

Q.35

The traffic in Hong Kong is busy and the Cross-Harbour Tunnel (CHT) and Eastern Harbour Crossing (EHC) are often congested during peak hours.

Source A: The cross-harbour traffic situation

- In 2021, the time required for motorists to cross the CHT or EHC during the morning peak hours was triple the journey time when the traffic was light, with an average length of about 25 and 17 minutes respectively.
- The peak-hour traffic queues at tunnels extended to several connecting roads, affecting non-cross-harbour traffic in Kowloon and Hong Kong Island.
- The proportion of private cars among all cross-harbour vehicles during the morning peak hours in 2021 was about 60% although private cars carried less than 20% of cross-harbour commuters.

(Source: discussion paper on 'Proposed Toll Plans for Road Harbour Crossings' from Legislative Council Panel on Transport)

Source B: A news article about the government's announcement of the proposed toll plans for three road harbour crossings

The government announced the proposed toll plans for the three road harbour crossings in March 2023. The plan will be carried out in two steps. The first step will be the implementation of the fixed toll plan on 2 August 2023. The toll for private cars using the Western Harbour Crossing (WHC) will be lowered while those for the CHT and EHC will be raised. Taxis using the three road harbour crossings will be charged an all-day fixed toll.

The government is considering implementing time-varying tolls at the three harbour crossings as the second step of the plan before the end of 2023, replacing the above first step plan.

(Source: various newspapers)

Source C: First step of the fixed toll plan for the three road harbour crossings

	Private cars		Taxis	
	Current toll	Proposed new toll	Current toll	Proposed new toll
Western Harbour Crossing (WHC)	\$75	\$60	\$70	\$25
Cross-Harbour Tunnel (CHT)	\$20	\$30	\$10	\$25
Eastern Harbour Crossing (EHC)	\$25	\$30	\$15 (without passengers) \$25 (with passengers)	\$25

(Source: various newspapers)

Source D: Some views on the proposed toll plans for road harbour crossings

 An economist	<p>If some private car drivers change their travel patterns and use more public transport during peak hours, some road space can be freed up for vehicles with higher passenger capacity (such as buses) to relieve congestion.</p> <p>Since the monetary cost of using public transportation for transit is generally lower than that of driving a private car, using public transportation more often will reduce citizens' expenditure on transportation.</p>
 A taxi passenger	<p>Despite the increase in the toll for road harbour crossings, I expect the opportunity cost of taking a taxi using the CHT to cross the harbour will decrease.</p>
 A private car owner	<p>After implementing the fixed toll plan, the difference in tolls for private cars among various road harbour crossings will be narrowed. This can reduce the likelihood of drivers detouring to tunnels with lower tolls.</p>
 A government official	<p>The WHC is currently owned by the franchisee and the government cannot intervene in the tolls collected by the franchisee. However, when the franchise of the WHC expires on 1 August 2023, the government will take over the WHC and can coordinate the tolls of the three road harbour crossings to rationalise traffic.</p>

Questions

- (a) Refer to Source A. Explain why there may be a divergence between private and social costs when there is cross-harbour traffic congestion. (3 marks)
- (b) Refer to Source B. What basic economic problem is the adjustment of the tolls of the three road harbour crossings related to? Explain. (2 marks)
- (c) Suppose the supply of the tunnel service of the CHT is perfectly inelastic. With reference to Sources C and D, explain how the traffic congestion in the CHT during peak hours will be improved after implementing the fixed toll plan with the aid of a diagram. (7 marks)
- (d) Refer to the view of the economist in Source D. Explain how Hong Kong's GDP will be affected when more private car drivers switch to public transportation. (2 marks)
- (e) Refer to Sources C and D. In terms of opportunity cost, justify the statement of the taxi passenger in Source D. (3 marks)

For part (f), candidates are required to present their answer in essay form. Criteria for marking will include use of sources and economic theories, relevant content, logical presentation and clarity of expression.

- (f) Suppose there are two policy proposals to alleviate the cross-harbour traffic congestion.

Proposal I: to increase the annual licence fees of vehicle licences for private cars Proposal II: to build a new road harbour crossing with government funds

With reference to the above sources and your own knowledge in Economics, discuss the effects of each proposal on the following variables in order to **evaluate** the two proposals.

- aggregate output
- economic efficiency
- fiscal balance

(14 marks)