03/27/2017

Living a maximum of 30 minutes from work: the hypothesis of a "coherent city"

By **Jean-Pierre Orfeuil** (Urban planner) 27 March 2017

What measures should be taken to reduce the distance between work and home to a maximum of 30 minutes? What changes should be made? What challenges to overcome? Jean-Pierre Orfeuil, specialist in urban mobility, talks to us about the conclusions of his study which aims to transform the Paris region into a "coherent city."

"Coherent" cities are described in functional, rather than morphological, terms: Emre Korsu, Marie-Hélène Massot and I define them as cities where nobody lives too far from its work. In our study of the Paris Region, we require that each household has at least one working adult who can commute to work in 30 minutes or less on the fastest form of transportation, be it in public transportation or by car. What we are seeking to test is how cities, with their current network of office buildings and housing, can provide this possibility to everyone and under what circumstances. The battle has not been won. Today, a third of workers in the Ile-de-France spend more than 30 minutes in overcrowded trains or congested freeways, which is what motivated us to undertake this work.

How can the Ile-de-France become a "coherent city"?

In order to simulate how the entire Paris-region region could be transformed into one coherent city, we take a look at all active households in the region one-by-one. If at least one working person in a household lives 30 minutes or less from their job, they are considered as well-located. They stay in their current location - nothing changes. However, if either a person living in a single working household or two people living in a dual working household are located more than 30 minutes from their job, they are considered to be poorly located. In this case, we examine how they can be relocated closer. In order to relocate these individuals, we relocate poorly located households (theoretically of course), and organize a gigantic house swap, much like a game of musical chairs, making sure that in each household at least one working individual is located less than 30 minutes from their workplace. [...] Of course, we relocate

people to housing that corresponds to their needs - large families are not moved to studios. When housing shortages make this impossible, we decide to build new housing.

I. Observations on the current situation

Like in our other simulations, we obtain two types of results. The first set of results allows us to better understand the factors that have led to the current situation, and the second allows us to assess the reduction potential of the strategy we are studying.

1. The majority of households are well-located

We find that approximately 70% of active households are well-located. This is a high number, and undoubtedly higher than what can be deduced from images of congested freeways and overcrowded trains. It's reassuring, as it shows that this question is at the top of many people's minds, and that they take into account the location of their work when looking for housing. But it is also worrisome: if they stop taking these factors into account, if 70% of well-located workers no longer find their fit in the housing market, which can be expansive, our transportation system would not just be saturated, it would explode.

2. Distance increases when employment is concentrated

We see that the reasons why people live 30 minutes or more from work are not necessarily what we expect. In fact large families, modest households and those living in peri-uban areas are not more likely to be poorly located. The two main factors that cause people to live at a distance are, first, concentrated business areas (areas where many companies are located, like La Defense or Western Paris) and, secondly, the average real estate prices around these business areas (either owned or rented). While nearly half of Parisian workers live in poorly located areas, this number drops to one-sixth in the outer suburbs of Paris. Nearly half of the region's poorly located workers live in the 27 municipalities with the highest concentration of employment (out of 1200 in the region) and the highest average real estate prices around business areas.

3. Gentrification indirectly creates distance

The concentration of employment and real estate prices in business areas are obviously connected, and are key factors of distance. But it's also important to question the obvious explanations. Among all poorly located households, more than a quarter live in areas that are more expensive than that around their work. This is the case for nearly half of executives, and for more than half of Parisian households. These poor locations that are chosen and not imposed, it is the price that the well-off pay to be among those like themselves. It raises real

estate prices in desired areas, and reduces the likelihood that more modest households will find well-located housing.

A final point, which will have future consequences for the simulations - people living in poorly located housing use public transportation more often than those in well-located areas: 58% of poorly located households use public transportation to commute to work, versus 44%, only, of well-located households. So when we locate people to better areas, they will use public transportation a little less.

II. How can we create a "coherent city"?

1. Build new housing for a quarter of relocated households

Through a massive housing swap, we succeed at relocating three–quarters of working households into existing housing that is "suitable" to the size of their families. That means that we have to think about building new housing for one-quarter of relocated households. What's missing, especially in surrounding suburbs, are first large apartments for private rental, then for public housing and finally for ownership. This need is significant - but not enormous - and could be met through three years of housing construction that is carefully selected to be in the right areas of the region.

2. Relocate three-quarters of individuals into less comfortable living situations

If we consider the average real estate prices per neighborhood, those who relocate into existing housing will be required to move into areas where real estate is a bit more expensive on average. In exchange, their transportation conditions will improve. But in each area, the price per square meter varies in function of the quality of the neighborhood, of the building or the location of the real-estate within the building. When we take these factors into account, it becomes clear that households that make a sacrifice on one of the above mentioned areas (quality of the housing, for example) can find housing that is closer and at nearly the same price. This is probably what would happen tomorrow, if trains or oil become too expensive. People would relocate to closer but slightly less comfortable housing.

3. Results : less time in transport and reduced traffic on the roads

The simulated changes greatly reduce freeway congestion and train crowding at peak hours. The use of public transportation decreases by about a third, making it more comfortable. The use of roads and highways decreases by only 10%, but 10% less peak hour traffic translates to about 25% less travel time. Moreover, road congestion can be further improved. As people move closer to work, they will use bicycles, electric bicycles, and other less cumbersome forms of transportation provided roads are adapted to these forms of transportation

of transportation provided roads are adapted to these forms of transportation and that users feel safe. [...] Above all, this work shows that we are not destined to live at a distance. Even in the current context of the Ile-de-France, where employment is highly concentrated, moving people closer to their work is neither impossible nor very expensive.

III. The factors of success

We are not naïve and know that there will be obstacles along the way, and that they will not be small.

1- Focus on stable employment

In order for this approach to work, it's important to focus on people who are stably employed. Coherent cities cannot be built if there is unstable employment and people are constantly changing their place of work. We cannot constantly try to adjust their place of employment to their place of residence. Work flexibility is undoubtedly useful, but it also has limits and significant hidden costs.

2- The necessity of a coordinated approach between housing and transportation

In order for this approach to be given a chance to succeed, and now that government are coming onboard, housing and transportation services must communicate, coordinate, create a common vision and accept that the budget of one can benefit the other. We are very far from this today.

3- Build on individual aspirations

We cannot ignore that certain households have an attachment to their place of residence. The goal is not to shift the strain from transportation to living situations. For this reason, it's important to focus on people who are open to moving, and there are many. In ten years, three-quarters of working households have moved or changed jobs, or both. The challenge is not to dissuade them from changing, but rather to make sure that when they do so, they bring their work and home closer together. That going from one municipality to another does not mean losing their right to public housing, for example. That property owners who sell to buy elsewhere are not penalized by onerous transfer taxes. Moreover, it is important to note that transporting an individual long-distance in the metropolitan area costs more than 5000 euros in public funds per year, and it is important to ask if these 5000 euros could not be better used to help people find housing closer to where they need to go.

A long road ahead

In conclusion, today's rules, tax laws, and even common transportation fees for the Ile-de-France encourage people to become immobile residents, all while the economy is demanding a higher level of mobility on the job market. Combined, this leads to overcrowding in trains and on highways despite a 10% unemployment rate. This expensive solution does not make anyone happy.

In summary we can build coherent cities progressively, by adding much needed coherence to public policies step-by-step. It is not a revolution, but there is work to be done!

Mobility
> Broadly, the word mobility can be defined as the intention to move and the realization of this movement in geographical space, implying a social change.
>
> More

Disciplines : Humanities, Urban studies, Prospective studies

Transport mode(s) : Automobile, All modes of transport

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To quote this publication:

Jean-Pierre Orfeuil (2017, 27th of March), « Living a maximum of 30 minutes from work: the hypothesis of a "coherent city" », Mobile Lives Forum. Connnexion on 13th of November 2018, URL: http://en.forumviesmobiles.org/video/2017/03/27/living-maximum-30-minutes-work-hypothesis-coherent-city-3574

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