



## LEARNING OBJECTIVES

Watch and listen	Watch and understand a video about Indian transport
Reading skills	Predict answers from visual clues
Academic writing skills	Write a conclusion
Writing task	Write a problem–solution essay





# TRANSPORT UNIT 4



## UNLOCK YOUR KNOWLEDGE

- 1 Work with a partner. Brainstorm as many different modes of transport as you can.
- 2 Which modes of transport do you use? Answer the questions below.
  - 1 Why do you use these modes of transport?
  - 2 Why do you not use the other modes of transport?

# WATCH AND LISTEN

Discovery  
EDUCATION



## USING YOUR KNOWLEDGE TO PREDICT CONTENT

### PREPARING TO WATCH

- 1 You are going to watch a video about transport in India. Before you watch, choose the correct answers (a–d) to the questions (1–6).
  - 1 How many people live in India?  
a 13 million      b 0.2 billion      c 1.2 billion      d 2.2 billion
  - 2 How many cars are there in India?  
a 1.2 million      b 13 million      c 30 million      d 13 billion
  - 3 In 2005, how many households owned a bicycle?  
a 40%      b 14%      c 30%      d 13%
  - 4 When were the railways introduced to India?  
a 1853      b 1940      c 1947      d 1951
  - 5 How many people do Indian railways carry every day?  
a 2.8 million      b 13 million      c 14 million      d 30 million
  - 6 How many staff work for the Indian railways?  
a 7,500      b 65,000      c 1.4 million      d 2.8 million
- 2 Watch the video and check your answers.

### WHILE WATCHING

- 3 Watch the video and complete the notes on page 71 opposite about the different modes of transport using the words in the box.

father   rural   centuries   passengers   freight   ban  
transport   afford   systems   stations   efficient

## LISTENING FOR KEY INFORMATION

**Water taxis**

Used for <sup>(1)</sup> \_\_\_\_\_

Take thousands of <sup>(2)</sup> \_\_\_\_\_ along the river every day

Boats are handed from <sup>(3)</sup> \_\_\_\_\_ to son

**Ox carts**

Traditional in <sup>(4)</sup> \_\_\_\_\_ India

Some cities <sup>(5)</sup> \_\_\_\_\_ ox carts because of traffic problems

**Bicycles**

A common mode of <sup>(6)</sup> \_\_\_\_\_ in India

Now more people can <sup>(7)</sup> \_\_\_\_\_ to own a bicycle

**Trains**

In 1947, there were 42 railway <sup>(8)</sup> \_\_\_\_\_

7,500 <sup>(9)</sup> \_\_\_\_\_

2.8 million tonnes of <sup>(10)</sup> \_\_\_\_\_ daily

Railways are very <sup>(11)</sup> \_\_\_\_\_

- 4 Complete the table below with one advantage and one disadvantage of each mode of transport shown in the video.

mode of transport	advantages	disadvantages
1 water taxis	_____	_____
2 ox carts	_____	_____
3 bicycles	_____	_____
4 trains	_____	_____

### UNDERSTANDING DETAIL

**DISCUSSION**

- 5 Work with a partner. Discuss the questions below.

- 1 What is the public transport like in your country?
- 2 Do you use public transport at home and abroad? Why? / Why not?





## READING 1

### USING VISUALS TO PREDICT CONTENT

### UNDERSTANDING KEY VOCABULARY

### READING FOR MAIN IDEAS



## PREPARING TO READ

- 1 Work with a partner. Look at the photographs of transport in two cities and try to answer the questions below.
  - 1 What problem can you see in the first photograph?
  - 2 How could the vehicle in the second photograph be a solution to this problem?
  - 3 What do you think is different about the city in the second photograph?
- 2 Match the words and phrases in the box to their definitions (1–9) below.

commuting time   rapid transit   traffic congestion   vehicle  
major issue   outskirts   vandalism   route   carbon-neutral

- 1 the areas that form the edge of a town or city
- 2 a way or road between places
- 3 how long it takes to get to work from home
- 4 too many cars and lorries close together and unable to move
- 5 big problem
- 6 the crime of damaging property
- 7 not releasing any CO<sub>2</sub> into the atmosphere, or compensating for CO<sub>2</sub> release through a reduction by investing in renewable energy
- 8 a machine used for transport
- 9 fast transport

## WHILE READING

- 3 Read the case study on page 73 opposite and answer the questions (1–5).
  - 1 What is a PRT?
  - 2 In addition to the PRT, how will Masdar City be better designed than older cities?
  - 3 Apart from the PRT, what other transport options are available in Masdar City?
  - 4 What is the main problem with Masdar City's planned PRT system?
  - 5 How does the PRT work?

**T**he expanding economy and rising population have brought great benefits to Abu Dhabi but with them comes a major issue: traffic jams. Abu Dhabi, like many UAE cities, has a major issue with traffic congestion, and, although it is not as bad as in some cities, the average commuting time of 45 minutes is quite high.

Abu Dhabi's answer to this is Masdar City, a new city being built near the airport on the outskirts of Abu Dhabi. Masdar, which means 'source', is a city which gets all of its electricity from the environment by using renewable energy sources such as solar power. There is a wall around the city to keep out the hot desert wind and the streets are narrow. There is therefore more shade from the sun, and the breeze passes through the streets better. As a result, the city is about 15 °C cooler than Abu Dhabi.

There is no traffic congestion in the six-kilometre-square city of Masdar because cars are not allowed in the city. Instead, people use public transport. There is an underground rail system and a Light Rail Transit system, which run through the centre of the town and connect Masdar to

Abu Dhabi and the airport. A Personal Rapid Transit system (PRT) was also planned. This is a system of small, personalised, electric machines that run on solar energy. They are controlled wirelessly and move by being pulled along by magnets along their route. The plan was that 3,000 'podcars', which can carry 2 to 6 passengers, would drive people to about 100 stations all around the city and also take them from outside the city, where they would leave their cars, to their destination in the city.

The problem is that the costs of building Masdar City are substantial: it was projected to cost around US \$24 billion, but the global financial crisis of 2008–9 had a negative effect on the plans. Planners now have to find a way to build the PRT at a much lower cost. The dream of a carbon-neutral, congestion-free city could become reality in the future but there are other issues. There is the risk of vandalism for the PRT and also safety concerns about these pilotless cars. However, if all of the problems are solved, the benefits of Masdar City's green solutions to both traffic and environmental problems will certainly outweigh the financial investment in the longer term.



# Masdar

## the future of cities?



## READING FOR DETAIL

- 4 Complete the sentences below using no more than three words.
- 1 Abu Dhabi has a big problem with \_\_\_\_\_.
  - 2 The average time it takes to get to work is \_\_\_\_\_.
  - 3 Masdar's electricity comes from \_\_\_\_\_.
  - 4 Traffic jams are not a problem in Masdar because cars are \_\_\_\_\_ in the city.
  - 5 Instead, people travel around using \_\_\_\_\_.
  - 6 In 2008–09 Masdar suffered the negative effects of the \_\_\_\_\_.

## READING BETWEEN THE LINES

- 5 Work with a partner. Try to answer the questions below.
- 1 How did the 2008–9 global financial crisis affect the Masdar City project?
  - 2 Why could the PRT be a target for vandalism?
  - 3 What are the safety concerns for a PRT system?

## DISCUSSION

- 6 Work with a partner. Discuss the questions below.
- 1 Would you like to live in Masdar City? Why / Why not?
  - 2 Do you agree that the benefits of Masdar City will outweigh the financial cost?
  - 3 Would a PRT system work in your city? Why / Why not?

# READING 2

## PREPARING TO READ

### Using visuals to predict content

The images which accompany a text can provide valuable information on the content.

## USING VISUALS TO PREDICT CONTENT

- 1 Work with a partner. You are going to read an essay about solving traffic congestion. Look at the photographs on page 75 opposite and try to answer the questions below.
- 1 What solutions to the problem of traffic congestion do the photographs show?
  - 2 What other solutions to traffic congestion can you think of?
  - 3 Read the essay and check your answers.



## WHILE READING

- 2 Choose the best title (a–d) for the essay.
- a The effects of traffic congestion in cities
  - b Solving traffic congestion
  - c Urban traffic congestion is increasing
  - d Bicycles can solve urban traffic congestion

Many of the world's big cities have problems with congestion. There is simply far too much traffic, so governments everywhere have to think about how to solve the problem.

Traffic jams have a number of negative effects. They cause stress to drivers, which may lead to health problems or road rage. They can also reduce productivity because products cannot be delivered on time and employees arrive late for work or meetings. Another important issue is that the emergency services can become caught in traffic. Finally, there are the negative effects that traffic congestion causes to the environment. Traffic congestion wastes fuel, which in turn produces more carbon dioxide through the car exhausts and contributes to the greenhouse effect.

However, there are a number of steps that can be taken to reduce road congestion. The most obvious solutions involve engineering. This means building more roads with wider lanes so that more cars can travel at the same time. Tunnels and bridges can be constructed in order to reduce the congestion that happens when cars have to stop at traffic lights. However, the problems with these kind of solutions are the construction costs and that more roads may actually encourage more traffic.

Other, more creative solutions to the congestion problem are to increase tax on fuel so that it is more expensive, or make people pay to travel on certain roads such as in the centre of a city or on a motorway. If we do this, people are more likely

to think carefully about using their car. However, taxing fuel and roads may mean that some people cannot afford to drive their cars and may have to give up their jobs. Also, governments may not want to increase fuel taxation too much if it is unpopular with voters.

A more popular solution, therefore, would be to encourage other forms of transport which will lead to fewer cars on the road. One suggestion is to encourage people to cycle more. Although this mode of transport has obvious health benefits and reduces air pollution, it is not very practical in every climate and can prove dangerous in heavy traffic.

Another possibility is to persuade people to use buses. This means many people can travel in just one vehicle. However, generally, people dislike the image travelling by bus creates. A park and ride system can allow people to drive to the edge of cities, park and then take a bus to the city centre. This allows some flexibility for car drivers but reduces city centre congestion. However, the buses tend not to run at night.

Overall, although there are a number of good ways to tackle this problem, some of these also have negative effects. It would seem that encouraging alternative forms of transport is probably the best solution as this solves the congestion problems and reduces the amount of traffic at the same time, which will also have a positive effect on the environment.



- 3 What are the four effects of traffic congestion mentioned in the essay?
- 4 Complete the table using one word for each answer.

	solutions	advantages	disadvantages
engineering	Build more roads, (1) _____ and bridges.	More vehicles can (2) _____ at once.	This may (3) _____ more traffic.
tax	Increase tax on roads and (4) _____.	People will think more about using their cars.	People may need to give up their (5) _____.
cycling	It will result in fewer cars on the road.	It has benefits for your (6) _____ and reduces pollution.	It can be dangerous when (7) _____ is heavy.
park and ride	People drive to the edge of a city, park their cars and then travel into the city centre by (8) _____.	It reduces (9) _____ in the city centre.	Buses may not operate at (10) _____.

## READING BETWEEN THE LINES

- 5 Work with a partner. Try to answer the questions below.
- 1 What sort of health problems do you think the author means are caused by stress?
  - 2 Why would a government not want to have an unpopular tax?
  - 3 What is the image problem with using a bus that the author mentions?

## DISCUSSION

- 6 Work with a partner. Discuss the questions below.
- 1 What is the traffic situation like in your town or city?
  - 2 What has your government done to help with traffic problems?
  - 3 Which of the suggestions above would you recommend and why?
  - 4 Do you have any better suggestions?

## LANGUAGE DEVELOPMENT

### COLLOCATION 1

1 Match the nouns (1–8) to the nouns (a–h) to make collocations about transport.

- |              |                |
|--------------|----------------|
| 1 traffic    | a transport    |
| 2 public     | b restrictions |
| 3 cycle      | c charge       |
| 4 rush       | d congestion   |
| 5 car        | e lane         |
| 6 road       | f share        |
| 7 congestion | g rage         |
| 8 parking    | h hour         |

2 Complete the sentences with collocations from Exercise 1.

- \_\_\_\_\_ is a big problem in this city. The traffic jams are terrible.
- I use \_\_\_\_\_ like trains or the underground to get to work.
- You can't drive in the \_\_\_\_\_. It's only for bicycles.
- \_\_\_\_\_ stop anyone leaving their car here.
- The \_\_\_\_\_ is usually from eight until nine in the morning.
- I use a \_\_\_\_\_ programme and drive to work with a co-worker.
- If people get too angry in a traffic jam, it's called \_\_\_\_\_.
- You have to pay the \_\_\_\_\_ to drive into the city centre.

### ACADEMIC SYNONYMS

3 Replace the verbs in bold (1–8) with their academic synonyms in the box.

prevent   organize   select   attempt  
consider   convince   realize   require

- We **need** more public transport in the city like a light rail network.
- Commuters **try** to arrive on time but traffic often causes delays.
- PRT passengers **choose** their destination from a digital menu.
- The government needs to **understand** that the trains are too crowded.
- We **run** a car share programme.
- We should **think about** cycling instead of driving short distances.
- New roads will **stop** traffic congestion in the short term.
- It will be difficult to **get** drivers to use public transport.





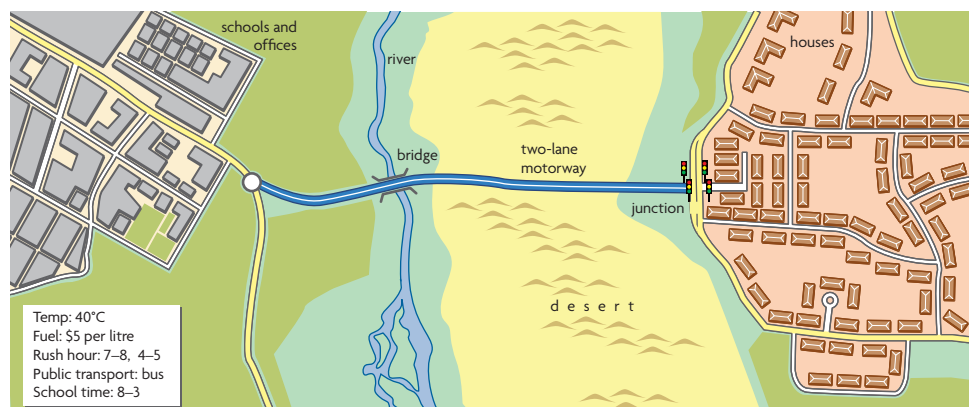
## CRITICAL THINKING

At the end of this unit, you will write a problem–solution essay. Look at this unit's Writing task in the box below.

Describe the traffic problems in this city and outline the advantages and disadvantages of the suggested solutions. Which of the suggestions is most suitable?

### ANALYZE

- 1 Work with a partner. Look at the map below, showing a city with serious traffic congestion problems. Discuss what the problems could be and make a list of at least three. One has been done for you as an example.



#### Problem 1

The residential area is on one side of the river and the economic centre and the schools are on the other side of the river. However, there is only one road into and out of the city centre.

#### Problem 2

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#### Problem 3

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#### Problem 4

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- 2 Suggest a solution for each of the four traffic problems shown on the map, and make notes on the possible issues. The first one has been done for you as an example.

Solutions to traffic congestion	Possible issues
1 <u>Building a tunnel</u>	<u>Expensive to build under the river</u> <u>Would fill with traffic eventually</u>
2 _____ _____	_____ _____
3 _____ _____	_____ _____
4 _____ _____	_____ _____

## WRITING

### GRAMMAR FOR WRITING

#### EXPLANATION

#### First conditional

We often use the first conditional to persuade or negotiate. Notice how we use *if* and *will* to link two sentences.

idea/action: The government increases tax on fuel.

consequence: People use their cars less.

*If the government increases tax on fuel, people will use their cars less.*

or

*People will use their cars less, if the government increases tax on fuel.*

idea/action: We build another bridge.

consequence: More traffic can get to the schools and offices.

*If we build another bridge, more traffic will be able to get to the schools and offices.*



- 1 Read the grammar explanation on page 79 and answer the questions below.
  - 1 Which clause begins with *if*?
    - a the idea clause
    - b the consequence clause
  - 2 Which clause contains *will*?
    - a the idea clause
    - b the consequence clause
  - 3 What happens to *can* when it follows *will* in a sentence?
- 2 Link the pairs of sentences below using *if* and *will*. Remember to change *can* in Question 5.
  - 1 We move the offices and schools next to the houses. We have fewer traffic problems.
  - 2 We have a ferry over the river. Fewer people use the bridge.
  - 3 Fewer cars use the roads. We increase the price of fuel.
  - 4 We change the office hours. The cars do not all use the road at the same time.
  - 5 We build a railway line. People can use the train instead of their cars.

EXPLANATION

### Using *if ... not* and *unless*

We can also use *if ... not* or *unless* to describe the consequence of not doing a certain action.

idea/action: The government increases tax on fuel.

consequence: People use their cars less.

*If the government doesn't increase tax on fuel, people won't use their cars less.*

*Unless the government increases tax on fuel, people won't use their cars less.*

- 3 Link the sentences below using *if ... not* or *unless*.
  - 1 The traffic will improve. We build more roads.
  - 2 Pollution will be reduced. We use cleaner transport.
  - 3 We provide a solution. People will get to work on time.
  - 4 We will solve the traffic problem. We build houses closer to the business areas.
  - 5 The city invests in a PRT. There will be less congestion.

## ACADEMIC WRITING SKILLS

### Writing a conclusion

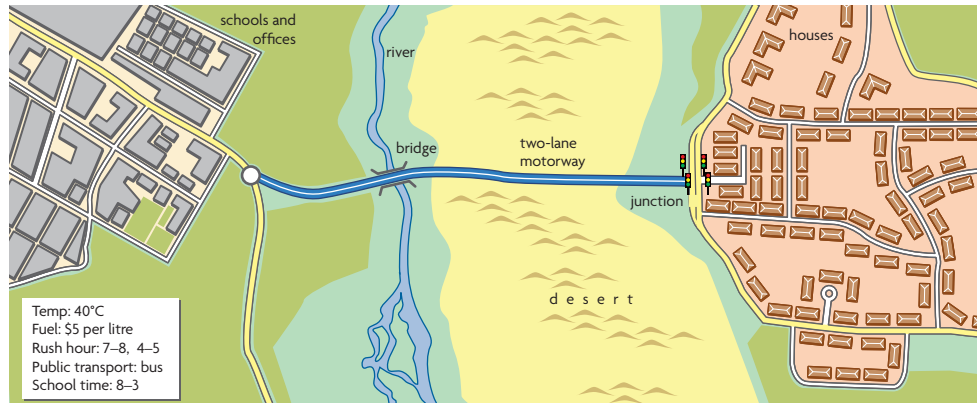
In an essay conclusion, we bring together all the points from the main body and state our personal opinion on the question. We then make a final comment to answer the question.

- 1 Match each main point (1–3) to a personal opinion (a–c) and a final comment (i–iii) to make three different conclusions.
    - 1 In conclusion, this town's traffic problems are as a result of a single bridge over the river.
    - 2 Overall, although there are a number of good solutions to the traffic problem, the main issue is housing.
    - 3 To sum up, it is clear that the traffic congestion is a serious problem which will require a new approach to transport in the city.
  - a In my opinion, encouraging public transport is cheaper and more effective than building more bridges and roads.
  - b I would say that building houses next to the offices would solve this problem.
  - c It is my view that a new river crossing offers the best solution.
  - i Building more bridges will allow traffic freedom of movement between the two areas and perhaps charging drivers to use one of the bridges will help recover the costs.
  - ii Buses and trains will be able to solve the congestion problems and reduce the amount of traffic, which might also have a positive effect on the environment.
  - iii It is a long-term and expensive solution but relocating workers next to their offices should prevent traffic jams and allow people to walk to work.
- 2 Answer the questions.
    - 1 What phrases are used to introduce the conclusions in Exercise 1?
    - 2 What phrases are used to introduce opinions in Exercise 1?



## WRITING TASK

Describe the traffic problems in this city and outline the advantages and disadvantages of the suggested solutions. Which of the suggestions is most suitable?



### PLAN

- 1 Look back at the problems and solutions you discussed in the Critical thinking section on page 78 and complete the essay plan below.

#### Introduction

Solution 1: \_\_\_\_\_

Reasons: \_\_\_\_\_

Issues: \_\_\_\_\_

Solution 2: \_\_\_\_\_

Reasons: \_\_\_\_\_

Issues: \_\_\_\_\_

Solution 3: \_\_\_\_\_

Reasons: \_\_\_\_\_

Issues: \_\_\_\_\_

## WRITE A FIRST DRAFT

- 2** Respond to the task by writing three paragraphs about the solutions to the city's traffic problems, explaining the reasons for each solution and its disadvantages. Then write a conclusion, including your personal opinion.

The map shows the traffic problems of a busy city.

The city seems to have very bad traffic congestion. This makes people late, wastes fuel and adds to pollution in the city. People have to travel from their homes on one side of the river to their offices and schools on the other. The main problem is that there is only one main road running through the centre which takes all the car traffic, and only one bridge. The only public transport is a bus which also uses the same road. There is also a junction near the housing area where the traffic builds up during the two rush hours, when people commute to work or drop off their children at school.

[illegible]

- 3 Use the task checklist to review your essay for content and structure.

#### TASK CHECKLIST



Are there three solution paragraphs in the main body, and have you evaluated the different solutions by giving reasons?

Does your conclusion summarize the main body, give your opinion and answer the question?

Have you included enough data from the diagram to support your opinion?

- 4 Make any necessary changes to your essay.
- 5 Now use the language checklist to edit your essay for language errors which are common to B1 learners.

#### LANGUAGE CHECKLIST



Have you replaced general verbs with academic words where possible?

Have you used *if*, *will*, *unless* and *if ... not* correctly?

Have you used *in conclusion*, *to sum up* or *overall* to introduce your conclusion?





- 6 Make any necessary changes to your essay.



## OBJECTIVES REVIEW

7 Check your objectives.

*I can ...*

watch and understand a video about Indian transport	
	very well <span style="float: right;">not very well</span>
predict answers from visual clues	
	very well <span style="float: right;">not very well</span>
write a conclusion	
	very well <span style="float: right;">not very well</span>
write a problem–solution essay	
	very well <span style="float: right;">not very well</span>

## WORDLIST

UNIT VOCABULARY	ACADEMIC VOCABULARY
bus lane (n)	attempt (v)
carbon-neutral (adj)	consider (v)
congestion charge (n)	convince (v)
outskirts (n)	issue (n)
public transport (n)	major (adj)
roadrage (n)	prevent (v)
run (v)	realize (v)
rush hour (n)	require (v)
traffic congestion (n)	select (v)
vandalism (n)	
vehicle (n)	