

Transportation Networks and Development: The Dutch Republic, Britain, and Today

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Standing in the bowels of New York City, underneath the Manhattan bridge in the neighborhood of DUMBO (Down Under the Manhattan Bridge Overpass), listening to the rumble of the train overhead, the observer is reminded about all the ways in which the borough of Brooklyn is connected to the borough of Manhattan. Nowadays, it is extremely easy to travel across the East river and there are a number of ways to do so. There are two subway lines; one traveling overhead on the bridge and another in a tunnel below the river; a choice of roads to travel over the three bridges in the area; and then there is always the ferry. A Brooklyn trader that wants to sell a bag of goods in Manhattan would face almost negligible transportation costs in getting the product to market. Two hundred years ago, before the Brooklyn Bridge was constructed, before Fulton's steam ferry, the same journey would have taken a trader a considerable amount of time in a wind and muscle-powered wooden boat and at a much higher cost relative to income. These improvements in transportation networks allow a businessperson to lower their transaction costs, facilitating them to reap greater profits that can be reinvested back into the business. In the Brooklyn-Manhattan situation, the lower costs have mainly been realized due to good government decisions. Certainly, the same technology that today's New York City traveler benefits from is not available to governments at all times and places, but there are still many ways that authorities can lower costs for commerce. The Dutch Republic in the 17th century was able to organize transportation networks allowing for efficiency, helping to make their's the first modern economy and the world's richest.

Britain did the same to lead the age of manufactures in the 18th century. Improved and low-cost transportation networks are essential for a dynamic economy. For today's developing countries, it is relatively easy for their governments to focus on their transportation networks and make improvements in a short amount of time.

Improved and low-cost transportation networks are not the only essential ingredient for a dynamic developing economy. An economy must have some combination and degree of demand for goods and services, resources and capital to provide for this demand, a stable medium of exchange, a reliable legal structure for guaranteeing contracts, and the protection of private property. Governments and local authorities make choices and can have a major effect on many of these ingredients. There is a close correlation between the economies that improved their transportation networks and the success of their economies as a whole during the early modern period. The decisions authorities make can be broken into two categories: physical infrastructure and the tax and toll structure. Clearly, some authorities during the early modern period made bad decisions about transportation networks.

Spain is infamous for not making proper investments in physical infrastructure for their economy during the early modern period. Sicily, under the control of the Spaniards during this time was a bread-basket, having enough grain surpluses to feed armies. However, this resource could not be exploited to its full potential because of the cost of distribution. In order to move the grain around, traders would have to deal with a lack of bridges and improved harbors, forcing people to carry grain by hand across rivers and out to dinghies of larger ships anchored off the coast (De Vries 168). All this amounted to a serious cost in time and effort. Spain made terrible decisions about trade closer to home too. For example, in the 1630s, the authorities were thinking about linking the Monzanares and Tagus rivers with a canal. The analysis of

this project could have been assigned to a group of technocrats that would have looked at the cost and potential benefit of the canal, but they assigned a committee of theologians instead. The plan was promptly nixed because of the committee's opinion that the rivers would have been linked if god intended it to be so (De Vries 170). Looking at Spain's decisions on improving physical infrastructure it is not surprising to see the relative decline of Spain's economy and its loss of super-power status in the 17th century.

France, under their absolutist monarchs, made informed decisions about improving their physical infrastructure but then proceeded to institute a heavy burden of internal taxes (De Vries 172). Tributaries of the Seine were connected to each other by canals. Roads and bridges were improved. The results were clear: Northern French traders had easy access to Paris and its surrounding areas. However, they had to deal with policies like the Tariff Ordinance of 1664 which placed a heavy cost on conducting business. The German principalities placed an even heavier burden on the potential trader (De Vries 173). Trade was obstructed by tolls levied by the local rulers and the arbitrary rules of some cities forcing traders to offer their wares for sale to locals before continuing on their way. The revenue interests of monarchs, princes, or local authorities to tax traders instead of allowing them to lower their costs, stunted the growth of economies. But this was not the case everywhere in the 17th century.

During the Golden Age, the Dutch Republic had an extensive and improved infrastructure with minimal taxes, allowing the smooth flow of commerce. The Netherlands has always had specific geographic advantages for trade. It is centrally located next to the North Sea between the Baltic region, England, and the Mediterranean. There are numerous rivers and inlets to be found across the landscape, but these factors by themselves "did not naturally provide a ready-made

network of internal transportation networks for trade” (De Vries 13). They had to be improved upon in order for the Dutch to gain competitive advantages. In addition, political problems with coordinating trade had to be overcome. The Dutch Republic was never completely unified. Decision-making in terms of internal waterways and roads was a power retained by the cities and provinces, which had an interest in charging tolls on neighbors.

The Dutch Republic had an ample supply of peat during the Golden Age. It was exploited as a fuel source and the process of its removal had a side benefit by stimulating the improvement of the physical infrastructure of the inland waterways. The demand for peat and the flow of it through the waterways encouraged investment in larger sluices, deeper channels, and new docks. This contributed to the overall economy by “making available a transport infrastructure that farmers, merchants, and other users, by themselves, could never have financed” (De Vries 38).

Each local authority within the Dutch Republic was free to charge high tolls and obstruct the use of certain waterways that wouldn’t pass through their territory. Eventually, the potential gains of uninhibited and improved transportation became clear (De Vries 34). Local decision-makers chose to cooperate with one another by lowering tariffs and financing new and better waterways. Tow paths used by horse-pulled barges were created by local authorities and maintained frequent scheduled service between cities. The gains were immense. By the 1660s, a resident in Amsterdam was able to send their dirty wash to Haarlem or Gouda to be cleaned – an economic activity unimaginable anywhere else in Europe at the time (De Vries 174). This anecdote exemplifies how rich the Dutch had become and a major contributor was the existence of an easily navigable and well-maintained transportation network.

After the Dutch Golden Age, the mantle of the world's most dynamic economy passed northwest to the British. The British in the 18th century were undergoing a transition from a specialized, urbanized, internationally trading market economy with a manufacturing sector to the world's first industrialized economy. The British already had a comparatively cheap and easy transport network. No part of Britain is further than 70 miles from the sea, and even less from a navigable waterway (Hobsbawm 17). The sea acts as a veritable river around the entire island of Great Britain. However, there was still room for improvement to integrate every region and provide traders with the best possible opportunities for lowering their transportation costs.

The British had a unified government to standardize rules for and finance roads and canals, just like the French and the Spaniards of the time. Unlike their southern neighbors, the British government made wise decisions by going above vested interests to improve their existing infrastructure. Parliament created 'turnpike trusts' requiring a group of local trustees to improve the quality of roads with toll income. For example, every major route serving the manufacturing districts of Gloucestershire was turnpiked by 1740 (Wrightson 246). This turned out to be a very successful policy in the long run; the benefits of the good roads outweighed the small tolls for use. Canals and harbors were also improved in the 18th century, facilitating the transition to industrialization. These canals cut the cost of shipping immensely. For example, transportation costs between Manchester and Birmingham were reduced by 80% (Hobsbawm 24).

Developing economies in the contemporary world face major challenges. Many lack resources and capital to supply their economies. Legal structures are rudimentary and unreliable. Transportation networks are decrepit or non-existent.

The governments of these countries make decisions affecting all of these factors and there is much room for improvement. Following the examples of the Dutch Republic and Great Britain during their innovative periods can go a long way for the economies of these struggling countries.

Take Cameroon, a medium-sized country in West-Central Africa. A correspondent for the Economist Magazine traveled on a Guinness beer distribution truck in 2002 and wrote an award-winning article about his experience. To an individual trying to get goods to market, Cameroonian transportation networks are difficult and costly to navigate. In the main port there is a lack of traffic lights, creating confusion, congestion and accidents. Only a tenth of the roads are paved and many bridges are unusable. The roads that are paved often have shallow foundations, leading to crumbling and huge potholes. While the correspondent traveled, the truck was stopped 47 times at road-blocks by police checking permits and asking for bribes in the form of money or beer. While the destination was only 313 miles away in the interior of the country, the journey took four days with a loss of 1/3 of the cargo (Economist).

It is quite clear that bad infrastructure and transportation taxes like the ones levied by the corrupt policemen hurt Cameroon's economy greatly and especially the remote poor. Essential items that the poor need to go about their daily lives like axe-heads or soap cost more because of these inefficiencies. When the poor want to get their yams, cassava, and mangoes to far-away markets, they incur extra costs in doing so (Economist). The Cameroon government can do a lot to make incremental improvements to the country's transportation networks. Road-blocks can be taken down and the redundant policemen laid off. In their place, construction workers can be hired to improve the infrastructure. Permit requirements can be relaxed. Traffic

lights can be erected in busy sections of the cities. Even though vested interests would have to be overcome, all of these improvements would not cost much money and would reduce transportation costs greatly.

Malawi is another developing country with rudimentary transportation networks that can benefit greatly from some forward-thinking government policies. The main arteries are well-maintained and there are significantly less corrupt policemen, but the main bus depots are incredibly chaotic. Many traders buy goods in the main cities and take them to the villages for distribution. They travel by privately owned small trucks or minibuses back to their villages, carrying boxes of matches or packets of sugar, hoping to make as much profit as possible. The minibuses leave the bus depot on an unpredictable schedule. They will not start their journey until they are completely full. There is competition among them to get as many customers in their minibuses first, to get going on the route. Many drivers will circle around the bus depot, searching for customers while wasting gas or will pay a small fee to an idler to sit in the bus to make it appear full to encourage more travelers to hop aboard. Not only is this system a waste of time and money for the minibus owner, but the trader does not know which bus to get on to leave first or when it will leave. All this amounts to higher transportation costs. The Malawian government should solve this wasteful phenomenon by requiring each bus to leave in a certain order and at certain intervals, ensuring predictability for the traders and bus owners.

Economies that can improve their transportation networks lower their transaction costs. This lays the foundation for the smooth and low cost flow of trade. The Dutch Republic was able to lower their transaction costs and pull far ahead of their competitors in the 17th century, helping them achieve the most dynamic economy of the day that every country wanted to emulate. Britain made wise

decisions about their transportation networks which helped put them on the road to the most studied economy of the 18th century. Economic consultants agree that India – another developing country – has the potential to grow faster if it can unblock its notorious infrastructure bottlenecks that act as a tax on trade. Governments in today’s developing worlds should put a priority on increasing the volume and cost effectiveness of trade in their countries by ensuring fast, low-tariff and easily navigable transportation networks. Brand new technology isn’t needed, simple improvements can increase the speed of passenger travel and reductions in the cost of freight travel. Developing countries like Malawi and Cameroon will not have an infrastructure that rivals Manhattan’s anytime soon, but there are some smart and relatively easy policies that can be put into place now.

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