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INDEX NUMBER

# Anglo-Chinese School

(Independent)



## MID-YEAR EXAMINATION 2021 INTEGRATED PROGRAMME YEAR 2

### GEOGRAPHY

Monday

10 May 2021

1 hour

#### INSTRUCTIONS TO CANDIDATES

**Do not open this booklet until you are told to do so.**

Write your index number in the boxes at the top of this page.  
Write in dark blue or black pen.

You may use a soft pencil for any diagrams and graphs.  
Do not use staples, paper clips, highlighters, glue or correction fluid.

#### Section A

Answer **all** the questions.

#### Section B

Answer **all** the questions.

Write all answers in the spaces provided.

Candidates should support their answers with the use of relevant examples.

Sketch maps and diagrams should be drawn whenever they serve to illustrate an answer.

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

For examiner's use

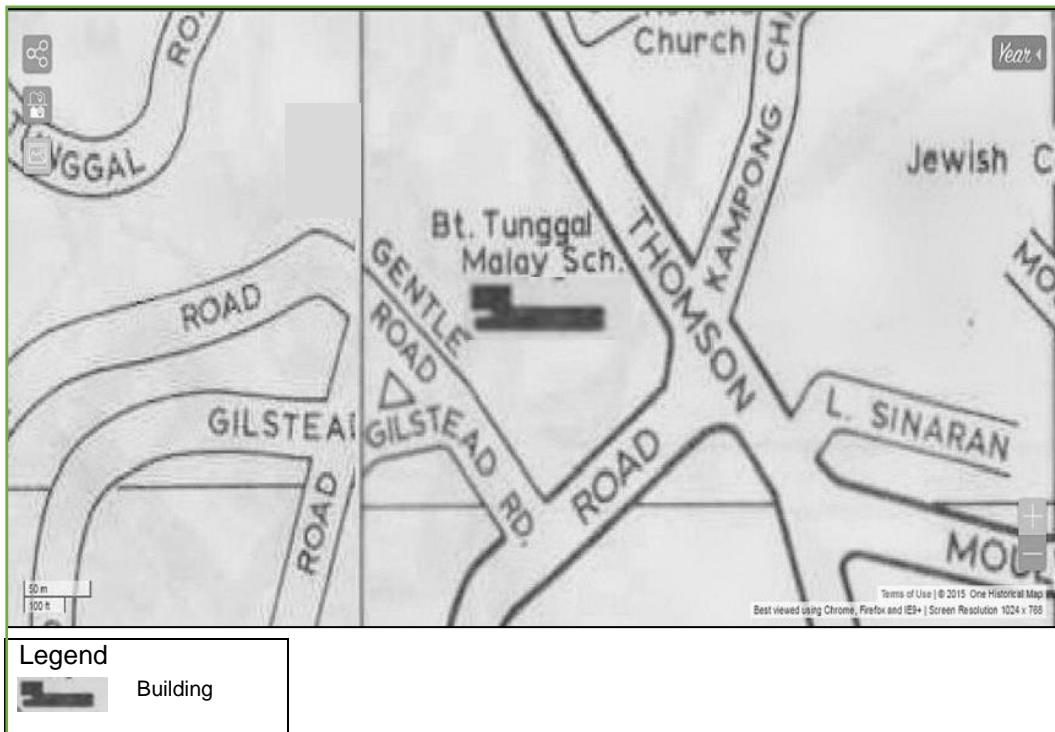
Question No	Marks obtained
1	/5
2	/9
3	/3
4	/3
5	/5
6	/5
Total	/30

This question paper consists of **12** printed pages.

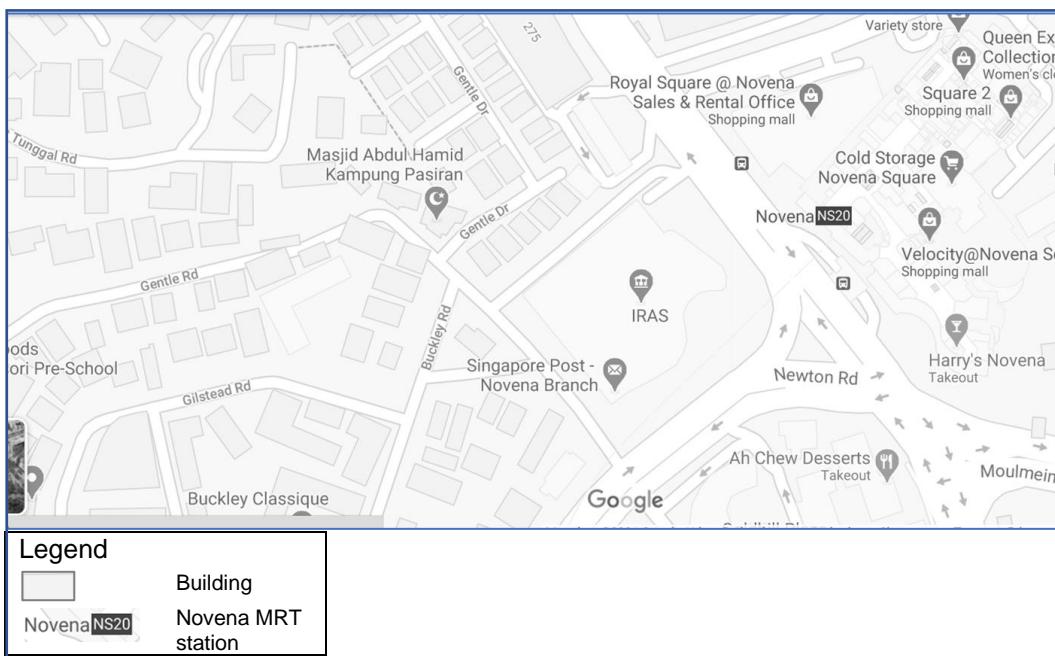
[Turn Over

### Section A: Mapwork [5 marks]

**Figs. 1 and 2** are map extracts (not drawn to scale) of Novena and Newton in 1966 and 2021, respectively. Study the maps and answer the questions that follow.



**Fig. 1**  
**Map extract of Novena and Newton (1966)**  
*(Source: One Historical Map)*



**Fig. 2**  
**Map extract of Novena and Newton (2021)**  
*(Source: Google Maps)*

- 1(a) Study **Figs. 1 and 2** and describe the differences in the facilities/amenities and transport network in the area in 1966 and 2021.

[3]

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- (b) With reference to **Fig. 2**,

- (i) find the direction of the revenue house (IRAS) from Novena MRT station (NS20).

[1]

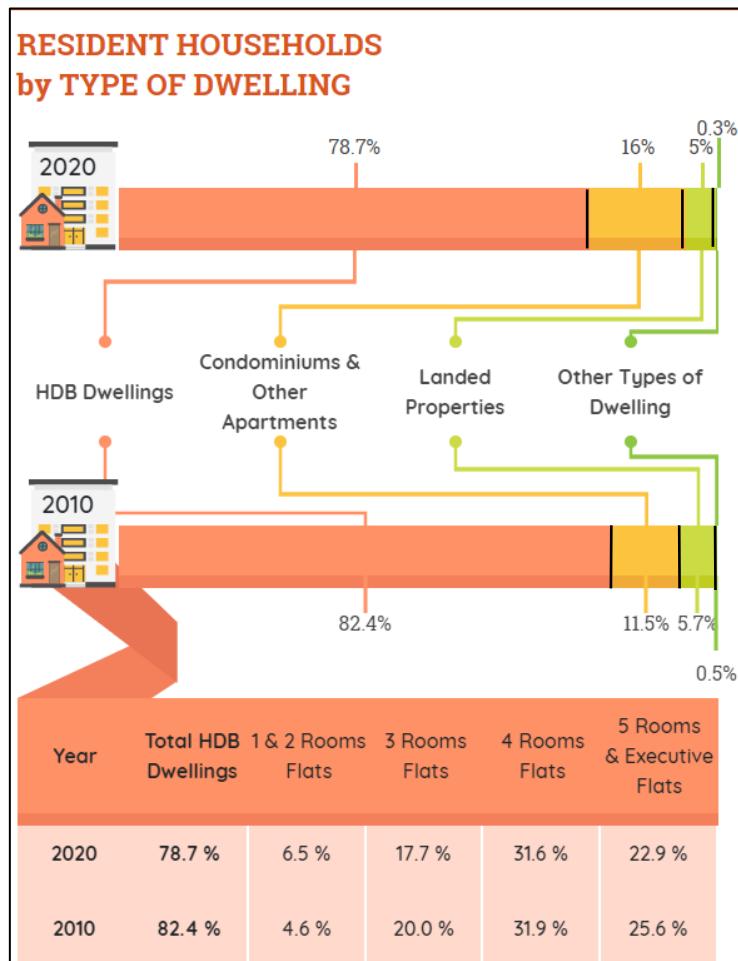
- 
- (ii) given that the actual straight-line distance between the 'Singapore Post, Novena Branch' and 'Ah Chew Desserts, Takeout' is 2.1km, express the scale of the map in the form of  $1:n$ .

[1]

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## Section B: Structured Questions [25 marks]

2. **Fig. 3** compares the resident households by the type of dwelling in Singapore in 2010 and 2020.



**Fig. 3**  
(Source: Department of Statistics, Singapore)

- (a)(i) With reference to **Fig.3**, compare the changes in the HDB dwelling by type of flats from 2010 to 2020. [3]

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- (ii) With reference to **Fig.3**, suggest and explain the reasons for the changes in type of dwelling and type of flats. [4]

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- (b) Describe **two** ways Singapore has provided inclusive housing. [2]

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3. With reference to a named example, describe the success of the slum upgrading effort in the Rocinha Favela in Brazil. [3]

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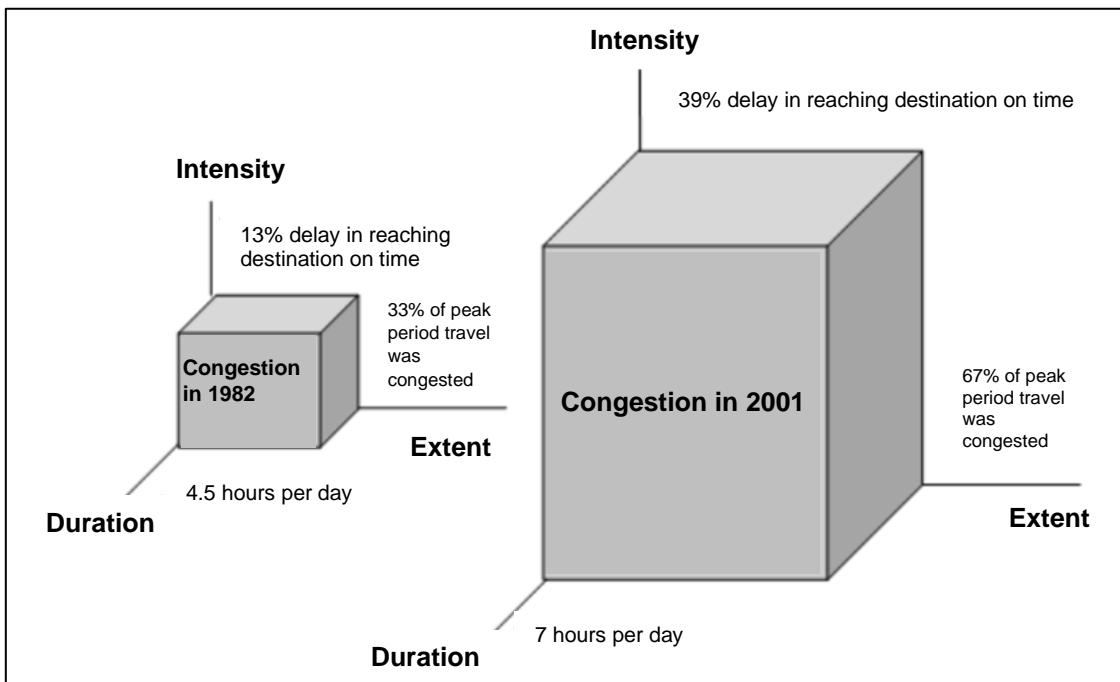
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4. Study **Fig. 4**, which illustrates the data collected on the Weekday Peak-Period Congestion in the United States in 1982 and 2001.



**Fig. 4**

(Source: *United States Department of Transportation - Federal Highway Administration, Office of Operations*)

- (a) Define 'traffic congestion'.

[1]

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- (b) Using evidence from **Fig. 4**, describe the relationship between congestion and the time taken to reach the destination. [2]

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5. Fig. 5 is an article on traffic congestion in the top 10 cities in the world in 2019.

**Fig. 6** shows the locations of the top 10 cities with traffic congestion 2019.



**Fig. 5**

(Source: Times of India)



**Fig. 6**

(Source: Google Maps)

- (a) With reference to Figs. 5 and 6, name the country with the most traffic congestion in 2019. [1]
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- (b)** Describe why 'peak time traffic' leads to traffic congestion. [2]

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- (c) Explain how congestion affects productivity. [2]

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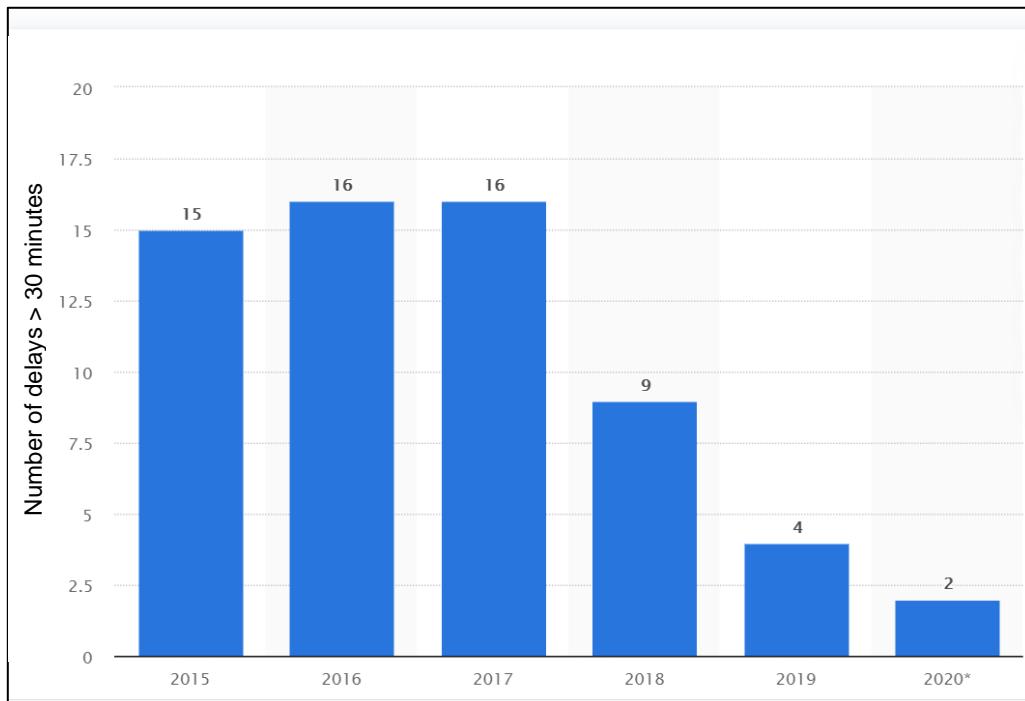
**6.** Study **Figs. 7 and 8** and answer the questions that follow.

This small city-state is served by a network of 3,122 kilometers of highways, 99 percent of which are paved. In the 1970s and 1980s, there was a steep increase in private car ownership, which led to traffic congestion and rising air pollution. The government reacted swiftly, investing significant sums in public transport, especially the mass transit system. It also restricted private car usage on Singaporean roads, using different measures, including taxes and Certificates of Entitlement. By the 1990s, 83 kilometers of mass rapid transit system, and 11 kilometers of light rapid transit system had been built, and the country could boast of an excellent public transport system, praised for its safety, quality of service, and punctuality. In 1998, the government launched a S\$1.7 billion project to build a new transit line.

**Fig. 7**

(Source: [www.nationsencyclopedia.com](http://www.nationsencyclopedia.com))

Number of delays lasting more than 30 minutes of the mass rapid transit (MRT) network in Singapore from 2015 to 2020



**Fig.8**

(Source: [Statista.com](https://www.statista.com))

With reference to **Figs. 7** and **8**, discuss if Singapore has high quality transport infrastructure. In **150 to 200 words**, support your opinion with reasons and examples.

[5]

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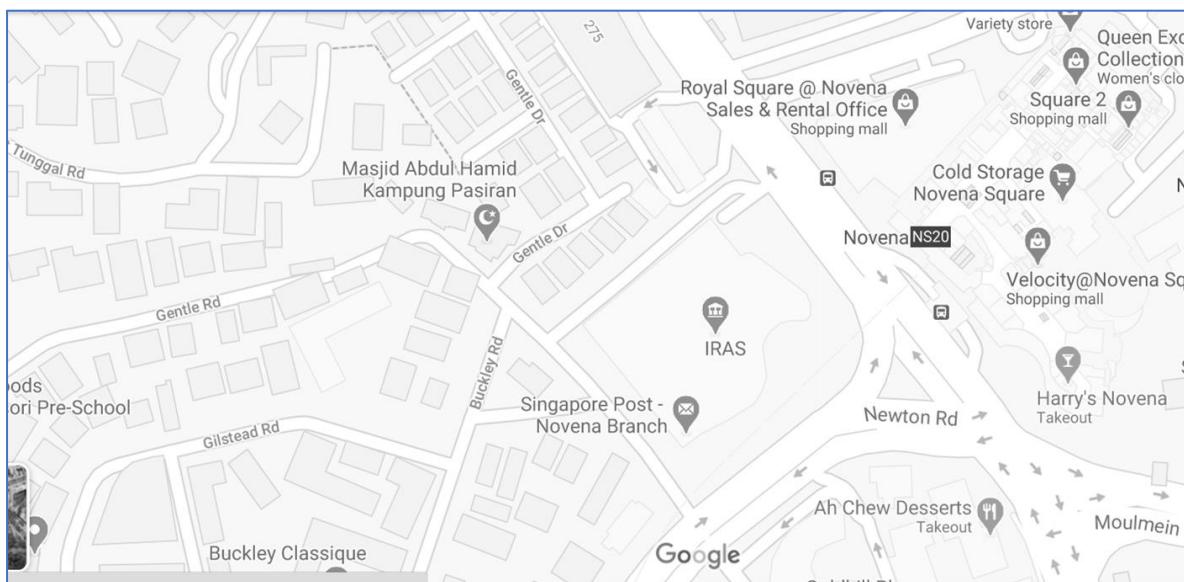
# ANSWERS

## Section A: Mapwork [5 marks]

**Fig. 1 and 2** are map extracts (not drawn to scale) of Novena and Newton in 1966 and 2021, respectively. Study the maps and answer the questions that follow.



**Fig. 1**  
**1966 Map of Novena and Newton**  
(Source: *The Straits Times*)



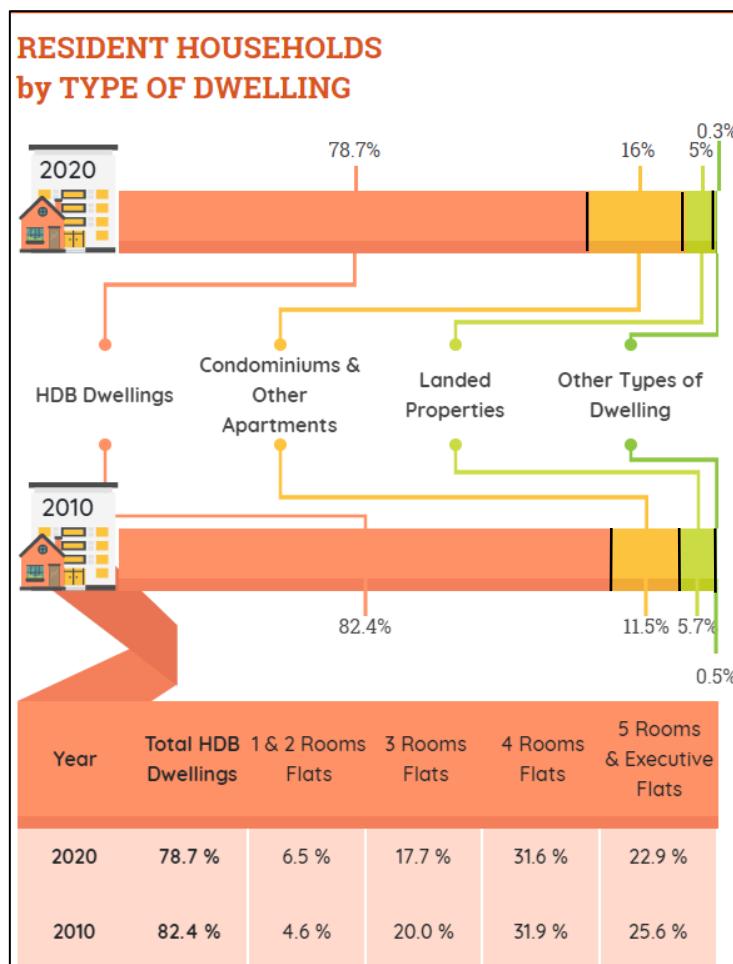
**Fig. 2**  
**2021 Map of Novena and Newton**  
(Source: Google Maps)

[Turn Over

<b>1(a)</b>	Study <b>Figs. 1 and 2</b> and describe the differences in the facilities/amenities and transport network in the area in 1966 and 2021.		[3]
	<p><u>Facility/Amenity</u></p> <ul style="list-style-type: none"> <li>- Inclusion of MRT, shopping centres- Velocity</li> <li>- More buildings in 2021</li> <li>- More Restaurants in 2021</li> </ul> <p><u>Road</u></p> <ul style="list-style-type: none"> <li>- More minor roads in 2021 and rerouting of roads</li> <li>- Increase in road density to serve the entire area of land and there are more alternative routes</li> </ul> <p>Any 3 marks, at least one point for facility/ amenity AND road Accept other plausible answers.</p>		
<b>(b)</b>	With reference to <b>Fig. 2</b> ,		[1]
<b>(i)</b>	State the direction of the revenue house (IRAS) from Novena MRT station (NS20).		
	South-west		
<b>(ii)</b>	Given that the actual straight-line distance between the 'Singapore Post, Novena Branch' and 'Ah Chew Desserts, Takeout' is 2.1km, express the scale of the map in the form of <b>1:n</b> .		[1]
	<p>1: 50000 [1]</p> <p>Distance on the map= 4.2cm 4-4.4 accepted. So 'n' can have a range of: <math>n = 47727 - 55263</math></p>		

### Section B: Structured Questions [25 marks]

2. **Fig. 3** compares the resident households by type of dwelling in Singapore in 2010 and 2020.

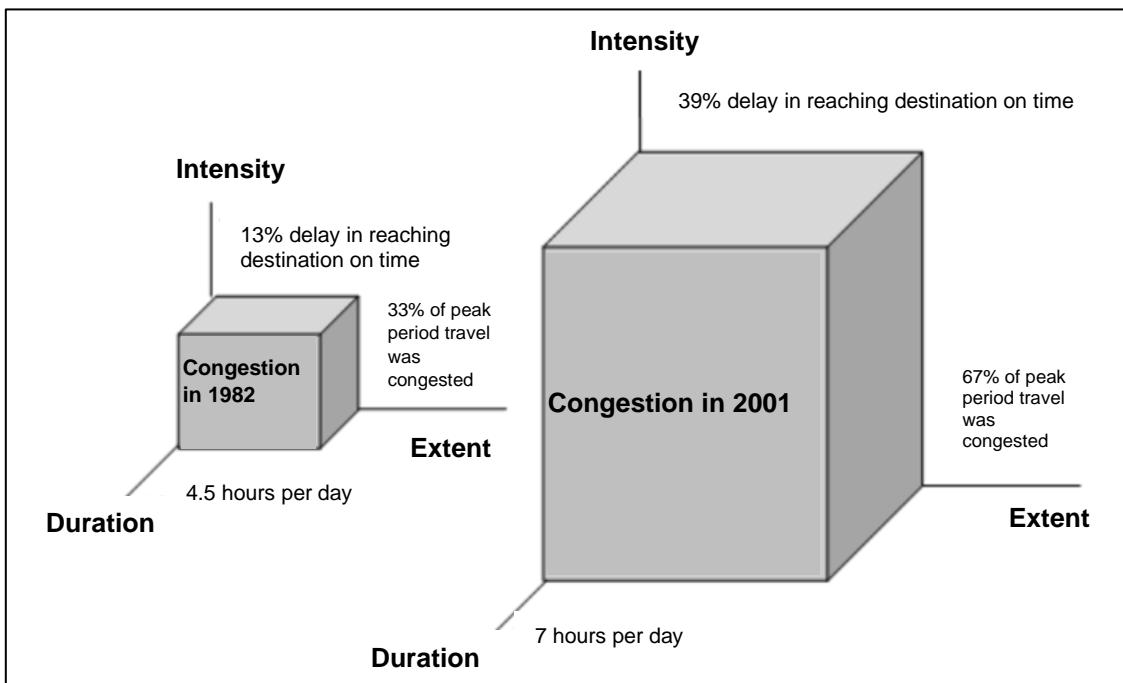


**Fig. 3**  
(Source: Department of Statistics, Singapore)

(a)(i)	With reference to <b>Fig.3</b> , compare the changes in the HDB dwelling by type of flats from 2010 to 2020. [3]
	All types had a decrease except for 1 & 2 Room flats. [1] 1 & 2 room flats increased from 4.6% to 6.5% (+1.9%) [1]  3-room decreased from 20% to 17.7% (-2.3%) [1] OR 4-room decreased from 31.9% to 31.6% (-0.3%) [1] OR 5-room decreased from 25.6% to 22.9% (-2.7%) [1]  5-room flats had the biggest change of 2.7% [1]
(ii)	With reference to <b>Fig.3</b> , suggest and explain the reasons for the changes in type of dwelling and type of flats. [4]
	- More elderly/singles prefer to stay in smaller units & Singapore is moving towards an ageing population so the need was

	<p>matched with more availability of 1 &amp; 2 room flats in 2020 as compared to 2010. [1]</p> <ul style="list-style-type: none"> <li>- Increase in income- able to afford housing with higher prices so people upgraded from public housing to private housing leading to people moving out of the 3-5room flats to other dwellings such as condominiums/landed/other types of private houses. [1]</li> </ul> <p>Accept other plausible answers</p>	
(b)	<p>Describe <b>two</b> ways Singapore has provided inclusive housing.</p> <p>Affordable housing- housing that is priced at a reasonable cost, availability of financial schemes available such as the AHG, [1]</p> <p>Different house types catering to needs of families with different income levels and family size [1]</p> <p>Sense of place and belonging by having distinctive physical features and landmarks such as monuments and gardens can give a place its visual quality, character and identity which allows people to recognise and recall a place easily and contribute to one's sense of place and belonging. [1]</p> <p>Ethnic integration policy- inclusion of all races by specifying an ethnic quota for each block and public housing estate. [1]</p> <p>Facilities and amenities for all ages such as 3G playground comprising of a playground, adult fitness corner and wellness stations for seniors catering to the needs of a multigenerational family. [1]</p> <p>Any 2x 1 marks</p>	[2]
3.	<p>With reference to a named example, describe the success of the slum upgrading effort in the Rocinha Favela in Brazil.</p> <p>Self help scheme- improved the quality of housing [1]        Most of wooden houses replaced by concrete houses. [1]        75% of homes have electricity compared to 30 % [1]        Services such as piped water systems and rooftop water tanks added to the houses [1]        Proper sanitation facilities such as toilets and sewers built. [1]</p> <p>Any 3 x 1 marks        No mention of 'self-help scheme'- max 2 marks</p>	[3]

4. Study **Fig. 4**, which illustrates the data collected on the Weekday Peak-Period Congestion in the United States in 1982 and in 2001.



**Fig. 4**

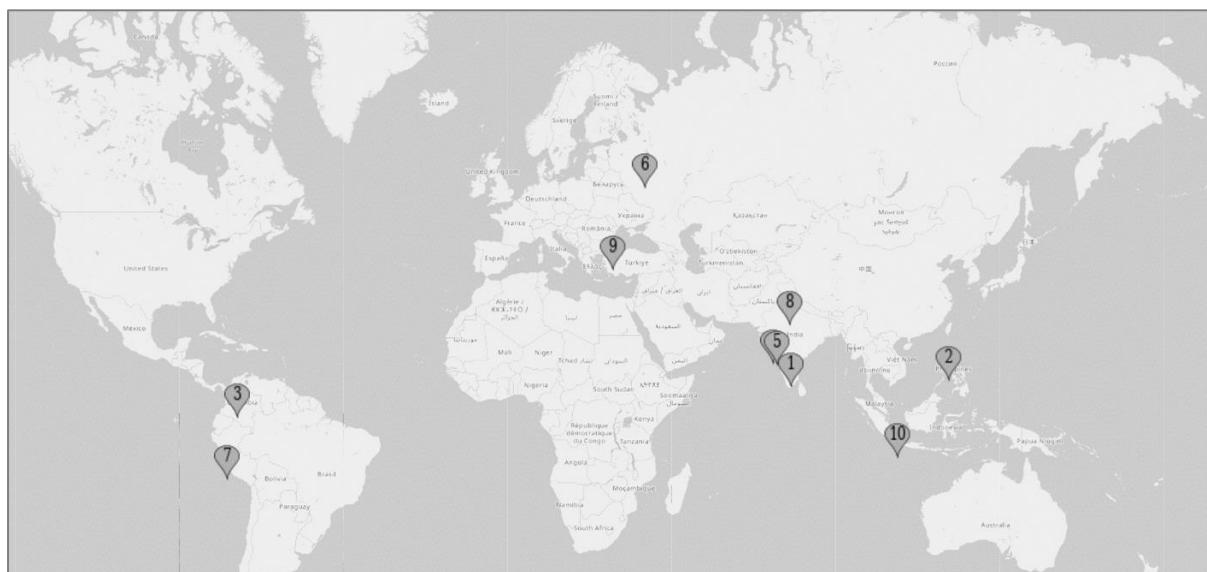
(Source: *United States Department of Transportation - Federal Highway Administration, Office of Operations*)

(a)	Define 'traffic congestion'.	[1]
	It is a situation where there are more vehicles than the road can handle [1]	
(b)	Using evidence from <b>Fig. 4</b> , describe the relationship between congestion and the time taken to reach the destination.	[2]
	Positive relationship- more congestion, longer to reach the destination [1]  OR  In 1982, 33% of peak period travel is congested and there was only 13% delay in reaching the destination and when it became more congested in 2001- 67% of peak period was congested,[1] the delay also increased to 39%. [1]	

5. **Fig. 5** is an article on traffic congestion in the top 10 cities in the world in 2019.  
**Fig. 6** shows the locations of the top 10 cities with traffic congestion in 2019.



**Fig. 5**  
(Source: *Times of India*)



**Fig. 6**  
(Source: *Google Maps*)

[Turn Over

(a)	With reference to <b>Fig. 5 and 6</b> , name the <u>country</u> with the most traffic congestion in 2019.	[1]
	India [1]	
(b)	Describe why 'peak time traffic' leads to traffic congestion.	[2]
	Peak time traffic → time of the day when traffic is the highest. [1] due to Separation of work and residential areas [1] Providing and obtaining goods and services. [1]	
(c)	Explain how congestion affects productivity.	[2]
	People have to spend more time commuting [1] this wastes time that could be spent on productive work [1]	

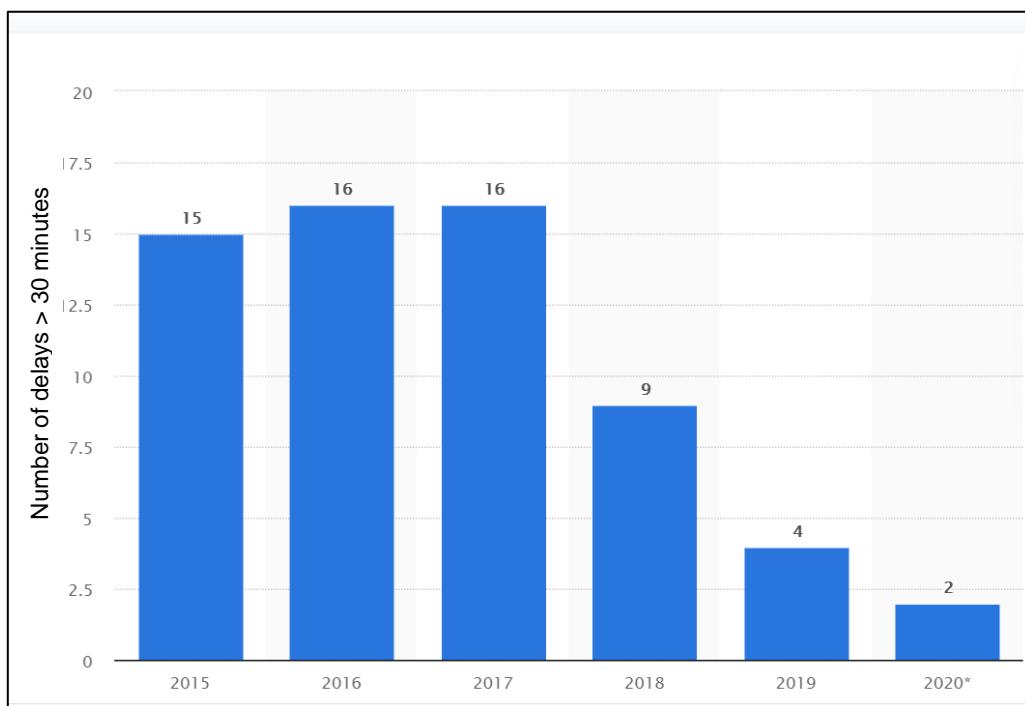
6. Study **Fig. 7** and **8** and answer the questions that follow.

This small city-state is served by a network of 3,122 kilometers of highways, 99 percent of which are paved. In the 1970s and 1980s, there was a steep increase in private car ownership, which led to traffic congestion and rising air pollution. The government reacted swiftly, investing significant sums in public transport, especially the mass transit system. It also restricted private car usage on Singaporean roads, using different measures, including taxes and Certificates of Entitlement. By the 1990s, 83 kilometers of mass rapid transit system, and 11 kilometers of light rapid transit system had been built, and the country could boast of an excellent public transport system, praised for its safety, quality of service, and punctuality. In 1998, the government launched a S\$1.7 billion project to build a new transit line.

**Fig. 7**

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**Fig.8**

(Source: [Statista.com](https://www.statista.com))

	With reference to <b>Fig. 7</b> and <b>8</b> , discuss if Singapore has high quality transport infrastructure. In between <b>150 words to 200 words</b> , support your opinion with reasons and examples.			<b>[5]</b>
	<p>Yes- 99% paved highways, after increase in private car ownership</p> <ul style="list-style-type: none"> <li>-safe</li> <li>- punctual</li> <li>-high investments in transport infrastructure</li> <li>- reduce in major MRT breakdowns from 2012 to 2020</li> </ul> <p>No- there are MRT breakdowns- compromises on efficiency and reliability.</p>			
	Level 1	1-2 marks	Strategy / opinion is not explained clearly. Reasons/pros/cons and examples are not evident in support of the discussion.	
	Level 2	3-4 marks	Strategy / opinion is explained clearly. Reasons/pros/cons and examples are evident in support of the discussion.	
	Level 3	5 marks	Strategy / opinion is explained clearly. Reasons/pros/cons and examples are evident in support of the discussion. Conclusion is well discussed.	