



Mobility and Urban Transport in Metropolitan Barcelona

Accessibility versus Exclusion

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Daily mobility and social exclusion are two areas that have become increasingly important in the social sciences, but which are often dealt with as separate issues. Nevertheless, recently published studies (Lucas, Grosvenor & Simpson 2001; SEU 2003) have demonstrated the direct relationship between the lack of territorial accessibility and the process of social exclusion experienced by certain groups of citizens. The purpose of this article is to follow this line of investigation in greater depth and analyse the relationship between both areas, highlighting the implications of a dominant mobility model based on private transport that fosters a process of social exclusion in the Barcelona Metropolitan Area (BMA).

Our working hypothesis is that the present organisation of urban territory favours an increase in daily travelling both in time and distance, increasing the costs that accordingly derive from this situation as well as citizen dependence on mechanical means of transport. This is a situation that places private vehicles in a dominant position with respect to other forms of transport and means that those citizen groups that do not have their own vehicle can encounter serious difficulties when it comes to access to certain goods and services, and can even find themselves excluded from the labour market.

In this article we will show that women, young people and immigrants are the citizen groups most vulnerable to this process of social exclusion which originates from the BMA territorial and mobility model and explain the dysfunctions experienced by the affected members of these social groups.

Functional Specialisation and the Extensive Use of Territory

Since the middle of the 20th century, Europe has been building and consolidating an urban model of an extensive nature that uses up large spatial areas set up for a limited range of uses. This territorial model is based on long distances to such a degree that it is separating the different daily activities performed by citizens: place of residence from the work place or the shopping/leisure, factories far away from the established city networks and the shopping areas in the periphery spaces. This spread is accompanied by a growing specialised use of urban spaces and an increasing segregation of the social groups in the territory (Miralles-Guasch 2002).

One of the main inspirations for this urban organisation model is functionalism, a theory that allows for organising urban land space in different zones according to use, activities and densities, etc. The aim is to obtain an ordered and Cartesian urban territory, where added values are accomplished according to urban space classification and where conflicts and interference in usage are avoided. In short, it means organising the city as a space where each activity has its own place and each place is used for only one activity (Lopez de Lucio 1993).

A characteristic feature of the city model is the increase in the development of its land space, which favours occupying extensive areas of land setting it aside for the minimum number of uses. The formal expression of this urban model is recorded in urban and city planning

documents, essential instruments for configuring a city's territorial space and which have been used to implement zoning when planning out urban areas. In addition to seeing the division of a city in terms of uses, one can also see city divisions in terms of social groups, since residential areas are organised around social, generational and cultural characteristics which are both homogenous and differing at the same time with regard to other co-citizens from other city neighbourhoods.

While new urban periphery operations are clearly founded on functionalism (industrial estates, shopping and leisure zones, low density neighbourhoods, etc.) the traditional compact areas that were characterised by, among other things, mixed use areas, are now going through a transformation which tends towards one of functional and social homogenisation (Marshall 2000). So, certain activities are being driven out from the urban nuclei and relocated in the new metropolitan outskirts.

The result is a city that is more and more functionally divided, socially fragmented and territorially diffused, where urban complexity is being weakened while the spatial distance between the different daily activities is increasing. In this new urban configuration the fast route (or motorway) is the new format that is taking over public space while the traditional road is losing protagonism and use in the urban setting (Miralles-Guasch 1997).

At the same time there is an increase in the seasonal cycles of the city brought about by transformations in production processes (just-in-time, trading hours, new production habits, etc.), which have led to an increase in and flexibility of the hours set aside for working and consumption. Consequently, the number of people working during the night, on public holidays or who work irregular hours has increased significantly. Furthermore, looking from this perspective of time, one also has to take into account labour hired on a seasonal basis to cope with surges in production that are likely to occur at different moments during the year (Miralles-Guasch & Cebollada 2003).

Mobility: the Basic Requirement to Link to Urban Territory

The increasing distances between urban activities has caused daily mobility to take on a central role since it allows for re-linking the different city zones and giving meaning to the daily life of its citizens. To become an integral part of the city means that its inhabitants need to be able to get to different urban areas. To be able to get to these places is a pre-condition for being able to participate in the city and, consequently, to gain access to job offers. Given this territorial frame, the present-day mobility of labour can be seen as follows (Miralles-Guasch & Tulla 2000):

- *An increase in the distances travelled.* The physical separation of different urban functions has brought about longer person trips: more and more people work further away from their place of residence.
- *Greater flow dispersion within the territory.* Travelling between the centre and the periphery of the metropolitan area has been on the decrease while parametrical journeys between metropolitan peripheries has been on the increase.
- *Wider time band for these flows.* As mentioned earlier, the increase in the number of hours dedicated to different job activities has brought about a flow diffusion not only in terms of territory but also in terms of time.

The Role of the Private Vehicle

These new mobility characteristics have brought about changes in transport mode distribution, that is, in the means of transport used to negotiate the distances involved. The increasing distances to be travelled has meant a decrease in person trips made on foot, the most democratic means of transport because it is the one that is most accessible to everyone and the means which has occupied a dominant position within the panorama of transport modes (Pooley & Turnbull 1999). On the other hand, mechanical means of transport (those which rely on an

exosotic energy source) are becoming more and more important. These can be summarised in terms of collective transport and the private vehicle. The former, despite being the most accessible to the population as a whole, do not cover the entire territorial area and are not available at all hours of the day, and so there are many places which are difficult to get to or leave from. In contrast, the latter are not restricted to the same limitations of in terms of schedules or fixed routes, but they are not accessible to everybody and therefore are of a highly selective nature.

Given this context, private vehicle used has increased steadily to the point where one can speak of a mobility module based on the car. In Catalonia in 1996 the private vehicle was the means of transport used most to resolve the question of getting to work (having increased from 37% in 1991 to 43% in 1996), while the use of the remaining means of transport fell. So, walking to work, which until then had been the most common mode, fell from 38% in 1991 to 33% in 1996 (Miralles-Guasch & Cebollada 2001a). This situation was the result of a move which has its origins in public policies based on a combination of road network construction and private enterprise.

Thus, we have a discernible territorial model for the use of the private vehicle where collective public transport, although open to improvement, has been conceptually assigned a secondary role.

Accessibility or the Right to be Able to Get There

But, despite the increased use of the car to get to work, the fact remains that many citizens do not have independent access to this means of transport, either because they do not own a vehicle or because they do not have a driving licence (Ferri 2001). This situation means that there are limitations on their being able to get to the work place and this has a similar impact on being able to participate in the actively employed sector of society (Miralles-Guasch & Cebollada 2001b).

That fact is that an urban area's territorial

and mobility models condition the chances of being able to get to places for different people, providing them with different degrees of accessibility to different urban zones (Burns 1979). However, in addition to being a territorial matter it is also a personal characteristic. Accessibility is not distributed uniformly across all citizens who reside in the same areas. Each person or group of individuals have their own accessibility space-time setting defined by the territorial organisation that characterises the spatial setting, but their relationship is also governed by income level and gender, etc. So, there is no generic accessibility for all citizens in a given place. What degree of accessibility is available for a persons who does not own or cannot drive a car when private transport is the only way of getting there?

So, we need to analyse access in specific and individualised spheres where the efficacy of the territorial organisation can be measured in terms of the various life projects and the possibilities open to each citizen. Effectively, this means adopting a position in contrast with analyses that are too generalised and which categorise spaces according to their accessibility without taking into account the diverse characteristics of the citizens. At the same time, this means re-thinking the analysis of accessibility in relation to the possibilities individuals have of participating in activities and making use of the goods and services available (Vittadini 1991).

Those Groups who Experience Territorial Accessibility Difficulties

For citizens, the varying degrees of possibility to make use of a private vehicle provide them with varying degrees of accessibility to the territory as a whole. Within this range of possibilities there are those of a temporary nature such as illness, temporary driving ban, or the car being repaired. However, there is another range of possibilities which we can call structural that make it almost impossible for the individual to make use a vehicle. As regards this second option, accessibility is governed by characteristics peculiar to each citizen as follows:

- *Location of the residence* is a variable factor regarding access to places of work which depends on the coverage offered by public transport services. So, there will be areas where dependence on a car is greater than others.
- *Location of places of work* also determines whether it is accessible or not for the population as a whole. As in the previous case, the collective transport territorial services offerings in terms of routes and schedules mean that some areas are more accessible than others.
- *Household configuration* allows for establishing different strategies when it comes to organising and solving transportation needs to be able to get to work (Fox 1995).

There are three groups that, despite being quite heterogeneous, are at the biggest disadvantage when it comes to making permanent use of a car, and who are equally vulnerable to being excluded from the labour market because of a city and mobility model that requires them to use a means of transport which, for a variety of reasons, is outside their reach. These groups can be categorised as follows:

- *Gender*. Women have particular problems when it comes to making use of a private vehicle.
- *Socio-linguistic background*. This is a problem when it comes to obtaining the required driving licence to drive a car.
- *Age*. This puts young people in a paradoxical situation since they are entitled to work at the age of 16 but cannot obtain a car driving licence until they are 18.

Women's Access to a Privately Owned Vehicle

The different gender-defined social roles have meant that women are linked in a particular way to a variety of daily activities. A similar distinction can be made regarding the use of different means of transport since women have less access to a privately owned vehicle than men; car ownership rates among women are below the

average (Sabaté, Rodríguez & Díaz 1995). Even though it is becoming more common for women to obtain a driving licence, figures provided by the Spanish Ministry of Transport (Dirección General de Tráfico 2003) in their census of drivers in 2002 show that for every 100 people who held a driving licence, 62 were men and 38 were women; 73% of men over 18 had a driving licence as opposed to 43.6% for women.

Table 1. Breakdown of driving licence owners by gender. Spain 1980–2002.

	% Men	% Women	Total
1980	77.1	22.9	100
2002	62.1	37.9	100

Source: Adapted from Dirección General de Tráfico (Spanish Ministry of Transport), *Anuario estadístico general*. 2003.

Although clearly women do not represent a homogenous group and there are internal differences within this group depending on age and social scale, what needs to be emphasised here is that the rate of access to a private vehicle among women is always lower than their male counterparts, regardless of age or social scale (Díaz 1989). This means, for example, that women with higher incomes have more access to a private vehicle than women with lower incomes, but this is not the case for men from the same social categories. Figures for driver licence holders among students at the Universitat Autònoma de Barcelona is a further illustration of this fact. The difference can be seen clearly if we compare similar ages and socio-economic levels.

Table 2. Holding a driving licence by gender. Universitat Autònoma de Barcelona, 2004 (figures given in %).

	1 st cycle	2 nd cycle
Men	57.5	79.0
Women	37.8	70.6

1st cycle students = Years 1–2 of undergraduate degree

2nd cycle students = Years 3–4 of undergraduate degree

Source: Miralles-Guasch 2004.

However, so far the data presented only makes reference to holding a driving licence, which does not automatically mean that these women have their own vehicle. Sanz (1996) calculated that by the mid 1990s the number of women in Spain who did not have independent access to their own vehicle was close to four fifths of adult Spanish women (this included both women without a driving licence as well as those who, despite having a driving licence, could not make daily use of a vehicle).

Women without a driving licence see their situation as something that is “out of the ordinary” given the dominant, and consequently symbolic, role played by a privately owned vehicle in our society. Consequently, they fall prey to feelings of lack of self-esteem, frustration, embarrassment and even guilt for not being able to comply with the canons of social normality. These perceptions are aggravated by the need to own a vehicle in the case of residents in areas where the public transport offering is poor, for complete social integration and particularly integration into the labour market (Cebollada & Miralles-Guasch 2003).

Difficulties Faced by non-EC Immigrants when it comes to Obtaining a Driving Licence

The group defined earlier as “sociolinguistic” is becoming increasingly more significant in terms of numbers in Spain (Royo 2000). The lack of equality of opportunity for this group is determined by their ability to be able to get to the work places where their daily life activities take place. Non-EC immigrant groups, although they hold a driving licence issued in their country of origin, are required to take out a Spanish driving licence if they have been living here for a period greater than six months after “having previously fulfilled all the requirements and having passed the necessary tests laid out in the corresponding legislation” (*Boletín Oficial del Estado* 1997:3790).¹ In order to obtain a Spanish driving licence they are faced with two major challenges. First they need to obtain a residence permit without which they cannot work legally in Spain. Second they have to take

a written theory driving test in addition to the practical driving test itself which means that it is essential for them to have certain minimum language skills in one of the languages in which the test is conducted to stand any chance of passing. Here lies the difficulty faced by members of social groups who come from countries whose language is neither of those used in the exam. In such cases, language becomes the main obstacle to obtaining a driving licence. The only exception is the case of countries who have bilateral agreements with Spain whereby their driving licences are mutually valid, countries such as Andorra, Argentina, Bulgaria, Columbia, South Korea, Ecuador, Japan, Morocco, Peru, Switzerland and Uruguay.

Thus, in addition to a territory conceived according to a functional space division, a mobility model based on the car, and the difficulties they face trying to find a place to live, the location of jobs open to this social group as well as the difficulties in being able to make use of a car makes social integration even more difficult for non-EC immigrants. For this group integration into the host society is measured in even more immediate terms as regards employment than any other of the groups mentioned here. The lack of alternatives to the car for resolving their daily travel needs makes it even more likely that they will be subject to social exclusion and find themselves driven along a path leading towards an illegal status.

For this group, the privately-owned vehicle in this urban context represents something that is a basic tool for their integration into the host society which they see as being fundamentally mobility and vehicle-oriented. But, they also see the driving licence, and in particular the procedure they have to go through to get it, as an obstacle to their integration. Consequently, their perception of the difficulties involved in obtaining a driving licence contrasts with their possibilities of obtaining a car (Cebollada 2003).

Given this situation, it is no wonder that the issue of obtaining a driving licence figures high on the list of major problems defined by immigrant associations that organise specific literacy courses in adult education centres under

the title of “Reading skills: the driving licence” whose sole objective is help people to pass the much feared, yet essential driving test. Despite these efforts, according to data provided by the same people who run these centres and course, the rates for failing the driving test are very high.

The Lengthy Process for getting a Driving Licence Faced by Young People

Age is the determining factor for the third social group regarding the relatively low chances of making autonomous use of a private vehicle. The concept of a young person as a social construct refers to the stage in the life of a person that is situated between infancy and adulthood. In order to arrive at a more specific definition of a young person, we will take the definition that defines them according to productive parameters, that is, “based on their productive capabilities and functions within the theoretical perspective of the social division of work” (Espluga *et al.* 2001).

Once again, Spanish Ministry of Transport figures for drivers show inequalities in car ownership rates according to cohorts:

Table 3. Breakdown of driving licence owners according to age. Spain, 2002.

Age group	%
18 to 20	29.6
21 to 24	59.2
25 to 29	74.7
30 to 34	78.3
35 to 39	79.5
40 to 44	78.4
45 to 49	75.9
50 to 54	67.3
55 to 59	61.5
60 to 64	49.0

Source: Adapted from Dirección General de Tráfico (Spanish Ministry of Transport), 2003.

As regards young people one must differentiate two stages in the procedure for obtaining a driving licence.

1. From 16 to 18 years old. During this stage a young person is not considered to be of full legal age and cannot obtain a car driving licence until the end of this stage despite the fact that they can begin working at 16. During this stage young people cannot make autonomous use of a private vehicle and therefore are not guaranteed access to the urban territory as a whole. So, how can they choose a job where, despite there being no prior experience requirement, the main conditioning factor is having access to a vehicle to travel to work?
2. From 18 to 30. This stage included the process towards complete “social maturity”, that is, when a young person can cash in on his/her legal rights and culminates with their inclusion in the adult category. It is during this stage when a young person obtains a driving licence and, after 30, can form part of the largest car-ownership group.

Young people see the fact of having a driving licence as yet another stage in the gradual process of becoming an integral part of the world of adults. But, this is also a goal to be achieved because of imposed social pressure and the lack of alternatives to the car offered by the existing urban model to be able to reach the city in its entirety. Just as is the case for women, young residents living in areas with a poor offering of public transport also see the private vehicle as that tool a provides them with total access to the urban territory at any time of the day and thus experience the city more completely (Cebollada 2003).

The relatively late independent status of young people in Spain is usually seen as a reflection of the problems experienced by this community. It should be noted that parents are more likely to take care of the expenses generated by owning a car than the deposit for renting for a flat, which would at least contribute in part to allowing young people to become independent earlier. The fact is that, as perceived by Spanish parents, integration

into Spanish society takes place, among other factors, through daily access to a private vehicle. How can one integrate into society and have the chance of a “good job” without a car; the instrument which gives us accessibility to the whole of the territory?

Accessibility and Exclusion from the Labour Market

The following pages outline the dysfunctions experienced by the groups mentioned earlier regarding territorial access to work places via methods other than a privately-owned vehicle (Cebollada & Miralles-Guasch 2004). The following table provides a synthesis of the consequences of this situation.

If impact is examined from a territorial

perspective the lack of transport reduces the job-seeking catchment area of those people affected. This is primarily linked to the location of their residence and, secondly, the availability of public transport to get to the desired location. This initial space can be extended for those who are able to resort to social support networks (be they family or from the vicinity) and get to work as an accompanying passenger in a car.

Working close to home is one of the possible consequences of the lack of transport and data for the Barcelona Metropolitan Area for 2000 (Giner 2002) provide us with an illustrative example of how the majority of women work in the same residential municipality as men. In addition, one can see in the following table, the differences in the number of men working in the same area where they work in contrast to

Table 4. Social impact due to lack of transport to get to work locations.

Impact	Consequences
Territorially limited labour market	Work in the setting where one lives
	Specialised production according to local labour availability
	Decrease in possibility of access to a wide range of jobs
Inability to mobilise all available human resources	Curb on productivity
	Difficulties finding a job
Lost job opportunities	Jobs lost
Vulnerability of those affected	Unable to establish lasting/reliable mobility strategies
Adopting risk strategies	Long and unsafe itineraries
	Driving without a valid licence

Source: Adapted from Cebollada & Miralles-Guasch 2004.

Table 5. Gender-sensitive representation of location of work place related to place of residence. Barcelona Metropolitan Area, 1995–2000 (figures given in %).

Year	Men	Women	Difference
1995	53.6	68.4	14.8
2000	44.9	62.7	17.8
Percentage variation	-16.2	-8.3	-

Source: Adapted from Giner 2002.

women: for 1995 the difference is rated at 14.8% while figures for 2000 provide a differential figure of 17.8%. Through the gender-related percentage variation we can see how the percentage of men working in the same neighbourhood as their place of residence has decreased by 16.2% as opposed to 8.3% for women.

A second consequence is that due to the impossibility of accessing the territory, people without a car have to adapt to the profile of job offers in the immediate surroundings of their place of residence, regardless of their education/training and preferences. Consequently accessibility to the territory as a whole also means limitations on their chances of personal development.

It is also the case that people without a car see their job options as being limited and thus job inequality is created between people based on each individual's relationship with the available means of transport. So it should come as no surprise that improvements in public transport are related to an increase in job opportunities for residents (Julià 2002). This constitutes the third consequence of a territorially limited labour market.

The Impossibility of Mobilising all the Available Human Resources

From the point of view of a social group, lack of accessibility to work places for different urban groups means that it is not possible to make optimum use of the existing labour market in the region, resulting in impediments for those with profiles better suited to each demand.

The social groups most affected by the deficits of accessibility to the territory are those that demonstrate the lowest rates of activity and high rates of unemployment. This situation means that many employment policies are aimed specifically at these social groups. One example is illustrated by the local agreements regarding employment which often set as an objective the incorporation of women and young people in the labour market. But how can these objectives be met if there is no prior guarantee of the possibility of being able to get to the work place?

Lost Job Opportunities

Those people who cannot make daily and continued use of a car have lost job opportunities during their productive life as has been demonstrated in various studies (Lucas, Grosvenor & Simpson 2001; SEU 2003).

Table 6. Employment and unemployment rates. Spain, 1st trimester, 2004.

	Total	Men	Women	Young People*
Actively employed	55.38	67.37	44.07	47.18
Unemployed	11.38	08.38	15.71	23.00

* 16 to 24 years old

Source: Instituto Nacional de Estadística 2004.

This loss of job opportunities can happen for a variety of reasons which in addition can be defined in real and potential terms and can take a number of different forms. In the first place being a car owner as a pre-condition for securing a job. In these cases anyone not possessing a car licence is already discounted. Furthermore it can be found that following the selection process and when a firm offer has been made, an individual's lack of access is an impediment to getting to the workplace and consequently they are obliged to give up the job offer. Similarly this can happen while actively employed – on occasions a person may lose their current job because the strategy they have adopted to get to work is no longer possible (the person they accompany in a car can no longer give them a ride), or because the work place has been relocated and the new site is now inaccessible unless one has a car.

Vulnerability of those Affected

The fact that there is no guarantee of an alternative means of transport other than a car is a further burden to those that cannot use a car and places them in a highly vulnerable situation in the event of any kind of change. In this way the inability to establish lasting mobility strategies in a context characterised by flexible production, seasonal work, constant changes in job situations combined with lengthy periods of unemployment act as an impediment to establishing lasting strategies for getting to work for those who do not have a car.

Adopting Risk Strategies

Finally the last impact mentioned here is the adoption of risk strategies in which the members of social groups affected often have to resort to travel modes that carry a certain degree of risk as much to their personal integrity as to the group as a whole. There are two characteristic risk strategies:

In the first place long and unsafe itineraries when the distance between the resident and place of work has to be negotiated using inappropriate means, which can be due to the distance

to be travelled, the lack of coordinated public transport or how the public space is designed. These trajectories can be further broken down as follows: Walking long distances, often around one hour. Trajectories through suburban areas where there is a lack of social control of the space which brings about a feeling of insecurity and risk, particularly among women. Travelling very early in the morning or at night, which further adds to one's perception of insecurity as mentioned above. Itineraries through spaces lacking an infrastructure for pedestrians who run the risk of being run over (using the hard shoulder, major cross roads etc.). A large amount of time spent using public transport due to the lack of coordination between the transport operators and the radial nature of the network.

Second, one of the strategies that imply greatest risk can occur when driving without a valid driving licence. This is a common strategy among immigrants who have a driving licence issued in their country of origin and who believe they are quite capable of driving a car to get to their destination. This practice means, firstly a risk of being fined by the authorities, but also a risk to society at large because there is a social group that makes use of a private vehicle without complying with established laws to do so (the requirement to be in possession of a valid driving licence and current insurance policy for the vehicle, etc.). In this particular case, immigrants have had to opt for this risk strategy due to the fact that it is not possible to get to the work place using collective means of transport and the difficulties on many occasions of being able to form travel support networks with "indigenous" members of the host society.

Conclusions

It has been made clear throughout this article that giving priority to the private vehicle has not resolved the mobility needs of the majority of citizens. Not everyone has the same options or possibilities in terms of access and use of the car. Women, young people and immigrants are groups which are most frequently excluded

from car use. This fact can seriously limit job opportunities for these groups and can impede the incorporation existing human resources to the labour market.

Furthermore, the increase of car use in the city will not be possible because of environmental and social constraints. The extension of equal opportunities and the increase in social cohesion necessarily implies reducing dependency on the private vehicle and requires the promotions of alternative modes of transport.

The integration into the labour market of the vulnerable groups mentioned in this article implies a public policy strategy of access which allows these collectives to reach the work place. It should be noted however, that the group most affected are immigrants given that access strategies not only affect the world of work but also the sphere of social integration precisely because immigrants are most vulnerable in terms of family networks as well as knowledge of their new social environment.

Notes

1. "...comprobación de los requisitos y superación de las pruebas correspondientes..." (*Boletín Oficial del Estado*, 1997 – equivalent of *Hansard* in the UK).

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