

**CAREER  
PATHS**

# Rail Transportation

Virginia Evans - Jenny Dooley - Tom White



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Book

**1**

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## Scope and Sequence

Unit	Topic	Reading context	Vocabulary	Function
1	Types of Trains	Magazine article	commuter train, freight train, heritage train, high-speed rail, light rail, mixed train, monorail, passenger train, rapid transit, subway	Making a suggestion
2	Parts of a Train	Textbook excerpt	bogie, cab, caboose, car, frame, freight car, locomotive, passenger car, truck, wheel	Asking for more information
3	Couplers	Catalog	3-link coupling, bar coupler, buckeye coupler, connect, couple, couple, fully automatic coupling system, knuckle, link and pin	Asking for an opinion
4	Bogies and Trucks	Textbook passage	axle, bogie, coned, flange, float, mount, radial movement, shock absorber, suspension coil, truck, wheel/rail interface, wheelset	Correcting an error
5	Sub-structure	Report	ballast, camber, drain, embankment, formation, grade, lay, sub-ballast, sub-structure, support	Talking about necessity
6	Track	Email	concrete, gauge, hardwood, preservative, secure, sleeper, softwood, space, tie, track	Agreeing with an opinion
7	Rails	Stock list	baseplate, bullhead rail, creep, flat bottom rail, foot, head, jointed, rail anchor, web, weld	Making an inquiry
8	Stations	Newspaper article	connection, depot, escalator, halt, intersect, line, stairwell, station, stop, terminus	Asking for directions
9	Platforms	Webpage	bay platform, gap, height, island platform, level crossing, platform screen doors, platform, side platform, through platform, tunnel	Confirming information
10	Train Travel	Train ticket	arrival, boarding, cancellation, compartment, delay, departure city, departure, destination, open-car seating, reservation	Asking for assistance
11	Weight and Volume	Webpage	cubic feet, cubic meters, gallon, imperial, kilogram, liter, metric, pound, short ton, tonne	Making an estimate
12	Distance, Time, and Speed	Tourist guide	duration, Greenwich Mean Time (GMT), kilometer, kph, meter, mile, mph, time zone, yard	Expressing surprise
13	Radio Communication	Radio guide	channel, frequency, identification, operate, out, over, phonetic alphabet, radio communications, transmit	Using the phonetic alphabet
14	Types of Signals	Signaling guide	color light, detonator, engine bell, flag, fusee, hand signal, semaphore, signal, sounding whistle, torpedo	Emphasizing safety
15	Careers	Job descriptions	brakeman, carman, conductor, locomotive engineer, mechanic, porter, switchman, track laborer, welder, yardmaster	Asking for an opinion

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## Scope and Sequence

Unit	Topic	Reading context	Vocabulary	Function
1	Switches and Crossings 1	Railman's guide	3-way turnout, crossing, diamond crossing, double slip, frog, left hand turnout, point, single slip, switch, trap point, turnout, Y turnout	Offering an opinion
2	Switches and Crossings 2	Textbook excerpt	check rail, diverging track, guard rail, heel, point blade, point machine, running rail, stock rail, straight track, stretcher, switch blade, switch motor, toe	Giving a compliment
3	Curves and Cant	Textbook excerpt	cant, compromise figure, curve, derail, horizontal curve, lateral acceleration, lateral stress, straight, superelevation, transition, vertical curve	Asking about condition
4	Freight Operations	Webpage	classification yard, freight, gantry crane, goods wagon, intermodal container, intermodal, piggyback, port, reach stacker, rolling highway, shipping, well car	Complying with a request
5	Types of Cargo	Advertisement	aggregate, beam, bulk commodity, cement, chemicals, coal, fuel, grains, lumber, packaged goods, sand, steel coil	Asking for information
6	Freight Cars 1	Webpage	boxcar, bulkhead, capacity, cushioning, double doors, insulated, lading anchor, load limit, plug door, refrigerated, sliding door, underframe, van	Giving an explanation
7	Freight Cars 2	Webpage	auto rack, bi-level, centerbeam, coil car, covered hopper, flatcar, gondola, open-top hopper, tank car, tri-level	Recommending
8	Parts of a Coach	Inspection Report	body, cant rail, carriage, coach, dome, gangway bellows, indicator light, retention tank, roof, side sill, tumblehome, vestibule, waist rail	Making an assumption
9	Rapid Transit	Blog post	color-coded, electric passenger railway, elevated railway, grade separation, metro, rapid transit system, rush hour, service frequency, subway, third rail, transit map, underground, urban	Asking for advice
10	Regional, Commuter, and Intercity Rail	Magazine article	commuter rail, express, heavy rail, intercity rail, major, non-stop, population hub, regional rail, seating area, suburbs, zone pricing	Giving advice
11	Long Distance and International Rail	Webpage	border, check, coach seating, crew change, customs, dining car, immigration, international rail, long distance rail, passport, rail pass, sleeping car, visa	Asking permission
12	Fare Collection	Newspaper article	AFC, cash-on-board, fare, faregate, fraud, single journey, smart card, stored value, ticket office machine, ticket vending machine, ticket, token	Discussing opinions
13	High-speed Trains	Report	continuous welded rail, curve radius, dedicated line, existing line, high-speed rail, in excess of, maximum, navigate, rate, reach, tilting train	Discussing pros and cons
14	Maglev Trains	Newspaper article	EDS, EMS, Inductrack, levitation, lift, maglev train, magnet, propel, propulsion, suspend, thrust	Asking for an explanation
15	Careers	Webpage	apprenticeship, civil engineer, dispatcher, electrical engineer, environmental engineer, locomotive engineer, mechanical engineer, network controller, software engineer, specialist engineer, structural engineer, telecommunication engineer, train driver	Clarifying information

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## Scope and Sequence

Unit	Topic	Reading context	Vocabulary	Function
1	Brake Systems 1	Manual	air brakes, angle cock, brake block, brake cylinder, brake pipe, compressor, driver's brake valve, equalizing reservoir, feed valve, main reservoir, pneumatic brakes, triple valve	Identifying a problem
2	Brake Systems 2	Encyclopedia entry	accelerator valve, apply, ball valve, brake pipe, coupled hoses, dummy coupling, exhauster, friction brake, piston, release, vacuum, vacuum brake, vacuum reservoir	Asking about relevance
3	Brake Systems 3	FAQ page	application, E-P brake, ECP brake, emergency, fail-safe, lap, P-Wire control, propagation rate, release, running, service brake, slack action, time lapse	Showing understanding
4	Diesel Locomotives	Inspection report	air intake, auxiliary alternator, control stand, diesel engine, fuel tank, main alternator, motor blower, radiator, sand box, traction motor, turbocharger	Reacting to good news
5	Electric Locomotives	Manual	AC, battery, circuit breaker, contactor, cooling fan, DC, DC drive, electric locomotive, inverter, master controller, rectifier, relay	Apologizing
6	Multiple Units	Training guide	bidirectional, consist, DEMU, DMU, driving cab, dynamic braking, EMU, generator, jumper cable, multiple unit, push-pull train, self-powered, traction system	Asking about a daily routine
7	Signaling 1	Manual introduction	absolute signal, approach, clear, main track, occupy, permission, permissive signal, restricted speed, restricting, secondary track, siding, signal aspect, signaling	Making a comparison
8	Signaling 2	Article	familiar, in possession of, meet, overhead signal bridge, passive system, range, route indicator, route signaling, signal mast, speed signaling, timetable operation, train order, wayside signal	Asking about past experience
9	ABS	Textbook passage	ABS, block signal, block, bond, double track ABS, interlocking, manual block, rail joint, safe breaking distance, shunt, single track ABS, track circuit	Expressing a lack of understanding
10	Cab Signaling	Webpage	active system, ATC, ATO, ATS, AWS, cab signaling, continuous, default, intermittent, pulse code, trip-stop, warning	Introducing yourself
11	CTC	Article	axle counter, control point, CTC, data link, depict, dual-controlled switch, fiber optic link, mock-up, remote control, satellite, TCS, train management system, wire pole link	Expressing anticipation
12	Safety 1	Report	bell, cattle guard, crossbuck, crossing gate, fencing, illegal, obstruction, pedestrian crossing, penalty, quiet zone, sight distance, trespass, warning horn	Expressing doubt
13	Safety 2	Article	absorb, bay seating, CEM, collision, emergency lighting, evacuate, head-on, impact, inter-car crush zone, locomotive crush zone, luminescent striping, passive safety, survival space, unidirectional seating	Requesting more information
14	Maintenance 1	Job description	clear, cracked, debris, defect, grinding, Hyrail truck, lining, maintenance, rolling contact fatigue, slow order, surfacing, tamping, tongue lipping, transverse fissure	Talking about priority
15	Maintenance 2	Article	chemical wash, flats, inspection shed, reblock, reprofile, skid, stable, tolerance, vary, washing machine, wear, wheel lathe	Describing degree

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# 1

# Types of Trains

## Get ready!

1 Before you read the passage, talk about these questions.

- 1 What are some different types of trains?
- 2 What types of trains are used in metropolitan areas?



commuter train



subway



monorail

The basic concept behind a train is simple and hundreds of years old. However, technological advancements keep trains useful in modern times.



freight train



high speed train

## Reading

2 Read the magazine article. Then, choose the correct answers.

- 1 What is the main idea of the article?
  - A to give arrival times for passenger trains
  - B to describe different types of trains
  - C to compare the trains of the past to the trains of today
  - D to recommend what type of rapid transit trains to use
- 2 Which of the following is NOT a type of rapid transit train?
  - A subway
  - B monorail
  - C light rail
  - D high-speed train
- 3 What are freight trains used for?
  - A to transport goods
  - B to provide transportation in metropolitan areas
  - C to take passengers from one place to another
  - D to teach people about antique trains

## Vocabulary

3 Match the phrases (1-6) with the definitions (A-F).

- |                       |                     |
|-----------------------|---------------------|
| 1 ___ commuter train  | 4 ___ light rail    |
| 2 ___ heritage train  | 5 ___ mixed train   |
| 3 ___ high-speed rail | 6 ___ rapid transit |

- A a train that provides transit to the surrounding parts of a metropolitan area
- B a train that operates at a sustained speed of more than 125 miles per hour
- C any type of passenger train used in an urban area
- D a form of urban transport that operates at street level
- E a train with historic value
- F trains that include both freight and passenger cars

**Freight trains** transport many of the goods we use and buy. **Passenger trains** provide people with affordable and convenient travel. Train travel is even more convenient on **high-speed rail**. Occasionally, trains transport both passengers and cargo. These are known as **mixed trains**. **Rapid transit** trains in metropolitan areas come in many forms. Some cities have **monorails** that run on a single track. Other cities use **subways** that run in tunnels below street level. **Light rails** are similar to a tramway but operate at a higher capacity. **Commuter trains** provide service to the surrounding areas of a city. Museums and train enthusiasts also operate **heritage trains**. These trains keep the history of railways alive.



heritage train

**4** Read the sentence pairs. Choose which word or phrase best fits each blank.

**1** passenger train / freight train

- A A \_\_\_\_\_ primarily transports cargo.  
 B There are many types of \_\_\_\_\_ used for transportation.

**2** subway / monorail

- A Passengers on a \_\_\_\_\_ ride in underground tunnels.  
 B A \_\_\_\_\_ uses only one track for support and guidance.

**5** Listen and read the magazine article again. What are different types of passenger trains?

## Listening

**6** Listen to a conversation between a man and a woman. Mark the following statements as true (T) or false (F).

- 1 \_\_\_ The man and the woman are close to the restaurant.  
 2 \_\_\_ The subway station is a few blocks from the man and the woman.  
 3 \_\_\_ The subway does not run late at night.

**7** Listen again and complete the conversation.

- Man:** The restaurant's pretty far from here.  
**Woman:** You're right. I don't think we're going to be able to **1** \_\_\_\_\_ .  
**Man:** No, we won't. **2** \_\_\_\_\_ the light rail.  
**Woman:** I don't know. It might be faster to take the **3** \_\_\_\_\_ .  
**Man:** Really? How far away is the **4** \_\_\_\_\_ ?  
**Woman:** It's only a few blocks from here. We can walk there in just a **5** \_\_\_\_\_ .  
**Man:** Okay. Are you sure the subway still runs this **6** \_\_\_\_\_ ?  
**Woman:** Of course it does.

## Speaking

**8** With a partner, act out the roles below based on Task 7. Then, switch roles.

### USE LANGUAGE SUCH AS:

*I don't think ...*

*Let's take ...*

*Are you sure ...?*

**Student A:** You and Student B are discussing how to get to a location. Talk to Student B about:

- how far away the location is
- what forms of transportation you can take
- how you would like to get there

**Student B:** You are going to a location with Student A. Talk about how you will get there.

## Writing

**9** Use the magazine article and the conversation from Task 8 to complete the email about what rapid transit trains to use.

Hey Cindy,

The \_\_\_\_\_ is \_\_\_\_\_ so you can use the \_\_\_\_\_ or the \_\_\_\_\_ to get there.

The \_\_\_\_\_ isn't very far away and the \_\_\_\_\_ should get you there pretty quickly. See you tonight!

# Glossary

- 3-link coupling** [N-UNCOUNT-U3] **3-link coupling** is a coupling system that uses a set of three links hung from hooks on each car and connected by a chain.
- arrival** [N-UNCOUNT-U10] **Arrival** is the act of reaching an intended destination.
- axle** [N-COUNT-U4] An **axle** is the rod that goes between two wheels that connects them and allows them to spin.
- ballast** [N-UNCOUNT-U5] **Ballast** is material, usually basalt, used to form the bed of a railroad track.
- bar coupler** [N-COUNT-U3] A **bar coupler** is a semi-permanent coupling system that connects cars using a bar.
- baseplate** [N-COUNT-U7] A **baseplate** is a piece to which rails can be fastened in order to hold them in place.
- bay platform** [N-COUNT-U9] A **bay platform** is a dead-end platform that is generally shorter than a through platform.
- boarding** [N-UNCOUNT-U10] **Boarding** a train is the act of entering it with the intention of riding it.
- bogie** [N-COUNT-U2] A **bogie** is a framework beneath a rail car with four or six wheels attached.
- brakeman** [N-COUNT-U15] A **brakeman** is a person who takes apart and puts together railroad cars at the yard and inspects and operates train parts and switches in the yard.
- buckeye coupler** [N-COUNT-U3] A **buckeye coupler** is a common automatic coupling system that uses locking knuckles.
- bullhead rail** [N-COUNT-U7] A **bullhead rail** is a rail on which the head and foot are nearly equal in length.
- cab** [N-COUNT-U2] A **cab** is the area of a locomotive designated for the driver of a train.
- caboose** [N-COUNT-U2] A **caboose** is a rail car sometimes found at the end of a freight train.
- camber** [N-UNCOUNT-U5] **Camber** is the arched shape of the formation under a railroad track designed to ensure water run-off.
- cancellation** [N-COUNT-U10] A **cancellation** is the act of stopping a reservation.
- car** [N-COUNT-U2] A **car** is a unit of a train that is used to carry passengers or cargo.
- carman** [N-COUNT-U15] A **carman** is a person who is responsible for maintaining, inspecting, and repairing the rail cars.
- channel** [N-COUNT-U13] A **channel** is a range of frequencies used by a particular radio station for sending and receiving signals.
- color light** [N-COUNT-U14] A **color light** is a light used to convey information to a locomotive engineer in which the color of the light changes the meaning of the signal.
- commuter train** [N-COUNT-U1] A **commuter train** is a network of trains that provide rapid transit to the areas surrounding a metropolitan area.
- compartment** [N-COUNT-U10] A **compartment** is an enclosed area of a train car.
- concrete** [N-UNCOUNT-U6] **Concrete** is a hard substance, made from a mixture of water, sand, and aggregates, that is used in construction.
- conductor** [N-COUNT-U15] A **conductor** is a person in charge of the equipment, freight, and crew on the train.
- coned** [ADJ-U4] If a wheel is **coned**, it is wider on its inside edge and smaller on its outside edge.
- connect** [V-T-U3] To **connect** train cars is to latch them together using a coupling system.
- connection** [N-COUNT-U8] A **connection** is a situation in which a passenger exits one train or bus and boards another.
- couple** [V-T-U3] To **couple** train cars is to use a coupling system to latch them together.
- coupler** [N-COUNT-U3] A **coupler** is any system that allows train cars to be joined together.
- creep** [V-I-U7] To **creep** is to move or bend in the direction of train travel slowly over time.
- cubic foot** [N-COUNT-U11] A **cubic foot** is a measurement of volume equal to the volume of a cube with sides of one foot in length.
- cubic meter** [N-COUNT-U11] A **cubic meter** is a measurement of volume equal to the volume of a cube with sides of one meter in length.



## Rail Transportation

**Career Paths: Rail Transportation** is a new educational resource for rail transportation professionals who want to improve their English communication in a work environment. Incorporating career-specific vocabulary and contexts, each unit offers step-by-step instruction that immerses students in the four key language components: reading, listening, speaking, and writing. **Career Paths: Rail Transportation** addresses topics including the parts of a train, safety procedures, passenger trains, freight operations, and general maintenance.

The series is organized into three levels of difficulty and offers a minimum of 400 vocabulary terms and phrases. Every unit includes a test of reading comprehension, vocabulary, and listening skills, and leads students through written and oral production.

### Included Features:

- A variety of realistic reading passages
- Career-specific dialogues
- 45 reading and listening comprehension checks
- Over 400 vocabulary terms and phrases
- Guided speaking and writing exercises
- Complete glossary of terms and phrases

The **Teacher's Guide** contains detailed lesson plans, a full answer key and audio scripts. The **audio CDs** contain all recorded material.

**Tom White** spent nearly forty years as a writer and spokesman in the railroad industry. He retired from the Association of American Railroads (AAR) in 2009 and founded his own company to provide editorial services for the AAR and other clients in the railroad industry.



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