

200 Years of Tram Travel

The word 'tram' comes from the Dutch or German word 'trame' and was first used in the 16th Century to mean 'a beam of wood' used to guide wagons in mines.

The first trams were pulled by horses in the early 19th Century. Can you imagine what it was like to have horse-drawn trams travelling through the streets? They have changed a great deal since then, both in the way they are powered and in their design, and are now once again becoming a popular, eco-friendly form of transport.



A horse drawn tram



Seaton Tramway

Seaton Tramway's electric pink tram



UK Tram Timeline



- 1807** The first horse-drawn tramway in the UK to transport fare-paying passengers opened in South Wales and ran between Swansea and Mumbles
- 1837** Queen Victoria becomes Queen
- 1851** The Great Exhibition is held at Crystal Palace
- 1860** An American entrepreneur, George Francis Train, opened the first street tramway in the North West of England
- 1873** The first steam-operated tram opened in London
- 1885** Electric trams, with rails buried under the road surface, introduced in Blackpool
- 1890-1891** The first electric tramways, running on overhead wires, run in Edinburgh and Leeds
- 1911** Electric trams start to be replaced by trolleybuses (running on overhead wires and tyres – no rails)
- 1954** Motorised buses, powered by diesel, start to replace trolleybuses
- 1963** No tramways at all operating in Britain for a few months
- 1992** Manchester Metrolink tramway system opened
- 1994** 'Supertram' system opens in Sheffield
- 1999** 'Midland Metro' opens in Birmingham
- 2000** Croydon Tramlink opens in South London
- 2004** Nottingham Express Transit opens



Passenger Transport

Horse-drawn, electric or motor – which is best?

Read the pros and cons of horse drawn trams, electric trams, trolleybuses and motorised buses. If you had to choose one of these as the main form of public transport for the UK, which would you choose – and why?

Horse-drawn trams

Pros

- Not harmful to the environment
- Could pull heavy loads – less friction between the metal rails and metal wheels than between carriage wheels and the road surface
- Relatively smooth ride – avoided ruts in the road that horse-drawn wheeled vehicles could not

Cons

- Horses could only work for 4 or 5 hours and travel around 12 miles a day
- 10 or more horses needed for each tram
- Expensive to stable and feed so many horses
- Horses produced lots of manure which the tramway companies had to clean up and dispose of
- Rails meant that routes were fixed, no flexibility to change routes
- Travel relatively slow

Electric trams with overhead wires

Pros

- Quite cheap to run so fares were low
- Reliable in terms of journey times
- Modern trams are designed to be fully accessible for wheelchairs, mobility scooters and pushchairs
- Possible to use solar power for modern trams
- Environmentally friendly
- Cleaner than horse drawn trams – no manure to clear up!
- Modern trams can transport large numbers of passengers

Cons

- Can be noisy
- Rails mean that routes are fixed, no flexibility to change routes
- Overhead wires can be considered unsightly
- Can be costly to maintain rails and overhead wires
- Costly to introduce new routes
- Take up space on already busy roads
- Could be considered dangerous as they run on roads



Electric trolleybuses (with overhead wires but tyres instead of rails)

Pros

- Quieter than trams
- Clean
- Electric-powered so environmentally friendly
- No rails so routes not fixed
- Easy to introduce new routes
- Easy to convert electric trams to trolleybuses
- Easy to manoeuvre as not on rails

Cons

- Still need overhead cables which could be considered unsightly and expensive to maintain
- Tyres wear out and need replacing – harmful to the environment

Motorised buses

Pros	Cons
<ul style="list-style-type: none">• No overhead wires or rails needed• No high maintenance or installation costs• Easy to introduce new routes or change existing routes• Relatively quiet• Can transport large numbers of passengers	<ul style="list-style-type: none">• Emissions from motor engines pollute the environment and can be harmful to health• Expensive to run as diesel is expensive• Motorised engines need to be regularly maintained• Poor acceleration; limited speed

Use what you've learnt from the information above to help you design a brand new form of passenger transport for the future. You will need to think about

- What will it be made out of?
- How many people can travel on it at any one time (e.g. how many seats does it have?)
- How is it powered? (electricity? petrol? something else?)
- Will it run on wheels, rails – or something else?
- What impact it will have on the environment?
- Will it be comfortable to travel on?
- How fast will it travel?
- How easy will it be to maintain and repair?
- Will it be easy to add or change routes?
- What will it

We'd love to see your ideas! Draw a picture and label it and email it to nicola@tram.co.uk. You could even write about your ideas if you prefer!