

MARK SCHEME

Section A

1	In Singapore, residential areas with a high proportion of elderly have been designated as Silver Zones. As of end-2024, more than 40 Silver Zones have been implemented across Singapore. A group of six students decided to investigate the effectiveness of Silver Zones in meeting the needs of elderly residents. The students agreed to investigate the following hypothesis: <i>Silver Zones in Singapore have met the needs of elderly above the age of 65 years old.</i> Prior to their fieldwork, the students researched on the internet on some generic information of features of a Silver Zone. They decided on 2 streets with Silver Zones in Singapore which were in Ang Mo Kio Street 61 and Hougang Street 61. They also did a site recce 2 days before the fieldwork at both streets. During their fieldwork, students used a questionnaire to survey 100 residents from each street. They conducted their questionnaire at 9am to 6pm at 4 sites of each street and took a total of 2 days in the December holidays to complete their questionnaire. They student identified elderly-looking people who were walking by, verified their age, sought their consent before beginning the questionnaire. Resource 1 shows the two streets and eight sites where students conducted their onsite investigations. Resource 2 shows photographs of two of the sites where the students conducted their questionnaire. Resource 3 shows the questionnaire that the students used. Resource 4 shows the results of the questionnaire.						
1	<table><tr><td>(a)</td><td>Explain two weaknesses of the students' hypothesis.</td><td>[4]</td></tr><tr><td></td><td> Award 1 mark for each explanation on the weakness of the hypothesis. Award a maximum of 1 additional mark for further development of each explanation, where applicable. Possible responses include: - The hypothesis is <u>not at a suitable scale</u> because it intends to research the whole of Singapore. [1] This is not manageable for the 6 students to study the whole of Singapore in two days. [+1] - The variable in terms of 'needs of the elderly' is <u>not clearly defined</u>. [1] The needs of the elderly are diverse and without a clearly defined need such as social need, students may find it hard to pinpoint the exact needs that they are investigating, and thus have difficulties in gathering valid data to test to hypothesis. [+1] - The variable in the hypothesis which is "needs of the elderly" is <u>not measurable</u> because the questionnaire alone is unable to collect the required data. [1] The needs of the elderly are high varied and subjective but questionnaire only collects quantitative data. [+1] </td><td></td></tr></table>	(a)	Explain two weaknesses of the students' hypothesis.	[4]		Award 1 mark for each explanation on the weakness of the hypothesis. Award a maximum of 1 additional mark for further development of each explanation, where applicable. Possible responses include: - The hypothesis is <u>not at a suitable scale</u> because it intends to research the whole of Singapore. [1] This is not manageable for the 6 students to study the whole of Singapore in two days. [+1] - The variable in terms of 'needs of the elderly' is <u>not clearly defined</u>. [1] The needs of the elderly are diverse and without a clearly defined need such as social need, students may find it hard to pinpoint the exact needs that they are investigating, and thus have difficulties in gathering valid data to test to hypothesis. [+1] - The variable in the hypothesis which is "needs of the elderly" is <u>not measurable</u> because the questionnaire alone is unable to collect the required data. [1] The needs of the elderly are high varied and subjective but questionnaire only collects quantitative data. [+1]	
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AO1							

1	(b)	Using Resource 1 and 2, explain the strengths and weaknesses of the student's choice of locations and sample sites where the elderly residents were surveyed.	[6]
		Award 1 mark on a strength or weakness of the students' choice of location and sample sites. Award 1 additional mark for further development of each explanation. Note: This question allows the discussion on risks, ethics, and whether the fieldwork can lead to RAV data. Possible responses include: Strengths - Students can gather responses from <u>elderly who have used different features of the Silver Zones along the entire stretch of each street, making the data collected more accurate.</u> [1] - R1 shows that students surveyed different parts of the Silver Zone on each street. Silver Zone features will differ at each location like speed signs at traffic junctions and low kerb along the streets. [+1] - Students can gather responses from <u>diverse group of elderly in terms of place of residences, making the data more representative of elderly.</u> [1] - R1 shows that all sites are near different public housing blocks. Site 1 is near Block 621 while Site 3 is near Block 639 and the residents could have different experiences with the Silver Zone despite being on the same street. [+1] - The sites are <u>safe for the students</u> to conduct questionnaire as they provide <u>shade from the sun and shelter from the rain.</u> [1] - R2 shows Site 3 is near HDB blocks and shops at the void deck and Site 2 is also under a very huge shelter. Students can easily seek shelter if it rains. [+1] This is especially so when students are conducting fieldwork for long periods of time even at midday when the temperature is hot. [+1] - The sites are <u>safe for the students</u> because all sites are along wide sidewalks, thereby leading to less collision with bicycles or other pedestrians. [1] - The sites are all located in public spaces and <u>does not trespass into any private property,</u> making it ethical. [1] - R1 shows that they are all located along the public street in Ang Mo Kio Street 61, while in Hougang Street 61, 3 sites are found along the street and 1 is at a neighbourhood park. [+1] Weaknesses - However, the students may <u>not be able to survey a representative sample of the elderly population in Singapore</u> because both streets are not widely distributed throughout Singapore. [1] - The preamble sites that there are 40 streets with Silver Zones but students only did fieldwork at 2 streets so the limited data would not allow them to collect sufficient data to test their hypothesis. [+1] - R2 shows that there are no sites for investigation in the north, west of southern parts of Singapore. Different neighbourhoods	

		have different Silver Zone features and responses might differ. [+1] - The data collected by be <u>biased</u> because all sites are located next to roads that have Silver Zones features. Thus, respondents would have more awareness of it. [1] - It may not represent the perception of elderly living away from that street such as along Ang Mo Kio Avenue 6. [+1] - There might be an <u>underrepresentation of elderly with mobility issues</u> because all sites are located near the road and public spaces. [1] - All the sites chosen are along the street and in public spaces. Elderly who were surveyed would be more mobile as they can leave their house. However, elderly with severe health issues or are immobile will not have a chance of being surveyed as they are more likely to be at home. [+1] AO2	
1	(c)	Explain why the sequence of the student's data collection was useful for their investigation. Award 1 mark for each explanation on why the sequence was useful. Award 1 additional mark for further development of each explanation. Possible responses include: - By searching for secondary data on the internet on the Silver Zone before the fieldwork, the students <u>have a better idea what features to look out for during their site recce and fieldwork so that they can collect valid data.</u> [1] - By doing the site recce before the fieldwork, students can visualise the site how the features of the Silver Zone look like in real life and <u>familiarise themselves with the site.</u> [1] - This allows them to <u>identify where to stand to conduct the questionnaire</u> such as places with higher footfall to get more respondents efficiently. [+1] - The students can identify survey sites that are near to shelter so that they can stay safe if it rains heavily. [+1] - The students can take photos and use them in the questionnaire to help respondents visualise the features. [+1] - Doing the site recce 2 days before the fieldwork gives <u>sufficient time to students to edit their questionnaire</u> based on their observations at both streets, thus ensuring that their questions in the questionnaire aligns with what can be found at both streets. [1] - This may include information that was not previously found in their secondary research but are found from the site recce. [+1] - By doing a site recce relatively close to the actual day of the fieldwork, it ensures that <u>there will not be major changes to the roads and Silver Zone features</u> during the time period, so that the questionnaire can collect accurate data. [1] AO1	[5]
1	(d)	Using Resource 4, sketch a graph to present the data for Question 1 for both sites.	[5]

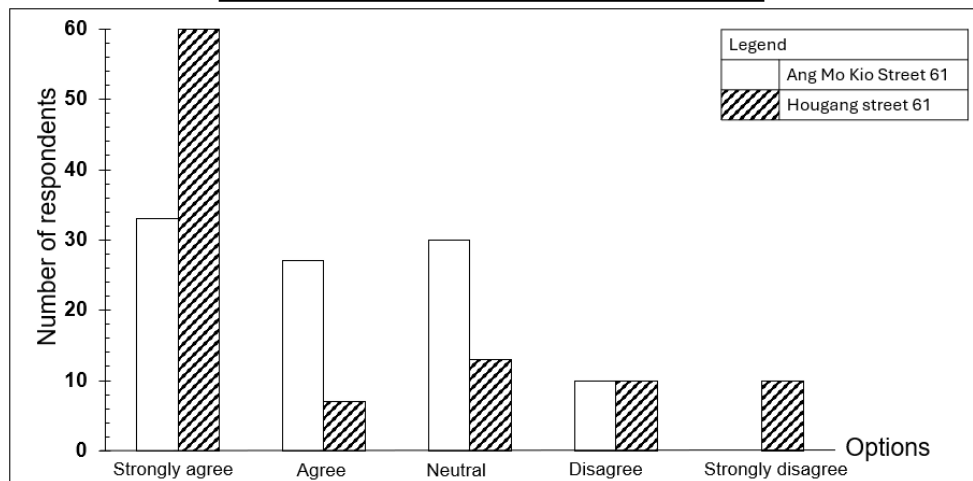
Award 1 mark for the title, 2 marks for accuracy, 1 mark for correct axis and 1 mark for the legend.

Possible responses include:

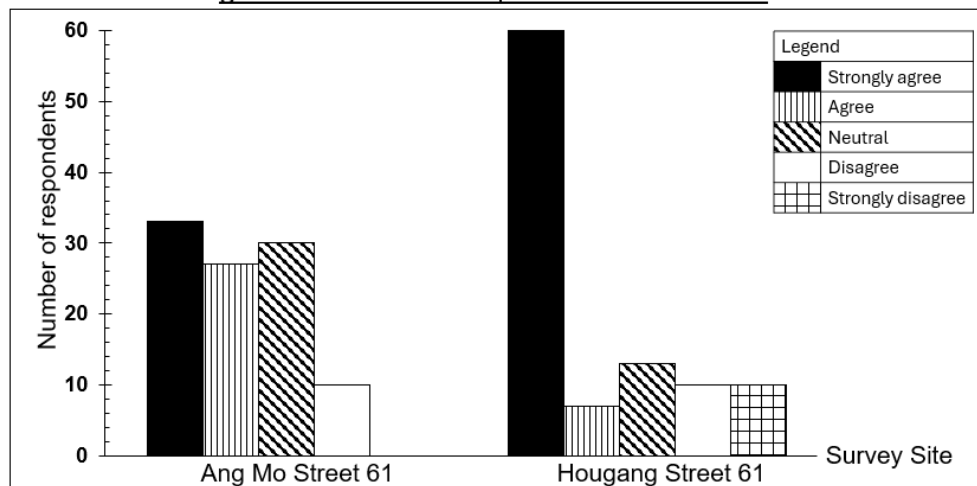
Compound bar graph showing the results to Question 1 “The additional green man time is helpful for me” at 2 sites



Comparative bar graph showing the results to Question 1 “The additional green man time is helpful for me” at 2 sites



Comparative bar graph showing the results to Question 1 “The additional green man time is helpful for me” at 2 sites



		AO2	
1	(e)	The students concluded that Silver Zones in Singapore have met the needs of elderly above the age of 65 years old. With reference to all resources, evaluate the validity of their conclusion.	[10]
		Possible responses include: <u>Conclusion is valid:</u> • [Time] The students collected data from 9-6pm on 2 days, thus allowing them to gather responses from a wide range of elderly who are out and about at different times of the day. This includes elderly who prefer to wake up early for morning exercise, and elderly who go out in the late afternoon to purchase grocery for dinner. As the traffic conditions also vary across the day, surveying elderly during more congested lunch peak hours and less congested late afternoon can give a more comprehensive understanding of whether Silver Zones have met the needs of the elderly. Data is more accurate as it reflects the changing needs of the elderly throughout the day, thus the conclusion the students made based on it would be valid. • [Questionnaire] The questionnaire in R3 used pictures to illustrate the features of the Silver Zone. This helped elderly respondents to understand these technical jargons, giving rise to more accurate data collected. • [Age range] In the questionnaire in R3, students collected data from people who are 65 years old and above and these are considered elderly, thus making the data collected valid and could be used to test the hypothesis. • [Scope] The student conducted research on 2 streets with Silver Zone and this strategy is targeted at the safety needs of seniors. This means that students would have collected valid data to test their hypothesis. • [Large sample size] Students collected data from a large sample size of 100 elderly per site, and surveyed a total of 200 elderly. This is representative sample of the elderly living at each neighbourhood. Thus, the data collection method allows them to get consistent measurement even if they were to do it on other times of the year. This makes the data reliable and thus the conclusion the students made based on it would be valid. <u>Conclusion is not valid:</u> • [Scope is not comprehensive enough] The Silver zones mainly focus on the safety of the elderly in public spaces, which is a type of social need. However, the data collected does not include their psychological needs and economic needs, thus the data is not comprehensive enough to be used to prove that all needs of the elderly are met. • [Limited spatial scale] From R1 and 2, students only did fieldwork at 2 Silver Zones when there are 40 Silver Zones in Singapore. It also does not consider neighbourhoods in the west, south and east of Singapore. Different neighbourhoods in Singapore have different social economic status, road conditions and land uses, and could	

have more specific features to cater to the needs of the elderly there. By only considering 5% of Silver Zones, the data is not representative of all the Silver Zones in Singapore, and the data collected does not accurately reflect the diverse features of all Silver Zones in Singapore, thus the conclusion the students made based on it would be invalid.

- **[Data does not support the conclusion]** Overall, R4 shows that the elderly had mixed views about whether Silver Zones on the 2 street met their needs. Without all features of the Silver Zone meeting the needs of the elderly, it cannot be concluded that Silver Zones have met the needs of the elderly.
 - On both streets, majority agreed that the green man time meets their needs. 60% of elderly at AMK St 61 and 67% of elderly at HG St 61 agree and strongly agree to it.
 - On both streets, majority disagreed that the anti-slip coating meets their needs. 57% of elderly at AMK St 61 and 54% of elderly at HG St 61 disagree and strongly disagree to it.
 - On AMK St 61, 80% of the elderly agree and strongly agree that the speed limit meets their needs. However, only 20% at HG St 61 felt the same way.
- **[Convenience sampling]** Students used convenience sampling because they picked “elderly-looking people who were walking by”. As the student would make a conscious decision in selecting a respondent, the data would be non-random and biased. They could have selected elderly who looked more friendly or are walking by in a group. As a result, the sample group may come from people of similar age profile and gender profile, which makes the sample size not representative of elderly. Thus the data collected would not be accurate and thus the conclusion the students made based on it would be invalid.
- **[Housing types]** Students did questionnaire in 2 public housing estates in R2A, so most of the respondents would likely be people living in the area who are middle-income groups. This would lead to an underrepresentation of elderly from lower income groups and higher income groups, who may have different needs and different perception of how the Silver Zones meet their needs. As such, the data would not lead accurately reflect the needs of elderly, thus the data collected is not accurate and thus the conclusion the students made based on it would be invalid.
 - For instance, elderly from lower income groups may view their cost of living and employment opportunity as a more pressing need, but elderly from a higher income group may view the convenience to shop as a pressing need.
- **[Non response bias]** Many elderly chose ‘neutral’ and they could have chosen it out of convenience or because they did not understand the question. R4 shows that more than half of the elderly at each site chose it for Q3. So, the data may not be accurate, and thus the conclusion the students made based on it would be invalid.
- **[Language barrier]** The questionnaire is entirely in English and not all elderly may be fluent in English. Thus, they may guess the meaning of the questions, and give vague responses, which reduces the accuracy of the data collected.

- **[Questionnaire options]** The terms ‘agree’ and ‘strongly agree’ are subjective and may have different meanings to people. Similarly, the terms “helpful”, “more confidence” used in the questions are also subjective. Thus, the data collected is not reliable as the variable is not measured the same way for each respondent.
- **[Types of data]** R4 shows that the students only collected quantitative data from the questionnaire and no qualitative data. The elderly would have no chance to substantiate the reasons for their selection, and students would have a limited understanding of the needs of the elderly. Thus the data is not comprehensive enough to be used to prove that all needs of the elderly are met.

AO3

Levels	Marks	Generic Level Descriptors for H1 Fieldwork Evaluative Question
3	9–10	Evaluation is analytical and coherent. Response addresses the question and demonstrates good knowledge and understanding of fieldwork methods relevant to the given context.
2	5–8	Evaluation is mostly analytical and coherent. Weaker responses in this level will have evaluation that is broadly analytical and generally coherent. Response generally addresses the question and demonstrates adequate knowledge and understanding of fieldwork methods relevant to the given context.
1	1–4	Response is descriptive with limited or no analysis and evaluation. Response is fragmented and lacks clarity. Response lacks focus on the question and may be largely irrelevant to it. Response shows basic knowledge and understanding of fieldwork methods. Response has some, though limited, relevance to the given context.
0	0	No creditworthy response

Section B

2(a)	Using Resource 5, compare the changes in urban population of the 4 cities between 1950 to 2030.	[4]
	Award 1 mark for each comparison of changes in urban population, to a maximum of 4 marks. Award a maximum of 1 additional mark for further development of each comparison, where applicable. Note: - Answers should try to incorporate all 4 cities in the same comparison line as far as possible. An exemplar is written as the first point for the similarity and difference. - Answers need to show understanding that urban population changes between 2020 to 2030 are projections rather than actual. Possible answers include: Similarities: • <u>All 4 cities</u> are projected to experience an overall increase in urban population from 1950-2030. [1] ○ The urban population in Tokyo is projected to increase overall from 11 million in 1950 to 36 million in 2030. Similarly, Delhi's urban population is projected to increase from 1 million in 1950 to 43 million in 2030. [+1] • <u>Both</u> Shanghai and New Delhi had a moderate increase in urban population between 1950-1990, but a much rapid increase from 1990-2010 and rapid projected increase from 2010-2030. [1] ○ Between 1950-1990, Shanghai and New Delhi had a marginal increase of 5 million people and 8 million people respectively. Both cities' urban population more than tripled between 1990-2010 and is projected to continue to increase till 2030. [+1] Differences: • Between 2010 to 2030, <u>Tokyo is the only city</u> whose urban population is projected to decrease slightly. [1] ○ Between 2010-2030, Tokyo's population is projected to dip slightly from 37 million in 2010 to 36 million in 2030. On the other hand, the urban population of Delhi and Shanghai are projected to continue increase rapidly by 8 million and 3 million respectively, while that of New York will increase slightly by 1 million. [+1] • The most populous city changed through 1950 to 2030. [1] ○ In 1950, New York was the most populous city with 12 million people, but Tokyo became the most populous city from the mid-1950s with 13 million people. [1] Delhi is projected to be the most populous city from early 2020s with more than 36 million people. [+1] AO2	

2(b)	Explain how urban population loss influence progress towards sustainable urban development.	[4]
	Award 1 mark for each explanation of high urbanisation rates and rapid urban growth influence progress towards SUD, to a maximum of 2 marks. Award 1 mark for each explanation of urban population loss influence progress towards SUD, to a maximum of 2 marks. Possible answers include: • Urban population loss tends to occur in cities of highly developed countries which experience counter-urbanisation, ageing population or deindustrialisation. • Urban population loss reduces the city's ability to achieve long-term progress towards the <u>economic aspect of sustainable urban development</u> because the loss in investor's confidence will lead to a decline in investment. [1] ○ With an ageing population, there will be a shrinking workforce, and investors are not confident that the smaller workforce is able to cope with the job scope and would reduce investment into the city. [+1] ○ In a city that is experiencing deindustrialisation, businesses shift to other cities or overseas locations and industries, and the industries in the city decline. The lack of job opportunities will lead to a subsequent decline in the urban population as people leave to other locations in search of jobs. Other industries are also cautious about investing in this area due to a falling demand in goods and services. [+1] Furthermore, lower-income groups with lower levels of education and fewer financial means to relocate will be left in the city. As they compete for limited jobs, rates of unemployment and poverty will rise. [+1] Abandoned buildings may also further deter investors from investing. [+1] • Urban population loss reduces the city's ability to achieve long-term progress towards the <u>social aspect of sustainable urban development</u> because increase incidence of poverty and need for social assistance. [1] ○ In a city that is experiencing deindustrialisation, the lack of job opportunities and greater number of people trapped in the cycle of poverty will cause the tax base of the area will shrink. This reduces the public funding for hospitals and schools, leading to a rise in access to healthcare and fall in education attainment levels, and urban residents will not be able to meet their basic needs. [+1] Increase in poverty may lead to a rise in crime rates, which reduces the quality of life for residents. [+1] • Urban population loss reduces the city's ability to achieve long-term progress towards the <u>environmental aspect of sustainable urban development</u> because of neglect of built environment and potential pollution. [1] ○ Due to the reduction of urban population and reduced economic activity in the city, the government's tax base reduces. There would be less government funding allocated to monitoring of environment quality and/ or rehabilitation or brownfield sites, causing more parts of the city to be left derelict and polluted. [+1]	

	○ In a city that have undergone deindustrialisation, many vacant buildings that once housed factories are now abandoned. Ageing infrastructure and leachate from them can pollute nearby land and water resources. [+1]	
	AO1	
2(c)	Using Resources 6A and 6B, describe the changes in the area occupied by the High Line before and after urban reimagining.	[4]
	Award 1 mark for each description of change. Award a maximum of 1 additional mark for further development of each description of change, where applicable. Possible responses include: • There are <u>more people</u> using the space after urban reimagining. ○ Resource 6A show that before urban reimagining, there is no one on the abandoned tracks. But Resource 6B shows that after urban reimagining, the High Line has become a public park where more people are walking on it. [1] • The High Line is <u>more accessible to people of different mobility</u> after urban reimagining. ○ Resource 6A shows that before urban reimagining, the area is not accessible as there are fences on either side of the abandoned West Side Freight Line without any clear path for walking. However, Resource 6B shows that the High Line park has an elevator access point from street level to the elevated High Line. It is also flat and well-paved, making it accessible to wheelchair and prams. [1] It also shows that the High line is accessible from street level by staircases so more people living and working in the area can use this park as a way to move within the city. [+1] • The vegetation is <u>more diverse and well-maintained</u> after urban reimagining. ○ Resource 6A shows that the abandoned railway is overgrown with weeds. However, Resource 6B shows that the High Line park has a wider range of plants that are well-maintained. [1] There is a greater natural biodiversity in the area after revitalisation. [+1] • There are <u>more amenities and community spaces</u> after urban reimagining. ○ In Resource 6A, there is no amenities at all. However, Resource 6B shows that there are many public seats for anyone to sit and relax, thus creating community spaces. [1] There are also public artworks along the High Line that can create spaces for people to appreciate art and also increase the aesthetic of the city. [+1]	
	AO2	
2(d)	With reference to Resources 6B and 7, explain how the High Line urban reimagining project can lead to complementarity and tensions between sustainable urban development and liveability.	[6]
	Award 1 mark for each explanation on how the High Line project leads to complementarity or tension between SUD <u>and</u> UL.	

Award a maximum of 1 additional mark for further development of each explanation, where applicable.

Possible responses include:

Complementarity between SUD and UL

- With more people using the High Line park as seen in R6B, the increased footfall in the area can promote economic sustainability when shops and food areas in buildings on both sides of the High Line can continue to thrive due to the constant stream of business throughout the day. [1] Similarly, as business grow, they will need to employ more people, and this creates more service sector jobs in retail and F&B industry for urban residents, making the city becomes more economically liveable due to the job opportunities. [1]
 - Furthermore, the larger range of food options and shops also increases spaces for relaxation in the city where people can unwind during lunch hours and after work over music, food and drinks, making it more socially liveable. [+1]
- By introducing more vegetation into the urban area as seen in R6B, the High Line can achieve environmental sustainability because it can become a carbon sink for urban sources of carbon emissions such as cars and power stations and help the city work towards a net-zero targets. [1] At the same time, the dense vegetation is an environmental factor that promotes liveability because they help to trap pollutants and improve air quality and reduce urban heat stress by providing shade to the residents. [1]
- By having more access points to the High Line via staircases, elevator and ramp as seen in R6B, people working in the area can opt to use this elevated park to walk to their destination without using public or private transport. This reduces congestion on the crowded street level during peak hours and reduces carbon emissions, contributing to environmental sustainability. [1] At the same time, the families with young children and people on wheelchair can also access the public park and its artworks via these access points as seen in R6B. Thus, the creation of inclusive community spaces for people with different mobility is a social factor that makes the city liveable. [1]

Tensions between SUD and UL

- Continued urban reimagining on the High Line such as the proposed skyscrapers and casino in R7 may contribute to economic sustainability by increasing investment into the city into an underused part of the city. [1] However, this can lead to growing housing shortage and rising cost of living, making the city less liveable in the economic aspect. [1]
- The presence of more office spaces may encourage more business to locate in the area, contributing to economic growth and economic sustainability in the long run. [1] However, R7 shows that excessive number of tall buildings would cut off the scenic views of the Hudson River, and makes the city appear enclosed, stifling and the built environment becomes less liveable. [1]
- While the introduction of a casino mentioned in R7 may bring in more economic revenue for the city thus promoting economic sustainability, [1] it may also cause higher crime rates eventually when there are increased instances of compulsive gambling and unlicensed money

	lending in the city, thus lowering the liveability of the city in the social aspect especially for families with young children. [1] • R7 also shows that Friends of High Line is of the view that there is no need for more office spaces as there is already an excess in the area. The oversupply of office spaces may cause a further decline in the property value, causing the city to be less economically sustainable [1] even if the city is made more liveable with the green spaces and job opportunities. [1] • R7 shows that the founders of the non-profit organisation were highly against the development of skyscrapers and casino because it goes against what the community was originally fighting for. This shows that when real estate companies drive the continued reimagining of the city through investment-orientated infrastructure, it achieves economic sustainability [1] but it veers away from the original intentions of urban reimagining, causing a disconnect between the residents and the image of the city, making the city less liveable in the social aspect. [1] <u>Useful definitions:</u> • SUD: Development where cities can meet the needs of the present without compromising the ability of future generations to meet their own needs. Sustainability urban development can be achieved by achieving economic vitality, environmental integrity and social well-being. • Urban liveability: The degree to which a city satisfies the economic, physical, social, psychological needs of its residents. The concept of urban liveability is highly personal and subjective as the assessment of liveability is shaped by the interaction between the individuals and their environment. AO2	
2(e)	Explain <u>two</u> factors that contribute to <u>varying success</u> of urban reimagining strategies across places.	[4]
	• One factor is the <u>level of support from multiple stakeholders</u> like the private companies, the local government, local residents and non-profit organisations. ○ As the ownership and usage of urban space is shared by different stakeholders, consensus on a shared goal for the same space is crucial in making the strategy work in the long run. [1] ○ Urban reimagining strategy that lacks participation from the locals and projects a one-sided desired image of the government or company tends to be disconnected from the meaning of the space to the locals and be less successful. [+1] ○ Governments have the authority to set aside land for urban reimagining through urban zoning and could work with real estate companies and the local community to design the new urban space that respects the heritage of the place. [+1] ○ The government can work with locals and non-profit organisations to maintain and operate the reimaged urban space so that there can be more resources and manpower to sustain the space. [+1] ○ Non-profit organisations and locals can advocate for the conservation of derelict spaces to convince the government to conserve the space. [+1] This ground-up approach can increase	

	awareness of this urban space and garner more support for this reimagining strategy. [+1] ○ Companies also need to be willing to invest in the area by setting up of offices and retail spaces to revive the economic vitality of the area. [+1] • Another factor is degree to which the revitalised urban space <u>meets the needs</u> of the diverse urban residents. ○ An urban space is shared by people of different age, nationalities, and gender and thus the strategy must meet these diverse needs. [1] ○ When the urban space which has undergone urban reimagining is viewed positively as a local landmark by locals, it helps to build a sense of place for locals. [+1] ○ When urban imaging strategy causes the space to be used more frequently by residents and people who work in the area, the urban space will be less likely to fall back into dereliction [+1] and increased awareness of this revitalised urban space will incentivise greater efforts to maintain it. [+1] • Another factor is the <u>level of funding</u>. ○ Large-scale urban reimagining strategies like sport-led urban regeneration and flagship development tend to require large sums of money from government and private sources for it to be feasible. [1] Lack of funds can delay the completion of these projects which causes the urban area to lose economic vitality in the short run. [+1] Lack of funds can prematurely halt the urban reimagining strategy and locals may even experience inconvenience to their daily lives. [+1] ○ Even smaller-scale urban reimagining strategies like culture-led regeneration and gentrification also need to continued interest from private sector. The lack of occupants in the reimaged space may lead to a second wave of decline. [+1]	
AO1		

3	(a)	Using Resource 8, describe the changes to summer ice cover in the Northern Hemisphere from 18,000 years ago to present day. Award 1 mark for each point and a maximum of 1 additional mark for further development of each point. - Summer ice cover has generally shrunk from 18,000 years ago to present day. [1] - Continental ice is no longer present over Canada, Europe, Russia and China. [1] Instead, continental ice is now mostly present only over Greenland. [1] - Sea ice now covers only half of the Arctic Ocean. [1] However, sea ice is now present along the coastline of Russia and Japan. [1] AO2	4
3	(b)	Explain how the observed changes to ice cover could have accelerated global warming. Award 1 mark for each point and a maximum of 1 additional mark for further development of each point. - Ice cover is light in colour with higher albedo which enables incoming solar radiation to be reflected back into space. [1] - With darker surfaces such as land and ocean waters being exposed by the melting ice [1], more solar radiation will be absorbed instead of being reflected back, thus increasing global temperatures. [1] - As global temperatures rise, even more ice melts, thus creating a positive feedback loop that accelerates global warming. [1] AO1	4
3	(c)	Using Resource 9, describe the change in annual primary forest loss in Brazil from 2002 to 2023. Award 1 mark for each point and a maximum of 1 additional mark for further development of each point. - Annual primary forest loss in Brazil decreased slightly from 1.55M hectares in 2002 to 1.1M in 2023. [1] - From 2002 to 2015, annual primary forest loss decreased from 1.55M to 0.8M [1], reaching a low of 0.6M in 2013. [1] - From 2015 to 2022, annual primary forest increased from 1.55M to 1.75M [1], reaching a high of 2.85M in 2016. [1] - Non-fire related losses accounted for a greater proportion of annual primary forest loss from 2016 onwards. [1] AO2	4
3	(d)	Explain how deforestation and industrialisation can disrupt the global carbon cycle. Award 1 mark for each point and a maximum of 1 additional mark for further development of each point. Deforestation	6

		- Deforestation reduces carbon sinks as it will lead to fewer trees available to absorb CO₂ through photosynthesis. [1] - Deforestation also increases CO₂ emissions when trees are burned down as stored carbon is released back into the atmosphere as CO₂. [1] - When trees are cleared, the soil is exposed to direct sunlight. Higher soil temperatures will increase the rate of carbon oxidation [1], which is the process whereby carbon in the soil organic matter reacts with oxygen to produce CO₂. [1] Industrialisation - Industrialisation increases carbon emissions through the burning of fossil fuels. [1] Fossil fuels are needed to produce electricity to power factories that carry out the mass production of goods. [1] - Fossil fuels are storage reservoirs that contain carbon from plants and animals that lived and died millions of years ago. [1] The burning of fossil fuels releases this trapped carbon quickly into the atmosphere as CO₂. [1] AO1	
3	(e)	Using Resource 10, describe surface air temperature anomalies in 2023. Award 1 mark for each point and a maximum of 1 additional mark for further development of each point. - The majority of regions worldwide experienced positive surface air temperature anomalies as compared to negative ones. [1] - The highest temperature anomalies of +3-6°C are found at high latitudes near the poles including the far north of Europe, North America and Antarctica. [1] - Surface air temperatures over land tend to have greater positive anomalies as compared to that over water bodies [1] - However, there are regions that experienced negative temperature anomalies of -0.2 to -3°C. [1] Some of these regions are over land such as India, Australia, the west coast of USA and Norway, [1] while others are over the sea such as in the Southern Ocean and off the eastern coast of Greenland in the Atlantic Ocean. [1] AO2	4

Section C: Essay

Levels	Marks	Generic Level Descriptors for H1 Essays
4	11–13	Evaluation is analytical and coherent. Response is mostly well-supported by relevant material, including the appropriate use of examples. Response features accurate geographical knowledge and reflects adequate understanding of the subject content relevant to the question.
3	8–10	Evaluation is broadly analytical and generally coherent. Response is moderately well-supported by relevant material, including some appropriate use of examples. Response features accurate geographical knowledge and reflects adequate understanding of the subject content relevant to the question.
2	5–7	Response is largely descriptive with limited analysis and evaluation. Response is partly coherent and may lack clarity in parts. Response is poorly supported by relevant materials, including the limited use of examples. Response features inaccurate geographical knowledge and poor understanding of the subject content relevant to the question.
1	1–4	Response is descriptive with no analysis or evaluation. Response is fragmented and lacks clarity. Response consists of unsupported assertions. Response features largely inaccurate geographical knowledge and a lack of understanding of the subject content relevant to the question.
0	0	No creditworthy response

4	‘Slum management is a greater challenge than waste management for cities attempting to achieve sustainability.’ Evaluate this statement. [13] Candidates could approach the question by making a judgment on which issue is a greater challenge for cities attempting to achieve sustainability through a consideration of two or more case studies. Candidates can consider the extent to which improper slum and waste management could pose threats to social, economic and environmental sustainability in cities, and weigh which might be a greater threat by considering the scale of the issue and the solvability of it. They could also consider how slum and waste management could pose varying challenges to cities at different levels of development due to contextual factors such as the institutional and financial capacity of city governments and differences in priorities (e.g. brown vs green agenda). Levels marked using Generic Level Descriptors for 13m H1 essays. AO3
5	‘The most pressing issues faced by women living in cities relate to their economic well-being.’ Evaluate this statement. [13] Candidates could approach the question by making a judgement on whether issues relating to economic well-being (employment and gender inequality in the workplace) are more pressing than social and psychological well-being (safety in the city in public spaces and on public transportation) for women living in cities through a consideration of two or more case studies. Candidates can consider how pressing the issue is by considering the scale of the issue and the solvability of it. They could also consider how the significance of these issues might vary across cities at different levels of development due to differences in cultural expectations and the socio-economic status of women. Levels marked using Generic Level Descriptors for 13m H1 essays. AO3

6	‘Political challenges are a key barrier in implementing strategies to respond to climate change.’ Evaluate this statement. [13] Candidates could approach this question by making a judgement on whether political challenges are a key barrier in implementing strategies to respond to climate change by comparing it to economic challenges and the challenge of uncertainties over future impacts of climate change. They could consider a range of comparison criteria such as scale of challenges, the root cause of the barrier, and the ability to overcome it. They should consider the challenges faced by countries of different levels of economic development, political development and countries that face different levels of urgency in responding to climate change. Levels marked using Generic Level Descriptors for 13m H1 essays.
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