

For Information

LEGISLATIVE COUNCIL PANEL ON TRANSPORT

Electronic Audible Traffic Signals (eATS)

Purpose

This paper informs Members of the progress of the electronic audible traffic signal (eATS) project.

Background

2. The conventional electro-mechanical audible traffic signals (ATS) had created noise nuisance to the residents nearby. Because of this noise problem, 40% of them had to cease operation during nighttime, and this had led to problems for the visually impaired persons (VIPs). In addition, about 30% of signalised road junctions did not have ATS units. In 2002, we proposed to replace the ATS with a new eATS device, which was able to adjust its sound level automatically according to the ambient noise, so that round-the-clock road-crossing service for VIPs could be provided.

3. The eATS project was discussed at this Panel on 26 April 2002. Members supported our proposal to replace the existing ATS with eATS and to install eATS at signal-controlled pedestrian crossings currently without ATS. Funding of \$52.7 million for the procurement and installation of 11,400 eATS units was approved by the Finance Committee (FC) on 10 May 2002.

Project Implementation

4. Following FC's funding approval, we carried out an open tender exercise in August 2002. After tender evaluation, the contract was awarded in December 2002. Works for the replacement of the old ATS with new eATS units started in late December 2002.

Consultation and Responses

5. Before the tender, TD had consulted the VIP groups¹ and had incorporated their comments into the tender documents. After the commencement of the replacement works, TD continued to consult the VIP groups via meetings, equipment demonstrations, site trials and questionnaire surveys so as to adjust the eATS to better meet their needs. The VIPs have expressed comments and suggestions over the quality of the sound outputs, direction of output emission and the accessibility of tactile vibrating units. Separately, between December 2002 and January 2004, TD received 104 complaints from individual VIPs/VIP groups. The major issues raised were as follows –

- (a) the pitch was different from that of the conventional ATS and was difficult to be heard;
- (b) the sound level was too low to be heard on the pavement, making it difficult for the VIPs to locate the crossing point;
- (c) the speakers faced the traffic and their vertical levels were too high, making it difficult to follow the audible signals to cross the road;
- (d) the sound level dropped too quickly with decreasing ambient noise; and
- (e) some of the tactile vibrating units were inaccessible due to obstructions caused by railings and flowerbeds.

6. To address the VIPs' concerns, TD has taken the following measures –

- (a) five different pitches have been developed for testing, and the VIPs have selected the most acceptable one;
- (b) the upper limits of the sound levels have been adjusted so that they would be compatible with the ambient noise at busy junctions;

¹ They are the Hong Kong Society for the Blind, Hong Kong Blind Union, Hong Kong Federation of the Blind, Retina Hong Kong, Shek Kip Mei Lutheran Centre for Blind, Ebenezer School for the Blind, Rehabilitation Alliance Hong Kong and Hong Kong Visually Impaired Network.

- (c) the directions of the speakers have been adjusted to make the signals more audible on the pavement;
- (d) the rate of decrease of the sound level caused by decreasing ambient noise has been reduced; and
- (e) the inaccessible tactile units have been relocated to more convenient locations.

7. In addition, to ensure that the settings of all eATS installations would be able to serve the primary function in guiding the VIPs to cross the road, TD set up a quality assurance team in October 2003 to check and fine-tune all eATS settings. The team comprises two members with total visual impairment and a mobility trainer. As at February 2004, 80% of the eATS units have been checked and appropriate adjustments to the eATS settings have been made. Checking of the remaining units would continue.

8. Between December 2002 and January 2004, TD also received 201 complaints from non-VIPs. They were mostly residents living in the vicinity of road junctions, and the complaints were mostly on the sound level of the eATS. Some 90% of the complaints have been resolved by adjusting the sound level of the concerned eATS downwards. Currently, 99% of the eATS units produce sound levels between 50 and 65 dB most of the time at night. This is, in fact, a significant improvement over the 68 dB generated by the old ATS system. Only 1% of the eATS units, which are located at the busiest junctions with high ambient noise, would produce a sound level of over 70 dB. However, due to the distance and orientation of the eATS units, the residents nearby would be subject to noise level below 70 dB.

Present Position

9. In November 2003, TD carried out a questionnaire survey among the VIP groups to consult them on the performance of the eATS, and the plan to proceed with installing eATS units at signalised junctions without ATS. In general, the VIP groups were satisfied with the eATS and considered the eATS useful in guiding them to cross the road. The majority² have also expressed

² Of the eight VIP groups, five supported installing the eATS units at junctions without audible device. These 5 groups represent some 6,800 VIPs. One group, representing some 700 VIPs, abstained. Two groups, representing some 1,400 VIPs, objected.

support for installing the eATS units at junctions without any audible guidance signals.

Next Steps

10. TD will continue to implement the project as approved by the FC. After all the old ATS units have been replaced, TD will start to install eATS units at those signalised junctions without ATS³. It is expected that the installation works for all the 11,400 eATS units would be completed within 2004. Meanwhile, TD will continue to maintain a close liaison with both VIP groups and residents, and will continue to finetune the pitches and sound levels of the eATS units so as to maximise their effectiveness and at the same time minimise any possible nuisance to nearby residents.

Advice Sought

11. Members are requested to note the progress of the eATS project.

Environment, Transport and Works Bureau
March 2004

³ These include new roads and new junctions.