

The response included

- an annotated graph showing the pattern of population growth and a temporal variation in the pattern,
- an accurate map showing major transport networks with areas of manufacturing and
- a model showing the multiplier concept.

Part 1 focused on describing the urban pattern and explaining its contributing factors.

Part II

The growth of London's population from an estimated 200,000 in 1600 to currently over 7 million clearly shows a temporal pattern of growth, however there is one definite variation in the rates of growth over time that occurs. From 1600 to 1800 population growth was relatively steady but slow, when compared to the rapidly accelerated rate of growth from 1800 to 1939 with the population reaching 8 million by 1930... ①

This first period of slow growth was prior to the industrial revolution... However, by 1800 London had become the world's largest city, and the process of urbanization became accelerated, stimulated by the technological advances of the Industrial Revolution particularly those that focused on the development of transport and manufacturing e.g. textiles. The Industrial Revolution supported the expansion of the ports (London's docks), railways (Kings Cross, Paddington) and roads which improved the accessibility of London... The development of transport technology, which occurred with the Industrial Revolution lead to a network of railways across the city, this resulted in the first development of suburbs as the city extended in to Islington and Paddington showing clearly the spatial expansion of London... Public transport continued to expand through the 1900s when the rail was electrified, development of the London Underground and road transport increased in importance as the private motor vehicle became a common feature... The idea of commuting was started, which is evidence of improved accessibility of London for the people... ②

A map of London showing transport and early manufacturing zones was incorporated here.

The industrial revolution and transport development encouraged the growth of manufacturing, much of which became concentrated around the main access routes to the city like the ports in the East End and along major road and rail routes ... The process of industrialisation and expansion of manufacturing encouraged immigration, as London was perceived as more prosperous than many of the European cities... ③

Immigration was a major element of population increase in this stage of London's growth; firstly, with people from within the British Isles notably the Irish, who were the largest immigrant group between 1815 and 1860. Later immigrants were from poorer parts of Europe, Asia and the colonies. In 1851 38% of Londoners were born somewhere else. In the later nineteenth and early twentieth centuries natural population increase became more important as sanitation improved and more babies survived. This was a period of accelerated population growth and by 1939 the population of London was 8.6million.

An upward spiral of growth caused by the multiplier effect explains the period of rapid population growth as the Industrial Revolution encouraged manufacturing which attracted people who had improved accessibility as a result of the transport developments. The increasing trade also stimulated manufacturing supported by the port and rail. This economic and population growth caused expansion of the service industry areas such as finance, education and health, and construction industries, all offering further employment opportunities' ...

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Multiplier model was incorporated here with London specific evidence.

It is evident that transport development from the Industrial Revolution through to the early 20th century has played a significant part in the variation in the pattern of population growth of London; encouraging periods of accelerated growth and causing spatial patterns of concentration and dispersal, through improving accessibility ...

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