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Reducing Social Exclusion in Disadvantaged Urban Areas through Transportation

Abstract

Cities in both developing and developed nations have long struggled with marginalized members of their population unable to access employment, education, and opportunities needed for social mobility. This limited access to opportunities transcends the globally acknowledged issue of urban inequality. Scholars refer to the phenomenon as social exclusion, involving the lack or denial of resources, rights, goods and services, and the inability to participate in the normal relationships and activities, available to the majority of people in society. Medellín, Colombia suffered from social exclusion for decades with drug cartels, gangs, and military groups leaving isolated communes entrenched in violence and poverty. However, the city has reinvented itself since the twenty-first century with innovation in public transportation and urban policy that have integrated these communes with the rest of the city, spurring growth and reducing violence. A study of Medellín's transformation reveals the significance of mobility, social interventions, and the government's collaboration with residents and the private sector in decreasing social exclusion. Medellín presents an example for other cities in need of engaging with their citizens to reduce marginalization and foster urban prosperity.

Keywords

social inclusion, social exclusion, social urbanism, Medellin Colombia, Transportation

Disciplines

Business | Social and Behavioral Sciences | Technology and Innovation

Reducing Social Exclusion in Disadvantaged Urban Areas through Transportation

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ABSTRACT

Cities in both developing and developed nations have long struggled with marginalized members of their population unable to access employment, education, and opportunities needed for social mobility. This limited access to opportunities transcends the globally acknowledged issue of urban inequality. Scholars refer to the phenomenon as social exclusion, involving the lack or denial of resources, rights, goods and services, and the inability to participate in the normal relationships and activities, available to the majority of people in society. Medellín, Colombia suffered from social exclusion for decades with drug cartels, gangs, and military groups leaving isolated communes entrenched in violence and poverty. However, the city has reinvented itself since the twenty-first century with innovation in public transportation and urban policy that have integrated these communes with the rest of the city, spurring growth and reducing violence. A study of Medellín's transformation reveals the significance of mobility, social interventions, and the government's collaboration with residents and the private sector in decreasing social exclusion. Medellín presents an example for other cities in need of engaging with their citizens to reduce marginalization and foster urban prosperity.

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INTRODUCTION

Urban Social Exclusion

The University of Pennsylvania's location in Philadelphia makes the study of urban marginalization very relevant. Although the city benefits from growing investment and higher incomes, as of 2016, a quarter of the population still lived under the poverty line. Specific zip codes have been proven to suffer from higher violence and crime rates, poor education, and lower life expectancy.¹ Philadelphia's marginalization problem is one common to several cities in both developing and developed nations around the world. While cities have been forces of economic development, they have also been spaces of increasing economic and social inequality where vulnerable members of the urban population are unable to access the employment, education, and opportunities needed for social mobility.² This lack of access to opportunities transcends inequality. Scholars refer to the growing phenomenon as social exclusion.

Researchers from the University of Bristol define the issue as:

“A complex and multi-dimensional process. It involves the lack or denial of resources, rights, goods and services, and the inability to participate in the normal relationships and activities, available to the majority of people in society, whether in economic, social, cultural, or political arenas. It affects both the quality of life of individuals and the equity and cohesion of society as a whole.”³

¹ *Philadelphia's Poor: Experiences From Below the Poverty Line*, 1, September 26, 2018, accessed July 12, 2019, <https://www.pewtrusts.org/research-and-analysis/reports/2018/09/26/philadelphias-poor-experiences-from-below-the-poverty-line>.

² Solomon Greene et al., "Open Cities: From Economic Exclusion to Urban Inclusion," urban.org, last modified June 2016, accessed July 13, 2019, <https://www.urban.org/sites/default/files/publication/80166/2000770-open-cities-from-economic-exclusion-to-urban-inclusion.pdf>.

³ Matthew Gray, Alan Hayes, and Ben Edwards, *Social Inclusion: Origins, concepts and key themes* (n.p.: Commonwealth of Australia, 2008), 5, https://www.researchgate.net/publication/322160853_Social_Inclusion_Origins_concepts_and_key_themes.

Furthermore, researchers at the Urban Institute in Washington DC have identified four main dimensions of exclusion:

Labor market exclusion which makes it difficult to find employment due to discrimination or transformations in the job market;

Poor-quality jobs which result in low wages, in convenient work hours, job insecurity, and lack of possibilities in career mobility;

Economic vulnerability which is financial insecurity inhibiting a family from protecting itself during financial emergencies;

Isolation from opportunity which occurs when people reside in areas without access to jobs, good schools, health care facilities, and public spaces.⁴

While the severity of each dimension is different across urban areas, the dimensions intensify the effects of each other.

Transport Poverty

There is evidence across several nations that social exclusion and low-income is linked to limited access to transport, a phenomenon known as transport poverty.⁵ The most nuanced definition of transport poverty comes from researchers at the University of Leeds:

“An individual is transport poor if, in order to satisfy their daily basic activity needs, at least one of the following conditions apply:

- There is literally no transport option available that is suited to the individual’s physical condition and capabilities.
- The existing transport options do not reach destinations where the individual can fulfil his/her daily activity needs, in order to maintain a reasonable quality of life.

⁴ Greene et al., "Open Cities," urban.org.

⁵ International Transport Forum, *Income Inequality, Social Inclusion and Mobility*, 14, 2017, <https://www.itf-oecd.org/sites/default/files/docs/income-inequality-social-inclusion-mobility.pdf>.

- The necessarily weekly amount spent on transport leaves the household with a residual income below the official poverty line.
- The individual needs to spend an excessive amount of time travelling, leading to time poverty or social isolation.
- The prevailing travel conditions are dangerous, unsafe or unhealthy for the individual.”⁶

BACKGROUND ON MEDELLIN, COLOMBIA

Medellin is the second largest city in Colombia and the largest in the Metropolitan Area of the Aburrá Valley. The city is divided into 16 regions called *comunas* or communes. Because of the city’s location in a valley, it is surrounded by mountains where hundreds of thousands of residents live informally. The communes located on the slopes of the valley house residents that are usually less-educated and from low-income backgrounds. Due to these neighborhoods’ high altitude location, they have been historically underserved by infrastructure, services and transportation. These hilly regions of the city have few roads mostly of low-quality. It is dangerous and difficult to build roads because of the steep slopes of the geographical location.⁷ For decades, high-altitude neighborhoods had little access to facilities such as hospitals, good schools, and recreation centers that were in the valley. This inaccessibility resulted in a low quality of life and a separation from the formal economy of the city, restricting opportunities for low-income people and keeping them below the poverty line.⁸ The social exclusion of these neighborhoods made them especially vulnerable to the immense violence that characterized

⁶ Karen Lucas et al., *Transport poverty and its adverse social consequences. Proceedings of the Institution of Civil Engineers - Transport* (n.p.: ICE Publishing, 2016), 7, <http://eprints.whiterose.ac.uk/94663/1/ICE%20paper%202016%20Symplectic.pdf>.

⁷ Julio Dáliva, ed., *Urban Mobility and Poverty: Lessons from Medellín and Soacha, Colombia* (Development and Planning Unit, UCL and Universidad Nacional de Colombia, 2013), 58, digital file.

⁸ Rebecca Chau, "Social Urbanism: Transformational Policy in Medellín, Colombia" (unpublished manuscript, December 2, 2015), 3, https://static1.squarespace.com/static/595d49bd20099eac91414851/t/59d87021f6576ed92f06edbc/1507356706899/Rebecca+Chau-GPEIG+Case+Study+Prize_Medellin_Rebecca+Chau.pdf.

Medellin during the 1980s and 1990s. Medellin suffered enormously during these decades when drug cartels and violence dominated the political and public scene of the city, increasing its notoriety as the most dangerous city in the world because of its high homicide and crime rates.⁹ Cartels cut off vulnerable communes from the political framework of the city, deepening the effect of violence in these areas and reinforcing their social exclusion.

However, Medellin has reinvented itself during the twenty-first century as a city dedicated to the social inclusion of all its citizens. For the last two decades, it has worked towards the goal its mayor set in 2004: “an equal city for all and where all citizens can construct relations stimulated by a city rich in services, culture, and public space.”¹⁰ Establishing infrastructure systems complemented by welfare programs has greatly decreased social exclusion. Medellin’s place as a center of urban innovation has greatly contributed to its falling crime and violence rates and rising quality of life of its residents. Its transformation shows how improvements in social inclusion starting with mobility can greatly impact the prosperity of urban spaces.

RESEARCH OBJECTIVE AND METHODOLOGY

This research aims to study a solution to urban social exclusion especially through interventions in transport poverty. The study will focus on the city of Medellin, Colombia which has been held up as a model for urban innovation, winning the Lee Kuan Yew World City Prize in 2016 and the City of the Year Award in 2012. The research will draw from the extensive literature on the transformations in Medellin Colombia since the twenty-first century as well as a synthesis of information and data from working with five companies in Medellin. This includes

⁹ Chau, "Social Urbanism," 3.

¹⁰ Paul Goodship, *The impact of an urban cable-car transport system on the spatial configuration of an informal settlement*, 2, http://www.sss10.bartlett.ucl.ac.uk/wp-content/uploads/2015/07/SSS10_Proceedings_131.pdf.

interviews with workers from different departments within each company to understand their function and how it contributes to the social inclusion of the city, relevant data sets, and on-site visits to areas that benefit from their interventions.

The five companies include Metro de Medellín, Sistema Alimentador Oriental 6, Comfama, The Agency for Cooperation and Investment in Medellín, and The Institute of Sports and Recreation. The Metro de Medellín (Metro of Medellín) is a state-owned, commercial company that maintains the public transportation infrastructure of the city. Sistema Alimentador Oriental 6 is a bus company within Sistema Integrado de Transporte del Valle Aburrá (SITVA), the public transportation system for the metropolitan area of Medellín. Caja de Compensación Familiar de Antioquia (Comfama) is a social company supervised by the government that is dedicated to improving the quality of life of residents of Antioquia. The Agency for Cooperation and Investment in Medellín is an association of public entities that secures funding for projects in Medellín through local and international investments and partnerships. The Institute of Sports and Recreation is an entity that provides recreation spaces and resources all over the city to contribute to better quality of life. Information gathered from the five different companies was essential to understanding how the city works towards better social inclusion in real time.

INCLUSIVE TRANSPORTATION INNOVATION

From Metro to Metrocable

The core of Medellín's transportation system is the Metro which was constructed in 1995. The Metro has two lines, the first one running along the Medellín River connecting the north and south of the city and neighboring towns, and the second running east to west.¹¹ Medellín's Metro

¹¹ Dáliva, *Urban Mobility*, 82.

system is also famous for its “cultura metro” (metro culture) which is specific to the city.¹² The Metro culture portrays public transportation as more than a helpful means of mobility but also as a way of life. Citizens are educated on how to act on public transportation and foster good habits and attitudes while using the Metro, keeping it clean, safe, and comfortable for all users. The “Cultura Metro” of Medellín has not only set an example for other cities, but its benefits to civic lifestyle reveals its role in social transformation.¹³ However, for many years after the creation of the Metro, the system struggled with low ridership. Because it only ran north-south and east-west, it was inaccessible to residents living in high altitude areas of the city.¹⁴ While the metro was able to better integrate those living in the valley of Medellín, it only heightened the marginalization of citizens living in the mountains and hilly areas that had already been socially excluded for decades.

Efforts to create a system that would connect the communes in high altitudes to the rest of the formal city began in the late 1990s with technical studies on the construction of an aerial cable car.¹⁵ Under the leadership of the mayor of Medellín Sergio Fajardo, the first line of the metro-cable was opened in 2004. The metro-cable connects distant communes to the metro system, giving them easy access to other communes and making it easier to use the main transit system of the city. The K-Line of the metro-cable built in 2004 was for the residents of communes 1 and 2 in the northwest of the city. The L-line built in 2008 connects the western

¹² Mauricio Bejarano, Lina Ceballos, and Jorge Maya, "A user-centred assessment of a new bicycle sharing system in Medellín," *Transportation Research Part F: Traffic Psychology and Behaviour* 44 (January 2017): 147, <https://doi.org/10.1016/j.trf.2016.11.004>.

¹³ Bejarano, Ceballos, and Maya, "A user-centred," 147.

¹⁴ Dáliva, *Urban Mobility*, 82.

¹⁵ Chau, "Social Urbanism," 5.

communes 7 and 13. Finally, the L-line built in 2010 after Fajarado's administration was created for tourists and connected riders to the Arví Natural Park.¹⁶

The Metrocable became the gem of Medellín's social inclusion through urban transportation innovation in several ways. Firstly, the system was the first step in closing the mobility gap between citizens living in the valley and those in hilly communes by granting greater accessibility. Accessibility is defined by "the quality of transportation, how well it connects origins and destinations, its geographical accessibility, and its facilitation of employment, education and social opportunities."¹⁷ The Metrocable K-line is fifteen-minute trip while the journey had taken over an hour before the creation of the aerial cable cars.¹⁸ This means that citizens have an alternative to buses, taxis, and walking that is not only faster but also safer and more comfortable considering the deteriorating states of many of the roads in the mountains. The metrocable is also a useful alternative because of its affordability. Its fees are combined with those of the metro and metro buses saving riders thirty-three percent. This means that after paying to use the metrocable to the metro station, one does not have to pay again to use the metro or a bus to his or her final destination, which is extremely beneficial for long-distance, multimodal trips. These benefits have made the K-Line a huge success with over thirty thousand riders daily.¹⁹ It is worth noting that the structure of the metrocable system does unintentionally favor some group of workers over others, especially those in formal manufacturing, construction and services industries. Because workers in these sectors tend to have longer commutes and travel north to south, they stand the benefit the most from the metrocable, while other groups

¹⁶ Dáliva, *Urban Mobility*, 47.

¹⁷ Chau, "Social Urbanism," 18.

¹⁸ Chau, "Social Urbanism," 18.

¹⁹ Chau, "Social Urbanism," 19.

who engage in shorter trips that deviate from the metro line will enjoy less benefits.²⁰

Nonetheless, the fact that it is now cheaper, easier, and faster to access the city center means that citizens of the hilly communes can feel more woven into the urban fabric of Medellín.

The introduction of the metro cable has also brought substantial economic growth to the communes. While the incomes of males in all four communes served by the metro cable were below the legal minimum wage in 2004, since the introduction of the aerial cable car system, average family incomes have increased. In 2009, the average wages were at or above the legal minimum wage.²¹ In addition, many residents are able to save money from the affordable price cuts of the metro cable. While a trip that required two buses cost 3,200 Colombian Pesos, using the metro cable-metro-bus route would only cost 2,150 Colombian Pesos.²² These savings over time are very substantial to the low-income people in disadvantaged communes. Due to better access to the rest of the city, more business has arrived as people have easier access to resources and facilities. Slum tourism has skyrocketed in the communes because of the metro cable which has brought in customers to fuel the opening of new businesses such as shops, bars, and restaurants. Many of the local youth have been able to take advantage of the new influx of tourists by taking up jobs as tour guides.²³ Industrial activity has also seen changes since the creation of the metro cable. Small metal-working workshops increased by 113% in Commune 1 and by 164% in Commune 2 from 2004 to 2008. Furthermore, the service sector has greatly expanded in the communes with the industry increasing by a whopping 1369% in the years following the establishment for the K-Line in Commune 2.²⁴ While much of the economic

²⁰ Dáliva, *Urban Mobility*, 48.

²¹ Dáliva, *Urban Mobility*, 93.

²² Dáliva, *Urban Mobility*, 93.

²³ Dáliva, *Urban Mobility*, 94.

²⁴ Dáliva, *Urban Mobility*, 94.

growth has been limited to the areas of the communes located near the metro cable stations, the metro cable system has altogether greatly contributed to the economic inclusion of the communes by integrating the communities to the economically prosperous center of the city.

Increased security in the communes has been revolutionary given that these areas struggled with violence for decades and were notoriously famous for their homicide rates. For much of the second half of the twentieth century, the government retreated from the informal settlements of the hilly communes, leaving them to the vices of drug cartels and gangs that controlled the regions. The construction of the metro cable was an instrument for the legal government to reestablish control over the communes and keep a permanent mark on the area. Furthermore, during the twentieth century, local gangs from different neighborhoods had prohibited residents from crossing over into their communes creating *fronteras invisibles* or invisible borders between neighborhoods which separated families and friends.²⁵ The fact that the metro cable lines provides easy access between different communes is symbolic of the elimination of these invisible borders and the fostering of a more unified city. A natural experiment comparing data from 2003 and 2008 revealed reductions in murder rates by 66% and in reported violent attacks by 74% (in only four years after the metro cable establishment).²⁶ Increased security has also resulted in safer public spaces which has fostered communication, integrity, and trust between neighbors which in turn prevents overlooking acts of violence.²⁷ Since the crime and homicide rates has plummeted, the communes have been opened to national

²⁵ Dirk Heinrichs and Judith Bernet, "Public Transport and Accessibility in Informal Settlements: Aerial Cable Cars in Medellín, Colombia," *Transportation Research Procedia* 4 (2014): 58, <https://doi.org/10.1016/j.trpro.2014.11.005>.

²⁶ Chau, "Social Urbanism," 21.

²⁷ Dáliva, *Urban Mobility*, 93.

and international visitors. In this way, access to transportation has not only unified the city politically across communes, but also connected them with the rest of the country and the world.

Sistema Integrado de Transporte del Valle de Aburrá

While the metrocable made the metro more accessible to citizens, other expansions in the public transportation system were needed to further increase the mobility offered by the metrocable. The metro and metrocable became the base to a larger system of transportation that allows for more social inclusion through transportation called Sistema Integrado de Transporte del Valle de Aburrá (SITVA), a conjunction of different modes of transportation offered to the citizens of the municipalities in the valley of Aburrá in which Medellín is located. SITVA also includes *el tranvía* (the tram), the Metroplus, a system of buses that complements the metro, feeder buses, public collective buses and Enicla, a bicycle-sharing system.²⁸

The last three facets of SITVA are especially helpful in improving mobility and fostering social inclusion. Although the metrocable was transformative for citizens in high altitudes, residents from different parts of the vast hilly communes had to arrive at the location of the cable car system before they could actually use it. This was difficult for those that lived in altitudes that were too low or too high and would have to make their way up or down hilly terrain of informal roads to reach the metrocable stations.²⁹ However, a system of private company buses supervised by the government developed to reach the needs of these groups of residents, creating a feeder system for the other modes of transport offered by SITVA. Different transportation firms operate in the nine catchment areas of the Valley of Aburrá. For example, the bus company

²⁸ Área Metropolitana del Valle de Aburrá, "SITVA: Sistema Integrado de Transporte del Valle de Aburrá," [Metropol.gov.co](https://www.metropol.gov.co/movilidad/Paginas/transporte-publico/sitva.aspx), last modified 2019, <https://www.metropol.gov.co/movilidad/Paginas/transporte-publico/sitva.aspx>.

²⁹ César Alberto Rosero Torres, interview by the author, 56A No. 62-50 Medellín, Colombia, July 11, 2019.

Sistema Alimentador Oriental 6, serves the sixth catchment area which includes communes 1 and 2 served by the K-Line of the metrocable. Starting at 3am, the buses begin their route, carrying residents from the slopes of Communes 1 and 2 to the metrocable stations and other residents to their respective desired mode of transportation.³⁰ Sistema Alimentador Oriental 6 on its own carries over 20 million passengers a year only from the sixth catchment area.³¹ These feeder buses are useful in expanding the reach of the foundational transportation projects in Medellín. In this way, the socially inclusionary benefits of the metrocable are not limited only to residents that live in close proximity to the stations but are shared by all residents of the communes. In addition, the feeder buses are another opportunity for citizens to save money. Because these buses are part of SITVA, riders can pay with their civic card that is also used to pay for the metro and metrocable. This means that when riders pay to use one of these feeder buses to the metrocable station, they will not have to pay to use the metrocable or the metro.³² They are essentially getting three rides for the price of one. For citizens that live very far from major public transportation stations, this affordability increases their likelihood of trips to the city center and their integration with the larger urban area. Citizens are also drawn towards the feeder bus systems because of comfort. Because only one bus company works in each catchment area, bus riders do not have to deal with the discord and unreliability caused by the competition between individual bus companies. Also, they have to pay with their civic card, so they are assured transparency and fairness in ride fares. Finally, the bus companies that operate in different catchment areas are also responsible for different social projects in their respective areas. For example, Sistema Alimentador 6 rebuilds deteriorated roads in the informal

³⁰ Madeleine Ceballos Correa, "Plan de Gestión Social: Cuenca 6," last modified July 18, 2019, digital file.

³¹ Rosero Torres, interview by the author.

³² Ibid.

settlements where it operates, visits schools to provide education on civic responsibility, and organizes several monthly activities and events open to the community of riders and non-riders.³³ As a result, disadvantaged neighborhoods are able to enjoy activities that would usually be offered to only more privileged residents of the city.

In addition to the feeder buses, a bicycle sharing system called EnCicla completes the modes of transportation within SITVA. EnCicla was a project formed by students and faculty of EAFIT University in Medellín that began to serve as a public mode of transportation in 2012.³⁴ The bicycle sharing service allows metro riders to avoid the traffic congestion when visiting three major universities in the city as it connects the educational institutions to their nearest metro stations without a fee.³⁵ This system is especially beneficial to low-income university students from traditionally socially excluded areas who may not have the extra money to pay for trips from the metro station. EnCicla not only provides a fast, affordable and environmental mode of transport but also emphasizes the importance of access to higher-level educational institutions which are symbolically spaces for urban integration.

Emotional Social Inclusion: The Case of the Electric Stairs

One project that draws much attention to Medellín's urban transportation innovation scene is the *escaleras eléctricas* or electric stairs. The electric stairs are sets of outdoor, solar-panel powered escalators that can carry 12,000 people.³⁶ The escalators are an alternative to the 350 stairs needed to ascend the 384 meters in commune 13.³⁷ The escalator provides a faster, safer method of descending the slopes in the case of emergencies considering that all the major

³³ Ceballos Correa, "Plan de Gestión."

³⁴ Bejarano, Ceballos, and Maya, "A user-centred," 3.

³⁵ *Ibid.*

³⁶ Chau, "Social Urbanism," 13.

³⁷ Chau, "Social Urbanism," 14.

hospitals and facilities are located in the formal city. While the electric stairs have shortened travel times in the hilly terrain and has been especially beneficial for older citizens and children, it is not very impactful in terms of mobility and carries less people than its capacity. Because it opens at 6am, it is not a practical mode of transportation for residents who have to arrive at work early, and many citizens were already used to walking up and down long flights of stairs for decades³⁸. Nevertheless, the electric stairs have affected the citizens of the commune in other ways especially through their emotional feelings of connection with the rest of the city.

Residents appreciate the beauty and innovation of the project and feel a sense of pride because of its location in their community.³⁹ To them, it is a reminder that the government is still invested in their community after decades of neglect during periods of control by cartels. Furthermore, the massive influx of local, national, and international tourists because of the electric stairs has increased the commune's sense of self-esteem and respect as well as their feelings of inclusion within the city.⁴⁰ These emotional feelings of inclusion⁴⁰ go beyond the electric stairs and also result from larger improvements to transportation for marginalized people. Since the construction of the metro cable, residents of the informal areas of the city have felt "visible" to the country, as if their plights and needs are finally being noticed. Many feel like they are no longer stigmatized and segregated because of the poverty and violence in the community.⁴¹ The fact that their neighborhood has become a tourist attraction gives them pride in identifying with their community and assures them that it plays an important part in the city.

OTHER FINDINGS

³⁸ Letty Reimerink, "Planners and the Pride Factor: The Case of the Electric Escalator in Medellín," *Bulletin of Latin American Research*, June 9, 2017, 193, <https://doi-org.proxy.library.upenn.edu/10.1111/blr.12665>.

³⁹ Dáliva, *Urban Mobility*, 60.

⁴⁰ Reimerink, "Planners and the Pride," 195.

⁴¹ Dáliva, *Urban Mobility*, 61.

Social Urbanism

While increasing mobility has been particularly impactful in the lives of citizens in Medellín, the social inclusion of the city cannot be attributed to transport innovation alone. Improvements in transportation systems were complemented by other interventions in the city that reinforced social inclusion. In fact, the government's investment in other projects during the first four years of the construction of the metrocable was seven times the cost of the aerial cable cars.⁴² This massive investment in marginalized communities was the product of the movement called Social Urbanism. The movement was based on equality, dignity, crime and violence prevention, and education, with the aim of “[giving] the city back to its inhabitants and the inhabitants back to the city.”⁴³ In addition to the metrocable, the government also established Integral Urban Projects (PUIs) that included the legitimization of informal settlements and the creation of community facilities such as business development centers.⁴⁴ These projects were based in areas of the highest poverty and violence in order to increase the quality of life of residents. The construction of *Parque Bibliotecas* or Library Parks is one of the most prominent products of Social Urbanism. Library Parks are local cultural spaces with libraries, classrooms, child-care centers, galleries and entertainment where residents of the city can come together and interact safely.⁴⁵ In a city known for violence and segregation by socio-economic status, these safe spaces open to everyone counter the history of urban exclusion. Moreover, in library parks, all residents have access to books, technology, training programs, recreation, and cultural activities.⁴⁶ Women have especially taken advantage of the training programs which is evident in

⁴² Dáliva, *Urban Mobility*, 54.

⁴³ Chau, "Social Urbanism," 7.

⁴⁴ Dáliva, *Urban Mobility*, 201.

⁴⁵ Chau, "Social Urbanism," 10.

⁴⁶ *Ibid.*

growing entrepreneurship and the reduction of gender inequality.⁴⁷ While the facilities and opportunities in the library parks have contributed to the social and economic integration, the buildings themselves have also affected the emotional inclusion of citizens. Much attention went into the architecture of the library parks in order to create “the most beautiful buildings...in [the] poorest areas,” a commitment by the mayor of the city.⁴⁸ The striking architecture of the library parks stand out even in the poorest communes and dignifies the community. Social Urbanism was necessary to combine the physical transportation improvements with essential social and educational interventions to reinforce social inclusion in Medellín communities.

Participatory Planning

A characteristic of Medellín’s social inclusion strategy that cannot be overlooked is its participatory planning. For the most part, the projects undertaken by the municipality were well-aligned with the desires of the residents. Since the 1990s, participation of citizens in governmental project planning was written into law with the establishment of several participation mechanisms.⁴⁹ The citizens do not only approve the ideas of the municipality but also offer valuable ideas for specific programs and projects based on their needs. For example, the municipality has operated through *Empresa de Desarrollo Urbano*, an urban development company, to hold *Talleres de Imaginarios* or Imagination Workshops.⁵⁰ In these workshops, citizens have the opportunity to present what they would like to see in their city. In fact, the idea for the electric stairs constructed in 2013 in commune 13 began in one of these workshops.⁵¹ Furthermore, citizens are also active in the government’s budgeting. Local communities are

⁴⁷ Dáliva, *Urban Mobility*, 77.

⁴⁸ Chau, "Social Urbanism," 7.

⁴⁹ Dáliva, *Urban Mobility*, 65.

⁵⁰ Clara Cárdenas, interview by the author, Cra 43A #6 Sur-15, Medellín, Colombia, July 18, 2019.

⁵¹ *Ibid.*

permitted to choose how to invest between five to ten percent of the city's funds.⁵² They are eager and excited to be able to impact their communities directly. Participatory planning has been very successful in Medellín as it has encouraged individual initiatives, built mutual trust between the government and citizens, and ensured the commitment of citizens to municipality programs and interventions.⁵³

The Municipality and Private Enterprise

Innovation in social inclusion in Medellín is not dominated by the government. The private sector plays a large role in social entrepreneurship and works alongside the government to improve the quality of life in the city. Medellín is known for having a business scene that provides services to meet the needs of its residents. Some of the largest organizations that offer welfare to citizens are private. The *Caja de Compensación Familiar de Antioquia* (Comfama) is a non-profit organization that provides services to about four million low-income residents in the department of Antioquia in which Medellín is located.⁵⁴ Affiliate members who pay through a payroll tax have access to education, health, business aid, economic protection, and recreation. For over sixty years, the organization has produced creative ways of working with the municipality, companies, or other non-profits to address the issues of the disadvantaged population in the department.⁵⁵ Comfama partnered with government agencies to develop state subsidies during periods of housing shortages.⁵⁶ It collaborated with over forty universities and unions to provide vocational training to its members. In partnership with the government, the metro cable company and other local and international organizations, Comfama was able to

⁵² Dáliva, *Urban Mobility*, 66.

⁵³ *Ibid.*

⁵⁴ *A Harvard Kennedy School Case Study: Social Thinking Notebooks No. 17* (Medellin, Colombia: Comfama, 2013), 5, <https://www.comfama.com/contenidos/bdd/45882/harvard.pdf>.

⁵⁵ Maria Luisa Trujilo, interview by the author, Cra. 44 #19a-100, Medellín, Colombia, August 2, 2019.

⁵⁶ *A Harvard*, 6.

construct mobile libraries in metros offering free books to residents who would not be able to afford them.⁵⁷ Furthermore, the organization is known for its beautiful parks and Comfama centers specifically located in low-income neighborhoods in line with the social urbanism idea of providing the best architecture for the poorest residents of the city.⁵⁸

The government in Colombia has long valued the contributions of the private sector to the wellbeing of the state. *Las Asociaciones Público Privadas* (APP) is a partnership of public and private sectors that provide services that would normally be provided by the state.⁵⁹ APP combines the capital of the private sector with the public benefit vision of the municipality for urban development. Furthermore, *El Comité Universidad Empresa Estado* (CUEE) has been bringing together scholars, government agencies and company representatives since 2003. The association is based on the need for a synergy between academia, private enterprise and the state to develop the best strategies for city planning.⁶⁰ It meets periodically to discuss using science, technology and innovation for urban growth. Additionally, social entrepreneurship is encouraged through funding sources such as the Agency for Cooperation and Investment in Medellín (ACI) that invests in promising enterprises that have a public benefit.⁶¹ ACI has invested in Ruta N, a center for business innovation in Medellín committed to raising the standard of living in the city as well as *jardines infantiles* or baby gardens which builds parks for toddlers throughout the city.⁶² Baby gardens provide safe playgrounds and facilities for young children regardless of the income level of the neighborhood in which the children are located, contributing to better

⁵⁷ Trujillo, interview by the author.

⁵⁸ *A Harvard*, 7.

⁵⁹ Cárdenas, interview by the author.

⁶⁰ "¿Qué es el CUEE?" [What is CUEE?], University of Antioquia, last modified 2018, <http://www.udea.edu.co/wps/portal/udea/web/inicio/institucional/comite-universidad-empresa-estado>.

⁶¹ Cárdenas, interview by the author.

⁶² *Ibid.*

childhood development and the urban inclusion of families. Other companies such as the Institute of Sports and Recreation (Inder) build recreation areas for older children and adults. Inder constructs and maintains courts and fields near metro stations and in disadvantaged neighborhoods so that residents have spaces to play and practice different sports.⁶³ In providing these spaces, this organization equalizes opportunities for poorer citizens and gives them an alternative to violence. Even within the transportation sector, the existence of private bus companies such as Sistema Alimentador Oriental 6 within the SITVA network is integral to the operation of the metrocable and the expansion of mobility in communes. Altogether, Medellín's efforts in social inclusion have been especially successful due to a thriving partnership between the public and private sectors.

LESSONS FOR OTHER CITIES

Several cities have tried to emulate Medellín's transformation with varying levels of success. Urban areas around Latin America from Caracas, Venezuela to La Paz, Bolivia to Rio de Janeiro in Brazil have attempted building their own versions of the metrocable. In Caracas, an aerial cable car system was constructed to connect the city center to the the marginalized San Agustín district which had been notoriously known for violence.⁶⁴ Like the Medellín municipality, Urban Think Tank, the company commissioned to build the system viewed the aerial cable car system as a foundation for inclusion that would need complementary interventions, saying "A cable-car alone can't be a solution, but it can be the basis for a

⁶³ "Información del INDER Alcaldía de Medellín" [Information about Inder of the Governship of Medellín], Institute of Sports and Recreation of Medellín, last modified 2016, <https://www.inder.gov.co/es/transparencia/estructura-organica-y-talento-humano>.

⁶⁴ Anoush Darabi, "In Medellín, cable cars transformed slums—in Rio, they made them worse," Apolitical, last modified January 18, 2018, https://apolitical.co/solution_article/medellin-cable-cars-transformed-slums-rio-made-worse/.

solution.”⁶⁵ The cable-car cuts the 600-step journey from San Agustín to the metro station by forty minutes, and with the creation of hubs around the cable-car stations, Caracas’ system is having similar effects to the one in Medellín.⁶⁶

On the other hand, Rio de Janeiro’s cable-car system has not been successful. While the cable-car system which was built in the Providencia favela in the wake of the hosting of FIFA World Cup in 2014 and the 2016 Olympics received much attention, it did not have a transformative impact on the slum like in Medellín. Only eight percent of the population had registered to use it after the first year, a far cry from the expected capacity of seventy percent.⁶⁷ Firstly, a single cable-car system in Providencia was not as effective because of the geography of the slum which is distributed among several hills unlike those in the communes of Medellín located on one large hill.⁶⁸ Rio de Janeiro needed to expand its transportation system to increase the flow of citizens to the metro cable station like SITVA in Medellín, but it would be more difficult due to the geography. Furthermore, the municipality in Rio de Janeiro failed to include residents in its planning leading to several problems. The government changed the structure of the favela to fit the cable-car system, resulting in forced removals, the destruction of the community’s main square and low participation.⁶⁹ Also, the government ignored necessary complementary social interventions and funding for other infrastructure projects was cut because of the cable-car. These were projects that citizens prioritized more than the construction of the cable-car system such as sanitation and better housing which would have also increased feelings

⁶⁵ Gerhard Waldherr, "Urban Think Tank's Caracas Cable-Car," trans. Kerstin Zumstein, Icon Eye, last modified August 7, 2010, accessed August 13, 2019, <https://www.iconeye.com/architecture/features/item/4430-urban-think-tank-s-caracas-cable-car>.

⁶⁶ *Ibid.*

⁶⁷ Darabi, "In Medellin," Apolitical.

⁶⁸ *Ibid.*

⁶⁹ Celina Sorboe, "Rio's Governor & Mayor Launch Cable Car in Providência," Rio on Watch, last modified July 4, 2014, accessed August 13, 2019, <https://www.rioonwatch.org/?p=16538>.

of social inclusion in the city for residents of Providencia.⁷⁰ Since 2017, operation of the cable-car has stopped, and many residents feel that the project was a waste of funding that could have been used for more important transformations.⁷¹

Rio de Janeiro's cable-car system failure demonstrates the need to approach urban inclusion planning in a way that fits the body of each city. This requires extensive collaboration between those who are excluded and city authorities to understand the needs of the community. It also highlights the fact that mobility cannot change communities alone and needs to be reinforced by other social and economic opportunities to raise people out of poverty.

CONCLUSION

Medellin provides several lessons in social inclusion for other cities to exemplify. The city demonstrates the invaluable role of transportation in the integration of urban areas and its effects on poverty and violence. Only two years after the construction of the metrocable, the homicide rate was 32.5 per 100,000 people from 185 per 100,000 people only four years before in 2002, and the rate of violence has continued to plummet in the 2010s.⁷² Nevertheless, Medellin also underscores the importance of complementary social interventions in addition to physical transport infrastructure. The municipality put much efforts into ensuring education, economic opportunities, and safe public spaces were provided for all citizens with the establishment of library parks, business training programs, and other "integral urban projects". Furthermore, the municipality government has been successful in social inclusion by encouraging and incorporating the ideas of its citizens and private sector. Participatory planning and budgeting have been woven into urban strategizing which has not only resulted in creative

⁷⁰ Ibid.

⁷¹ Darabi, "In Medellin," Apolitical.

⁷² *A Harvard*, 3.

ideas such as the electric stairs but also in greater mutual trust between the government and residents. The private sector has always stepped up to address issues of inclusion acknowledging that change is needed in the city after decades of violence. Whether the private sector is providing capital for the municipality, receiving funding from it, or just combining its ideas with those of the government, it has played a major role in the development of the urban community.

Finally, the varying levels of success in replications of Medellín's transformations reveals that cities cannot have a one-model-fits-all strategy for social inclusion. Medellín's example to other cities is not an exact replication of its transportation system or public programs. It is a lesson in the significance of mobility to increase social inclusion, the essence of social interventions, the necessity of constant dialogue between citizens and government, and the value of collaboration between public and private sectors in developing cities.

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