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From weak signals to mobility scenarios: A prospective study of France in 2050

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Abstract

Prospective analyses, be they in the field of transport or other areas, are generally developed based on a retrospective of the preceding decades. The trends highlighted are then followed, changed, brought out, accentuated, etc. However, a recent look at mobility behaviors and how they are evolving (for example, the speed with which bicycle use has made a comeback in densely-populated cities is instructive in this regard), and at recent societal changes (particularly as regards the development of Information and Communication Technology [ICT]) suggests the need for methods that better reflect behavioral changes by being more attentive to weak signals relative to mobility. The goal of this article is to offer a prospective view for France in 2050. The analysis was funded by SNCF in preparation for the Paris Climate Conference (COP 21).

Our main objective is to demonstrate and discuss an original, 4-step prospective analysis method. Phase one - the diagnostic phase - is based on a review of scientific and gray literature from the past five years and a quantitative survey of a representative sample of the population (in France). For this, we surveyed 1800 persons aged 15 and older by telephone. In phase two - the staging phase - key changes in mobility behaviors (on which the prospective scenarios were built) are highlighted. Phase three explores the various figures. Once the main lines of the scenarios have been sketched, the modal shares and associated energy consumption is determined. The objective of this prospective work is highly political, given that these figures are intended for use in planning policy that is both realistic (taking into account current infrastructure and service offerings, and their capacity for change) and readable (positioning relative current situations abroad). The fourth and final stages establish a political agenda with concrete actions for the short, medium and long term.

In this article we describe the first three stages, systematically explaining our choices. We take stock of the current situation of human mobility by interpreting the latest trends described in the literature and the results of the quantitative survey. We then

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describe the three resulting scenarios – ultra-mobility, altermobility and proxy-mobility – explaining in detail the hypotheses upon which we built them, as well as the modal shares, traffic volumes and CO2 emissions associated with them.

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1. Introduction

When political leaders decide to reduce the CO2 emissions associated with the transport of people, it appears critical to involve the academic world in the process in order to make it intelligible and ensure its success.

In keeping with this spirit, this article discusses the goal to reduce greenhouse gas emissions by a quarter through a prospective analysis of human transport.

In addition to the insight this prospective work offers with regard to the commitments linked to factor 4 for 2050, we would like to discuss the methodological approach used in terms of a prospective epistemology.

The article discusses mobility, a concept we feel requires major research efforts. Mobility is at the heart of social dynamics - be it values, social stratification or spaces. Mobility helps lay the ideological and structural foundations of society through the spaces - both geographical and social – it produces and models of social success (Harvey 2001) it establishes. It also highlights changes in society by exploring what moves, and how.

2. Position in the field of prospective

2.1. Foresight: what approach?

Identifying mobility futures, first and foremost, means considering the three ways of overcoming space: being near (proximity), going to and telecommunicating. In order to consider these relationships, the metaphor of "hypertext society" so dear to F. Ascher (1995) is a good starting point, because the geographical spaces produced by contemporary mobilities have multiple layers that are, at times, superimposed and, at times, organized. Until recently, in fact, the relationships between the private, interpersonal and collective levels on one hand, and between proximity, travel and telecommunications on the other, was largely territorialized, like "Russian nesting dolls". In other words, the boundaries between categories were clear and easily identifiable because they were interlocking. Daily life occurred at the micro-local level, in one's neighborhood or village. The existence of these interlockings notably had to do with the fact that, until the 1920s, travel and communicating with those far away were slow processes (walking, horses, trams in cities). This resulted in daily lives that were highly local; working far from home was impossible given that no modern modes of transport existed. The same was true of mail, which was moved only at the speed of the horse carrying it.

With the development of high-speed transport, its democratization and the development of telecommunications, societies organized locally, based on the logic of Russian nesting dolls, exploded geographically. One can now work more than 100 kilometers from home and still sleep in one's own bed at night. It is also possible to maintain social relationships with people on the other side of the planet. Clearly, we have overcome distance and are no longer bound by local limits. However, with these limits being pushed to their extremes, clashes of scale are becoming the norm. How societies occupy space is changing and raising new issues, such as that of social cohesion, social and spatial ties and multiple identities.

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