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Uneven mobilities, uneven opportunities: Social distribution of public transport accessibility to jobs and education in Montevideo

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ABSTRACT

Even though mobility is a requirement for participation in "modern life", the truth is that mobility is unevenly distributed and it constitutes a field of contestation and dispute among social classes. Mobility does not derive from individual decisions or free choices. On the contrary, it is the result of the interaction between individual attributes and social structure. To grasp this interaction, it is necessary to go well beyond observed mobility. This paper explores the unequal access to urban opportunities among different social classes in Montevideo. It does so by computing potential public transport accessibility to two types of crucial opportunities: jobs and education. The paper findings show an unequal distribution of potential mobility, especially for jobs and upper level public education. Primary public schools are an exception, revealing the spatial footprint of the mature Uruguayan social protection network at this level. This paper's approach allows to identify and describe various fields of contestation such as urban form, transit network, the state provision of public goods (in the case of education), through examining the effects of uneven mobility on social goods access and, as a result, on social equity.

1. Introduction

Even though mobility is a requirement for participation in "modern life" (e.g. to commute to work, to access to services, etc.), the truth is that mobility is unevenly distributed (see Urry, 2007; Kaufmann, 2002, 2011; Manderscheid, 2009). Unfortunately, this statement is a very accurate description of Latin American cities (Vasconcellos, 2012). In the region, there are clear indications of a mobility divide between social classes (for a discussion on transport related social inequality in Latin America see, among others, Avellaneda García, 2007; Jiron and Mansilla, 2013; Gutierrez, 2009; Falavigna and Hernandez, 2016; Vasconcellos, 2010; Oviedo Hernandez and Titheridge 2016; Davila, 2013).

Indeed, the urban poor have to struggle to reach the locations of urban resources and opportunities because of mobility obstacles. Cities in Latin American experience clear cuts between wealthy social sectors with access to diverse and adequate goods and services to fulfil their needs and a vast portion of the population that still has insufficient provision of them. Transport services and accessibility is not an exception. Daily mobility constitutes a very good sample of this unequal access to primary services. In addition, unfulfilled needs in this field prompt inequalities in people's abilities to fulfil third basic needs such as, among others, jobs or education. This is directly related to poverty and social exclusion and constitutes a field of contestation and dispute among social classes.

This paper aims to illustrate that field through the analysis of the consequences of transport and mobility inequality on different social classes. It identifies the field of contestation from a mobility point of view that entails issues such as the relation between spatial mobility (physical space) and social mobility (social structure) (Kaufmann et al., 2004; Gutierrez, 2012).

To do so, this paper explores the unequal access to urban opportunities among different social classes in Montevideo, capital of Uruguay. It does so by computing potential public transport accessibility to two types of crucial opportunities: jobs and education. These two opportunities are relevant for social inclusion as they provide required elements to participate in social life (e.g. income or social capital). For this reason one could argue that they constitute obliged mobility for a vast sector of the population. Moreover, urban form in Latin American cities defines a very unequal geography of opportunities that concentrates the urban poor far from key opportunities. As a result, specially for jobs and upper education services, motorized mobility is a requirement. The combination of being a key element for social inclusion, the mandatory nature of these trips and the demand for motorized mobility is especially suitable to explore accessibility inequality in the Latin American context. This is a still infrequent approach for this region to mobility and transport. To some extent, apart from making visible a potential contestation scenario, it is also an attempt to "contest" scientific paradigms regarding urban mobility and transport in the region.

The paper is structured as follows. First, it discusses the conceptual

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references to address the research problem. In the next section it unfolds the methodological approach and describes data sources used. In the third section it depicts the results on potential accessibility between social stratums. Finally, the last section discusses the results in light of the empirical evidence.

2. Accessibility, public transport, welfare, and equity

The conceptual discussion in this paper addresses the relationship between spatial and social mobilitiy that entails the relationship between transport, mobility, access, poverty, and inequality. It assumes thus that these elements' interaction is closely linked to the participation in society as they preclude or facilitate access to basic goods, services and relationships (Lucas, 2012; Ohnmacht et al., 2009; Lucas et al., 2016).

In that vein, the concept of accessibility is helpful to raise this issue. Miralles and Cebollada claim that accessibility "refers to the ease with which each person can overcome the distance between two places and thus exercise their right as a citizen (…) accessibility along with a territorial dimension, is also an individual characteristic in relation to the number of options available to citizens to access different places and activities" (Miralles-Guasch and Cebollada, 2003 pp. 14). The relevant question behind this definition is how people can access to key destinations.

It is noteworthy that an individual may have very little ability to move long distances in space and yet have very good accessibility by proximity. Conversely, it can be very easy to move to many parts of the city, but not to the one a person needs to access, so that, despite their high level of mobility, accessibility remains low. A person may show many displacements during a day to be very "mobile", but only because he must travel long distances so, in the end, his accessibility is very low. In this regard, the location of urban opportunities plays a significant role. Theoretically, there are two possible solutions to overcome distances: moving individuals to the activities or "moving" activities towards them (nearest location). For example, accessibility to job opportunities could be resolved in two ways: with an adequate transportation system that takes people to areas with a high density of job opportunities or through the placement of opportunities closer to where they live. Apart from structural constraints, it is necessary to consider individual preferences, assessments and autoperception when it comes to accessibility. Accessibility is not limited to individual resources dealing to with structural constraints but also with how people perceive its own capabilities and opportunities.[1] Nevertheless, it is important to point out that structural constraints are crucial aspects when considering urban poor fate dealing with accessibility issues.

One of the key components of these definitions relates to the notion of ability to "reach". It also underlies the idea of potential mobility, meaning that this capacity refers to which places the individual can reach and goes beyond the known or observable movements. The fact that a person reaches the job place daily tells us a tale of observed mobility. Two persons in that situation may have very different accessibility situations though. First because of the cost they have to afford for those movements. Second, even when the cost is the same, if one of them is able to reach twice the number of opportunities than the other, the former counts on better accessibility. This translates in, among others, easiness to reach, diversity to choose and better information flow for some key opportunities such as jobs or higher education.

What is the link between accessibility, public policy, equity? To answer this question, it is important to move forward and think of accessibility as a resource required to obtain new resources. In this sense, the definition of accessibility gives a prominent role to notions such as rights, citizenship, and inclusion. Ultimately, what stands out is the public nature of mobility and accessibility, recognising the fact that it is an asset that should be protected for all the citizens. Mobility cannot be conceived as a regular good, but a social good, a good to which a society grants a distinct social meaning out of the market sphere (Martens, 2012). In that sense, one of the objectives of mobility public policies should be its decommodification. Esping-Andersen (1990) defines decommodification as the individual's ability to access well-being regardless of their performance in the market. To discuss transport-related inequality has to do with how free is the individual from market forces when reaching to places. If, for instance, transit network is deficient and households have to use private means, then their capacity to reach places will depend on their performance in the market and their capacity to pay, for instance, for cars. That is why it is so important to analyse how well public transport performs for different social groups, especially the urban poor.

According to Ascher, "…mobility is a key condition of access to employment, housing, education, culture and leisure, family. The right to work, to have a home, to training involves the right to mobility. ... in a sense this right to mobility is a precondition of the other rights" (Ascher, 2005 pp. 19). Of course, this apparent political statement has a very strong conceptual side. It implies the existence of a causal relationship between mobility and access to other goods and opportunities with direct impact on one's quality of life.

This perspective brings up questions about how the way ability to overcome geographical distances between one point and another impacts on people's odds to participate in city life and to benefit from the opportunities offered in the urban space. It builds from conceptual grounds assuming that mobility and accessibility are not a matter of free personal choice and can have very strong structural constraints (Massot and Orfeuil, 2005; Wenglenski and Orfeuil, 2006). In the same vein, Kaufmann (2002) argues that higher transport speeds and movement as an imperative of modern societies should not be confused with adequate accessibility for the whole population (see also Urry, 2007).

In short, accessibility, wellbeing, and equity cannot be taken for granted. Moreover, accessibility impacts are not equally distributed among individuals and households. There are people who are more likely to move than others are, people who can do it much faster than others and some who may do it into many more directions than others may.

Several studies reveal a number of factors hindering or fostering people's access to diverse geographical locations. There exists a wide array of operating concepts and dimensions, with slight differences, to name and analyse obstacles to mobility (Kaufmann et al., 2004; Cass et al., 2005; Paulley et al., 2006; Social Exclusion Unit, 2003; Titheridge, 2006; Urry, 2007). Hernández (2012) builds on this background and points out four dimensions that should be considered: 1) Supply: related to the good that is provided, including among others, network extension and quality (speed, comfort, information, etc); 2) Institutional: referring to the components that define the degree of monetary commodification of that network, including the fee structure and regulation, introduction of subsidies, and who are entitled to which type of fee; 3) Individual characteristics: income, available time, skills, and abilities to take advantage of the system, physical capacities; and 4) Urban form: related to socio-territorial dynamics that are more responsive to structural factors and individual decisions; the location of activities and the residential location of the different socioeconomic groups (2012: pp. 123–124).

To sum up, one could argue that accessibility is the result of the interaction between individual factors, the transport system and the urban form or land-use. For the urban poor, the transport system dimension relates directly to public transport when it comes to long-

[1] The apropiation dimension that derives from the concept of motility to some extent refers to this issue (Kaufmann et al., 2004). It is also a very important matter considering choice of services location sucha as, for example child care. Hernandez and Rossel (2015) show that in the event of choosing a health center location, households are not always led by utility maximization or the lowest cost. Parent's preferences regarding service provision quality (doctor performance perception, time perception, etc.) plays a key role, in some cases overpassing distances.