

**For discussion  
on 13 December 2024**

## **Legislative Council Panel on Transport**

### **Proposed Installation of Camera Systems in All Taxi Compartments**

#### **Purpose**

To leverage the use of technology in enhancing the overall quality of taxi service, the Government proposes to mandate the installation of camera systems and related devices in all taxi compartments, and the provision of electronic payment (e-payment) means by all taxi drivers to provide passengers with more options for fare payment. This paper sets out the Government's proposals and seeks Members' views.

#### **Background**

2. The quality of taxi services has been an issue of concern in recent years. Considering the strong public demand for quality taxi services, the Government launched a series of measures to enhance the quality of taxi services in 2023, including the introduction of a taxi fleet regime<sup>1</sup>, as well as a Taxi-Driver-Offence Points (TDOP) System<sup>2</sup> and a two-tier penalty system for certain taxi-driver-related offences. The Government is actively implementing these measures and closely monitoring their effectiveness.

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<sup>1</sup> The Transport Department (TD) announced the results of the applications for Taxi Fleet Licences at the end of July this year and issued conditional grants of Taxi Fleet Licences to five selected operators, whose fleets will gradually commence operation before July 2025.

<sup>2</sup> The TDOP System covers 11 taxi-driver-related scheduled offences (such as refusing to accept a hire, overcharging, not using the most direct practicable route and soliciting). Under the TDOP System, if a person who is convicted by the court of a scheduled offence, or becomes liable to a fixed penalty for a scheduled offence, he or she will incur points in accordance with the law. A person who incurs 15 or more points within any two-year period will be disqualified from driving a taxi for a period of time.

3. During the scrutiny of the bills related to the aforementioned measures by the Legislative Council (LegCo) last year, some Members opined that in addition to increasing the penalties, the Government should consider requiring all taxis to be installed with camera devices in the compartments and setting up a centralised platform, so as to better safeguard the interests of taxi drivers and passengers in case of disputes, as well as to facilitate the strengthening of law enforcement and evidence collection by the Police. Moreover, with the implementation of the TDOP System on September 22 this year, quite a number of the taxi trade members considered that camera devices should be installed in taxi compartments to strengthen the deterrent effect against the black sheep of the trade. It would also protect law-abiding drivers from worrying about being convicted by the court and incurring points due to the one-sided account given by passengers. In the meantime, we also noted the public aspiration for the Government to introduce more measures to further enhance the overall quality of taxi services and to step up its efforts in combating the malpractices of individual taxi drivers (such as refusing to accept a hire, overcharging and not using the most direct practicable route).

4. Taxis are one of the major public transport modes in Hong Kong and a common way of getting around for tourists. However, quite a number of local taxis still accept only cash for settling fare payment. This has caused great inconvenience to passengers (especially tourists) who are increasingly accustomed to e-payment, and is also prone to causing disputes between drivers and passengers. As a result, there have been calls from the public in recent years urging the Government to require all taxis to provide e-payment means, so as to provide passengers with more options for fare payment.

5. Against the backdrop above, over the past year, the TD has been actively examining the feasibility of requiring all taxis to be installed with camera devices in the compartments and other related matters such as the provision of e-payment means, including making reference to the practices adopted by neighbouring regions (such as Shenzhen and Macao) and considering the applicability of these practices to the local situation and the operating mode of local taxis.

## Recommendations

6. After conducting detailed studies and in consultation with the taxi trade, we propose to amend the relevant legislation to mandate all taxis to be installed with in-vehicle cameras, dash cameras and global navigation satellite systems (GNSS)<sup>3</sup> (“the Camera System proposal”), and to mandate all taxi drivers to provide e-payment means (“the E-payment proposal”).

### *The Camera System Proposal*

7. Taking into account the experience of other regions<sup>4</sup> and the circumstances of the local taxi trade, we propose to mandate the installation of in-vehicle cameras, dash cameras and GNSS (collectively known as “the camera system”) on all taxis. The relevant considerations are as follows:

- (a) **In-vehicle camera:** This device can record the situation in the compartment. In the event of disputes between taxi drivers and passengers, the relevant video and audio recordings can serve as corroborative evidence to facilitate the follow-up actions on complaints and/ or investigation on the alleged illegal acts (such as refusing to accept a hire and overcharging) by the Police or the TD.
- (b) **Dash camera:** This device can record the road conditions. In the event of traffic accidents, the relevant video recordings can serve as corroborative evidence to delineate the liabilities for the accidents and facilitate the investigation and settlement of claims by insurance companies as soon as possible. With the installation of dash cameras, drivers’ driving behaviour can be monitored, which is conducive to improving driving safety, thereby reducing traffic accidents and creating room for reduction in taxi insurance premiums.

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<sup>3</sup> GNSS refers to a system that uses satellites for global autonomous geo-positioning, such as the Beidou Navigation Satellite System (BDS) of China and the Global Positioning System (GPS) of the United States.

<sup>4</sup> It is understood that the number of complaints and prosecution cases relating to taxi drivers’ malpractices reduced significantly since the Government of the Macao Special Administrative Region mandated the installation of in-vehicle terminal system in all taxi compartments.

- (c) **GNSS:** This device can provide data on the locations of the vehicles. It can facilitate the investigation of disputes related to driving route or driving safety (such as allegations of not using the most direct practicable route and speeding) by law enforcement officers.

In sum, the installation of camera systems on taxis will help deter and combat taxi drivers' malpractices, enhance driving safety of taxis, and safeguard the interests of taxi drivers and passengers in case of disputes. These are conducive to improving the quality and overall image of taxi services.

8. To encourage competition and promote technology development, we tend not to require all taxis to be installed with devices of the same specified model. Instead, the TD will set out the respective requirements on the specifications of the three devices that constitute the camera system. Suppliers in the market may apply to the TD for approval of the devices that can meet the specification requirements. Taxi owners may purchase and install their preferred devices approved by the TD. After the relevant devices are properly installed, the TD will carry out examination and the devices should be sealed. This is to ensure their compliance with the requirements and prevent any tampering or damage. The major specifications of the proposed camera system are set out at **Annex 1**. As regards the price, depending on the specifications, the procurement and installation cost of a camera system currently available in the market ranges from \$3,500 to \$5,300 per taxi. The subsequent monthly operation and maintenance cost is about \$150 to \$200. We believe that through market competition, there may be room for reduction in the relevant costs in the future.

9. Apart from mandating the installation of camera systems on all taxis, the TD will also engage a service contractor to set up and maintain a centralised platform. The centralised platform is required to be compatible with the formats of video and audio recordings and data uploaded from all devices approved by the TD. The proposed specifications are set out at **Annex 2**. We recommend that the video and audio recordings and data collected by a camera system should be encrypted and saved in the storage device in the vehicle for not less than 30 days. Uploading to the centralised platform is not required. When necessary (e.g.

when a passenger complains about the malpractices of a driver or after a traffic accident occurs), authorised persons may upload the relevant video and audio recordings and data stored inside the in-vehicle device to the centralised platform set up by the Government through remote access<sup>5</sup>, which will then be saved on the Government Cloud to facilitate the follow-up actions and investigation by the Police or the TD.

10. To protect the privacy of passengers and drivers, video and audio recordings captured by in-vehicle cameras can only be retrieved or accessed by authorised persons under specific circumstances (such as investigating complaints or gathering evidence for suspected illegal acts), and the retrieval of relevant records requires the use of strong passwords and multiple-factor authentication. The in-vehicle storage devices will also be sealed to prevent arbitrary access to, tampering with or destruction of the relevant records. When setting up the centralised platform, the TD will engage a third party professional institute to conduct privacy impact assessment and security risk assessment for the centralised platform system with a view to ensuring the proper safeguard of system and data security, as well as the privacy of all parties.

11. As regards the video recordings of road conditions captured by dash cameras and satellite positioning data, taxi owners may access and retrieve those recordings and data through the service provider of the camera system. This may facilitate their daily management of taxis, as well as understanding of the situation at the time of traffic accidents and handling matters related to insurance claims.

12. We emphasise that we attach great importance to privacy protection. The TD will take the initiative to liaise with the Privacy Commissioner for Personal Data on the formulation of relevant guidelines on this initiative, arrange training for drivers and step up public education and publicity.

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<sup>5</sup> As opposed to the practice of requiring taxis to drive to a designated location for retrieving the video and audio recordings (as in the case of Macao), the practice of remote retrieval enables an authorised person to instantly retrieve the required data through the Internet, thus saving taxi drivers or owners' time to travel to a designated location for submitting the data, thereby facilitating the daily operation of taxis.

## *The E-payment Proposal*

13. With the increasing popularity of e-payment<sup>6</sup>, the Government has been encouraging the taxi trade through various ways to introduce e-payment means to facilitate the payment of fares by passengers. Under the taxi fleet regime, we have required all fleet taxis to provide e-payment means, so that they can serve a leading and exemplary role for other non-fleet taxis in the trade to follow suit.

14. While some taxi drivers are now providing e-payment means, and a number of taxi hailing mobile applications in the market also allows passengers to use e-payment to settle the fares, there are still quite a number of taxis that still accept only cash, which has caused great inconvenience to passengers (especially tourists). To further promote the popularisation of e-payment in taxis, we propose to mandate all taxi drivers to provide passengers with e-payment means to settle the fare payment. By drawing reference from the practices adopted under the taxi fleet regime, we propose to require all taxi drivers to provide at least two types of e-payment means (including QR code and non-QR code payment means<sup>7</sup>). At present, many e-payment means are readily available in the market for use by the trade. Depending on the platforms/ equipment/ means adopted, the provision of e-payment means may involve certain charges, such as the procurement cost or rental fee of the relevant equipment, transaction fees, and handling charges for fund transfer to bank accounts. While we understand that the trade may consider that requiring taxi drivers to provide e-payment means may incur additional costs to them, we note that many e-payment platforms/ equipment providers are offering concessions to taxi drivers, such as waiver of equipment fees and handling charges. Moreover, as there are now many e-payment platforms in Hong Kong, we believe that through competition in the market, the relevant fees will be maintained at a reasonable level.

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<sup>6</sup> Various major modes of public transport in Hong Kong (such as MTR, franchised buses and trams) accept different types of e-payment means. We also noticed that e-payment has been widely accepted by taxis in Mainland cities and many international cities.

<sup>7</sup> QR code payment means include AlipayHK, WeChat Pay HK, BoC Pay, etc., whereas non-QR code payment means include Octopus cards, credit cards, Faster Payment System (FPS), etc.

## **Views of the Taxi Trade**

15. Since late October this year, the TD has arranged several meetings with the major representatives of the taxi trade and consulted the Committee on Taxi Service Quality to listen to their views on the two proposals above. As regards the Camera System proposal, the trade unanimously agreed that to safeguard the interests of drivers and passengers, legislation effecting the relevant requirements should be introduced as soon as possible. However, given the mandatory nature of the measures and that the trade was of the view that they were still facing a difficult operating environment, the trade generally hoped that the Government could alleviate their financial burden by subsidising the costs of the installation and use of the camera systems.

16. The trade was divided on the E-payment proposal. Some opined that it was inadvisable to introduce legislation to mandate taxi drivers to provide e-payment means at this stage. The main reasons included the concerns over the difficulties of aged drivers in using smartphones or e-payment as well as the measures causing potential increase in the operating costs<sup>8</sup> of drivers in the long run. Some members of the trade opined that, at this stage, it would be more advisable to encourage more taxi drivers to provide e-payment means through publicity, education and market forces, and the taxi fleets that were about to commence operation could also serve as a leading example for the trade to follow suit. On the other hand, some trade members expressed understandings of passengers' demand for the use of e-payment for paying taxi fares. They considered that the trade should keep abreast of the times, and supported in principle the Government's introduction of the relevant requirements by way of legislation.

## **Government Response**

17. We welcome that the taxi trade unanimously agreed on the need to introduce legislation to mandate the installation of camera systems on all taxis. Regarding the financial arrangements, as mentioned above, the Camera System

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<sup>8</sup> Some trade members were concerned that providers of e-payment platforms might cancel the concessions (such as waiver of handling fees) in the future, and the trade will then have to bear the handling fees arising from e-payment transactions on their own.

proposal is conducive to enhancing the quality and overall image of taxi services and improve driving safety, thereby creating room for reduction in insurance premiums in the long run. Taxi owners may also retrieve the relevant records when necessary for the management of their taxis. In this connection, we consider that taxi owners, as the major stakeholders in the taxi trade and the major users of the camera systems, should be responsible for shouldering the one-off procurement and installation costs, as well as the annual recurrent cost, of the camera systems. Based on the current prices of similar products in the market, the relevant costs will only account for a small part of the operating costs of taxis. Furthermore, we expect that after the introduction of the relevant requirements by the Government, more standard-compliant models will be available in the market for taxi owners to choose from, thereby bringing down the relevant costs through market competition.

18. With regard to e-payment, we understand that some taxi trade members have reservations about the proposal, and consider that the Government should continue to encourage drivers to accept e-payment through education and publicity, rather than adopting a mandatory approach. However, as mentioned above, the provision of e-payment means is a general trend and can facilitate the payment of fares by the public and tourists, thereby enhancing their ride and travel experience. Taking into account the scattered ownership of taxi licences in Hong Kong, and the fact that most taxi drivers are self-employed and provide services through renting taxis from taxi owners or taxi companies, it is anticipated that it will take a long time to achieve the objective of providing e-payment means extensively on all taxis in Hong Kong, if we rely only on publicity, education and encouragement. In view of the above and considering that many e-payment means are available in the market for use by the trade, we consider that it is an opportune time to require all taxis drivers to provide passengers with e-payment means to pay the fares. To allay the trade's concern, the TD will proactively coordinate with various e-payment platforms for arranging workshops or briefings to taxi drivers on how to collect fares by e-payment means.

19. In the long run, mandating the installation of in-vehicle cameras, dash cameras and GNSS on all taxis, and requiring all taxi drivers to provide e-payment means for passengers to pay the fares, will help enhance the overall quality and



image of taxi services and boost passengers' confidence in taxi services. This will gradually improve the prospects for the development of the trade.

### **Proposed Legislative Amendments**

20. We preliminarily propose to amend the Road Traffic (Construction and Maintenance of Vehicles) Regulations (Cap. 374A) to require all taxis to be installed with camera systems approved by the TD within a certain period of time, to require the camera system to start storing records automatically when the taxi's drive system is switched on, and to provide for other relevant requirements (such as installation requirements). We also propose to amend the Road Traffic (Public Service Vehicles) Regulations (Cap. 374D) to provide for the requirements on matters relating to the use of camera systems and access to records and data contained therein, and to require all taxi drivers to provide e-payment means when they are carrying passengers. Furthermore, we will make reference to similar provisions under the relevant regulations to provide for the appropriate penalties for non-compliance with the requirements relating to the camera systems and the provision of e-payment means.

### **Implementation Timetable**

21. We plan to draw up the legislative amendments in the coming few months with a view to mandating the installation of camera systems on all taxis and the provision of e-payment means by all taxi drivers. We will endeavour to introduce the proposed legislative amendments into the LegCo in the second quarter of 2025.

22. Considering that many e-payment means are available in the market for the trade to choose from, we plan to implement the E-payment proposal in late 2025, subject to the support of the LegCo for the relevant proposed legislative amendments. As for the Camera System proposal, subject to the support of the LegCo for the relevant proposed legislative amendments, the TD plans to accept applications for the approval of compliant camera systems and engage contractors for setting up the centralised platform in mid-2025. We will actively work with the trade for the installation of the camera systems from late 2025 to mid-2026,

with a view to completing the installation within 2026. The relevant legislation will come into effect by then.

23. Subject to the implementation timetable of the Camera System proposal and E-payment proposal, the TD will brief the trade and frontline drivers in a timely manner on the relevant requirements and details through various channels, such as the TD's website, regular publication of "Taxi Newsletter", publicity leaflets and regular meetings with the taxi trade, so as to facilitate their early preparation before the commencement of the relevant requirements.

### **Advice Sought**

24. Members are invited to comment on the abovementioned proposals. The Government will consult the Transport Advisory Committee on the proposals and submit the proposed legislative amendments to the LegCo in due course.

**Transport and Logistics Bureau**  
**Transport Department**  
**December 2024**

**Proposed Major Specifications of the Camera System**

<b>Applicable Device(s)</b>	<b>Major specifications</b>
<b>In-vehicle camera</b>  <b>Dash camera</b>  <b>Global navigation satellite system (GNSS)</b>	<ul style="list-style-type: none"> <li>• The device shall automatically start recording when the taxi’s drive system is activated, and continue to record until at least 15 minutes after the drive system is turned off;</li> <li>• The device records shall be automatically superimposed with the same record date and time;</li> <li>• The device shall support vehicle-mounted memory storage and the relevant storage device shall be installed inside the vehicle. If the device supports portable data retrieval methods (such as SD cards or USB storage devices), the relevant interface should be sealed;</li> <li>• The storage device shall be connected to the server of the centralised platform via a wireless network and shall transmit the records of the specified vehicle, date, and time to the server as designated by the Transport Department (TD) upon instruction; and</li> <li>• The storage device shall keep the records of not less than 30 days, and automatically delete the relevant records upon expiry of the retention period</li> </ul>
<b>In-vehicle camera</b>	<ul style="list-style-type: none"> <li>• Shall support daytime and night-time recording and clearly capture the faces of the driver and all passengers;</li> <li>• Shall be equipped with audio recording function;</li> <li>• The resolution shall be 720P or above;</li> <li>• All video and audio recordings shall be strictly encrypted; and</li> <li>• The driver shall not be provided with the in-vehicle camera views through the visual display of the device</li> </ul>
<b>Dash camera</b>	<ul style="list-style-type: none"> <li>• Shall clearly capture the view in front of the vehicle;</li> <li>• The resolution shall be 720P or above; and</li> <li>• All video recordings shall be strictly encrypted</li> </ul>
<b>GNSS</b>	<ul style="list-style-type: none"> <li>• Shall support BeiDou Navigation Satellite System, Global Positioning System or other similar navigation systems</li> </ul>

Note: The above are preliminary proposed specifications. The TD will further review the specific requirements.

## **Proposed Major Specifications of the Centralised Platform**

### System requirement

- The whole system shall be effectively placed on the Government Cloud for 24-hour operation, and serve as the management workstation of the camera systems and be capable of remotely transmitting commands to the camera systems on the taxis for uploading and downloading data or testing the operation of the devices;
- Shall pass the stress test, load test and performance test;
- The server shall be able to accommodate multiple devices and/ or device vendors;
- Shall be able to be used in parallel with, be partially used with, or be replaced by existing monitoring architecture of different device vendors;
- No restrictions on the number of servers and devices of the camera system vendor to be connected to the system;
- Shall automatically detect anomalies and missing data;
- Shall support automatic report generation, including complaint figures, abnormal devices, etc.; and
- Shall reserve interfaces and connections to support the addition of other functions, such as electronic taximeters and electronic driver identity plates

### Requirement for supporting devices

- Shall support different resolution, multiple code formats, and different brands and models of camera system products; and
- Shall support different satellite positioning technologies (e.g. BeiDou Navigation Satellite System, Global Positioning System or other similar navigation systems)

### Requirement on record retrieval

- Shall allow multiple users to use and customise management permissions simultaneously;
- Shall support the selection or retrieval of video and audio recordings and data by the vehicle registration number, date or time;
- The retrieved file shall show the retrieval date, time and the authorised person's identification number;

- Shall support the simultaneous operation of different functions of the camera system (i.e. recording video and audio footage, as well as retrieving data remotely at the same time); and
- Shall support the integration and synchronised playback of video and audio recordings and data, and adjustment of brightness and playback speed

#### Storage requirement

- The video and audio recordings and data shall be stored on the Government Cloud

#### Security requirement

- Users are required to use multiple-factor authentication to log into the system;
- All transmission of video and audio recordings and data shall be encrypted; and
- Shall pass the privacy impact assessment as well as security risk assessment for centralised platform system

Note: The above are preliminary proposed specifications. The TD will further review the specific requirements.