



Transport policy: Empowering local community for poverty alleviation in a deprived neighborhood in Colombia

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ABSTRACT

Social exclusion is directly related, amongst others, to a lack of educational opportunities, transport accessibility or poor transport policies. Social capital can deliver a solution to reduce inequity by providing community transport (CT) to an underprivileged neighborhood. The aim of this paper is to provide a case study on how community participation has proven to be an efficient way of procuring the basic needs of a poor community, such as those involved in providing daily mobility despite the apparent lack of a clear public transport policy. Results indicate that community participation and engagement in a common need can not only provide badly needed means of transportation but also be the impetus to tackle greater transport problems at the policy level. This, as a result, led to better CT which brought about greater accessibility to poor urban neighborhoods and more hands-on government engagement even though it operated only for a short period of time mainly to facilitate the entrance of the public transportation service.

1. Introduction

Cities in the Global South have been undergoing social exclusion for a long time. The tendency is that the neediest inhabitants of the city tend to live on the outskirts of the city. This, in turn, can leave them to their own devices when dealing with the obvious lack of public transport, absence of public services and governance and subsequently a greater sense of insecurity, among other issues. So, community participation can be seen as a means of obtaining these basic needs through grassroots initiatives and outside assistance (Guaraldol, 1996). Furthermore, it also demonstrates how people can actively participate on behalf of their own communities in order to improve low-income situations (Gamble and Weil, 1995) such as lack of public transport policy. A study of the literature on transportation shows that equity is one of the main issues in decision-making on new investments and service provision (Hananel and Berechman, 2016). Considering that, it would appear that little information and few studies have pointed out how community participation can be a solution to the lack of transport policies in the poor urban outskirts in Global South countries. Nevertheless, some important question must be addressed when considering how local participation can lead to positive outcomes for the citizens and community regarding transport policies (Elvy, 2014). There are ongoing and persistent challenges to finding justice within the transport systems (Enright, 2019). Therefore, bringing accessibility through use of social transport

networks can be seen as a means of facilitating the achievement of something that would otherwise be unattainable through any other means (Rajé, 2007). Citizens or community participation in this case translate to community participation and social justice movements which can play a particularly important role in transportation (Enright, 2019).

Social psychologists have been studying for some time how macro-social structural impacts on transport affect social interaction between the individual and his or her family and community (Yago, 1983). Despite mobility research contributing to a focus on the micro-scale of inter-personal interactions, they have not fully explored the apparatuses of power in which these relations of mobility are located and governed (Sheller, 2016). “Connection between spatial mobility and social exclusion has been increasingly considered as a subject of research and policy itself” (Ureta, 2008, p. 270). Previous studies focused on the problems caused by poor public transport access to and from these peri-urban areas (Church et al., 2000), which can be barriers to mobility for transit-dependent riders (Lubitow et al., 2017) or even though public transport is available, the households are disadvantaged by virtue of lower reliability and unavailability of service leading therefore to a direct influence on urban poverty (van Heerden et al., 2022). Thus, this paper aims to shed new light on how community participation can contribute to tackling the dilemma of public transport in needy areas.

Having focused on a case study in a social housing project in

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southern Bogota, Colombia with little access to public transport, this paper will divide itself into three main sections. The first section will explore the different meanings of citizen participation and community transport and their importance in strengthening ties in urban communities; the second section will describe the methodology applied to take a theoretical approach to different experiences and the importance of CT; the third section will explain the research context in which the case study was done, the fourth point will show the results and the fifth section will be the discussion and the conclusions of the study.

2. Citizen participation and community transport

2.1. Citizen participation

Different authors have been studying the involvement of citizens in participatory processes (Arnstein, 1969; Baum, 1999; Johnson, 1998; Poole and Colby, 2002; Schafft and Greenwood, 2003; Weil, 1996). The participation of citizens can be an approach to enhancing social cooperation through social work strategies in order to tackle problems in poor communities (Ohmer and Beck, 2006), also the interaction between peers can promote a sense of belonging and strengthen communities (Stanley and Vella-Brodrick, 2009) and has been regarded as the hallmark of a democratic society and as an integral element of economic improvement and efforts made by a community to enhance social changes (Bowen, 2008). Citizen participation is a voluntary participation by groups or individuals to change problematic circumstances in poor areas (Gamble and Weil, 1995), or is the “inclusion of a diverse range of stakeholder contributions in an on-going community development process” (Schafft and Greenwood, 2003, p. 19). It is also the means by which communities can have an impact on important social reforms, where the participation of citizens is the power of citizens (Arnstein, 1969).

Hence, community organizations have a sense of identity among residents as the protectors of community interests and other kinds of difficulties (Swaroop and Morenoff, 2006, p. 1667) that perhaps local policy was not able to provide such as meeting basic transportation needs in under privileged communities. In this sense, the “fundamental ability to move through the city and to access its resources and opportunities, is at the very heart of contemporary struggles over urban space and urban living” (Enright, 2019, p. 3). This can give the opportunity for community organizations to step up as an answer and a compliment to the efforts of local authorities in public service provision (Echessa, 2010, p. 10).

The activities in which a community engages depend on effort, legitimacy and in many cases on money (Baum, 1999). One of the main purposes of these community organizations, namely in low-income neighborhoods, is to give solutions to a missing service or utility. For the purposes of this paper, transportation is that missing service. In this sense, the leader of an organization in a low-income neighborhood will seek a planning group whose “purpose is either the creation of a new service or coordination of existing services” (Bakalinsky, 1984, p. 87).

The so-called leader has the task of facilitating the work, helping to organize and divide the labor, specifying the goals, and moving the group toward achieving its proposed goals (Hartford, 1971). This can lead to the empowerment of people so that they are able to initiate actions on their own in order to achieve development outcomes (Paul, 1987).

In reference to transportation planning, there is limited experience of successful community involvement in the policy process (Bickerstaff et al., 2002). Nevertheless, some work built on activism has demonstrated how transit planning and policymaking have either ignored or negatively deprived people of color and the poor, amongst others (Enright, 2019).

Poor communities in Latin America are struggling with everyday issues such as daily mobility, accessibility and availability of work, lack of governance, education, and health centers, among others, since where

they actually live these kinds of goods and utilities are, in many cases, scarce or non-existent. Government inaction has contributed to this situation. Therefore, “bottom-up approaches can more effectively meet the needs of people and communities, and it is only through their adoption that transport-planning and policy-making can be a driver of social inclusion” (Rajé, 2007, p. 53). Furthermore, this way, community and transit activism may have the potential to unite disparate groups of transportation and anti-poverty advocates in order to bring together similar claims (Enright, 2019).

3. Community transport (CT)

There has been a constant debate about the difference between paratransit and CT. Some authors associate the term CT as being the same as paratransit (Stanley and Lucas, 2008), which is the case where volunteers manage and operate regular bus services (Schiefelbusch, 2016). Also CT might be seen as a “subset of paratransit that is generally non-profit, it emphasizes meeting people’s needs, and contains mechanisms that allow community input in management (Denmark, 1998). CT is smallscaled, tends to be locally situated, and is a provision on the basis of the need, It is based on the voluntary sector and is not-for-profit (Cassidy and McGuinness, 2007). Paratransit is a transport service operated by small-to-medium-sized buses and by informal operators which run on demand-responsive unscheduled service (Behrens et al., 2016). Informal transport refers to the nature of the business and entails a broader economic context (Zegras et al., 2015).

Community transport might have some of the above characteristics but as Nutley (1990) affirms, CT is not seen as an informal or paratransit transport, instead, it is a legal solution formulated by the community (as will be seen later in the article) to meet the needs of public transport in a physical sense which is not provided by the Government, but should be under control of the municipality and supported as necessary (Finn and Nelson, 2002) It might also be used as an innovative community-based transport program to improve access to emergency care in Mozambique (Amosse et al., 2021). It could also be seen as a subsidized service to the aged, frail, and people with disabilities in Australia, United Kingdom, Unites Staes (Mulley et al., 2018). Therefore, for this case, CT will be defined as “local passenger transport provision which is not provided through scheduled bus or rail services and which is organized on a non-profit basis by voluntary organizations, community transport groups, and other non-statutory bodies (Mulley et al., 2020), and with a legal framework¹ signed by the municipality’s Mayor authorizing “special and transitory measure regarding public passenger transport inside the municipality of Soacha” (Alcaldía de Soacha, 2011).

CT, through this lens, can be seen as a result of community participation in poor areas seeking answers to weak or almost inexistent public transport policies, since “mutual aid and voluntarism are often strong features of poor areas” (Forrest and Kearns, 2001, p. 2141) and can also be seen as a mechanism for fostering social interactions and community cohesiveness (Qamhaieh and Chakravarty, 2017, p. 14).

These kinds of social interactions and activities concerning transport are not a frequent topic of study; nevertheless, some work has been done to try to see and understand, how and why people cooperate in order to achieve a common good, in this case, transport. For example, how social interaction between neighbors can provide a sense of belonging to the community (Riger and Lavrakas, 1981), or how social activities intuitively play a motivating role in how people behave (Carrasco and Miller, 2006), or “transport may provide the means to enable people to form associations or relationships and engage with other people and groups” (Stanley and Vella-Brodrick, 2009, p. 94).

CT has been mainly studied in rural areas without access to cars and with a deficiency of public transport (Banister and Norton, 1988; Gray

¹ Resolution 1417 of 2011 will be explained further in the article since this might be ground-breaking in the conformation of CT.

et al., 2006; Mageean and Nelson, 2003; Nutley, 1990). This can occur where there is the need of strong community participation to achieve having more means of transportation. CT is indeed a resource in rural areas which necessarily entails strong social networks (Gray et al., 2006). Additionally, poor urban neighbors have been able to cooperate jointly to achieve their goals in tackling the absence of public transport by using their cars, for example.

They can organize themselves in creating CT, which might even be illegal (depending mainly on the way they are organized), but the end result is legal (Cervero and Golub, 2007). This CT might be from grassroots mobilizations, an essential process to undertake a range of social problems (Drake et al., 2014). In many cases, these kinds of processes conceive participatory initiatives that might be funded by professionals in organizations (Eversole, 2012), and have been based on “a ‘bottom-up’ recognition of the need for mobility and to reduce the isolation experienced by certain groups of people, rather than through a purposeful social policy direction which is theoretically linked to social exclusion” (Stanley and Vella-Brodrick, 2009, p. 93) and it might be referred as policy networks in which the emergence of informal relationships and coalitions involves different actors in fields of public policy (Kennedy et al., 2005).

In the end, the main purpose of this CT is to give the means for satisfying local transport needs which are not achieved by conventional public transport policy (Gillingwater and Sutton, 1995) and therefore increase their accessibility.. This is why, in many neighborhoods, CT becomes so important and necessary since conventional transport is non-existent or insufficient or local government does not pay attention to the claims, of the locals in need, to a problem identified by the residents and it can be only answerable by a grassroots initiative (Nutley, 1990) or by informal transport due to political processes. Further, many of these people living on low income and in poor neighborhoods experience a disengagement from the political process and from institutional structures and they cannot be directly involved in the formal transport decisions (Lucas and Currie, 2012).

In these remote zones, where the lack of public transport is a reality, residents have to accommodate their own needs of daily mobility, which in many cases is offered by informal or illegal transport which in many cases is deplorable and insecure (Figueroa, 2005). Such alternative transport exists to fill the gap left by formal public transport operators (Cervero, 2013) in order to satisfy the need of accessing goods and services. Thus, the need for studying informal or non-conventional transport in a more extended way, within economic, urban and social contexts (Dourado, 1995) becomes important. It is also true that this kind of transport provides important benefits to the poor in areas where formal transit is non-existent or where it is not enough to cover the demand (Cervero and Golub, 2007) and is important to mention that in many cases informal transport is independent on the principles of demand and supply and is more subjected to sociocultural norms and institutions.

This paper seeks to give a broader perspective on the relation and interaction between community participation and daily transportation in a new low-income, social housing development through the lens of mobility since a main concern regarding social equity has to do with different options of transport in the most vulnerable and poor social groups (Brand, 2012).

4. Methodology

For the purpose of this research, multiple data collections were used contributing to works inspired in mobilities from the point of view of the mobile rights and risks in a new social housing development taking into account social exclusion and immobility. Both quantitative (survey) and qualitative (semi-structured interview) work were undertaken concurrently, having a greater emphasis on the qualitative method allowing face-to-face interviews to enable the researcher to “probe deeply to uncover new clues to and dimensions of a problem” (Turner and

Guiding, 2011, p. 365).

22 in-depth interviews (7 during the months of July and August 2013, and 15 during June and July 2014); were conducted; within these 22 interviewees there were: two administrators that were managing 6 residential complexes; two community leaders (one of whom was also the administrator); two social workers at Corporación Responder (Social entity of the Project Manager); one interview with the Manager of the Project. On July 2104, 15 residents were interviewed. The selection of the residents was done based on the quantitative surveys. We identified those residents that had something more to say regarding the questions asked in the survey. We requested their phone numbers in order to carry out an in-depth interview.

The in-depth questions were asked based on the background and expertise of each of the respondents, directing the interview towards the daily mobility problem that the inhabitants were facing, (their names were changed). This provided “rich narratives that can be used to build a persuasive dossier of case studies and arguments to buttress the importance of social factors in travel behaviour research in particular, and transportation planning in general” (Dugundji et al., 2011, p. 241). The intention was to “see what riches they [it] contain and what insights they [it] might reveal” (Chandler, 2008, p. 51) and was not meant to find representative statistics concerning the discussion issue of this paper; CT in poor neighborhoods.

Considering the Sustainability Map (University of Twente), it is important to achieve sustainable transport, based on three pillars: Economic, Environmental and Social Equity. This was the first coding that was done to analyze the interviews. Next, a list of new themes was made, as many of these were not included in the original chart. As shown in Fig. 1, the analytical framework allows guiding the writing towards the importance of TC and its relevance to the community.

The value of housing in Ciudad Verde may have been one of the main reasons why residents chose to live in this new project. The cost and travel time nevertheless, were both seen by the community as a form of social and economic segregation.

Throughout this paper, different quotes from the qualitative strategy are used mainly because they incorporate local knowledge into empirical analysis, having the potential to produce “social robust knowledge” (Nowotny et al., 2001) which will improve the quantitative assessments and local conditions (Kash and Hidalgo, 2017). In addition, quotes from previous studies are also included in order to explain an idea that might be expressed by one of the interviewees which is in line with participant responses from previous studies, and both quotes (qualitative strategy and previous studies) will be differentiated. In the results and analysis, both methods “will talk to each other, much like a conversation or debate, and the idea is to construct a negotiated account of what they mean together” (Bryman, 2007, p. 21) (see Figs. 2–4).

Both residents and administrators have the local knowledge which includes information and data concerning the local context and knowledge of specific characteristics, events, circumstances, as well as important understandings of their meanings (Corburn, 2005).

The survey was selected as a quantitative method through simple random sampling having a total of 260 surveys giving a reliability level of 90% with a sampling error of 5%. The questionnaire had 89 questions (open and some closed) and covered different issues such as: income level, household characteristics, community behavior, housing tenure, daily mobility, health, security, among other topics.

5. Research context

Mobility, income and time are variables that greatly restrict the range of destinations that people can reach, especially those living in peripheral locations and away from economic activity, making them dependent on locally “pop-up” options such as “neighborhood stores” (Clifton, 2004).

In Latin America, lack of public transport is quite common. Principally, this can be seen in poor areas situated in the periphery of the big

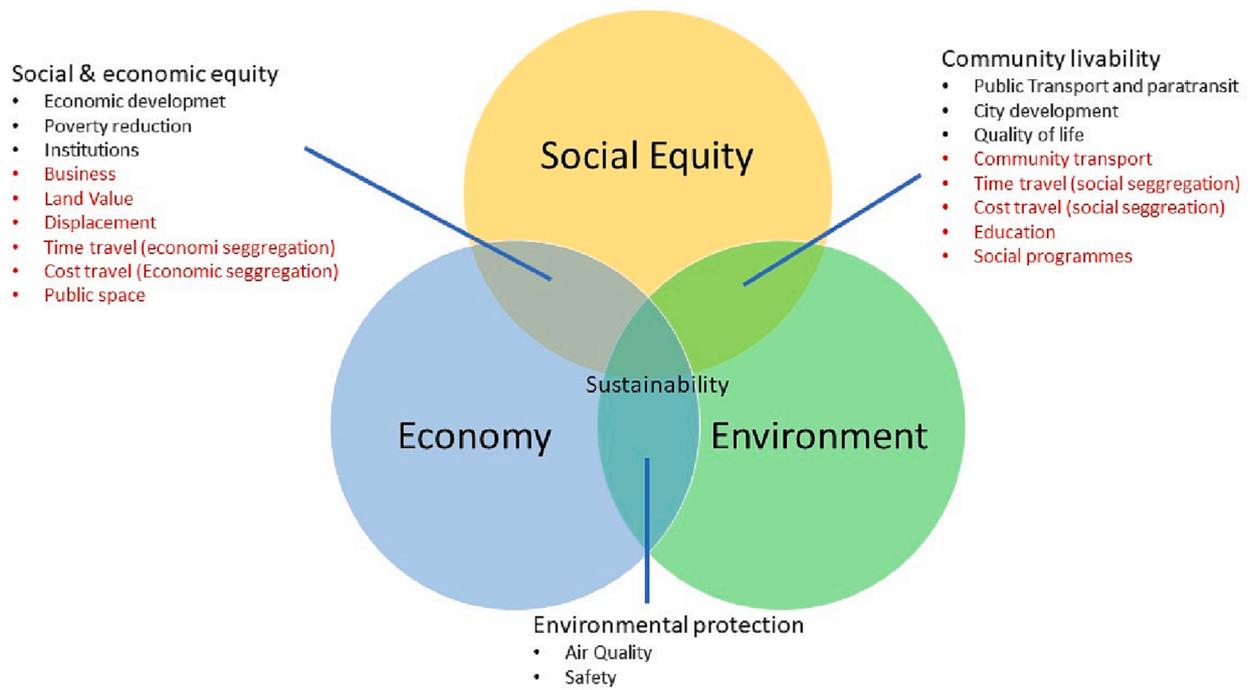


Fig. 1. Sustainable pillars and the interaction with the analytical framework Source: Taken from presentation of University of Twente (2012).

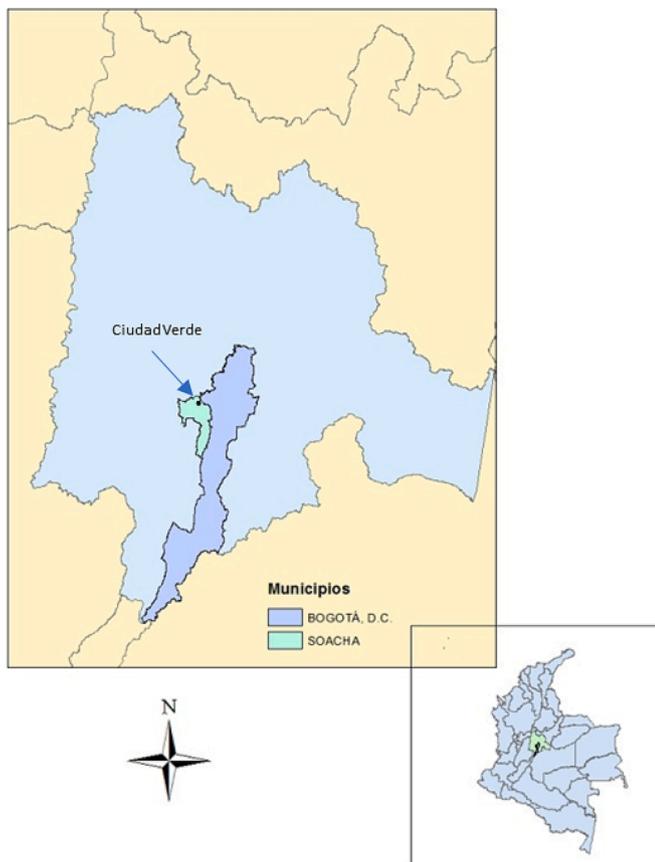


Fig. 2. Soacha and Bogota in relation to Colombia and Cundinamarca (department) Source: Secretaría Distrital de Planeación.

cities. According to Fox (1995), the possibilities of movement are in strong relation with the possibilities of the use of public transport. Also, public transport can be the primary means for individuals to get to and

from school/work, carry out household maintenance activities, and sustain social and familial ties (Lubitow et al., 2017) and mass transit “has the potential to entrench existing hierarchies and to create new forms of urban marginality, inequality, and exclusion” (Enright, 2019, p. 2) (see Figs. 5 and 6).

This location of low-income population in these “remote places brings serious infrastructure limitations and little transportation supply. It also favors the proliferation of many other problems such as the inexistence of modal choice, the need for multiple transfers, long travel times, proliferation of illegal services, unfeasibility of the private car” (Apaolaza, 2013).

Soacha is a low-income municipality in the conurbation of Bogotá, located in the South of the city (Alfonso, 2001). The following Table 1 shows some data comparing Bogotá and Soacha.

According to the information above, almost 90% of Soacha’s households earn between 0 and 455 USD, compared with Ciudad Verde, 61% of households are in this range and 62% in Bogotá. If they are spending around 25% of their income on transportation, this means that they will have between 0 and 484 USD for their other expenditures. It is known that Soacha has a special interaction with Bogotá, especially in relation to the economic activity and urban mobility, among others (Rubiano, 2010). The economic situation of Ciudad Verde is more similar to that of Bogotá and not that of Soacha. It is known that people living in Bogotá decided to go and live in Ciudad Verde in order to have and purchase their own houses. Ciudad Verde is seen as where the rich people of Soacha live, and with this data, we can see why. According to the National Department of Statistics (DANE), in 2017 the Monetary Poverty Line in Colombia was at 26,9% and the Poverty Line for that year was approximately 85 USD, which means that around 27% of the Colombian population cannot purchase the basic food necessities (Calderón, 2018). Even though Colombia reduced its GINI coefficient, from 0.572 in 2002 to 0.508 in 2017 (DANE), it is still one of the most unequal countries in the region.

The higher education level reached by the head of the family also has an effect on income level. Comparing education levels in Bogotá and Soacha, the difference between the two cities can be noticed. In Soacha, only 10% of the heads of family have a professional degree, while in Bogotá this percentage goes up 27%. Furthermore, this education level

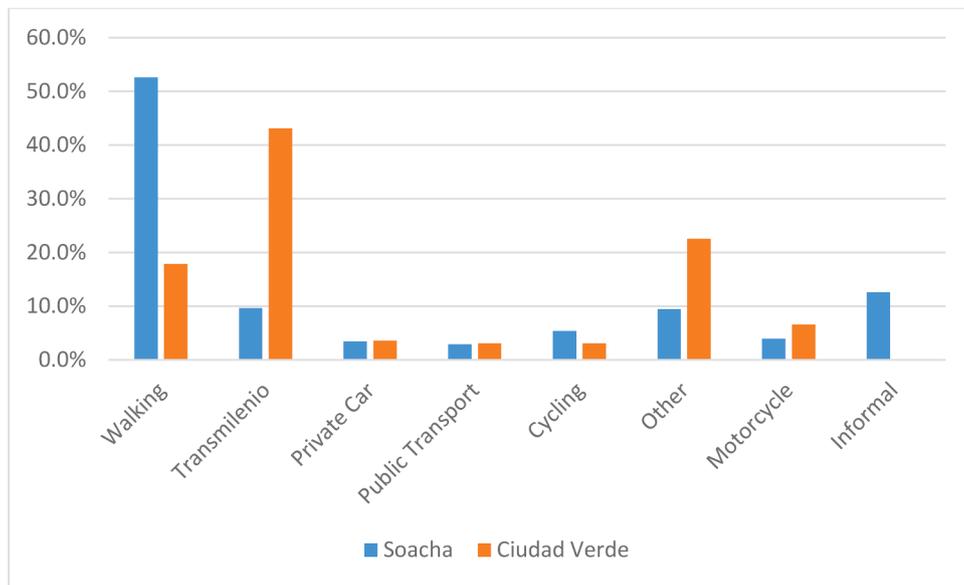


Fig. 3. Daily trips in Ciudad Verde and Soacha Source EMU 2019 and n.a, 2019 (For Ciudad Verde there is no data for informal transport).



Fig. 4. Station with different illegal transport means which take residents to Ciudad Verde Source: Author, Soacha, 2014.



Fig. 5. Community Transport in Ciudad verde Source: Taken from [Amarilo](#), CV-Noticias, June 2012.

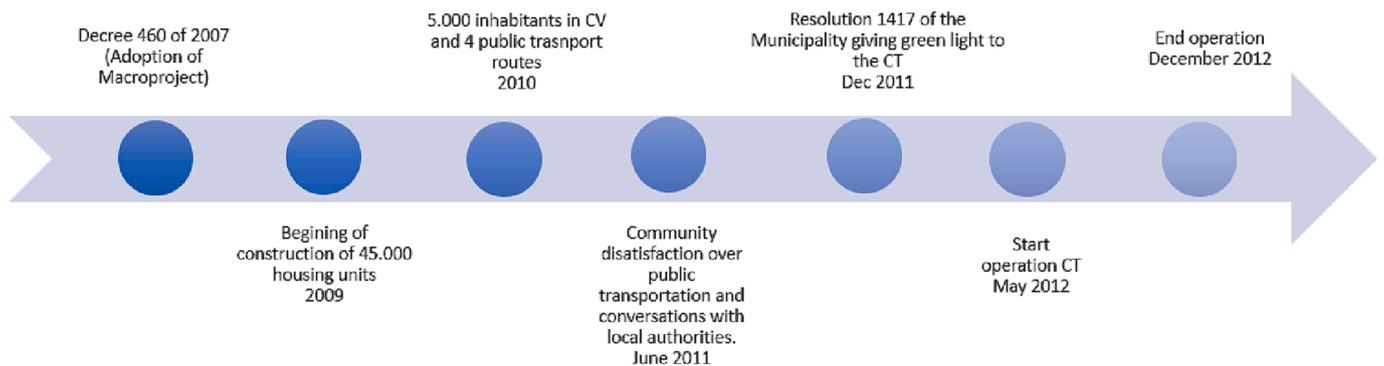


Fig. 6. Timeline of CT process in Ciudad Verde Source: Author.

Table 1
Monthly income of hoshouls in Bogotá. Soacha and Ciudad Verde.

	0–251 USD	252–455 USD	456–1.061 USD	More than 1.061 USD
Bogotá	27%	35%	26%	12%
Soacha	44%	45%	10%	1%
Ciudad Verde	22%	39%	30%	9%

Source: EMU (2019) and no author 2019.

can have an impact on income level, since it is one of the “main determinants of an individual’s income and arguably the main key for accessing a wide set of economic and social opportunities” (Cruces et al., 2014, 318) (see Table 2).

The figure above shows the location of Ciudad Verde which is located on the border between Soacha and Bogotá. Soacha, located in the municipality of Cundinamarca which is located in the Andean Region in the

Table 2
Education level of the head of the family.

	Elementary School	Middle School	High School	Technician	Undergraduate	Postgraduate	None
Bogotá	21%	18%	19%	13%	21%	6%	1%
Soacha	27%	23%	25%	14%	9%	1%	1%

Source: EMU (2019).

center of Colombia which in turn is located in the northern part of South America at 12°26'46" north latitude and reaches 4°12'30" south latitude.

According to the last census (2018), Soacha has a population of 644,768 inhabitants and is currently experiencing a demographic boom through big urban projects, such as the Mega-project Ciudad Verde which aims to build 42,000 social housing units by 2019, mainly in private condominiums and it is estimated to have a population of around 160,000 new residents by 2020. The Mega-projects of National Social Interest are defined, according to Article 79 of the Law 1151 of 2007, as the set of administrative decisions and urban actions adopted by the National Government in which planning, financing and land management instruments are linked in order to execute a large-scale operation which contributes to the territorial development of certain municipalities, districts of the country.

However, the Mega-projects were declared unenforceable by the Constitutional Court since they exceed the autonomy of land use of the municipalities declared in Article 313 of the National Constitution and

the provisions in Law 388 of 1997.

Only 12 Mega-projects were adopted under Decree 4260 of 2007 which regulated its process of announcement, formulation and adoption (Espinosa, 2014) (see Table 3).

Most of the projects were located in the periphery (on the outskirts) and is rural or expansion land where usually the land price is cheaper than in the inner-city and, therefore public transport is scarce in these new developments since the routes and planning are not well established.

The Mega-project Ciudad Verde was developed in Soacha mainly because of its proximity to Bogotá, and with the effect of having a supramunicipal component responding to urban problems such as the quantitative deficit of social housing" (Author).

By 2014, around 12,000 units were built and around 10,000 were already occupied. According to data from the CESNUS of 2018, Ciudad Verde has 115.472 inhabitants and a total of 37.613 units occupied, meaning a rate of 3.1 inhabitants per dwelling, which is the same as Bogota and a little bit lower than the rate in Soacha (3.4).. This case study was selected because due to its magnitude, it was inevitable that daily mobility problems were going to occur given its distant location from the public transport system hubs as well as it's the poor transport quality offered in the municipality and how this condition will affect the new residents that were going to live in this new mega-project.

This study case was also selected due to it's new urban development, having big green areas for people, great parks, and a high quality urbanism for a social housing project. Also, it was selected to understand how people were able to unite for a common good such as transport, since many of this peripheral areas have poor or limited transportation. Therefore it was interesting to see how this new community arranged to solve the problema of "getting out" of their houses to reach the transport that would take them to their places of work. So, as it happens in many of these areas, informal transport is the solution: private cars, rickshaws, and legal taxis acting as collective taxis, amongst others. But in this area, a development of Community Transporta raises our attention, since it is unexperienced in this kind of project here in Colombia and abroad. In other words, and as expressed by Johnson and Karst (2020): "The integration of multiple stakeholders and extensive social services go well beyond the goals of most housing projects" (p. 158).

The purpose is to provide a successful study case (even though it only lasted a few months) of community participation, of community

Table 3
Main Mega-projects adopted in Colombia under Decree 4260 of 2007.

City	Project Name	Total area (Ha)	Total Social housing units	Periphery Location	Kind of Land
Cali	Altos de Santa Elena	46,63	5.000	Yes	Urban
Buenaventura	Reubicación Cascajal	214,91	4.000	Yes	Expansion
Barranquilla	Villas de San Pablo	296,49	20.000	Yes	Expansion
Cartagena	Ciudad del Bicentenario	556,3	25.000	Yes	Rural
Medellín	Nuevo Occidente	32,59	10.000	Yes	Expansion
Neiva	Bosques de San Luis	36,21	3.928	Yes	Urban and Rural
Manizales	Centro de Occidente	111,05	3.500	No	Urban
Soacha	San José Ciudad Verde	327,96	42.000	Yes	Rural
Pereira	Ciudadela Gonzalo Vallejo Restrepo	162,84	7.500	Yes	Urban and Expansion

Source: (Mendez et al., 2014, p. 6).

organization towards the solution of transportation. It is clear that in our context, different "gloomy actors" can play a decisive role to initiate or finish a project, which, in this case, was what happened. The CT after carrying 3.000 passenger in a little more than 1 month, had to become to an end.

6. Results

The survey carried out in Ciudad Verde (Soacha), to identify quantitative data regarding the residents' working commutes (modal share and travel time), allowed findings of some qualitative data that would help to better understand residents' daily mobility (Miralles-Guasch et al., 2014). Finally, interviews with some administrators of the condominiums as well as community leaders enabled us to have an in-depth perception of key actors regarding daily mobility and also how the community solved its mobility issues.

6.1. Daily mobility in Soacha and Ciudad Verde

In Soacha, according to the EMU 2019, there are around 1.095.508 daily trips, from which 217.673 (n.a. 2019) are made in Ciudad Verde, 20% of total trips in Soacha.

According to the graph above, there is a great difference between the daily commutes by walking and Transmilenio in Soacha and Ciudad Verde. In Soacha, around 50% of daily trips are made by walking, since there are many activities in the vicinity. Meanwhile in Ciudad Verde, more than 40% of total trips are made by Transmilenio since most of the people work in Bogota, so the most effective and fast transport I the BRT Transmilenio.

For the purpose of this paper, working commutes in Ciudad Verde will be considered since it is the separation of jobs and residences that is still producing relevant commutes in the city (Clark et al., 2003) and are the longest commutes (in terms of time) and this also has negative outcomes on the way they evaluate their everyday life, especially in their new living area (Ureta, 2008).

The walking time to a formal public transport, the service headway, the informal transport and long commute times, might be factors in Ciudad Verde that can explain the pitfalls the community is facing with its daily commute, stemming from an inability to provide accessible transport for the people, and this also has the consequence of missed job opportunities (Lucas et al., 2001) and as previously mentioned, the opening up of space for informal transit which is with no doubt a solution for this poor community.

Daily commuting has a direct relationship with poverty, as the combination between limited access to opportunities coupled with higher commuting costs means that poor households feel that their commutes do not meet their needs (Combs, 2017). This presents greater problems and difficulties in getting around, due, among other reasons, to the poor and scarce supply of efficient and fast public transport, as well as by the segregation of their households towards the periphery of the city. This makes daily trips much longer in terms of distance and time.

Consequently, the transport means, whether public or private, and the reasons for commuting (work, study, leisure, shopping, etc.), as well as the time spent on commuting, have made it possible to visualize the social conflicts arising from daily mobility and have placed them at the center of the debate, since they are key elements in defining accessibility to daily activities in relation to different social groups (Miralles-Guasch and Cebollada, 2009). Thus, in the case of cities in developing countries, the least favored social groups have the greatest problems in terms of transport supply and travel times, segregating them and inhibiting them to some extent from enjoying and enjoying the city.

In this new development of Ciudad Verde, 38.9% of the population surveyed are formal workers (workers with a working contract), 27% of the residents are people working on household tasks with no remuneration, 26.1% are informal workers who do not have a specific working place nor do they have a steady income, and 8% are unemployed

residents, hence their daily trips greatly depend on their interest in searching for a job and their capacity to enable that search.

This paper will consider those working residents holding a working contract since they require daily trips to their places of work. Comparing this with Soacha’s workers, the differences are very telling. The reduced use of private motorized and non-motorized transport means in this new development makes the community rely on transit which is scarce, has long commute times and few and delayed operational routes. Thus, public transport represents 70% of total workers commute while in Soacha, a mere 9% of workers use transport public.

On the other hand, in Ciudad Verde, 6.6% of working residents take up to 15 min to reach their work destination, 24.2% take between 16 and 60 min, and 69.2% take more than 60 min to commute to their place of work, endangering their job security: As by one of the interviewees expressed:

“...I hire you and if you don’t arrive at the time you have to, I regret but you have to leave Ciudad Verde or live somewhere closer to work or quit here and get something close to Ciudad Verde...” (Translation from Spanish) (Administrator # 1, personal communication June 15, 2014).

Walking is the most common transport form in Soacha since there are working places in the nearby community, while in Ciudad Verde only 5% of working trips are made by foot (see Table 4).

Paratransit in Soacha is very common, around 17% use this kind of transport (pedicabs, private cars, jeeps, legal taxis operating as collective transport as seen in the picture. Unfortunately, in Ciudad Verde people did not comment on the details regarding informal transport, they just mentioned that they take a car.

The scarcity of formal public transport in Ciudad Verde is one of the main reasons why informal transit has filled the gap that is left by such scarcity (Author, 2014), making the commutes to work more expensive because residents have to pay an additional fare so that this informal transport can bring them to the main road where there are formal public transport routes. As mentioned by (Oviedo and Guzman, 2020, p. 2) *“the inequalities are associated with both land development models driven by strong market forces and informal practices that attempt to respond to the needs of socially vulnerable populations and by public-private models of infrastructure development and supply of public transport that have enhanced connectivity in some areas while bypassing poorer and commercially less attractive parts of cities”.*

As explained by one resident who was describing how he uses this system of informal transit in Ciudad Verde in order to reach his final destination:

“From Monday through Friday my routines are -strong- in the morning and from there [Ciudad Verde] leave to catch a car in Ciudad Verde that takes us out to the Autopista Sur (highway). One pays one thousand pesos the ticket for going to the Autopista. There are taxis or private cars, it depends on whether the police are not bothering. The car takes us out to the Autopista to the station Terreros (Translation from Spanish) (Resident #1, personal communication, June 14, 2014).”

As quoted above, informal transport is a regular means for residents to meet their daily needs of mobility, even though the police play an enforcement role, the police also realize the importance of mobility and

Table 4
Transport forms taken by formal workers in Ciudad Verde an Soacha.

Transport Mean	Ciudad Verde	Soacha
Public Transport	70%	9%
Private car	6%	8%
Motorcycle	10%	9%
Bike	5%	8%
Walk	5%	37%
Other	4%	12%
Informal transport	0%	17%

Source: Urban Mobility Survey 2019 and Survey made by the Author.

they support this informal transport which aids the community.

In Soacha, 28,8% of the total working commute trips from origin to working place are made within 15 min. More than half of working commute trips are made between 16 and 60 min and only 18,4% take more than 60 min while in Ciudad Verde 69,2% take more than 60 min.

The long job-commutes (in terms of time) in Ciudad Verde can be explained since there are long bus service headways making job opportunities’ that they can potentially be reached from Ciudad Verde in a given amount of time, but they are thoroughly limited (Korsu and Wenglenski, 2010). Therefore, “we are not only talking about distance, but also about difficult access to mobility technologies and networks” (Ureta, 2008, p. 276) (Table 5).

The Table above can show how the working time commute in Soacha is shorter than the people living in Ciudad Verde, nevertheless knowing that Soacha in general has also a deprived public transport. The limited number of potential places that can be reached in a certain amount of time in Ciudad Verde can be explained by the number of riders and the scarcity of public transport. There is a waiting time at the bus stop, and this is explained by one of the administrators (transcription from the interview) that enlightened the interviewer on the daily situation that residents have to face:

“An inspection at 4 in the morning was made by me and we realized that there were about 300 or 400 people coming out to get transport and if they arrived at 4 am in the morning, by 7 or 8 am they had not encountered any means of transport, for a simple reason, because there were only 5 or 6 cars arriving” (Spanish Translation) (Administrator # 2, personal communication, July 27, 2013).

The administrator’s point of view is a reality that a resident who lives this daily situation of getting some mode of transportation in Ciudad Verde explains:

“It could take an hour, hour and a half, queuing in the bus stop inside Ciudad Verde. I took more or less two hours and a half, three hours sometimes. There were days when I left the house at 5.30 am and reached here (the place of work) at 9 am”. (Spanish Translation) (Resident # 2, personal communication, June 15, 2014).

Household income is closely related to the employment of the head of household. This can be a formal or informal job. As can be seen in the following table, informal workers are the ones who bring the least income to the household for obvious reasons; their income is dependent on what they manage to sell during their working day, on what they manage to scavenge. 27% of households in which the head of household is an informal worker, have an income of 283 USD. On the other hand, formal workers generally have a contract and a fixed monthly income, so 31% of households with a head of household with a formal job have an income between 1,132 and 1,414 USD per month (see Table 6).

The money spent in reaching their destination is another important fact that harms the workers in Ciudad Verde. As shown in the table above, more than 50% of the workers in CV, spent more tha 3 USD per day (see Table 7).

If we take into account households where the family income is up to 283 USD and comparing formal and informal workers, we obtain the following information with respect to daily commute expenditure (Table 8). As many of them said, they don’t have a specific working place. They move around the same Ciudad Verde, Soacha and Bogotá, that is why 25% onf informal workers don’t spent money in commuting,

Table 5
Commute average time of workers in Soacha and Ciudad Verde.

Time	Soacha	Ciudad Verde
0–15 min	28,8%	6,6%
16–60 min	52,8%	24,2%
more than60 min	18,4%	69,2%

Source: Urban Mobility Survey 2019 and Survey made by the Author.

Table 6
Income per household.

	Less than 283 USD	Between 283 and 566 USD	Between 567 and 1.131 USD	Between 1.132 and 1414 USD	More than 1.414 USD	NA
formal workers	10%	50%	31%	3%	1%	5%
informal workers	27%	49%	17%	2%	2%	3%

Table 7
Daily travel cost in USD in CV.

USD	Percentage
0 USD	29,5%
1–2 USD	19,5%
3–4 USD	39,5%
more than 4 USD	11,5%

Source: Survey CV 2013.

Table 8
working situation and daily money spent commuting.

	Less than 283 USD	0 USD	1–2 USD	3–4 USD	More than 4 USD
Formal worker		11.1%	44.4%	44.4%	0.0%
informal workers		25.0%	31.3%	37.5%	6.3%

Source: Survey 2013.

and on the other hand, more than 40% of informal workers spent more than 3 USD per commute.

Counting that they work 6 days per week, 4 weeks per month, gives around a expenditure of 72 USD, which means that informal workers are spending 25% of their income, which coincides with what is mentioned by [Bocarejo and Oviedo \(2010\)](#), in many cases, people are obliged to commute long distances involving two or even three changes of transport to reach their destination. This, in turn, means spending more money. Transport represents more than 25% of people's income ([Bocarejo and Oviedo, 2010](#)). This result is similar compared with the other levels of income, going between 20% and 27% of expenditure in commuting.

Both the lack of public transport (too few formal routes per number of residents) and the time taken to travel in Ciudad Verde are without doubt, two of the most revealing aspects of the project. Also, due to its location which is far away from services and jobs making, their commutes depended on public transport for which reliability is assumed to be the most important attribute of a public transport system ([Vasconcellos, 2001](#)), but unfortunately it is not found in Ciudad Verde and new informal ways of transport arise giving partial solutions to the poor mobility in Ciudad Verde.

6.2. Community transport as a solution to public transport in Ciudad Verde.

We have mentioned how public transport in Ciudad Verde is scarce and is therefore affecting the time of travel, which is one of the main difficulties facing residents. In this section, through the qualitative data, we will see the perception of daily mobility problems and how community participation managed to provide a solution to the recurring working commute problems. As stated above, with the quantitative results (backed by responses from residents), working commutes are long and there is definitely a scarcity of public transport. With the qualitative results, we will describe people's mobility complaints towards public transport and reveal its immediate solution.

The mobility problems are, according to the residents, related to community leaders and personal daily experiences of commuters, due to the absence, and/or infrequency of services provided, and the lack of routes. We can see a large gap between the demand and supply of public transport. This is happening amongst a population that is at risk of social

exclusion ([Farber et al., 2016](#)). This is a normal situation in Ciudad Verde, since the frequency and number of buses is not adequate with the number of residents that live in the project, as well as the frequency of bus trips. This is confirmed and mentioned by one of the residents who was interviewed:

“... Because the routes are too limited, short and scarce for the population that is already living here at this moment, and at least in the central areas everyone has to come to catch the transport, then imagine people living at the entrance to the Ciudad Verde, and even further out in the surrounding areas...” (Spanish Translation) (Resident # 3, personal communication, June 15, 2014).

According to the community, there has not really been any transport policy in solving the transport problems experienced by the citizens of Ciudad Verde, although there has been some participation of leaders in some official meetings but there is a communication gap between the planning and policy-making with the local needs' interventions ([Rajé, 2007](#)), therefore processes in which public transport is collectively problematized, usually emerge independently from formal planning ([Paget-Seekins and Tironi, 2016](#)). As ([Bickerstaff et al., 2002](#)) and ([Bickerstaff and Walker, 2001](#)) have noted, community participation in transport planning and policy has been limited, therefore we can infer that “urban policies cannot influence urban performance directly, but only become effective through understanding the relationships between processes in urban society, the behaviour of actors and the development of urban forms” ([Kennedy et al., 2005, p. 399](#)).

As mentioned, community participation is an important role which citizens can play in order to satisfy their requirements and minimally meet their most urgent needs. In this particular case, the leaders' participation in official meetings in order to tackle the absence of public transport in Ciudad Verde might have been seen as a way of *dissimulation*, the fourth rung down in ([Guaraldóis \(1996\)](#) participation ladder, which precisely asserts:

In order to achieve a semblance of participation, people are placed on rubber-stamp advisory committees or boards... From this level down, the government increasingly leaves the communities to themselves (p. 438).

Nevertheless, the community in Ciudad Verde was supported by the project's social corporation (Corporación Responder), and this was made by training the social leaders who were identified and selected among residents in order to strengthen and unite the community, and also to act as representatives of community demands and needs. In the words of the project manager: *“To have a united community, a community that defends itself, can have an effect, in that the union provides this force ...”* (personal communication, August 28, 2013) Translated from Spanish. This can be a reason of having the community working for a common purpose with respect to the transport disadvantage, which is precisely what happened in Ciudad Verde and that can be explained by the words of [Schwanen et al. \(2015\)](#):

“The extent to which trust and norms of reciprocity exist within communities can affect transport disadvantage via the emergence of grassroots initiatives to mitigate transport disadvantage. These initiatives can enhance access to basic resources, activities and opportunities for interactions, raise aspirations and autonomy regarding travel, increase know-how and cognitive knowledge and reduce exposure to negative externalities” (p. 131).

With a much more united and trained community, one of their main objectives was to solve the lack of transport in Ciudad Verde, since

community participation can “act alongside government intervention as a response to market failure, whereas in other circumstances it might be seen as a reaction to the inadequacies of government intervention itself” (Gray et al., 2006, p. 94). Therefore, in situations where public transport is inadequate or of poor quality, the community can appear as an essential resource for working, socialization, social networks and others (Avellaneda and Lazo, 2011).

This is how the community acted, thus becoming an essential resource to find a solution to the absence of public transport since “public transport provides mobility which can enhance social interaction” (Currie and Stanley, 2008, p. 538) and as mentioned by one of the CT leaders, the importance of knowing the needs and commuting practices is important and this led him to implementing a survey regarding the CT. In his own words, he gives an explanation in the following statement:

“With a couple of companies we started to read the Law for special transport and know which rules could regulate us to get people out from Ciudad Verde to the south terminal of Transmilenio; We did a survey to see how much time a person takes to get to the Autopista and/or to its working destination because it is no lie that most people living in Ciudad Verde actually work in Bogotá” (Spanish Translation) (Administrator # 2, personal communication, July 27, 2013).

An important issue that can be noted in the above statement is the importance of getting to know not only the community needs but also how one can provide solutions while relying on the law, in this case the law that regulates special transport as a response to the mobility requirements that arose from the survey.

After studying various legal aspects of how this CT/or special transport can operate with the support of the project manager and different meetings with the mayor officer, finally after 6 months this transport became a reality for the residents, as confirmed by the planning secretary: *Yes, that is a topic, an alternative that the people proposed, the same people requested it, the same people organized it. Amarilo (project manager) helped them* (Spanish Translation) (Personal communication, March 3, 2016). This reality of CT was legalized with the Resolution signed by the mayor in which the municipality gives authorization to special transport to act as public transport in Ciudad Verde. As mentioned before, this might be a ground breaking issue since it gives the legal support to operate. Some of the main consideration taken into account by the municipality in the Resolution are:

1. “that there are several disagreements due to the lack of public passenger service in the community of Ciudad Verde, because of the lack of public transportation service that meets the needs of this important sector of the municipality”.
2. That while the definitive solution is made regarding the adjudication and authorization of the routes and schedules of the public passenger transportation service for the sector of Ciudad Verde, it is necessary to implement the necessary measures to solve the problems that this sector is suffering in this area; through the authorization of a special and transitory permit.

Therefore, considering this, below are some of the municipality’s main statements:

- **Article one:** Grant special and transitory permission to 13 companies of special transport to work as community transport in Ciudad Verde.
Paragraph: The authorized companies must allocate two (2) vehicles to cover the Ciudad Verde route, which must be listed in the route plan to be submitted to the Transportation Secretary.
- **Article 5:** This measure will be in effect until the route is put out to public bidding and awarded.

The above image shows a small fleet of CT in Ciudad Verde. According to the local newspaper of Ciudad Verde (Ciudad Verde, 2012) in

a little more than one month, the CT moved around 3.000 passengers in Ciudad Verde. The situation with the informal transport in Ciudad Verde, during the time that CT operated in CV, was not conflicted, according to the community. Even though they had to pay a little more for this CT compared with the informal transport (mainly operated by cars owned by residents of Ciudad Verde), this was a solution thinking about the needs and supply of transportation.

Thanks to the presence of community participation in Ciudad Verde, people were able to assemble in 2012, some form of CT with the help of the project manager. Once this new way of community cooperation (CT) is identified for a concrete purpose, it can also aid others, as explained by Administrator # 2:

“...it was an alternative that arises, requested by the same people, and the same people organized it, Amarilo [the project manager] helped them, [hence] a part [of the plan] was approved” (Spanish Translation) (Administrator # 2, July 27, 2013).

This CT in Ciudad Verde was provided on behalf of the community and was based on the grounds of generosity, principle and commitment and not on payment as mentioned by the project manager: *“the project undertook some free routes for the inhabitants of Ciudad Verde, which took them from Ciudad Verde to the highway, so let’s say that we are dealing with a social work issue”* (Project Manager) (personal communication, August 28, 2013). Such examples of help by one’s own community via voluntary efforts, have had an uncertain relationship with the public and private actors and are often misunderstood by government (Nutley, 1990, p. 205). As noted by Administrator # 2. who explains this misunderstanding:

“I took personal responsibility at that time and said: - Look Mr. Mayor if you do not cooperate with transportation then I will put in place a special transportation for Ciudad Verde. Then he said to me:- Miguel you cannot come to my office threatening. And I said: - I’m not threatening you, it is just that one of the things that you have as the mayor is to ensure the transport of a community that is within your municipality. Excuse me if I offend you but if this issue is too big for you, then for me it is not! (Spanish Translation) (Administrator # 2, July 27, 2013).

Definitely, this kind of confrontation between the civil society and public government, can only bring harm to the society, since in many cases the government can simply retaliate against the population.

The lack of support from the local government obliges the community to solve their transport issues on their own, with the cooperation of outsiders. Self-management takes place, according to Guaraldol’s ladder of participation (1996), when:

the government does nothing to solve local problems and the members of the community, by themselves, plan improvements to their neighbourhood and actually control the projects... Usually, although not always, communities work with outside assistance of NGOs or the support of independent financial institutions, which seem to positively affect the outcome of the community effort... In certain political contexts, however, the alliance of influential outside supporters to people’s initiatives may be necessary if the community activity is to exist at all” (p. 440).

The main idea of the CT was to cover the absence of traditional buses. After entering in operation, the legal transport sector saw this as non-formal transport, therefore the traditional transport sector went on strike because they were claiming that the “informal” transport in Ciudad Verde was affecting their economy. The relationship between leaders of social society and government is often antagonist and government officers are often seen as those who stop any community project (Flora, 1998) and it might be common for the politicians, that when a community starts getting more power through a social project, they may perceive citizen participation to be a threat to their positions of power, they will remain resistant, and, as a consequence, power imbalances will persist (Bowen, 2008, p. 67), but we can uphold that the municipality in this case supported the idea of a CT for Ciudad Verde, and proof of this is the Resolution 1417 of 2011.

After a few months of operation of CT, the municipality, transport sector and leaders in Ciudad Verde, finally came to an arrangement since it was impossible to compete with a free transport (CT) in Ciudad Verde and as stated by the project manager: *“This ended up being a problem for the market for about 4 months because it was a macabre incentive for the public transport not to arrive, that is to say, how am I going to compete against something that is free?”* (Project Manager) (personal communication, August 28, 2013). Also as mentioned by the former Planning Secretary: *“Yes, yes, one part was approved [Regarding to the CT], but then comes the whole issue of what is legal and what is illegal and it is the public transporter and he says no, no, I do not want to have competitions as a comparison of taxis with uber”*.

After these discussion, the municipality, transportation and CV leaders came to an arrangement to increase the number of buses, from the point of view of the project Manager, that is why the finished the CT: *“so now I disassembled the free routes the () it was quite an odyssey but we did it”* (Project Manager) (personal communication, August 28, 2013) in order to facilitate the entrance of the public service, however in the end, only a few buses arrived, since the demand in Soacha was very high and there were not enough buses to meet the demand of the project.

This case study is an example of how community participation can be a way of tackling social exclusion by incorporating local transport planning (Hodgson and Turner, 2003, p. 269) for seeking a goal of public intervention and making the public voice heard. The CT received a lot of support from a part of the residents, especially working residents and the help of the private company, in this case the project manager, since some of their mobility problems were solved, in part, by reducing work commute times, nevertheless, many structural problems persist until today. One battle from the community was held and in certain ways it won a victory. However, it was not easy because the political power was not in favor of this kind of effort that was made by the community nor was the private sector represented by the economic interests of the transport sector.

Nowadays, the project has given almost 50.000 households, of the total of 55.000. This means that the project has received in the last 10 years around 200.000 new inhabitants. Nevertheless the extension of the BRT Transmilenio to Soacha has helped mitigate the situation of the formal transport in the municipality in general and in CV in particular, the scarcity and difficult of the transportation is still a reality to the population of CV and the informal transport continues operating at the same time as the formal transport.

7. Discussion and conclusions

In most Latin-American cities there has not been any real urban planning for making new developments, especially social housing located within periphery areas where, in general, public services such as transit, are precarious or non-existent. Under these circumstances, residents are having to consider alternatives such as paratransit, informal or CT in order to provide solutions to their everyday needs of mobility.

In the case of Bogotá and its extension to Soacha, Transmilenio (BRT) was not intended to reshape urban form but enhancing high quality transport to the poor (Cervero, 2013). It really allowed to the poor an efficient and affordable public transport, but in the case of Ciudad Verde, this was not enough for the inhabitants of the Macroproject. A way for developing countries to have land use transport planning in new social housing developments is not easy. One solution in the way forward might be to think about Transit Oriented Development (TOD) as a way in which transportation and new developments might work together and be provide for the poor: high-capacity transit, affordable public transport, and better access to jobs (Gilat and Sussman, 2023). Many countries are moving in this direction. Nevertheless, in our Global South context, it is still difficult to have this kind of project in which poor people and rich people can be situated together in a central area of a new development project.

It is important to describe that what happened with the transport in

this community was more than a case of simple social relations. Nonetheless, the unity of neighbors was not only centered on a problem of the scarcity of public transport, but also on the solidarity of having the same problems and observing the non-action coming from local Government. The people were tired of waiting for a solution and so those people organized themselves, defined the courses for their actions, and sought help and resources, leading to a local development with a focus on the needs of these residents. They researched, investigated and jointly built these solutions, allowing them to urgently establish lifelines and family-related lines of action. In other words, the people became leaders of their own development and not just objects of late interventions by the government with a concomitant weak capacity for management.

However, the Community Transport in Ciudad Verde might have its limitations since it only lasted a few months, it might have enlightened other similar initiatives in other communities. Nonetheless, it has been seen as a solution to a community's needs, in this case lack of transportation. It is also true that in our context, there might be greater private and economic interests over the general interest, that can make a useful project come to an end.

This type of situation where community has to self-manage many projects or initiatives is common in Latin American cities, in which local or community participation is “demonized” and not much attention is paid to their claims, or the community is even invited to the “socialization” of a new project or to have their claims heard but at the end the project goes as planned by the government or they just hear what they have to say and nothing happens.

Furthermore, it has been identified that there are some cases in which community participation has led to concrete and positive results in the community. Thus engaging community participation in order to achieve a common necessity, such as daily mobility in a poor urban community, has been one of the main aims of the present research and it can be another example of the importance of such participation. Looking at a new social project driven by the National Government in a periphery municipality and how their organization towards a common well-being can deepen the discussion around the CT in urban areas takes advantage of community participation.

These new developments should have been planned since the beginning of the need in a more integrated way, including both the private and public sector. That is to say, thinking of facilities that this new population will need (schools, health centers, public transit, security and safety, etc) and not only thinking of the construction of their apartments. Transport, as well as other facilities, must be included as a priority target for public policy (Hine and Mitchell, 2001), which was not the case for Ciudad Verde.

Using a mobility perspective highlighting CT and citizen participation as a way to tackle immobility and social exclusion by actively negotiating and demanding their rights to transit, to access their daily commutes prioritizing their right to the city can lead communities towards a common welfare. This study case also gives a way to tackle what is known in the literature; that urban social households in Latin American situated in periphery areas, have a precarious transport availability, aggravating inequalities. Even though informal or paratransit is one of the most common answers to this absence, CT well managed by social and neighbor support, can also be an option.

CRedit authorship contribution statement

Carlos A. Moreno: Conceptualization, Investigation, Methodology, Writing – original draft, Writing – review & editing.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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