Full Name	Class Index No	Class

Anglo-Chinese School (Barker Road)

END-OF-YEAR EXAMINATION 2022
SECONDARY TWO EXPRESS

GEOGRAPHY

1 HOUR 15 MINUTES

READ THESE INSTRUCTIONS FIRST
Write your name, class and index numbers in the space provided at the top of this page.
Write in dark blue or black pen.
You may use a HB pencil for any graphs or diagram.
The use of an approved scientific calculator is expected, where appropriate.
Do not use glue or correction fluid.

Section A and **B**
Answer all questions in the spaces provided.

INFORMATION FOR CANDIDATES:
The number of marks is given in brackets [ ] at the end of each question or part question.

*This document consists of **9** printed pages.*
Section A
This question is compulsory.

1.   Study Fig. 1, which shows the public housing policy by the Shanghai Housing Authority, China.

Housing to be more sustainable, affordable

Shanghai's new urban master plan proposes the development of more sustainable and affordable residential properties for the middle class.

The plan said that 3,200 square kilometers of land will be developed by 2040, with more efforts to make full use of underground spaces, reduce industrial land and secure land for public facilities and green belts*, according to a circular from Shanghai's municipal government.

The plan means that more public facilities such as gardens, libraries, open areas for entertainment and leisure will be offered to the general public to enhance their standard of living.

* Green belts: spaces used for planting trees

Fig. 1

(a)   With reference to Fig. 1, describe and explain how Shanghai's public housing policy is both inclusive and sustainable.

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(b)   With reference to an example, describe how formal urban housing meets the social and basic human needs of the community.

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(c)   Study Fig. 2, which shows the amount of waste being disposed, between 2018 and 2021, in Thailand.

Total Waste Disposed (Metric Tonnes)

Fig. 2

With reference to Fig. 2, describe and explain the overall trend in total waste disposed from 2018 to 2021.

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(d) 'In providing quality housing, taking care of people's health is more important than improving accessibility to amenities.' How far do you agree with this statement? Explain your answer with relevant examples.

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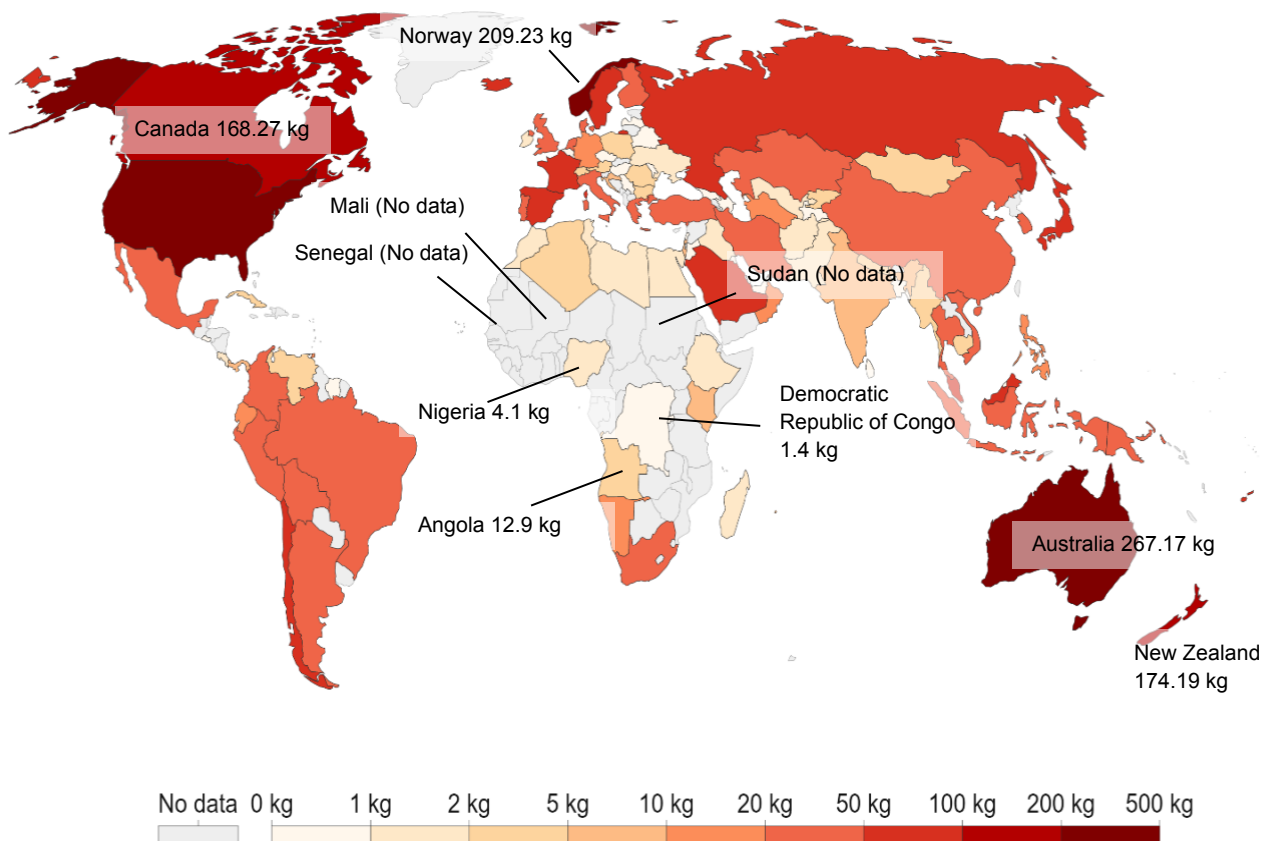
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Section B
This question is compulsory.

2. Study Fig. 3, which shows the carbon dioxide emissions from domestic aviation (flights) in 2018.

Fig. 3

(a) With reference to Fig. 3, describe the distribution of carbon dioxide emissions in 2018 around the world.

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(b) With reference to an example, describe how transport systems impact the physical environment.

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(c) Study Fig. 4, which shows the historic and projected population numbers in China and India from 1950-2100.

Historic and projected population

Past and projections of total population from the UN's medium fertility growth scenario.

Source: UN (2019)   CC BY
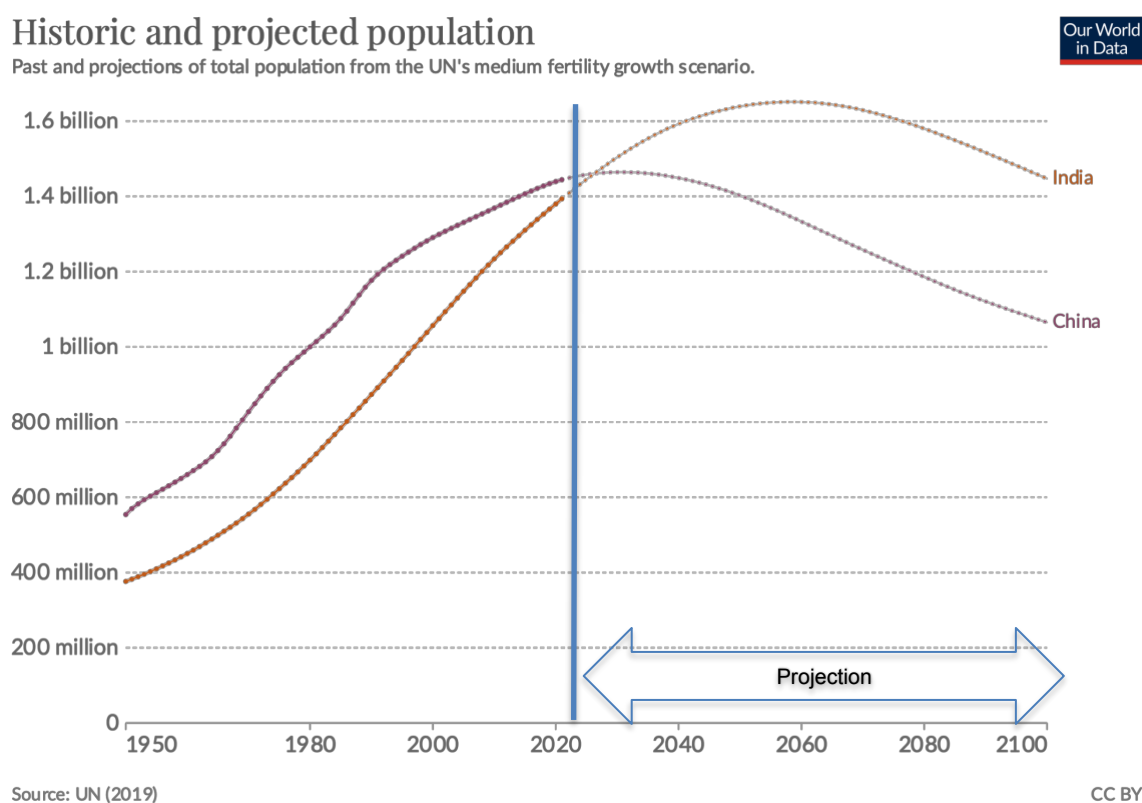
Fig. 4

With reference to Fig. 4, explain how transport authorities can use the projected data to plan for a more efficient transport system for commuters in India in 2040.

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(d)   Study Fig. 5, which shows some of the challenges people face in navigating public transport systems.

Transport systems to be more inclusive For people with disabilities, travelling often means navigating challenging locations and obstacles like stairs or gaps between train platforms and vehicles. Seniors, pregnant women or those who tore a ligament playing sport face many of the same issues, even if perhaps only temporarily.

Fig. 5

With reference to Fig. 5, suggest **two** suitable mobility improvements.

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(e)   'Transport policies and regulations are more important than integrated land use and transport planning to ensure a more sustainable transport system.' To what extent do you agree with this statement? Explain your answer with relevant examples.

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End of paper

[5]

Anglo-Chinese School (Barker Road)

END-OF-YEAR EXAMINATION 2022
SECONDARY TWO EXPRESS

GEOGRAPHY

ANSWER

1 HOUR 15 MINUTES

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Section A and **B**
Answer all questions in the spaces provided.

For Examiner's Use Only

36

INFORMATION FOR CANDIDATES:

The number of marks is given in brackets [ ] at the end of each question or part question.

*This document consists of **9** printed pages.*
Section A
This question is compulsory.

1.   Study Fig. 1, which shows the public housing policy by the Shanghai Housing Authority, China.

Housing to be more sustainable, affordable

Shanghai's new urban master plan proposes the development of more sustainable and affordable residential properties for the middle class.

The plan said that 3,200 square kilometers of land will be developed by 2040, with more efforts to make full use of underground spaces, reduce industrial land and secure land for public facilities and green belts*, according to a circular from Shanghai's municipal government.

The plan means that more public facilities such as gardens, libraries, open areas for entertainment and leisure will be offered to the general public to enhance their standard of living.

* Green belts: spaces used for planting trees

Fig. 1

(a)   With reference to Fig. 1, describe and explain how Shanghai's public housing policy is both inclusive and sustainable.

- Affordable residential properties means that generally most residents can pay for the properties
- The provision of more public facilities such as gardens, libraries, open spaces for entertainment and leisure to cater to a wide ranging needs of different groups of people (eg. Children, young adults and the elderly)
- The creation of green belts is to ensure a cleaner environment where trees can help absorb CO_2 and give out O_2
- The use of underground spaces and reduction of industrial land means lesser pollutants are emitted, creating a more sustainable living environment
- The use of underground spaces maximizes the limited land space, yet able to meet the needs of the people

[4]

Any 4 points

(b) With reference to an example, describe how formal urban housing meets the social and basic human needs of the community.
- Provision of a community club / hawker centre
- The club provides a social space and a variety of facilities and activities to cater to the needs of the people
- When people come to the club to make use of the facilities, it provides an opportunity for social interaction and bonding
- Provision of clean water supply and proper sanitation for waste disposal
- A place for people to buy goods and services

[4]

Any 4 points

(c) Study Fig. 2, which shows the amount of waste being disposed, between 2018 and 2021, in Thailand.

Total Waste Disposed (Metric Tonnes)

Year	33,804.75	27,991.26	27,440.99	33,742.31
	2018	2019	2020	2021

Fig. 2

With reference to Fig. 2, describe and explain the overall trend in total waste disposed from 2018 to 2021.

- The total waste disposal decreased from 2018 to 2020 before it went up in 2021
- In 2018, 33 804.75 metric tonnes were generated, then it went down to 27 440.99 metric tonnes in 2020 before it increased to 33 742metric tonnes in 2021
- One of the reasons for the decrease from 2018 to 2020 could be more people are aware of the importance to reduce waste to protect the environment from pollution
- Another reason could be many have adopted recycling of wastes to cut down of waste generation
- The increase in waste disposal from 2020 to 2021 could be due to pandemic lock down and people are buying more food or household items to stock up

[5]

Describe trend only: Max 3mks

(d) 'In providing quality housing, taking care of people's health is more important than improving accessibility to amenities.' How far do you agree with this statement? Explain your answer with relevant examples.

Taking care of people's health
- Access to clean water and proper sanitation reduce the risk of spread of diseases
- People will not fall sick easily
- Good living conditions include ensuring that there is no overcrowding and this can also reduce the spread of diseases such as residents contracting flu from infected person living in close proximity
- An example, in Singapore, every household has access to clean water and proper sanitation to dispose waste

Improving accessibility to amenities
- In order to enjoy good quality housing, different groups of residents must be able to access and enjoy the facilities
- For example, lifts and ramps must be installed at MRT stations so that people with disabilities can access public transport facilities with ease
- Other facilities include playground and exercise pit for children and adults to enjoy and also promote social interactions

Conclusion
To provide good quality housing, ensuring people's health is in good condition so that they can enjoy the amenities in the housing estate   [5]

Reserve 1mk for example
Reserve at least 1mk for description
Reserve at least 1mk for explanation
Reserve 1mk for conclusion

Max 3mks if only 1 factor is discussed

L1 – 1mk: Brief description of 1 factor
L2 – 2-3mks: Describe 1 factor (2mk), describe 2 factors (3mks) or describe and explain 1 factor (3mks)
L3 – 4-5mks: Describe and explain 2 factors (4mks), describe and explain 2 factors with conclusion (5mks)
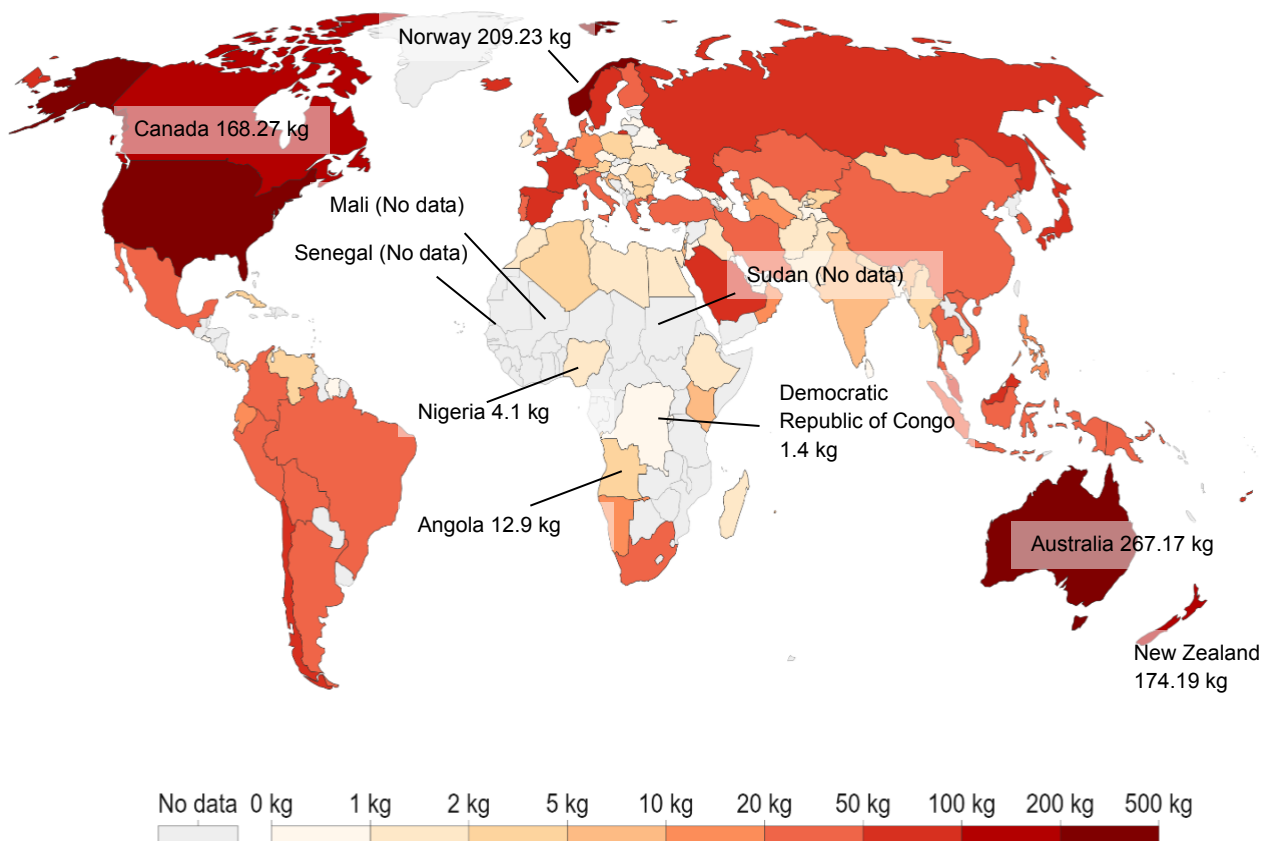
Section B
This question is compulsory.

2.

Per capita CO₂ emissions from domestic aviation, 2018

Domestic aviation represents flights which depart and arrive within the same country.

Our World in Data

Norway 209.23 kg

Canada 168.27 kg

Mali (No data)

Senegal (No data)

Sudan (No data)

Nigeria 4.1 kg

Democratic Republic of Congo 1.4 kg

Angola 12.9 kg

Australia 267.17 kg

New Zealand 174.19 kg

No data	0 kg	1 kg	2 kg	5 kg	10 kg	20 kg	50 kg	100 kg	200 kg	500 kg

Source: Graver, Zhang & Rutherford (2019). International Council of Clean Transportation (ICCT).   CC BY
Note: Per capita emissions are calculated as the mean, and do not account for within-country differences in air travel.

(a) With reference to Fig. 3, describe the distribution of carbon dioxide emissions in 2018 around the world.
- There is a somewhat uneven distribution of carbon dioxide around the world.

  (also accept alternative answers such as more affluent countries and continents have higher emissions)
- The countries with the highest emissions are in the North America (Canada 4th at 168.27kg), Australia (Most at 267.17kg) and Europe (Norway 2nd at 209.23kg) continents with 3 out of 10 countries.
- An anomaly would be some countries with no data such as Senegal, Sudan and Mali.

[3]

Reserve 1mk for stating figures. Max 2m if no evidence.

Examiner's comments:

- Most were able to state general distribution pattern but not all were able to cite Evidence.

- Some were listing instead of displaying meaningful data categories like most/ least/ 2nd most.

- Students need to apply the 3-step skill: Describe general distribution, give examples and state anomaly.

(b) With reference to an example, describe how transport systems impact the physical environment.
Describe
- Flora and fauna habitats are lost when natural vegetation is cleared to build transport systems such as roads, tunnels etc.
- Natural landscapes such as mountains, rivers channels, slopes and seas are also altered to allow transport modes to access them.
- Increased carbon footprint due to the release of greenhouse gases during human activities such as burning of fossil fuels to power motorised transport modes.
- Example: building of the Bukit Timah Expressway (BKE) removed natural vegetation from the Bukit Timah Nature reserve and the Central Catchment Nature Reserve.
- Example: Singapore River was diverted twice to allow for the safe construction of the Downtown line stations running from Fort Canning to Chinatown.

[4]

Reserve 1m for example

Examiner's comments:

- Some did not reference an example as requested by the question.
- Some listed human or indirect impacts like global warming and melting of polar ice caps/ harm to human health like respiratory illnesses.

(c) Study Fig. 4, which shows the historic and projected population numbers in China and India from 1950-2100.

Historic and projected population
Past and projections of total population from the UN's medium fertility growth scenario.
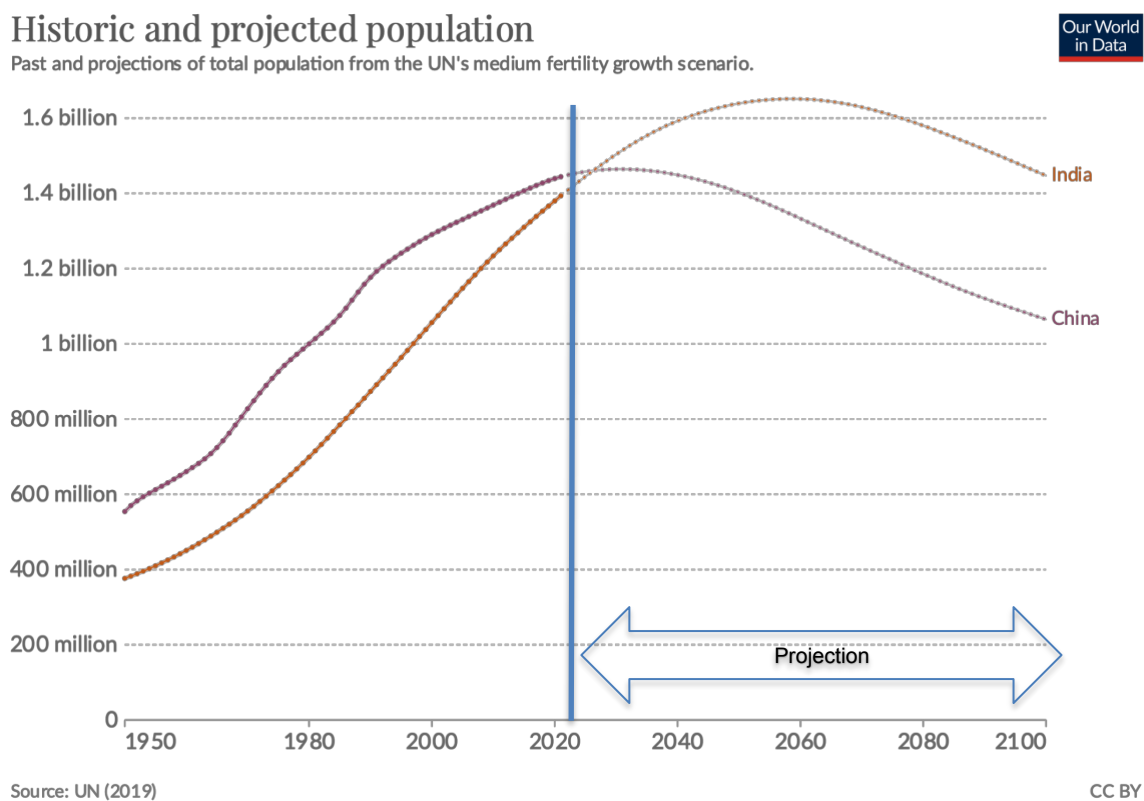
Fig. 4

With reference to Fig. 4, explain how transport authorities can use the projected data to plan for a more efficient transport system for commuters in India in 2040.

- There will be population growth from now till 2040 in India. This would mean a higher population density and transport authorities must plan to ease congestion.
- They can do so by increasing the capacity of vehicles or the whole network and infrastructure.
- Large cities with very high population densities will need a larger transport system capacity to handle large volume of people and goods and services.
- Concentration of activities and high-density housing: some locations have higher

density housing which may mean that the distance between nodes need to be closer, so that there is easier access to services and businesses that attract more people than other locations.
- Hence it would make sense to set up major transport nodes in areas with high concentration of activities.
- Increase accessibility which is the ease of reaching destinations or activities. Ensuring that locations have high accessibility so that it can be accessed from many places with relative ease within a given time frame and cost would help to ease congestion.

[4]

Examiner's comments:

- Some explained how data can be use in a very generic sense. Max 1m if they mentioned population increase.
- Candidates must use the concepts of the 3 characteristics of transport systems: Density of network, quality of transport infrastructure and variety of transport modes to elaborate.
- Not accepted: improving mobility for PWDs or elderly or setting up of ERP so government can earn money.

(d)   Study Fig. 5, which shows some of the challenges people face in navigating public transport systems.

Transport systems to be more inclusive

For people with disabilities, travelling often means navigating challenging locations and obstacles like stairs or gaps between train platforms and vehicles.

Seniors, pregnant women or those who tore a ligament playing sport face many of the same issues, even if perhaps only temporarily.

Fig. 5

With reference to Fig. 5, suggest **two** suitable mobility improvements.

- Wheelchair ramps
- Rail/ handle bars
- Lift with platform access
- Travellator
- Priority seats

[2]

Examiner's comments:

- Few did not actually suggest an improvement. 'Authorities could reduce the gaps between platforms' is not an improvement. 'Install a platform with a narrower gap' is an improvement.

(e) 'Transport policies and regulations are more important than integrated land use and transport planning to ensure a more sustainable transport system.' To what extent do you agree with this statement? Explain your answer with relevant examples.

Transport policies and regulations
- Laws and policies can be implemented to manage demand for transport
- Eg. Car-lite policies can discourage the use of private vehicles (e.g. COE, Congestion pricing (ERP))
- E.g Walk and cycle scheme can encourage commute on public transport
- when public transport is efficient, it becomes an attractive alternative to private transport and encourages more ridership

Integrated land use and transport planning
- Successful integrated land use and transport planning increases accessibility between locations.
- This can be done by reducing travel time, ensuring safe travel, making travel, affordable, convenient and environmentally friendly.
- Land use plans are set up by the authorities to shape the future locations and types of development (e.g. residential or industrial) that are permitted in the zones over a period of time.
- This influences the demand for travel and distance to travel for employment and services.
- Transport planning involves looking at current state of transport, then predicting and designing the operation, provision and management of transport infrastructure and services for current and future needs.
- Conclusion

Criteria: Long-term vs. Short term

Transport policies and regulations are more important in the short run to a large extent as it is able to influence demand directly and quickly. However, in the long run, Integrated land use and transport planning needs to be factored in such that future needs are accounted for to continue to make transport safer, smarter and more convenient in years to come.   [5]

<u>Examiner's comments:</u>

- Some candidates only considered 1 factor/strategy.
- Some did not use relevant examples that links to they key concept of 'sustainability'.

Accept alternative conclusion if justification given is appropriate

Reserve 1mk for example
Reserve at least 1mk for description
Reserve at least 1mk for explanation
Reserve 1mk for conclusion

Max 3mks if only 1 factor is discussed

L1 – 1mk: Brief description of 1 factor

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L3 – 4-5mks: Describe and explain 2 factors (4mks), describe and explain 2 factors with conclusion (5mks)

TOS

Section	Structured Questions with no more than 6 parts each The max. number of marks per part will be capped at 5			AO1+AO2	AO1+AO3
A	1a				4
	b			4	
	c				5
	d			5	
	Total			**9**	**9**
B	2a				3
	b			4	
	c				4
	d				2
	e			5	
	Total			*9*	9
	Grand Total				36