



KS3 Lesson Plan The Future of the Canals

Introduction

This lesson examines the past history of freight transport on the British canal system, and asks whether it is possible for freight carrying to be redeveloped in the 21st century.

Learning objectives.

- To understand that the British canal system was originally constructed for carrying freight and not for leisure craft.
- To understand the reasons why freight carrying declined in the 19th and 20th centuries.
- To examine the reasons why canal transport may represent a positive option for the carrying of certain types of freight in the 21st century.

National curriculum

KS3 Geography Geographical Enquiry and Skills 1d Breadth of Study K Resource Issues iii

Differentiation

- All children will learn that canal transport is a relatively green mode of transport with a low carbon footprint..
- Most children will understand that canals may be used again in the future to carry commercial freight as part of a sustainable British transport network.
- Some children will understand the complex economic and political factors that will affect the return of commercial freight carrying..

Resources

1. Enough copies of the 3 following sheets for each group or pair of students to have a set.
2. Paper and pens or pencils

Key vocabulary

- leisure boats
- commercial boats
- carbon footprint
- freight
- cargo
- sustainable
- green
- policy



Lesson Plan

- 1) Arrange for the students to visit the London Canal Museum and Battlebridge Basin. Ensure that you make a preliminary visit, arrange enough adult supervision, and have completed all necessary risk assessments. If this is not possible, then collect a variety of images of canal boats, both old fashioned commercial vessels, and modern leisure craft.
- 2) Using the real canal or the pictures, summarise the reasons for the original construction of the English canal system, and the reasons why it declined during the 19th and 20th centuries. Discuss the reasons for the rise of leisure boating over the past 30 years.
- 3) Introduce the concept of carbon footprints. Using the information on the sheet, discuss with students which modern forms of transport have the best and worst footprints.
- 4) Introduce the idea of bringing freight back onto the canals as a relatively sustainable way of transporting goods. Boats are relatively slow what would be the best materials to transport? Get students to fill in the table.
- 5) Ask students to read the statements on freight transport on the sheet, then make a list of the positive and negative factors influencing the decisions. (If some students would find this hard, it could be undertaken in mixed ability groups).
- 6) Using these arguments, and any others they can think of and find, get students to organise a mini debate on the future of canal transport.

The Future of Canals

The canal system in Britain was mostly built around two hundred years ago, to serve an industrial purpose to carry raw material such as coal and wood to the cities and factories that needed them. After rail and road transport took over, they entered a period of neglect. This has been reversed in the last 40 or so years by the rise of leisure boating on the canals.

In an age of global warming, individuals and companies need to become much more GREEN and reduce their CARBON FOOTPRINT. Which of the means of transport below produces the least carbon per kilometre?



Here are some interesting facts that may help make up your mind:

"Water transport consumes less of the earth's finite resources such as, fuel, aggregates and land, and is less damaging to the environment in terms of air and land pollution, as well as noise and visual intrusion. With one litre of fuel, water freight can move 127 tonnes over 1 kilometre, whereas rail manages just 97 tonnes and road only 50 tonnes." Inland Freight Group

"Barges like the ones that are used to carry gravel in West London have about the same size engine as a 20 ton lorry and carry the load of three lorries." Tim Hall Wood Hall & Heward Ltd

The useful working life of a barge or narrowboat is much longer than that of a lorry. The short-boat "Clitheroe" used by Wood Hall & Heward to carry gravel to build the new arts centre in Battlebridge Basin, was built in the 1950s. It's been heavily restored to be usable today, but how many lorries from even the 1970s are still in regular use? One of the narrowboats working on the West London gravel contract is "Betelgeuse", built in the mid-1930s.



"A crucial factor in making boats competitive is the time taken for the journey. Water transport can compete with road transport for cost as long as the barge's journey time is quicker than two trips by a lorry. With the size of barges that can work on the London canals, this means a journey of not more than four locks." Feasibility study conducted by Transport for London.

Energy use comparison of waterways with rail and road

Waterway (push tow) Average 1.00, Minimum 1.00, Maximum 1.00
Rail (complete goods train) Average 1.42, Minimum 1.00, Maximum 1.7
Road (25 - 38 tonne lorry) Average 3.08, Minimum 2.57, Maximum 3.57

Freight Study Group Report

Could some of the cargoes now carried by road or rail be carried on narrow boats again? Boats are slower than the lorries and trains. Think of five cargoes that they could carry and five that they could not.

Suitable canal cargo	Unsuitable canal cargo



All political parties in Britain have pledged to introduce greener transport policies but will they deliver on their promises?

On the next page are three statements that have recently been made about carrying freight on the canal system.

• "Canals were originally built for the transportation of goods, and we remain committed to doubling freight carriage by 2010 (compared to 2000)... We will focus on four markets, which we feel have the greatest potential, these are

- minerals...
- waste...
- construction and demolition materials....
- containers...."

"In order to effectively carry freight inland waterways often need substantial additional investment, and we need the same upfront investment whether we carry one or one hundred freight carriers. This additional investment is high risk for us, as we could make a significant loss if we do not encourage enough carriage. We wholly support the additional public benefits this additional investment will bring; however, we have to consider these, along with the financial risks involved before deciding whether to facilitate freight"

British Waterways - Our Plan for the Future 2004-2008

"Projects in London helping British Waterways to achieve its vision include:a £1million dredging programme underway on West London 's canals, part funded by Transport for London , to facilitate the return of freight barges"

Press Release, British Waterways July 2005

British Waterways woke up last summer to discover that, as a result of the hole in DEFRA's (Department for Environment, Food and Rural Affairs government dept.) budget, it had to make cuts year in, year out, in a totally unplanned manner..... British Waterways would certainly have made some changes and probably some redundancies. The difference is that they would have been planned and properly constructed, not handed down from on high to be delivered within the same financial year. They would certainly not have been worked out on the back of an envelope, as these cuts apparently have been.



.....the impact has been massive. There were 180 job losses this month; millions of pounds of maintenance have been put back; [T]he freight division of British Waterways has been completely dissolved.....thereby taking British Waterways further away from the very people it serves in running our waterways.....
I am very concerned that British Waterways' central freight unit has been disbanded, given that water freight could help the Government to achieve their key environmental objectives by cutting carbon emissions. With the responsibility for freight now passing to hard-pressed British Waterways regional offices, it will not be as high a priority. When did the Minister last meet his Department of Trade and Industry colleagues to discuss the carriage of water-borne freight, what conclusions did they reach and what action will they now take?

Michael Fabricant MP, in Westminster Hall debate, 25th April 2007

Use the information above to make two lists of the positive and negative factors influencing the future growth of freight on the canals.

Positive	Negative



Can you find out what the policies of the other political parties are on canal freight transport? Try a search on their websites.

Which set of influences do you think are most powerful?

Do you think that the canals in Britain really will take their place once again as part of a sustainable transport network?

End your study of canals by organizing a debate on the subject :

- "Canal freight transport should form a major part of Britain's transport policy by 2010."
- Organize speakers on both sides of the argument ask them to prepare a 5 minute speech.
- Take a vote in your class before the debate begins to see how many people support each side.
- Ask your speakers to present their arguments in turn.
- Allow those who were not chosen to speak to put their points of view from the floor, if they would like to.
- Before you finish, take another vote to see if anybody's minds have been changed!