedestrian countdown device.

If the detailed study confirms the positive effects of the new pedestrian countdown device, such as its effectiveness to reduce the proportion of pedestrians who cannot completely cross the road before the flashing "green man" light ends and improve pedestrian safety, the TD will consider selecting further pedestrian crossings with different site conditions (such as pedestrian flow, road width as well as crossing time required, and characteristics of the local population, etc) to test the new pedestrian countdown device for a more comprehensive understanding of its application and performance at other locations in Hong Kong with different characteristics, which will facilitate the setting of direction of the next phase.

(2) The expenditure of the trial on new pedestrian countdown device was about \$1.14 million. The breakdown of expenditure is as follows:

Items	Expenditure (\$'000)
1. Software and hardware for the countdown device (including the development/design, procurement, installation and testing of equipment, temporary traffic arrangements, etc)	573

2. Study on the effects on pedestrian crossing behavior (including installation of sensors for collecting pedestrian crossing data, conducting analysis and statistics, detailed study, etc)	571
Total	1,144

(3) To enhance traffic safety, the TD continually monitors technological advancements, arrange trials and introduces new traffic signal technologies for providing better protection for road users. In 2006 and 2018, the TD selected some signalised pedestrian crossings for trials by installing pedestrian countdown devices at the traffic lights which started counting down when the "green man" light began to flash, and studied if the pedestrians could adjust their walking speed appropriately and complete crossing the roads before the lapse of flashing "green man" light. Based on the surveys respectively conducted by two local universities, it was in general revealed that after the installation of the device, overall more pedestrians were unable to complete crossing the roads before the lapse of the flashing "green man" light. In 2023, the TD was aware of the development and application of the new countdown device technology, and hence arranged the tests in Tung Chung to obtain preliminary understandings on its impact on the crossing behavior of pedestrians.

(5) As for the effectiveness of vehicular traffic light countdown device, there is no worldwide general consensus on its merits. The TD considers that motorists' responses to the remaining green time displayed on the device could be very diverse. For instance, some drivers might decide to slow down and stop when they notice the green time is coming to an end whilst some other drivers might choose to rush through the junction, resulting in a higher risk of head-rear collision between vehicles. With the view to uphold road safety, vehicular traffic light countdown devices were not implemented in Hong Kong. The TD will continue to closely monitor the development and application of these devices in other regions.