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The Show that demystifies Economics

Transport Economy – part 5

Public Transport ©

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In this last segment of the week we'll look at the public transportation systems in cities and metropolitan areas. We'll take one city's network as a particular example, as many others around the world were inspired by it, which is Paris' famous Metro and the city's extensive public transportation network!

The French capital's transportation system is considered one of the best in the world in terms of accessibility and efficiency; however, it also has some flaws, and as such it makes an excellent example. The first thing to know is that Paris is actually quite a small city in area compared to London or New York. And therefore, there is a radical difference when you are in the city or out beyond the city limits.

The core of the Parisian transport network is the Métropolitain, commonly known as the Paris Metro. The Metro is centralized in Paris and is built like a web with several stations, such as Ré publique, Montparnasse, Gare Saint Lazare, Gare du Nord, Gare de l'Est, Chatelet-Les Halles, Charles de Gaulle-Etoile, and Nation acting as major junctions within the system. There are 16 lines situated mostly underground, that run a total of 214 kilometers and pass through 303 stations. The Metro is a user-friendly and highly efficient way to get around the city, as there are stations serving all 16 *arrondissements*, and finding a station above ground is never more than a 5 to 10 minute walk from practically anywhere in the city. The first line opened in 1900, and more lines were gradually built until the core system of 10 lines was completed in the 1920's. Additional lines were developed over the years, and now nearly all the lines extend out of Paris into the near suburbs. It is the second busiest underground rail network in Europe after the Moscow subway, and it carried more than 1.5 billion passengers in 2012.

As the population grew and the suburbs expanded farther from Paris between 1950 and 1980, the Metro became more crowded and congested. Rather than further expanding the Metro lines, they were eventually modernized and upgraded, but in order to accommodate the greater suburban traffic, a plan was initiated in the 1960's to build a new network incorporated and connected with the Metro, which would become known as the Réseau Express Regional, or the RER. Over the next 30 years this regional rapid transit network was developed, and it now consists of five train lines, connecting the center of Paris with towns throughout the Ile de France. These trains began operating in 1977 and are named after the first five letters of the alphabet. These are the longest train lines reaching out from the city center into Paris' far suburbs, and the RER line D actually stretches beyond the boundaries of the Ile de France. The most frequently used line is the RER A that follows an east-west axis and passes through la Defense, Nanterre, Vincennes, and Chelles, and stops in some of the busiest stations in Paris such as Auber, Chatelet-Les Halles, Gare de Lyon and Nation. In 2011, the RER transported 309 million people, making it one of the most densely utilized suburban rail networks in the world, and the first in Europe.

Finally, in Paris and the suburbs there is also an intricate network of buses, and even several tram lines. In Paris there are 60 bus lines, while in the Ile de France there are a total of 347 lines and more than 12,500 bus stops. More than 3 million people use the buses every day, making for a total of more than 1.3 billion journeys per year. The tramways are actually quite recent, with new lines being built every year or so. These are all located in the near suburbs, with the exception of the 3a and 3b lines that travel the Boulevard des Marechaux, along the inner periphery of the city.

The administrator of the Parisian transport network is called the RATP, the Régie Autonome des Transports Parisiens. It manages the 16 metro lines, eight of the nine tramway lines, and the A and B lines of the RER as well as all the bus lines in the Ile de France region. The other tram line and the three other RER lines are operated by the SNCF, the state railway company. The RATP is controlled 100% by the state, and in 2013 it had a revenue of 5.1 billion euro making for a profit of 304 million.

This entire network of different methods of transport make the city of Paris one the most efficient and best served cities in the world. Within the city, the system is practically the best in the world in that it is easy to navigate and it provides a fast way of moving about from one destination to another. The problems arise and flaws in the system become evident when you start travelling out of Paris into the suburbs. As the whole system is centralized in Paris there are not many suburb-to-suburb connections, and it can take a long time with many changes as you may have to go into Paris to catch the right metro or RER, before going back out again towards your destination. This should change in the near future with Paris's new transport policy called Le Grand Paris, or the Great Paris, which will see the development of new lines that will connect the Ile de France suburbs with each other. Other flaws in the system concern the overcrowding of some lines such as Metro lines 1, 4 and 13, as well as the RER line A, but this is mainly due to an increase in population that the system was not designed to handle, rather than an actual fault with the system itself.

In the future, cities such as Paris or London will be forced to find new ways of transporting people in order to accommodate the surge in population. London has already started with bicycles; an idea coming directly from The Netherlands and Denmark where many people use two wheels and pedal power to get around. Paris has also followed this example with the 'Velib' but London is edging out Paris on the development and construction of a planned "bicycle highway".

All these transport systems will also have to look at new ways of becoming more energy efficient. Container ships and planes already consume enormous amounts of fossil fuels, energy that is non-renewable and will eventually have to be replaced by alternative sources. Some military aircraft carriers and submarines are already propelled by nuclear power, and this might become part of the future for many other modes of transport including public networks, unless cleaner and safer energy sources are developed and adapted to these systems.