

1: BBC - GCSE Bitesize: Consequences of the railways

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Especially after , the North Sea region took over the role of the leading economic centre of Europe from the Mediterranean, which prior to this date, particularly in northern Italy, had been the most highly developed part of Europe. Great Britain, together with the Low Countries, profited more in the long run from the expansion of trade in the Atlantic and Asia than the pioneers of this trade, Spain and Portugal, fundamentally because of the success of the mainly privately owned enterprises in these two Northern countries in contrast to the arguably less successful state-owned economic systems in Iberia. The export of woollen products resulted in an economic upturn with products exported to mainland Europe. When the population recovered low wages and a land shortage returned. Historians in the early 20th century characterized the economic in terms of general decline, manorial reorganization, and agricultural contraction. Later historians dropped those themes and stressed the transitions between medieval forms and Tudor progress. Inflation had a negative effect on the real wealth of most families. This was a period of significant change for the majority of the rural population, with manorial lords beginning the process of enclosure. He described markets, ports, industries, buildings and transport links. He showed some small towns were expanding, through new commercial and industrial opportunities, especially cloth manufacture. He found other towns in decline, and suggested that investment by entrepreneurs and benefactors had enabled some small towns to prosper. Mostly privately owned companies traded with the colonies in the West Indies, Northern America and India. This enabled them to import a large range of foreign goods. Medieval English wool trade Woollen cloth was the chief export and most important employer after agriculture. In the medieval period, raw wool had been exported, but now England had an industry, based on its 11 million sheep. London and towns purchased wool from dealers, and send it to rural households where family labour turned it into cloth. They washed the wool, carded it and spun it into thread, which was then turned into cloth on a loom. Export merchants, known as Merchant Adventurers, exported woollens into the Netherlands and Germany, as well as other lands. The arrival of Huguenots from France brought in new skills that expanded the industry. A new company convinced Parliament to transfer to them the monopoly held by the old, well-established Company of Merchant Adventurers. Arguing that the export of unfinished cloth was much less profitable than the export of the finished product, the new company got Parliament to ban the export of unfinished cloth. There was massive dislocation marketplace, as large unsold quantities built up, prices fell, and unemployment rose. Worst of all, the Dutch retaliated and refused to import any finished cloth from England. Exports fell by a third. Quickly the ban was lifted, and the Merchant Adventurers got its monopoly back. However, the trade losses became permanent. The rich ate meat—beef, pork, venison—and white bread, the poor ate coarse dark bread, with a bit of meat perhaps at Christmas. Everyone drank ale—water was often too impure to drink. Fruits and vegetables were seldom eaten. Rich spices were used by the wealthy to offset the smells of old salted meat. Vegetables and fruits were not popular. The potato was not part of the diet. The rich enjoyed desserts such as pastries, tarts, cakes, and crystallized fruit, and syrup. Entertaining a royal party for a few weeks could be ruinous to a nobleman. Inns existed for travellers but restaurants were not known. Both the rich and the poor had diets with nutritional deficiency. The lack of vegetables and fruits in their diets caused a deficiency in vitamin C, sometimes resulting in scurvy. Trade and industry flourished in the 16th century, making England more prosperous and improving the standard of living of the upper and middle classes. However, the lower classes did not benefit much and did not always have enough food. As the English population was fed by its own agricultural produce, a series of bad harvests in the s caused widespread distress. England had no food crises from to , a period when France was unusually vulnerable to famines. Historians point out that oat and barley prices in England did not always increase following a failure of the wheat crop, but did do in France. Poor Law A woodcut from circa depicting a vagrant being punished in the streets in Tudor England. About one-third of the population lived in poverty, with the wealthy expected to give alms to assist the impotent poor. Those who left their parishes in order to locate work were termed vagabonds and could be subjected to punishments, including whipping and putting at

the stocks. By the 18th century Britain was one of the most prosperous countries in the world, and Daniel Defoe boasted: Vast trade, rich manufactures, mighty wealth, universal correspondence, and happy success have been constant companions of England, and given us the title of an industrious people. Its main diplomatic goal besides protecting the homeland from invasion was building a worldwide trading network for its merchants, manufacturers, shippers and financiers. The London government enhanced the private sector by incorporating numerous privately financed London-based companies for establishing trading posts and opening import-export businesses across the world. Each was given a monopoly of trade to the specified geographical region. The first enterprise was the Muscovy Company set up in 1555 to trade with Russia. The Company of Royal Adventurers Trading to Africa had been set up in 1682 to trade in gold, ivory and slaves in Africa; it was reestablished as the Royal African Company in 1701 and focused on the slave trade. British involvement in the each of the four major wars, to 1763, paid off handsomely in terms of trade. Even the loss of the 13 colonies was made up by a very favorable trading relationship with the new United States of America. British gained dominance in the trade with India, and largely dominated the highly lucrative slave, sugar, and commercial trades originating in West Africa and the West Indies. The South Sea Bubble was a business enterprise that exploded in scandal. The South Sea Company was a private business corporation supposedly set up much like the other trading companies, with a focus on South America. It issued stock four times in that reached about 8,000 investors. The Bubble collapsed overnight, ruining many speculators. Investigations showed bribes had reached into high places—even to the king. His chief minister Robert Walpole managed to wind it down with minimal political and economic damage, although some losers fled to exile or committed suicide.

Mercantilism The basis of the British Empire was founded in the age of mercantilism, an economic theory that stressed maximizing the trade outside the empire, and trying to weaken rival empires. The 18th century British Empire was based upon the preceding English overseas possessions, which began to take shape in the late 16th and early 17th century, with the English settlement of islands of the West Indies such as Trinidad and Tobago, the Bahamas, the Leeward Islands, Barbados, Jamaica, and Bermuda, and of Virginia, one of the Thirteen Colonies which in 1776 became the United States, as well as of the Maritime provinces of what is now Canada. The American colonies also used slave labour in the farming of tobacco, indigo, and rice in the south. Mercantilism was the basic policy imposed by Britain on its colonies. The government protected its merchants—and kept others out—by trade barriers, regulations, and subsidies to domestic industries in order to maximize exports from and minimize imports to the realm. The government had to fight smuggling—which became a favorite American technique in the 18th century to circumvent the restrictions on trading with the French, Spanish or Dutch. The government took its share through duties and taxes, with the remainder going to merchants in Britain. The government spent much of its revenue on a superb Royal Navy, which not only protected the British colonies but threatened the colonies of the other empires, and sometimes seized them. The colonies were captive markets for British industry, and the goal was to enrich the mother country.

Blast furnaces light the iron making town of Coalbrookdale. In 1784, Abraham Darby I established a coke-fired blast furnace to produce cast iron, replacing charcoal, although continuing to use blast furnaces. The ensuing availability of inexpensive iron was one of the factors leading to the Industrial Revolution. Toward the end of the 18th century, cast iron began to replace wrought iron for certain purposes, because it was cheaper. Carbon content in iron was not implicated as the reason for the differences in properties of wrought iron, cast iron, and steel until the 19th century. This phenomenon is known as the "industrial revolution", since the changes were far-reaching and permanent throughout many areas of Britain, especially in the developing cities. Whereas absolutism remained the normal form of governance through most parts of Europe, in the UK a fundamental power balance was created after the revolutions of 1688 and 1701. The new institutional setup ensured property rights and political safety and thereby supported the emergence of an economically prosperous middle class. Another factor is the change in marriage patterns through this period. Marrying later allowed young people to acquire more education, thereby building up more human capital in the population. These changes enhanced the already relatively developed labour and financial markets, paving the way for the industrial revolution starting in the mid-18th century. It started with the mechanisation of the textile industries, the development of iron-making techniques and the increased use of refined coal. Trade expansion was

enabled by the introduction of canals , improved roads and railways. Factories pulled thousands from low productivity work in agriculture to high productivity urban jobs. The development of all-metal machine tools in the first two decades of the 19th century facilitated the manufacture of more production machines for manufacturing in other industries. The effects spread throughout Western Europe and North America during the 19th century, eventually affecting most of the world, a process that continues as industrialisation. According to Max Weber , the foundations of this process of change can be traced back to the Puritan Ethic of the Puritans of the 17th century. To this must be added the influence of religious nonconformity, which increased literacy and inculcated a " Protestant work ethic " amongst skilled artisans. The invention of the flying shuttle by John Kay enabled wider cloth to be woven faster, but also created a demand for yarn that could not be fulfilled. Thus, the major technological advances associated with the industrial revolution were concerned with spinning. James Hargreaves created the Spinning Jenny , a device that could perform the work of a number of spinning wheels. However, while this invention could be operated by hand, the water frame , invented by Richard Arkwright , could be powered by a water wheel. Indeed, Arkwright is credited with the widespread introduction of the factory system in Britain, and is the first example of the successful mill owner and industrialist in British history. The water frame was, however, soon supplanted by the spinning mule a cross between a water frame and a jenny invented by Samuel Crompton. Mules were later constructed in iron by Messrs. As they were water powered, the first mills were constructed in rural locations by streams or rivers. Workers villages were created around them, such as New Lanark Mills in Scotland. These spinning mills resulted in the decline of the domestic system , in which spinning with old slow equipment was undertaken in rural cottages. The steam engine was invented and became a power supply that soon surpassed waterfalls and horsepower.

2: Economic history of India - Wikipedia

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Right from the beginning of their relationship with India, the British, who had come as traders and had become rulers and administrators, had influenced the economic and political systems of the country. Their impact on the cultural and social life of India was, however, gradual. Till , they followed a policy of non-interference in the social and cultural life of the Indians. Yet, changes were taking place in these fields the social life of Indians. Initially, the East India Company did not think that it was its duty to impart education to Indians. It allowed the old system of education to continue. Pathshalas, which imparted a special type of education geared towards meeting the requirements of a rural society, were open to all. Sanskrit education was imparted in tols. Higher education was confined primarily to upper castes. This system of education was eventually changed by the British. Around the beginning of the 19th century, the Company became aware of the need for introducing Western education in India. However, Christian missionaries, who were interested in spreading Christianity through education, had already established several educational institutions which were attached to their churches. Charter Act of The Charter Act of directed the Company to spend one lakh rupees on the education of Indians. But even this meagre amount could not be utilised because of a raging debate over the medium of instruction. Orientalists advocated the traditional Indian learning through the medium of the classical languages of Sanskrit and Perisan. The Anglicists, on the other hand, argued that Western education should be imparted through the medium of English. In , the government passed an Act declaring that educational funds would be utilised for imparting Western education through the medium of English. In , English became the official language and it was declared that people having knowledge of English would be preferred for public employment. This helped the spread of English education in India. The traditional Pathshalas withered away as a new system of elementary education was put in its place. However, the emphasis was on higher education. English education, too, continued to flourish. It must be remembered that the need for low- ranking English-knowing Indian clerks was one of the main reasons that prompted the government to take steps to spread Western education. Employing educated Indians was necessary because of the need to man an expanding bureaucracy. Employing Englishmen at all levels of the administration was both expensive and difficult. Western education, however, influenced Indian society in a way that the British could never have imagined. Theories of philosophers like John Locke, Jeremy Bentham, Adam Smith and Voltaire instilled in the Indian mind notions of freedom, liberty, equality and democracy. As a result of the exposure to such ideas, Indians began to recognise the need for change. The imposition of English in the education system was a blessing in disguise. Indians from diverse regions speaking different languages could now communicate with each other through the medium of English. English thus united the educated Indians and brought about a feeling of oneness among them. A spirit of nationalism gradually emerged. In order to rule India effectively, an understanding of her past traditions and culture was required. Sanskrit was promoted and several educational institutions were set up for that purpose. Many European scholars and government employees became increasingly interested in Indian languages. William Jones founded the Asiatic Society. Jones himself was a great scholar of Sanskrit. He translated some ancient Indian works like the Manu Smriti. Charles Wilkins translated the Bhagavad Gita into English. Max Mueller translated the Rig Veda. James Princep deciphered the Ashokan inscriptions which were written in Brahmi. Social changes and reforms under the British: The demand for social and religious reform that manifested itself in the early decades of the 19th century partly arose as a response to Western education and culture. Educated Indians like Raja Rammohan Roy worked systematically to eradicate social evils. In , Sati or the practice of burning a widow with her dead husband was made illegal or punishable by law. Female infanticide was banned. However, even today, infanticide is practised in backward areas in India. Slavery was declared illegal. Vidyasagar also campaigned against child marriage and polygamy. The cruel custom of offering little children as sacrifice to please God, practised by certain tribes, was banned by Governor General Lord Hardinge. It is important to note that since the reform movement started in Bengal, its impact was first felt here. It took time to spread it all over India.

Impact in the area of transport and communication: The East India Company was primarily a trading concern. Commercial interests guided British policy in India. As the Industrial Revolution gained momentum, the manufacturing class became very powerful in England. They now wanted the government to promote the sale of machine-manufactured British goods, especially British textiles. At the same time raw materials were imported from India to feed the growing needs of British industries. Instead of exporting manufactured products, India was now forced to export raw materials like raw cotton and raw silk and plantation products like indigo and tea, or foodgrains which were in short supply in Britain. The demands of an industrialised England necessitated better communication facilities in the colonies. Up to the middle of the 19th century, the means of transport in India were backward. Goods were transported by road mainly by bullock-carts, mules and camels. Riverine transport by boats was also prevalent. Due to poor communication and slow transport the volume of trade was restricted. The British rulers soon realised that a cheaper, faster and more efficient system of transport was necessary if British manufactured goods were to flow into India on a large scale and her raw materials were to be secured for British industries. They introduced steamships on the rivers and set about improving roads. Important commercial centres and areas rich in raw materials were connected by a network of roads and canals. But the most dramatic improvement in transport came with the introduction of the railways. A railway system had rapidly developed in England during the 1820s and 1830s. Pressure soon mounted for its introduction in India. British manufacturers hoped to open up the vast and hitherto untapped market in the hinterlands for their finished goods and to facilitate the import of Indian raw materials to feed their ever hungry machines. British bankers and investors also looked upon the development of the railways in India as a channel for the safe investment of their surplus capital. British steel manufacturers regarded it as an outlet for their products like rails, engines, wagons etc. The first railway line from Bombay to Thana was opened to traffic in 1853. Lord Dalhousie, in particular, stressed the importance of railways for trade and for the maintenance of law and order. The railways would enable the government to administer the country more effectively. The railways would also enable the government to mobilize military troops. In 1854, Lord Dalhousie outlined an extensive programme of railway development. The interiors were to be linked with big ports and the ports were to be connected. By the end of 1860, over 1000 miles of railway track had been laid. The primary consideration was to serve the economic, administrative and military interests of the British people. The railway travel of Indians between the important city centres grew only as a by-product. The telegraph and postal systems: The introduction of the railways, telegraph and postal system linked different parts of India and promoted an exchange of ideas among the people, especially among her leaders. The first telegraph line from Calcutta to Agra was opened in 1851. The Post and Telegraph Department was also established in the same year. A half-anna postage stamp would carry a letter from one part of the country to another. The improvement in communications eventually helped to foster a sense of unity among Indians. The concept of the country as a whole now took precedence over regional and provincial isolationism. Books, journals and newspapers circulated widely and were now easily available to educated Indians all over the country. The introduction of the railways in particular helped to break down barriers of religion and caste. People from different religions and social backgrounds, while travelling in a railway compartment, mingled with one another thereby challenging the age-old orthodox notions of untouchability, caste-based eating habits etc. These are the fundamental gains for the development of Indian nationalism. Land continued to be the main source of revenue for the British. Since tax on land formed the main source of income for the Company, the British tried to introduce an efficient system of its collection. In 1793, when Warren Hastings became the Governor General of India, he introduced the system of auctioning the right of collecting revenue for a period of five years. The right was given to the highest bidders but they were often unable to collect the stipulated revenue. In a bid to retain their contracts, they tried to extract money from peasants.

Read "Economic History of Transport in Britain" by Christopher Savage with Rakuten Kobo. Published in , Economic History of Transport Britain is a valuable contribution to the field of Economic History.

This article throws light upon the top four transport systems in India developed under British Rule. The four transport systems are: The relationship between the growth of British capitalism and the evolution of a dependent, colonial economy in India is greatly manifested in the development of Indian railways, roads and bridges, irrigation works, etc. But railways were not developed in India to stimulate industrial development. The first important consideration that led to the construction of railways in India was the commercial needs of the Lancashire mills for good and clean cotton as its carrying by typical local mode of transport i. The second consideration that required railway construction was the military strategy. Railways would provide quick and reliable transportation of goods, troops, and stores. Thus, surely commercial and political objectives encouraged the building up of an extensive railway system in India. Before the introduction of railways in India, transportation was costly, undependable and difficult. With the acquiring of political power, the Government of India together with the British Government realised the importance of the improved means of transport and railways were thought to be most ideal so far as low transport costs, reliability, and speed were concerned. Not long after railway construction began in England , the idea for the construction of railway lines in this country was first mooted in However, the country had to wait for about 20 years when the first railway passenger train was steamed off from Bombay to Thane â€” 16th April was a historic one. It is said that while the expansion of railway industry along with its linkage effects produced some favourable results in the Indian economy, the same cannot be said for the railway rates policy. Theoretically speaking, the determination of railway rates is a complex one. But no one denies the importance of just and fair fares and freights as this would ensure sound financial position for the railways, and overall economic development of the country. When the cost of service principle is employed in the determination of a structure of railway rates, a higher rate may be demanded on rail routes passing through low railway user areas or where the cost of construction is high. High rates may also be justified for goods travelling not too far distances or for goods difficult to handle. By practicing price discrimination it can charge some goods and passengers more than others. In fact, while determining the rate structure, one had to rake into account the price and availability of alternative, direct regulation of rates by government and the degree of competition within the industry itself. Railway rates policy came in for sharp criticisms from the beginning of the journey of Indian railways. Railway rates in India had an individualistic character as every railway company designed its fare structures as the Government did not fix or regulate railway rates. Rates that were fixed by companies had been based solely on individual interests and, more importantly, they were manipulated to help the European merchants. Another charge was that the rates fixed were high, the objective being to obtain a large income with a small amount of work. The private English railway companies were obsessed by the idea that the lines should be remunerative from the very start. But business propositions say that traffic should be nurtured by low rates at the embryonic stages. Further, because of the absence of alternative modes of transport, customers had few options. As the demand for the service of the individual companies tended to be less elastic than what it would have been under some sort of competition, they fixed higher rates. Right from the beginning, several committees condemned high rates. It had been found throughout the 19th century that heavy rates were being accompanied by low growth in traffic. Robertson, in his report in , found that though in money term rates in India were lower than in England, considering the prevailing actual circumstances in these two countries, freight rates should have been p. This is not the only objectionable aspect of railway rate structures. Unfettered by fear of the pricing behaviour of the fellow companies because of individualistic character of companies, companies also practised price discrimination by charging different prices to different customers. For instance, considerably low rates were set for long-haul freight than those for short-haul freight. Companies also charged lower rates to and from ports than for shipments in similar distance between two inland points. In addition, terminal charges, transshipment and ghat charges and other charges were levied by all railway companies with the objective of

extracting as much as possible from traffic. As a result, railway rates structure became so complicated that even experienced railway staff experienced unfathomable difficulty in calculating them. One must not ignore the fact that the development of railways reduced cost of freight movement to nearly one-twentieth of the estimated cost by bullocks. But the rates that were designed by every company did augur well neither for the Indian people nor for the Indian economy. Discriminatory rates, block rates, and other rates were designed to stimulate traffic to and from the profits at the expense of internal traffic. This, in effect, meant a favour to the import of British manufactured goods and the export of raw materials. This preference for import- export traffic put the Indian at a comparative disadvantage. Indian industries were plagued with the twin problems of paying more to the railways for the transport of raw materials and for distribution of their finished manufactured goods than foreign manufacturers using Indian material and selling in various Indian markets. Nationalists and Indian industrialists complained bitterly about this step-motherly policy reflected in the structure of railways rates. For example, charges for shipping imported matches from Bombay to Delhi were the same as those shipping matches made in Ahmedabad to Delhi, even though Ahmedabad was miles nearer to Delhi. There were many similar cases. It did indeed impede the establishment of industries that would have served internal markets. Not only did the structure or rates tilt against Indian industries but the high rates also refused to give any impetus to the development of national industries. The incidence of high transport cost made coal the most expensive input. Thus any industry using coal as an input faced the music of rising costs. It is said that the East Indian Railway made it so costly to transport by rail that imports from Britain could compete with the Indian coal in India markets. Gadgil observed that the rates had been particularly hard on the industrial centres in the interior of the country and this had resulted in a concentration of large scale industries that did develop in India around port towns. The obvious effect was that these differential railway rates helped the port industries as well as the foreign industries in their competition with the industries of the interior. One could expect the growth of urban centres following an expansion in commercial activity and industry in the port towns. Consequent upon this, employment opportunities expanded and population in port towns of Bombay, Calcutta, Karachi, and Madras grew rapidly. The effect of high rates was less severe in Indian agriculture. Rather, agriculture was relatively favoured by railway rates. Some of these defects in the railway rates structure ceased to be significant only since the s. After independence, in , the fare and freight rates were rationalised. Like the railways, road transport forms the backbone of the transportation system, particularly in an agrarian country like India. Unfortunately, by the standards of the time 18th century , the immediate prospect of road transport in India was a melancholy one. It is true that only the river transport was comparatively better placed before Anyway, the means of internal communications were highly defective till the mid 19th century. As is known to all, the trunk road system built during the Mughal rules was totally inadequate compared to the size of the country and its population. Above all, most of the roads fell into pitiable condition after the fall of the Mughal Empire. The EIC neglected road construction as railway construction was thought to be more important from the profitability point of view. Since roads were in a poor state, movement of goods driven by carts rather than the wheeled traffic was virtually impossible and in its place bullocks came to be used thereby doubling the cost of transport. As a result, overland trade could not make any mark. Had road transport been somewhat better, the country could have averted famines by mitigating local scarcity of foodstuff. One possible development, but a belated one, was the acknowledging of the importance of road transport and, hence, fund allocation, only from the s. Meanwhile, the feasibility study of railway development in India started gathering its strength. In , a committee on road development was set up that recommended larger financial assistance. In spite of this, the increase in road mileage was insufficient – approximately 25 p. This poor state of road development was recognised by the Agricultural Commission in in the light of marketing of agricultural crops. Although during the inter-war period there had been an increase in the use of motor trucks and other motor vehicles, road development lagged behind mostly because of low volume of investment. With the advent of the Second World War, the need for development of roads and road transport was emphasised. This then induced road construction of strategic importance under the military supervision. Consequent upon the publication of the classic report on Road Development; the balanced development of all kinds of roads was given full consideration in at Nagpur. The Nagpur Plan aimed

at bringing all villages within five miles from the main road. The plan proposed a programme of constructing roads from 2,20, miles in to 3,31, miles in. Roads to be constructed were of four categories—national highways, state or provincial highways, major district roads, and village roads. Anyway, this ambitious road development had been handicapped by fund crunch and physical shortage of construction materials. The final assault came from the partition of the country when as many as 57, miles of road went to Pakistan and the rest 2,39, miles allocated to India. In brief, road transport in India could not develop till the outbreak of the World War II, as government opted for only railway expansion. Truly speaking, road transport had to face severe competition from the railways. In an effort to bring fair competition between rail and road in a coordinated manner, the Motor Vehicles Act was passed in 1930. This Act enabled to set up regional transport authorities at the state level. The responsibility of granting permit to motor vehicles was given to the regional transport authorities. Besides this, these regional authorities had been empowered to ensure safety, convenience, and comfort of motor transport users. After the end of the Second World War, the growth of road transport had been encouraged with all sincerity. Before 1947, the river transport in India was a flourishing industry. In carrying internal trade, the role of boats was crucial. For long-distance carriage of bulky goods like food-grains, and salt, water transport enjoyed some advantage in cost terms. However, the quickest as well as the cheapest mode of transport was country boats. With the introduction of steamships in the mid-nineteenth century, not only travel time declined in respect of the movement of goods and passengers but it also enjoyed enormous cost advantage over country boats. However, no road and river traffic data was available. What was unique was its gradual decline due to stiff competition with the railways after 1850. The shipping industry in India has had a chequered career. With the advent of the British rule, the Indian shipping industry came under brutal competition from the British ships. It was the sheer discriminatory and unjust practices of the British Government that caused the Indian shipping transport to languish.

4: Economic History of Transport in Britain: 1st Edition (e-Book) - Routledge

The economic history of the United Kingdom deals with the economic history of England and Great Britain from to the early 21st century. (For earlier periods see Economy of England in the Middle Ages and Economic history of Scotland).

Next Page Up to the middle of the 19th century, the means of transport in India were backward. They were confined to bullock-cart, camel, and packhorse. The British rulers soon realized that a cheap and easy system of transport was a necessity if British manufactures were to flow into India on a large scale and her raw materials secured for British industries. The British rulers introduced steamships on the rivers and set about improving the roads. Efforts were also made to link by road the major cities, ports, and markets of the country.

Development of Railway The first railway engine designed by George Stephenson was put on the rail in England in 1825. Railways developed rapidly during the 1830s and 1840s. The earliest suggestion to build a railway in India was made in Madras in 1825. But the wagons of this railway were to be drawn by horses. Construction of steam-driven railways in India was first proposed in 1845 in England. It was decided that the Indian railways were to be constructed and operated by private companies who were guaranteed a minimum of five per cent return on their capital by the Government of India. The first railway line running from Bombay to Thane was opened to traffic in 1853. Lord Dalhousie, who became Governor-General of India in 1847, was an ardent advocate of rapid railway construction. Dalhousie proposed a network of four main trunk lines which would link the interior of the country with the big ports and inter-connect the different parts of the country. By the end of 1850, more than 4,000 miles of railways had been built by the guaranteed companies; but this system proved very costly and slow, and so in 1853 the Government of India decided to build new railways as state enterprises. But the speed of railway extension still did not satisfy officials in India and businessmen in Britain. After 1853, railways were built through private enterprises as well as state agency. By 1860, nearly 28,000 miles of railways had been built. The needs of Indian industries regarding their markets and their sources of raw materials were neglected. Moreover, the railway rates were fixed in a manner so as to favor imports and exports and to discriminate against internal movement of goods. Several railway lines in Burma and North-Western India were built at high cost to serve British imperial interests.

Postal and Telegraph System The British also established an efficient and modern postal system and introduced the telegraph. The first telegraph line from Calcutta to Agra was opened in 1851. Lord Dalhousie introduced postage stamps. Previously cash payment had to be made when a letter was posted. He also cut down postal rates and charged a uniform rates.

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Bring fact-checked results to the top of your browser search. Economy The United Kingdom has a fiercely independent, developed, and international trading economy that was at the forefront of the 19th-century Industrial Revolution. The country emerged from World War II as a military victor but with a debilitated manufacturing sector. Postwar recovery was relatively slow, and it took nearly 40 years, with additional stimulation after from membership in the European Economic Community ultimately succeeded by the European Union [EU] , for the British economy to improve its competitiveness significantly. Economic growth rates in the s compared favourably with those of other top industrial countries. The United States is a major investment and trading partner, and Japan has become a significant investor in local production. American and Japanese companies often choose the United Kingdom as their European base. Ships serving North Sea oil platforms at dock in the port of Aberdeen, Scotland. Privatization, accompanied by widespread labour unrest, resulted in the loss of tens of thousands of jobs in the coal-mining and heavy industrial sectors. Although there was some improvement in the standard of living nationally, in general there was greater prosperity in the South East, including London, than in the heavily industrialized regions of the West Midlands , northern England, Clydeside, and Belfast , whose economies suffered during the s. Unemployment and inflation rates were gradually reduced but remained high until the late s. Moreover, its exploitation of offshore natural gas since and oil since in the North Sea has reduced dependence on coal and imported oil and provided a further economic boost. Agriculture, forestry, and fishing Agriculture The United Kingdom is unusual, even among western European countries, in the small proportion of its employed population about 2 percent engaged in agriculture. With commercial intensification of yields and a high level of mechanization, supported initially by national policy and subsequently by the Common Agricultural Policy CAP of the EU, the output of some agricultural products has exceeded demand. Employment in agriculture has declined gradually, and, with the introduction of policies to achieve reduction of surpluses, the trend is likely to continue. Efforts have been made to create alternative employment opportunities in rural areas, some of which are remote from towns. The land area used for agriculture about three-quarters of the total has also declined, and the arable share has fallen in favour of pasture. Official agricultural policy conforms to the CAP and has aimed to improve productivity, to ensure stable markets, to provide producers a fair standard of living, and to guarantee consumers regular food supplies at reasonable prices. To achieve these aims, the CAP provides a system of minimum prices for domestic goods and levies on imports to support domestic prices. Exports are encouraged by subsidies that make up the difference between the world market price and the EU price. For a few products, particularly beef and sheep, there are additional payments made directly to producers. More recent policies have included milk quotas, land set-asides to compensate farmers for taking land out of agricultural use , and reliance on the price mechanism as a regulator. The most important farm crops are wheat, barley, oats, sugar beets, potatoes, and rapeseed. While significant proportions of wheat, barley, and rapeseed provide animal feed , much of the remainder is processed for human consumption through flour milling wheat , malting and distilling barley , and the production of vegetable oil rapeseed. The main livestock products derive from cattle and calves, sheep and lambs, pigs, and poultry. The United Kingdom has achieved a high level of self-sufficiency in the main agricultural products except for sugar and cheese. Sheep grazing on the Antrim coast, Northern Ireland. The government-supported Forestry Commission manages almost half of these woodlands, and the rest are in private hands. The majority of new plantings are of conifers in upland areas, but the commission encourages planting broad-leaved trees where appropriate. Fishing limits were extended to nautical miles km offshore in the mids, and, because a significant part of the area fished by other EU members lies within British waters, it has been necessary to regulate catches on a community-wide basis. Meanwhile, the United Kingdom has lost opportunities to fish in some more-distant waters e. The most important fish landed are cod, haddock, mackerel, whiting, and plaice, as well as shellfish, including Nephrops

Norway lobsters, lobsters, crabs, and oysters. Estuarine fish farming—mainly of trout and salmon—has expanded considerably. Resources and power Minerals The United Kingdom has relatively limited supplies of economically valuable mineral resources. The once-important extraction of iron ore has dwindled to almost nothing. Other important metals that are mined include tin, which supplies about half the domestic demand, and zinc. Sand, gravel, limestone, and other crushed rocks are quarried for use in construction. Energy By contrast, the United Kingdom has larger energy resources—including oil, natural gas, and coal—than any other EU member. Coal, the fuel once vital to the British economy, has continued to decrease in importance. Compared with its peak year of 1913, when more than one million workers produced more than 100 million tons, current output has fallen by more than four-fifths, with an even greater reduction in the labour force. Power stations are the major customers for coal, but, with growth in the use of other fuels and the increasing closing of pits that have become uneconomical to operate, the industry remains under considerable pressure. The discovery of oil in the North Sea and the apportionment of its area to surrounding countries led to the rapid development of oil exploitation. Since the start of production in 1946, the quantities brought ashore have grown each year, and the United Kingdom has become virtually self-sufficient in oil and even an exporter. The balance of payments has benefited considerably from oil revenues, and a substantial proportion has been invested abroad to offset diminishing oil income in the future. Proven reserves were estimated at around 100 billion tons in the late 1950s. Since offshore natural gas supplies from the North Sea began to be available in quantity in 1963, they have replaced the previously coal-based supplies of town gas. A national network of distribution pipelines has been created. Proven reserves of natural gas were estimated at 100 billion cubic metres. Manufacturing The manufacturing sector as a whole has continued to shrink both in employment and in its contribution now around one-fifth to the GDP. The decline in manufacturing largely accounted for the rapid rise in unemployment in the early 1980s. Once economic growth returned, however, there was great improvement in productivity and profits in British manufacturing. In terms of their relative importance to the GDP, the most important manufacturing industries are engineering; food, beverages including alcoholic beverages, and tobacco; chemicals; paper, printing, and publishing; metals and minerals; and textiles, clothing, footwear, and leather. The fastest-growing sectors have been chemicals and electrical engineering. Within the chemical industry, pharmaceuticals and specialty products have shown the largest increases. Within the engineering industry, electrical and instrument engineering and transport engineering—including motor vehicles and aerospace equipment—have grown faster than mechanical engineering and metal goods, and electronic products have shown the fastest growth. On the other hand, the growth in motor vehicle production has occurred among foreign-owned, especially Japanese, companies investing in the United Kingdom. British automobile manufacturers have been in decline since the 1970s. After a period of restructuring during the 1980s, the British steel industry substantially increased its productivity, output, and exports during the 1990s. However, food, beverages, tobacco, leather, and engineering as a whole have had below-average growth. Textiles, clothing, and footwear have been in absolute decline because British companies have faced increasing difficulty competing with imports, especially from Asia. During the 1990s imports of manufactured products increased dramatically, and, although exports of finished manufactured products increased in value, the surplus in the balance of trade disappeared and was transformed into a large deficit. Construction in Britain stagnated during the 1980s because of a decline in prices and in demand for new housing and because of decreased government investment in infrastructure during the first half of the decade. About half the labour force in construction is self-employed. More than half of all construction work is on new projects, the remainder on repair and maintenance. There has been a marked switch from housing funded and owned by public authorities toward private development. Considerable efforts have also been made to encourage tenants of publicly owned rented houses to become owner-occupiers, with the result that the proportion of owner-occupied homes has grown considerably since the early 1980s. The supply of privately rented accommodations became scarcer because of statutory rent controls that discouraged new construction, but changes during the 1990s both in the economic climate and in official policy began to stimulate the supply. The average price of a new house, particularly in London and the South East, has generally continued to increase more rapidly than the prevailing rate of inflation, although prices have fluctuated considerably. In turn, the rising price of new homes has created

considerable pressure on the land available for housing, which has been relatively tightly controlled. Here, too, public policy has been changing in favour of greater permissiveness. Private industrial and commercial construction and public projects account for the remainder of construction. Finance The United Kingdom, particularly London, has traditionally been a world financial centre. Some long-standing distinctions between financial institutions have become less clear-cut. For example, housing loans used to be primarily the responsibility of building societies, but increasingly banks and insurance companies have entered this area of lending. Two related developments have occurred: Building societies also participate to a limited extent in investment services, insurance, trusteeship, executorship, and land services. At the end of the 20th century, the financial services industry employed more than one million people and contributed about one-twelfth of the GDP. Although financial services have grown rapidly in some medium-sized cities, notably Leeds and Edinburgh, London has continued to dominate the industry and has grown in size and influence as a centre of international financial operations. Capital flows have increased, as have foreign exchange and securities trading. Consequently, London has more foreign banks than any other city in the world. Increased competition and technological developments have accelerated change. As a result, new companies link British and foreign banks with former brokers and jobbers. In the government established the Financial Services Authority FSA to regulate the financial services industry; it replaced a series of separate supervisory organizations, some of them based on self-regulation. The FSA was widely criticized for its response to the financial crisis that erupted in and led to a government bailout for a number of prominent British banks. The Bank of England retains the sole right to issue banknotes in England and Wales banks in Scotland and Northern Ireland have limited rights to do this in their own areas. The pound sterling is a major internationally traded currency. A variety of institutions, including insurance companies, pension funds, and investment and unit trusts, channel individual savings into investments. Finance houses are the primary providers of home mortgages and corporate lending and leasing. There are also companies that finance the leasing of business equipment; factoring companies that provide immediate cash to creditors and subsequently collect the corporate debts owed; and finance corporations that provide venture capital funding for innovations or high-risk companies and that supplement the medium- and long-term capital markets, otherwise supplied by the banks or the Stock Market. The United Kingdom has a number of organized financial markets. The securities markets comprise the International Stock Exchange, which deals in officially listed stocks and shares including government issues, traded options, stock index options, and currency options; the Unlisted Securities Market, for smaller companies; and the Third Market, for small unlisted companies. Money market activities include the trading of bills, certificates of deposit, short-term deposits, and, increasingly, sterling commercial paper. Other markets are those dealing in Eurocurrency, Eurobonds, foreign exchange, financial futures, gold, ship brokerage, freight futures, and agricultural and other commodity futures. Within this area, service transactions have grown rapidly, and financial services have grown the fastest.

6: Economy of the United Kingdom - Wikipedia

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It tried constantly to open new markets for Indian goods in Britain and other countries. Thereby, it increased the export of Indian manufactures and thus encouraged their production. By 1700, laws had been passed forbidding the wear or use of printed or dyed cotton cloth in the UK. Other European countries, except Holland, also either prohibited the import of Indian cloth or imposed heavy import duties. In spite of these laws, however, Indian silk and cotton textiles still held their importance in foreign markets, until the middle of the 18th century when the English textile industry began to develop on the basis of new and advanced technology. Now the Company could use its political control over Bengal to push its Indian trade. The Company used its political power to dictate terms to the weavers of Bengal who were forced to sell their products at a cheaper and dictated price, even at a loss. Moreover, their labor was no longer free. Many of them were compelled to work for the Company for low wages and were forbidden to work for Indian merchants. The British Company eliminated its rival traders, both Indian and foreign, and prevented them from offering higher wages or prices to the Bengal handicraftsmen. The servants of the Company monopolized the sale of raw cotton and made the Bengal weaver pay exorbitant prices for it. Thus, the weaver lost by both ways, as a buyer as well as a seller. On the contrary, Indian textiles had to pay heavy duties on entering England. The Industrial Revolution in Britain The real blow on Indian handicrafts fell after when they lost not only their foreign markets but, what was of much greater importance, their market in India itself. Between the second half of the 18th century and the first few decades of the 19th century, Britain underwent profound social and economic transformation. British industry developed and expanded rapidly on the basis of modern machines, the factory system, and capitalism. The Industrial Revolution transformed British society in a fundamental manner. Britain became increasingly urbanized as a result of the Industrial Revolution. More and more men began to live in factory towns. In 1700, Britain had only two cities with more than 50,000 inhabitants; in 1800, their number was 20. Two entirely new classes of society were born in the 18th century. The industrial capitalists, who owned the factories, and the workers who hired out as the laborers on daily wages. While the industrial capitalist class developed rapidly, enjoying unprecedented prosperity, the workers – the laboring poor in the beginning reaped a harvest of sorrow. Instead of exporting manufactured goods, India was now forced to export raw materials like raw cotton and raw silk, which British industries needed urgently, or plantation products like indigo and tea, or food grains, which were in short supply in Britain. The British also promoted the sale of Indian opium in China even though the Chinese put a ban on it because of its poisonous and other harmful qualities. But the trade yielded large profits to British merchants and vast revenues to the Company-administered administration of India. Interestingly enough, the import of opium into Britain was strictly banned. Thus, the commercial policy of the East India Company after 1757 was guided by the needs of British industry. Its main aim was to transform India into a consumer of British manufactures and a supplier of raw materials. Even the worst of previous Indian governments had spent the revenue they extracted from the people inside the country. The British, consequently, spent a large part of the taxes and income they derived from Indian people not in India, but in their home country. This amount was more than four times the total land revenue collection of the Nawab of Bengal in 1757. In 1765, the Company acquired the *dewani* of Bengal and thus gained control over its revenues. The Company, even more than its servants, soon directly organized the drain. It began to purchase Indian goods out of the revenue of Bengal and to export them.

7: Top 4 Transport Systems developed in India Under British Rule

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The line originally used wooden rails and a hemp haulage rope and was operated by human or animal power, through a treadwheel. The guide pin fits in a groove between two wooden planks. Wagonways or tramways, with wooden rails and horse-drawn traffic, are known to have been used in the 16th century to facilitate transportation of ore tubs to and from mines. They soon became popular in Europe and an example of their operation was illustrated by Georgius Agricola image left in his work *De re metallica*. The miners called the wagons Hunde "dogs" from the noise they made on the tracks. Owned by Philip Layton, the line carried coal from a pit near Prescot Hall to a terminus about half a mile away. This carried coal for James Clifford from his mines down to the river Severn to be loaded onto barges and carried to riverside towns. It ran from Strelley to Wollaton near Nottingham. In 1799, the first railway in America was built in Lewiston, New York. At first only balloon loops could be used for turning wagons, but later, movable points were introduced that allowed passing loops to be created. A system was introduced when? John Curr, a Sheffield colliery manager, invented this flanged rail in 1790, though the exact date of this is disputed who? The plate rail was taken up by Benjamin Outram for wagonways serving his canals, manufacturing them at his Butterley ironworks. These are smooth edgerails for wheels with flanges. In 1825, William Jessop had introduced a form of all-iron edge rail and flanged wheels for an extension to the Charnwood Forest Canal at Nanpantan, Loughborough, Leicestershire. In 1825, Jessop and his partner Outram began to manufacture edge-rails. Jessop became a partner in the Butterley Company in 1825. The first public edgeway thus also first public railway built was the Lake Lock Rail Road in 1825. Although the primary purpose of the line was to carry coal, it also carried passengers. These two systems of constructing iron railways, the "L" plate-rail and the smooth edge-rail, continued to exist side by side into the early 19th century. The flanged wheel and edge-rail eventually proved its superiority and became the standard for railways. Cast iron was not a satisfactory material for rails because it was brittle and broke under heavy loads. The wrought iron invented by John Birkinshaw in 1784 replaced cast iron. Wrought iron usually simply referred to as "iron" was a ductile material that could undergo considerable deformation before breaking, making it more suitable for iron rails. But wrought iron was expensive to produce until Henry Cort patented the puddling process in 1784. In 1784, Cort also patented the rolling process, which was 15 times faster at consolidating and shaping iron than hammering. The next important development in iron production was hot blast developed by James Beaumont Neilson patented in 1784, which considerably reduced the amount of coke fuel or charcoal needed to produce pig iron. The softness and dross tended to make iron rails distort and delaminate and they typically lasted less than 10 years in use, and sometimes as little as one year under high traffic. The introduction of the Bessemer process, enabling steel to be made inexpensively, led to the era of great expansion of railways that began in the late 18th century. Steel rails lasted several times longer than iron. The open hearth furnace began to replace the Bessemer process near the end of 19th century, improving the quality of steel and further reducing costs. Thus steel completely replaced the use of iron in rails, thus becoming standard for all railways. Steam power introduced [edit] See also: Steam locomotive James Watt, a Scottish inventor and mechanical engineer, greatly improved the steam engine of Thomas Newcomen, hitherto used to pump water out of mines. Watt developed a reciprocating engine in 1769, capable of powering a wheel. Although the Watt engine powered cotton mills and a variety of machinery, it was a large stationary engine. It could not be otherwise: Nevertheless, as the construction of boilers improved, Watt investigated the use of high-pressure steam acting directly upon a piston. This raised the possibility of a smaller engine, that might be used to power a vehicle and he patented a design for a steam locomotive in 1781. His employee William Murdoch produced a working model of a self-propelled steam carriage in that year. This used high-pressure steam to drive the engine by one power stroke. The transmission system employed a large flywheel to even out the action of the piston rod. This twin-cylinder locomotive was not heavy enough to break the edge-rails track and solved the problem of

adhesion by a cog-wheel using teeth cast on the side of one of the rails. Thus it was also the first rack railway. This was followed in by the locomotive Puffing Billy built by Christopher Blackett and William Hedley for the Wylam Colliery Railway, the first successful locomotive running by adhesion only. This was accomplished by the distribution of weight between a number of wheels. Puffing Billy is now on display in the Science Museum in London, making it the oldest locomotive in existence. Stephenson played a pivotal role in the development and widespread adoption of the steam locomotive. His designs considerably improved on the work of the earlier pioneers. In he built the locomotive Locomotion for the Stockton and Darlington Railway in the north east of England, which became the first public steam railway in the world, although it used both horse power and steam power on different runs. In , he built the locomotive Rocket , which entered in and won the Rainhill Trials. This success led to Stephenson establishing his company as the pre-eminent builder of steam locomotives for railways in Great Britain and Ireland, the United States, and much of Europe. Steam power continued to be the dominant power system in railways around the world for more than a century. Electric power introduced[edit] See also: Electric locomotive and Railway electrification system The first known electric locomotive was built in by chemist Robert Davidson of Aberdeen in Scotland, and it was powered by galvanic cells batteries. Thus it was also the earliest battery electric locomotive. Davidson later built a larger locomotive named Galvani, exhibited at the Royal Scottish Society of Arts Exhibition in The seven-ton vehicle had two direct-drive reluctance motors , with fixed electromagnets acting on iron bars attached to a wooden cylinder on each axle, and simple commutators. It hauled a load of six tons at four miles per hour 6 kilometers per hour for a distance of one and a half miles 2. It was tested on the Edinburgh and Glasgow Railway in September of the following year, but the limited power from batteries prevented its general use. It was destroyed by railway workers, who saw it as a threat to their job security. It was built by Siemens. The tram ran on Volt DC, which was supplied by running rails. In the track was equipped with an overhead wire and the line was extended to Berlin-Lichterfelde West station. The railway is still operational, thus making it the oldest operational electric railway in the world. It was the first tram line in the world in regular service powered from an overhead line. By early s most street railways were electrified. Using experience he had gained while working for Jean Heilmann on steam-electric locomotive designs, Brown observed that three-phase motors had a higher power-to-weight ratio than DC motors and, because of the absence of a commutator , were simpler to manufacture and maintain. A prototype of a Ganz AC electric locomotive in Valtellina, Italy, Italian railways were the first in the world to introduce electric traction for the entire length of a main line rather than just a short stretch. The company conducted trials at AC 50 HZ, and established it as a standard. Sulzer had been manufacturing diesel engines since The Prussian State Railways ordered a diesel locomotive from the company in The first regular use of dieselâ€”electric locomotives was in switching shunter applications. General Electric produced several small switching locomotives in the s the famous " tonner " switcher was introduced in Westinghouse Electric and Baldwin collaborated to build switching locomotives starting in In , the Canadian National Railways became the first North American railway to use diesels in mainline service with two units, and , from Westinghouse. High-speed rail Although high-speed steam and diesel services were started before s in Europe, they were not very successful. The construction of many of these lines has resulted in the dramatic decline of short haul flights and automotive traffic between connected cities, such as the Londonâ€”Parisâ€”Brussels corridor, Madridâ€”Barcelona, Milanâ€”Romeâ€”Naples, as well as many other major lines. While high-speed rail is most often designed for passenger travel, some high-speed systems also offer freight service. History by country[edit].

8: Modern Indian History British Economic Policies

That was the perfect recipe for massive economic growth, and Britain quickly became amongst the wealthiest nations in the world. Transport Revolution in Great Britain: History of Public.

Economic history of the United Kingdom to [edit] After the Second World War, a new Labour government fully nationalised the Bank of England , civil aviation, telephone networks, railways, gas, electricity, and the coal, iron and steel industries, affecting 2. It fell to Wilson formed a minority government in March after the general election on 28 February ended in a hung parliament. Wilson secured a three-seat overall majority in a second election in October that year. Denis Healey , then Chancellor of the Exchequer , was required to implement public spending cuts and other economic reforms in order to secure the loan, and for a while the British economy improved, with growth of 4. During the s, many state-owned industries and utilities were privatised , taxes cut, trade union reforms passed and markets deregulated. GDP fell by 5. In the s, unemployment reached levels not seen in the UK since the Great Depression of the s. In spite of this, Thatcher was re-elected in June with a landslide majority. Inflation had fallen to 3. Many jobs were also lost as manufacturing became more efficient and fewer people were required to work in the sector. However, inflation dropped from The period saw one of the highest GDP growth rates of any developed economy and the strongest of any European nation. The UK was particularly vulnerable to the crisis because its financial sector was the most highly leveraged of any major economy. The Royal Bank of Scotland Group , at its peak the fifth-largest bank in the world by market capitalisation , was effectively nationalised in October By mid, HM Treasury had a The Great Recession, as it came to be known, saw unemployment rise from just over 1. Productivity, to The 10 years following the Great Recession were characterised by extremes. In , employment was at its highest since records began, [88] and GDP growth had become the fastest in the Group of Seven G7 and Europe, [89] but workforce productivity was the worst since the s, with any growth attributed to a fall in working hours. United Kingdom budget and United Kingdom national debt UK interest rate from to Government involvement in the economy is primarily exercised by HM Treasury , headed by the Chancellor of the Exchequer. In recent years, the UK economy has been managed in accordance with principles of market liberalisation and low taxation and regulation. Taxation in the United Kingdom Taxation in the United Kingdom may involve payments to at least two different levels of government: Local government is financed by grants from central government funds, business rates , council tax , and, increasingly, fees and charges such as those from on-street parking. Central government revenues are mainly from income tax , national insurance contributions, value added tax , corporation tax and fuel duty.

9: Industrial Revolution in Britain: Bibliography

The relationship between the growth of British capitalism and the evolution of a dependent, colonial economy in India is greatly manifested in the development of Indian railways, roads and bridges, irrigation works, etc.

In general, transport projects that improve overall accessibility i. It is important to consider the full range of economic impacts, both positive and negative, that a transport project may cause. This may increase "economies of scale" in production processes, which means higher productivity through lower costs per unit of output. Mobility management strategies, such as more efficient road pricing, can improve travel time reliability, which reduces logistics and scheduling costs beyond just the travel time savings. New transportation links between cities and ports, and new types of inter-modal facilities and services at those locations, make it possible for new patterns of international trade to develop. Relationship to Other Benefits and Costs In all of the above examples, the benefits flow to parties that depend on transportation facilities and services for their activities. In some cases, the ultimate beneficiary is the business operation that can achieve operating cost savings or greater productivity output per unit of cost. In the case of cargo deliveries, the beneficiaries may be senders and receivers rather than the transportation company that actually does the traveling. It is also possible to account for many business operations and scheduling benefits, as well as logistics benefits and production economies of scale, as additions to the valuation of travel time benefits for truck trips. Alternatively, they can be addressed separately as additional economic benefits. Finally, it is important to note that there are many broader forms of economic impacts on communities, regions and states "â€" in which transportation facilities lead to business expansion, additional job creation and additional tax revenues. Those economic impacts reflect a combination of the productivity benefits discussed here and broader business attraction impacts that also affect local economies. This is discussed further in the separate section on economic impact analysis. The Final Report, is available at [www. David Forkenbrock, Sondip K. Mathur and Lisa A. Forkenbrock and Glen E. Piyapong Jiwattanakulpaisarn, Robert B. Graham and John W. Transport, Bureau of Transport Economics www.](http://www.transportbureau.gov.uk)

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