ANNOTATED READING PACK B2 LEVEL

Smart Cities: Integrating Technology for Better Urban Living

COMPREHENSION • VOCABULARY • DISCUSSION

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Reading Passage

Read the passage carefully. Each paragraph is labelled with a letter for easy reference.

A

Urban areas around the world are growing at an astonishing speed. By 2050, the United Nations expects nearly 7 out of 10 people to live in cities. Faced with crowded streets, rising energy use, and stretched public services, many local governments are turning to the idea of the smart city. A smart city is not simply a place full of gadgets; it is an urban environment where digital technology, data, and human creativity work together to improve daily life. From traffic management to healthcare, sensors and software are quietly reshaping the way citizens move, work, and relax. One of the clearest benefits can be seen on the morning commute. Traditional traffic lights follow a fixed timetable, which often causes long queues in one direction while cars in another lane sit at a red signal for no reason. In contrast, smart lights use cameras and pressure plates to measure traffic flow in real time. A computer program then adjusts signal length in seconds, keeping vehicles moving smoothly. Barcelona, for instance, reports that average travel time on key roads has fallen by 21 percent since installing such a system. Fewer traffic jams also mean lower fuel consumption and cleaner air, giving both drivers and pedestrians a healthier start to the day. Energy use is another pressing challenge. Conventional power grids deliver electricity in a one-way direction—from plant to plug—without detailed knowledge of demand. A smart grid, however, keeps two-way communication with every home and office. Smart meters track consumption every few minutes, allowing utilities to spot peaks early and redirect power from quieter neighborhoods. In Singapore's Punggol district, smart grids have helped reduce household electricity bills by around 9 percent. Meanwhile, rooftop solar panels feed extra energy back into the network, and clever algorithms decide where that surplus is most needed. As a result, carbon emissions drop while reliability rises—a clear win-win for residents and the planet. Smart technology also changes the way essential services are delivered. Consider waste collection. Instead of following a fixed schedule, garbage trucks in Copenhagen now rely on sensors fitted inside street bins. When a bin is 80 percent full, it sends an alert to the dispatcher, who plans the most efficient route for the truck. The city estimates that fuel use for collection has fallen by a third, and fewer overflowing bins mean cleaner sidewalks. Similarly, digital health kiosks placed in Mumbai's railway stations offer basic blood-pressure checks and connect directly to local clinics. Commuters can spot potential problems early, saving both time and hospital costs. Public safety gains fresh support as well. Streetlamps in Los Angeles no longer just provide light; they also carry microphones that can detect unusual spikes in noise, such as a crash or an argument turning violent. When the system hears a troubling sound pattern, it notifies the nearest police patrol. While privacy rules must be respected, early trials suggest response times in the test neighborhood have improved by almost 30 percent. The same poles double as Wi-Fi hotspots and smartphone charging points, proving that single pieces of infrastructure can serve many purposes. However, technology alone cannot create a truly smart city. Citizens need digital skills, and governments must share data openly. Tallinn, the capital of Estonia, runs public workshops where residents learn how to read city dashboards that display water quality, bus punctuality, and even tree-planting progress. When people understand the figures, they are more willing to suggest improvements and hold officials responsible. On the business side, small firms can build apps using open data—for example, a café-finder that guides tourists to cafés with free seats in real time. Despite the bright promise, challenges remain. Upgrading old infrastructure is expensive, and maintenance costs continue long after ribbon-cutting day. Cyber-security threats

are also real; if hackers shut down a smart grid, an entire district could go dark. Finally, there is the question of fairness. Some critics argue that wealthy areas often receive the first—and sometimes the only—smart upgrades, leaving poorer neighborhoods behind. To avoid a “digital divide,” city planners must set clear goals that cover every community, measure progress honestly, and adjust plans when gaps appear. In the end, a smart city is less about flashy devices and more about thoughtful design. When data flows smoothly between traffic lights, hospitals, schools, and citizens, small daily inconveniences begin to disappear. Commuters arrive on time, bills shrink, streets feel safer, and voices are heard. Such results remind us that technology, when guided by social values, can turn the urban maze into a place where everyone enjoys a better quality of life.

Vocabulary Glossary

Key words and phrases from the passage. Study them before attempting the exercise below.

WORD / PHRASE	DEFINITION	EXAMPLE SENTENCE
astonishing	very surprising or amazing	*The magician's trick was astonishing; everyone was shocked.*
creativity	the ability to make new things or think of new ideas	*Her creativity helped her solve the problem in a unique way.*
commute	the travel between one's home and place of work	*His daily commute takes about 30 minutes each way.*
conventional	usual or traditional, not new or different	*She prefers conventional methods over modern technology.*
emissions	gases sent into the air, often from cars or factories	*Car emissions are a major cause of air pollution.*
infrastructure	basic structures like roads and bridges that a city needs	*The city's infrastructure was damaged by the earthquake.*
surplus	an amount that is more than what is needed	*After the harvest, the farmers had a surplus of crops.*
cyber-security	measures taken to protect a computer or network from attack	*The company improved its cyber-security to prevent hacking.*

Vocabulary Exercise — Fill in the Blank

Use one word or phrase from the glossary above to complete each sentence. Each item is used only once. Answers are on the final page.

1. The new art exhibit was so _____ that it left the audience speechless.
2. With a little _____, the team came up with a new advertising campaign.
3. Many people listen to music during their _____ to make the time pass faster.
4. The _____ approach to agriculture focuses on traditional farming techniques.
5. Efforts to reduce carbon _____ are crucial for fighting climate change.
6. The government invested heavily in improving the city's _____ after the floods.

Comprehension Questions

These questions are different from the online practice test. Choose the best answer (A, B, C, or D). Answers and explanations are on the final page.

Question 1

What is a primary goal of smart cities according to the passage?

A. To integrate technology for improved urban living

B. To increase the population of urban areas

C. To replace all traditional systems with digital ones

D. To make urban areas more expensive

Question 2

How do smart grids benefit energy use according to the passage?

A. By providing more electricity to wealthy neighborhoods

B. By keeping two-way communication with homes and offices

C. By reducing the need for renewable energy sources

D. By eliminating electricity bills completely

Question 3

Why are digital health kiosks in Mumbai beneficial?

A. They replace the need for hospitals

B. They offer quick health checks and connect to clinics

C. They are more expensive than regular doctor visits

D. They only serve a small fraction of the population

Question 4

What role do citizens play in smart cities according to the passage?

A. They must build all the infrastructure

B. They need digital skills and engage with city data

C. They should avoid using technology

D. They are responsible for all technology maintenance

Question 5

What challenge is highlighted about smart city technology?

A. It is always cheap to implement

B. It can cause a digital divide in cities

C. It eliminates all public services

D. It makes cities less attractive to tourists

Discussion & Writing Prompts

Each prompt references a specific detail from the passage above. Use for classroom discussion or a short written response (150–200 words).

1. Paragraph 2 mentions Barcelona's reduction in travel time by 21% due to smart traffic systems. How might this impact public transport usage in the city?

2. The passage describes Singapore's Punggol district achieving a 9% reduction in electricity bills through smart grids. Could such a system work in rural areas, and what challenges might arise?

3. The passage notes Los Angeles streetlamps equipped with microphones can detect unusual noise. How should cities balance technology use with privacy concerns?

Answer Key

COMPREHENSION QUESTIONS

Q1 A	Q2 B	Q3 B	Q4 B	Q5 B

VOCABULARY EXERCISE

FIB1 astonishing	FIB2 creativity	FIB3 commute	FIB4 conventional
FIB5 emissions	FIB6 infrastructure		

Comprehension Question Explanations

Why the correct answer is right — and why each wrong option is incorrect.

1. What is a primary goal of smart cities according to the passage?

✓ A — To integrate technology for improved urban living — The passage states that smart cities aim to integrate technology to improve daily life.

✗ B — To increase the population of urban areas — *The passage mentions urban growth but not as a goal of smart cities.*

✗ C — To replace all traditional systems with digital ones — *The passage does not suggest replacing all traditional systems.*

✗ D — To make urban areas more expensive — *The passage does not discuss making urban areas more expensive.*

2. How do smart grids benefit energy use according to the passage?

✓ B — By keeping two-way communication with homes and offices — The passage explains that smart grids use two-way communication to manage energy better.

✗ A — By providing more electricity to wealthy neighborhoods — *The passage does not mention favoring wealthy neighborhoods with smart grids.*

✗ C — By reducing the need for renewable energy sources — *The passage mentions renewable energy as part of smart grids, not reducing it.*

✗ D — By eliminating electricity bills completely — *The passage does not claim smart grids eliminate electricity bills.*

3. Why are digital health kiosks in Mumbai beneficial?

✓ B — They offer quick health checks and connect to clinics — The passage states that kiosks offer basic checks and connect to clinics, saving time and costs.

✗ A — They replace the need for hospitals — *The passage does not suggest kiosks replace hospitals.*

✗ C — They are more expensive than regular doctor visits — *The passage mentions cost savings, not higher costs.*

✗ D — They only serve a small fraction of the population — *The passage does not say they serve only a small fraction.*

4. What role do citizens play in smart cities according to the passage?

✓ B — They need digital skills and engage with city data — The passage explains citizens need digital skills and should engage with city data for smart cities to work.

✗ A — They must build all the infrastructure — *The passage does not say citizens build infrastructure.*

✗ C — They should avoid using technology — *The passage encourages technology use, not avoidance.*

✗ D — They are responsible for all technology maintenance — *The passage does not assign technology maintenance to citizens.*

5. What challenge is highlighted about smart city technology?

✓ B — It can cause a digital divide in cities — The passage discusses the risk of a digital divide where poorer areas may be left behind.

✗ A — It is always cheap to implement — *The passage mentions the expense of upgrading infrastructure.*

✗ C — It eliminates all public services — *The passage does not say technology eliminates public services.*

✗ D — It makes cities less attractive to tourists — *The passage does not mention an impact on tourism.*

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Letters Refugee Camp Family Story Hope — https://www.esl-tests.com/reading/b2/letters-refugee-camp-family-story-hope

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