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The effects of the new toll roads on the distribution of activities in the Barcelona Metropolitan Area.

ABSTRACT

The Barcelona Metropolitan Region has undergone major changes to its transport network over the last few decades, creating variations in the distribution of activities due to the evident increase in territorial accessibility.

One of the most obvious consequences is the redistribution of population, as improvements in accessibility have enabled families to live further away from their place of work without increasing commuting time, thus enabling them to look for improvements in quality of life through new homes away from the main urban area.

Doubts arise when this increase in accessibility is accompanied by high toll rates, as with the Garraf and Vallvidrera tunnels, which affect the four municipalities studied here: Sitges, Cubelles, Sant Pere de Ribes and Sant Cugat del Vallés. Tolls may be seen as a surcharge on accessibility, as the gains in time come at a high price. After analysing models such as the Wingo, Alonso or Mayer models, it may be concluded that family income minus a fixed cost for each family must equal the cost of housing and transport. It is also the case that as well as having high toll rates, these four municipalities are experiencing major increases in population and property prices that are above the regional average. Therefore, along with the increase in transport costs, there is also an increase in property prices, accompanied by demographic growth. If we return to the formula mentioned above, we can see that on one side there is an increase in the two plus factors, the price of transport and housing, while on the other there is family income minus a fixed expense, leading to the following evident conclusion: if one side of the formula increases due to rising transport and housing prices, then family income must also increase on the other side. Consequently in the four municipalities studied, a segregation of the middle-to-high income brackets may be observed.

We have already mentioned how the population in Sitges, Cubelles, Sant Pere de Ribes and the whole Garraf area in general has increased significantly since the toll motorway was constructed, as is also the case in Sant Cugat del Vallés. The next step is to move from the model theory to empirical data and thus see whether high tolls lead in some way to class segregation. Certain phenomena that would suggest this are described below.

- The demographic increase in the municipalities studied is accompanied by a major increase in essential journeys. In 1991, in both Sitges and Sant Cugat essential journeys were generally to and from Barcelona. However, the data from 1996, when the toll roads were operating, are clear: in the four municipalities essential journeys increased significantly to other municipalities, and the municipality with the greatest number of essential journeys was in all cases Barcelona, except in the case of Sant Pere, although the increase in the number of journeys to Barcelona for work also increased significantly. This clearly indicates that the new residents in the municipalities studied could afford the luxury of paying high tolls to go to work.

- This increase in journeys has been accompanied by a clear increase in income in the Garraf area since 1991, moving from below the Catalonia average to eight points above the average in 2001 (during this period high incomes were maintained by new residents in Sant Cugat). This confirms the situation experienced by these municipalities in which middle-to-high income residential areas have been created with tolls serving as a clear discriminating factor, as not all incomes can afford to pay such tolls to reach their place of work.

- Along with the two previous points, there are two further ones that are also significant. There has been a major increase in land prices since the toll roads were introduced and, together with this, there has been intense building activity: a clear example is Cubelles, where the city layout has been completely transformed in the last few years.

Finally, it may be concluded that the tolls have indeed affected the location of incomes within the Garraf area (in particular Cubelles and Sant Pere, as both Sitges and Sant Cugat were already high-income residential areas before the construction of the toll motorways). This increase in accessibility has turned these four municipalities into high-class residential suburbs with a high degree of dependency on Barcelona, whose centrality has increased enormously over the last few years.