CONTENTS

UNIT

1

Urban development

Passage A

Directions

You are going to read a passage with 10 statements attached to it. Each statement contains information given in one of the paragraphs. Identify the paragraph from which the information is derived. You may choose a paragraph more than once. Each paragraph is marked with a letter.

阅读理解实际用时

☐分☐秒（☐WPM）

答题正确率☐%

Smart cities make for smarter citizens

A Shanghai, one of the vibrant cities in China, was certainly an appropriate place to host the Smart City Expo & Congress, an influential smart city forum in China. It was sponsored by the Ministry of Housing and Urban-Rural Development. Smart city experts joined representatives from nearly 200 national smart city pilot projects and more than 200 international investment and financial companies, along with leading government visionaries, all with the goal of sharing new ideas on every aspect of smart city development to participate in the forum.

B The "smart city" concept is often associated with large urban centers in developed economies, but the topic is gaining momentum in developing as well as developed economies. This is especially true across the Asia-Pacific region, where many economies have shown dramatic growth in recent years. People have been moving out of rural areas and into cities thanks to sharply rising standards of living and increased social mobility. These demographic trends have led governments to focus investments on urban designs and supporting technologies that can turn crowded cities into more livable places.

C Some cities, such as a number of new urban centers, are so new that they can be designed from scratch, while other cities need to be improved with new technologies, and their pre-existing designs have to be updated. In all cases, however, smart cities share a number of characteristics that are

vital to their success – digitization of infrastructure, alignment of business and government approaches, and citizen participation.

D An expert responsible for the Smart Cities activities noted at the Expo, "A sentient (有感知能力的) city infrastructure helps cities to almost literally sense, listen, and act upon what is happening in the city. Connectivity and closed loops are key to that end."

Digitization of infrastructure

E Some established cities have developed along a path of step-by-step organic growth, where public transportation and highway systems have been developed in isolation from other public services, such as health care and education. But these older cities can benefit from the latest digital technologies to modernize their operations, and become smarter and more adaptable. Old, isolated legacy systems can be replaced by a harmonized set of processes and applications that are simpler to maintain and update. For example, advanced back-office systems can help make a city's day-to-day operations more efficient and cost-effective, just as they are doing in the private sectors.

F On the other end of the spectrum, some cities in China are still greenfield developments, which means planners can start with a blank canvas, learn from past experience, and adapt the city for people rather than forcing people to adapt to the city. One new approach relies on the concept of people-oriented microcities. Cities designed in this manner ensure that residents are within 10 to 20 minutes, walking distance from housing, education institutions, health care, work, recreation places, and public transportation hubs that connect with other microcities. This interconnected group of communities, supported by digital technologies, make up the larger city in a pattern of broader urban transformation.

G In all cases, the implementation of fully harmonized systems paves the way for collaboration between different city departments and services, as their IT systems can now talk to each other and share data more easily. And the integration of arrays of smart sensors within the city infrastructure adds to the capabilities of city governance,

allowing managers to better understand the usage of key systems such as power and water utilities, and traffic and public transport patterns. Analytic systems can provide key insights for more effective planning, making cities truly smarter.

Alignment of business and government approaches

H Business leaders responsible for building up profit-driven commercial enterprises have been ahead of the game in the digital age, leveraging IT systems that lower their costs and give them a business advantage. In many cases, their IT processes stretch out to partners and suppliers, allowing them to collaborate as a single and highly competitive business ecosystem. With smarter and more open systems, city governance itself can be integrated into the business ecosystem. Like businesses, cities also have to be resilient (适应力强的) and able to generate revenues. Cities that are better connected to their business constituents are, by nature, more adaptive to economic transformations, thus becoming more capable and competitive. That closeness also allows each city to adapt itself to whatever makes it unique, whether it's tourism, traditional manufacturing, or becoming a high-tech hub.

Citizen participation

I The average city dweller has also been ahead of local governments when it comes to the enthusiastic adoption of new technologies. An indispensable part of life for most young people is their smartphones, which give them the ability to connect at multiple levels with their friends and peers, get the latest information that interests them, and create virtual communities online. When local governments open up their data to their citizens, people can make better decisions based on the information that's relevant to them, such as when to use a certain traffic route, where to find a parking space, and how to best regulate their use of electricity. Smart cities make for smarter citizens.

J This effort is bidirectional. For example, when alerts are sent out about transportation delays, people can find alternate routes to where they want to go. They, in turn, can push out information to their own virtual communities so more people can make smarter decisions. Connected citizens can supply intelligence by reporting delays in public transportation.

K Going one step further, the community can even be brought into the planning phase of the city development. Citizens are no longer just end-users but first-users – they become involved in planning and design, and the city benefits from their imagination in a way not possible with purely centralized decision-making. These examples of crowdsourcing not only harmonize people and their cities on a daily basis, but they harness citizens' creativity to solve city issues in a more adaptive and effective way.

The dramatic impact of smart cities

L Best-of-breed solutions covering key city governance areas such as ERP (enterprise resource planning), HR (human resources), process management, and integrated planning, budgeting, and reporting have allowed cities to bring data, people, and resources together more effectively than ever before. As experts noted, "Cities can use modern technology to establish a citywide nervous system that allows citizens and cities to share responsibilities." Cities can become more modern and optimize the services they provide by harmonizing processes and modernizing technology infrastructure.

M Links between local governments and businesses can be strengthened by using standards-based technologies that allow closed-loop feedback sensor networks, while social networks can allow citizens to engage with their cities as well as each other, all leading to open and connected smart and imaginative cities with smarter citizens who are better equipped to move ahead into the future.

(*1,117 words*)

_____ **1** Cities which connect with businesses by means of smarter and more open systems can become more capable and more competitive.

_____ **2** City designers in China can adopt the concept of people-oriented microcities to adapt the city for people.

_____ **3** Citizens can use their imagination and creativity to help with urban planning and design.

_____ **4** The concept of "smart city" has attracted more and more attention in both developing and developed countries all over the world.

_____ **5** According to an expert, connectivity and closed loops play an important role in helping cities to react properly to city issues.

_____ **6** Smart city experts from relevant projects and organizations, and important government officials gathered in Shanghai to discuss issues about smart city development.

_____ **7** The use of smartphones enables many young people to communicate more easily with their friends and peers and make better decisions in their life.

_____ **8** According to experts, modern technology can help cities to build a citywide nervous system in which cities and citizens share responsibilities.

_____ **9** In the Asia-Pacific region, people flock from rural areas to cities because of improved living standards and high social mobility.

_____ **10** The latest digital technologies, like advanced back-office systems, can make some old cities become smarter and more adaptable.

Cities after coronavirus: How COVID-19 could radically alter urban life

A Victoria Embankment (堤岸), which runs for a mile and a quarter along the River Thames, is many people's idea of typical London. Some of the earliest postcards sent in Britain depicted its broad promenades (步行大道) and splendid gardens. The Metropolitan Board of Works, which oversaw its construction, hailed it as an "appropriate, and appropriately civilised cityscape for a prosperous commercial society".

B But the embankment, now rooted in our urban consciousness, is entirely the product of pandemics. Without a series of devastating global cholera (霍乱) outbreaks in the 19th century – including one in London in the early 1850s that claimed more than 10,000 lives – the need for a new, modern sewerage (污水处理系统) may never have been identified. This remarkable feat of civil engineering, which was designed to carry wastewater safely downriver and away from drinking supplies, would never have materialised.

C From the Plague of Athens in 430 B.C.E., which drove profound changes in the city's laws and identity, to the Black Death in the Middle Ages, which altered the balance of class power in European societies, to the recent series of Ebola epidemics across sub-Saharan Africa that illuminated the growing interconnectedness of today's hyper-globalised cities, public health crises rarely fail to leave their marks

on a metropolis. As the world continues to fight the spread of coronavirus, confining many people to their homes and radically altering the way we move, work, and think about our cities, some are wondering which of these adjustments will endure beyond the end of the pandemic, and what life might look like on the other side.

D One of the most pressing questions that urban planners will face is the apparent tension between densification – the push towards cities becoming more concentrated, which is seen as essential to improving environmental sustainability – and disaggregation, the separation of populations, which is one of the key tools currently being used to hold back the transmission of the pandemic.

E "At the moment we are reducing density everywhere we can, and for good reason," says a professor of urban studies at the Massachusetts Institute of Technology. "But on the whole density is a good thing: Denser cities are more energy efficient. So, I think in the long term there is going to be a conflict between the competing demands of public health and the climate."

F He believes that in the future there will be a renewed focus on finding design solutions for individual buildings and wider neighbourhoods that enable people to socialise without being packed "sardine-like" into compressed restaurants, bars, and clubs – although, given the incredibly high cost of land in big cities, success here may depend on significant economic reforms.

G In recent years, although cities in the global south are continuing to grow as a result of inward rural migration, northern cities are trending in the opposite direction, with more affluent residents taking advantage of remote working capabilities and moving to smaller towns and countryside settlements offering cheaper property and a higher quality of life.

H The "declining cost of distance", as a managing director of a global consulting company calls it, is likely to accelerate as a result of the coronavirus crisis. More companies are establishing systems that enable staff to work from home, and more workers are getting accustomed to it. "These are habits that are likely to

persist," he says. The implications for big cities are immense. If proximity to one's job is no longer a significant factor in deciding where to live, for example, then the appeal of the suburbs wanes (逐渐减弱); we could be heading towards a world in which existing city centres and far-flung "new villages" rise in prominence, while traditional commuter belts fade away.

I Another potential impact of coronavirus may be an intensification of digital infrastructure in our cities. The Republic of Korea, one of the countries worst-affected by the disease, has also posted some of the lowest mortality rates, an achievement that can be traced in part to a series of technological innovations including the mapping and publication of infected patients' movements. In China, authorities have enlisted the help of tech firms to track the spread of COVID-19 and used "big data" analysis to anticipate where transmission clusters would emerge next. One of the government takeaways from coronavirus is that "smart cities" are safer cities from a public health perspective, so we can expect greater efforts to digitally capture and record our behaviour in urban areas.

J Although the situation of coronavirus in many cities has so far been very different, the sudden increase of mutual aid groups – designed to provide community support for the most vulnerable during isolation – has brought neighbours together across age groups and demographic divides. Social distancing has, on the contrary, drawn some of us closer than ever before. Whether such groups survive beyond the end of coronavirus to have a meaningful impact on our urban future depends, in part, on what sort of lessons we learn from the crisis.

K The vulnerability of many fellow city dwellers – not just because of a temporary medical emergency but as an ongoing lived reality – has been thrown into sharp relief, from elderly people lacking sufficient social care to the low-paid and self-employed who have no financial buffer (缓冲) to fall back on, but upon whose work we all rely.

L Private hospitals are already facing pressure to open up their beds without extra charge for those in need. In Los Angeles, homeless citizens have seized vacant homes, drawing support from some lawmakers. Will these kinds of sentiments

dwindle (逐渐减少) with the passing of coronavirus, or will support for urban policies that put community interests ahead of corporate ones – like a greater imposition of rent controls – endure?

M We don't yet know the answer, but in the new and unpredictable connections swiftly being forged within our cities as a result of the pandemic, there is perhaps some cause for optimism.

N Some experts think we are potentially seeing a fundamental shift in urban social relations. "City residents are becoming aware of desires that they didn't realise they had before," one of them says, "which is for more human contact, for links to people who are unlike themselves." Whether that change in the nature of city living proves to be as lasting as the Victoria Embankment remains, for now, to be seen.

(1,036 words)

____ **1** Cities are continuing to grow in the south of the world while many rich people in the north are moving to smaller towns and the countryside.

____ **2** The social distancing people have to observe during the pandemic has brought them closer than ever before.

____ **3** A country, which has been seriously stricken by COVID-19, only reported relatively low death rates partly because of its advanced digital infrastructure.

____ **4** Some lawmakers have supported homeless people in occupying vacant homes in Los Angeles.

____ **5** The Victoria Embankment in London was built as a result of a series of disastrous pandemic outbreaks.

____ **6** According to an expert, during the pandemic, city residents have shown a desire for more contact with people who are different from themselves.

_____ **7** Almost every pandemic in human history, such as the Black Death in
Europe and Ebola in Africa, left traces on a city.

_____ **8** "Big data" analysis has helped China to track the spread of the pandemic
and predicted possible transmission clusters.

_____ **9** A managing director thinks that it will become a lasting habit that many
people work from home because of the coronavirus crisis.

_____ **10** Urban planners must consider how to cope with the contradiction between
population concentration and population separation.

A chance to transform urban planning – How autonomous vehicles will reshape cities

Modern cities, particularly in America, are habitats for cars as much as for people, devoting huge amounts of space to roads and parking. "America is a great place to be – if you're a car," says a professor of city and regional planning. The expectation that people should be able to drive anywhere, encountering little or no congestion (拥塞) on the way and parking at their destination, led to a splurge (挥霍) of construction in the 20th century. Urban freeways, commuter suburbs, and mandatory parking requirements reshaped cities.

Now autonomous vehicles (AVs) promise to transform them once again, undermining many car-centric assumptions made in the 20th century, opening up new possibilities, and turning urban-planning debates upside down. "For the first time in a generation, we can really rethink what suburban development looks like," says a professor of urban studies at the Massachusetts Institute of Technology.

Simply put, building cities around cars increases congestion, discourages the use of public transport, and encourages sprawl (无计划的扩展), all of which urban planners generally disapprove of. The odd thing is that AVs could either reverse or accelerate each of these trends. **1** ☐ It all depends on the rules for their use, and in particular the pricing. AVs know exactly where they are at all times, which makes it much easier

to introduce fine-grained road tolls and congestion charges based on the time of day, traffic levels, and so on. That makes them a powerful and flexible policy tool.

Let's first consider congestion. A switch to shared robotaxis could increase vehicle occupancy rates, reducing the number of vehicles needed to move people around and easing congestion. **2** [＿＿＿＿] The roads could also fill up with autonomous delivery vehicles with nobody on board. The nightmare scenario, says a professor from the University of San Francisco, is that "We create another form of congestion – it just happens to be automated congestion".

But careful pricing of roads and rides should be able to prevent that. Some cities already have congestion-charging schemes of various kinds, or rules to encourage vehicle-sharing, such as dedicated car-sharing lanes.

AVs would allow far more subtle forms of charging, taking account of time, place, vehicle type, number of riders, traffic levels, and so forth, to maximize sharing and minimize congestion. It will be that AVs ensure people don't end up with highly congested roads, according to an expert from an electric car company.

What about the impact of AVs on public transport? **3** [＿＿＿＿] This is because AVs would be cheaper, so they could draw even more people away from public transport and onto the roads. This might discourage further investment in public transport, which in turn could create more "transit deserts" where large numbers of people (typically the poor and the elderly) depend on public transport but get an inadequate service.

Some people believe the economics of robotaxis will work best in dense urban centers, so people could see social-equity implications around the fringes of cities. But again, there is also a rosier scenario. Using AVs for the "last mile" to move people to and from railway stations could make public transport more viable in less densely populated areas. Some cities might also operate their own robotaxi fleets, or subsidize rides in poor neighborhoods using toll revenues collected in rich ones.

4 [_____] He argues that the monocentric model, with a center surrounded by suburbs, is a thing of the past. In many large American and European cities, jobs are moving from downtown to the outskirts, and workers increasingly commute from one suburb to another, rather than to and from the center. His analysis shows that 75 percent of jobs in a typical American city are outside the urban center.

In European and Asian cities with dense public-transport networks, this decentralization is easier to cope with, but retrofitting (翻新) the necessary infrastructure in American cities would be too expensive. Robotaxis hailed on demand promise to be a lot more efficient than privately owned vehicles, and are well suited to the spatial structure of both present and future American cities. Some people think it's not affordable to build mass transit that goes from suburb to suburb, and the best solution is the idea of shared autonomous vehicles.

That raises the question of urban sprawl. On the one hand, a switch to shared AVs by urban dwellers could lead to denser cities as some of the space currently used for parking is reallocated to housing. New high-density housing is already being planned with pick-up and drop-off zones for ride-hailing vehicles, and fewer parking spaces. **5** [_____] "The biggest negative of suburban living is the driving and the amount of space that has to be devoted to cars," says a scholar of Chapman University. By doing away with driving and making city centers easier to access, AVs will increase the appeal of suburban living. So, it seems likely that AVs will make cities both denser and more spread out, depending on the road-pricing regime.

6 [_____] "Over the last 100 years our landscape has been drastically altered by the automobile," says an expert. With AVs, "all the land we've given to the automobile can be put back into landscape and ecological functions." By doing away with parking and using one-way, single-lane roads that loop through neighborhoods, the area of paved surface can be reduced by 50 percent, he calculates. That means more space for plants, more biodiversity, and better water retention, reducing the risk of flooding in the urban core. Suburbs will have enough space to generate their own solar power or grow their own food.

City centers will end up looking different, too. In effect, cities have banked a large amount of valuable real estate in the form of parking lots and garages, notes an associate professor from the University of Virginia, and must decide how to spend their windfall (意外之财). Housing is one obvious use; parks are another. Some streets could be refashioned to more imaginative uses than high-volume thoroughfares (大道), he suggests. In particular, some quieter streets could become spaces where pedestrians and slow-moving AVs share the roadway as equals, with neither having priority. **7** ⬚ Some experts argue that streets should not just be roads for cars but places for people.

In retrospect, many drawbacks associated with cars in the 20th century arose from a failure to price their use properly. With appropriate pricing, AVs should be able to avoid many of those problems, giving urban planners and policymakers a much wider range of choices about how cities and transport systems could be structured. The challenge will be how to choose wisely.

(1,092 words)

A On the other hand, AVs could also encourage sprawl by making long commutes more acceptable, because riders will be able to work or even sleep on the move.

B A recent study found that among the users of taxi-hailing apps in America, bus use fell by six percent and light-rail use by three percent.

C With core technology and capital market access, AVs will be deployed across different areas for commercialization.

D The emergence of AVs helpfully coincides with a change in the structure of cities, says an urban-studies expert at New York University.

E This would mark a return to the way streets worked a century ago, before cars took over.

F They could reduce or increase traffic, make affordable transport more or less accessible, and lead to denser cities or reduce sprawl.

G AVs could also make possible new kinds of suburbs, updating the 20th-century dream of garden cities.

H But low-cost robotaxis might also encourage more people to take more trips – the familiar problem of "induced demand" when road travel is cheap and easy.

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