

TRANSPORT POLICIES IN URBAN AREAS

FOCUS AND OBJECTIVES

In a large number of European cities, car mobility no longer seems to be a priority but represents in fact the bulk of transportation. This new trend is a challenge for the evaluation process because (former) assessment tools directly inherited from cost benefit analysis give an important role to individual time gains i.e. speed gains. But speed is no more on the top of the agenda and even if time use remains a crucial issue, a new approach of collective interest is necessary.

Situation and challenges

The challenge currently faced by public decision makers is not only to assess public policies against time gains or losses, but also to keep under control the impacts of transport on land use. The goal is to integrate new assessment tools based on accessibility measurement. Accessibility maps help to understand the recent new priorities and the coming challenges of public policies.

Approach

We propose to measure and illustrate accessibility in the Lyon area and to analyse results in the lights of transport demand. The aim is to represent a current panorama highlighting possible instead of a mere vision of congestion points. A prospective simulation is then developed to assess travel demand (by car and public transport) in 2030. First, a business-as-usual (BaU) scenario is made to integrate changes in population and job levels and locations but also new transport infrastructures. Another scenario considers new pricing policies.

Accessibility is a central concept in the context of evaluating transport projects for urban environments. This concept thereby goes beyond the framework of the transport system and its purely temporal dimension, associating it with a spatial dimension. Accessibility should reflect the spatial organisation and the quality of the transport system that provide individuals with the opportunity to participate in activities located in different parts of the region. Accessibility impacts of transport projects are assessed using the modelling platform for planning sustainable mobility MOSART.

Results

Both the current situation and the BaU scenario for 2030 highlight relatively uncongested networks and accessibility is not impacted. In 2030, BaU scenario accessibility increases even with a population and traffic rise, because of the number of job growth. Nevertheless when applying a price increase (doubling either car or public transport costs), networks not impacted by the price variation are quickly congested. Cross-town expressways or bypasses are primarily impacted for the road network and central stations for public transport network. A price variation has a fairly limited impact on accessibility by car for car users coming from central areas, where accessibility remains with a high level. Nevertheless for those coming from beyond the first ring, impact is felt with a travel time variation of around 10 minutes at least.



More information

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Lessons learnt

Congestion and accessibility

Road congestion affects accessibility by increasing the travel time or reducing the number of opportunities available for a given travel time. But congestion threshold can vary according to speed-flow curve and the traffic management system. Moreover, travel time increase can be offset by an increase of opportunities or by a better use of time thanks to smart devices.

Car accessibility is cost sensitive

Doubling the cost of car use leads to a much lower accessibility for people living in the outskirts of the city. But it is not the case for people living in the denser part of the agglomeration. On the other hand a car price decrease (-50%) gives a new lease of life to car accessibility. It is exactly the present situation due the low price of gasoline and the reduction of fuel consumption of new cars.

Accessibility and spatial development

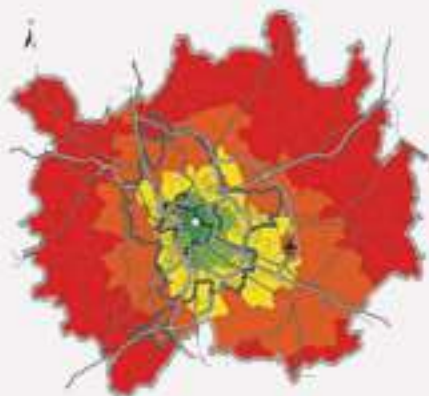
Individual perception of accessibility is a key element to understand impact of mobility costs on travel behaviours. In relation with the sustainable mobility paradigm, mobility in urban areas is today clearly linked to the ability of public transport systems to improve accessibility to dense urban areas, rich in jobs, shops, houses, activities and other urban amenities.

But what if the generalised cost of car mobility, including monetary cost and travel time, is lower and lower for car mobility? The result will be, as during the last decades, a support for urban sprawl and a urban dynamic totally different from the objectives of public policies

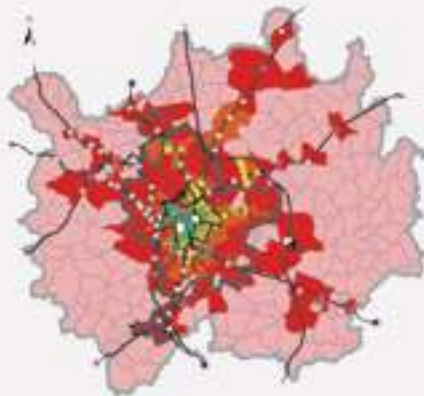
One of the main challenges in that field is to bring appropriate instruments of accessibility measurement and modelling into practice. A travel cost sensitivity parameter can be drawn from accessibility indicators to highlight socio-economic disparities to access urban opportunities.

ACCESSIBILITY - ISOCHRONE METHOD

Accessibility from Part-Dieu with private car actual situation



Accessibility from Part-Dieu with public transport



REPLICATION POTENTIAL



Easiness of replication



Impact on mobility