

Reading

Major Subways of Europe

Public transportation¹ is an **intrinsic** part of every modern city. Many big cities have an **underground** rail system as their **centerpiece**. Three of the biggest and busiest **underground** rail systems in Europe are in London, Paris, and Moscow. The character of each city imprints its railways.

The first of these subways was London's **Underground**, which opened in 1863. By that time, horses and **pedestrians** had so **clogged** the streets of London that city government ruled that no railroads could enter the city except **underground**. The method used for laying the first underground tracks is called "cut and cover," meaning the streets were dug up, the track was laid, a tunnel was built, and then everything was buried. Although the method was **disruptive**, it worked. Steam engines chugged under London, **releasing** steam through **vents** along the city streets. In its initial day of **operation**, the London **Underground** carried 30,000 passengers.

This cut-and-cover method caused massive disruptions in the city and required the **destruction** of the structures above the tunnel. A better means of **expanding** the original **Underground** was needed, and builders did not have to look far to find it. London was also home to the first underwater tunnel, a **pedestrian** tunnel that had been built under the Thames River in 1825, made possible by the engineer Marc Brunel. He had devised a way of supporting the tunnel while the workers dug, called the Brunel **Shield**. Two young engineers improved the Brunel **Shield** for use in **expanding** the London Underground. The new Harlow-Greathead **Shield** carved a circular tube more than seven feet in diameter, which is why the London Underground is called the Tube. By then, the tunnels could be deeper than the original ones because electric train engines had become available. These trains did not have to be close to the **surface** to **release** steam. The **shield** could be used to dig deeper tunnels without destroying the **surface** structures above them.

Paris started designing an underground rail service to **rival** London's. The first part of its system was not opened until the World's Fair and Olympics were held in that city in 1900. The Paris Metro is shorter than London's, but it carries more passengers every day, second in Europe only to Moscow. Whereas London's Underground is known for its engineering, Paris's Metro is known for its beauty. The stations and entrances are examples of art nouveau **architecture**, and they are **decorated** with mosaics, sculptures, paintings, and innovative doors and walls.

The Moscow Metro opened in 1935. It was based on the design of the London Tube, except much of the track is above ground. When Stalin

¹BrE: transport

came to power, he used the stations as **showcases** of Russian art, culture, and engineering. The underground Moscow stations are filled with statuary, painting, and mosaics.

Underground railways are not only for transportation. During World War II, all three underground systems were used as bomb shelters for the populace. The Moscow subway was even used as a military **headquarters**. Stores and malls have **sprung** up by stations, something that is especially convenient in cold climates.

All three systems are continuing to expand, providing service to more riders in more distant locales. This is all part of an effort to decrease greenhouse gases emitted from personal vehicles.

Answer the questions about **Major Subways of Europe**.

Questions 1–4

Do the following describe the subway system in London, Paris, or Moscow?

*Write the correct letter, **A**, **B**, or **C**.*

- A** London
- B** Paris
- C** Moscow

- _____ 1. It was used as a military headquarters during World War II.
- _____ 2. It has a large percentage of its track above the ground.
- _____ 3. It was originally built for the operation of steam trains.
- _____ 4. It is famous for its beautiful architecture.

Questions 5–7

*Choose the correct letter, **A**, **B**, **C**, or **D**.*

- 5. The Paris Metro stations are decorated with
 - A** pictures of the Olympics.
 - B** different kinds of artwork.
 - C** photographs of the World's Fair.
 - D** examples of engineering.

ESSENTIAL WORDS FOR THE IELTS

6. The London Underground was first built because
- A** the underwater pedestrian tunnel had been damaged.
 - B** a new method for digging tunnels had been developed.
 - C** the city streets were too clogged for trains on the surface.
 - D** the city wanted to rival the transportation system in Paris.
7. The introduction of electric train engines allowed for
- A** deeper tunnels.
 - B** more pedestrians.
 - C** innovative doors and walls.
 - D** more art showcases in the stations.

My Words

Write the words that are new to you. Look them up in the dictionary and write their definitions.

Words

Definitions

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Word Families

noun	architect	The architect is working on a plan for a new train station.
noun	architecture	The architecture of the stations is an important part of subway system design.
adjective	architectural	From an architectural point of view, it's a very interesting building.
adverb	architecturally	Its art nouveau decorative features make the Paris Metro architecturally significant.

noun	decoration	People enjoy looking at the decorations in the station while they wait for the train to arrive.
noun	decorator	The decorator planned the art for the station very carefully.
verb	decorate	Sometimes they decorate the trains for the holidays.
adjective	decorative	That column is there for decorative purposes only; it has no real use.

noun	destruction	The destruction of buildings was part of the process of creating the subway system.
verb	destroy	It was necessary to destroy some buildings to dig the subway tunnels.
adjective	destructive	Digging deeper tunnels makes subway construction less destructive to buildings and roads on the surface.

ESSENTIAL WORDS FOR THE IELTS

noun	disruption	Building a subway system can cause a lot of disruptions to traffic on the streets.
verb	disrupt	They try to disrupt traffic as little as possible during subway construction.
adjective	disruptive	The process of building a subway can be disruptive, but the result is well worth it.

noun	expansion	The expansion of the subway system cost a great deal of money.
verb	expand	By the time they were ready to expand the subway system, a new method for digging tunnels had been developed.
adjective	expandable	The subway system was designed to be expandable.

noun	operation	The Paris Metro began operation in 1900.
noun	operator	A subway train operator needs special training for the job.
verb	operate	Modern subway systems use computers to operate the trains.

Word Family Practice

Choose the correct word family member from the list below to complete each blank.

The planning and construction of a subway system requires a great deal of time and effort. In addition to planning the routes, digging the tunnels, and laying the tracks, the stations have to be built. **1**..... are hired to plan the stations. Often, the station plan includes **2**..... features such as murals showing local scenes, or a station may be used as a showcase for the work of important local artists. Building a new subway system may require the **3**..... of buildings on the surface, but attempts are made to cause as little **4**..... as possible. The **5**..... of an already-existing subway system can also be quite disruptive. Everyone looks forward to the day when the construction is over and the subway begins to **6**..... . Often businesses spring up in and around a new subway station, contributing to the life of the neighborhood.

- | | | |
|-----------------|-------------|---------------|
| 1. Architecture | Architects | Architectural |
| 2. decorates | decorations | decorative |
| 3. destruction | destroy | destructive |
| 4. disruption | disrupts | disruptive |
| 5. expansion | expand | expandable |
| 6. operation | operator | operate |

Word Skill

Compound Words

When two or more words join to form a new word, that word is called a compound word. Often, the meaning of the compound word is related to the meanings of the two separate words.

underground = under + ground

Meaning: below the surface of the ground

Read the sentences. Write a definition for each underlined word.

1. They built an underwater tunnel for pedestrians below the Thames River.

underwater: _____

2. Before they could paint the mural in the station, they had to cover the wall with an undercoat of special paint.

undercoat: _____

3. Instead of a bridge, they built an underpass so that cars could cross the tracks from below.

underpass: _____

Listening

CD 1
Track
9

Listen to the conversation. Complete the outline below.
Write **NO MORE THAN ONE WORD** for each answer.

The London Underground: (1863)

Steam engines were used, so

- it had to be close to the **1**.....
- it had **2**..... so engines could release steam.

Electric engines were introduced, so

- tunnels could be deeper.
- a **3**..... was used to support the tunnel.
- digging the deeper tunnels did not **4**..... streets and buildings.

Writing

The chart¹ below shows information about subway systems in three major European cities.

Summarize² the information by selecting and reporting the main information and making comparisons.

Write at least 150 words.

Unit 3

Size of Subway Systems

	Total track length (both underground and on the surface)	Number of stations in operation	Number of daily passengers
London Underground	408 km	275	3 million
Paris Metro	214 km	300	4.5 million
Moscow Metro	300 km	182	6.5 million

¹BrE: table

²BrE: summarise