



Multi-functional Smart Lampposts: Technical Advisory Ad Hoc Committee 5th Meeting



10 December 2019





Meeting Agenda

Date: 10 December 2019 (Tuesday)

Time: 9:30 a.m. – 11:30 a.m.

Venue: Conference Room, 15/F Wanchai Tower

Agenda:

1. Confirmation of Minutes of Last Meeting
2. Summary of Smart Lamppost Applications
3. Proposed Enhancement on Smart Lamppost Applications
4. Proposed Enhancement on Transparency and Public Engagement
5. Proposed Enhancement on Governance Mechanism
6. Any Other Business





Summary of Smart Lamppost Applications

The functions and applications for the smart lampposts pilot scheme include:

- a) collect meteorological and air quality data at district level by meteorological sensors (HKO) and air quality sensors (EPD) respectively and disseminate data to the public through Public Sector Information Portal (data.gov.hk). As no personal data is collected, there is no personal privacy issue;
- b) provide more accurate positioning services with RFID Tag, Geo-QR Code and Bluetooth beacon (LandsD) to support the development of location-based applications by the Government and the public. As no personal data is collected, there is no personal privacy issue though more transparency on the technologies and applications is desired;
- c) collect traffic data through thermal detector, ALPR and Bluetooth detector (TD), and monitor traffic status and road incidents with traffic snapshot images, video detector and pan-tilt-zoom (PTZ) surveillance camera (TD) for better traffic planning and management;
- d) monitor illegal dumping activities (EPD) for planning relevant law enforcement operations; and
- e) facilitate 5G network development of Hong Kong and provision of free Wi-Fi services for the public and tourists.





Proposed Enhancement on Smart Lamppost Applications

Illegal Dumping Monitoring (EPD)

- Collect information for planning and operation against illegal dumping activities

Proposed measures include:

- ✓ Address strong privacy concern of public on camera devices and related applications on smart lampposts, suitable technologies other than cameras will be explored for this application to be installed on smart lampposts for effective privacy protection as well as monitoring and detection of illegal dumping activities
- ✓ New application will go through the new governance mechanism before implementing on smart lampposts





Proposed Enhancement on Smart Lamppost Applications

Bluetooth Beacon, Geo-QR Code and RFID Tag (LandsD)

- No collection of data
- No personal privacy issue

Proposed measures include:

- ✓ Provide information on the technical specifications, functions and operations of the positioning devices on smart lamppost thematic website for public reference
- ✓ Provide usage guidelines on the positioning devices to facilitate interested developers to understand and utilise the functions and data provided via the smart lampposts to develop innovative applications





Proposed Enhancement on Smart Lamppost Applications

Traffic Snapshot Images (TD)

- Low resolution image (320 x 240) without collecting personal data
- Provide traffic snapshot images as open data for sharing with public

Proposed measures include:

- ✓ Due to strong privacy concern of public on camera devices and related applications on smart lampposts, this application is not proposed to be installed on smart lampposts
- ✓ Explore alternative technologies which are privacy-friendly and capable to fulfill the requirement of providing traffic data as open data for sharing with public
- ✓ New application will go through the new governance mechanism before implementing on smart lampposts





Proposed Enhancement on Smart Lamppost Applications

Thermal Detector (TD)

- Only thermal image without collecting personal data
- Collect traffic flow and speed information for analysis and as open data for sharing with public

Proposed measures include:

- ✓ Provide information on the technical specifications, functions and operations of the device on smart lamppost thematic website for public reference
- ✓ Display clear message and sample photo on smart lampposts and sample photo via smart lamppost thematic website showing the actual views collected by the device
- ✓ Conduct comprehensive security risk assessment and audit and privacy impact assessment on the application regularly based on international standards (e.g. ISO 27001 & ISO 27701), and publish the reports on thematic website for public reference





Proposed Enhancement on Smart Lamppost Applications

ALPR (TD)

- Collect images for car plate number identification
- Collect traffic flow and vehicle classification information for survey and as open data for sharing with public

Proposed measures include:

- ✓ Consider adopting LIDAR as alternative technology (fewer vehicle classes will be collected for the survey comparing to ALPR)
- ✓ Provide information on the technical specifications, functions and operations of the device on smart lamppost thematic website for public reference
- ✓ Display clear message and sample photo on smart lampposts and sample photo via smart lamppost thematic website showing the actual views collected by the device
- ✓ Conduct comprehensive security risk assessment and audit and privacy impact assessment on the application regularly based on international standards (e.g. ISO 27001 & ISO 27701), and publish the reports on thematic website for public reference





Proposed Enhancement on Smart Lamppost Applications

Bluetooth Detector (TD)

- Compare partial MAC addresses of Bluetooth devices
- Collect estimated average journey time and vehicular speed for analysis and as open data for sharing with public

Proposed measures include:

- ✓ Due to strong privacy concern of public on Bluetooth detectors on smart lampposts, this application is not proposed to be installed on smart lampposts
- ✓ Explore alternative technologies which are privacy-friendly and capable to fulfill the application requirements
- ✓ New application will go through the new governance mechanism before implement on smart lampposts





Proposed Enhancement on Smart Lamppost Applications

Video Detector (TD)

- Low resolution image (320 x 240), video (320 x 240), thermal image (640x 480)
- Collect traffic data (traffic flow & speed), detect incident, monitor traffic condition and provide traffic snapshot images as open data for sharing with public

Proposed measures include:

- ✓ Due to strong privacy concern of public on camera devices and related applications on smart lampposts, this application is not proposed to be installed on smart lampposts
- ✓ Consider replacing by Thermal Detector (to collect traffic flow and speed data only)
- ✓ Provide information on the technical specifications, functions and operations of the device on smart lamppost thematic website for public reference
- ✓ Display clear message and sample photo on smart lampposts and sample photo via smart lamppost thematic website showing the actual views of collected by the device
- ✓ Conduct comprehensive security risk assessment and audit and privacy impact assessment on the application regularly based on international standards (e.g. ISO 27001 & ISO 27701), and publish the reports on thematic website for public reference





Proposed Enhancement on Smart Lamppost Applications

PTZ Surveillance Camera (TD)

- Video stream at 752 x 582 or less pixels without collecting personal data
- Monitor real-time traffic condition at critical location and facilitate prompt incident management

Proposed measures include:

- ✓ Due to strong privacy concern of public on camera devices and related applications on smart lampposts, this application is not proposed to be installed on smart lampposts
- ✓ Explore alternative technologies which are privacy-friendly and capable to fulfill the requirements of monitoring real-time traffic condition and prompt incident management
- ✓ New application will go through new governance mechanism before implementing on smart lampposts





Proposed Enhancement on Transparency and Public Engagement

Proposed measures include:

1. Publish device and application list, and relevant technical documents (e.g. management summary of the Security Risk Assessment and Audit Report, Privacy Impact Assessment Report, in both Chinese and English)
2. Disseminate ongoing development of the project periodically through website and social media
3. Develop promotional materials, e.g. short videos, infographics, FAQs, etc. through website and social media
4. Organise and participate in public events, exhibitions and forums, and engage professional institutions and general public, e.g. partner with local research lab on device testing and certification; reserve spaces in smart lampposts for devices / projects from students or academic researches for educational purposes, etc.
5. Lamppost design and functions –
 - No storage and processing capability on smart lampposts
 - Make the devices on smart lampposts more transparent and visible to public
 - Illustrate the devices and applications installed on the smart lampposts to public through picture / diagram / QR code, etc.





Proposed Enhancement on Governance Mechanism

Proposed measures include:

1. Appoint qualified independent third-party to conduct regular privacy review with reference to international standards (e.g. ISO 27000 series), on the technologies, functions and applications on smart lampposts, and make the process and report fully transparent to public
2. Set up a governance mechanism with rigorous, credible, transparent and publicly recognised processes, to review and approve new smart lamppost applications, and make the decision fully transparent to public, which will include the following for every new device/application proposed on smart lampposts:
 - Ensure full compliance with the Personal Data (Privacy) Ordinance and related guidelines and practices;
 - Adopt relevant international standards (e.g. ISO 27001 & ISO 27701);
 - Conduct end-to-end security risk assessment and audit and privacy impact assessment; and
 - Consult relevant stakeholders and concerned communities, including Legislative Council and District Councils and obtain their support.

