

CONTROLLING OFFICER'S REPLY

TLB032

(Question Serial No. 0751)

Head: (60) Highways Department
Subhead (No. & title): (-) Not Specified
Programme: (2) District and Maintenance Works
Controlling Officer: Director of Highways (YAU Kwok-ting)
Director of Bureau: Secretary for Transport and Logistics

Question:

The Highways Department is responsible for maintaining all public roads and ancillary facilities to maintain the integrity of road network, and is dedicated to improving road cleanliness. In this connection, please advise this Committee on the following:

1. Regarding the estimated expenditure of \$146 million in 2024-25, what are the respective expenditures on road cleanliness, streetscape enhancement and greening of slopes?
2. What are the cleansing frequencies of the expressways, trunk roads and primary distributors? What are the relevant expenditures respectively?
3. Did the Government adopt applied science and technology in preventing, monitoring and improving road defects and the cleanliness of road surface (including verges and hard shoulders)? If yes, what are the details? If not, what are the reasons?
4. Did the Government study and conduct trials on more durable and greener paving materials? If yes, what are the details? If not, what are the reasons?

Asked by: Hon TSE Wai-chuen, Tony (LegCo internal reference no.: 31)

Reply:

1. The respective estimated expenditures on road facilities cleanliness and streetscape enhancement and greening of shotcreted slopes reserved by the Highways Department (HyD) in 2024 are approximately \$59.50 million, \$85.60 million and \$0.90 million.
2. According to the prevailing mechanism, the HyD is responsible for the daily cleansing tasks (including street cleansing and rubbish removal) of the expressways once a day. The cleansing tasks of the other public roads (including trunk roads and primary distributors) is responsible by the Food and Environmental Hygiene Department.

Apart from that, the HyD is also responsible for cleansing the public road facilities within its ambit, in which the highway structures such as footbridges/subways etc. (including escalators and elevators) would be cleansed at least once per quarter. The other facilities (such as traffic signs, street name plates etc.) would be cleansed at least once per six months. The frequency of relevant cleansing tasks in busy road sections would be increased to at least once per quarter.

The HyD does not maintain breakdown figures of the expenditures of the aforesaid cleansing tasks.

3. The HyD has been striving to make use of innovative technologies and digitalise the work flow on maintenance of public road with a view to enhancing efficiency and improving the services provided to the public. The HyD has implemented a digitalised Road Maintenance Monitoring System since the end of 2022 to digitalise the inspection and supervision procedures. The HyD staff can therefore manage the road inspection and maintenance works carried out by its road maintenance contractors more efficiently. The data collected by the new system can also provide information on the road condition which facilitates HyD for better planning of the road maintenance works. The system is currently used in six road maintenance contracts and is planned to put forward its use to the remaining three existing contracts of the same type in order to achieve the target on digitalising most inspection and supervision procedures in all road maintenance contracts in 2024.

In mid-2024, the HyD will also start using artificial intelligence technology to automatically detect road defects (such as discolouration of road markings, cracks on road surfaces etc.) through analysing the photos of road surfaces collected during road inspections so that appropriate maintenance works can be arranged as soon as possible. In addition, the HyD will use small unmanned aircraft to inspect road structures that are difficult to reach (including bridges, tunnels, etc.) and the condition of the slopes in order to enhance the efficiency and safety of inspections.

For road cleansing, the HyD would also use mechanical suction sweepers to regularly cleanse both sides of high speed roads and pick up the rubbish on the roads within its ambit so as to maintain the high speed road network in a clean and tidy manner.

4. The HyD has been striving to study road paving materials that would be more durable so as to minimise the frequency of maintenance works and the inconvenience caused to the public during maintenance. For example, from 2018 to 2022, the HyD conducted trials on a more durable bituminous paving material – “Highly Modified Stone Mastic Asphalt” on over 30 busy road sections, which was researched and developed in collaboration with the Hong Kong Polytechnic University. The trial result confirmed that this new bituminous paving material has better anti-deformation, anti-aging and anti-fatigue performance than the existing bituminous materials, as well as improving the durability of the roads and reducing the frequency of road surface maintenance. This new bituminous paving material was formally used on road maintenance works in 2023 and more than 70 road sections are using it currently.

For greener paving materials, the HyD is currently using recycled bituminous waste in production of new bituminous materials with a view to implementing the principle of waste reduction and sustainable development. Moreover, the HyD studied the feasibility of adding crumb rubber into the traditional bituminous pavement material in collaboration with the Hong Kong Polytechnic University in order to reduce the quantity of disposed waste tyres on landfills. The site trial was completed at the end of 2023 and the result showed that rubberized asphalt could effectively enhance the durability of the road surfaces. The HyD will continue to study for the wider use of the relevant material in road maintenance works.

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