



4 Most Prominent British Cities of the Industrial Revolution

By: Filip Canak



Manchester

Introduction



London



Birmingham



Liverpool

A historical black and white photograph of Market Street in Manchester. The image shows a busy street scene with several buildings. On the left, the Albion Hotel is prominent, with its name in large letters on the facade. Below it, a sign for Yates's Wine Lodge is visible. In the background, a large building with a dome, likely the Manchester Town Hall, is visible. The street is filled with early 20th-century cars and a tram. A yellow text box is overlaid on the image, containing the title 'Manchester' and a list of bullet points. A yellow rounded rectangle contains the text 'Click to add text'.

Manchester

- Had about 10,000 inhabitants before the industrial revolution
- The population grew to around 700,000 by the end of the 20th century
- Rising economy and plentiful jobs helped the city grow
- Center for the cotton industry and many factories which attracted peasant farmers

Click to add text

Market Street, Manchester.



London

- Had a large population of 950,000 even before the Industrial Revolution
- Having the strongest economy in all of Great Britain allowed the city to expand farther
- With a big population, poverty and unsanitary conditions were big issues.
- Was the first city to have public services
- London's strong economy and booming industries made it a main center for trade.



Birmingham

- Had approximately 73,000 inhabitants in the early 19th century
- Grew from a small parish manor to the second largest city in Britain
- The key to its growth was its metalworking industry which was greatly improved throughout the industrial revolution

A historical black and white photograph of Liverpool harbor. In the background, a large Gothic-style cathedral with two prominent spires stands on a hill. The middle ground is filled with multi-story brick buildings along the waterfront. In the foreground, several wooden sailing ships with masts and rigging are docked or moving through the water. The overall scene depicts a busy port city in the 18th or 19th century.

Liverpool

- Before the Industrial Revolution, Liverpool was a small city with about 77,000 inhabitants
- Liverpool's docks, abundant jobs and industries on and off the port allowed the city to grow into a major port.
- Liverpool not only played a big role in the slave trade but was also a significant center for immigration and emigration in Britain.

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Photo Credit

Slide 1 picture:

Victorian London Street, Background noise. Screen capture. *Harrison Mearthur.* 14 June 2018. YouTube. 26 Oct 2019 <https://www.youtube.com/watch?v=j57piHaAkG4>

Slide 2 pictures:

19th Century Birmingham, England. Painting. *Birmingham Museums Trust.* Date of revision unknown. Web. 26 Oct 2019
<https://valmceath.com/19th-century-birmingham/#.Xb3ZGm5FxYc>

English School, 19th Century, Snow Hill, Holburn, London. Painting with pencil, watercolour and bodycolour with gum arabic. *Anonymous.* 26 Mar 2010. Web. 26 Oct 2019
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St. Georges Dock. Photograph. *Liverpool Picture Book* Apr 2019. 26 Oct 2019 <https://signaturesliverpool.co.uk/blog/18-historic-photos-of-the-liverpool-waterfront/>

Yates's Albion Hotel, Market Street. Photograph. *Manchesterhistory.net.* Unknown. Web. 26 Oct 2019. <https://manchesterhistory.net/manchester/gone/albionhotel2.jpg>

A photograph of railroad tracks receding into the distance under a cloudy sky, with a yellow text box overlaid in the center.

The Railroad

The Purpose

An early 19th century railroad



A modern railroad



- The railroad was originally made to guide horse carriages.
- Re-made by the Stephenson brothers to allow movement of locomotives.
- Railroads let the trains move safely by transferring their weight into the ground.

The Problem

A rusty railroad



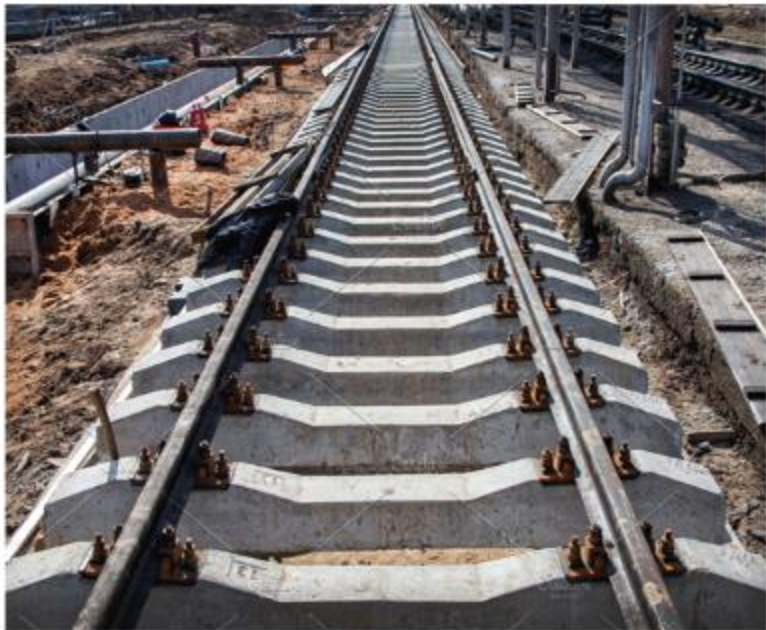
- The rails were first made with cast iron which would rust, making the rails weaker.
- Rails need to be checked up on regularly and all movement of trains must be halted if there is an issue with the rails.
- Areas would have to be perfectly straight in order for railroads to be placed which would sometimes require excavation.
- Railroads took a lot of time and costed a lot of money to be built.

A trench excavated for use of rails



The Solution

A modern railroad made with steel and concrete railroad ties.



- Modern tracks are made with steel that doesn't corrode
- The tracks are also made with concrete, which is significantly more durable than the previously used wooden ties.
- With these durable materials being used on rail tracks, the problem of maintaining the tracks became less of an issue.



What would this innovation look like 50 years from now?

- Today, we have maglevs, Japanese trains that use electromagnets to make the trains levitate slightly, greatly increasing their speed.
- I think that in 50 years from now, governments will be investing in more ecofriendly forms of transport.
- Due to this, I believe the maglevs will not only be used by other nations but will be improved, more specifically, the tracks used by the maglevs
- I designed a prototype* for an improved maglev track. This prototype has special rails with an electromagnet so strong, it not only repels the train, but allows it to fly while still staying on a fixed course.
- The strong magnetic repulsion and low emission of the prototype maglev track will allow people to get where they're going faster, will remove risk of collision with trains and will have less of an impact on the environment.

*Design on next slide

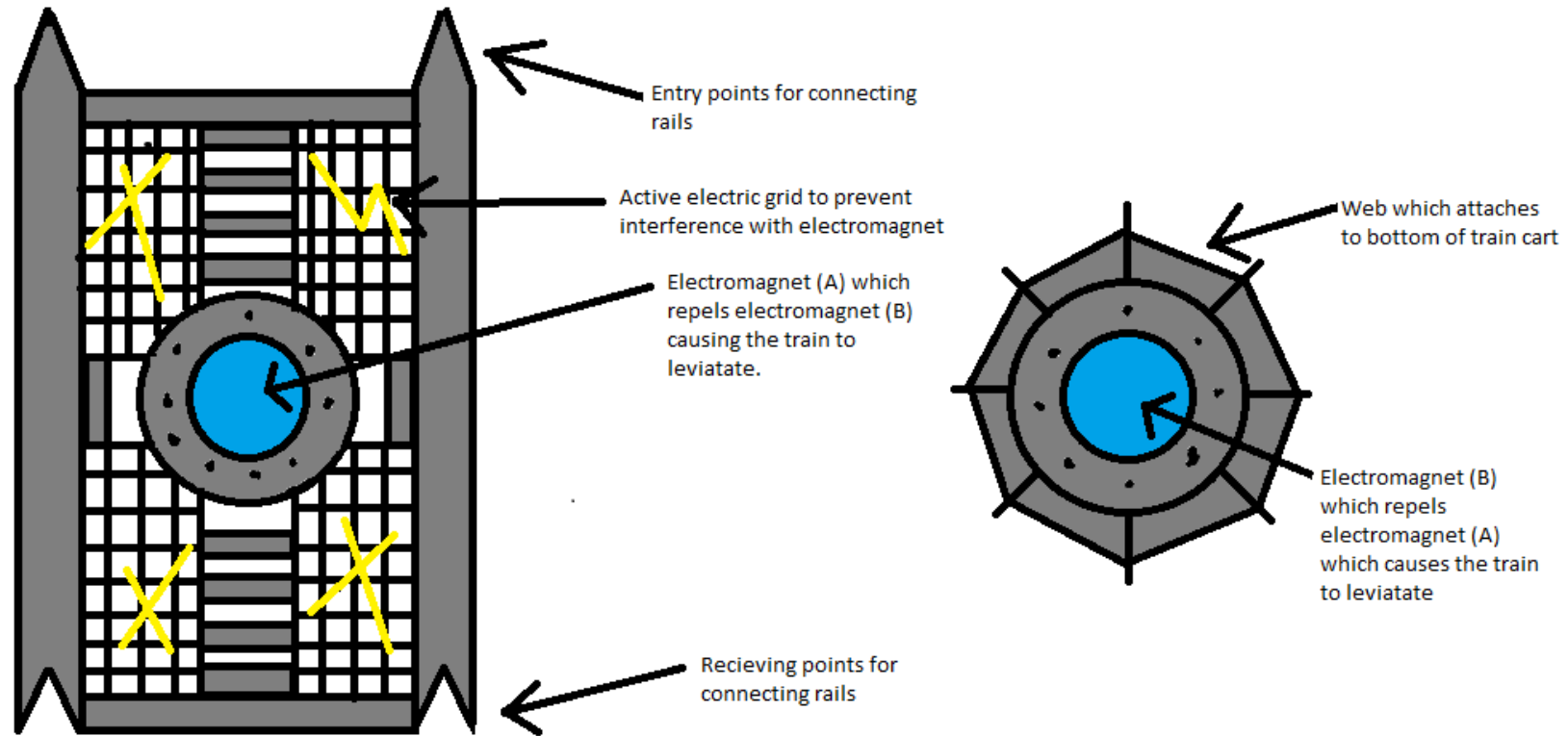


Diagram by: Filip Canak

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Photo Credit (Railroad)

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Railroad Background. Photograph. *Setaswall*. 2019. Web. 02 Nov 2019.

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Rusty Rails of the Abandoned Railroad. Photograph. *Anatoly Fedotov*. 03 Nov 2019. Web. 03 Nov 2019.

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Concrete Railroad Ties. Photograph.
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Slide 5

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