

**PROMOTING THE RIGHT TO THE CITY THROUGH A TRANSPORT SYSTEM?  
THE CASE OF TRANSMILENIO, THE BRT OF BOGOTÁ**

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## **ABBREVIATIONS**

\$COP: Colombian pesos (Colombian currency)  
AMB: Alcaldía Mayor de Bogotá  
BRT: Bus Rapid Transit  
CPS: Capacity of Payment Survey  
DNP: Departamento Nacional de Planeación  
FTA: Federal Transit Administration  
IDU: Instituto de Desarrollo Urbano  
OED: Oxford English Dictionary  
SDM: Secretaría Distrital de Movilidad  
SEU: Social Exclusion Unit  
SITP: Sistema Integrado de Transporte Público de Bogotá  
TM: Transmilenio  
UNC: Universidad Nacional de Colombia

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## INTRODUCTION

The debates on mobility and transportation are getting everyday more and more attention in a context of more populated and congested cities in need of economic efficiency. Their relevance is, however, not limited to this element. More importantly, in the development field they have gained attention as they show the importance of transport modes, particularly, public transport systems, as non-expensive means to provide accessibility to all kinds of goods, services, activities and opportunities for people.

It is in the latter perspective that this research is to be framed, using as a case-study the experience of Transmilenio, the Bus Rapid Transit system –BRT– of Bogotá, Colombia. Thus, the main objective of this research is to explore if Transmilenio is really a transport mode available to the poor people of Bogotá as promoter of the right to the city and subsequently of a less exclusionary city.

The conceptual underpinning of this research is the notion of 'the right to the city' understood as the right that everyone should have to participate in all the activities and opportunities offered by the city. The link with public transport systems, and with Bogotá's BRT by extension, is clear as their existence and performance play a major role in order to provide a service that substantively gives this right to people. From this notion then the concepts of social exclusion, mobility and accessibility are addressed always taking into account the object of this investigation, a public transport system, and focusing in the dichotomy that transport modes have in terms of enhancing either mobility or accessibility, something that has also been happening with Transmilenio.

Over the last ten years and after its early success, Transmilenio has been shown as a case of "best practice", an innovation that coming from a developing country has been able to address the mobility problems of a large city like Bogotá with a created budget not quite as big as the one needed for an underground system and in a shorter time.

But despite all the elements originally brought by Transmilenio in terms of efficiency, faster speed, better quality of service, clear information for the users and the management model through which it is implemented, operated and monitored, the system has problems that need to be addressed in order to be a transport mode that is more accessible for people, especially for poor people.

The main problem found with Transmilenio is that although it was initially implemented under the umbrella of a transport mode where the rich and the poor would sit next to each other in an expression of equality and social inclusion, the way it has been designed and implemented has not actually been of much help in terms of embracing that outcome and, on the contrary, as it will be shown, has encouraged further social exclusion of the poor and of other social identities (women, the elderly, the disabled, the children, etc.)

This document is organised as follows. The first chapter develops the conceptual framework and comprises the literature review, the definition of the main concepts to be used in the research and how they relate to each other. The second chapter

presents the experience of Transmilenio showing its origins, how it operates and the reasons why it has been successful and compares it to the traditional public transport mode existent in the city. The third chapter shows how Transmilenio has not promoted the right to the city and, on the contrary, has triggered social exclusion of the poor. The analysis is supported by data from official surveys undertaken by the local government of Bogotá as well as from other researches on the topic. The last section presents some concluding remarks, some of them proposing ways to improve the BRT as a promoter of the right to the city for all.



# 1 THE RIGHT TO THE CITY AND SOCIAL EXCLUSION IN THE FIELD OF TRANSPORTATION STUDIES, A CONCEPTUAL FRAMEWORK

The aim of this chapter is to show the theoretical underpinnings that will support the analysis of the case-study. A literature review has been carried out to find the state of the art regarding the theoretical concepts that will be used and their relationship with one another. Unlike some dissertations, there will not be a literature review subchapter, it will come when every concept is presented. As such, this chapter is divided into two main parts. The first part will present the definition of the main terms with its corresponding literature review. The second part will discuss how the terms previously defined relate to each other.

This paper deals, at least from the theoretical point of view, with a general idea, that of what a mode of public transport should do in order to be accessible and to allow accessibility and mobility beyond itself for every person. This idea, as will be shown, is highly related to the right to the city concept and therefore it will be examined from this particular notion. The main concepts that will be defined are, accordingly, accessibility, mobility, movement and social inclusion/exclusion.

## 1.1 The right to the city

Firstly developed by Lefebvre in his famous book 'Le Droit à la ville' (1968), the right to the city notion has been enriched by some Lefebvre's followers (Ockman:1992), predominantly by the works of David Harvey and particularly, for the aim here, the works of Mustafa Dikeç. In words of Lefebvre the right to the city "cannot be considered a simple visiting right or a return to the traditional city. It can only be formulated as the right to urban life, in a transformed and renewed form." (Lefebvre:1992:435).

This transformed and renewed form strongly linked to the *social* production of space (Lefebvre:1991) should be addressed through a conceptualisation of space, where somehow it is finally given a life of its own as Harvey (Harris:2004, referencing Harvey) does when conceptualising space in three different ways, the absolute, the relative and the relational one. In the absolute conceptualisation, space is seen as a physical container, whilst in the relative, relationships are the product of the association of places but the process of this association and the consequent and continuous inter-feeding of the two elements are not constitutive of the space. On the contrary, the relational conceptualization sees the relationships in space and time constitutive of places rather than just a product of their association, allowing in this way a permanent feedback among space, people and their multiple relationships where they all affect each other (Ibid).

It is this understanding of space, in its relational conceptualisation, that facilitates the development of the right to the city as an evolving right where individuals, groups, the society and the city, including the space that constitutes it, act in different ways affecting the others and at the same time being affected by all of them. Pirie also introduces this issue when writing "it may also be conceived as a social creation – as a structure created by society and not merely as a context for society"

(Pirie:1983:471), making clear in this way that space cannot continue being considered as a mere container.

Going back to the right to the city itself, it is time to say that it involves everyone in a city regardless of people's social identities and can be summarised in a very rough way as the right to participate actively in all aspects of social life in the city. Dikeç goes even beyond and argues that "the right to the city implies not only the participation of the urban citizen in urban social life, but, more importantly, his or her active participation in the political life, management, and administration of the city...The right to the city, therefore, is simply not a participatory right but, more importantly, an enabling right, to be defined and refined through political struggle. It is not only a right to urban space, but to a political space as well, constituting the city as a space of politics" (2001:1790) and giving the citizens a political identity which is enabled by the right to difference, understood by Dikeç as the right to resist, to struggle (Ibid).

Interpreting Dikeç the right to the city is not just about the distribution of goods, services or even opportunities, although it is a significant part of it, a part that is usually given all the attention given the difficulties to engage in a more political issue, e.g., that of pursuing the possibility of having all the people the power to participate as a collective of citizens and individually in the political life of the city<sup>1</sup>. If that is what is meant, then it could be argued that a persistent fight between all the people would be staged in claiming this right and it is here where the right to difference shows its complementarity to the right to the city. As Dikeç explains following Lefebvre, solidarity is at the centre of the right to difference, but not a solidarity based on people's particularities, i.e., around same social identities shared by people, as Young suggests but on "the will and capabilities to differ" (Dikeç:2001:1791), in the differences themselves and through the political struggle, through the recognition of those differences not being insurmountable in people's daily life experience and not just on paper.

The right to the city, as presented above, has a direct impact on the development of the city in the same way that the development of the city has an impact on the right to the city that people enjoy. Within this relationship there are involved elements of what Dikeç calls the dialectical relation of the spatiality of (in)justice and the (in)justice of spatiality. According to him, while the former denotes "moving from physical or locational aspects to more abstract spaces of social and economic relationships that sustain the production of injustice" (2001:1792), the latter implies "the elimination of the possibilities for the formation of political responses" (Ibid) and the existence of "structures in their capacities to produce and reproduce injustice through space" (2001:1793). What this means is that space, how it is shaped, how it affects the way the right to the city can be enjoyed is also affected by the way people demand, defend and exercise their right to the city or their impossibility to access to it and consequently has implications of social justice, or better, of spatial justice as Dikeç calls it when incorporating the spatial aspects of justice. Thus the definition of social justice evolves to a definition of Spatial -social justice as the "right of all city habitants to participate in the political life of the city (fighting against discrimination), and their

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<sup>1</sup> This cannot be mixed up with the granting of the vote to the citizens because even then, in many cases, it would be a formal right but not a substantive one.

right to political struggle of resistance (fighting against repression)" (Dikeç:2001:1800).

Now, it is also true that the exercise of the right to the city depends on every individual as well as on society as a whole. Individuals as people with some level of free choice can determine to demand their right to the city to other individuals and groups within the society. However, this possibility is at the same time restricted by the structural powers present in the society that predetermine a series of behaviours and choices for the individuals to take. These structural powers, sometimes visible, some others hidden and even hegemonic or invisible (Gaventa:2006), determine in many cases if and how people exercise the right to the city through the use of hegemonic discourses that have been around society for a long time securing the right to the city of some at the expense of the right to the city of others. At a different level, a rather similar situation occurs in the household, where there is an unequal distribution of burdens and benefits that strongly affect some social identities, e.g., women, the elderly, children, the disabled, creating at the society and at the household level a series of conflicts that are key to the understanding and possible solutions to the lack of right to the city for all in a specific time and space.

However, as this paper focuses on a mass public transportation service, it is not the aim of this dissertation to engage in a research encompassing all the different aspects present in a city. Thus, it is mainly its aspects regarding people's right to the city what will be taken into account.

In order to understand this relationship an operational definition of terms related to public transportation are needed, hence, the concepts movement, mobility and accessibility will be defined next.

## **1.2 Movement and motility**

The concept of movement is a basic term that refers to a "change of place or position" (OED:nd), a "change of physical location" (Ibid). More technically, as defined by Tyler (2002:13), it is "the physical displacement required to reach the activity" which gives the idea of the existence of a motive that causes the movement (or activity). Tyler continues then saying that even if some short movements do not require an external help to be done (movement by foot), "in many cases there is a need to use some form of conveyance (e.g. a vehicle) to enable this displacement to occur" (Ibid). This implies that there is no movement without a reason to move and that there is a necessity to have modes of transport (everyday more sophisticated) when walking is not feasible.

But the definitions above do not say anything about the will and freedom people have to move. Whether people are forced to move or do it because they want is something that the definition of movement does not give any clarity. To overcome this shortcoming, the concept of motility could be used. According to Miller, it refers in biological terms to "the 'ability to move spontaneously and independently' that some living creatures have, even if they don't use it actively" (Ureta:2008:272, citing Miller) which can be translated into a social dimension as "the capacity of entities (e.g. goods, information or persons) to be mobile in social and geographical space" (Ureta:2008:272, citing Kaufmann).

For this research, the above definition of motility is to be adjusted as the capacity of people, whether individuals or groups, to spontaneously and independently move in social and geographical space. The importance here lies on the need to match the right to the city to the need for movement. If movement is needed because someone or something else wants some person to move, then it can be argued that the right to the city is not being exercised in that case even if the person in such a situation has all available modes of transport at hand. Nonetheless, it remains ambiguous what 'spontaneously and independently' means. Is it to move freely as without any kind of barriers? Is it to move freely given the social, economic and political circumstances of the time being? While an answer to these questions is highly difficult to give, this is a discussion that has to be embraced in a context-specific basis.

### 1.3 Mobility

The term mobility is usually used in two different, although interrelated, ways. One as a general term that embraces the different issues related to movement, transport or mobility<sup>2</sup> as such, and one a little more specifically linked to the ability to move.

Focusing on the second use and according to Dimitriou (2006), there is a wrong tendency to use the term mobility in the technical literature as if it were a synonym for the terms accessibility and/or movement. This trend "implies that so long as vehicles and people are on the move (usually at greater speed) more benefits accrue to those enjoying the mobility and the civil society/economy at large (Dimitriou:2006:3). Although this is not necessarily true as some people might live well without needing to move long (or longer) distances, some degree of vehicle-related mobility is needed for not every single thing that a person wants (or needs) is located at a walking distance from their place of residence. But again it does not mean that being on the move at greater speed translates into a better-off situation for all. One thing is to say that there is a relationship between economic growth in a society and its motorisation rate, both comparing high-income people and low-income people within one society and among developed countries and developing countries, but that cannot be extrapolated to a general statement of increasing mobility meaning more wealth and a more equitable distributed wealth (Dimitriou:2006).

What is again behind that trend, following Dimitriou (Ibid), is to assume that mobility understood as the capability to move (faster), which is strongly related to needs for economic efficiency of some but not all, is something that the whole society needs. It is certainly so for the international capital, for the national capital (if that is still a category) strongly linked to the global economy, for the tourists and even for the people who need to get to their workplaces as fast as possible, but that does not take into account all people's mobility in a society. That view, as Dimitriou (Ibid) explains, has been a strong supporter of last decades' strong investment in roads and transportation projects that nowadays focuses on increasing the speed of transportation modes that connect people's residences to their places of work and

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<sup>2</sup> Examples of this use of the term are found in Cass et al., who refer to "“spatial or mobility” related aspects” (2005:540), Farrington et al, “transport (mobility) opportunities” (2005:11), etc. This broad use of the term probably helps in the confusion around the more specific use given to it.

moreover, places of production to markets benefiting mobility related to the economic activity in this fashion.

Now, "in a geographical sense, mobility operates at a wide range of spatial scales and temporal periodicities" (Nutley et al.:1995:24), however, for the concern of this paper, it is basically daily life mobility in a city, i.e., urban mobility, characterised by "relatively short distance and high frequency movements from a permanent home base" (Ibid), what will be referred to when the term is mentioned.

Another conceptualisation of mobility although not opposed to the former, is the one presented by Tyler as "the ease of movement from place to place, and thus represents the ease with which a person can reach an activity. This consists of two elements: movement and accessibility" (2002:12). By acknowledging these two components mobility stops being a one-dimensional concept as starts considering the reality lived by more people and brings into picture the term motility discussed above. On the one hand, there is the need for movement, in many cases supported for the need for economic efficiency but also recognising the multiple motives that make people move. On the other hand, the inclusion of accessibility means the recognition of difference within a society, i.e., the fact that not everyone has the same possibility, the same ability or potential to access to all those places they need to go.

If this definition of mobility is accepted as Tyler (Ibid) proposes, **mobility = movement + accessibility**, then a type of trade-off is necessary to maintain the relation balanced. As mobility is raised through boosting movement or through increasing accessibility, aiming for longer distances to be covered at faster speed, normally as a way to enhance economic efficiency objectives, would negatively affect accessibility, but this matter will be discussed more thoroughly when defining the latter concept.

#### 1.4 Accessibility

Continuing with Tyler definition of mobility, the second element, accessibility, appears now as a key issue in this investigation. As with mobility, with the term accessibility there is not a unified definition of it.

Starting with a rather basic definition by the Social Exclusion Unit (SEU) in 2003 as "the ability to get to essential services: education, employment, health and others, and to food shops, as well as to sporting, leisure and cultural activities" (Stanley:2008:36, referencing SEU) to more mobility-related definitions in which accessibility "is determined by the spatial distribution of potential destinations, the ease of reaching each destination, and the magnitude, quality and character of the activities found there" (Handy:1997:1175) or "the ability to be approached, reached or entered [which in the case of bus service] "represents the ease of reaching and using a bus"" (Tyler:2002:13), there is no agreement among researchers, governments, etc., about what it is. The three definitions that have just been shown are all right in a way, they present one side of what accessibility is. However, they are not comprehensive or even truly multidimensional as it would be required if the objective is to work within a right to the city framework. But even under a right to the city

framework, given the lack of agreement on its definition, there will certainly be discussion around what it involves.

Having the right to the city as general framework then the accessibility definition given by Cass et al as "the ability to negotiate space and time so as to accomplish practices and maintain relations that people take to be necessary for normal social participation" (2005:543) or the one built by Farringdon et al as "the ability of people to reach and engage in opportunities and activities" (2005:2) seem to work better as they consider all people needs and also include their participation in society and regards political issues around the negotiation of 'space and time' but still, for the purpose of this dissertation there is a need for a definition that takes into account mobility issues in a rather explicit way. Thus for this reason, and having the latter definition in mind, an operational definition that can be used here is to be constructed.

Going back to Tyler definition of mobility (accessibility + movement) and taking it as a start seems adequate at the moment. As has been mentioned here, the concept of mobility is strongly related to economic efficiency and its objective seems to go against accessibility in the sense that the latter needs to involve all people in a society but the former focuses on just some of them. This, in words of Dimitriou is explained because "freeing-up one party's movement can often have negative impacts on others or other parts of the transport system" (2006:3). For example, building highways for cars might, among other things, disrupt and block pedestrians and cyclists roads, making their previous road an inaccessible one<sup>3</sup>. Acknowledging this, Tyler states that "a failure to meet movement-based objectives will act as a disincentive to travel. However, failure to meet accessibility-enhancing objectives will prevent, rather than reduce, travel and thus would result in the exclusion of some people from society" (2002:13), thus creating further obstacles to their mobility.

If mobility is understood in a slightly different way as mobility in function to accessibility as in "mobility for opportunities, that is, mobility which allows the person to get to the desired destination" (Vasconcellos:2001:54), it could be argued that mobility and accessibility can be seen somehow as complementary instead of as exclusionary terms. In the end, from a right to the city perspective, "what matters is access and how transport may contribute to it, not mobility in itself" (Ibid).

Mobility is to be understood as a means and transport as part of those means but not as the only one. In words of Farringdon et al "spatial separation [a precondition for mobility and transport] is only one form of separation (others, for example, include age, gender, ethnicity, and income), and spatial separation may be overcome by means other than movement (2005:2).

Consequently, arriving to a typology of accessibility becomes important in order to be able to identify the different means through which accessibility can be improved. With respect to this matter, Dimitriou (2006) proposes a physical dimension that is conditioned by financial means, Tyler (2002) proposes an accessible journey chain centred in physical aspects (walking to bus stop, waiting, boarding, travelling,

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<sup>3</sup> Another example of this exclusionary relationship, takes place when in public transport the distance between bus stops or stations is increased in order to increase the speed and reduce the time used commuting, but at the same time preventing some people (the elderly, the disabled, etc.) to use the service as they can no longer walk the now longer distances from stations to their destination (Tyler:2002)

alighting, walking to destination, information about the service), Church et al. state that there is "a three-fold categorisation of the inter-related processes that determine an individual's ability to access the activities that they need to participate in mainstream society" (2000:198). These are the nature of time-space organisation in households, e.g., interaction between friends, relatives including the budget used to travel, the nature of the transport system, e.g., its cost, coverage, etc., and the nature of the time-space organisation of the activities and opportunities people are seeking to access, e.g. where and when those activities and opportunities take place (Ibid) and patterns of land use in the city (Handy:1997). Accessibility is thus represented in four different dimensions: financial (fare and expenditure of income in transportation), physical (physical barriers to be overcome to get to a place, e.g. distance, slopes, stairs, highways, etc), organizational (how transport activities and facilities are organised) and temporal (focused on the time used getting moved from one place to another, availability of vehicles at different times of the day and on different days, etc.) (Cass:2005).

For this research, three dimensions of the term accessibility will be used, the physical and the financial, duplicating Cass et al. conceptualisation, and an operational dimension, which could be summarised as the aspects of accessibility that concern with the way transport operates and how it is related to the different activities within a city, therefore involving the organisational dimension and an important part of the temporal dimension and particularly the interrelation between the two of them. This is done without forgetting about other temporal issues regarding accessibility such as the time (in)flexibility of people to control their schedule.

It is now clear that accessibility is a multidimensional concept that expresses itself in many ways, one of them being the mobility of people in the sense that lack of accessibility to transportation modes (from walking to mass public transport and also private cars) prevent people from moving and as a result prevent people from engaging in activities and opportunities, in other words, creates social exclusion, term also at the core of this research that will be defined next.

## **1.5 Social exclusion / inclusion**

As well as with the other terms, there is not a consensus about the definition of social exclusion and inclusion. To come up with a definition that keeps in mind the framework that has been built here it could prove suitable to go back to the accessibility discussion. As Madanipour argues "what is at risk is...mobility in relation to the accessibility to certain places and people when needed. Therefore 'the question of social exclusion and integration...largely revolves around access'" (2003:185). The Access – Social exclusion relationship is present in quite a few authors and is a key issue given the interest of this research. For example, Ureta defines exclusion as "the relative lack of motility needed to access opportunities and significant others" (2008:272), giving relevance to the free will in movement expressed in motility but especially focusing on access to opportunities as the key element that the excluded lack. Walker et al. state that social exclusion is a "dynamic process of being shut out, fully or partially, from any of the social, economic, political and cultural systems which determine the social integration of a person in society"

(Hodgson:2003:266, referencing Walker et al.)<sup>4</sup>, recognising the multidimensionality and dynamics of the concept and showing some similarities with the right to the city notion. It involves problems in the access to "participation in decision-making and political processes, [lack of] access to employment and material resources, and integration into common cultural processes" (Hodgson:2003:267, referencing Madanipour). This definition is complemented by different authors who add the existence of spatial manifestations of social exclusion (Hodgson:2003, referencing Madanipour; Preston:2006, referencing Hyne and Mitchell and Burchardt) such as at the neighbourhood level or at the city level, through concentration of diverse people under some degree of social exclusion of even scattered along a vast area.

Similarly, there is also recognition of a mobility dimension of social exclusion. As Kenyon et al. argue, it is "the process by which people are prevented from participating in the economic, political and social life of the community because of reduced accessibility to opportunities, services and social networks, due in whole or in part to insufficient mobility in a society and environment built around the assumption of high mobility (Kenyon:2001:210).

This is seen, for example, in the differential access of people to "high-speed highways, Wi-Fi hotspots, public transport, mobile phone coverage and all the other networks through which mobility is enacted in contemporary cities" (Ureta:2008:272) when trying to connect people, but more specifically, some people, to other spaces in faster and more economically efficient ways. Likewise, Cass et al. mention that "such exclusion [in the mobility field] results from some combination of distance, inadequate transport and limited ways of communicating" (2005:539). And as implied already here, some policies and projects focusing on the social inclusion of a particular group of people, might generate social exclusion for other groups (Dimitriou:2006).

Finally, and going back to Kenyon definition, it shows that accessibility, understood as the ability to engage in participation, becomes a precondition of social inclusion, understood as the participation of people in society (Farringdon:2005). In that sense "social exclusion is not due to a lack of social opportunities but a lack of access to those opportunities" (Preston:2007:153)<sup>5</sup>. That is why mobility and transport have so much importance and can, if addressed correctly<sup>6</sup> serve as a solution of access to the people who are socially excluded, because as Schönfelder et al. state "the socially excluded persons are also excluded from certain parts of the environment, mostly through the high generalised costs they face in reaching particular locations,

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<sup>4</sup> Or conversely, social inclusion as defined by Farringdon et al. as "the participation of people in society" (2005:4). Thus, social exclusion can be, in simple terms, defined as the lack of participation. It should be added that neither social inclusion nor exclusion are absolute categories and rather behave as processes instead of static states. What is more, given their multidimensional nature, there is not a straight line going from one situation to the other. This view is shared by several authors like Preston et al. who state "given that social inclusion is largely the reverse process to social exclusion, we will use the term social exclusion where processes are limiting participation in civil society and social inclusion where processes are encouraging participation in civil society" (2007:152).

<sup>5</sup> It should be noticed the emphasis on ability and on opportunity to engage. It gives recognition to personal and collective choice because in the end people "may choose not to engage with a „normal“ range of activities" (Farringdon:2005:5), self-excluding themselves, which is something that they have the right to do if that is what they want.

<sup>6</sup> Addressed correctly as in not considering transport-related solutions in isolation of the other dimensions that affect accessibility and social exclusion but also considering the different tools within the mobility and spatial dimensions such as land use planning and their relation to other strategies, e.g., income generation.



or any location for that matter" (2003:274). This causes further exclusion as it is more difficult to get a job and the social networks become more restricted (Ibid).

Hence, to fight social exclusion through increasing accessibility of excluded people (Cass:2005) sounds like a straightforward solution. But it does not mean that it is an easy one. The complexity of the multidimensionality of both social exclusion and accessibility and the need to a contextualised strategy, make it in the end an interesting journey to set up.

## **1.6 How these concepts relate to each other**

Having the right to the city as the underpinning theoretical force and knowing that it is mobility issues related to a public bus system where the research focuses, it is clear now that the relationship accessibility – social exclusion is at the core of the problems and obstacles preventing a substantive exercise of this right by all the people in a city. Without access there is no social inclusion and without social inclusion for the people who are not included there is no real right to the city.

Having said that, it must be remembered that improving mobility, often increasing speed of travel through new roads and faster and more efficient transport modes normally increases the movement (longer distances in fewer time and in a more comfortable situation), and hopefully the motility, but reduces general accessibility. This has as the effect of improving mobility for some and decreasing the level of accessibility for others, usually the poor, the elderly, children, women, the disabled, the unemployed, i.e., the social identities that are more likely to be socially excluded as the power relations in the society and within the household give them secondary roles in terms of the need for mobility as they are not normally an income earner or the head of household taking the decisions about who is to use the household resources destined to travel needs. Likewise, at the government level, where decisions about new investment in roads and public transportation as well as changes in the existent modes of transport take place, it is precisely these social identities the ones absent of the decision-making stage with the consequence that their needs are not truly considered when implementing those transport investments.

Now, in order to secure the right to the city efforts cannot only go to assure an 'adequate' level of provision of transport<sup>7</sup> so everyone has access to all the goods, services and opportunities that they want. This, as already mentioned, is essential, but not enough as it would only get to the distributional part of the right to the city. There is a need to involve users and socially-excluded communities in decision-making about the operation and management of the transport system (Hodgson:2003:265) and this, in a more general strategy of dialogue among all the different actors including transport operators, community representatives (Stanley:2008) and certainly government officials, in order to look for, and more importantly, to build local solutions taking into account different actors needs, wants and expectations. That would indeed be a more comprehensive way of a substantive right to the city with respect to mobility and transport.

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<sup>7</sup> Again often determined by the government in a top-down approach

## 2 TRANSMILENIO, THE BRT SYSTEM OF BOGOTÁ

This chapter presents the BRT of Bogotá, its origins in the late 1990's, its basic working principles and its achievements and at the same time compares the previous (and still working) public transport system of Bogotá, the traditional buses with the new BRT.

### 2.1 The previous public transport system and origins of Transmilenio

In 2002 Gilbert et al. stated "the curse of the private car and an anarchic private bus system are helping to convince the city that radical solutions are needed, even if this means taking in the entrenched interests of bus companies..." (2002:59). This quote shows the socio-political ambience that Bogotá lived in the late 1990's and early 2000's partly product of an extreme situation in its public transport service that for years had provided a bad service in terms of its quality, but that due to its importance (as the only transport service available to most of the population) had kept being an essential service to the city and its inhabitants.

Thus, up to 2000, Bogotá's public transport system was plagued with problems and perverse incentives with the bus company owners being the ones getting the most out of the system.

The public transport system used to work as shown next<sup>8</sup>. Firstly, it was not actually a system because each affiliating bus company worked on its own, without coordination with other companies in the business, getting the permission from the city authority of transport<sup>9</sup> to provide the transport service on a specific route previously determined by such agency. The company that had been allocated to that route affiliated then buses to provide the service in a lease-kind of figure (Cain:2006). The more buses affiliated by the company, the more money it got. Such was the rationale through which the companies worked and which produced a perverse incentive given the unconstrained will of these companies to earn more and more money without consideration of the consequences on the bus owners, drivers, users and the city as a whole, of affiliating more buses than needed, having as a result an inefficient service with buses carrying fewer and fewer passengers everyday.

On the other hand, the bus owners and drivers got their payment according to the number of passengers they carried every day as they were the ones collecting the fare directly on the buses. Thus, the drivers got involved in a tight rivalry for passengers where they got to the point of fighting against each other while driving on the same street at high speed in order to chase every single passenger on their route. This behaviour, colloquially known as the '*Guerra del centavo*' or '*penny war*' (Cain:2006;Echeverry:2005; Gilbert:2008), was in the core of these perverse incentives that guided the behaviour of drivers and users but also conditioned how the other actors on the street performed, and combined with a rather deficient

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<sup>8</sup> Actually, most of the public transportation of Bogotá has not changed the way it works and will continue running the business as usual at least until the beginning of 2011, when the Integrated System of Public Transport of the city, SITP for its acronym in Spanish, is supposed to start working (Transmilenio:nd).

<sup>9</sup> Usually claimed to be a public agency taken by transporters interests, its name and structure has changed several times in order to solve this problem (Gilbert:2008).

regulation of the service by the local transit authority, resulted "in low service quality, long travel times, high pollution levels, and high accident rates" (Cain:2006:4).

The reckless style of driving and the resultant no compliance with the city traffic laws, made driving, commuting, biking and walking on Bogotá's streets a rather dangerous activity given the high numbers of road accidents in the city (Cain:2006;Echeverry:2005)<sup>10</sup>.

The increasing numbers of buses working in the city, sponsored by the bus companies' way of running their business, and the lack of maintenance of the vehicles, sponsored by the way of driving and the inadequacy of the transit authority to monitor the level and quality of the service<sup>11</sup>, coupled with an increase in the acquisition of private cars (see Annex B) also meant a growing amount of vehicles riding on the streets of Bogotá, situation that caused more traffic congestions and longer time spent commuting for everyone (Ibid). This came accompanied by escalating air pollution and the consequent health problems that arose because of it (Ibid).

All in all, the problems just mentioned speak of the incredible disorganisation of the public transport 'system', dangerous and inefficient, that showed a generalised anarchy that different authors link to a problem of urban governance around the power of transporters and how they had managed to get their interests benefited along the years and normally against the general interest of the population (Cain:2006;Gilbert:2002)<sup>12</sup>.

It was in this situation that a BRT for Bogotá was finally decided as the ideal, if not the only choice, for the city. In 1998 when Mayor Enrique Peñalosa came to office the National government and the local administration had in mind the construction of a mass transport system given the increasing problems of mobility in Colombia's capital. A metro system was of course a very appealing choice for a city, whose continuously increasing size in terms of inhabitants, cars and subsequent number of daily trips, was already too much of a burden in order to keep the city running and given de permanent aspiration of the city to have a metro, evidenced by the 10 studies carried in the thirty preceding years (Cain:2006). However, the economic crisis starting in 1998 proved to be a decisive element in the final decision taken on the mode of transport that Bogotá was going to have. It is debatable to what extent the local administration was still hoping for an underground system while the national government, in the middle of the crisis, had left Bogotá's administration alone to raise the money needed to fund the project (Cain:2006;Gilbert:2008), which according to the same authors was the crucial factor in the ultimate decision to go for the BRT solution instead of the underground system.

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<sup>10</sup> Something especially dangerous for pedestrians and cyclists who were usually the most likely victims of road accidents, and certainly, not just a coincidence, these people were and still are normally poor people.

<sup>11</sup> Which is associated to political reasons related to the power the transporters have in the city (Gilbert:2008).

<sup>12</sup> However there were also good things about this „system“ of transport. Cain speaks of “extensive route coverage and frequent service” (2006:4) although the latest was especially true for the main avenues. Also, the relatively accessible fares which in many cases could be bargained with the driver helped poor people to be able to move even if it meant an important portion of their income. But this, along with other features resulted in a service not completely formal, hence the use of the word „traditional“ when researchers refer to it (Cain:2006;Gilbert:2008).

On the whole, in 1998 Bogotá embarked itself on the implementation of the BRT system that the two levels of government finally approved, a solution much cheaper and faster to build than an underground, and one that certainly became a good example of 'third world' initiative and had political dividends to the local administration after its early success (Gilbert:2008). In the end, it was Curitiba's BRT system the one taken as a model by Peñalosa's administration to design and implement Transmilenio<sup>13</sup>.

## 2.2 Transmilenio, the new BRT system of Bogotá

Given the situation in which the city and the traditional public transport service were through in the 1990's, the scheme designed by Peñalosa's administration was in need to address the disorganisation of the whole system and the perverse incentives that drove it. Thus, the BRT was implemented through a Public Private Partnership with the government building all the infrastructure needed to provide the service (bus-lanes, stations, garages, bridges and complementary infrastructure) and the private partners providing the service with their own buses with the regulation of a new public agency (Transmilenio S.A.)<sup>14</sup>. It was also established that the collection of fares would be done by a third party in charge of performing that function at the entrance of every station and then the revenue managed in a fund through a fiduciary. The provision of the service was divided into two modes, the trunk mode, served by articulated buses running through the exclusive bus lanes built for the system and the feeder mode, served by buses running on streets with mixed traffic that take passengers from residential neighbourhoods, mostly poor ones, to the main stations of the system<sup>15</sup> (Gilbert:2008).

The operation of each route or "troncal" is put out to tender with predetermined fare levels, with the winner being the bidder with the lowest tender. With this process the affiliating companies of the past were no longer in the picture and the competition on the road, the 'penny war', was replaced by competition for the road in the form of the tender process (Echeverry:2005), with all the drivers now being employees of the companies operating each route (seven in the truck mode and eleven in the feeder mode) and the number of vehicles, articulated and feeders, being determined technically by Transmilenio S.A. following what has been stated in the contract between each operator and the city administration, which prevents the overcrowding of the exclusive lanes. The incentives to not maintain the buses in good shape were

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<sup>13</sup> Although it was Peñalosa's administration the one that decided to implement Transmilenio, it must be mentioned that it came in a context of important changes happening in Bogotá in the 1990's. These changes ultimately transformed the city, which in many cases started to be considered an example to be followed and studied. Among the elements deemed as playing a key role in this transformation are a change in the administration of the city that ended the co-administration of the City Council and diminished clientelism in a big proportion, the fact that good mayors were elected and they, with different focuses, managed to implement initiatives that the city needed and also continued the successful projects of preceding administrations, and the availability of more resources to invest, all in a broader environment of decentralisation and privatisation of inefficient public utilities (Gilbert:2006).

<sup>14</sup> Its official name is Empresa de Transporte del Tercer Milenio, Transmilenio S.A., and it is in charge of managing and monitoring the BRT system of Bogotá. (Transmilenio S.A.:nd).

<sup>15</sup> It should be noticed that people do not pay any fare for using the feeder service. They pay the fare as soon as they enter the stations. Given that this service has been mainly implemented in poor neighborhoods, it acts as a cross subsidy that people not using the feeder buses (in theory richer and commuting shorter distances) pay to the system so the people commuting longer distances when using the feeder are exempted from paying it.

also cut down because the operator remuneration is affected by the quality standards with which the service is provided. (Ibid)

The system, that started operations in December 2000 and in its first phase comprised the 'troncales' (trunk bus lanes) Av. Caracas, Calle 80 and Autopista Norte, was complemented in the following local administrations of the city under Mayors Mockus (2001-2003) and Garzón (2004-2007) with the second phase that added the 'troncales' Av. NQS, Av. Américas and Av. Suba and by Mayor Moreno (2008-2011) who is at the moment when this paper is being written, implementing the third phase with the Carrera Décima and Calle 26 under construction. Tables No. 1 ('troncales' already in operation built for phases I and II) and 2 (phase III 'troncales' currently under construction), below, show general information of each of the 'troncales' of the system up to date. However, with the original plan of 387 km-lane of exclusive busways for Transmilenio first thought to be finished by 2016 (DNP:2000) and then by 2029 (TM:2007), the 84 km-lane that have been built so far represent only around 22% of the total. If the 19 km-lane of phase III are added, which will be possible in 2011 when it starts operations, totalising 103 km-lane, the percentage will get to 27%, far away from the 44% that according to the CONPES No. 3093<sup>16</sup> (DNP:2000) should have been built by 2006 (year when the current third phase was supposed to start operations). With respect to what has been implemented up to 2010 the phase III shows serious delays<sup>17</sup>, e.g., the current problems with the Calle 26 'troncal', the uncertainty of the construction of the Carrera 7 and the fact that originally phase III also included Av. Boyacá, a major road in the west of the city that was not included in the end as was the plan in the Transmilenio framework plan of 2003 (TM-IDU:2003)<sup>18</sup> and that was finally excluded in 2007 due to fiscal shortages (TM:2007).

It was through this new way of management of the mass transport system that the usual disorganisation on the traditional public transport service in Bogotá was changed for an entrepreneurial scheme that gave priority to efficiency and quality in the service with improvements in road safety with fewer road accidents, better air quality as a result of less traffic congestion and subsequent faster speed of buses on the system, clearer information to the users, one flat fare for everyone using the system, off-board fare collection, no operational subsidy, gains in travel times with a resultant improvement in the quality of life, professionalization of the bus companies and stability and better income for the now employee drivers (Echeverry:2005). This is the BRT system that works at the same time with the traditional 'system', which is to be drastically changed from 2011 on in order to establish the integrated system of public transport (SITP) that includes Transmilenio and that is supposed to work according to the same principles covering the whole extension of the city. Nevertheless these benefits and positive changes brought by the implementation of

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<sup>16</sup> The CONPES No. 3093 is the official document issued by the central government that gives life to Transmilenio as it assures the existence of national resources for its implementation in the future.

<sup>17</sup> The third phase has been involved in a controversy since its beginning due to the initial decision of not building the Carrera Séptima „troncal“ taken by mayor Moreno, who centred his mayoral campaign in building the first metro line of Bogotá (Gilbert:2008). The controversy has increased given the slow start in the construction of the bus lanes and the evident incompetence of the initial winner of the tender for the Calle 26 „troncal“ who has ceded the contract to a different company (El Tiempo:2010a).

<sup>18</sup> However all these arguments, it could also be said that the expansion of the system has been somehow successful as it has been performed through four different local administrations, all of which have continued its implementation although not all of them with the same will.

the BRT<sup>19</sup>, there have also been problems in terms of how it has affected and in particular, socially excluded, some people in the process. These issues will be discussed in the next chapter.

**Table 1. Generalities of Transmilenio phases I and II**

Phase	Phase I			Phase II			Total
	Trunkway	AutoNorte	Av. Caracas	Calle 80	Av. Américas	Av. NQS	
No. stations*	15	32	14	16	23	14	114
No. Terminal-stations	1	2	1	1	1	1	7
Length (km-lane)	10.3	21.8**	10.1	13	19.3	10	84,4

Source: Transmilenio, 2008

\*Including single stations, intermediate stations, transfer stations and end of line stations

\*\*Including the 1.9 km. 'Eje Ambiental' extension

**Table 2. Generalities of Transmilenio phase III**

Trunkway	Calle 26	Carrera 10	Total
No. stations*	14	11	25
No. Terminal-stations	1	1	2
Length (km-lane)	12.2	7.7	19.9

Source: Transmilenio, 2008

\*Including single stations, intermediate stations, transfer stations and end of line stations

<sup>19</sup> Additionally, Transmilenio has worked as a trigger for major urban changes such as urban regeneration projects especially in public spaces (See Appendix A for a more detailed account of them).

### **3 EMPIRICAL ANALYSIS: TRANSMILENIO AS A PROMOTER OF SOCIAL EXCLUSION**

This section is planned to respond to the issues raised in the conceptual framework in relation to the experience of Transmilenio. The analysis focuses on the right to the city and the different ways this right and social exclusion have or have not been enabled through the implementation of this transportation system. This will be done using, when possible, data collected by Datexco-Transmilenio and the Secretaría Distrital de Movilidad-SDM<sup>20</sup>, and comparing, when information is available, the traditional system and Transmilenio. Research carried by other authors will also be used. The analysis will start with the fare charged to the users as it is a fundamental aspect and then will consider physical and operational issues.

#### **3.1 The high fare and financial (in)accessibility**

Transmilenio was thought as a public transport that would make the city a more inclusive space for all the people living there. Its implementation was, in theory, with some of the first 'troncales' going to poor neighbourhoods and having feeder routes (at no cost for the users) particularly in those poor neighbourhoods, a way to diminish the gap in public service quality provided to the rich and to the poor. And it was true, at least to a certain extent, because people indeed got a public transport service that goes to poor areas as well as to rich areas and provides the same level of quality. People who previously needed to take more than one bus to get to their destination were benefited with Transmilenio as they only need to access the system once, paying one fare, and are able to take as many buses as they want provided they do not leave the system, while in the traditional service they have to pay for all the rides.

The problem, however, comes with the fare itself, as it is expensive by Colombian standards, making the system financially inaccessible for some people even if the stations are at walking distance from their homes. Its first fare was established in COP\$800 (US\$0,36, exchange rate taken from <http://www.oanda.com>, 31/12/2000=COP\$2,232.00) in December 2000, since then, in less than 10 years it has increased up to COP\$1600 (US\$0,87, exchange rate taken from [www.oanda.com](http://www.oanda.com), 31/07/2010= COP\$1,830.35), which means an increase of 100% in local currency (without discounting the inflation) and of 143% in US dollars. For the traditional public transport of Bogotá (the one that existed before Transmilenio and the same that was moved out from the 'troncales'), the average fare of the different categories existent in December 2000 was COP\$739 (US\$0,33), and in 2010 it has gone up to COP\$1285 (US\$0,70). The corresponding percentage increases are of 74% in colombian currency and of 111% in american dollars (see Annex C). Even if part of the increase in dollars is due to the appreciation of the Colombian currency in the period, it is still considerably high for a developing country.

And things get worse if they are seen from the people socio-economic stratum. In 2004, according to the capacity of payment survey (CPS) carried by the Universidad Nacional (CID-UNC:2004), on average a household in Bogotá, spent 15% of its

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<sup>20</sup> The administrative structure of the Capital District of Bogotá is divided into thirteen sectors, being mobility one of them. The Secretaría Distrital de Movilidad is the public organisation head of that sector to which Transmilenio S.A. also belongs to.

income in transport and communication. For the socioeconomic stratum 1 this percentage went up to 19,1%, 16,9% for the stratum 2, 15,5% for the stratum 3 and 14,3% for the 4 while the strata 5 and 6 used to pay just 12,7% of their much higher income. Given the already low income that people of low socio-economic strata earn, this comparison just shows that these people have suffered more than anyone with the increases in the public transport fare, because although for middle income and high income people the amount of money spent in transportation might be higher, "the opportunity costs are not as substantial, because their earnings allow them to meet their basic needs" (Muñoz-Raskin:2010:73) or would not force them to work extra-hours as would happen with low-income people. Thus, hypothetically, Transmilenio users would not be the poorest people in Bogotá because these people could not afford the fare<sup>21</sup>. Because the fare, the current one as well as the level it has had in the last few years is for many households a prohibitive one that worsens their social exclusion and can even get some people "landlocked in marginal peripheral areas, without adequate access to the areas where the job pools exist in the city" (Muñoz-Raskin:2010:73) and not only the jobs, but in general terms, all the spaces of social integration and participation that a city may have and that are constitutive of the right to the city of all those people who are not actually being able to access those places<sup>22</sup>.

It is of relevance then to know who the users of Transmilenio and of the traditional system are. The public transport service amounts for over 6 million trips per day or around 69% of the total number of trips made daily in Bogotá (SDM:2007). Out of this amount, Transmilenio makes roughly 1,5 million trips a day while the traditional system makes the other 4,5 million trips (Ibid). This tells that while improving the quality of public transportation with the BRT is an important accomplishment, there are still 75% of public transportation trips, made in traditional buses, which are not getting any additional benefit.

Notwithstanding what have been just mentioned, poor people are indeed users of Transmilenio. To check this statement, data from SDM<sup>23</sup> and from Datexco<sup>24</sup> is to be used. The SDM public transport user satisfaction survey (SDM:2010) shows that while 48% of the people who use the traditional system are poor (socio-economic

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<sup>21</sup> The minimum monthly wage in Colombia for the year 2010 is COP\$515.000 or US\$281, if everyday a person travels in Transmilenio twice, with a fare of COP\$1600, e.g. from their home to their place of work/study and then go back home, it means a monthly expenditure of COP\$96.000 or US\$52, which is around 19% of the minimum wage, close to what the CPS data on expenditure on transportation shows for stratum 1 (Betancourt:2010).

<sup>22</sup> Thus, it is not just the fare, considerably high anyway, but its relation to the traditional public transport fare and to the income people earn. With regards to the income, the proportion of it involved in using the BRT periodically rules out the use of Transmilenio for households and individuals with not enough resources, leaving them with two choices, either taking the cheaper traditional system or walking to their destinations, and in both ways limiting the amount and type of destinations they can access, further excluding them from the society in terms of all the choices that people with more income have.

<sup>23</sup> This data comes from the Bogotá Public Transport User Survey, an official survey implemented by the SDM that asks public transport users and citizens in general about how satisfied they are with the different modes of public transport that work in Bogotá. Among the problems that this survey might have, there is the fact that up to August 2010 there has been only one survey, which does not allow for comparisons in time to be made.

<sup>24</sup> The Datexco data comes from the Transmilenio User Satisfaction Survey, also an official survey carried by Datexco for Transmilenio S.A. This Survey only provides information on the BRT and as well as the SDM survey it was only possible to obtain data from one month. Although the data of preceding months exists and was asked for, it was not provided by Transmilenio S.A.



strata 1 and 2) and 41% are middle class (stratum 3), these percentages are 43% and 42% respectively for the users of Transmilenio. The 12% and 15% that are left are high middle class (strata 4 and 5) to high class (stratum 6)<sup>25</sup>. Therefore, although the distribution of both type of users roughly follow the socio-economic distribution of the population, there are more poor users in the traditional system and more high middle class to high class users within Transmilenio, situation that can be partly understood by the differential in fares that both systems have. In the middle and low middle classes, which correspond to the stratum 3, the most predominant in the city, there is fairly the same proportion of users. And knowing that for every BRT trip there are three traditional bus trips, then the benefits that come with Transmilenio are enjoyed by fewer poor people. According to the SDM survey (2010), proportionally to the population of Bogotá<sup>26</sup>, it is more rich and middle income people than poor people using the service, the latter having to make do using the traditional system with all its problems. The poor people, or better, the poorest, the ones who cannot afford the Transmilenio fare are forced to use a inefficient mode of transport that is also more dangerous (affecting their capacity to move and their access to multiple choices that they might want or need), being as a result excluded from certain activities and opportunities, i.e., socially excluded, and ultimately not being able to exert their right to the city, which can be interpreted as a need for lower fares, at least for some people, and that means a need for operational subsidies, something that the local administration of Bogotá at least needs to start considering.

Thus, the implementation of the BRT has affected the way people enjoy their right to the city. The change from the traditional public transport to the BRT is of importance not just for it self. It should be argued that the modernisation of Bogotá's transport is not an end but a means to achieve something more. Those additional elements are mobility and/or accessibility. Having just examined financial accessibility, it is time now for physical/operational accessibility aspects that are also directly linked to mobility objectives.

### **3.2 Physical and operational (in)accessibility issues regarding the implementation of Transmilenio**

The implementation of Transmilenio has increased mobility through faster speed on the BRT 'troncales'<sup>27</sup>. But it has done that regardless of the slower speed on roads

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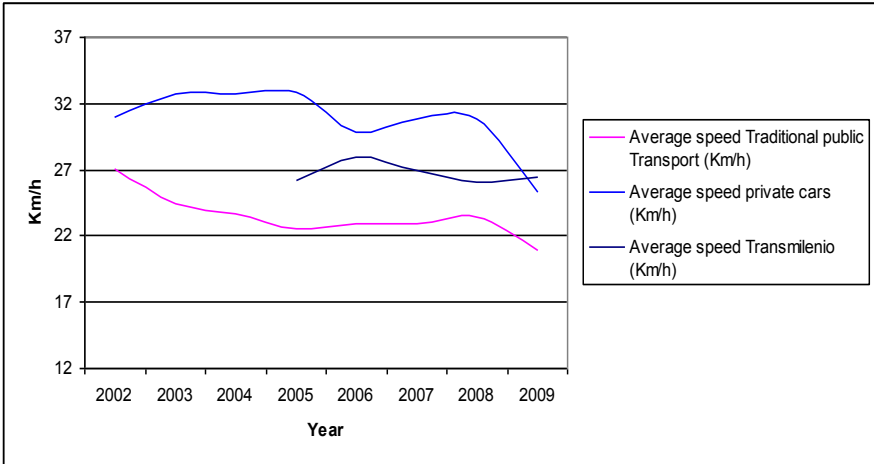
<sup>25</sup> The data from the Transmilenio user survey presents a different situation, with 6,72% and 40,15% of users in strata 1 and 2 (which corresponds to 46,87% of users coming from low stratum as characterised in the SDM survey), 42,44% of users from stratum 3 (middle stratum in the SDM survey), and 9,12%, 1,41% and 0,15% of users from strata 4, 5 and 6 (for a total of 10,68% of what corresponds to high stratum in the SDM survey). This data tells that BRT users would be poorer people than what the SDM survey tells. However, as it does not have information on the traditional system it does not allow comparisons between them, which is, in the end, what the SDM survey gives and what can be taken from it even more than the percentages themselves.

<sup>26</sup> The city population distribution according to the socioeconomic strata given by the Datexco survey (2010) is: stratum 1 7%, stratum 2 37%, stratum 3 43%, stratum 4 7%, stratum 5 3% and stratum 6 2%.

<sup>27</sup> It is quite telling that the SDM survey (2010) shows that the element that Transmilenio users highlight the most out of its service is the fast speed it has, while for the traditional service it is the economic fare and the short distance between the place people get off (anyplace as there are no bus stops) and their final destination. Unsurprisingly, the Transmilenio fare is rated extremely bad (expensive) among its users, just being beaten by the respect people show towards the others in the system, also the worst rated element by the traditional system users.

with no BRT where the traditional public transport works (see figure 1)<sup>28</sup>. This increase in mobility, given the fact that Transmilenio can only be built (with national funds, DNP:2000) if there is enough demand so there is no need for operational subsidies from the state, is materialised through the construction of 'troncales' that connect residential areas to work/study places, therefore carrying thousands of people periodically to their usual destinations and back home, argument also presented by Dimitriou (2006). And there is actually nothing wrong with it as that is the technical solution given to a problem of mobility that functions for quite a lot of people, resulting in an increase in speed, even getting faster than the speed recorded for private cars and being praised by many around the world. Indeed, movement, and consequently mobility, have increased for those using the BRT in a city where the amount of infrastructure works in the last couple of years has literally bombarded all the major roads obliging the local administration to establish an even stronger restriction on private cars that cannot now circulate on the city streets twice a week from 6 a.m. to 8 p.m. (AMB:2009).

**Figure 1. Speed of some transport modes in Bogotá**



Source: Secretaría Distrital de Movilidad, Transmilenio S.A., 2010.

The difficulty arises because there has not been an effort as strong in political will and in technical solutions as the one showed with the BRT, to solve or even to redress people accessibility problems, some of them caused or worsened by the implementation of Transmilenio<sup>29</sup>. Apart from the financial inaccessibility caused by the high fare that affects particularly poor households, there are problems with physical accessibility as well as operational accessibility as defined in the first chapter, both of them being strongly linked.

<sup>28</sup> This can be explained by the expulsion of all kind of cars from the BRT roads given the decrease in space allocated to mixed traffic on those roads. This traffic, that moved to different no-BRT roads was particularly hit by the low level of old traditional public buses scrapped by the new BRT operators, not meeting the terms established by the contracts signed by them in order to provide the service, specially for phase II. This produced an excessive number of buses (some of them working illegally) operating on no-BRT corridors, the ones that already had a low speed, exacerbating the situation of traditional transport and the people using those corridors (Echeverry:2005).

<sup>29</sup> Echeverry et al. (2005) show after an economic evaluation of Transmilenio that so far the social costs that it has caused (in terms of negative externalities placed on people using no-BRT corridors) are bigger that the social benefits enjoyed by the Transmilenio users. This trend, they argue, will continue until Transmilenio is spread along the whole city so its direct benefits can be enjoyed by most of the population and the negative externalities become marginal.

The implementation of the BRT in Bogotá has brought problems of physical accessibility in two different ways. One, related to the problems accessing the system for its users and the other to the problems caused to the traditional system users due to the operation of the BRT in the city.

Regarding the first kind of problem, people who in the past did not need to walk long distances to take a bus now need to walk to the stations, taking more time in getting to the place where they can access the service. What has happened is a trade-off between movement and accessibility. There is less accessibility, as in the past there were not fixed bus stops and people could take a bus at anyplace along the route and now that distance might become an obstacle for some people, but in exchange, the service is faster, more efficient for the people able to take it, as expressed in the first chapter following the definition of mobility given by Tyler (2002) (mobility= movement+accessibility). This, as argued by Tyler, prevents travel and results "in the exclusion of some people from society" (2002:13). As mentioned again in the first chapter, the inclusion of some people can cause the exclusion of other people by creating obstacles to their movement and therefore making their journeys inaccessible (Dimitriou:2006). Thus, the implementation of the BRT that encourages the social inclusion of some, its users, also encourages the social exclusion of others, the ones that cannot access it.

These people would be mainly the disabled, the elderly and the children and their carers. Unfortunately, the SDM survey does not provide data about those social identities. But the Transmilenio user survey does, at least for age-based identities, and shows that while people over 60 years old represent 12% of the total population of the city, there are only 3,21% of users of the BRT of this age. Similarly, for teenagers<sup>30</sup> (12-17 years old) although they represent 21% of the population, only 5,65% of users come from this age. Clearly, people these ages are underrepresented in the system. Thus, the elderly might indeed be being excluded from the system as they might find it more difficult to get to the stations or pay the fare in the same way that teenagers might find the system financially inaccessible, even if they have no problem in getting to the system.

It will remain a hypothesis backed by inconclusive data that these people tend to not use Transmilenio because the system is not accessible to them (financially, physically or operationally), which means that a more thorough research that makes use of also primary sources is needed. Anyhow, it must be said that for example for the disabled, the traditional system is not accessible at all as there is not room for wheelchairs, nor low-floor buses (FTA:nd), ramps or other tools that make it accessible. So in this situation, the disabled, if they are close enough to the system they would be lucky and could access it, otherwise, they would be as socially excluded as in the past given the fact that traditional buses are not suitable for them.

A further problem arises due to the way the system operates in exclusive corridors where the traditional public transport cannot work. People who are not able to access the BRT and who live close to Transmilenio 'troncales' find themselves in a difficult situation as they do not have another public transport option available and walking to

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<sup>30</sup> Interviewing children under 12 in Colombia is difficult because according to the law they need to be accompanied by their parents, that is why these surveys do not provide data on children.

find it or walking or using another non-motorised mode of transport to their final destination become the only choices for them. And even if people can physically do that, they are being excluded from a significant part of the city, their quality of life is getting worse-off as they have to spend longer time commuting and their participation in society is being limited, not to say crushed. Now if people cannot walk to find other transport modes then the social exclusion is even bigger. Thus, through the scheme Transmilenio has been implemented, through phases, it has not considered the situation that many people live every day, their struggle to find a suitable way to get to their destination, work, study, visit, shopping, leisure, etc., and in the end to feel that they are truly a part of the society and not what it leaves behind. But it has been the way, the political agreed way, through which the city has been able to change the public transport service, and something that sooner than later had to be done. In the end, there is a need for a balance, for a more socially inclusive mode of transport for everyone<sup>31</sup> and as long as the situation stays the way it is, the traditional system will remain as the only transport mode, despite all its limitations, that somehow enables the right to the city of the people who do not have access to Transmilenio.

Other issue, barely mentioned so far, regards the accessibility problems for the BRT users caused by the system coverage. As the system was thought to be completed in eight phases, originally up to 2016 (DNP:2000) but now up to 2029 (Transmilenio S.A.:2003), the lack of coverage in some parts of the city needs to be considered. As figure 2 shows, so far the west of the city has not been properly covered as there is not a single 'troncal' going through the west although there are quite a few that go from east to west plus some of the feeder routes. However, what it means in terms of accessibility is that by default, many people are excluded from the system as it does not cover their neighbourhoods or destinations in the west in an efficient way. Provided there is a trunk and/or a feeder service available, it most likely takes a long time and therefore becomes an unwanted choice because either people are not willing to wait or they are forced to do it as they have no other choice. Either way, the system and the way it has been implemented does not promote social inclusion in that respect, and on the contrary, might prevent a truly enjoyment of the city of some of these people. Of course, sticking to the schedule and waiting until 2029 for the whole system to be completed does not seem like a choice, but in the meantime there is an urgent need to modernise the rest of the public traditional transport. The SITP, the modernisation and integration once and for all of the whole public transport system in Bogotá, seems to be the right step to follow, but it is the process taken to implement it, as well as the time spent on it, the ones that will tell how inclusive and promoter of the right to the city it will be<sup>32</sup>.

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<sup>31</sup> Following Echeverry et al.'s (2005) claim for the completion of Transmilenio's network, what seems relevant is that in the end what is needed is a decent system for all. The integrated system, if done properly, again seems to be the solution as it, in theory, includes all transport modes and looks to provide a good service in all of them.

<sup>32</sup> The fare for the SITP has been being calculated in secrecy among the technocrats of the local government and some private international consultants very well known in the field and hired by the Mayor to develop such products. Private negotiations with transport companies to determine the level of the fare cannot be ruled out given that secrecy. Nevertheless, the users, and the citizens in general, have not had any role on those discussions.

**Figure 2. Map of the Transmilenio system, 2010**



Source: Transmilenio S.A. 2010.

The second type of problem regards inaccessibility for no-BRT users. This issue might also be classified as part of the operational dimension of accessibility, as it is similar to the problems just mentioned. As said in the first chapter, the operational accessibility takes into account how the service is provided, which encompasses several elements already explained. What needs to be said here is that the people who do not live close to the BRT stations are being excluded by default. They need more time and money to access those destinations along the BRT routes and in case they go to other places, they make use of the obsolete and dangerous traditional system. And as explained by Echeverry (2005), the negative externalities that the implementation of Transmilenio has had in the rest of the city, particularly in the no-BRT roads, just renders a negative outcome in terms of pollution, congestion, road safety, and in general, quality of life of the ones forced to use it as their only option. And as this situation has extended in time and there has not really been a solution proposed, then all these people end up suffering from spatial segregation as they find themselves in a place where they cannot get out as there is no accessible transport so all their opportunities are bounded to that space where they are landlocked, but that only means that there is no escape from that space and the elements that interact there that produce and reproduce such spatial conditions.

Finally, in what respects to accessibility, there is a time-space dimension that has to be addressed, and it is the need for accessible transport through day and night. That is something that due to financial restrictions Transmilenio does not provide, but it has to be considered, especially in poor neighbourhoods where the availability of private cars is not the norm. The lack of public transport at night prevents the right to the city of many people and their involvement in multiple activities and opportunities. It could be argued that it affects particularly young people but also prevents the general mobility of the city at night, diminishing its economic efficiency and preventing the development of economic activity. If that has been the outcome produced up to now by all the different actors involved (government at national and local levels, transport companies, drivers, users in a very marginal way, other sectors companies, law and traditions, the streets of the Bogotá, etc.) is one thing but a political and

technical debate on the topic would only do good to the city towards the future. That debate should take place in the preliminary stages of the implementation of the SITP, which seems unrealistic as that occurs at the time being.

### **3.3 An approach to a household level analysis by social identities**

So far the analysis has focused on looking at poor and non-poor people with some comments on age-based identities. However, the data obtained allows for a deeper insight into the household, where the stated by Church et al. (2000) becomes relevant in terms of the interactions between family members with respect to the access to the public transport system and the nature and structure of trips made by them and this in a situation of power relations acting within the household. The two surveys show an interesting sex distribution in the BRT users. While the proportion of females in Bogotá is around 52% (48% males), the BRT users are 49,12% females for the Datexco survey and 48% for the SDM survey. For the traditional system the SDM data has a 50%-50% distribution between males and females. This tells that women do not use Transmilenio as much as they could. There are several hypotheses to explain it.

First of all, the self-imposed social exclusion backed on the fear women might feel when using the BRT given the increasing number of episodes of sexual harassment suffered in a situation of more crowded stations and buses every day. This would make women prefer to use the traditional service where they represent 50% of users and sexual harassment does not appear to be as usual. Secondly, the BRT network might not be serving women's needs of as much as it does with men. As mentioned here, Transmilenio is focused on high demand corridors (linking home to workplaces) where the destination for some women might not be, e.g., as housewives and carers in a family their needs might not be satisfied by the BRT and in some cases by any public transport mode, which in the end will socially exclude them. Third, given the high fare, in poor households women could be more likely than men not to be able to pay it as the household budget might be controlled by men and because of that men transport needs can be considered more important than women needs but also because women, even when having the money, tend to spend it in food or other basic goods for the family (Levy:1992). Anyway, this speaks of the action of power relations present in the household in a society like Bogotá, where men tend to be the decision-makers.

This outcome matches what is found for people who take care of housekeeping activities, normally a female role in the colombian society, who are 13% of users of the traditional system and only 8% or 5,53% of users of Transmilenio (respectively, for SDM data and for Datexco data). This reason would also apply to the low numbers of teenagers and older users of the BRT (e.g., according to the SDM pensioners use the traditional system more than Transmilenio, and for Datexco they only account for 1,76% of the BRT users). Similarly and related to what has been just presented, workers represent 56% of users of Transmilenio and only 48% of users of the traditional system in the SDM data (Datexco has different data on this field but it is confusing as some categories in the economic activity performed by users are not clearly defined). Unemployed people are, on the contrary, less inclined to use Transmilenio (11% in the SDM survey and 3,89% according to Datexco) than

traditional transport (14% in the SDM survey), which jointly with the data on workers gives a good hint of who is able to use what kind of public transport in the city.

With students, the available data is not clear as the SDM survey just considers people aged 16 and over, so most of the students would be attending university and not primary/secondary school. In any case, full time students account for 16% of the users in the SDM survey and 20,92% in the Datexco data, compared to 12% of students who use traditional buses. However, increasing episodes of protests and blockages of BRT corridors in the last two years (see table 3), in many situations involving high school students and related to the constant overcrowding in stations and buses, accidents<sup>33</sup> and the high fare, speak of high inconformity, particularly from students, who in the end are being left out of the system without their voice even being heard.

In general, it appears as if, given the Transmilenio high fare amidst household budget restrictions, the income allocated for transportation, and extensively for Transmilenio, goes first for the workers in the household (where a man tends to have this role), in a manifestation of power relation dynamics, leaving the rest, if any, for the other members of the household (women, children, teenagers, students, the unemployed, the elderly, the disabled) who proportionally cannot use the BRT in the same way and have to use the traditional system in case they can.

**Table 3. News related to Transmilenio corridors/service blockage by users (El Tiempo c:2010)**

Year	No. of News related to BRT corridors/service blockages
2001	43
2002	15
2003	9
2004	17
2005	16
2006	44*
2007	36
2008	15
2009	16
2010	23**

Source: El Tiempo-Bogotá section, 2010

\* Phase II started operations

\*\* Up to August 8th 2010

All the data, news and articles analysed show a differential use of public transportation in the city of Bogotá that is causing problems in the way people are able to exert their right to the city, as defined by Lefebvre and Dikeç, as they do not have in some cases accessibility as the public transport system, the BRT and the traditional buses, both have shortcomings that prevent the participation of some people in the activities developed in the city and that do not allow them to exercise their motility at any given time.

<sup>33</sup> Even including the death of teenager students trying to access Transmilenio stations illegally (El Tiempo b:2010)

However, accessibility and the right to the city have been so far only considered in their distributional aspects with regards to the substantive availability of a public transport mode. There is a need to go deeper and take into account the political participation of people in the decision-making process that determines the construction and operation of a public transport mode that affect in such a great way all people in Bogotá. It is of not surprise that people, not even users of public transportation, have no voice in these decisions. Given how important it is to have access to public transport that connect people to the activities and opportunities all around the city, their involvement in those processes and later on in the monitoring process, in the establishment of user fares, etc., should be at least, considered. Only in this way, truly exerting the right to the city in the political realm by participating in those decisions (what Dikeç-2001 defines as socio-spatial justice) and understanding what is at stake, much more than just a transport mode in it self, but the possibility of millions to enjoy their city and freely decide where and when to go, people will have a chance to make Transmilenio, and later on the SITP, a transport system that does not socially and spatially exclude them from their city.

It is then because of this that the different public transport modes that work in Bogotá need to be accessible to everyone through adequate coverage, affordable fares (through subsidies) and according to the physical needs of the people. This issue will be presented as part of the conclusions of this research as a means to propose, in some cases, a way forward to the future with regards to the problems that have been identified here.



## 4 CONCLUSIONS

What has been argued here is that even though Transmilenio is a more modern and efficient public transport mode than the traditional buses, it is, by no means, a perfect solution. In terms of how it promotes the right to the city of the people living in Bogotá, there is room for important improvements as although it is beneficial and socially inclusive for its users, some of them poor people, it is not so for the rest of the population, particularly, the traditional system users, most of them poor people, who are experiencing further social exclusion and the impossibility to exert their right to the city.

Although thought under the rhetoric of inclusion and equality, the way Transmilenio has been implemented enhances the movement of some people, men, workers and the non-poor. This has been done through a less accessible system that makes people walk longer distances as stations are farther away from each other than in the traditional system (with no fixed bus stops). Given the road exclusivity the BRT has, mobility has also been reduced for the traditional system users as the travelling speed has diminished in part due to a displacement of traffic from BRT corridors to non-BRT corridors. This problem affects all people in Bogotá, mainly the poor.

The high fare users have to pay to access the system is a major problem that prevents the use of this transport mode by many people, socially excluding them. People who are more affected by the fare are the poor, particularly the poorest people, as well as the women, the teenagers, the elderly, the unemployed, who are also experiencing social exclusion as their accessibility to Transmilenio might be being limited by power relations within the household and are forced to use the traditional system, which becomes, for them, in mobility aspects, an enabler of their right to the city despite all of its problems.

A special treatment deserves the disabled as these people have been granted access into the system (ramps, low-floor buses, etc.) provided they are close enough to get to it. However, if they cannot access the system e.g., due to long distances to the stations, the traditional buses are not an option because they are not accessible, leaving them in a situation of social exclusion.

It was clear along the analysis of the need to take into account all public transport modes and in the end of having an integrated system of public transportation accessible for everyone and one that meets everyone's needs in terms of coverage, times, no obstacles, affordable fares, etc., in a way that the right to the city is substantively guaranteed to everyone. That is especially important as some public transport modes might be tailored for some kind of activities while others would supposedly respond to other needs. Analysing Transmilenio on its own would result in an incomplete exercise that does not show a full picture of the situation.

The need to make Transmilenio, and an eventual integrated public transport system, accessible to everyone in order to provide a transport system functional for the right to the city of people is a call for subsidies. The current cross-subsidy between people who commute short distances and do not use the feeder service (usually people with higher income) and the ones who travel long distances and use the feeder buses is not enough to make the fare affordable to everyone. In this situation, and even with

all the negative impacts that subsidies have (Serebrisky:2009), there is a need for preferential fares for some social identities, such as the elderly, the children and youth, the students and the disabled. Although the National Congress has already approved the law 1171/2007 (Congreso:2007) where this fare for the elderly is already guaranteed, the local administration has not taken it into account in the establishment of the user fare of either Transmilenio or the SITP nor has it been an issue studied by the private consultants contracted to work in similar matters. Users and citizens have not been considered in the discussions, political and technical, around this topic. With the starting point of the SITP coming in 2011 this issue needs to be addressed immediately when concession contracts with the private operators have not been signed yet.

Other elements, regarding the physical and operational accessibility of the system should also be considered. There is a need to examine the use women are making of the different public transport services as it appears according to the data analysed, that there might not be enough use of it by them.

As was also evident in the analysis, there is an urgent need for people to participate in the decision-making process around the public transport system that the city has and plans for the future. Given the negative impacts a high fare has in terms of social exclusion, the monitoring of the calculation of the technical fare and of the consequent user fare are key issues to be considered, but more importantly, monitoring and participating in the definition of the parameters that determine the technical fare since the beginning of the process and even before concession contracts have been signed as those topics tend to be discussed in closed spaces where not many people have a seat. The creation of the Public transport users committee, by Bogotá's Town Hall Agreement No. 239/2006 (Concejo:2006), is an initiative that allows this type of social control and participation in the decision-making process, particularly with regards to the fare, as argued by Stanley (2008), but so far there has not been any effort to implement it, neither from the local administration nor from the community.

Finally, there is a need for more research on the topic. Many of the arguments stated here are just hypotheses that come from inconclusive evidence as the existent information is just not enough and therefore can only suggest a path to follow in terms of research topics that should be deeply investigated by independent researchers, academics and the government.

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## **Annex A. Other changes triggered by the BRT**

Apart from the direct changes in the provision of public transport in Bogotá and what it implied in terms of efficiency, safety and pollution, there have also been other changes triggered by the implementation of the BRT system. Along with Transmilenio, Peñalosa's administration also decided to focus on public space and urban regeneration projects in areas that had become no-go zones in the city or that had been neglected for years by the local government (Muñoz-Raskin:2010). The construction of the "Tercer Milenio" Park at the same time of the implementation of the BRT, just beside one of the busiest Transmilenio stations in the city centre is the best example of it. In the past, that area, traditionally known as 'El Cartucho' was one of the most dangerous places in the city, full of crime, drugs and poverty, even though it is situated a couple of blocks away from the central square of the city 'Plaza de Bolívar', where the most important public buildings of the country, housing the heads of the different public powers of the State, including the Presidential Palace, are located. Through the spatial intervention there it was possible to get rid of most of the criminals living around and the drug trafficking ameliorated<sup>1</sup>. At the same time, the area bounced back to keep functioning as an informal economic source of employment given the interrelations created among the people passing by, which at the same time were dependant on the relation of that area with the people. These intertwined relations are seen in the type of jobs created, the time they function, etc.

Similarly, some of the main stations, generally terminal stations located at the end/beginning of a 'troncal' have been designed as centres of economic activity. The construction of 'Supercades', public buildings where people can run multiple errands involving public sector organisations right at those stations is one sign of it. In some cases, like in 'Portal Suba' the terminal station of 'troncal Suba', a shopping mall was also built next to the Supercade, adding more economic relevance to the area. But these formal initiatives are accompanied by informal ones, as just mentioned above. It is these spaces surrounding Transmilenio stations that have become the source of employment for quite a few people, usually street vendors (rather poor people) who make the most out of the high frequency of passers-by that use the system and/or go to the Supercades or nearby facilities. Unfortunately, up to date, there has not been any research about this issue.

Other aspect that should be mentioned is the consequent channelling of urban development efforts to areas around the Transmilenio 'troncales' as there is some certainty about the existence of financial resources to develop projects there. This has worked in the sense that given the initial success of Transmilenio, there is a strong support from the central government to keep funding this kind of initiatives, which would not be possible if the national level did not support them. Having the national government agreement from the start, could then be argued, has created an incentive to hang urban renovation/regeneration projects to the budget given to the construction of Transmilenio 'troncales' but has also had the effect of inflating the infrastructure cost of them. If the data on costs per kilometre-lane of the 'troncales' already built and under construction from the three phases are compared, then the increase on the construction cost is clear, from around US\$ 9 million in phase I, to

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<sup>1</sup> However, the criminals, the homeless and in general, all people living there and their problems in many cases just moved out to different areas not far away where they continued living and performing the activities of the past, which only speaks of the lack of an integral approach to handle the situation.

US\$ 30 million in phase II and over US\$ 40 million for 'troncales' in phase III given an exchange rate Dollar-Colombian peso at the current levels (01/07/2010, COP\$1904, [www.oanda.com](http://www.oanda.com))<sup>2</sup>. An additional problem is created when this data is used with political purposes, as happened in the mayoral campaign in Bogotá in 2007 and subsequently, when infrastructure cost of Transmilenio were presented as increasing in time by the then candidate Moreno, something that helped him to support his proposal to build a metro system (Gilbert:2008), which at that same time was not, in his campaign, considered as expensive as it has proved afterwards in his administration.

Now, another socio-economic effect of Transmilenio is the valorisation of properties located close to 'troncales', which is something different researches have pointed out (Echeverry:2005;Rodríguez:2004;Rodríguez:2009;Muñoz-Raskin:2010). With regards to this effect, it must be said that it has not affected all properties in the immediacies of the system in the same proportion as also stated by those studies. Muñoz-Raskin says that there is a "Premium for properties less than five minutes walking from BRT's feeder lines" (2010:72) and an increase in middle/income properties closer to the trunk bus ways while the opposite situation has happened with low-income properties (Ibid). Similarly, Rodríguez et al found that "for every 5 min of additional walking time to a BRT station, the rental price of a property decreases by between 6.8 and 9.3%" (2004:587). In general, a portion of these increases has been sought to be captured by increases in the property tax and through the 'valorisation tax' in the last years, an initiative led by the local administration of Bogotá.

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<sup>2</sup> Data in Colombian pesos provided in 2008 by the Institute of Urban Development of Bogotá-IDU, the public organisation in charge of building the BRT infrastructure. Data used by Gilbert (2008) is similar but a little lower (US\$7 million for phase I to US\$25 million to phase III) and proves the increase in the infrastructure cost.



## Annex B. Number of vehicles registered in Bogotá D.C. (1999 – 2010)

Year	Number of Vehicles	Annual Percentual Change
1999	615.904	
2000	662.123	7,50
2001	668.267	0,93
2002	675.461	1,08
2003	686.029	1,56
2004	762.028	11,08
2005	838.647	10,05
2006	943.550	12,51
2007	1.062.698	12,63
2008	1.168.685	9,97
2009	1.203.379	2,97
2010*	1.311.026	8,95

Source: Secretaría Distrital de Movilidad, 2010

\* Up to June 30 th 2010

**Annex C. Traditional public transport and Transmilenio user fare in December each year (2001-2009)**

<b>Year</b>	<b>Transmilenio user fare COP\$</b>	<b>Traditional buses user fare COP\$</b>
2000	800	739
2001	900	839
2002	1,000	854
2003	1,100	954
2004	1,200	1,068
2005	1,200	1,068
2006	1,300	1,068
2007	1,400	1,125
2008	1,500	1,185
2009*	1,600	1,285
Percentual Change in the period	100.00	73.82

Source: Secretaría Distrital de Movilidad, 2010

\* Current user fares