THE HONG KONG
INSTITUTION OF ENGINEERS
香港工程師學會

香港銅鑼灣記利佐治街1號金百利9字樓
9/F Island Beverley, No 1 Great George St, Causeway Bay, Hong Kong
電話Tel +852 2895 4446　傳真Fax +852 2577 7791
hkie-sec@hkie.org.hk　www.hkie.org.hk

By post and by email at nanashiu@td.gov.hk

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Ir Nana L M SHIU
Senior Engineer/ Strategic Studies 1
Strategic Studies Division, Planning Branch
Transport Department
12/F, South Tower, West Kowloon Government Offices
11 Hoi Ting Road, Yau Ma Tei, Kowloon

Dear Ir SHIU

Views on Electronic Road Pricing Pilot Scheme in Central and its Adjacent Areas

Thank you for inviting the Institution to provide views on the captioned subject. We are pleased to provide herewith our views and suggestions on the subject matters for your consideration.

Thank you for your attention.

Yours sincerely

Monica YUEN (Mrs)
Chief Executive & Secretary
The Hong Kong Institution of Engineers

Enc

MY/ML

Enclosure

Views from the Hong Kong Institution of Engineers on Electronic Road Pricing Pilot Scheme in Central and its Adjacent Areas

The Hong Kong Institution of Engineers (HKIE) supports the proposed Electronic Road Pricing (ERP) Pilot Scheme (the Pilot Scheme) launched by the Administration as part of the Smart Mobility initiatives to use technology to enhance traffic management in order to progressively tackle the traffic congestion in the Central Core District.

2. Whilst the benefits of ERP are generally recognised, the HKIE notes that the Pilot Scheme is still in the conceptual stage with preliminary concepts and ideas. To facilitate the development of a detailed implementation plan of the Pilot Scheme for next stage of consultation and subsequent implementation, the Administration is suggested to conduct a comprehensive and holistic study on various aspects of the Pilot Scheme, including the charging mechanism, technologies for charging function and potential application of such technologies in other areas (e.g. access control and traffic management areas). Furthermore, the Administration is recommended to consider establishing a mechanism with a structured public engagement framework to provide adequate information of ERP to the public throughout the design and implementation stages.

3. In view of the above, we would like to put forth our suggestions in the ensuing paragraphs for the Administration's consideration.

CHARGING ARRANGEMENT

4. The HKIE considers that more information on the preliminary proposed charging area, charging mechanism, charging period and charging level should be articulated to all the stakeholders and road users. In particular, the charging level is expected to achieve its purpose of alleviating traffic congestion yet not severely affecting the business of essential transport service providers.

5. According to the consultation documents, all vehicles entering the charging area are subject to congestion charge to varying extent. Vehicles are charged differently according to their carrying capacity. A vehicle having a low carrying capacity (e.g. private car) will be charged more than that with a higher capacity (e.g. franchised bus). We suggest that the Administration may also consider setting the charging level by vehicle emissions (including CO2) following a "polluter pays" principle.

6. It is noted that the Pilot Scheme proposes to adopt the concept of "variable charges at variable periods" under an area-based or a cordon-based charging mechanism. In other words, motorists may either require paying once per day in entering the charging area (i.e. area-based) or be charged every time crossing the

charging boundary within the charging period (i.e. cordon-based). After consideration, the HKIE supports to adopt the cordon-based charging mechanism which could closely align with the "polluter pays" principle, whereas the area-based charging mechanism may encourage multiple entries per day into the charging area and could also be unfair to motorists travelling short distance in the charging area when comparing to those travelling longer distance within the zone. It would neither be practical to link up the charging mechanism with travel distance in view of simplicity and understandability. Therefore, we are of the view that the cordon-based charging mechanism appears to be a more appropriate option.

7. With regard to the charging level for different types of vehicle, the following charging level is proposed for consideration:

Types of Vehicle	**Proposed Charging Level**
Private car	To be charged
Government vehicle	To be charged
Goods vehicle	To be charged
Public transport	Waived
School bus	Waived
Non-franchised bus	Waived
Emergency vehicle	Waived
Disabled drivers' vehicle	Waived
Taxi	To be charged but less than private car
Vehicle of registered residents in the charging area	To be charged but can have concession

TECHNOLOGY

8. To better achieve the objectives of the Pilot Scheme and generate greater public acceptance, we recommend the Administration to conduct a comprehensive Technology Options Assessment to compare the performance and functionality of various technologies and payment solutions for ERP, covering in-vehicle devices, associated roadside equipment and the back-office system. We consider that ongoing review and fine-tuning on the corresponding technologies and solutions throughout the implementation of the Pilot Scheme would also be important to meet the requirements and needs for ERP. In particular, the following key site constraints should be taken into account:

- The implementation of roadside systems will be constrained by existing street furniture, the location of below-ground services, etc. so it may not be feasible to locate such equipment on the charging boundary itself. Therefore, the location of the boundary has to be adjusted to suit or the Government may need to accept that the regulatory definition may lie outside the boundary used for charging – the HKIE does not regard this as being problematic;

- On bidirectional streets, the roadside system should be able to filter out vehicles travelling out of the charging area from vehicles travelling into it. However, some technologies, typically many Radio Frequency IDentification (RFID) systems, do not have direction-sensing capability;

- Subject to the Telecommunications (Telecommunications Apparatus) (Exemption from Licensing) Order (Cap. 106Z), the allowed limit on output power within this frequency band is limited, suggesting that the use of some technologies should be put for trial at different locations susceptible to interference to confirm technology performance.

USE OF TOLL REVENUE

9. The toll revenue collected from the Pilot Scheme, after deduction of the operation cost, should be allocated as additional funding support to enhance public transport services within the charging area.

PUBLIC ACCEPTANCE

10. To encourage public deliberation and build a consensus in the community towards the Pilot Scheme, the HKIE considers that continuous public engagement exercises are essential. The Administration may consider introducing an "opt-in" approach which enables the public to decide whether they want to take part in the initial stage of the Pilot Scheme or not. This approach can allow the Administration to test the ERP system and its operations strategy in a small group first so that any initial limitations can be identified and resolved before full implementation. This approach is cost-effective, and can mitigate the implementation risk and stimulate positive support for the Pilot Scheme to draw public awareness, understanding and acceptance of the benefits of ERP.

11. Stakeholder engagement is another key for the success of the Pilot Scheme. The Administration is suggested to consult and exchange views with the stakeholders at different stages of the Pilot Scheme so that relevant instant feedbacks can be collected, and where appropriate, incorporated into the Pilot Scheme.

SCALABILITY AND OPPORTUNITY FOR WIDER APPLICATION

12. The HKIE opines that, the Pilot Scheme, as part of the Smart Mobility initiatives in Hong Kong, should also consider how it could interface with the planned migration from toll roads to free-flow tolling system as well as many other Intelligent Transport Systems initiatives in order to contribute to a holistic solution for enhancing the mobility in Hong Kong as a whole.