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Day-to-Day Mobility and Modal Changes in Low-Density Urban Areas. Case Study of the Metropolitan Region of Barcelona

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INTRODUCTION AND OBJECTIVE

One of the main challenges in today's societies is to fit our lifestyle in with the environmental limits of the planet. To do so with need a great socioenvironmental transition in our societies and within that transition the reorganisation of the day-to-day mobility of the population has to occupy a central place.

We need to take into account that the patterns of mobility are related to urban characteristics and mainly to density. We can therefore distinguish two types of urban area: a) central zones which are the heirs to the traditional compact city and b) peripheral zones with low population density and a great reliance on private vehicles. The latter are the urban spaces that have experiences greatest growth, both territorially and demographically, over the last few decades. Mobility data show this duality: while in central zones active modes of transport have gained ground, in the periphery car use has increased.

Most effort, both from the government and the universities, has focussed on the central zones. They are the urban spaces that have seen the greatest changes to lower the level of motorization and have also experienced most social and technological innovation in questions of mobility.

On the other hand, the lower density areas of the periphery have not seen such actions to facilitate the move towards sustainable mobility, despite the fact that the move towards this type of city is now the most common in Europe.

The Metropolitan Region of Barcelona has also been affected by this process and low density areas have received the name *urbanització* defined as "a type of settlement characteristic of some Euro-Mediterranean urban regions, as low-density residential developments composed of single-family homes (detached, semi-detached or, more recently, terraced)".

The existence of these new urban spaces is probably one of the main challenges to face in the process of ecological transition in metropolitan areas. The logic behind the construction of these housing develop-



ments is not in line with criteria for sustainable cities. They areas characterised by a lack of urban services, dependence on car use, the difficulty of introducing public transport, the poverty of public spaces and the weak social and identity links with the municipal area itself. In short, these housing developments lack proximity to services: the tasks of day-to-day living cannot be satisfied in the immediate area.

But there is a second variable which can explain the differences in mobility patterns: social class. Whereas car use has traditionally been associated with high income groups, currently, at least in the city centres, high income and more cosmopolitan groups are associated with more sustainable mobility habits. Therefore the changes in patterns of mobility are being led by the better off in the more central areas of the city.

The aim of this paper is to find out the perceptions and patterns of mobility of the residents in low density in well-to-do urban areas and therefore identify new attitudes fostering a changes in modes of mobility.

METHODOLOGY

First, an analysis was made of secondary data for the area of study, mainly using official statistics but also municipal planning documents.

For this study a qualitative methodology was used. 15 semi-structured interviews were carried out with residents of housing developments (*urbanitzacions*), which provided sufficient results. A snowball sampling technique was used with residential localisation criteria to ensure representation of all sectors in the housing developments. Everybody interviewed belonged to the same social group: higher education, actively employed, management or consultancy positions, adults (between 44 and 61 years) with children at secondary school or university.

All the interviews were recorded and transcribed and Atlas.ti version 8.0 was used for the information analysis.

STUDY AREA

The study was carried out next to a natural park in the foothill areas of the municipality of Matadepera, within the Metropolitan Region of Barcelona. Demographic growth began there in the 1970s with the metropolitanization process and the population rose from 1,075 to 9,186. During those years Matadepera lost its rural character and was established as a residential area with the appearance of second homes for the wealthiest sectors of the industrial cities in the metropolitan region. This residential tradition has continued to the present day.

Matadepera is composed of low density housing developments with predominance of single-family homes, mainly detached and located in what is basically a woodland environment.

Urban land use is essentially residential. Of the 456.52 hectares (almost 13,000 acres) occupied by residential use, 94.3% correspond to detached residences. Conversely land use for economic activity is negligible. So it is not surprising that most of the population in the area have a journey to work.

The municipality does not have a Plan for Mobility and the offer of public transport is scant. Therefore the motorization index is very high, as is car use.



MAIN RESULTS

Perception of the residential area

Residents in the housing development of Matadepera are aware that they live in a comfortable municipality and that it is a privilege to live there. Not only is it a symbol of socioeconomic status but this also translates into a friendly and educated environment which makes it comfortable to live in and somewhere they would not like to move from.

Reasons for residential choice

The reasons for choosing to live in Matadepera are:

- a. Living in a single-family home, preferably detached.
- b. The natural environment, understood as the woodland area which makes up the municipality.
- c. The “calm” associated with the silence, the little movement, not too many activities, and being away from the hustle and bustle of the more central urban roads.
- d. A friendly, comfortable and non-aggressive place to bring up children.
- e. Because it is within the metropolitan area.

The cost of living in housing developments

Despite the positive aspects of living in Matadepera, those interviewed also mentioned the costs. The cost which perceived most clearly and which appears as the most important is transport – dependence on the use of cars.

This cost is perceived as greater when considering the mobility of the family as a whole, especially young children. This transport cost is even higher when the children reach adolescence and their independence is limited by difficulties in getting around.

The preponderance of the car

The importance of cars is clearly seen because in all the homes of those interviewed there are at least two cars and all of have a car for their personal use. They always use their cars, even if their journey could be made on foot.

Organising mobility requires collective family strategies to transport younger children who are unable to drive, making the adult the family taxi driver. Outside the immediate family, strategies could be established with other homes where the children do the same activities and live more or less close to each other. But carsharing among the adults in the housing development is not considered an option.

Public transport: between irrelevance and ignorance

The offer of public transport is seen as being very poor, both in terms of routes and timetables. This means that residents use it very little or not at all. But the fact that it is little used means that residents do not know about the bus service.

Despite the little use made of it, there are two main user profiles for public transport:

- a. Young people who are temporary users, until they reach the age to get a driving licence.
- b. Domestic workers, who only have public transport as an option and who do not live in the municipal area.



Active mobility for sport and leisure

Active mobility for day-to-day purposes is practically inexistent. Bicycle use is only seen as a sports or leisure activity which mainly takes place in the natural park. So it is not surprising that nobody calls for the improvement of pavements and the introduction of bicycle lanes in the public space for day-to-day mobility.

CONCLUSIONS

The research has not detected elements either in the discourse or in practice that the trend is going to change. Mobility continues to be centred on car use. Unlike the central areas, new active modes of mobility (scooters, skateboards, etc.) are completely absent. Neither is there any indication that mobility will be conceived of as a service and so the idea of carsharing is neither contemplated or put into practice.

In short, this research shows no sign of a change in habits among the residents of low-density well-to-do urban areas, as is the case in the central densely populated urban areas.