

Section A: Map Reading (5 marks)

Answer all short answer questions in the spaces provided

- 1 Study **Fig. 1** below, which shows a map of Prague village and answer the following questions.

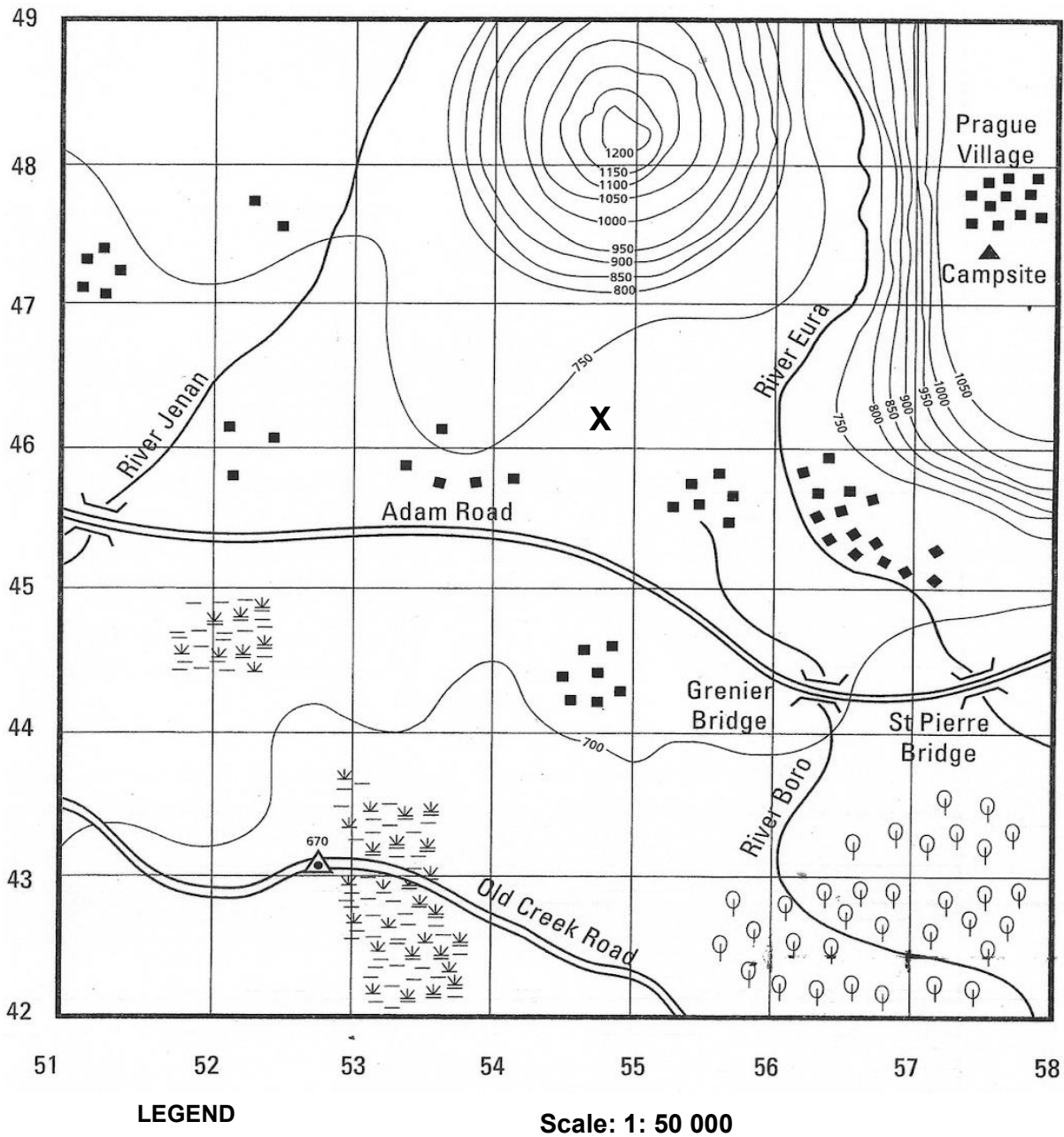


Fig. 1

(a) What is the four-figure grid reference of the campsite?

..... [1]

(b) What is the six-figure grid reference of **X**?

..... [1]

(c) What is the distance between **X** and the trigonometrical station?
Express your answer in km. (1 dec.point)

.....
.....
..... [1]

(d) What is the direction of **X** from the campsite?

..... [1]

(e) According to the map, what is one possible use of River Eura?

.....
..... [1]

Section B (30 marks)

Answer all short answer questions in the spaces provided.

- 2 Study **Fig. 2A**, which shows the proportion of slums and **Fig. 2B**, which shows the occurrence of fire outbreak in Manila, Philippines.

Proportion of slums and the occurrence of fire outbreak in the slums in Manila, Philippines

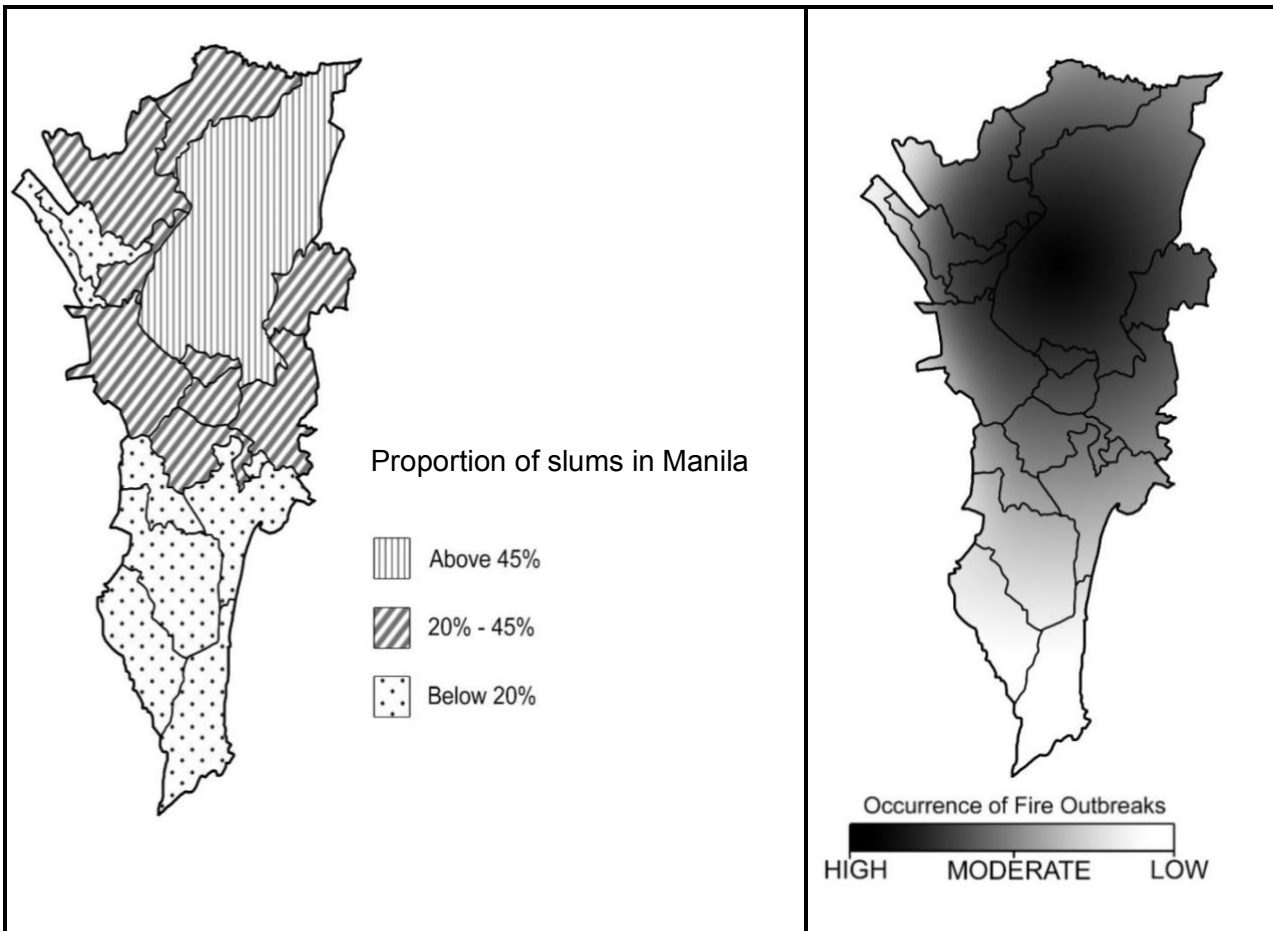


Fig. 2A

Fig. 2B

(ii) With reference to **Fig. 2A and 2B**, describe and explain the relationship between the proportion of slums and the occurrence of fire outbreaks in Manila, Philippines.

(b) Study **Fig. 3**, which shows **Feature Y**, an inclusive feature in housing estates in Singapore.

Inclusive Feature Y



Fig. 3

With reference to **Fig. 3**, identify **Feature Y** and evaluate its effectiveness in making public housing in Singapore more inclusive.

Feature Y:

Benefit:

Limitation:

[3]

- 3 (a)** With reference to a named example, explain why major transport nodes are located in areas with a high concentration of economic activities.

[3]

- (b)** Study **Fig. 4**, which show features in Silver Zones across Singapore.

Annotate on Fig. 4 below, two features of the Silver Zone which improve mobility for its users.

(You may use the spaces below and beside Fig. 4 for your answers.)

[4]

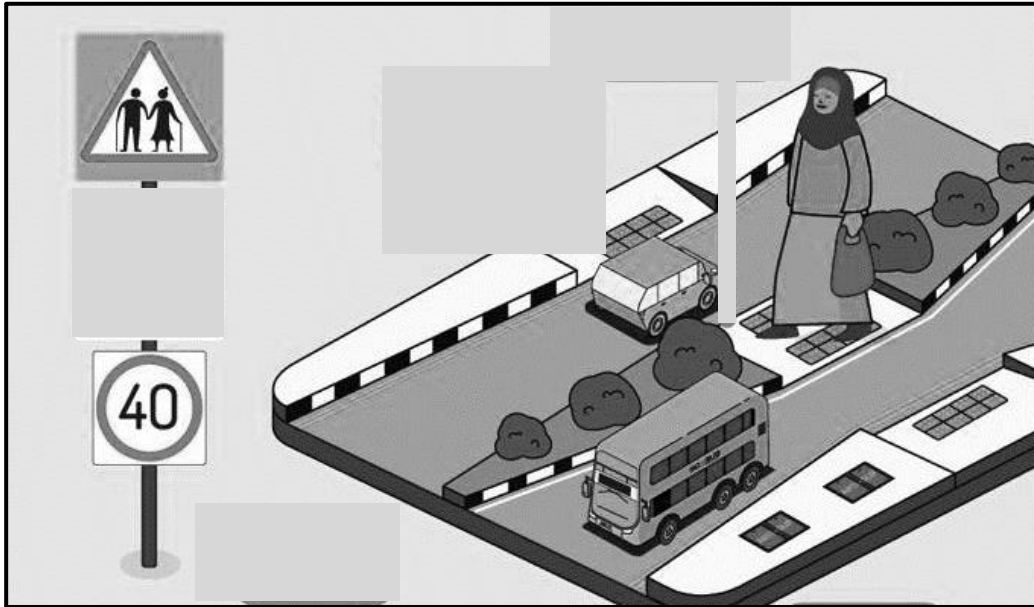


Fig. 4

Study **Fig. 5**, which shows a photograph of **Z**, built between Bukit Timah Nature Reserve and the Central Catchment Nature Reserve.

Photograph of **Z**

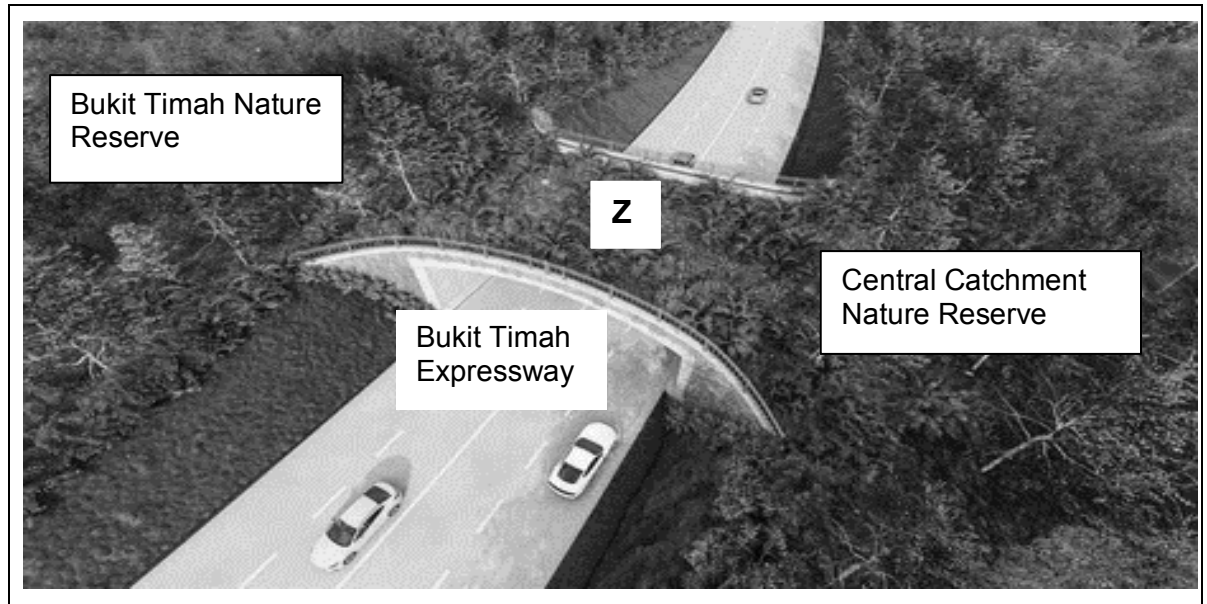


Fig. 5

- (i) With reference to **Fig. 5 and your own knowledge**, explain how building the Bukit Timah Expressway affected the flora and fauna living in the Central Catchment and Bukit Timah Nature Reserves.

[illegible]

- (ii) With reference to **Fig. 5** and **your own knowledge**, identify **Z** and explain how it addresses the issues identified in (a)(i)?

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[2]

- (d) With reference to a country example, explain one successful strategy which reduced traffic congestion.

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[3]

- (e) Study Fig. 6, which shows a sustainable transport management strategy.

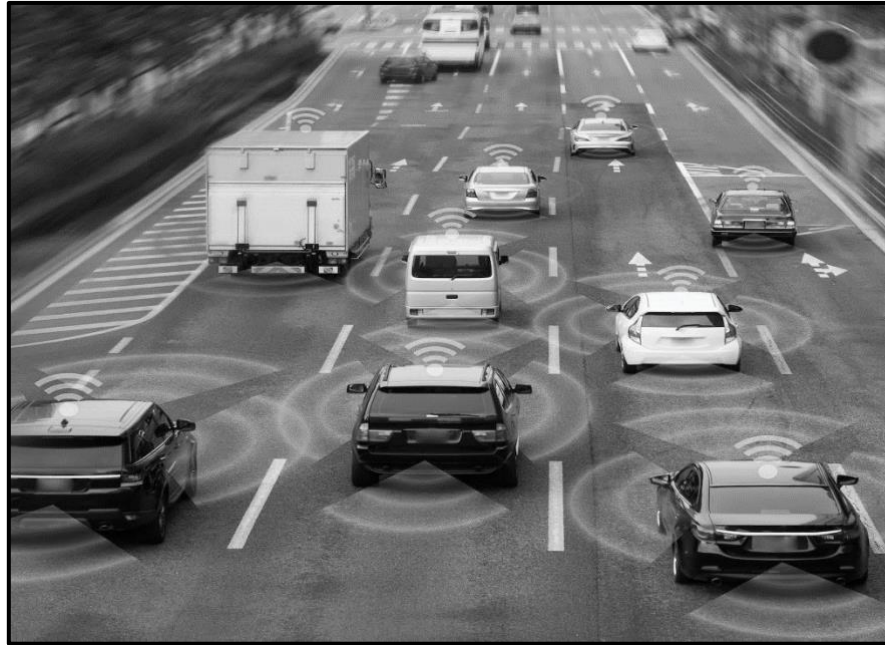


Fig. 6

With reference to **Fig. 6**, identify and evaluate the sustainable transport management strategy.

Strategy:

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Benefit:

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Limitation:

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[5]

End of paper

Sources:

Question 2b	Fig. 3	https://stock.adobe.com/sg
Question 3b	Fig. 4	https://www.tampineswest/posts/silver-zone-is-coming-to-tampines-street-82-83the-silver-zone-enhancements-invol/10156535864972820/
Question 3c	Fig. 5	http://graphics.straitstimes.com/STI/STIMEDIA/Interactives/2015/11/
Question 3e	Fig. 6	https://theconversation.com/what-if-



**Bartley Secondary School
Geography
Secondary 2 Express
2022 End-of-year Exam
Mark Scheme**

1 (a)	What is the four-figure grid reference of the campsite?	[1]
	<ul style="list-style-type: none"> • 5747 [1] 	
(b)	What is the six-figure grid reference of X?	[1]
	<ul style="list-style-type: none"> • 548462 (accept 549463 / 547461) [1] 	
(c)	What is the distance between X and trigonometrical station? Express your answer in km. (1 dec.point)	[1]
	Distance on map – 7.7cm Scale: 1: 50 000 $7.7 \times 50\,000 \text{cm} = 3.85 \text{ km}$ $= 3.9 \text{ km. [1]}$	
(d)	What is the direction of X from the campsite?	[1]
	<ul style="list-style-type: none"> • Southwest 	
(e)	According to the map, what is one possible use of River Eura?	[1]
	<ul style="list-style-type: none"> • As a water source for domestic use in Prague village • For recreational use – Swimming, kayaking, water-based activities • To transport goods or items to the campsite via boat. Any 1 @1m	
2 (a) (i)	With reference to Fig. 2A, describe the distribution of slums in Manila, Philippines.	[2]
	<ul style="list-style-type: none"> • The region having the <u>highest proportion</u> of households living in slums, above 45% are located in the <u>north and northeast of Manila</u>. [1] • The region with the <u>lowest proportion of households living in slums, below 20%, are located in the South of Manila</u>. [1] 	
(ii)	With reference to Fig. 2A and 2B, describe and explain the relationship between the proportion of slums and the occurrence of fire outbreaks in Manila, Philippines.	[4]
	Describe: <ul style="list-style-type: none"> • The region having the highest proportion of households living in slums, 45%, experience high occurrence of fire outbreaks. [1] • While the region with the lowest proportion of households living in slums, below 20%, experience a low occurrence of fire outbreaks. [1] Explain <ul style="list-style-type: none"> • Slums are built using scavenged and <u>flammable materials such as wood</u>, which catches fire easily. [1] • Slums are also <u>built close to each other</u>, therefore, the <u>fire spreads easily</u>. [1] 2 well explained points at 2m.	

(b)	With reference to Fig. 3, identify Feature Y and evaluate its effectiveness in making public housing in Singapore more inclusive.	[3]
	<ul style="list-style-type: none"> • Feature Y: Braille and tactile markings on lift control buttons [1] • Benefit: Braille markings help the visually impaired navigate which floor to alight at. [1] • Limitation: Costly to install / more time and effort needed to vary designs in public housing Any 1 @1m [1] 	
3 (a)	With reference to a named example, explain why major transport nodes are located in areas with a high concentration of economic activities.	[3]
	<ul style="list-style-type: none"> • Many train stations are concentrated in Central Area which contains the Central Business District (CBD). [1] • Many business-related activities take place in this area, so working adults need to travel to and from work and home. [1] • Name example- Raffles Place, City Hall in Singapore 	

(b)	Annotate on the photographs below, two features of the silver zone which improve mobility for its users.	[4]
	<div> </div> <div> <p>Sign indicating reduced speed limit of 40km/h [1] so that cars will slow down, reducing accidents. [1]</p> <p>Two stage crossing [1] that allows senior pedestrians to rest in the middle of a crossing. [1]</p> </div>	
(e) (i)	With reference to Fig. 3 and your own knowledge , explain how building the Bukit Timah Expressway affected the flora and fauna living in the Central Catchment and Bukit Timah Nature Reserve.	[4]
	<ul style="list-style-type: none"> Natural vegetation / forest cleared to build expressway. [1] Forests were divided into smaller fragments, reducing the size of animal habitats. [1] This restricted animal movement and animals that tried to cross the expressway were killed by transport vehicles- roadkill. [1] The isolation of flora and fauna at Bukit Timah nature reserve affected the biodiversity and threatened the survival of some endangered species in Singapore. [1] <p>Any 3 points @ 1m each</p>	
(ii)	With reference to Fig. 5 and your own knowledge , identify Z and explain how it addresses the issues identified in (a)(i)?	[2]
	<ul style="list-style-type: none"> X - Eco-link bridge [1] <p>How it addresses issue:</p> <ul style="list-style-type: none"> Restores connection between the two nature reserves so animals can cross safely. [1] 	

(d)	With reference to a country example, explain one successful strategy which reduced traffic congestion.	[3]
	<ul style="list-style-type: none"> Country example: Stockholm [1] A congestion pricing system helped to reduce traffic in and out of the Stockholm by 20%. [1] Revenue gained from this system is used to support the development of public transport. [1] Or Country example: Singapore [1] Electronic Road Pricing (ERP) implemented where drivers pay a fee to enter CBD/ central area during peak hours. Road pricing helps to reduce congestion at CBD / central area during peak hours. 	
(e)	With reference to Fig. 6, identify and evaluate the sustainable transport management strategy.	[5]
	<p>Strategy: Autonomous Vehicles [1] (Wrong spelling, no marks)e</p> <p>Benefits</p> <ul style="list-style-type: none"> Use sensors to detect other vehicles and pedestrians, which could reduce road accidents. [1] Uses fuel -efficient technology that reduces carbon footprint. [1] <p>Challenges</p> <ul style="list-style-type: none"> Expensive as it requires huge amounts of investment in Research & Development. [1] Potential safety and cybersecurity challenges. [1] 	