

Suggested answer to 2024 A Level H1 Paper 1 CSQ 1

(a)	With reference to Extract 1, identify one normative statement.	[1]
	Normative statement is a value judgement and cannot be verified. [1m] An example of normative statement in Extract 1 is "Governments should be responsible for ensuring the air we breathe is pollution free" Or "Singapore and London are adopting innovative approaches to reducing the emissions caused by road traffic." <i>Note: definition of normative statement is not required.</i>	
(b)	Using Figure 1, compare the forecast data on global new BEC and ICC sales for the period 2020-2050.	[3]
	- Global new BEC sales is forecasted to rise between 2020-2050 whereas global new ICC sales is forecasted to fall in the same period. - However, the change in both global BEC and ICC new sales are forecasted to be at generally increasing rate between 2025 – 2038. - However, in 2040, global new BEC sales is forecasted to fall whereas global new ICC sales is forecasted to increase. - Both global new BEC and ICC sales are forecasted to increase in 2021-2025 - But the increase in new BEC sales is forecasted to be consistent throughout 2021-2024 whereas the new ICC sales is forecasted to fluctuate upwards in 2021-2024. <i>Note: any 3 of the above points, but at least 1 point must be on similarity in the two trends.</i> 1 mark for each point	
(c)	Extract 2 states 'With ongoing delays in the availability of ships and shipping containers at a time of economic recovery and rising demand for shipping services ...' Using a supply and demand diagram, explain the impact of these events in the market for shipping containers.	[6]
	Due to pandemic-related delays, longer times are required for loading and unloading shipping containers. These delays at the ports mean that there will be less ships available at other ports around the world, hence reducing the supply of shipping around the world. Hence the leftward shift of the supply curve from S1 to S2. At the same time, global economic recovery mentioned in Extract 2 means that there is positive global economic growth, causing an increase in demand for goods and resources globally. Shipping services have derived demand for the transport of goods and resources between countries around the world. Hence the increase in global demand for goods and services leads to increase in demand for shipping, shifting demand curve to the right from D1 to D2.	

The diagram above shows the market for shipping. Initially the equilibrium price is at P_0 , and equilibrium quantity is at Q_0 .

The fall in supply from S_0 to S_1 and increase in demand from D_0 to D_1 leads to a shortage of Q_dQ_s at initial price Q_0 , causing upward pressure on price. This causes quantity demanded to increase and quantity supply to decrease according to the laws of demand and supply respectively as price continue to increase until a higher new equilibrium price is reached at P_1 . Extract 2 mentions that at its peak the price of shipping increased by more than seven times higher than the pre-pandemic shipping prices.

However, the effect on equilibrium quantity of shipping is indeterminate. Whether equilibrium quantity increases or decreases depends on the relative magnitudes of the increase in demand and decrease in supply of shipping.

1m – demand factor with explanation & reference to extract

1m- supply factor with explanation & reference to extract

1m – diagram with reference

1m – price adjustment process

1m – effect on equilibrium pr

1m – state that effect on equilibrium quantity depends on relative magnitudes of the increase in demand and decrease in supply

(d) With reference to Extract 3, explain the potential impact on the standard of living of two unintended consequences of the decision to burn fossil fuels.

[6]

Unintended consequences are unanticipated costs or benefits that arise from making a decision.

As mentioned in Ext 3, many of the world's poorest people rely on ocean fishing as source of food and income, the decision to burn fossil fuels would have the unintended consequences of worsening both material and non-material Standard of living.

Unintended Consequence 1: Reduced global fish populations [3m]

According to Ext 3, burning fossil fuels creates greenhouse gases which reduces marine microbes in the oceans, a “key feature of the food chain for fish”. This could reduce world fish populations. With decreased supply of fish leading to higher fish prices, consumers face higher food expenditures and less purchasing power for other goods and services, decreasing consumers' material standard of living.

Ext 3 states that an estimated “59.5 million people globally were employed in catching fish in the oceans or in fish farming”. Workers in the fishing industry may see lower incomes due to decreased fish stock, which decreases their ability to afford goods and services and their material standard of living. Unemployment can result in stress and depression as well as a rise in social crimes, decreasing workers' quality of life and thus their non-material standard of living.

Unintended Consequence 2: Worsened climate change [3m]

According to Ext 3, burning fossil fuels also worsens climate change which could cause extreme weather changes. This threat, if persistent, could adversely affect global supply chains and weaken consumer and investor confidence in the long run. These could dampen economic growth and worsen cost-push inflation, decreasing household incomes and purchasing power to afford goods and services and consequently their material standard of living.

Extreme weather changes can also displace families and cause physical damage to individuals. This decreases their quality of life and thus their non-material standard of living.

Mark Scheme

Identify unintended consequence of reduced global fish populations – 1m

Explain effect of reduced global fish populations on material SOL – 1m

	Explain effect of reduced global fish populations on non-material SOL – 1m Identify unintended consequence of worsened climate change – 1m Explain effect of worsened climate change on material SOL – 1m Explain effect of worsened climate change on non-material SOL – 1m	
(e)	With reference to Extract 1, explain how price elasticity of demand (PED) might be used to estimate the effect on traffic levels of a further increase in the price of congestion and comment on whether PED is the only factor affecting traffic levels when such prices change.	[6]
	Explanation [4m] Price elasticity of demand (PED) measures the degree of responsiveness of a change in quantity demanded of a good to a change in its price, ceteris paribus. PED may be used to estimate the effect of a further increase in price of congestion such as Singapore's ERP and UK's London Congestion Charge on traffic levels. Referring to the above diagram, further increase in congestion charge will shift supply curve to the left from S_0 to S_{tax}. If PED for road usage by private vehicles is elastic ($D_{elastic}$), further increase in price of congestion such as \$1 increase at peak time will lead to a more than proportionate fall in quantity demanded for road usage from Q_0 to $Q_{elastic}$, hence reducing traffic levels during peak times. Singapore's demand for private vehicles is likely to be price elastic due to availability of substitutes such as taking alternative routes, or travelling outside ERP operation hours or simply taking public transport as mentioned in Ext. 1. On the other hand, if demand is price inelastic (Demand curve $D_{inelastic}$ in the above diagram), further increase in tax will shift supply curve to the left, causing large increase in price from P_0 to $P_{inelastic}$ and less than proportionate fall in quantity demanded from Q_0 to $Q_{inelastic}$. Therefore, the effect of further increase in price of congestion on traffic levels may be insignificant. This could explain the reason for the large increase in congestion charge of £3.50 in 2014-2020 (as seen in Table 1) to significantly reduce traffic levels. Comment [2m] PED is unlikely to be the only factor affecting travel levels when congestion prices change. Non-PED factors such as road works or traffic incidents can also cause congestion and traffic levels to remain high even when congestion prices change. Mark Scheme Explain that if $PED < 1$, a rise in price would lead to a less than proportionate fall in quantity demanded – 1m Explain that if $PED > 1$, a rise in price would lead to a more than proportionate fall in	

	quantity demanded – 1m Reference to case data in the case study – 1m Diagram with reference – 1m Stand on whether PED is the only factor affecting traffic levels when congestion prices change – 1m Any logical justification for stand – 1m	
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(f)	Discuss the extent to which the roads of Singapore have the characteristics of public goods.	[8]
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Question Interpretation

Command	Discuss – explore multiple perspectives and come to a reasoned conclusion									
Content	‘Characteristics of public goods’ – non-rivalry, non-excludability, non-rejectability R1: Start Point: Rivalry in consumption ➔ Tool of Analysis: MSB/MSB & Effective DD/SS ➔ End Point: Whether roads in SG have characteristics of a public good R2: Start Point: Excludability in consumption ➔ Tool of Analysis: MSB/MSB & Effective DD/SS ➔ End Point: Whether roads in SG have characteristics of a public good									
Context	Roads in Singapore									
Approach	<table><tr><td colspan="2">Intro: Key definitions of concepts. 1 liner overview.</td></tr><tr><td>R1: SG roads show characteristic of non-rivalry in consumption to some extent</td><td>R2: SG roads show characteristic of non-excludability in consumption to some extent</td></tr><tr><td>E1: SG roads do not show characteristic of non-rivalry in consumption</td><td>E2: SG roads do not show characteristic of non-excludability in consumption</td></tr><tr><td colspan="2">Conclusion: Stand, Substantiation, Something Special</td></tr></table>		Intro: Key definitions of concepts. 1 liner overview.		R1: SG roads show characteristic of non-rivalry in consumption to some extent	R2: SG roads show characteristic of non-excludability in consumption to some extent	E1: SG roads do not show characteristic of non-rivalry in consumption	E2: SG roads do not show characteristic of non-excludability in consumption	Conclusion: Stand, Substantiation, Something Special	
Intro: Key definitions of concepts. 1 liner overview.										
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E1: SG roads do not show characteristic of non-rivalry in consumption	E2: SG roads do not show characteristic of non-excludability in consumption									
Conclusion: Stand, Substantiation, Something Special										

Introduction:

Public goods have three characteristics: non-rivalry, non-excludability and non-rejectability. Non-rivalry in consumption means that consumption of the good by one more person will not leave less for others to consume. Non-excludability in consumption means once provided, no one can be excluded from consuming the good, even if they do not pay. Non-rejectability can be defined as the inability of consumers to refuse the consumption of a good once it has been produced.

R1:

Singapore roads show the characteristic of non-rivalry in consumption to some extent. When traffic is very light, one driver's use of the road does not diminish the ability of others to use it effectively. This is evident for roads in secluded areas such as in Lim Chu Kang or ones near Singapore's nature reserves.

As a result, the Marginal Social Cost of providing the road to an additional driver is 0. To maximise society's welfare, roads should be provided at Qs

A2 – topic sentence addresses the question

C1, C2 – relevant examples applied to the context and concepts in the question

	where $MSB = MSC$. Since the MSC of providing roads is equal to 0, the good should be provided where $MSC = MSB = 0$, at zero price. However, a profit motivated producer has no incentive to produce at zero price as possible revenue earned is zero. Hence there is no effective supply, leading to total market failure and requiring government provision of the good. In Singapore, the implementation of roads is mostly overseen by government agencies such as the Land Transport Authority.	CD1 – good use of relevant tool of economic analysis CD2 – correct causal-effect explanation
	<u>Evaluation on R1:</u> However, during peak hours or in areas with high congestion, such as expressways like the Pan Island Expressway during the morning commute, roads become rivalrous. On congested roads, a driver's usage of the road diminishes the ability of other drivers to use the road effectively. As a result, the marginal social cost of providing the road to an additional driver is more than 0 and the good will be priced higher than 0, resulting in effective supply of the good. Thus, in this case, roads in Singapore do not exhibit a public good's characteristic of non-rivalry in consumption.	EV1 – ev point relevant to context and focus of the qn EV2 – use relevant econ terms in explanation and elaboration of ev point
	<u>R2:</u> Singapore roads also have the characteristic of non-excludability in consumption to some extent. There are over a thousand of free-to-use roads in Singapore and it may not be feasible to set up payment channels across every road to exclude non-payers from consuming the good. This leads to the free-rider problem. Since there is no feasible way of excluding non-payers from enjoying the benefits of the roads, consumers can consume roads without paying for them. Consumers would not be willing to pay for the roads and hence, there is no effective demand. Therefore, in a free market, private firms will not provide public goods as the firms are unable to derive the effective demand for it since no consumers will reveal their willingness and ability to pay for the public good.	A2 – topic sentence addresses the question C1, C2 – relevant examples applied to the context and concepts in the qn CD1 – good use of relevant tool of economic analysis CD2 – correct causal-effect explanation
	<u>Evaluation on R2</u> However, there are roads in Singapore such as the Central Expressway tunnel that are charged via Electronic Road Pricing gantries, showing that it is possible to exclude non-payers from using the roads in Singapore and thus, there is effective demand for them. In this case, roads in Singapore do not exhibit a public good's characteristic of non-rivalry in consumption.	EV1 – ev point relevant to context and focus of the qn EV2 – use relevant econ terms in explanation and elaboration of ev point
	<u>Overall conclusion</u> Overall, the roads of Singapore show the characteristics of a public good, non-rivalry and non-excludability, to a very limited extent. Due to our small size and large population, there are very rare instances where our roads see extremely light traffic. It is also quite feasible to put up gantries on our roads, as already evidenced by existing roads that have Electronic Road Pricing, and because the government has sufficient financial reserves to allocate to building such gantries if a need arises for them.	EV3 – clear stand that directly answers the questions

Knowledge, Understanding, Interpretation, Application and Analysis		
Level	Descriptors	Marks
L2	Responses in this level will provide detailed analysis on R1 and R2 in the context of Singapore, showing excellent ability to describe and explain relevant economic concepts, theories, and principles in a precise, logical and reasoned manner, with good use of extract evidence.	4-6
L1	Responses in this level will have some limited understanding of R1 and R2. There may be some basic content errors and limited or no application of economic concepts, theories and principles to the context of Singapore.	1-3
Evaluation		
Level	Descriptors	Marks
E2	One well explained evaluative statement or two weakly explained evaluative statements and a short summative conclusion that addresses the question.	2
E1	One evaluative statement that may be generic, weakly explained or not supported by the arguments presented in the answer.	1
(g)	Given that many road vehicles create unacceptable emission levels, discuss the view that the best policy to improve resource allocation is 'developing infrastructure that encourages walking and cycling to work.'	[10]
Command	Discuss – • evaluate the policy of 'developing infrastructure that encourages walking and cycling to work' and • compare it with another policy, • and then weigh if 'developing infrastructure that encourages walking and cycling to work' is the best policy'.	
Content	Policies to improve resource allocation in road vehicles – i.e. policies to reduces negative externalities caused by usage of road vehicles to achieve allocative efficiency. R1: Start Point(s) 'developing infrastructure that encourages walking and cycling to work.' ➔ Tool of Analysis Externality, MEC, MPC, MSC ➔ End Point(s) Effect on over-consumption, deadweight loss and Social efficient level MSC=MSB R2: Start Point(s) Alternative policy e.g. tax ➔ Tool of Analysis Externality, MEC, MPC, MSC ➔ End Point(s) Effect on over-consumption, deadweight loss and Social efficient level MSC=MSB	
Context	Developing infrastructure that encourages walking and cycling to work to address externalities (congestion and air pollution) from road vehicles Other policies to improve resource allocation in usage of road vehicles such as taxes on road usage: ERP in Singapore and London Congestion Charge in London	

Approach	R1: Developing infrastructure that encourages walking and cycling to work to improve resource allocation on road vehicles	R2: Alternative policies (tax on road usage) to improve resource allocation of road vehicles
	E1: Effectiveness of developing infrastructure that encourages walking and cycling to work	E2: Effectiveness of tax on road usage

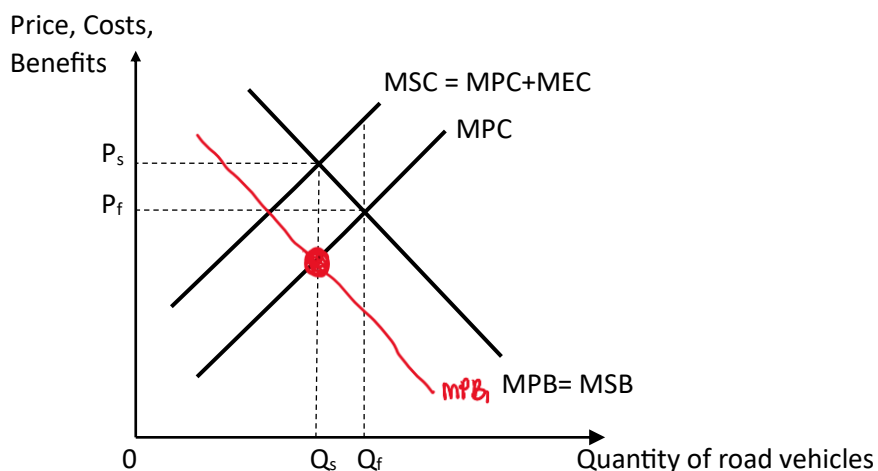
Suggested answer:

Introduction:

The use of road vehicles on the road has high negative externalities that leads overconsumption and deadweight loss, hence inefficient allocation of resources on roads. As mentioned in Extract 1, one measure government can adopt to achieve social efficiency level is by developing infrastructure that encouraged walking and cycling to work. Whether this is the best policy, we need to compare it with other policies such as taxation.

R1:

Developing infrastructure such as covered pavements and walkways linking to bus stops and train stations could be a way to encourage people to take alternative substitutes, such as public transport instead of private vehicles to work. Wider pavements and more designated bicycle lanes that connect between towns at shorter distances would increase connectivity between towns and hence encourage people to either walk or cycle to work during peak times.



Referring to the diagram above, before the development of infrastructure to encourage walking and cycling to work, the quantity of road vehicles is at market equilibrium Q_f where $MPB = MPC$. This will lead to a fall in MPB , from MPB to MPB^* . Hence consumers will consume $MPB^* = MPC$, arriving at a market output that coincides with Q_s . Therefore, overconsumption of road vehicles and deadweight loss are eliminated as allocation of resources improves.

Benefit of policy:

Development of infrastructure to encourage walking and cycling to work has positive unintended consequences. It improves the workers' health as walking and cycling are great forms of exercises. Hence developing infrastructure for walking and cycling not only increase labour productivity and hence improve economic growth but also reduces government spending on health care services as people are now more physically fit and healthier.

A2 – topic sentence addresses the question

C1, C2 – relevant examples applied to the context and concepts in the question

CD4 – well labelled relevant diagram

CD1 – good use relevant tool of economic analysis

CD2 – correct causal-effect explanation

CD3 – underlying assumption

CD5 – refer to diagram in explanation

Evaluation on R1:

8

However, such policy requires large government spending on infrastructure. Although the large spending may not lead to high government debt for Singapore given its budget surplus for several years, there is high opportunity cost as the fund could be used for other social development such as on education and healthcare. In a land-scarce country like Singapore, the opportunity cost is even higher as the land used to widen the walkways and build more bicycle lanes could be put to other uses. This policy may also not be feasible for cities with many historical buildings such as London. The opportunity cost of widening walkways along the already narrow lanes surrounded by these historical buildings would be even higher.

Additionally, the infrastructure for walking and cycling to work does not guarantee more people will walk or cycle to work as these may be deemed as poor substitutes for private vehicles. The MPB may not reduce sufficiently to achieve Q_s and eliminate the DWL. Hence, the overconsumption may not be fully addressed

EV1 – ev point relevant to context and focus of the qn

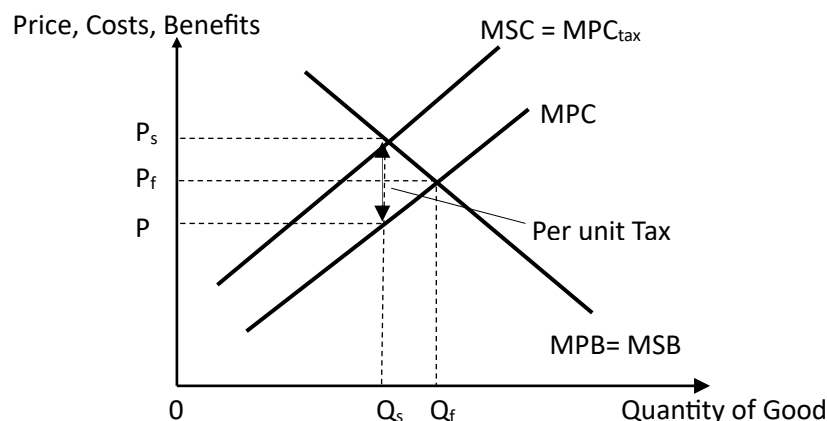
EV2 – use relevant econ terms in explanation and elaboration of ev point

EV1 – relevant ev point

EV2 – use relevant econ terms in explanation and elaboration of ev point

R2:

A policy that is less costly but may be equally effective in improving resource allocation of road vehicles would be taxation on road usage e.g. Singapore's ERP and the UK's London Congestion Charge. Such taxes increase the drivers' private cost of driving on the road. In the UK, the £12.50 daily charges on road vehicles that do not meet the ULEZ emissions will increase the drivers' MPC.



In the diagram above, originally, before the taxes, quantity of road vehicles is at market equilibrium Q_f where $MPB = MPC$. Assuming tax imposed is equal to MEC at social efficient level Q_s , this increases drivers' MPC to $MPC_{tax} = MSC$. The higher MPC causes road vehicle consumers to reduce their consumption to social efficiency level Q_s where their new equilibrium is at $MPC_{tax} = MPB$. Therefore overconsumption of road vehicles and deadweight loss are eliminated as allocation of resources is improved.

A2 – topic sentence addresses the question

C1, C2 – relevant examples applied to the context and concepts in the qn

CD4 – well labelled relevant diagram

CD5 – refer to diagram in explanation

CD1 – good use relevant tool of economic analysis
CD3 – underlying assumption
CD2 – correct causal-effect explanation

Evaluation on R2

However, the government may have imperfect information as the effect of the negative externalities is intangible and accumulative, so it is difficult for them to determine the correct MEC. Singapore's \$1 increase in ERP charges at peak times may not be equal to MEC at social efficiency level. Also, London's increase in the London Congestion charges over the years does not necessarily reflect the exact amount of increase in road congestion. Consequently, there's a risk of either over- or under-taxation. Under-taxation fails to eliminate deadweight loss (DWL), while over-taxation creates additional DWL.

EV1 – ev point relevant to context and focus of the qn

EV2 – use relevant econ terms in explanation and elaboration of ev point

Overall conclusion

Developing infrastructure for walking and cycling to work is indeed a good policy to improve resource allocation of road vehicles. Beside reducing the negative externality from consumption of road vehicles, there are other benefits (positive unintended consequences) such as reducing the country's healthcare costs, increasing labour productivity thereby economic growth and increase SOL.

However, such benefits may not outweigh the high cost of developing the infrastructure. The increase in supply of infrastructure e.g. dedicated cycling lanes and covered walkways does not automatically lead to increase in demand for such infrastructure as the increase in number of people switch to walking or cycling to work may not be significant.

Hence developing infrastructure for walking and cycling to work on its own is not the best policy to improve resource allocation of road vehicle.

To effectively improve resource allocation, the government should other policies to complement the development of infrastructure for walking and cycling to work, such as taxes on road vehicles. Tax of road usage such as ERP and London Congestion Charge would increase MPC of road vehicles. This would motivate people to switch to alternative mode of transport such as walking and cycling to work.

EV1 – ev point relevant to context and focus of the qn

EV2 – use relevant econ terms in explanation and elaboration of ev point

EV4- able to weigh pros and cons of the policy

EV3 – clear stand that directly answers the questions

EV5 – provide suitable recommendation with justification.

Knowledge, Understanding, Interpretation, Application and Analysis

Level	Analysis Level	Descriptors	Marks
L2	A+A A+C C+C C+K/0 A C	Responses in this level will provide detailed analysis on policy of developing infrastructure that encourage walking and cycling to work and an alternative policy such as taxes on road usage in the context of road vehicles, showing excellent ability to describe and explain relevant economic concepts, theories, and principles in a precise, logical and reasoned manner, with good use of extract evidence.	4-7
L1	K+K K	Responses in this level will have some limited understanding of policy of developing infrastructure that encourage walking and cycling to work and an alternative policy such as taxes on road usage. There may be some basic content errors and limited or no application of economic concepts, theories and principles to the context of road vehicles.	1-3

Evaluation

Level	Descriptors	Marks
E3	One well explained evaluative statement or two generic, weakly explained evaluative statements which are supported by the arguments	3

		presented in the answer. and a summative conclusion that addresses the question.		
	E2	One well explained evaluative statement or two generics, weakly explained evaluative statements which may not be supported by the arguments presented in the answer.	2	
	E1	One evaluative statement that may be generic, weakly explained or not supported by the arguments presented in the answer.	1	

[Total: 40]