

- Electrically powered trains quieter than diesel locomotives.
- Tunnel spoil re-used to landscape a former rubbish tip plant & machinery
- Environmentally friendly fuel powers much of the the bats left
- as it was found that trains increased the temperature and
- Air conditioning installed in a viaduct where bats roost
- Tunnels made for mice, foxes, rabbits & other wildlife
- Improving footpaths, bridleways & way marking
- Conserving water & other natural features
- Planting 18000 trees
- 5 miles of tunnels minimising environmental impact
- Graffiti clearance & prevention

environment including:
 Heathrow Express co-operated with local rail & train operators, borough councils & businesses to work on improving the

- More car users on public transport
- The workforce is primarily taken from the local community.

Effects of introducing Heathrow Express:

4 environment & community



research



Check out your answers by looking at these websites:
www.earthsystems.org www.cat.org.uk

How 'green' is your lifestyle?

school's local residents?

What environmental issues may be of concern to your

have on the environment?

How much effect does your main method of transport

What are environmentally friendly fuels?

CS 9 heathrow express

This is the new high-speed, non-stop, electrified rail link between London's rail network and underground service at Paddington Station to two new stations at the heart of Heathrow, the world's leading international airport.

The £450 million project is part of the British Airport Authority's intention to reduce the number of passengers travelling by car to the airport - aiming to have 50% of passengers using public transport by 2003.

The 16-mile journey (through 5 miles of tunnels) takes 15 minutes to Terminals 1,2, 3 and an extra 8 minutes to Terminal 4. Top speed (160kph) is reached in 6 minutes. Trains run every 15 minutes. 5.5 million passengers using the link, yearly, means 3000 fewer cars on the road per day!

MILLENNIUM PRODUCTS

CASE STUDY



1 the service

BAA's main aim is moving people with speed, comfort and safety.

60 million passengers a year (the population of the UK) travel on 1,450 flights per day through Heathrow Airport. It is important that passengers and their luggage are in the right place at the right time.

Baggage handling

The world's largest city centre check-in facility at Paddington Station allows travellers the convenience of checking-in their luggage and collecting their flight boarding cards. Travellers are then free to travel to the airport by Heathrow Express and go straight to the departures lounge ready for their flight.

Bags are bar-coded, sent down a specially constructed 320m conveyor tunnel, put onto the trains to Heathrow and transferred to the aircraft. Travellers next pick them up at their flight destination.



research

Discuss the following with others in your class.
How do people travel to and from the airport?
What reasons have BAA for getting passengers to use public transport?
Check out your answers by looking at these websites:
www.BAA.co.uk and www.heathrowexpress.co.uk



3 high track safety standards

Because of the volume of traffic, trains are fitted with both Automatic Warning (AWS) and Automatic Train Protection (ATP) systems.

AWS uses audio and visual warnings in the cab of track side signals - stopping the train if the driver does not respond within 6 seconds.

ATP operates through radio based signals from beacons along the track, stopping the train completely if it does not slow quickly enough and is likely to run through a red signal.

? question

Produce a flow chart to show your thoughts on what happens to the bags once they are checked in at Paddington Station. Bear in mind security and how bags get to the right flight.

2 unassisted access for all

Design of 'facilities for all' features:

In the stations

- Induction loops for hard of hearing
- Tactile warning material at platform edges
- Emergency call buttons to Customer Service Representatives
- Seating with handrails
- Platforms level with trains.

On the trains

- Wider doors
- Wheelchair positions on trains with call for help buttons
- Wheel chair accessible washrooms.

research

Make a survey of how special physical needs are catered for in your school and locality.

activity

Produce a flow chart to show what you think happens with the AWS/ATP as a train approaches 2 amber lights and then a red light.

Visit: www.open.gov.co.uk/hse

Use a computer control system to simulate train or road signalling systems.