

# WHY DOES SHE MOVE?

A STUDY OF WOMEN'S MOBILITY IN LATIN AMERICAN CITIES



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1 The multi-donor funded Umbrella Facility for Gender Equality (UFGE) supports initiatives that demonstrate a strong public good rationale and are catalytic for innovation and investment in frontier issues or areas with persistent gaps. In the World Bank's Latin America and Caribbean (LAC) region, UFGE funding aims to contribute to advancing knowledge and gathering evidence related to women's agency and economic opportunities.



## INTRODUCTION

**The ability to move freely is an essential human right and an enabler of individuals' participation in social and economic life.** In recent years, the transport sector has recognized its role as a catalyst for poverty reduction and has striven to promote inclusive transport for all. The United Nations has recognized the relevance of the transport sector for urban development and inclusiveness through the sustainable development goals (SDG11, Target 11.2): “By 2030, provide access to...sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations”. According to UN Habitat, two-thirds of the population will be living in cities by 2050 (UN Habitat, 2018). The efforts required to build sustainable and inclusive transport systems in the future will not be minor.

**A key concept orienting action towards the goal of transport inclusiveness is the concept of “accessibility.”** Accessibility has been defined as “the ease with which an individual is able to access opportunities (e.g., employment, health care, education, etc.), within the city space” (Gomide, Leite, & Rebelo, 2005). The World Bank has been focusing its accessibility efforts on the following dimensions: 1) planning transport to increase access to jobs and health services, 2) inclusive access, concerning transport access for the poor, for persons with disability and the elderly; and 3) taking into account the specific mobility needs of women.

**Efforts to improve transport inclusiveness will require paying attention to women's access to and use of transport infrastructure and services.** Research from several countries has consistently shown that men and women have different mobility patterns and that transport infrastructure tends to disfavor women. Women rely on public transport and non-motorized modes of transportation (mainly walking) more than men. Women travel shorter distances and within a more constricted geographical area, engage in more non-work travel, make more



*“It would take about two and a half hours just to get to work, five hours on a bus to ride there and back every day. It wouldn't be good at all. I quit my job because of the travel time. It's inhuman. No way would I continue to do that”*

30-50-YEAR-OLD WOMAN,  
RIO DE JANEIRO

*“I can't say that I feel good when I am in the street waiting for a bus. But it is my duty. I have to work...and if I don't work, life gets more difficult. If I could choose, I'd stay at home and not go to work. I think about that every day. I would stay at home taking care of the children, taking them to school, to the doctor, everything...”*

18-29-YEAR-OLD WOMAN,  
RIO DE JANEIRO

multi-stop trips, run domestic errands, carry bags, and often travel accompanied by others (children, elders, etc.). Although these differences exist, decision-making processes related to the design and planning of transport systems systematically neglect them.

**In World Bank operations, measures to improve accessibility—including for women—have focused on improving what policymakers consider to be enabling characteristics of transport infrastructure and services.** For example, standard interventions to improve accessibility involve expanding the coverage of transport infrastructure, ensuring transport prices are affordable to the poor or integrating gender assessments into the planning and monitoring of transport operations. Measurability is also essential. A standard accessibility indicator used in the planning phase to select priority areas and evaluate the impact of a project is the number of jobs reachable within a 45-60 minutes ride from project-affected areas.

**But are standard efforts to improve transport inclusiveness (e.g., bringing transport infrastructure and services to areas with low coverage) enough to ensure the take-up of transport services by poor urban women and thus improve their accessibility to jobs?** Similarly, is the standard accessibility indicator capturing adequately the impact of a project on women's accessibility, or only its potential?

**A short story from Mexico illustrates why it makes sense to ask the women themselves.** A brief consultation conducted in a poor area of Mexico City as part of a transport project (Dominguez et al., 2016) asked women about

factors that discouraged them from traveling and using the public transport system. A first group of women responded that they were either unable to afford fares or were deterred by the quality of the transport services on offer, pointing to issues like lack of safety or over-crowdedness during rides. Interestingly, a second group claimed that they had access to public transport and could afford it but were reluctant to travel on it because they were afraid of traveling long distances alone—something they had not done before. While the first group of women faced external constraints to their mobility, the second group faced obstacles of an internal nature: social norms and negative mobility experiences shaped negative self-efficacy<sup>2</sup> beliefs related to their mobility. This episode illustrates that factors other than transport availability and affordability have a significant role in shaping women's mobility and work decisions. If this is true, should those not also be considered in transport planning to guarantee women's accessibility in practice?

**This study explores the range of constraints to women's mobility and access to economic opportunities in six low-income areas of urban Latin America through the lens of agency<sup>3</sup>.** We frame women's *agency in mobility* as a woman's ability to make and act upon decisions related to her mobility and make full use of public transport systems. In this approach, we examine how factors shaped by gender, poverty, and social norms interact with factors related to actual transport systems to either sustain or constrain women's mobility and job accessibility. The study relies on data collected from

2 "Self-efficacy" is defined as the belief in one's ability to influence events that affect one's life, and to have control over how these events are experienced (Bandura, 1994).

3 "Agency" has been defined as the ability to make choices to achieve desired outcomes. This ability includes women's control over family assets and numbers, freedom from domestic violence, freedom of physical mobility, and access to social support provided by community networks, families, and friends (World Bank, 2011).

12 focus group discussions and 204 semi-structured interviews with women, men, and key informants in three metropolitan regions: Rio de Janeiro (Brazil), Buenos Aires (Argentina), and Lima (Peru).

**The study demonstrates that, apart from transport-related deficiencies, several factors at the community, household, and individual levels shape women’s capacity to make and act upon decisions about their mobility.** These include fear of assault and sexual harassment during the journey to work (between home and bus stop, at bus stops, in vehicles); restrictive social norms related to women’s mobility and work; lower priority given to women’s employment in households; limited financial resources; negative work and commuting experiences; lower sense of self-reliance for traveling alone; unequal division of care responsibilities; shortage of formal and informal care support; less access to and use of vehicles owned by the family; and narrower social networks. These elements represent a disproportionate burden for women in comparison to men in terms of financial, social, and time costs.

**The study aims to contribute to the literature on mobility in three main ways.** First, we zoom into the diverse experiences of lower-income women in urban Latin America, while most studies still focus on higher-income populations, or generalize women as a category. Second, by using an agency approach, we aim to apply a more holistic version of the concept of accessibility that goes beyond physical infrastructure and considers the full experience of women’s mobility, from door to destination<sup>4</sup>. Third, we use qualitative methodologies to help uncover the less tangible gendered processes that shape women’s choices, while most studies are quantitative.

**Structure of the report.** The study consists of five sections in addition to this introduction. Section 2: we discuss key findings from the literature on women’s mobility and how they inform the study design; Section 3: we briefly present the methodology; Section 4: we describe the factors which shape women’s Agency in Mobility and seek to show how these shape women’s decisions regarding mobility and work; Sections 5 and 6: we draw policy recommendations and conclusions.

4 Last mile connectivity is a concept used in transport planning to describe the movement of people and goods from a transport hub to a final destination (e.g. home).



2

GENDER AND MOBILITY: A REVIEW OF KEY ISSUES

#redenami

**The literature on gender and mobility continues to expand, both in terms of methods and locations. Most studies thus far are quantitative and have traditionally focused on identifying differences in travel patterns between men and women in multiple dimensions of travel behavior (e.g., mode of travel, distance, and time traveled) based on data disaggregated by gender<sup>5</sup>.** A smaller but growing body of studies has employed qualitative or mixed methods to explore individuals' real-life mobility experiences in a variety of contexts. While most studies target higher-income countries, research has also been emerging from a wider field (see Tanzarn 2008 on Kampala, Uganda; Srinivasan 2008 on Chennai, India and Chengdu, China; Elias, Newman, and Shiftan 2008 on Israel; Bhide 2016 on India, and Lecompte and Bocarejo 2017 on Bogotá, Colombia).

**Studies comparing gender differences in travel behavior have found patterns that are consistent across developed and developing countries:**

- **Women travel shorter distances** and are limited to a more restricted geographical area (Rosenbloom, 2006; CIVITAS, 2014; Lecompte & Bocarejo, 2017);
- **Women spend less time traveling and cover shorter distances to go to work** (Blumen and Kellerman 1990 for Haifa (Israel), Lee and McDonald 2003 for Seoul (Korea), Cristaldi 2005 (urban areas in Italy), and Schwanen, Dijst, and Dieleman 2002 (Netherlands). Women are more likely than men to work at home (Rosenbloom, 2006), and less likely to engage in “extreme commuting” (Marion and Horner, 2007). Women tend to locate their businesses closer to home than men (Hanson, 2003).
- **Women engage in more non-work travel** while men’s mobility evolves around paid work activities (Vance and Iovanna, 2007; Duchene, 2011; CIVITAS, 2014);
- **Women make more multi-stop trips**, while men mainly follow more direct, linear patterns from home to workplace (Murakami and Young, 1997; Root, 2000; McGuckin and Nakamoto, 2005; Duchene, 2011; CIVITAS, 2014).
- **Women are more likely to travel during off-peak hours** (Duchene 2011; CIVITAS, 2014);
- **Women use cars less** (Rosenbloom, 2006; Vance and Iovanna, 2007; Srinivasan, 2008; Tanzarn, 2008; Polk, 2003;) and drive fewer miles than men (Rosenbloom, 2006).
- **Women use public transport more** (Polk, 2003; Cristaldi, 2005; Rosenbloom, 2006; Vance and Iovanna, 2007; Srinivasan, 2008; CIVITAS, 2014).
- **Women walk more than men** (Srinivasan, 2008; Elias, Newmark, and Shiftan 2008 for Israel; and Polk 2003 for Sweden).

<sup>5</sup> Studies are mainly based on two categories of data: (1) large, national secondary data sets, with mobility data generally focused on the journey to work, and (2) travel activity diaries which record out-of-home movements for all purposes. Travel diary data for a metropolitan area are accompanied in some cases by detailed spatial databases that describe the characteristics of the urban environment on a fine spatial scale (Hanson, 2010).

- **Women cycle less than men** (Pucher and Buehler, 2008 for the United States, Denmark, Germany, and the Netherlands; Ciclocidade, 2016 for Sao Paulo, Brazil).
- **Women use cheaper and less efficient modes of transport** (Duchene, 2011; Lecompte & Bocarejo, 2017; and Bhide, 2016).

**Transport studies have identified different factors driving these gender differences:**

- **Women's lower financial capacity makes them more dependent on public transport than men** (Peters, 2002). Greater participation in part-time roles and lesser paid careers, among other factors, weaken women's financial capacity, and ultimately impacts their ability to pay for public transport.
- **The unfavorable fare structure for multi-stop journeys makes transport more expensive for women.** Women living in peripheral urban areas are poorly served by public transport. Their greater participation in care activities involves multi-stopping in different places spread around the city and represent a costly outlay on fares (Noack, 2010). A study by Lecompte and Bocarejo (2017) in Colombia suggests that women spend a higher percentage of their income on public transport than men in their same social groups, even if their trips are shorter on average.
- **Women face greater disadvantages in access to transportation.** Since women walk more and depend more on public transport, poor pedestrian pathways, and inconvenient access to transport facilities impact more their daily journeys, which are already time-constrained given their multiple responsibilities at home and outside. Women also find it more difficult to access appropriate transport to informal job locations. These drawbacks weigh especially heavily on women in rural areas (Lecompte & Bocarejo, 2017)
- **There are fewer transport options for women.** Women rely more on circumferential public transport routes, to which transport operators give lower priority in comparison to the radial commuter routes that connect directly to downtown areas. A further issue for women is that public transport networks often fail to provide adequate coverage of first and last-mile connectivity (i.e., between transport hubs and home) (UN Habitat, 2008). Privatized state-owned transport companies might also lead to the exclusion of routes in peripheral areas, generally used by women low-income women, but considered to be less lucrative (Peters, 2002).
- **Lack of personal safety on public transport impacts women.** Women tend to adjust their travel patterns and behavior according to security considerations, including the fear of sexual harassment (see Box 1). These issues can lead to curtailed mobility and the need for women to choose their travel times and routes carefully. The security concerns are several: the type of transportation, the interaction with drivers and fellow passengers, the safety of the destination, and whether the environment of waiting areas is user-friendly or not (Loukaitou-Sideris & Fink, 2009, based on quant data for the United States). Furthermore, the design of transport-related spaces often fails to incorporate safety features such as proper lighting and visibility that could mitigate the risk of assaults on women (WB et al., 2015).
- **Women spend more time doing household chores and on multi-stop trips to different locations.** Transport arrangements that are unsuited to women's needs are excessively

## BOX 1

**Sexual harassment on public transport**

Sexual harassment on public transport is a global phenomenon. A recent poll in France reveals that 100 out of 600 women surveyed in two outer suburbs of Paris had experienced some form of sexual harassment on trains. A survey in Cairo and Alexandria in Egypt showed that 99.3 percent of women reported having experienced sexual harassment, most commonly in the form of touching or groping, in streets and on public transport - where women are most at risk (UN Women, 2013). Meanwhile, a 2012 survey in Mumbai (India) by the We the People Foundation showed that 80% of women had suffered sexual harassment on public transport.

Common types of abuse on public transport range from leering, winking, and offensive gestures to unwanted touching and pressing against women and girls as well as indecent exposure and assault.

Although sexual harassment in public places continues to be widespread, most countries lack formal mechanisms for reporting this kind of behavior on transport systems. A World Bank report on 100 countries shows that only seven countries possess appropriate legislation to deal with sexual harassment in public (World Bank Group, IDB, ICRW, 2015).

time-consuming, especially for those who have to balance domestic responsibilities with paid work (Noack, 2010).

- **The development of most transport infrastructure and services has historically been gender-blind**, i.e., does not consider the differing needs of women and men. The lack of data broken down by sex (WB, GWI, IDB, & ICRW, 2015) and of appropriate methods for collecting and classifying transport data (Sánchez de Madariaga, 2013) are some of the factors disabling gender-responsive transport systems. The under-representa-

tion of women in decision-making bodies in the mobility and transport sector <sup>6</sup> also contributes to the issue (Duchene, 2011).

Although there is increasing evidence on women's mobility constraints, there are still some critical gaps in the literature. Most studies are from higher-income countries or generalize women as a category. Fewer studies focus on the urban poor of developing countries, who face mobility contexts with specific characteristics such as greater social disparity, reduced availability of public transportation, and well-established alternative systems to public transport

6 According to the Harvard Business Review, women make up 20% of engineering graduates, but nearly 40% of women with engineering degrees quit or never enter the profession. In one-on-one, in-depth interviews, the authors explored why and how women stayed in an industry where so many women drop out. While all agreed that engineering remains a challenging profession for women, they managed to survive only providing they received appropriate support from colleagues, especially in the early stages of their careers. Fernando, Dulini; Cohen, Laurie; Duberley, Joanne. "What Managers Can Do to Keep Women in Engineering" Harvard Business Review, 2018. <https://hbr.org/2018/06/what-managers-can-do-to-keep-women-in-engineering>.

(e.g., taxis, bike-taxis, moto-taxis, etc.). (Uteng, 2011). The ways and the extent to which these characteristics affect the mobility of poor urban women need more attention. For example, a recent study from Argentina describes the difficulties faced by domestic workers who travel from low-income neighborhoods to more prosperous areas in gated communities that are more easily accessible by private vehicles than public transport (Blanco and Apaolaza, 2018). It will be essential to explore the differences in travel patterns among women, depending on their age, marital status, and income and mobility contexts<sup>7</sup>.

**In developing countries, studies have focused on diagnosing the travel behavior of women, and have not thoroughly examined the gender processes that shape these behaviors.** When conceptualizing gender and mobility, it is essential to explore not only factors related to transport services and related infrastructure but also to see individuals in a broader context. Locally specific gender norms and beliefs inform the assignment of roles, status, power, and resources within families and communities. These elements can help to understand how and why gender can influence mobility. As pointed out by Uteng (2011), survey data generally use variables as proxies for identifying gender processes that shape women's

mobility patterns.<sup>8</sup> While this approach can provide insights into the root causes of mobility patterns, it does not allow a more detailed exploration of processes that generate women's decisions on their mobility.

Finally, there is a need to explore further how mobility constraints affect women's decisions on other life outcomes more broadly. Women's pathways to empowerment are determined by different combinations of factors, one of them being access to economic opportunities. There is a mutually reinforcing interrelationship between women's agency, mobility, and access to economic opportunities. Better economic opportunities for women can promote women's agency by providing them with more money, and also by broadening and deepening their networks and sources of information and support. The enhanced physical mobility resulting from having a paid job brings women into contact with a new group of people at work and elsewhere (World Bank, 2012b). Conversely, mobility constraints have a negative impact in terms of women's career development and income<sup>9</sup>. It is important to examine different women's mobility experiences so that policy prescriptions can address the needs of all women, while simultaneously countering economic and social disparities.

7 Some studies have found no differences between women and men in terms of their travel activities (Gossen and Purvis 2005 for San Francisco; Vandermissen, Theriault and Villeneuve 2006 for Quebec). In the United States, studies have also failed to discover any gender differences in the length of work-related journeys among groups defined by race and ethnicity (McLafferty and Valerie Preston 1991 for the New York metropolitan area; Doyle and Taylor 2000). A recent study in Mumbai reveals that the proportion of women commuters whose mobility patterns resemble men's is on the increase (Bhide, 2016).

8 For example, measures of 'intra-household social relations' are variables such as 'marital status' or 'number of children at home'.

9 An ILO report (2017) quantified the impact of women's limited mobility on their ability to obtain and hold down jobs. It reckons limited access to transport and safety issues to be the main obstacles to women joining the labor market in developing countries, and reducing their participation in the economy by 16.5%.



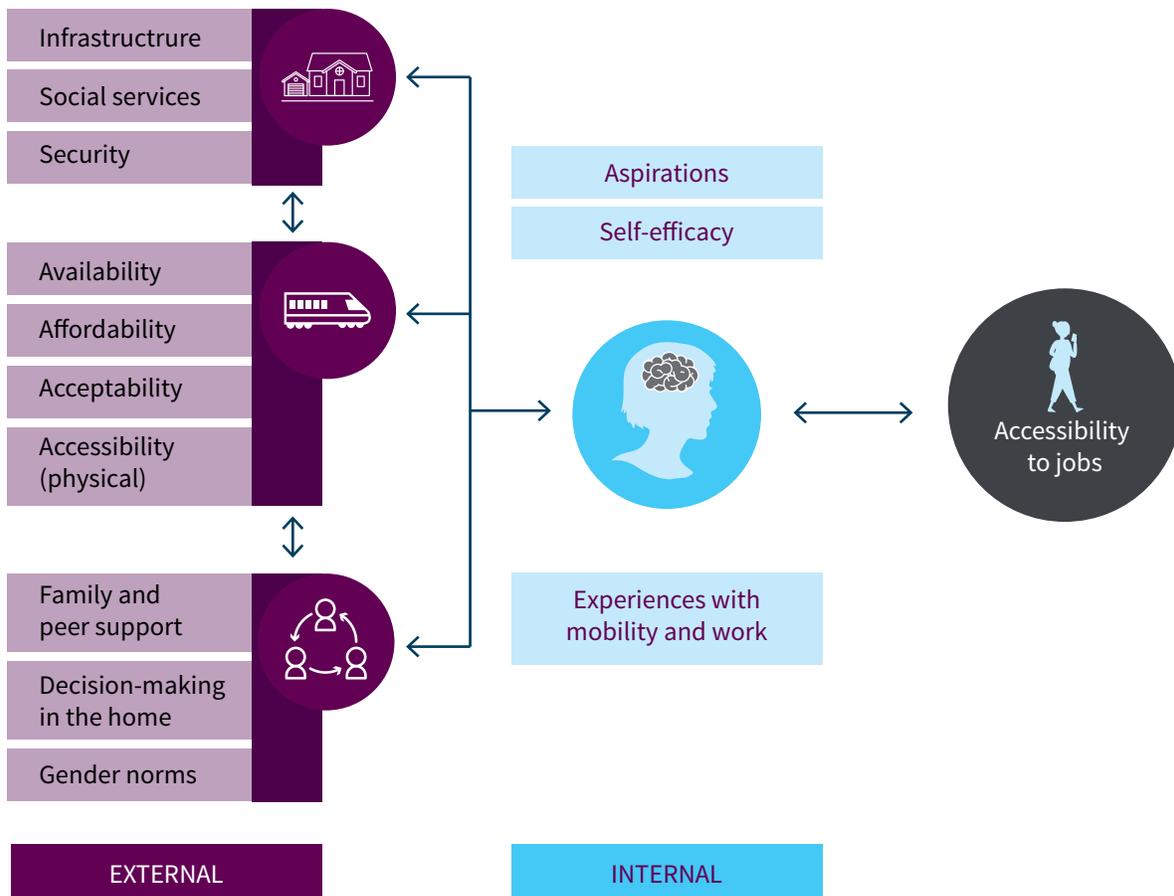
## METHODOLOGY <sup>10</sup>

10 The extended methodology can be found in the Annex.

**In this study, we explore the connection between gender and mobility through the lens of women's agency.** Figure 1 depicts our conceptual framework.

FIGURE 1

Conceptual framework of women's agency in mobility



Our starting point is the “Four A’s” framework, which focuses on analyzing characteristics of public transport systems and their relationship to well-being and social inclusion. The framework considers four attributes of urban public transport systems (Gomide, Leite, & Rebelo, 2005; Pulido, Darido, Munoz-Raskin, and Moody, 2018):

- **Availability** refers to connectivity and coverage of the urban public transport system. In cities, public transport services are usually unequally distributed, and lower-income areas are face low availability issues and low quality of rail and bus services.
- **Affordability** refers to the cost of travel by an individual or family and the extent to which

people can afford to travel when and where they want. The financial cost includes the direct cost of fares and the opportunity cost of potential consumption that is foregone in exchange for mandatory trips.

- **Acceptability** refers to the quality of urban transport infrastructure and user comfort, safety, security, and reliability.
- **Accessibility** is the ease with which an individual is able to access opportunities (e.g., employment, health care, education, etc.), within the city space, depending on available transport infrastructure and services, personal characteristics, and time and other constraints on their activities.

It is important to note that, for clarity purposes, the framework segments these four different dimensions of transport attributes. In the real world, these are interrelated and mutually causing. For example, the lack of transport coverage can determine high prices for the services that do exist. Transport prices can shape user behavior and influence the quality of transport modes. Also, availability, affordability, and acceptability are critical for accessibility.

**We then apply an agency approach to analyze women's decisions and set of constraints under each category of transport attributes.** "Agency" as a broad term has been defined as the ability to make choices to achieve desired outcomes (World Bank, 2011). This ability requires an enabling circumstance on two levels. First, individuals need to be aware of their set of choices and have the internal disposition to act on one of them (the internal aspect of agency). Second, the choices are only valid if he or she has the means to exercise action towards that choice and surpass exogenous constraints along their path (the external aspect of agency) (Perova and Vakis, 2013). Individuals' choices,

actions, and constraints will also be shaped by their level of income, their gender, and social norms, among other factors.

**We frame women's agency in mobility as the ability to make and act upon decisions related to one's mobility and make full use of public transport systems.** Our goal with combining these two frameworks is to explore both external and internal factors at the individual, household, and community levels that shape women's decisions about transport use and that, therefore, should be considered by policymakers in transport planning and implementation. Some of these constraints may be practical ones such as the availability of childcare services, while others are more subjective such as social norms, socioeconomic aspirations, social network dynamics. Traditionally, transport studies have mostly focused on objective issues that can undermine transport systems.

### 3.1. Research Design and Implementation

**Study phases.** We implemented the study in several stages: (1) Study design and stakeholder engagement; (2) team training; (3) exploratory data collection through focus group discussions and participatory community mapping; (4) analysis of data from focus group discussions and preparation of research tools for individual interviews; (5) data collection through individual interviews with local men and women and key informants; and (6) data analysis and final write-up of results (see Annex 3 for details on each phase).

**Data collected.** The study draws upon data collected from 12 focus group discussions (FGDs) with women and 204 semi-structured interviews with women, men and key informants (KIIs), in three Latin American metro-

## BOX 2

## Key to field sites

For practical reasons, the field sites will be referred to by abbreviations throughout the report:

- Rio de Janeiro (RJ)
- Buenos Aires (BA)
- Lima (LM)
- High accessibility area (HIGH)
- Low accessibility area (LOW)

politan regions (MRs): Rio de Janeiro in Brazil; Buenos Aires, Argentina; and Lima, Peru. We conducted two exploratory focus group discussions in each research site (four per country), with women 18-29 years old and women 30-50 years old. In FGDs, we used a participatory community mapping methodology to probe discussion and produce a visual picture of women's mobility patterns and experiences (see Annex 3 for samples of maps produced) and identify relevant themes for individual interviews. Both focus group discussions and individual interviews explored details of participants' daily routine and mobility; references to places outside their communities; experiences, attitudes, and decision-making processes related to mobility and work; and aspirations and plans for the fu-

ture (see Annex 1 for full interview guide). Key informant interviews with community leaders, transport agency representatives, transport providers, and academics provided contextual information.

**Criteria for selection of sites.** Data were collected from six sites according to the following dual criteria:

1. We selected two locations within each metropolitan region: one with "low accessibility" and one with "high accessibility"<sup>11</sup> to explore the variety of issues affecting individuals in different circumstances;
2. All the sites had to be considered low-income areas within the given metropolitan region.

**Criteria for selection of participants.** In each of the six sites, the sample was stratified by gender, age group, work status<sup>12</sup>, and distance to work<sup>13</sup>.

### 3.2. Sites at a Glance<sup>14</sup>

#### Buenos Aires, Argentina

Greater Buenos Aires is one of the world's largest metropolitan areas and the third-largest urban agglomeration in Latin America. Greater Buenos Aires has one of the most extensive public transport networks in the world, including a suburban rail system of about 830

11 Accessibility is commonly measured as the number of job opportunities that can be accessed within 60 minutes for each origin-destination. In each metropolitan region, the team used a different tool to identify the level of accessibility of different research areas. See the extended methodology for additional information.

12 "Working" describes any individual who claimed to be engaged in a paid/income-generating (formal or informal) activity at least once a week.

13 "Working far" was defined as working outside of their neighborhood and surrounding areas. Rather than imposing a "hard definition based on kilometers, the team

14 We present a brief profile of research sites based on the available secondary data. Since data were not available at most micro level - i.e., for each high and low accessibility area, these are complemented with information collected from key informant interviews.

km with eight lines, a subway of about 52 km with six lines operating within the city of Buenos Aires, and a bus network operating about 18,500 buses (CAF 2016). Half of its inhabitants use public transport daily, with the low-income population using public transport slightly more than higher-income groups. The most used transport modes are buses (39.1 percent), rail (6.3 percent), and subway (3.7 percent). For the low-income population (lowest household income quintile), walking accounts for 36 percent of all travel<sup>15</sup>. Lack of connectivity between the core and periphery poses socioeconomic challenges leading to spatial segregation of poor and marginalized groups (World Bank, 2017).



- **Barrio 31 (previously Villa 31), high accessibility site:** Barrio 31 is known as the “im-

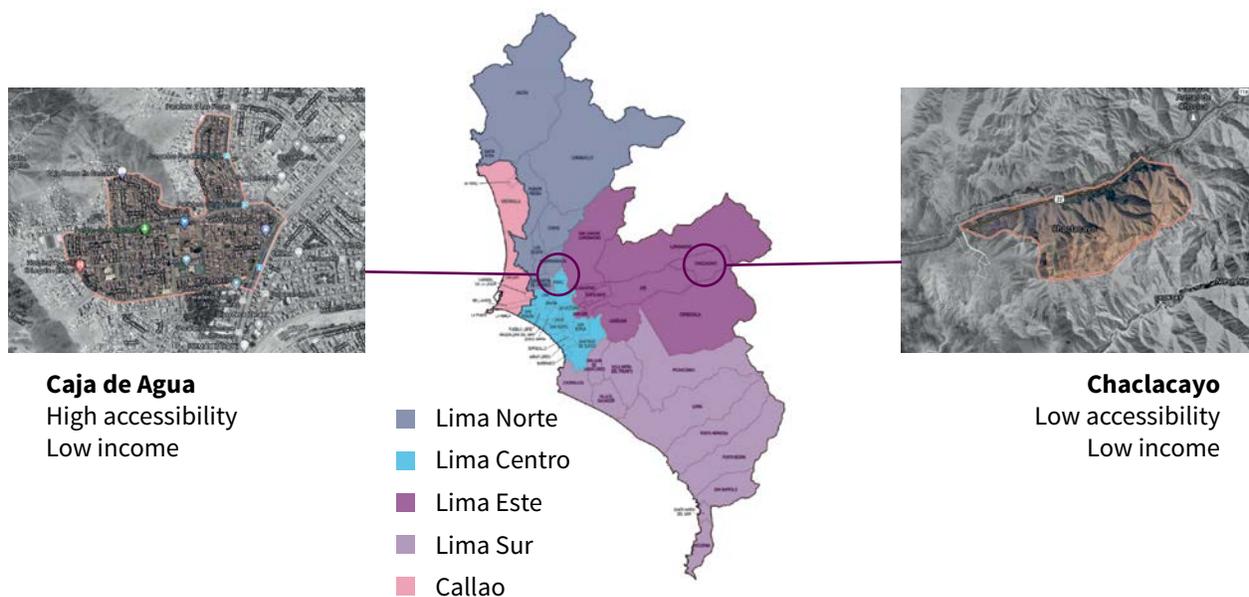
migrant” sector” in the city of Buenos Aires. Like the city’s other “villas,” the population of Villa 31 increased rapidly during the 1970s, with massive migration from the country’s interior to the cities. The latest estimates put the population at 43,190. Half of the Barrios’s inhabitants originate from other countries, mostly Paraguay, Bolivia, and Peru.

- **Ejército de Los Andes in Tres de Febrero, low accessibility site:** It is a community located to the northwest of the City of Buenos Aires, in the Metropolitan area. The neighborhood emerged as the result of the Villas Eradication Plan in 1968, aimed at relocating the inhabitants of Villa 31 to the outskirts of the city. The first inhabitants settled in 1973. The area is known for its high levels of crime and violence.

In both communities, the *colectivo* is the primary mode of transport. Informal modes of transportation include a *combi* in Barrio 31 that operates inside the community and “*remises truchos*” in Ejército de Los Andes, which are informal private vehicles that take passengers (four at a time) from the neighborhood to Liniers, the closest transport hub.

15 Based on the ENMODO household mobility survey in metropolitan Buenos Aires for all travel stages performed on a typical weekday, 2009–10 (<http://uecmovilidad.gob.ar/encuesta-de-movilidad-domiciliaria-2009-2010-movilidad-en-elarea-metropolitana-de-buenos-aires/>).

## Lima, Peru



The Lima Metropolitan (Lima MR) region comprises the Metropolitan Municipality of Lima and the Constitutional Province of Callao. It is the residence of over nine million inhabitants (about a third of Peru's population). The combination of its dispersed pattern of urbanization and the lack of an integrated network reinforces social-spatial inequalities and limits access to urban centers where a majority of formal jobs, education, health, and other services are available. People in the two lowest income quintiles make 30% fewer trips for work, school, or other purposes than people in the top three income quintiles, in large part due to high travel times and high travel expenses as a share of income<sup>16</sup>.

Lima MR still has a very limited mass transit network: one Bus Rapid Transit corridor (the *Metropolitano BRT*) and an elevated rail line (as known as Metro Line 1 or *Tren Eléctrico*), which carry about 1 million trips per day but account for only 9 percent of all public transport trips

in the LMR. In 2015, about half of the 22.3 million daily trips (including all modes and trips on foot) and the vast majority of public transport trips in the LMR were made on the conventional system of largely unregulated and low-capacity vehicles that compete for customers on the street (World Bank, 2015).

In the *Lima Como Vamos* survey 2017, 60.9% of respondents claimed that their daily commuting consisted mainly of walking, followed by the use of buses or combis.

- **Caja de Agua in San Juan de Lurigancho, high accessibility area:** Caja de Agua is a community in the San Juan de Lurigancho district, one of the poorest districts in Lima. Around 90% of the population of San Juan de Lurigancho is in the very low-income category (50.1%) (the lowest income levels of the city). The area is known to have high levels of crime and violence. In 2016, San Juan de Lurigancho ranked as second highest in

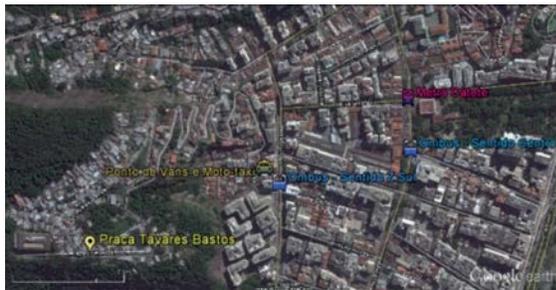
16 Source: JICA Origin-Destination Survey 2012

reported cases of “offenses against life and physical integrity” of all 50 districts in the metropolitan region<sup>17</sup>.

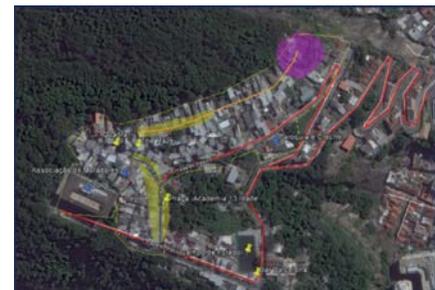
- **Chaclacayo, low accessibility:** Chaclacayo is a district located on the outskirts of Metropolitan Lima in the River Rímac valley, with a poverty rate of 10.1 % (seven points lower than Lima average)<sup>18</sup>. This study selected the whole district of Chaclacayo rather than a

more confined neighborhood, since the district is located in the relatively fertile valley of the Rimac, and as a result, is partly urban and partly rural. Although the socioeconomic levels of the inhabitants vary, the study focused on low-income people living in small communities scattered throughout the district. The area is considered relatively safe. In 2016, it ranked 41<sup>st</sup> of all 50 districts in the metropolitan region.

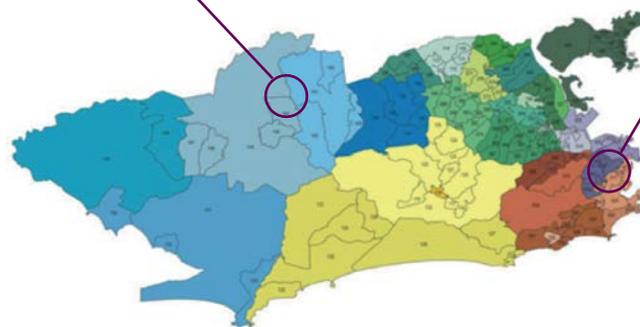
### Rio de Janeiro, Brazil



**Jardim de Fonte**  
Low accessibility  
Low income



**Tavares Bastos**  
High accessibility  
Low income



With a population of over 13 million inhabitants, Rio de Janeiro MR is the third-largest metropolitan region in South America. Like other RMs, Rio has a history of uneven urban development marked by spatial segregation. Public transportation in Rio is among the most expensive in the world, with costs being particularly expensive for the poor. People from poor-

er households in the RJMR make significantly fewer trips. Two explanations for the negative correlation between the number of trips and income levels are the restricted access to motorized transport and the high percentage of income spent on transport: the poorest 10% of the population in the RJMR tie up around 22% of their incomes on transport compared to

<sup>17</sup> [https://www.inei.gob.pe/media/MenuRecursivo/publicaciones\\_digitales/Est/Lib1534/libro.pdf](https://www.inei.gob.pe/media/MenuRecursivo/publicaciones_digitales/Est/Lib1534/libro.pdf)

<sup>18</sup> Source: “Mapa De Pobreza Provincial y Distrital 2013” de Lima.

15.5% of the 20% wealthiest (Scovino, 2008). A 2013 study showed that, for those living around the capital and the low-income population, the region fared worse in terms of mobility indicators than any other region of Brazil (Pero and Mihessen 2013).

- **Tavares Bastos/Catete (high accessibility):** Tavares Bastos is a “favela” (slum) located in the southern portion of the city of Rio de Janeiro, with a total of 1,100 residents. The latest gentrification process changed the structure of the dwellings and the profile of the population. Real estate price increases encouraged the construction of buildings for rent as well as the “verticalization” of the favela (also due to restrictions placed on further expansion of the area). The community is situated on a steep hill, and commuters must take a moto-taxi, a minivan, or walk at least 20 minutes down a cobblestone street to reach the nearest transport hub. The poor state of the road going up to the favela, plus the lack of affordable transportation up and down the hill, is the main mobility constraints that face residents. To climb and descend from the community, residents can walk, use informal combis or moto-taxis. When residents reach the bottom of the hill, there is ample public transport available in the Catete district. The area is generally considered very safe due to its proximity to a special police unit headquarters.
- **Jardim da Fonte/Queimados (low accessibility):** Queimados is a city located approximately 50 km to the northwest of Rio de

Janeiro. Queimados has a population of 138 thousand. Most of the households have a per capita income of below the Brazilian minimum wage (R\$ 1045 or approx. US\$ 250) (IPEA, 2020) Queimados residents have a mobility index that is 51% lower compared to the average index of the RJMR. Queimados’ travel time is the worst of the RJMR: 34% higher than the metropolitan region average. The area has very high levels of crime and violence. In 2016, it ranked first out of 309 Brazilian municipalities with over 100 thousand inhabitants for the number of violent deaths<sup>19</sup>.

Secondary data<sup>20</sup> from the three metropolitan regions confirm many of the gender patterns documented in the literature:

- **Women travel less.** In RJ, the average number of trips per day by women with family incomes below three minimum wages is 26% less than the number of trips taken by men. In BA, women generate only 42% of the trips. Men in BA also tend to travel longer distances than women. There are also significant differences in travel speeds: women travel at 8.62 km/hr, men at 10.93 km/hr. As for journey length, working women with children travel 4.77 km, while men travel 6.72km. Speeds are 22% slower for women than for men (9.7 km/hour vs. 12.2 km/hr, respectively). In Lima, there are differences between men and women in terms of average trip times. Women spend less time on travel than men and typically tend to take a lot of very short trips (under 30 minutes).

19 In 2016, Queimados had a rate of violent deaths of 134,9 per 100,000 inhabitants. The figure is three times higher than the average of all municipalities with over 100,000 inhabitants. According to the study, the concept of violent deaths involves the sum of aggressions, legal interventions and violent deaths with undetermined cause, taking as reference the municipality of residence of the victim. Source:

20 This includes data from the Origin-Destination survey conducted in 2012 in RJMR (SETRANS, 2016); and the *Pesquisa de Mobilidade e Pobreza* in RJMR (ITRANS, 2003), Lima como Vamos survey (2017), ENMODO 2009 and the 2009 Household Mobility Survey for the Buenos Aires Metropolitan Region. RJMR (ITRANS, 2003).

- **Women engage in more non-work travel.** In RJ, while 48% of men travel for work or job seeking, only 19% of women's trips fit this category. Studying, health, and household errands account for 38% of women's trips (ITRANS, 2003). In the group of women who work at home, 38% of the trips relate to care duties. In BA, according to a WB study (Peralta, 2014), once a family decides to have children, the travel burden is assumed by the woman in the family (daily trips increase from 1.57 to 1.78, while men's trips remain constant at 1.73 with or without children).
- **Women walk more and rely more heavily on informal and public transportation.** In RJ, women use municipal buses more than men (53.9% vs. 46.1%), taxi, motorcycle taxi, on foot, and the metro (subway). Meanwhile, women in BA also use public transport more heavily than men (50% vs. 37%) and walk more (16% vs. 10%). In LM, men use their own cars to go to work twice as much as women. Also, in Lima, women walk 7% more than men.
- **Women are less likely to drive cars.** In RJ, survey data from 2012 shows that 57.1% of women did not possess a driving license in comparison to 36.2% of men. In BA, 28% of men use their private car to go to work, while only 8% of women do so. Data is similar to that for Lima, where only 6% of women use a private car to go to work.

### 3.3. Limitations

Some topics and situations were not explored in-depth in this study. The sample was limited

to low-income population groups in urban Peru, Brazil, and Argentina. Security concerns meant that fieldwork was restricted to specific locations<sup>21</sup> and hours of the day. Women and men living in areas with higher levels of crime may face additional barriers to their daily mobilities that we do not fully capture in this research. Underage individuals were not included in the samples because parental consent would have been needed, thus complicating recruitment. Furthermore, given the focus on the relationship between the labor market and mobility, we chose not to explore the circumstances of the elderly and retired population.

The qualitative methods employed in this study allow the exploration of a range of issues pertinent to a research topic from the standpoint of those who experience social phenomena (including those that are more subjective or sensitive). However, qualitative methods do not seek to provide an understanding of the distribution of the issues identified in the population under study so that they are generalizable.

Teams also encountered some challenges due to the study's multi-country approach, as certain discrepancies remained in implementation. The research team dealt with these during the analysis phase either by not recording findings on topics that had not been addressed equally in all three countries or by identifying such results as "country-specific."

The study's objective is to identify the range of constraints faced by women in their day-to-day routines. The study did not aim to provide diagnoses of each location or to compare the different sites.

21 The sites had to be classified by the United Nations Department of Safety and Security (UNDSS) as safe for the purpose of conducting field work.



# 4

## FINDINGS

**This section of the report presents findings related to factors that shape women’s mobility decisions and preferences.** It explores the interaction between commonly analyzed transportation factors (4A’s) with other external factors. Findings are based on data from 12 focus group discussions and 204 individual interviews with women, men, and key informants in high and low accessibility areas of Rio de Janeiro, Lima, and Buenos Aires metropolitan regions. The section is divided into four parts following the 4A’s framework: (i) availability; (ii) affordability; (iii) acceptability; and (iv) accessibility.

#### 4.1. Constraints to Availability

Table 1 summarizes transport availability in all the research sites. In this study, different transport alternatives shaped women’s mobility preferences:

- **Walking:** Women informants reported that walking was their preferred mode for short trips for four main reasons. First, in areas with limited or non-existent transport coverage within the communities, walking is the quickest alternative. Second, regardless of time constraints, women short of money to pay for transport can always walk. Moreover, walking means that they do not have to depend on unreliable public transport schedules and can estimate the length of time that their journeys will take. Finally, in areas where they felt safe, walking could also be seen as a social and leisure activity and also an opportunity for exercise.
- **Buses:** Municipal buses were the most frequently-used motorized mode of public transport by women for short and medium distances, connecting passengers to different points within cities. One reason for this is the predominance of bus routes and bus stops compared to other modes of transport<sup>22</sup>. Although in many locations informal alternatives were available, the “official”

status of buses provided women with an additional sense of security because of the possibility of making complaints to the bus operators. In the areas considered to be unsafe, women who can afford to take public buses prefer this option to walking. In RJ, women also mentioned the existence of long-distance buses (known as “intercity buses” or its express version called “*onibus executivo*”) in low accessibility areas as options for commuting to work in metropolitan region hubs. Generally perceived as higher quality services than municipal buses, their prices were mostly considered prohibitive.

- **Microbuses and minivans:** This transport mode includes informal private transport as well as vehicles regulated and operated by private firms or cooperatives. In high accessibility areas, services were typically short distance, involving trips from the community to transport hubs. This choice of transport was generally the only option for getting in and out of the community, with the most viable alternatives being moto-taxis or walking. In low accessibility areas, microbuses and minivans were longer distance services, customarily used to travel from the centers of “satellite” cities to the larger metropolitan transport hubs. Young women in RJ, for example, prefer minivans over trains

22 Bus frequency in low accessibility areas was still very low.

for long-distance commutes, despite long queues, higher fares and traffic delays. An added benefit is that, unlike trains, minivans have pre-fixed seats for passengers, which act as a disincentive to harassment.

- **Rapid Transit (Metro/Subway):** The metro is only available in high accessibility areas in all locations. In all the sites, coverage is limited to a few lines. Women interviewed use the metro for short to medium trips in the downtown areas as an alternative to taking buses or walking. Opinions varied on the usefulness of the subway, depending on people's location: in RJ, for example, informants claimed that they used it when they could afford it.
- **Trains:** In RJ and BA, trains are high-speed, direct, and relatively cheap for those taking long-distance trips. They are a good alternative to minivans and intercity or executive buses. In BA, however, the paucity of useful train routes meant low usage by our informants. Trains were the mode of choice for people whose homes or workplaces were near to train stations.
- **Taxis:** Taxi services come in different forms. In all the sites, formal and informal "single passenger" street taxis operate, with varying availability and use. Ordinary taxis are used occasionally by women when traveling with children or on shopping trips involving carrying heavy bags. While official taxis were not generally used by informants owing to their higher price, *colectivos* (taxi-buses) seemed to be a standard mode of transport, especially in BA and LM. In BA, they are known as *remises truchos*, accommodating multiple passengers along pre-set routes with multiple stops. They fill transport gaps by taking passengers in and out of communities at

times when other vehicles are not operating. Women also like *colectivos* because of their relative comfort (i.e., few other passengers, unlike buses) and as a way to avoid transport-related stress. In RJ, ride-hailing was increasingly used by women in both low and high accessibility areas, given the more competitive fares (significantly cheaper than regular taxis). Informants also mentioned that passengers were sometimes discriminated against by official taxis (which also preferred to avoid hilly streets).

- **Moto-taxis:** Moto-taxis were a feature of RJ and LM, where both informal and officially regulated associations of licensed moto-taxis operate. These were considered faster, more practical (they take passengers directly to destinations), reliable (available out of hours), and cheaper than *colectivos*. However, despite their advantages (much preferred by men), moto-taxis were generally avoided by women because they were considered unsafe, especially in places where pirate taxis operated.

**The availability of transport within the communities was problematic in all the sites, including in high accessibility areas.** Some communities were located on the top of hills or in areas difficult to reach by foot. From those locations, reaching areas that concentrate jobs usually involved two trips: the first segment transporting passengers out of the neighborhood to the closest transport hub and the second segment connecting passengers to city centers. Public transport either does not serve internal routes in the communities at all (first segment), is only available at limited times (e.g., only during daytime), or is excessively infrequent. In some sites, buses and minivans that normally circulate within and to/from commu-

**TABLE 1**  
**Transport availability in research sites**

	RJ HIGH	RJ LOW	LM HIGH	LM LOW	BA HIGH	BA LOW
<b>Buses</b>	Yes, outside the community down the hill.	Yes, inside the community. There is one local bus line that cuts through the neighborhood and takes passengers to the nearest transport hub.	Yes, outside the community.	Yes, inside the community.	Yes, outside the community.	Yes, outside the community.
<b>Microbuses and minivans</b>	Yes, there is a short-distance formal minivan service (also called “combi”) to enter/exit the community, taking passengers up and down the hill. Alternatives on this route are moto-taxis or walking.	Yes, outside the community. There are long-distance informal minivan services to take passengers to Rio de Janeiro from the local city center. To use this service, passengers have either a 30-minute walk or take a municipal bus, a moto-taxi, or bicycle to the pick-up point.	Yes.	Yes. There are minivan services and the authorized microbus known as “El Chosicano” to take passengers to Lima.	Yes, inside the community. There are informal short distance minivans (“combis”), which run through the neighborhood and can be used to enter/exit the community and reach the nearest transport hub.	No.
<b>Metro/subway</b>	Yes, outside the community.	No.	Yes, outside the community.	No.	Yes, outside the community.	No.
<b>Trains</b>	Yes, but outside the community. Not widely used.	Yes, but outside the community. Widely used.	No.	No.	Yes, but outside the community. Not widely used.	Yes, but outside the community. Not widely used.
<b>Licensed taxis</b>	Yes.	Yes.	Yes.	Yes.	Yes.	Yes.
<b>Informal taxis</b>	No.	Yes, individual. Not widely used.	Yes, colectivos.	Yes, colectivos.	Yes. Remis Truchos operate in the community. They have variable prices (according to distance) and are unregulated.	Yes, colectivos, inside the community. Cajs work as “unofficial taxis” to take people from inside the neighborhood to pick-up points. The colectivos use fixed stops and prices and are unregulated.
<b>Ride-hailing services</b>	Yes.	Yes.	Yes.	Yes.	Yes.	Yes.
<b>Formal Moto-taxi</b>	Yes, inside the community.	Yes, inside the community.	Yes	Yes	No.	No.
<b>Informal moto-taxi</b>	No.	Yes, inside the community.	Yes	Yes	No.	No.



*“You get angry because you pay for a ticket to the final stop of the route...I feel that drivers don’t respect us; they have no consideration for us because we are from the community...I once asked the driver, “why don’t you go to where the bus is supposed to go [the stop]? I have paid for a ticket to the last stop...why don’t you take me there? He just replied, “Get off the bus, slum dweller.”*

30-50 YEAR-OLD WOMAN, BA HIGH

*“One day, we got back from work at 10 p.m. at night, and the colectivo driver didn’t want to come up here... he left us outside... we had to come by Retiro, where we were mugged.”*

18-29 YEAR-OLD WOMAN, BA HIGH

nities stop running in the late evening and early mornings.

**Discriminatory behavior towards poor women worsens transport availability issues.**

In LM and BA, even when the official routes served areas within or near to communities, bus drivers reportedly engaged in discriminatory practices, arbitrarily skipping stops or refusing to pick up or drop passengers in these areas. This issue was mostly reported by women, which could mean they are more often affected by such behavior.

**Given a lack of alternatives, women often have to walk long distances or take informal modes of transport to access public transport, implying higher exposure to risk.** Walking between communities and local public transport hubs can take over 30 minutes and involve having to go through unsafe and deserted places. Alternatives to walking were taking moto-taxi and other informal modes of transportation, which women regarded as less safe. Additionally, research participants reported that even these supplementary forms of transport were problematic, with drivers refusing to enter communities, or specific areas of communities, and often charging more to do so.

**Availability constraints impede women from accessing job opportunities.** The service sector provided the most significant number of opportunities for those interviewed, with typical jobs among participants being cashier, waitress, store saleswoman, domestic worker, among others. These jobs often entailed long hours or night shifts. The lack of transport at night meant women who work late or who are “extreme commuters” have even fewer alternatives for getting home other than walking or spending part of their salary on informal transport. In contrast, men were more likely to substitute motorized transport in late hours with walking.

**In RJ, ride-hailing services were increasingly used by women.** Although also problematic, these services were becoming popular with women as drivers were more willing to enter their communities and other difficult locations.

## 4.2. Constraints to Affordability

**Women in research sites report spending a large proportion of their earnings on transport.** Coverage and connectivity gaps in public

## BOX 3

**Price discrimination for women in Lima's moto-taxis**

In LM HIGH, women reported difficulty in negotiating moto-taxi prices. Women living in the higher parts of the Lima foothills risk being charged more for their trips. When they reach their destination and refuse to pay the high fares, women find that drivers often become rude and intimidating. To avoid such confrontations, many women prefer to walk, which makes their commutes more tiring and time-consuming.

transport mean spending significantly more time and money on trips. Women spend more of their earnings on getting around, face multiple transfers, and have to depend more on informal transport. Women reckon that although the cost of transport is reasonable, their key complaint is the accumulated high cost of transfers when they make multiple trips every day using different modes. Many women must combine multiple modes to complete their journeys: walking, riding buses, and using a variety of informal vehicles such as minivans, moto-taxis, *colectivos*, or pirate taxis. These costs weigh heavily on their budgets.

Prices of informal services can be negotiable, creating disadvantages for women. In LM, women reported that although the price of moto-taxi rides are negotiable with drivers, they feel less able and comfortable than men to bargain and end up paying more (see Box 3).

**When deciding which form of transport to use, women (unlike men) tend to make transport choices that prioritize their safety to the**

**detriment of affordability and speed, especially in areas with high levels of crime and violence.** For example, in Rio de Janeiro, men in low accessibility areas will walk or bike (cheaper options) or use a moto-taxi (fastest option) to reach the closest transport hub and then prefer the train (fastest option) to reach the area where jobs cluster in central Rio de Janeiro. In contrast, the majority of women will take a bus for the first segment of the trip and a bus or a minivan for the second segment. Women are more likely to perceive the cheaper and faster transport options commonly chosen by men as riskier in terms of mugging, harassment, and accidents. In this site, walking for longer than 5 minutes while carrying valuables is widely disregarded as an option by women. In LM and BA, some women reported episodes of sexual harassment on public transport and had, therefore, stopped traveling by bus and metro altogether, choosing to pay more for an informal *colectivo*. Many women found the *colectivo* safer as they can secure their own seats even if they traveled for long distances. Other women deployed avoidance strategies that reduced the risks of harassment, but which involved longer journey times (e.g., during rush hours, some prefer to wait for less crowded vehicles to come along).

**The disproportionate amount of time and money women spent on transporting themselves to work played a negative role in their accessibility to job opportunities.** Many pay for the costs incurred with complementary and informal modes of transport from their own pockets, which reduces their take-home pay and discourages many from working a long way from home. Reduced fare schemes (such as the *Bilhete Unico*) and employers willing to cover commuting costs, totally or partially, make it easier for women to work.



*“That’s why I have stopped studying...Transport is expensive... So what are we going to do? We have to work just to pay the fares... these have gone up from 3 to 6 pesos, and they say they will rise again... to 11 pesos. That’s really over the top”*

– 30-50 YEAR-OLD WOMAN, BA HIGH

*“It’s dangerous [to cross the road] because cars are speeding along and, since there are no traffic lights, it makes it even worse to try crossing... there is only a little space in the middle of the road (...) very small and narrow, where you can wait (...) it’s even worse when you’re carrying babies, you feel like a soldier, just standing there waiting to cross.*

– WOMAN, 18-29 YEARS, LM LOW

### 4.3. Constraints to Acceptability

**Participants, in general, evaluated the different transport modes very poorly: with low levels of comfort, reliability, and safety.** Perceptions vary according to the mode of transportation, and they are not limited to the service in itself but expand to the surrounding communitarian environment/infrastructure:

- **Walking:** Although the first choice by most women, walking is not a viable option in

#### BOX 4

### Transport Affordability and Access to Opportunities in Brazil

The cost of transportation can be a barrier to accessing services, information, and employment opportunities. In Brazil, about a quarter of the cost of receiving health services in a hospital relates to transport expenditure. Data from 36 countries show that low incomes are associated with weak infrastructure-related mobility constraints (WDR, 2012). A study conducted in RJ as part of the urban transport plan concludes that people who earn less have to rely more on public transport, spend more traveling, and are less able to adjust their schedules (PDTU, 2015). The 2009 Household Budget Survey (POF) revealed that the 10% poorest families in Brazil spent the most significant proportion of their income on transport (21.83%), while the richest 10% spent only 13.83% (IPEA, 2012).

many areas (e.g., areas perceived by women as very unsafe or too hilly<sup>23</sup>). In some locations, walking in and out of their community involves climbing a maze of streets and staircases (challenging for those with young children, elderly or disabled people, and when carrying weight). Not only is this physically tiring, but also and particularly problematic in bad weather. Further impediments include deficient pedestrian infrastructure (lack of paved areas, unusable sidewalks<sup>24</sup>,

23 In this report, these were RJ HIGH, LM LOW and BA LOW.

24 In LM LOW, informants mentioned problems arising from irregular use of sidewalks by some local residents, who had built fences and set up businesses in pedestrian areas. Unauthorized parking also restricts women’s use of sidewalks.

crosswalks, and poor street lighting) and fear of accidents.

- **Buses:** In some locations, buses were regarded as unsafe due to a higher risk of traffic accidents, reckless driving, muggings, and the threat of sexual harassment onboard. These safety considerations applied to bus stops, the ride itself, and the “last mile.” Other issues affecting women in all the sites were low bus frequency (i.e., longer waiting at bus stops), and poor lighting and limited security at stopping areas, exposure to moving traffic on the streets, and difficulties of traveling with small children or carrying heavy bags.
- **Trains:** In RJ, trains are considered uncomfortable and unsafe (harassment and muggings) and are not preferred by most young women, despite them being the fastest way to reach central Rio de Janeiro. On the other hand, while men perceived trains as unsafe and uncomfortable, such issues did not appear to deter them from using this transport option.
- **Microbuses and minivans:** These transport services were considered infrequent, overcrowded, unsafe driving, and unreliable (holdups on departure). In Lima, microbuses were seen as risky due to the high incidence of accidents and sexual harassment and fear of muggings when using this type of transport. In RJ, despite minivans being regarded as time-consuming (excessive road traffic, long queues at access points, etc.), this mode was preferred by many of the younger women (i.e., they were able to secure a seat). Another problem was that microbuses often failed to stop for women carrying shopping



*“The train is a burden in our lives ... I’m terrified to leave here, to get a job downtown and be forced to take this train. It’s a big sacrifice. You’re standing there with other folks, stuck in the heat ... Very crowded, people on top of one another. Men take advantage of women. The train is lawless.”*

- 30-50 YEAR-OLD WOMAN, RJ LOW

bags or accompanied by children.<sup>25</sup>

- **Informal taxis/Colectivos:** Women feared for their safety in the event of a driver’s misconduct due to the informality of the services. However, many women considered colectivos a safe option in terms of sexual harassment because they were able to secure a fixed seat, and passenger rotation was limited along the ride.
- **Rapid Transit (Metro/Subway):** In RJ and BA, women, on the whole, said they enjoyed the cleanliness and air conditioning, reliability, and low incidence of assaults compared to buses. However, the price was not affordable for everyone. In Rio de Janeiro, the accessibility of stations was considered a major obstacle to using the metro, especially for older women. Reaching platforms often required long walks or the need to climb stairs. In Lima, long queues and trav-

<sup>25</sup> In some countries, fare policy can be the reason behind this discrimination. Some cities order cross-subsidies between regular users who pay full fare and children, students, elderly, even teachers that pay a reduced fare. The result is that drivers discriminate against those that pay a reduced fare.



*"I don't trust moto-taxis 100%(...), they scare me (...) some of the drivers sometimes bother you and make obscene remarks.*

- 18-29 YEAR-OLD WOMEN, LM LOW

el times for relatively short trips discourage the use of the "tren eléctrico," especially in the mornings. The only existing metro line goes from north to south, with limited access and frequency (currently 360,000 passengers/day). For a journey that should take around 8 minutes, informants report having to go by bus instead, involving a journey of up to 2 hours due to heavy traffic. In all the locations, however, assaults, gross overcrowding during peak hours, and sexual harassment were mentioned as inhibiting the use of the metro.

- **Moto-taxis:** Women in particular associated the use of moto-taxis with the fear of being assaulted, robbed or sexually harassed (younger women), or out of concern for their physical safety (older women). In places with regulated local moto-taxi drivers, with vehicles bearing an identity code, prospective passengers felt more confident to use this transport mode.

**In all the sites, women spoke of the difficulties encountered by pregnant women or women with children or carrying shopping bags, etc.** Transport gaps were critical in shaping women's decisions to quit their jobs when they become pregnant.

### Crime and Violence against women

**Within constraints to acceptability, safety and security<sup>26</sup> are major considerations women make when deciding which mode of transport to use (when alternatives are available).** Except for two sites (RJ HIGH and LM LOW), the women interviewees reported being constantly exposed to situations of crime and violence in their communities of varying severity: from pickpocketing, to assault and even murder. Women interviewed were more likely to consider the risks of accidents, criminal behavior, harassment, and sexual assault when making travel choices. Their safety and security fears included the segments they had to walk to reach the stops, the period they waited at stops as well as the entire ride in the vehicle.

**Perceptions of security are significantly different for men and women.** For example, in RIO LOW, women reported a crime-ridden environment infested with gangs and extermination squads (*milicias*), where "murders are becoming commonplace." In contrast, men had more positive views of the community's level of security—, some even describing it as a "peaceful place." Fear of crime and violence was not a significant issue recorded among male research participants. Additionally, in all the sites, both

<sup>26</sup> According to the WB report, *Cities in the Move* (2002), security is defined as "vulnerability to intentional criminal or antisocial acts suffered by those engaged in trip making". This could include robberies or sexual harassment; whilst safety is more related to road safety. This report will consider the same definition of personal security. However, sexual harassment will be included as part of women safety, as this is the most frequent usage adopted by other international organizations which are a reference on gender issues such as UN Women. "Women's safety refers to a range of strategies and policies which work to create safer environments for women and girls, often focusing on women's insecurity and risk of violence in public spaces." (Shaw, 2002).

## BOX 5

### A prevalent situation of violence in Latin America

Latin America and the Caribbean is one of the world's most violent regions. Insecurity stems from different factors, including drug trafficking, weak judicial and law enforcement lack of opportunities, among others. Research shows that young people are more at risk to commit and suffer from this violence. Boys are more likely than girls to be victims of homicides, and evidence on perpetrators suggests that adolescence is the peak where people get involved in anti-social behavior (Chioda, 2016).

## BOX 6

### Time of Day

Women had specific preferences related to the time of day when they undertook trips. Unlike men, women preferred traveling at off-peak hours when they had the opportunity to do so, particularly in mid-morning. This provided a higher sense of safety due the sunlight and fewer passengers (i.e. less chance of harassment and robbery). Very early or late hours were perceived as unsafe due to poor street lighting and having to walk across deserted areas, especially in low accessibility areas far from the city center.



*“It is different for a man... my husband leaves at 5.30 a.m. to go to work... he just goes off, and nothing happens to him. But as a woman, I am more afraid... more insecure... you get it into your head that something is going to happen to you...it's different.”*

- 30-50 YEAR-OLD WOMAN, BA LOW

*“The problem is at bus stops...When I'm waiting somewhere for a bus, I am frightened because the stops are full of people, and thieves go by on motorbikes or bicycles to steal from you...So we try to stay near to other people because when you are alone, it is scary. Frankly, I don't even feel safe at the bus station...”*

- 18-29 YEAR-OLD WOMAN, BA LOW

*“You can get killed for your purse. There are no police around anymore... Previously you could walk around and there was a cop on every corner, but not now. The result is that I feel insecure.”*

- 30-50 YEAR-OLD WOMAN, BA HIGH



*“It’s disrespectful. We’re in there on our way to work... many men think that just because we’re women, we have to do what they say, be abused by them. We women are not there to enjoy an outing, we are going to work, we are tired. If you let them, the men will touch you and try on a lot of things.”*

- 18-29 YEAR-OLD WOMAN, RJ LOW

*“There are crowds of people in the street, and it can be uncomfortable because men keep bothering you. One day my daughter... was grabbed. (...) a woman called out to me: (...) “Didn’t you realize (...) the girl has been grabbed, a man just grabbed her, and he started touching her?” (...) That made me so angry...so I shouted, “Leave my daughter alone!” I then grabbed and punched him, saying (...) “I can’t allow you to do to my daughter what you have just done”.*

- 30-50 YEAR-OLD WOMAN, LM HIGH

*“I used to take the bus all over... once a man kept pushing himself against me. I threw my bag away, but the man kept trying to kiss me. I told my friends to get off the bus and walk...I was twelve.”*

- 18-29 YEAR-OLD WOMAN, RJ HIGH

sexes considered that women are more exposed to insecurity than men and are “easy targets” for crime and violence, especially while walking the “last mile” of their trips.

**Violence in the community impacts women’s mobility in several ways: it restricts their area of travel, increases their travel costs, constrains social interaction and work choices, and increases the time they allocate to look after their children.** Women feel they can only travel at specific times or accompanied by other people. In communities perceived as unsafe, women are less mobile within their communities, and their trips are mainly work-related.

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## Sexual Harassment

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**In all three cities, women reported experiencing or witnessing various episodes of harassment and assault in the streets and on public transport.** Harassment and assault were an issue for women of all ages, including young girls (as reported by their mothers). On the street, informants said that the riskiest areas apart from the waiting stops were those near bars, often full of men. As for public transport, the majority of the women were able to recount disagreeable episodes on buses and trains. In RJ and LM, women told of how these experiences impacted their travel behavior and costs in time and money.

**Older women did not emphasize as much harassment as an issue that determined their mobility decisions.** It is unclear whether this related to less exposure or to their being more accustomed to threatening situations. The fear of sexual harassment was especially problematic for younger women interviewed.

**Women highlighted their feeling of helplessness when bystanders did nothing to help.**

In LM, women told of their attempts to defend themselves by shouting or even using physical force. In all the sites, women reported that it was common for bystanders to remain silent and not protect them against their aggressors, accusing them of being “crazy” or pretending.

**Although women recognized unwelcome sexual advances as an issue during their trips, a frequent tendency was to regard men’s behavior as normal or to blame the victims.** In many cases, women expressed that it was their responsibility to avoid triggering sexual harassment by wearing certain clothes and avoiding specific locations or hours.

**Women’s fears are worsened by poor public lighting and having to use informal transport, especially at night.** Bus stops, often located in unprotected and poorly lit areas in the communities, are especially unsafe for women. Late at night, these places are deserted, and women become more vulnerable targets. Informal taxis, buses, and moto-taxis were reported to be important supplementary forms of transport but were considered less safe than regular modes. Women informants commented that they could always complain to formal transport operators in the event of suffering problems during their trips, but had little recourse in the case of pirate operators. In RJ, the women in low accessibility areas who relied on moto-taxis were more afraid and only accepted rides from known drivers. On the other hand, women in a high accessibility area with a well-regulated moto-taxi cooperative used these services more often and with less fear for their safety.

**The absence of an active police presence in communities also contributes to the issue.** In BA and RJ, women mentioned their distrust of police officers. In low accessibility areas, women claimed that the police were remiss in



*“A friend who used to work with me... arrived in a desperate state at the nursery, because a guy was following her... She was desperate...she talked to him but he pretended not to hear. He didn’t stop following her and she was forced to get off the bus before her final stop. It was bad...she was being followed, but nobody said a thing. Nobody. People prefer to turn a blind eye. Nobody wants to get involved in problems.”*

- 18-29 YEAR-OLD WOMAN, RJ HIGH

#### BOX 7

#### Harassment in public transport

The study “Ella se Mueve Segura”, showed that 72% of women interviewed felt unsafe using public transport (compared to 58% of men) in Buenos Aires. In the case of Lima, according to the 2017 survey of the organization Lima Como Vamos, more than 30% of the women interviewed had experienced sexual harassment on public transport. However, while 2% reported this as being an issue, only 10% saw this as the main problem impeding access to transport services.

## BOX 8

### The process of formalization of vans in Rio de Janeiro

The informal transport system in Rio de Janeiro has seen a number of changes in the past decades. One of the main modes of transport consists of minivans with a capacity of 10–15 passengers. Their operations started in the early 1990s by offering specific services to private groups. From the mid-1990s, they expanded into the conventional transport market, competing with regular buses. The informal operations were gradually consolidated on ordinary bus routes to downtown areas (Balassiano, 1998). In 2005, the Rio de Janeiro Transport Master Plan, designed by the State Government, estimated that minivans accounted for approximately 18% of all the trips made in the metropolitan region on public transport. Many of these services were regulated and - unlike ordinary buses - operate in places where access is difficult, such as narrow streets up in the Rio favelas (Sant'Anna et al., 2000). Since their expansion in the 1990s, and despite State and Municipal government efforts to further regulate minivans, many pirate vehicles continue to exist. Meanwhile, even authorized minivans often fail to stick to their correct routes and pick-up/drop-off points. Other informal passenger vehicles also operate in Rio, such as 'pirate' buses and moto-taxis, but their passenger loads are minor compared to minivans (Balassiano and Alexandre, 2013).

their duties and chose to avoid problems. Nevertheless, in both sites, women associated the sharp rise in violent crime and violence to the low levels police response, reckoning that police presence had made the communities safer in the past.

### Women's strategies to reduce exposure to violence

**The research found that familiarity with their environments (places and people) enhances women's mobility and sense of security.** Safety concerns affect both women and their family members and children. Women tended to be more mobile and socially active in places where they felt safe. This sense of security arose from a greater police presence but also from having good contact with neighbors and local business owners. In RJ HIGH, women's fairly robust participation in community life, together with strong ties with their neighbors, were perceived as protective factors. Women described how they knew everyone in their areas, were readily able to identify "outsiders," and were alerted by neighbors in the event of any suspicious behavior. In BA, informants mentioned that they were familiar with the identities of local troublemakers and knew the unsafe areas in their neighborhoods, developing strategies to avoid certain places and the risk of having their homes burgled.

**Developing friendly relations with bus drivers and street vendors was an important strategy to improve women's commutes.** In

RJ, women who knew the bus drivers were able to ask them to stop at convenient points along their routes even when there were no official bus-stops. This was a useful strategy in deserted, possibly dangerous areas. As for travel by moto-taxi, women can contact drivers that they know personally by mobile phone to arrange rides at times which suit them best. In LM, as added protection, women made a point of chatting to other people waiting at bus-stops or with nearby street vendors.

**Women feel safer when traveling with friends or family members.** Friends living in the same area frequently organized joint commutes or ride-sharing (for the few who private vehicles). In some places, women had regular arrangements with friends or family members to watch out for them when leaving or arriving at bus-stops.

**In RJ, while most women interviewed welcomed women-only carriages (“vagões femininos”) as a positive measure, they complained about their lax enforcement and the refusal of men to comply with the regulations.** Younger women, particularly those in high accessibility areas, reported that they used the carriages regularly since they felt safer traveling in them. A recent study aiming at quantifying the cost of sexual harassment in public transport in Rio showcased that even if it has an impact reducing these incidences, commuters associate women riding in the public space with more openness to sexual advances, normalizing harassment in public spaces (Kondylis et al., 2019).



*“It’s dangerous at night, (...) we join other people, other women... “are you going to cross?” they ask... and “we have to cross all together.” (...) at the other end of the bridge, there are some bad people (...). There is a woman with a (...) snack stand over there, and I try to stay friends with her just in case one day I might need her to help me. This woman has warned me that things are always happening there. You have to be careful.”*

- 30-50 YEAR-OLD WOMAN, LM LOW

*“When there is something weird going on... because the [moto-taxi] drivers, they know us... so they say, “ah ma’am, ma’am...don’t go up by foot because there are some weird guys from another community walking up”, and then, I say, ‘oh, I’m not going up walking.”*

18-29 YEAR-OLD WOMAN, RJ HIGH

*“When you usually live a long time in the same neighborhood, you already know the hotspots, the [worst] times of the day, and then you can work around it.”*

18-30 YEAR-OLD MAN BA HIGH

*I know it [the pink carriage], but every time I got into one, there were plenty of men. {Laughs}. I didn’t see anything “feminino” there, just a sign with that word. It was just all pink, and it said “feminino” on top.*

- 30-50 YEAR-OLD WOMAN, RJ HIGH

## BOX 9

**“Vagões femininos” in Rio de Janeiro and new sexual harassment law in Brazil**

In 2006, Rio de Janeiro passed a law that introduced women-only carriages on trains and the metro, which became popularly known as “vagões femininos” (female carriages). This law, designed to solve the problem of sexual harassment on public transport during rush hours, has long been a controversial subject in public debate. Opponents of the measure argue that segregating women on public transport fails to address the root problem, which is the need to change social norms. Meanwhile, people who support the measure contend that, although not ideal, it is a worthwhile initiative designed to set aside safe spaces for women commuters to travel in peace.

The consistent failure of male passengers to comply with this law remains an issue. Metro and train guards only enforce it on a few platforms in certain areas, and men often get into the pink carriages, especially at rush hour. In 2017, the law governing women-only carriages in Rio de Janeiro was regulated, with the Military Police made responsible for enforcing it. Violators are supposed to receive a warning on first offense and are liable to a fine if caught a second time. The fine in 2017 ranged from R\$184,70 to R\$1,152.77 (US\$ 57-306) varying in the event of repeat offenses. We are unaware of any evidence that the new regulations are effective, or whether compliance issues have been resolved.

Although several countries (e.g. Brazil, Japan, Egypt, India, Taiwan, Indonesia, Belarus, Philippines, Dubai, Korea and Mexico) have introduced women-only carriages, there is scarce evidence to date of their effectiveness in preventing women from being harassed.

In 2018, a new law on sexual harassment (Law no. 13.718/18) was passed after the public outrage caused by the arrest and instant release of a man who ejaculated on a fellow bus passenger. The crime was considered a misdemeanor. The new law defines sexual harassment as a lewd act against someone without their consent that is committed by someone “to satisfy their own lust or that of a third person.” It carries a penalty of one to five years in prison. While skeptics show concern for adverse impacts the law may have on specific cases (for example cases of rape being typified as sexual harassment instead), the bill was widely received as a crucial step toward reducing impunity for cases harassment of women in public spaces<sup>27</sup>.

27 [https://www.huffpost.com/entry/brazil-sexual-harassment-law-public-transportation\\_n\\_5be48c33e-4b0e84388957620?guccounter=1&guce\\_referrer=aHR0cHM6Ly93d3cuZ29vZ2xlLmNvbS8&guce\\_referrer\\_sig=AQAAAA-7iOmRFwgHrS3oeccPKAL95osag4vG\\_pQgeKln7fJduoZ2Lb6IMzeGZ8m-O677QjbdreFzhB0ELlBmZQz9zVnHMGXdvC8l-lYGYgL\\_QIEine\\_Pe3Yl9uHS3fARw8klJdaB21koWaMWrBJkMhA7yV3U0xBn4KyXMRRE-H5mtLGP1x](https://www.huffpost.com/entry/brazil-sexual-harassment-law-public-transportation_n_5be48c33e-4b0e84388957620?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2xlLmNvbS8&guce_referrer_sig=AQAAAA-7iOmRFwgHrS3oeccPKAL95osag4vG_pQgeKln7fJduoZ2Lb6IMzeGZ8m-O677QjbdreFzhB0ELlBmZQz9zVnHMGXdvC8l-lYGYgL_QIEine_Pe3Yl9uHS3fARw8klJdaB21koWaMWrBJkMhA7yV3U0xBn4KyXMRRE-H5mtLGP1x)

## 4.4. Constraints to Accessibility

### Physical accessibility

**Physical or spatial accessibility has a strong linkage with transport connectivity and land use.** Land use factors can affect accessibility, including density, mix, connectivity, and walkability (Litman, 2017). Rapid transit, for instance, can improve accessibility through physical integration and a well-connected system of different modes of transport, including feeder buses and non-motorized transport (Darido, Moody, 2018).

**The overlap between constraints related to gender and social class faced by women make access to jobs and opportunities more difficult, especially for women in low accessibility areas.** Long distances, lack of available transport services and infrastructure, and the shortage of local opportunities contribute to the informants' inability to benefit from job opportunities and other services.

**In low accessibility areas, women report being discriminated against in job selection processes for living too far away.** Employers reportedly prefer to hire people who live close to prospective jobs to avoid paying transport costs and the risk of employees being always late to work due to traffic problems in low accessibility areas.

**Although both men and women are often turned down (by prospective employers) because of the distance of their homes from suitable job locations, men are more adept at circumventing this issue.** In RJ, women share the view that, when competing for the same job, men are favored. Because they face less risk of being mugged or harassed and have more time available (due to the uneven care burden), men



*What I dislike most is being far from the center [of the city],... downtown there are job opportunities in universities, institutes, work centers. I know that the headquarters of large companies are down there, but if I wanted to look for a job, I know that it's not feasible because of the distance from home.*

18-29 YEAR-OLD WOMAN, LM LOW

are more able to substitute segments of their trips with walking or biking, therefore saving employers the costs of transport.

### A broader concept of accessibility

**The concept of accessibility has been broadening in the literature.** From a traditional point of view, accessibility is defined as “the ease of reaching desired destinations given a number of available opportunities and intrinsic impedance to the resources used to travel from the origin to the destination” (Bocarejo & Oviedo, 2012). Under this definition, “impediments” relate to units of distance and time (Niemeier, 1997). However, some authors, such as Geurs and Wee (2004) and Bocarejo and Oviedo (2012), add to this definition other elements that can influence a person's ability to access economic opportunities such as individual characteristics, needs, skills, and information. Canon (2010) identifies dimensions of mobility-related exclusion (physical, economic, temporal, spa-

## BOX 10

**The relationship between social norms and access to economic opportunities**

In general, Latin America has moved towards closing gender gaps. For example, the gender gap in primary education enrollment has closed dramatically, even having countries where girls are achieving higher years of education when compared to boys (UNESCO, 2018). Moreover, Latin America has also shown a relevant drop in fertility rates (Chioda, 2014).

However, these achievements have not necessarily translated into labor market outcomes. Marriage status, education level, and social gender norms are some of the elements shaping women's decisions to access economic opportunities. For example, traditional perceptions of gender roles and responsibilities (men as breadwinners and women as caregivers), can influence women's decisions to work and access specific jobs. Available data from LAC shows that, even if family perceptions about gender roles have become more equitable (resembling OECD countries), they are still conservative among the least educated (Chioda, 2014).

tial, and psychological) as barriers for an individual's accessibility.

**A deeper understanding of accessibility from a gender perspective involves considering not only the spatial structure of cities and transport networks but also other mobility barriers related to how women experience transport.** Gender-responsive accessibility analysis must consider that women and men have different mobility patterns and daily activities, as well as the barriers imposed by differences in class, gender, age identities, and mental and physical capacities (Levy, 2016).

**Constraints to women's mobility are not isolated issues but a combination of mutually-reinforcing interrelated factors that limit women's access to economic opportunities.** In the previous sections, we have emphasized the set of constraints related to the features of transport systems. In this section, we explore factors that are not strictly related to transport systems (community, relational, and individual factors) but which also affect women's mobility and accessibility. Since the study sought to clarify the relationship between *agency in mobility* and access to better jobs, our analysis also throws light on factors that affect access to employment opportunities.

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**Uneven division of care work: a highly normalized constraint**

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**The unequal care burden is seen as natural by both men and women.** Housework and care activities are generally considered to be a woman's lot, regardless of whether they work away from home or not. Men and women usually regard men's domestic work as "help." Women are reluctant to recognize this unequal approach as something to be negotiated and changed.

**Transport issues exacerbate the time spent on care activities and lack of infrastructure.**

The shortage of transport within communities and lack of school buses oblige women to walk several times a day to bus stops outside the community. Walks can take up to 30 minutes and expose women to risk. Care options are limited or expensive. Although some older women recognize that there are more daycare options than in the past, most commented that these options were limited.

**Safety issues in these communities cause some women to extend the period of care for their children until adolescence.**

In BA, the women report that although their children are old enough to take care of themselves, they believe that a woman's presence at home ensures that the children do not fall prey to drugs or crime.

**An unequal care burden can affect women's health and restricts their ability to continue their studies as well as hold down (and succeed in) their jobs.**

The added responsibility of taking children to and from places entails high costs in terms of time and money and leaves women with less time for leisure, education, and work. Although mothers may have access to care facilities or other support, the hours are not always compatible with their jobs outside the home. Working women admit that the double burden of a paid post and child-rearing impacts their health and their capacity to improve their lives. In one interview, a woman complained about constant fatigue and being unable to do anything else, even to the point of having to give up her educational pursuits. Indeed, the household responsibilities of mothers are substantial, and it is no surprise that many admit to being "permanently tired."



*"My husband does very little housework, and I don't ask him to help me because he makes a mess...It's better to avoid problems and do it yourself."*

- 18-29 YEAR-OLD WOMAN, LM LOW

*"Two of them go to secondary school together, and two go to primary school, which is nearby. I have to go on foot because there is no means of transport to get to school. (...) it's a bit isolated, and no colectivos go there."*

30-50 YEAR-OLD MAN, BA LOW

*"That is when it all started... I left them at a time of their lives when they needed me most... and they learned about drugs... The result is that the children are now using drugs, although they don't bother anybody... but I cannot say that I'm happy with what they are getting up to. So, I stay at home more now and keep better control over them...I don't go out much because my house becomes a mess when I'm not there... My husband goes out to work, and I stay home all the time."*

30-50 YEAR-OLD WOMAN, BA HIGH



*"I'm tired all the time... Before I started working at the bakery, I was a "daily" domestic cleaner, working in five different houses... [the unequal division of household chores] is no good for me because I used to study but had to stop. I want to go back to classes, but now I can't because I have no time... I tried to finish school... go to college, but I can't... I used to fall asleep in the classroom."*

30-50 YEAR-OLD WOMAN, RJ LOW

*We build a bond with neighbors ... I have this neighbor who lives here.. she has two children and sometimes she has to go out somewhere, she asks me to keep an eye on them for her. I say "Sure, of course." We do favors for one another, just like that"*

18-29 YEAR-OLD WOMAN, RJ HIGH

*"I asked one of the mothers of the children on the bus who knew my daughter. I asked her if she could keep an eye open because we were both alone. I would usually try to talk to the mothers of one of my daughter's friends so that we could help each other out if needed..."*

18-29 YEAR-OLD WOMAN, BA HIGH

**Mutual childcare support networks enhance women's mobility.** Such networks may consist of family members and neighbors (male and female). With access to a more extensive network, women are better able to work and undertake other activities. In RJ HIGH, it is common for neighbors or neighbors' older children to take turns taking smaller children to school and picking them up after school. In BA HIGH, the use of information technology has led to the formation of informal support networks for women with limited other support. "WhatsApp groups," for example, are used to put mothers in touch with others to arrange mutually-acceptable travel logistics for transporting children to and from school, etc.

**Flexible work conditions can help women to overcome the constraints of caring responsibilities.** In RJ, some women enjoy flexible working hours, payment by the hour, and some worked for employers who allowed them to take their children to work. This was often the case of domestic servants (cleaners, etc.) working close to home, who were allowed to stop work in the middle of the day, pick up their children from school and take them back to work while the mother finished her duties.

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### Partners' negative attitudes-and controlling behaviors-towards women's mobility and work

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**Most women interviewees assert that they make work and mobility decisions freely and with support from their partners. Partners' support is, however, often conditional.** Men expressed their support to women working outside the home, acknowledging the benefits of an additional family income. However, men's support is often contingent on women having

work schedules and locations that enable them to continue with other domestic responsibilities: cleaning, cooking, shopping, and childcare.

**There were many cases of women whose partners controlled their mobility and discouraged them from taking a paid outside job.** Some men claimed they were concerned that women traveling “by themselves” would be exposed to violence and harassment, or that children would be left unattended. Others were openly jealous and suspicious that women who were out every day would be looking for another man to cheat on them.

**The level of control partners exerted over women’s mobility and daily activities varied, with a few cases escalating to situations of intimate partner violence (IPV)<sup>28</sup> if the woman refused to change her work decisions.**

**The support of families is essential for enabling women to go to work.** Support is provided in different ways, such as other family members looking after their children, accompanying them to the bus-stop, helping with commuting costs, or loaning money for them to set up a small business. In RJ and LM, women saw small-scale self-employment activities as valuable income-generating activities. In RJ, for example, better-off families helped women to buy a market or street stall to enable them to work nearer home.

<sup>28</sup> IPV refers to any behavior within an intimate relationship that causes physical, psychological or sexual harm to those in the relationship. This includes controlling behaviors, including isolating a person from family and friends; monitoring their movements; insisting on knowing where she is at all times, and restricting access to financial resources, employment, education or medical care (WHO, 2012).



*“If she leaves early for work she will not be able to fulfil her responsibilities, which means life gets difficult. Taking care of my children is hard for me if she leaves early.*

- 30-50 YEAR-OLD MAN, LM LOW

*“It’s OK [for her to go to work], but not to work too long or hard like a man. She needs to stay home too. When you get home it’s good to have your wife or sister look after you. Women should also do the housework”*

- 18-29 YEAR-OLD MAN, BA LOW

*“I have always worked...Then I stopped because my ex-husband wouldn’t let me work...He would say that women who had a job outside [home] were just looking for a man. The truth is he was deceitful and didn’t want me to be independent”*

- WOMAN, RJ LOW

*“He didn’t like me to working but I worked anyway...We had constant fights...Once I put a knife on him. he came home...He wanted to hit me... I would not accept it, you know?...Oh, I don’t accept it, because we stay at home, we dedicate our lives to our children and husband, you work to also provide to the house...to then get home and get beaten...?”*

- WOMAN, RJ LOW



*“Oh, they give me lots of support ... I must say that they speak highly of me, they value me a lot,...so much so that it leads to arguments between me and my husband. They say: “My sister needs nobody to support her; she’s an independent woman, she has always worked, she always had her own life, she bought her own house, she had her own things. She doesn’t need to stand any nonsense from anyone.”*

30-50 YEAR-OLD WOMAN, RJ HIGH

### Women’s paid work is given less priority after marriage or children

**Men’s work is often given priority in households, while women’s is regarded as a secondary income that is only needed if the family is short of money.** Families are often obliged to pay someone to care for children while mothers go out to work. This option is rarely financially sustainable (since the outlay for childcare usually equals the mother’s earnings), and there is always the lingering fear that the children are not receiving proper care by outsiders.

**Since care work is the woman’s responsibility, and women’s salaries are often lower than men’s, women are expected to give up work to devote themselves to care activities whenever necessary.** Alternatively, the couple can decide that the woman will seek jobs

#### BOX 11

### The impact of Gender Based Violence (GBV) on Women’s Agency

Different forms of gender-based violence can impact directly women’s agency. A study on Violence against Women in Latin America and the Caribbean (Bott et.al, 2012) showcased that different forms of gender-based violence are prevalent in the region. Evidence has also shown that violence against women has long-lasting consequences on women’s health, including physical injury, unwanted pregnancy, abortion, sexually transmitted diseases (Bott et.al.,2012) which have a direct impact on their self-esteem and decision making. Freedom of violence is an essential domain of agency because of its intrinsic value as a human right and because its instrumentality to promote gender equality (Klugman et.al., 2014). This report recognizes that different forms of violence, including domestic violence, can constitute a barrier for women’s decisions to move and access better economic opportunities; however, because of ethical considerations and a more general scope of the study, this area was not explored in depth. As can be seen in the report, sexual harassment in public transport and urban spaces as well as controlling behaviors were identified as barriers for women’s mobility. Other forms of violence were not explicitly manifested by the women participating in the study.

nearer to home with flexible hours (and lower pay). Low pay and childcare responsibilities are the main reasons for women giving up work, whereas men leave jobs when they are made redundant or to seek better pay.

**Women’s future goals more often prioritize looking after their families, whereas men aspire to better jobs and professional success.**

This secondary nature some women attribute to paid work after marriage is influenced by social norms that undervalue women’s paid work and partners’ gradual enforcement of those norms through controlling behaviors and negative attitudes towards women’s mobility and work. Most of the married women who were not working at the time of the study had started working very early in their lives and experienced a gradual detachment from paid work activities after marriage or children.

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**To relieve care and transport burden, women prefer work proximity over quality**

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**Negative commuting experiences influence women’s decisions to work closer to home, despite the possibly better job opportunities further afield.**

In all the study sites, women argued that better jobs were available outside their communities. Willingness to commute meant that they would have access to formally registered jobs and better pay and conditions. In contrast, posts closer to home were regarded as informal, unstable, low paid, and with no fringe benefits such as paid holiday breaks, social assistance, and retirement pensions.

**Women prefer to work nearer home despite less attractive jobs and prospects.** This preference is shaped by the disproportionate burden that transport systems place on wom-



*“I want to [work], but only when my daughter is older. My husband was thinking of turning down jobs so that he could help me. We ruled this out, because instead of increasing our income we would be even poorer.”*

- 18-29 YEAR-OLD WOMAN, LM LOW

*“I’m willing to work, I love working, but I cannot work because I have to look after them. No matter how hard you try to argue... men say “no, it’s we who have to work” and I have to go along with that.”*

- 18-29 YEAR-OLD WOMAN, BA LOW

en, and is reinforced by traditional gender roles. Given that women generally earn less than men (and their income is frequently seen as “secondary” to that of the male breadwinner) they prefer non-formal jobs with flexible hours nearer home to accommodate care responsibilities and bow to family pressures, and mainly to avoid having to commute to jobs with better professional prospects and benefits. In BA and LM, women favored being self-employed, possibly setting up small businesses. These preferences were very different from men’s: work for them was primarily a means towards higher status and increased salaries regardless of location.

**Inadequate transport infrastructure plays a crucial role in families’ encouragement of**



*“My husband asked me why I was thinking of working outside the home. He said, “Working outside means commuting. You will have to take a train and put up with things like men stalking you. You aren’t going to like it.”*

- 30-50 YEAR-OLD WOMAN, RJ LOW

*Does the car belong to both of you? Yes. (But does only he drive?). Yes. I’m afraid to drive. I only drive a bit.*

- 18-29 YEAR-OLD WOMAN, RJ HIGH

**women’s limited mobility and opting out of paid work.** An informant in RJ’s low accessibility area said she dreaded commuting and, therefore, hardly ever left her house, describing the train journey to the city as an “unbearable experience.” Without a job, this woman said that she survived on a pension and financial income support from relatives. Another informant chose to work near home because her husband did not want her to endure harassment on the train. In the event, this man sold his car to buy a small food stall to provide an income for his wife — both these initiatives involved having sufficient family resources, an option not available to many.

## Women’s social networks

**The range and strength of women’s social and support systems are critical determinants of their mobility patterns.** In the low accessibility areas of RJ and BA, men and women can typically rely on support networks in their neighborhoods. Some women, however, report that they generally distrust other people in the community. Others claim to have no friends and no one to confide in, sometimes due to religious beliefs.

**Personal networks facilitate access to jobs, especially for older and lower-skilled women.** In LM and RJ, women’s networks are a valuable way of obtaining information about job vacancies, especially for older women. Given the informal nature of their work, personal recommendations can count heavily towards securing a job placement. Women in paid work help family finances. In LM, businesses were often passed on within families, with women starting to work at a young age, following the example of their mothers, selling food and clothes, or as cleaners or babysitters.

## Lower self-efficacy related to independent mobility

**Exposure to risk, social constraints, fear, and negative experiences shape many women’s self-efficacy related to mobility.** Self-efficacy refers to an individual’s belief in his or her capacity to execute behaviors necessary to produce specific performance attainments (Bandura, 1994). Many women (although not the majority) claimed that they avoided traveling by themselves as much as possible.

The research also found that married women were more afraid of walking alone and using certain types of due to the stereotypes of becoming a “too outgoing woman.” In RJ, community attitudes towards women’s use of moto-taxis were often negative (e.g., women regarded as flirtatious). Married women, in particular, were less likely to use moto-taxis. Social norms around the ideal behaviors for married women (e.g. to stay more at home), reinforced by their partners’ protective or controlling actions played a role in shaping these women’s perceptions of safety. Married women’s higher incomes (compared to single women) appeared to steer them towards using less risky transport, gradually shaping their perceptions of safety. In RJ, many women confessed that when they were younger and single, they would walk more uninhibitedly at night, even over long distances.

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### Less control over privately-owned vehicles (cars, motorbikes, and bicycles)

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**Access to private transport is highly gendered. Motor vehicles such as cars and motorcycles are driven mainly by men.** Decisions on the use of vehicles are almost exclusively down to men. Many men use private transport as a result of frustration with public transport. They also find it more comfortable and time-saving. Notwithstanding the practical benefits, women, however, do not consider cars to be a viable option for them: they are less likely to own a vehicle or possess a driving license, and fear traffic accidents and ridicule. In BA and LM, a minority of women drive motorbikes.

**Bicycles are not a popular transport mode for women in all the sites, even in places where men frequently use them.** Older women tend to ride bikes more than younger ones, as a cheap, healthy, time-saving option. Negative aspects are bad weather, potholes, risk of accidents caused by car drivers, and the fear of having their bicycles stolen.

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### Social discrimination and lack of belonging

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**In some sites, women reported suffering discrimination by people living outside their communities.** In BA, women expressed frustration, and occasionally resentment, that people outside their community regarded them as “delinquents” or “drug addicts.” Some women indicated that their friends or relatives were afraid to enter their neighborhood to participate in social activities. This stigma extends to their children, who find it challenging to play with other children from outside the community. Many women (and men) said that they had lost work opportunities after telling people where they lived. In RJ, a SEBRAE study (2013) highlights that “people living in favelas have readier access to the nearby dynamic jobs market, but, in addition to living in areas with poor infrastructure, often suffer discrimination due to the social stigma attached to favela dwellers in general.”

**The discrimination experienced by women in these communities has a direct impact on their mobility by limiting their chances of securing employment and enjoying social networking opportunities.** Some women find it challenging to apply for work outside the com-



*For us, everything beyond our neighborhood is another world... because we're not integrated. I do not feel that I belong as a citizen... I carry the stigma around with me... It's like living in a bubble inside your own neighborhood.*

18-29 YEAR-OLD WOMAN, BA HIGH

munity unless they are willing to lie about their address. Although this issue also affects men, the experience of social discrimination combined with social norms that already encourage women's limited mobility adds to a mindset in which women feel uncomfortable outside the community. This is well-illustrated by the example of one informant who said that she felt like a pariah when visiting the center of Buenos Aires, where people suspected her of being a thief.



## RECOMMENDATIONS

The main challenge facing policymakers will be to design comprehensive interventions to address the multiple aspects of women's mobility in low-income communities in developing countries. Despite the many constraints outlined above, transport systems can play a facilitating role in women's mobility. Changing these social/gender norms calls for medium-to-long-term interventions, but some short-term infrastructure-related measures could be taken. Collaboration between different stakeholders, besides transport-related, will also be needed to implement some of these recommendations successfully.<sup>29</sup>

In this section, we provide policy recommendations to address some of the issues identified in this study. These recommendations are not exhaustive, and a holistic approach is needed when addressing women's mobility and accessibility in a planning context. Several of these recommendations are based on promising practices since there is still not robust evidence about their impact. However, with proper context adaptation, they can be good entry points to design interventions aiming at increasing women's mobility and access to economic opportunities integrally.

### 5.1. Recommendations to enhance transport acceptability

#### Gender-sensitive planning

- Boosting women's participation in the transport sector provides for gender-sensitive planning. Women's involvement can be a constant feature in decision-making on transport planning, monitoring, and evaluation.
- Improving data collection methods is essential when planning transport and infrastructure so that it responds to women's needs. Gathering data disaggregated by sex and other factors intersecting with sex and gender (such as income, family status, etc.) improves transportation research and policy. Traditional planning methods, such as origin-destination surveys, must incorporate topics to capture women's specific mobility patterns. Topics can include data on travel speeds according to mode (even walking alone or with other persons and carrying bags), trip chaining, and trip purposes.<sup>30</sup> Data collected through user satisfaction surveys should be broken down by sex, and the design of these instruments should reflect issues that affect women disproportionately, such as sexual harassment or transport designs that fail to respond to their real needs.
- Qualitative assessments of the mobility requirements of poorer women in developing countries should form a crucial part of efforts to promote social and urban develop-

<sup>29</sup> This report has shown that to increase women's mobility and access to economic opportunities different angles need to be tackled (from infrastructure to social norms); this has to be taken into account when defining indicators related to increasing women's usage of specific modes of transport and a robust gender analysis has to be done to support the definition of targets.

<sup>30</sup> It is important for researchers and policy makers to understand that data broken down by sex does not aim to compare households headed by men or women, but to obtain information on different household members. The characteristics of female and male-headed households are not comparable, and relevant information on individuals within a household can be easily missed. While male-headed households generally include those in which women are married to men; female-headed households generally lack male adults.

## BOX 12

**Enhancing women's participation in transport sector decision-making**

According to the Harvard Business Review, 20% of engineering graduates are women, but almost 40% with engineering degrees either quit or fail to enter the profession. This results in the transport sector remaining heavily male-dominated, which in turn means that women's opinions as users of transport are not being heard. Transport operators have little incentive to respond to women's needs.

Women's involvement in transport decision-making can be fostered by their increased participation in political institutions as well as employment in managerial positions in the transport sector. For example, in Rwanda and in South Africa, an increase in female lawmakers is related positively to the passing of progressive legislation that addresses women's needs in different areas, including in the public transport area.

Exposing girls to Science, Technology, Engineering and Mathematics (STEM) in schools and promoting paid internship programs with transport agencies can be transformative entry points. Furthermore, a study conducted in Malawi (Müller, Melibaeva, Machado & Casabonne, 2019) reveals the multiple and overlapping factors embedded in the socialization, learning and hiring processes that result in low participation and high rates of attrition of women in the engineering and roads-related technical field at different stages of the career cycle, often called the "leaky pipeline" in policy discussions about women in STEM. The study calls for a career-cycle approach for realistically addressing the issue.

ment. As well as detecting serious issues of transport infrastructure and services, qualitative assessments can reveal the context-specific set of socio-cultural issues that impact women's mobility. Also, it is possible to assemble qualitative data on trips made and not made. Travel diaries, mobile phones, or smart cards can also contribute to filling data gaps and supply information on different mobility patterns, providing personal data protection laws are respected when using this type of technology.

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### Prioritizing women's safety in planning and delivery

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- Certain features of transport infrastructure have a direct impact on women's sense of exposure to risk. These include the availability of transport alternatives and routes, lower prices, and a larger number of stops.
- Identify safe communal spaces, shops, etc., for women to wait in near to bus stops considered to be unsafe. Make sure they are well-lit and incentivize the set-up of small vendors.

## BOX 13

**Enhancing indicators used in the analysis of accessibility during planning**

Some tools have been used to conduct accessibility spatial analysis. The accessibility analysis calculates the number of jobs, educational centers, health centers, or other resources that are reachable within a certain travel time, either from a selected place or on average by all residents (Peralta, 2015). A common indicator used is the number of jobs reachable with 45-60 minutes time frame to illustrate the extent to which the urban transport system is serving a particular area or group of people (Darido, Moody, 2018).

But is this accessibility indicator capturing well enough the constraints to women's mobility? The indicator captures accessibility from the supply side, measuring, for example, the amount of people that could potentially use transport infrastructure if it is supplied in a given area. However, it does not capture information about where the assumption that people in that given area will become transport users actually translates into reality. A more accurate accessibility indicator could incorporate data from the demand side, related to mobility constraints faced by users in their decision-making processes. For example, the accessibility analysis normally does not provide enough granularity to understand pedestrian mobility within individual transport analysis zones and, therefore, does not take into account the frequent short trips which account for most of women's mobility. An option would be to include data on pedestrian infrastructure and walkability. Moreover, jobs are normally defined as "formal job", whereas low income women living in the peripheries are more likely to work in informal jobs.

- Night buses could enable women to disembark wherever they find it most convenient. In Vigo (Spain), women can ask bus drivers to stop at any place where they feel safe.
- Appropriate technology could also be applied to ensure compliance with rules, regulations, and controls, as well as enhancing operational management systems to ensure that bus routes are respected. For other forms of transport such as taxis, moto-taxis, authorized minivans, etc., to consider similar anti-discriminatory measures.
- Examine the possibility of running flexible services such as "demand-driven" transport.
- Implement non-discriminatory measures. Concession agreements between the Regulating Agency and ride-sharing companies could include rules to forbid drivers from excluding certain areas (by providing monetary incentives if necessary) and install panic buttons in vehicles to increase operator and user safety.
- Consider introducing controls and incentives to (as part of the ride-sharing concession agreements) to make drivers deliver passengers to the peripheral areas of cities.

## BOX 14

### Participatory tools to improve environmental design for preventing violence

Safety audits depend on data gathering from users to provide authorities with recommendations for ways to focus on danger hotspots, improve women's security and boost their sense of ownership of public space (UN Habitat, 2008).

Safety audits can be carried out in different ways, including for example safe walking, the use of security-related technology, etc. One approach is Safetipin, a mobile application developed in India that allows users to collect data and assess their perception of safety by gathering information on parameters such as lighting, openness, visibility, crowds, security, route pavements, footpaths, availability of public transport, and gender diversity of bystanders.

In Brazil, the NGO Think Olga created the collaborative map “Chega de Fiu-Fiu”, where users can report and geo-tag occurrences of harassment.

### Using technology to enhance women's safety

- Mechanisms to facilitate the reporting of sexual harassment cases could include help-lines or mobile applications for reporting to the appropriate response services offenses committed on public transport. Dissemination of vehicle number-plates could also be made mandatory by the regulatory agencies. In RJ, women reported feeling safer traveling on regulated transport because they had the company's number to call in the event of abuse. The “*Bajale al Acoso*” initiative by the Quito Integrated Transport System is a text message mechanism that generates a response protocol by the Operations Command Center when activated.
- Such technological platforms need to go hand in hand with capacity-building for the staff of the relevant “response” authorities, which are perceived by survivors of abuse on public transport as lacking credibility. In Mexico City, for example, a World Bank pilot scheme has led to the introduction of a mobile application to make it easier for women to obtain quick access to the Citizens' Protection Unit run by the police. Police officers from the CPU, together with colleagues stationed along the relevant bus routes, have received training, in partnership with Mexico's Ministry for Women, to provide appropriate assistance to survivors.

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### Environmental design to enhance women's security

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- Improved lighting<sup>31</sup>, security cameras, and police patrols in the communities and strategically placed at bus stops would provide greater protection for women. Interviewees commented that their neighborhoods were calmer when the police were more present. Transport authorities will need to improve collaboration with urban planners to ensure an integrated approach to enhancing women's security when using transport, and in the urban environment generally.

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### Capacity building in GBV responsiveness

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- Training bus operators to respond appropriately to sexual harassment of passengers, setting up and supporting transport companies managed by women, and ensuring that government/transport operator concession agreements incorporate Codes of Conduct. Such Codes of Conduct should condemn cases of misconduct such as those committed by staff within the transport company and by drivers. The enforcement of these Codes of Conduct defined under the concession agreements can facilitate the monitoring of additional unwanted behaviors beyond sexual harassment, such as drivers refusing to pick up women with bags and children, alleging that they take up space that could be occupied by paying passengers.

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### Improving dialogue and collaboration with the police

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- Increase police presence in identified hotspots and carry out publicity campaigns to inform people where and how to report cases of sexual harassment and general violence. Given the low levels of trust in the police in RJ and BA, it is crucial to enhance police training and awareness, and introduce mechanisms to ensure police accountability and proper enforcement of the law.
- Consider allocating more female police officers to community policing. In RJ and BA, informants claimed that they distrusted the police. Strengthening contact with female officers can enhance women's sense of safety.
- Collaborate with NGOs and government authorities responsible for gender issues to train police on how to respond to harassment and violence against women and girls in public spaces.

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### Training community residents to reclaim public spaces and become active agents of change

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- Show people how to intervene in cases of sexual harassment and violence in the communities without putting themselves at risk. Grassroots initiatives as Hollaback! can train communities on bystander interventions and sexual harassment prevention to reclaim public spaces. Some forms of trained and skilled community patrolling can be put into place for complementary

31 Analysis in refugee camps shows that involving the community in the location of lighting has a significant impact in terms of increased safety and security (UNHCR, 2017).

## BOX 15

**Plan International Safer Cities for Girls program**

The Safer Cities for Girls program of Plan International promotes the activities “Social Cartography” and “Safety Walks”. In Lima, “Safety Walks” in the District of Carabayllo in Lima allowed young girls to select and visit an area of their community to locate safe and unsafe places, accompanied by different stakeholders from the community such as: community leaders, transport operators, authorities, municipal police, etc. This data has been shared with local authorities to inform the improvement of infrastructure in the community.

surveillance, non-confrontational intervention, and civic education.

- Use computer-gaming devices to promote safer commuting experiences and invest in enhancing social capital and community participation. Develop applications to facilitate communication between community residents so that they can coordinate their commutes. Rewards points could be offered to people if they arrive at meeting points on time, or if they report (e.g., with pictures online) unsafe infrastructure to the authorities to hold them accountable.
- Create effective feedback mechanisms where community members can place complaints and develop a sense of ownership of the public space. Several transport operators count with call centers and other feedback mechanisms where transport users can place charges. Response protocols must en-

sure that a clear response route is defined for different kinds of complaints. Ethical considerations should be taken into account when responding to specific issues posed by women where confidentiality should be a key pillar (e.g., on sexual harassment). At the same time, the response protocol should ensure that women are referred to the adequate services (e.g., Local Women Institutes).

## 5.2. Recommendations to enhance transport availability

### Designing transport services to match demand and regulation

- There is a need to analyze the demand by different groups, including women, to plan transport services that address mobility patterns and requirements.
- A formalized transport sector allows up-keeping a certain level of quality of transport services. Hence the need to design formal services that address the demand, while providing specific standards for the quality of services through concession agreements and requirements established for authorized routes. Formalized services could lead to improved schedules, reliable timetables, regular bus-stops, ensuring that buses stick to their allotted routes. Service contracts can incorporate measures to address women’s safety and mobility since the beginning. Contract provisions can be enforced through regular inspections and monitoring.
- Public transport “gaps” are often filled by informal or private (authorized) modes, which play an essential role in supplementing women’s mobility requirements. Formalizing and regulating supplementary transport

## BOX 16

**Improving internal transport coverage**

The Urban Transformation Project of the Buenos Aires Metropolitan Area (financed by the World Bank), aimed at integrating Villa 31, a fleet of electric buses will be purchased to enhance internal mobility for residents of the Villa and cover the limited supply in the community. The intervention involves reorganizing public areas, introducing an appropriate public transport system (i.e. buses), restricting the use of private cars, expanding the bicycle rental service (Ecobici), improving pedestrian footpaths, etc., and facilitating inter-connection with the metro and train stations. The new bus service in Villa 31 aims, *inter alia*, to incorporate the informal “combi” system that currently serves residents living at the north end of the neighborhood so that they can be dropped to the nearest transport hub.

Meanwhile, in Peru, the World Bank will finance a cable car project to benefit low-income people living on the periphery of Lima, and increase connectivity between San Juan de Lurigancho and the downtown area of the city.

services (unauthorized minivans, taxis, and moto-taxis) can be a crucial initiative for increasing the safety of women travelers and ensure they are not subject to price discrimination.

- Public transport reforms are a complicated process involving the need to overcome a multiplicity of barriers. Some of these barriers, such as obtaining access to finance, could be perhaps secured by mobilizing Maximizing Finance for Development to facilitate the access by a group of operators to private loans, or by establishing concession agreements directly with the government.

**Improving “last mile” connectivity**

- Provide alternative short-distance transport, such as subsidized bicycle-sharing schemes, and improve conditions for people who prefer to walk. Bicycles and walking can make it easier and quicker for women to move around in their neighborhoods. Bike-sharing schemes, for example, could encourage wider use of bicycles and lessen the possibility of theft of privately-owned bikes. Such programs must be combined with the construction of safe bicycle paths and the installation of bicycle racks on public transport vehicles.
- In peripheral communities, the introduction of better walking facilities, street lighting, and publicity campaigns to accept the idea of women riding bicycles would be an advantage.
- Several elements need to be considered for bike sharing to be an equalizer for women's mobility. Analysis from the Urban Institute in Washington DC showed that there are few bike racks in low-income areas and that those that do exist are more likely to be near to transport hubs rather than to people's homes. This entails people resorting to other modes of transport to access bike racks, thus undermining the potential for bicycles to improve mobility for the first and last mile of journeys. Information on cheap bicycle rental

## BOX 17

**Positive effects of encouraging more women to cycle**

A recent study for the Women for Climate Initiative conducted by the University of Berkeley, California, showed that encouraging more women to take up cycling can contribute directly to carbon emissions reduction. To promote urban cycling, the San Francisco “Transit First Policy” acknowledges the importance of material infrastructure (e.g. protected bike lanes) and of investments in sociocultural infrastructure (e.g. working with the community to change gender bias towards bicycle users in order to increase bike use by women). Another study (by the University of Kentucky) done in some large US cities (Graehler et.al., 2019) shows a link between cycling and increased use of the metro and light-rail, while reduced bus ridership was noted to have a positive impact on carbon emissions reduction.

In Lima, a new law was approved on April 24, 2019<sup>32</sup>, aimed at introducing specific measures to encourage and regulate bicycle use in Peru as an efficient and environmentally sustainable mode of transport. This initiative should also have a positive impact on improving women’s access to bicycles.

Rio’s Transport Department is currently developing a 6-month pilot project at a suburban (SuperVia) rail station to provide bicycle racks and bike rentals on weekday and weekends to local residents. This facility is expected to improve commuting for residents who live near the station by improving “last mile” connectivity (multi-mode integration). Rio’s SuperVia suburban rail system caters for the city’s poorest inhabitants, with 102 stations and a 270 km rail network serving some of Rio’s most dangerous neighborhoods.

From a policy perspective, it could also be explored the possibility of encouraging the use of bicycles by children to go to school. This kind of initiative would have to be complemented with safe routes that include programs that go from safe street crossings, maintaining sidewalks, to education programs for students and the communities on how to bike safely, among others.

32 <https://busquedas.elperuano.pe/normaslegales/ley-que-promueve-y-regula-el-uso-de-la-bicicleta-como-medio-ley-n-30936-1762977-4/>

rates should be disseminated in spaces frequently accessed by women, while flexible payment methods should be considered for low-income people without credit cards. Given the credit accessibility gender gap (i.e., women have less access to credit), this could help boost women's mobility.

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### Integrated transport systems

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- Enhancing institutional capacity to ensure the provision of sustainable urban transport involves improving coordination and integration between transport services. Integration must not be restricted to tariffs. It should also include actual physical integration, and operational integration, such as better coordination between different services at night aimed at reducing the risks to women enduring long waits in bus stations or at bus stops. In Peru, the law governing the creation of the Lima and Callao Urban Transport Authority (ATU), published on December 28, 2018, aims to organize, implement and manage the Integrated Lima and Callao Transport System. The creation of the ATU, which heralds a complete transformation of transport in the Peruvian capital, will involve robust institutional and inter-institutional strengthening.

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### Planning for inclusive urban spaces

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- Urban spaces can be designed for promoting inclusion and boosting women's capabilities. Cities are inclusive when they equally provide access to services and economic opportunities to different population groups. Cities that plan from an inclusive approach think since the outset on increasing people's mobility, providing neighborhoods with services like childcare, health, and education facilities, plus improv-

#### BOX 18

#### Planning for inclusive cities: the case of Medellín

Medellin represents an example of a city that, through adequate transport and urban planning, promoted inclusiveness and contributed to address its situation of criminality and violence. As part of this inclusive planning, the public transport network and physical street infrastructure layout were developed in a way to increase access to significantly better economic opportunities for the people living in the slums in Medellín. Public transportation (metro, metrobus, cable car) was highly integrated with pedestrian and cycling infrastructure. Public spaces were also transformed into safe and livable neighborhoods that included lighted streets, playgrounds, public libraries, waiting areas, ramps, etc. This urban transformation was complemented by new social, educational, cultural and violence prevention programs (Ijjasz-Vasquez and Duran Vinueza, 2017). All this enhanced social cohesion and the sense of community belonging that led to violence prevention.

ing connectivity and accessibility to main industrial, commercial, and employment areas. Easing women's access to economic opportunities and services can have a direct impact on women's economic empowerment; thus, their access to resources and decision making within their households.

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### Regulatory restrictions that may create barriers for the poor

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Excessive regulation (e.g., maximum floor area ration, minimum lot size, forbidden mixed uses) can limit the supply of built space, raising prices artificially and excluding the poor. Thus, an assessment of urban regulation must be taken into account in urban planning, so that low-income populations are not socially expelled to distant, disperse, and disconnected areas, as they cannot afford prices in more central and denser ones. Better regulation, on the contrary, can promote, for instance, mixed usage of land (including social housing) that will increase supply and reduce prices leading to more inclusive and better-designed cities.

### 5.3. Recommendations to enhance transport affordability

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#### Fare scheme suited to women mobility patterns

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- Analyzing the mobility patterns for different socio-economic groups and designing integrated fare schemes can reduce multimodal travel costs and enable the introduction of targeted subsidies. The design and implementation of such policies must be founded on a financially sustainable, balanced approach aimed at improving transport efficiency while recognizing the affordability constraints suffered by low-income women. Some integrated fare schemes could involve, for example, exemption from “transfer” costs and the introduction of cheaper daily, weekly, or monthly tickets.

#### BOX 19

#### Transport subsidies for the poor in Buenos Aires and integrated fare in Sao Paulo

Demand-side subsidies were launched in 2014 to protect poor people from fare increases. With the SUBE personalized smartcard, cheaper “social” tariffs can be bought by the city’s most vulnerable citizens [1]. The discount has increased recently from 40% to 55% of the full fare, and 1 million additional people now benefit from the scheme (2.3 million in December 2018 in the Buenos Aires Metropolitan Area).

In early 2018, the Argentine Government also introduced an integrated fare system for public transport in the AMBA, providing a discount of 50% on the second trip and 75% on further trips. These subsidies benefit the poorest users given that they tend to undertake longer trips involving more transfers (World Bank study, 2018). This new fare structure is better suited to address the needs of low-income women in particular, who live in peripheral areas, carry a larger burden of the household travel needs and bear larger travel complexity with multi-stop trips.



[1] Beneficiaries of Asignación Universal por Hijo, Programa de Jefes de Hogar, Asignación por embarazo, Plan Progresar, Personal de Trabajo Doméstico, Programa Argentina Trabaja y Ellas Hacen, Monotributo social, and retirees and pensioners.

#### BOX 20

##### Integrated fare in Sao Paulo, Brazil

Bilhete Único is the São Paulo transportation contactless smart card system for user fare control. It is managed by SPTrans and integrates metro, buses (onibus) and suburban railways. Special fares apply to (i) students and teachers who pay half price; (ii) people with disabilities and the elderly (women over 60 years old and men over 65 years old) are exempt from payment; (iii) pregnant women have a special card called “Bilhete Único Mãe Paulistana”. This card guarantees free transportation to pregnant women registered in the UBS - Basic Health Units and benefited by the Paulistana Mother Program of the Municipal Health Secretariat. There is also a special card called “Bilhete Único Amigão” which provides an special fare valid on Sundays and holidays that allows users to make up to 4 bus trips in the period of 8 hours, at the cost of only one fare; and (v) “Bilhete Único Vale-Transporte”. The transportation voucher is a labor benefit under federal law, and it is paid by the employer. The discount on the worker’s salary is limited to 6%.

## BOX 21

**Improving women's mobility through childcare provision**

Childcare services provided by the government could be a good option to incentivize women's return to employment after childbirth, as evidence shows that they are the primary caregivers of children (WBL, 2018). A study showcased that, among OECD economies, the availability of public childcare for children below the age of 5 years is strongly correlated with employment rates of mothers with young children (OECD, 2001). Another option to ease women's double burden could be the provision of personal income tax deductions for childcare. According to the WB Women Business and the Law 2018 Report, 33 of the covered economies provide this kind of incentive.

In Colombia, the Programa de Hogares Comunitarios de Bienestar has been highly recognized for its full country coverage and for benefitting children below 5 years old in marginalized communities in urban and rural areas. The Program is organized by the beneficiary families: "communitarian mothers" receive in their homes around 12 to 14 children up to five years old and provide them with care, initial education and nutrition. Communitarian mothers receive a stipend that varies depending on the number of children (González Ramírez and Durán, 2012).

More evidence is needed to showcase the impact of childcare provision on women's mobility and access to better economic opportunities, including an analysis of the best location (e.g. community vs close to train stations) and required regulations for these services, as increasing women's mobility could compromise the child's quality of care. Moreover, childcare provision shall be complemented by efforts to change social norms so that co-responsibility can happen within the household.

#### 5.4. Additional recommendations to enhance women's transport mobility and accessibility

Notwithstanding the influence of traditional social norms, we identify a set of measures that may help to alleviate this burden in short to medium term:

- Expand the number of vacancies and nearby options for daycare units and kindergartens for younger children, or include daycare facilities within a Transport Oriented Develop-

ment Infrastructure. A starting point could be to design a pilot project to identify suitable locations for daycare facilities. Another option to be piloted could be the provision of adequate breastfeeding facilities in transport hubs.

- Create extracurricular activities in safe places for older children and adolescents after the end of classes. This can contribute to better coordination of entry and exit times and can serve to reduce the number of trips that mothers have to take to and from school. In

## BOX 22

### Implementation of methods to improve work/family balance in households by changing gender norms

Promundo is a Brazilian non-governmental organization (NGO) which promotes men's caregiving and active fatherhood with a view to fostering equitable gender roles, preventing violence against women and children, and contributing to positive maternal and child health outcomes. The NGO collaborates with a network of NGOs around the world that offer training courses, particularly for new fathers and couples. These courses have been followed by more than 250,000 people.

SASA! is a preventive approach to violence against women aiming at addressing power relations as the root of gender inequality. The intervention walks communities step-by-step through a process of change, and it avoids the chronic cycle of awareness-raising. The process involves all members of the community, working on a personal level to ensure a transformational approach. SASA! has been rigorously evaluated, and the results showcased a significant reduction in social acceptance in Intimate Partner Violence (IPV) among women and men and lower levels of past year experience of sexual IPV.

BA, women's concern with their children's involvement in crime was a key reason why they chose not to work away from home.

- Engage community leaders to organize mutual support groups with the use of WhatsApp, etc. These groups could encourage women to help with care activities and facilitate joint commutes. In BA, we found that WhatsApp groups made women's care duties easier to arrange. In RJ and LM, joint commutes engendered a sense of safety among women who traveled to work.
- Establish school transport systems or "safe corridors" for schoolchildren to go safely to and from school or to use bus stops (accompanied or not) on the periphery of the community. These spatial measures should not exclude designing and implementing other security measures in dangerous areas. Improving community mobility exclusively in one area can lead to avoided areas becoming even more unsafe.
- Work with NGOs to raise awareness in communities of the need to encourage couples to share domestic chores (i.e., new roles for men) and develop more positive attitudes towards women's paid work.
- **Use transport design in infrastructure to promote equal gender norms:** In the city of Vienna, metro wagons have a designated space for strollers, wheelchairs, or people traveling with packages. These areas are accompanied by combined images of women and men holding babies distributed randomly along said wagons to convey the message that childcare should be seen as a combined duty between women and men.

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### Boosting self-efficacy and self-confidence

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- Promote mentoring programs: Identify women in the community who are more used to commuting downtown to work. Arrange for these to accompany less confident women and show them how to use public transport.
- Capacity building: Design workshops where women can learn skills to search for information about employment opportunities, apply for jobs, and conduct themselves positively at job interviews.
- Empower women in the poorest areas to get used to using public transport by enabling women to assert greater control over their mobility and lives. For example, women can learn how to handle complaint mechanisms in public transport, how to activate service quality and safety feedback. An inspiring example is the *Bike Anjo*<sup>33</sup> program in São Paulo, which involves volunteer cyclists accompanying novices to obtain traffic information, find the best routes to get around the city, etc.

33 <https://bikeanjo.org/>



CONCLUDING REMARKS

**This study explored the constraints and facilitators to women’s agency in mobility and work in low-income settings of three Metropolitan Regions in Argentina, Brazil, and Peru.** While low-income populations are generally the most disadvantaged by deficient public transport services, women are particularly affected. The study identified several constraints on women’s mobility. Some of these constraints are of a more practical nature, such as the availability (or not) of childcare services, while others are subjective and relate more to the social context – values, norms, and structures. The various constraints identified by this study shape women’s mobility preferences and choices in terms of the transport they use.

**Findings showcase how transport gaps overlap with poverty and gender-based constraints, restricting the opportunities (poorer) women can realistically take up to advance their lives. This contributes to a powerful vicious cycle of disadvantage.** Gendered mobility constraints represent a more substantial burden for women—in terms of time, cost, and wellbeing—in comparison to men, shaping their decisions and advancement in their professional lives differently. Women who work outside the home experience constant exposure to safety risks, fear, and stress while commuting, which harms their emotional and psychological wellbeing.

**Transport deficiencies add to the list of factors that discourage women from joining the wider labor market, forcing them into part-time, low-wage jobs nearer home, or encouraging them to opt out of paid work altogether.** At the household level, inequality in the allocation of duties shapes mobility and work decisions. We find that, for example, when looking for a job, women will prefer job proximity over job quality<sup>34</sup>, taking up opportunities that are informal but that are closer to home and have flexible hours. This relieves the burden of commuting as well as enables them to accommo-

date their associated care responsibilities. This pattern contrasts sharply with men’s work-related preferences and decisions, which are centered on improving their job status and salaries, regardless of distances.

**The interaction between safety, affordability, gender norms and internal constraints shapes women’s mobility preferences differently to men’s.** In areas with high levels of crime and violence, female commuters prioritize safer travel options whenever they can afford them, often implying longer travel times and lower disposable income at the end of the month. For example, men in this study commonly made segments of their trip through walking (cheaper) or moto-taxis (faster), while these options were considered too risky for most women. Implicitly, these women become subject to a “pink tax,” which men don’t have to pay, as they feel comfortable using modes which are normally not an option for women. The study also reveals the situation of a normally forgotten group of women with overlapping vulnerabilities (such as young single mothers with less affordability capacity). These women cannot pursue their preferences for safer transport and will have to settle for cheaper options in detriment of

34 “Higher quality” jobs are those with higher productivity, better pay and working conditions (World Bank, 2012a).

their wellbeing. Zooming into the heterogeneity among women makes evident the need to complement policies that tackle sexual harassment and personal security (in public transport and communities more broadly) with more affordable tariff schemes.

**The findings also show that safety and affordability constraints are exacerbated by unavailable transport options in both low and high accessibility areas.** Given the unavailability or unreliability of their preferred transport options (especially during off-peak hours and the night), women are forced to use informal services they deem risky but that are the only ones that do cover the last segment of their trips (e.g., motorbikes).

**Women mitigate the risks they face by developing coping strategies and relying on their social networks.** Our study shows that the stronger the social networks are, the easier it is for women to accept jobs outside of their communities. In the absence of formal childcare facilities, technology (e.g., WhatsApp groups) can play an important role in facilitating mutual support within the community for household and care activities. Women also use strategies to improve their sense of safety while commuting, for example, asking their partners or family members to accompany them to bus stops. Although this support is helpful, it can gradually undermine women's sense of autonomy and self-efficacy for independent travel.

**The study finds the same patterns in high and low accessibility areas, although transport burdens weigh more heavily on women living in low accessibility areas.** This relates to the greater physical distance between their place of residence and job opportunities, but can also be attributed to their exposure to additional vulnerabilities. The lack of statistics at

the micro level for each site does not allow us to reliably compare the socioeconomic profile of high and low accessibility areas for each metropolitan region. However, the data collected for this study suggest that—apart from a more constrained set of jobs to access—low accessibility areas are also characterized by lower incomes, fewer transport options, less access to social services, and, in most cases, higher levels of crime and violence. Women in these locations face the most significant burdens as they have to commute for longer times and distances, are exposed to more risk, and have to spend significantly more from their own pockets to be able to engage in paid work.

**A key conclusion from our findings is that improving infrastructure alone is not sufficient to ensure the take-up of transport services by women.** If women's preferences, constraints, and choices are not taken seriously into account, transport interventions will not succeed in catering for the most vulnerable women and are, moreover, unlikely to succeed in promoting gender equality. While evidence indicates that other priorities concerning the mobility of the general population can often eclipse the issues affecting women, there are many opportunities for including gender-responsive interventions in infrastructure and transport projects, not only through infrastructure improvements but also complementary interventions. Some of these interventions are low hanging fruits that can easily be incorporated into the planning and design of transport services from the outset (e.g., design features that address differences in mobility patterns and campaigns). Another set of more transformational interventions will require inter-governmental collaboration, sensitization of stakeholders (e.g., available childcare options and design of community infrastructure), and bringing civil society organi-

zations on board (e.g., for bystanders and social norms activities) in order to be sustainable. The intervention threshold will depend on the capacity, political will, and availability of resources of the involved parts. Developing more and better-designed pilots and analytics is key to demonstrating that transport can contribute to gender equality while, at the same time, improving the effectiveness and inclusiveness of transport policies.

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## ANNEX 1: RESEARCH TOOL

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### QUALITATIVE RESEARCH: URBAN MOBILITY IN LATIN AMERICA IN-DEPTH INTERVIEW GUIDE FOR USE WITH INDIVIDUALS

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1. Interviewer: please follow the following protocol (standard procedure) at the beginning of the interview:

Read and sign the Terms of Consent: “Before we start, I want to read this term of consent to you. It is a standard document used in this type of research. It sets out my responsibilities as an interviewer. It should help to clear up any queries before the start of the interview”. Interviewer: Read the Terms of Consent to the interviewee. After doing this, clear up any doubts he/she might have. Sign both copies of the ToC. Hand one to the interviewee and keep the other for yourself.

2. Tell the interviewee again how long the interview will last.
3. Ask for permission to use a recorder:

“Can we start? May I use a recorder? It’s just so I can remember what we have talked about. I can stop the recording at any time. If you want to talk about something without recording it, let me know, and I will pause the recording, okay? During our talk I might write down a few notes

to help me remember what we have talked about. The notes will be useful for asking you about anything later. Is that okay with you?”

4. When you start the recording, keep the interviewee calm by reminding him/her of the aim of the interview:

“I would like to remind you that the purpose of our conversation will be about your day-to-day life, the difficulties you have with transport and your opinions on the different modes of transport that you currently use. There is no right or wrong answer. We simply want to know about your own experiences. Here is a questionnaire containing a list of questions that are asked to all the interviewees. The idea is for me to ask you a question and you will simply give your answer. The questions are very straightforward, okay?”

5. During the interview, encourage the interviewee to provide more information, using phrases such as:

“You are the one who really knows”, “You are the expert”

6. **IMPORTANT.** When you start the recording, give the interview identification number. Do not mention the full name of the interviewee.

(INTERVIEWER: Cover all the questions, but not necessarily in the order below).

**MANDATORY INFORMATION:**

- - Interviewee's age
- - If he/she has children (how many and how old are they)
- - Schooling (last level)
- - Marital status

The interview's objectives are:

- Explore the interviewee's mobility patterns;
- Explore the objective and subjective factors that enable or restrict the interviewee's mobility;
- Explore the experiences and perceptions about the interviewee's and his/her partner's work.
- Explore how both objective and subjective mobility factors may facilitate/impece access to job opportunities.

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### PART 1: Getting to know the interviewee's and his/her family members' profiles and relationships

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1. I want you to tell me a little more about your family members - your parents, siblings, other close relatives, children, with whom you live at present.
  - a. Where were you born? Where did you live during your childhood, and with whom?
  - b. Your parents' place of birth?
  - c. Migration History/Reasons
  - d. Do you have other relatives in the neighborhood?

- e. Number, age, and gender of siblings?
- f. With whom do you live?
- g. Do you have a spouse or partner? Do you live with him/her? If not, where does your partner live? How long have you lived in this community? How do you feel about this community? Do you intend to move out? Why (if yes/no)?

2. How do you share domestic responsibilities at home?

- a. What is your house like, and how is the space arranged? How many rooms do you have, how many bathrooms, who sleeps where?
- b. How do you organize household chores? For example, who cooks? Who cleans the house? Who does the laundry? [i.e., interviewer trying to find out about the division of tasks between generations and genders].
- c. How is your relationship with your family or the people you live with?
- d. What do you think about the division of tasks in your household?
- e. How do you think this division of labor affects your life?

3. Now I want to talk about relationships. Can you tell me how you met your last partner?

- [This question will vary depending on the answer: If the interviewee does not have a partner/spouse, ask about his/her latest or most important relationship].*
- a. When did you both meet, and how old were you?
  - b. Were you or your partner married before? Did your partner already have children?
  - c. What was your relationship like?

- d. If you have children - children's birth circumstances, whether or not they were planned?
  - e. If you do not have children, are you thinking about having any?
  - f. What were the circumstances that brought the relationship to an end?
- 4. Circle of relationships.** Now, I would like you to tell me who the people are that you can rely on, where they live, and how they communicate with you — *[Explain to the interviewee that these people can be in different places].*
- a. For example, do you have people that you can rely on for everyday things, such as if you need to borrow something from them? What kind of support do you have? Where do these other people live? How often are you in touch with them? What channels of communication do you use (face-to-face, social media, etc.)?
  - b. Do you have people that you can rely on for more serious things or people to talk to when needed? What kind of support can they provide? Where do these people live? How often are you in touch with them? What channels of communication do you use (face-to-face, social media, etc.)?
  - c. Do you know people that count on you for help? What kind of support? Where do they live? How often are you in touch with them? Form and channel of communication (face-to-face, social media, etc.)?

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## PART 2: Mobility experiences and perceptions

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- 5. In this second part, I would like to talk about your transport experiences and opin-**

**ions.** First, I want you to tell me about an ordinary day in your life, from Monday to Friday, from the moment you wake up until you go to sleep. Please give me as many details as possible. For example, what is your schedule? What do you usually do in the morning, afternoon, and evening? Who do you typically spend the day with? How do you organize yourself to go out? Who usually goes with you?

- a. How do you spend your time and in what kind of activities?
  - b. How do you organize the activities in the schedule you mentioned?
  - c. What do you do at weekends?
  - d. What was different when you were single or had no children? Please tell me about other aspects, such as a relative's health problems or other tasks that occupy your time.
- 6. DAILY EXPERIENCES:** Based on what you have told me, I would like to know a little more about your day-to-day experiences. I'd like you to tell me about: 1) your everyday journeys (work, school, medical appointments, visits to relatives' houses, shopping (and anything else you can mention), 2) the modes of transport that you currently use (walking, colectivo, train, metro/subway); 3) how long does the journey take; 4) how do you feel during your journey, from departure to arrival - what is good and what is bad about your experience?

*[For each journey, ask] “ to get to “X” (place mentioned)” the following questions:*

- a. What means of transport do you use?
- b. What would be an alternative means of transport, and which one do you prefer?

- c. What days/hours do you usually travel? What would be other transport alternatives, and why do you prefer any particular one?
- d. If applicable: What is the journey like? (infrastructure, bus stop, etc.).
- e. How long does it take to you to get to your destination ("X") from home (or another starting point), including getting to the stop and waiting for transport?
- f. What is it positive, and what is it negative about this journey? [*Important: Pose it as an open question combining both polarities. Let the participant decide to start with negative or positive*].
- *Perceptions of comfort, price, safety, enjoyment (from departure to the end of the journey).*
  - *Coping strategy with negative factors (e.g., change of schedules, issues if traveling accompanied, etc.).*
  - *Have you ever witnessed any instances of harassment?*
7. If applicable: After you began your relationship/ had children, did you make any changes in how and when you commute?
8. You told me about some difficulties you face when commuting [cite previous examples]. Do you think those difficulties may be different for men and women or may affect women in particular differently?
- 
- PART 3: Experiences, perceptions, work**
- 
9. Now let's talk about your work experiences and opinions. I would like to know about your household income.
- a. Who has an income-generating activity in your household? Formal or informal?
- b. Does anyone in your household go out to work? Who? What do you do and where? [Father/mother/siblings, for married interviewee - ask about spouse or partner]
- c. At present, do you have your own income? Do you earn this money by yourself, or are third-party sources involved, such as a monthly stipend, a retirement pension, social assistance benefits, financial support from your spouse?
- d. What is the relative weight of these earnings in overall family finances, i.e., whose money, and in what proportion, is used to cover different kinds of expenditure?.
- e. How much of your income do you spend on transport?
- *What decisions do you take about managing money in your home?*
  - *Find out if the interviewee participates in such decisions, and how he/she feels about participation in decision-making.*
10. (Based on previous answers) If the interviewee work/worked [*find out latest work experience*]:
- a. What type of activity(s) did you perform, and how did you get that job?
- b. Where is/was that work, and how do/did you commute to it? [*find out the mode of transport, length of trip, cost, difficulties encountered*]
- c. How is/was your day-to-day experience of travel when you are/were working? [*find out about mobility issues if they haven't been already explored*].

- d. What was positive, and what was negative about working?
- e. What is/was your family's opinion about your job? *[find out the relatives' opinions: parents, children, partner].*
- f. [if applicable]. What factors led you to leave your job?
- 11. If you do not work: For women: Do you ever go looking for a paid job?**
- a. What are some of the factors that helped you to/impeged you from finding employment? *[Discover whether pregnancy influenced job-seeking].*
- b. How is your life affected by not having your own job and income?
- 12. For men: What do you think about your partner/daughter/sister/other women working or not working?**
- a. What is good, and what is bad about your partner working/not working?
- b. What is your day-to-day life like?
- c. Financial consequences and labor division at home (for the interviewee and his/her family)?
- d. Have the women in your life worked or not?
- 13. For men: What do you think would be the perfect job for your partner/daughter/sister? Where, and with whom, would it be?**
- [Reasons for preferring specific activities, working away from home, workload?].*
- your life ten years from now, what type of experience you would have liked to have? *[Ask an open-ended question and wait. Clarify issues that might not have been mentioned].*
- 15. Do you have a plan or strategy for achieving the goals you have mentioned? [explore all the answers]**
- a. Do you think it will be possible to achieve your dream? *[interviewee's self-discipline and self-esteem at different stages].*
- b. Can you tell me about any difficulties you might have to achieve these goals? *[Explore the range of challenges mentioned]*
- c. What approaches are you using to overcome these challenges?
- 16. Do you think there are any differences between Villa 31/3 de Febrero and downtown Buenos Aires' job opportunities?**
- 17. Think of your perfect job. What would it be like (where, what, what workload)?**
- 18. For women: In your opinion, what would be the reasons that would lead a woman to look for a job within Villa 31/3 de Febrero, and what reasons would motivate a woman to look for one outside Villa 31/3 de Febrero?**
- 19. Do you admire anyone who is a role model, an inspiration, for you? Who inspires you, and in what way? [Ask an open question - if it starts with a famous person, find out who the family and friends admire]**
- Does that person work, and where?
  - *[Find out about the influential person's mobility patterns -how does he/she commute, and where to?]* Ask the question, "What do you think of this kind of routine?"

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## PART 4: Aspirations and Future Plans

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- 14. Now I want to talk about your thoughts and plans for your future.** Thinking about the immediate future, also looking back on

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## PART 5: FINAL COMMENTS

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20. Our conversation was very good, and we were able to talk about many things. Do you have anything else you would like to tell me or ask me?

Well, we came to an end. I want to thank you for your time and participation in our study. Your answers will help us a lot for recommending public policies and actions. Thank you very much once again.

## ANNEX 2: DESCRIPTION OF FIELD SITES

### 1. Buenos Aires

Two areas of the city of Buenos Aires - Villa 31 and Fuerte Apache - were selected for this study, both with low-income profiles but with different accessibility to job opportunities. Villa 31 forms part of the Recoleta and Retiro neighborhoods, and Fuerte Apache belongs to the Tres de Febrero district.

#### Villa 31 and 31 bis (High accessibility)



Villa 31 (now Barrio 31) emerged in the mid-1930s when the government set aside a small area to house poorer, mainly Italian immigrants. It is now known as the “immigrant” sector. At the same time, an area occupied by railway workers grew up around the “Saldías” train station. In common with the city’s other “villas,” the population of Villa 31 increased rapidly during Argentina’s export substitution phase, which witnessed massive migration from the country’s interior to the cities. Villa 31 consists of 5 neighborhoods: YPF, Comunicaciones, Güemes, Imigrantes, and Autopista. The more recent addition to Villa 31, known as Villa 31 bis, is located between the *autopista* and the railway tracks. Planning and safety norms, es-

pecially concerning building heights, are largely ignored.

During the last military dictatorship, many Villa 31 families were evicted and transferred to Ciudadela in the Tres de Febrero district. The area was later re-populated by former settlers and newcomers from the interior of Argentina as well as from neighboring countries. A plan to regularize tenure for the villa’s inhabitants met only partial success in the 1990s. In 2010 a law was passed to promote the urbanization of the area (which occupies government-owned land) by the Buenos Aires City Government.

The latest estimates put the population at 43,190 (52% female and 48% male). Different demographic dynamics mark the distribution by age and place of birth of the inhabitants of Villa 31 from the rest of the city. Average household numbers are, for example, significantly higher in Villa 31, with 3.27 persons per household, versus 2.5 per household in the rest of the city. The average age in the Villa is 23.3 years (16 years less than the city average), while for women it is 17.8 years. Around 70% of the Villa’s population is under 30 years old.

In terms of employment and income, there is a notable difference between men and women. Women have much lower incomes in all quintiles, except for the lowest, and their formal unemployment rate is 7% higher than men’s and 9% higher in terms of informal employment.

Half of the Villa’s inhabitants originate from other countries. 29% were born in Buenos Aires (in the rest of the city, more than 60% are native Argentines). Half of the population in the Villa

are Paraguayans, a third Bolivians, and around 20% Peruvians.

### Ejército de Los Andes/Fuerte Apache (Low accessibility/ Low Income)



Tres de Febrero is located in the northwest of the City of Buenos Aires a few blocks from

Avenida General Paz that divides the city from the Province of Buenos Aires. Meanwhile, Ejército de Los Andes occupies about 26 city blocks. The neighborhood emerged as the result of the Villas Eradication Plan in 1968, aimed at relocating the inhabitants of Villa 31. The first inhabitants settled in 1973. The journalist José de Zer, covering a shootout in the area, renamed it Fuerte Apache (Fort Apache), a name which soon became a password for insecurity – and a source of stigma, which is evident in the report.

### Mobility Profile

The capacity to generate trips depends on the income group. In Table 1, we can see how the number of trips generated increases in line with income in Buenos Aires.

TABLE 1.

#### Trip generation rate by income group and district

Income Group	Number of trips	Number of persons	Trip generation rate	Number of persons traveling	Actual trip generation rate
Low-	5,044,683	3,709,823	1.36	2,179,454	2.31
Low-medium	4,065,749	2,779,370	1.46	1,721,236	2.36
Medium-	3,675,984	2,408,484	1.53	1,555,783	2.36
Medium-high	3,518,506	2,147,475	1.64	1,460,013	2.41
High income	3,463,060	1,940,732	1.78	1,420,093	2.44
Total	19,767,983	12,985,885	1.52	8,336,579	2.37

Source: Encuesta Domiciliaria de Movilidad de los Hogares

Table 2 shows the trips made within the City of Buenos Aires, between the city and the province of Buenos Aires, and those that made without entering or crossing the city. 61% of all trips are made in the Province of Buenos Aires and only 24.6% within the city itself.

TABLE 2.

### Origin and destination of trips

Origin/Destination	Frequency	%
Within the city	4,861,365	24.6
City-Metropolitan	2,786,224	14.1
Within the metropolitan area	9,311,155	47.1
Within the district	2,809,239	14.2

Source: Encuesta Domiciliaria de Movilidad de los Hogares

Reasons for travel are primarily for work (37.4%), followed by study (25.1), which together account for more than half of the trips.

The modal distribution shows that 43% of the trips are done on public transport. Non-motorized transport represents 31% of all the trips. 80% of the population use buses to travel around the city, and most trips are confined to the originating area. Low-income people use public transport slightly more than higher-income groups. Usage decreases in line with increasing income, a reflection of the importance of affordable transportation for the more vulnerable groups. Non-motorized transport is standard among those who cannot afford to travel by other means. Poorer people make three times more use of this mode than higher-income groups. Trips are, on average, shorter than those taken using different modes (around 80% last under 20 minutes).

Around 70% of the trips generated in the metropolitan region last for 30 minutes or more. 52% of commuters on public transport need to walk between one and five city blocks to access public transport services.

As for private transport, use by low-income groups is 8% less than its use by people with higher incomes. Travel times are also significantly shorter for private transport users (average of 60 minutes by public transport, and 20 minutes for over 80% of the people who use private transport).

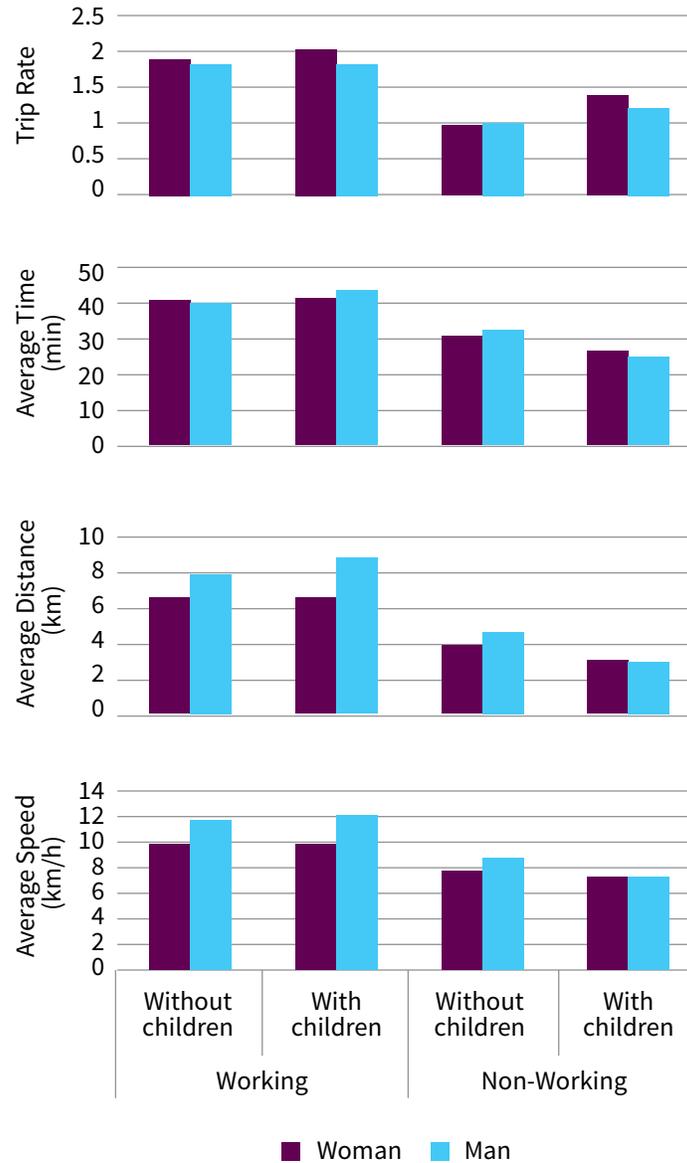
### Gender, travel, and job access

In 2014 the World Bank analyzed the 2009 Household Mobility Survey for the Buenos Aires Metropolitan Region to explore the differences in travel patterns between men and women (Peralta, 2014).

Regarding modes of transport, a spatial analysis highlighted a key difference between the travel patterns of men and women in Buenos Aires: they traveled at different speeds. Although average travel times for both sexes are fairly similar, the distance men travel at the same time is considerably longer than the distances traveled by women. The similarities in average travel times conceal a significant difference between trip lengths: 6.72km for men and 4.77km for women. Net travel speeds, estimated by dividing travel distances by travel time, illustrate the difference: 8.62km/hr for women and 10.93km/hr for men (26.8% higher). Figure 1 shows that this is especially the case for women with children who travel to work. At 9.7km/hour, the time taken by women is 22% slower than men's speed (12.2km/hour). The biggest differences in speed of travel are found when comparing working men with women accompanied by children.

FIGURE 1

Trip rates, times, distances, and speeds for working and non-working men and women.  
All Trips. ENMODO 2009.

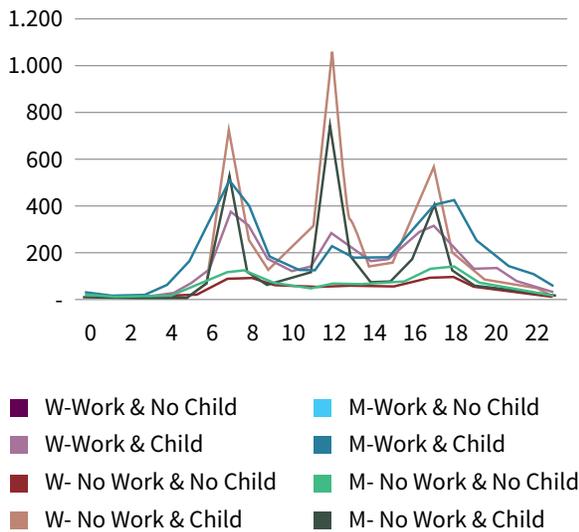


Meanwhile, Figure 2 displays the hourly number of trips made by men and women throughout the day, according to the trip purpose. Non-working women appear to travel more during the day, particularly in the middle of

the day. This group would be most affected by the limited frequency of public transportation services at off-peak times. Most off-peak trips made by both sexes are not work-related but consist of school runs, household errands, and social visits.

FIGURE 2.

Number of trips (in thousands) for women and men according to trip purpose. ENMODO 2009.

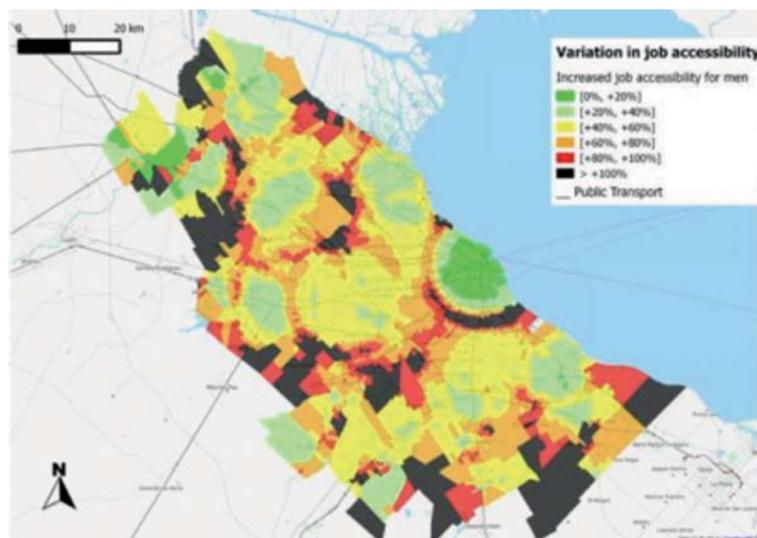


Work-related trips follow a broadly similar pattern: women tend to travel shorter distances in approximately the same amount of time as men. This is particularly the case with women accompanied by children who have about the same commute times but work in places that are 20% closer than those that men travel to. This would suggest that working women with children tend to have jobs within a radius that involves 20% less than the distances traveled by men.

Differences between men and women in terms of time and distances traveled may restrict limit the number of accessible jobs for both groups (estimated at as many as 900,000 jobs foregone). Figure 3 shows that men with children have greater access to jobs than women with children.

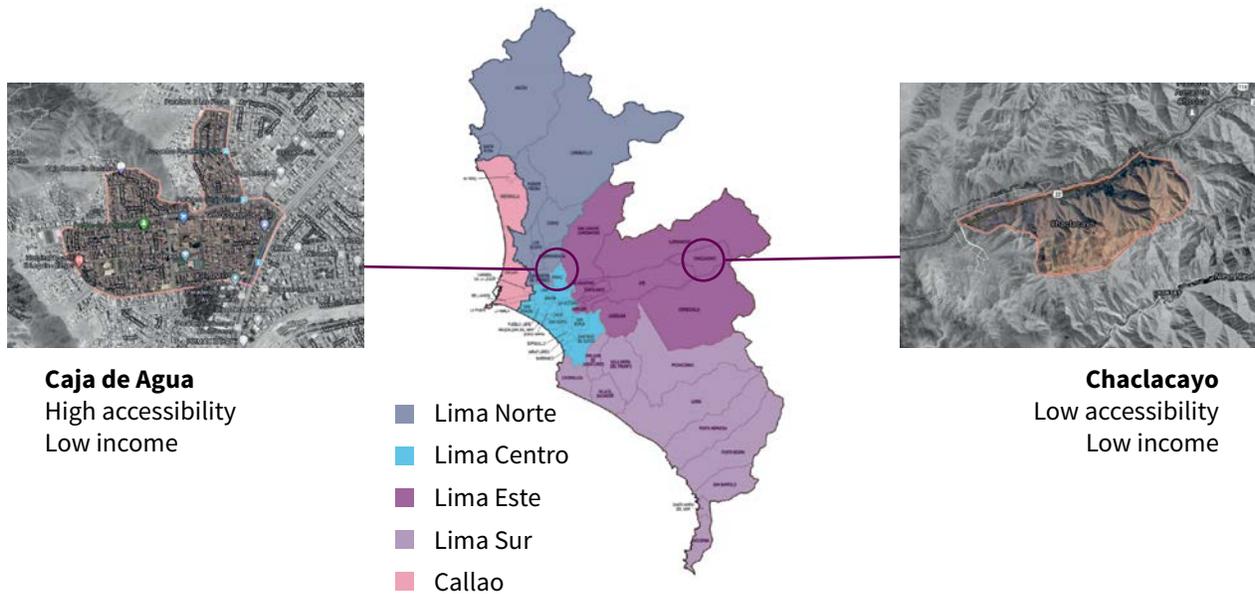
FIGURE 3.

Percentage of increased accessibility to employment opportunities for men without children compared to women with children within the radius of the AMBA region census area.



Source: Logit, background map: OpenStreetMap by CIRED.

## 2. Lima



Two areas of the city of Lima, Caja de Agua and Chaclacayo, were selected due to their low-income profile but with different job accessibility. Caja de Agua is a community in the San Juan de Lurigancho district, while Chaclacayo is a district located in the River Rímac valley.

In 2015 the population of the two districts stood at 43,428 in Chaclacayo and 1,091,303 in San Juan de Lurigancho (INE). The population in both districts continues to increase steadily.

The population in the two districts is younger than the average in the Lima Metropolitan Region. 70% of the inhabitants are under 34 years old. Poverty levels present significant differences: in Chaclacayo, the incidence of poverty is 10.1 % (seven points lower than Lima average), while in San Juan de Lurigancho, it stands at 27 % and in Caja de Agua 24.4 %. The latter is one of the poorest districts in the metropolitan region.

FIGURE 4.

Population distribution, by sex and district (Source: INE)

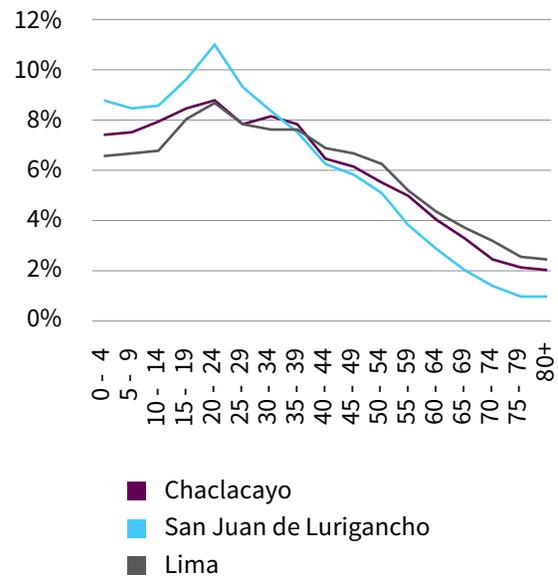


TABLE 3.

## Employment situation by sex

	2017	Women	Men	18-29 years	30-44 years	45 years +
Working outside the home	43.7	25.6	63.4	37.2	57.8	36.7
Studying	9.4	8.6	10.2	26.3	1.3	0.2
Studying and working	3.8	3.6	4.0	9.2	2.1	0.0
Working at home	10.1	12.5	7.4	6.0	11.0	13.3
Unemployed	4.3	2.2	6.5	6.0	2.3	4.5
In charge of the household	23.8	45.3	0.4	15.1	25.4	31.0
Retired	4.8	2.0	7.9	0.2	0.0	14.2
NR	0.2	0.2	0.1	0.0	0.2	0.3

Source: Lima Cómo Vamos

Around 90% of the population of San Juan de Lurigancho is in the “marginal” (38.7%) or very low-income category (50.1%) (the lowest income levels of the city).

TABLE 4.

## Per capita income in San Juan de Lurigancho (in Peruvian soles)

Income group	Benchmark in local currency	Persons (%)	Households (%)
High	2,192.00+	0	0.0
Medium High	Between 1,330.10 and 2,192.20	1.9	0.0
Medium	Between 899.00 and 1,330.09	32.8	33.7
Medium Low	Between 575.70 and 898.99	44.3	42.5
Low	575.69 or lower	21.0	21.8
Total		100.0	100.0

Source: INE 2013



TABLE 5.

## Transport modes used in daily trips, by sex and age (in %)

Modes of transport	Total	Women	Men	18-29 years	30-44 years	45+ years
Walk	60.9	65.1	58.6	64.80	57.9	57.7
Bus	42.3	44.4	41.2	43.2	42.1	41.0
Combi or coaster	37.9	42.6	35.5	39.0	36.1	38.9
Moto-taxi	13.3	13.0	13.5	13.3	13.4	13.0
Car	11.3	6.1	14.0	5.9	16.3	13.8
Colectivo	8.1	9.5	7.3	8.3	8.9	6.3
Metropolitano	6.0	6.1	6.0	6.1	6.1	5.9
Taxi	6.0	7.7	5.0	5.7	6.6	5.4
Metro	4.1	4.2	4.1	3.6	5.8	2.5
Complementary corridors	2.9	3.2	2.8	3.8	2.9	1.3
Motorcycle	2.2	1.1	2.8	2.3	2.6	1.3

Source: Lima Como Vamos 2017

As for average trip times, there are differences between men and women. Women spend less time on travel than men and typically tend to take a lot of very short trips (under 30 minutes) or, on average, slightly longer trips of between 16 minutes and one hour. The time distribution for men is more evenly distributed (Table 7).

TABLE 6.

## Travel time by sex (%)

Travel times	Total	Women	Men
Less than 15 min	16.30	17.8	15.50
16min-30 min	22.60	21.3	23.3
31min-45min	17.20	20.5	15.5
46min-1h	19.70	20.8	19.1
1h-1.30h	17.10	13.2	19.1
1.30h-2h	5.80	4.9	6.4
2h-3h	1.20	1.6	1.0

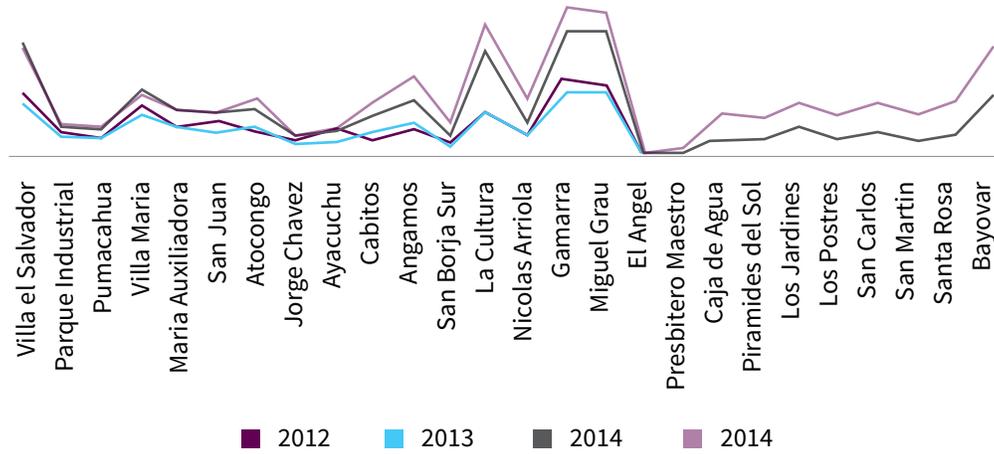
Source: Lima Como Vamos 2017

An average of 23% of the daily trips on the city transport network (and more than 25% on feeder routes) are made by people traveling from San Juan de Lurigancho. As an example, 30% of passengers on metro/subway Line 1 (Linea 1) are from San Juan de Lurigancho. Demand from the district has increased since the line was extended to the far northern end of the neighborhood.

The map shows Caja de Agua as one of the first stops on the new extension of Line 1. Its metro station is one of the most crowded in the district.

FIGURE 5.

Demand evolution along Linea 1, by stations (2012-2015)



Source: GYM Ferrovias

FIGURE 6.

Map of Lima Metro Line 1 and Street Map of Caja de Agua

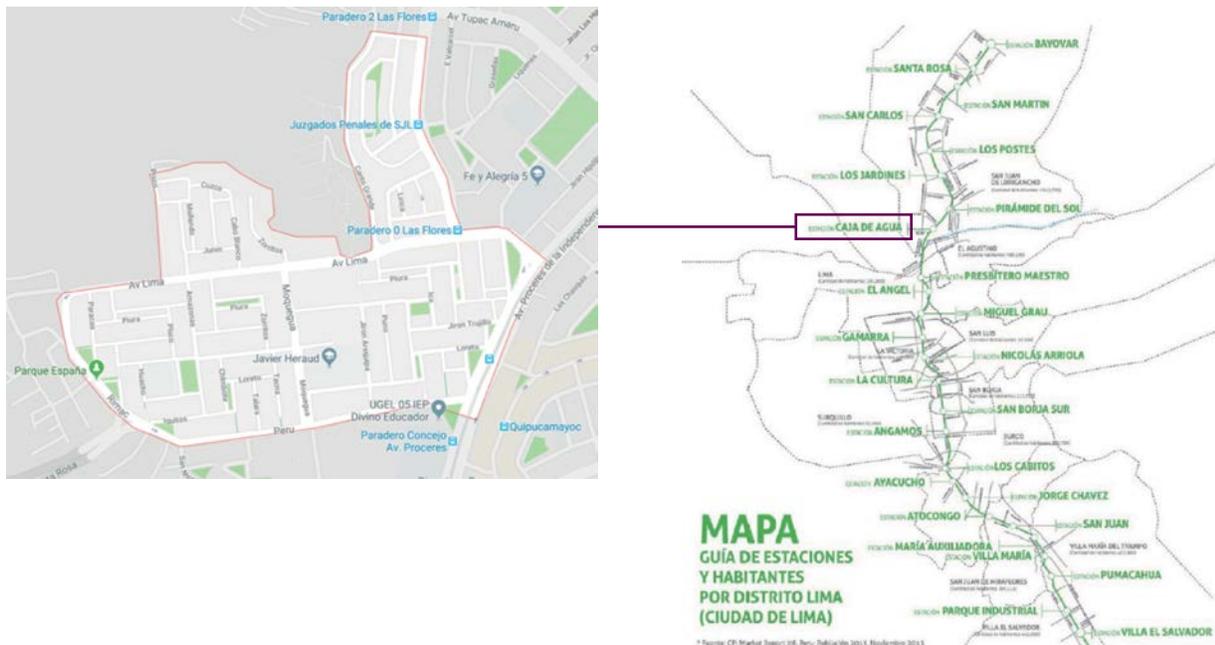
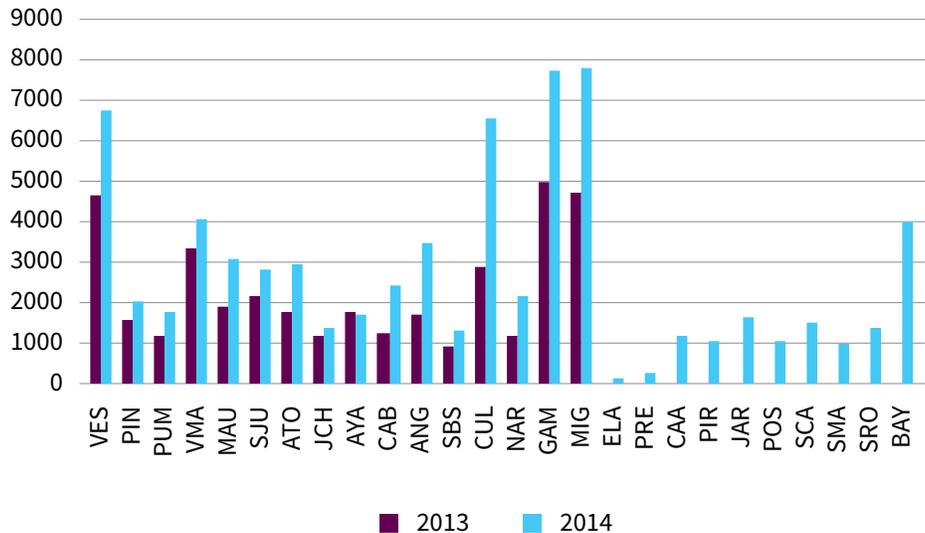


Figura 3. Mapa esquemático de la Línea 1 de Metro y sus estaciones  
Fuente: [www.ferrovias.pe](http://www.ferrovias.pe)

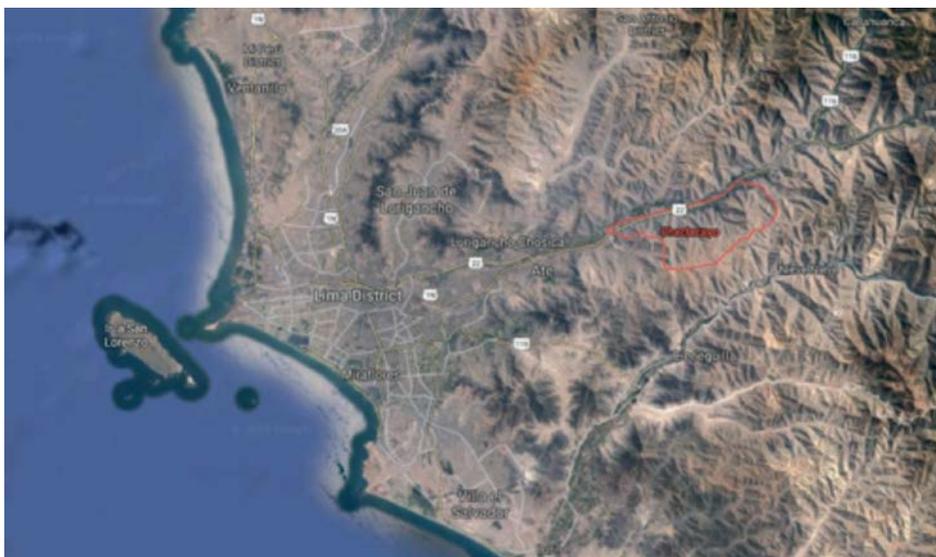
FIGURE 7.

## Annual passenger numbers, by station



Source: Informe de Desempeño de la Concesión del Sistema Eléctrico de Transporte Masico de Lima y Callao, Línea 1.

On the other hand, Chaclacayo is located at around kilometer 27 of the Central Highway (*Carretera Central*), one of the country's most strategic roads for transporting goods and people from the central Andes and eastern areas of Peru to the capital, and the country's largest port of Callao. The Central Highway has no mass public transport service, although the last station on Metro Line 2, currently under construction, will be located in the neighboring district of Ate.

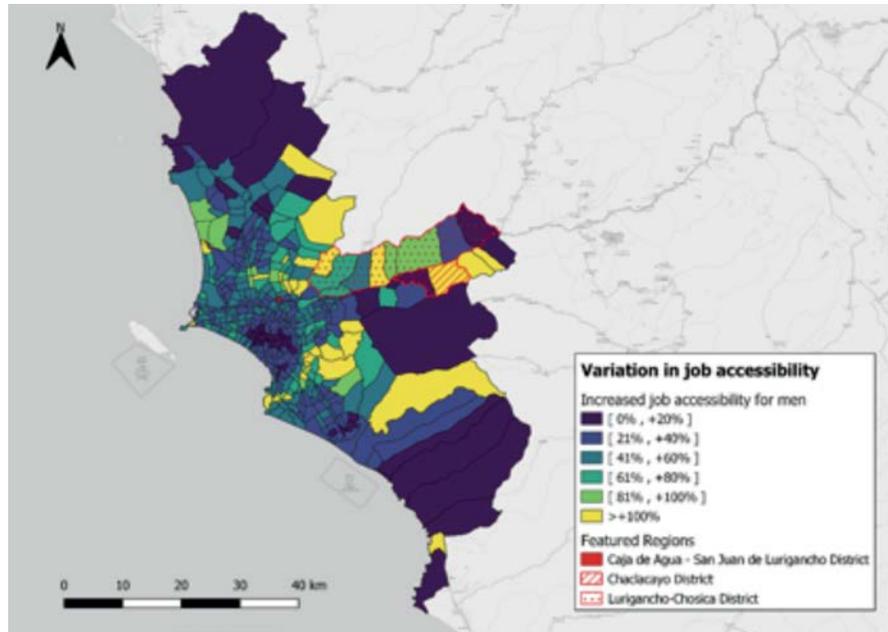


Source: Google Maps

## Gender and Job Accessibility

FIGURE 8

Percentage of increased accessibility to employment opportunities for men relative to women at the radio OD zone level in Lima.



Data sources: OD survey, background map layer: OpenStreetMap.

Differences in travel distances between men<sup>35</sup> and women<sup>36</sup> limit the number of accessible jobs<sup>37</sup> for each. Figure 8 represents the increased employment accessibility of men relative to women. The map shows the spatial distribution of this unequal access to employment opportunities. In some areas, the shorter distances don't imply a massive decrease in employment accessibility either because a large number of jobs are available nearby or because traveling further does not radically increase the number of available formal posts. In other places, how-

ever, the 22.0% increase in distance traveled represents a significant difference in terms of employment opportunities. Altogether, the map shows that this difference in average commuting distances translates overall in much more substantial differences in employment opportunities.

The spatial pattern of the differences in the magnitude of the unequal job opportunity is not apparent. It is, however, easy to see the substantial differences in job opportunities

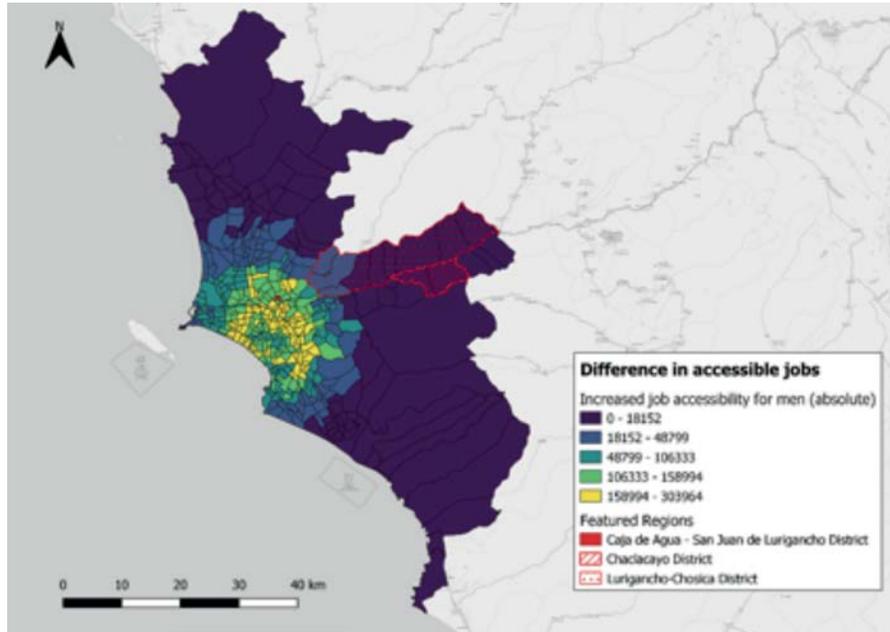
35 Average commuting distance of 7.2 km.

36 Average commuting distance of 5.9 km.

37 According to the database, there were 1,435,658 formal employment opportunities.

FIGURE 9

Absolute increase in accessible employment opportunities for men relative to women at the radio OD zone level in Lima.

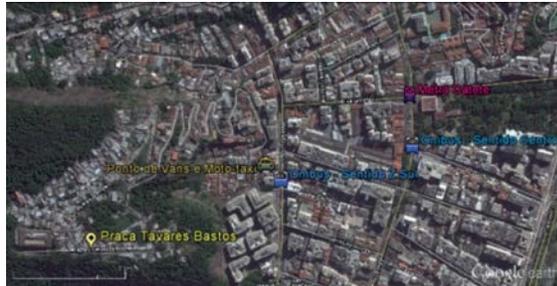


Data sources: OD survey, background map layer: OpenStreetMap.

(>+80%) between men and women in various parts of the urban area. This results both from low numbers of jobs available locally and the existence of employment opportunities in adjacent radios, which without necessarily giving access to many more jobs, will change the results in relative terms. In the city center (west side of the city), job accessibilities are quite equally distributed (<+20%) as there are large numbers of jobs available locally.

Figure 9 shows a very different spatial pattern. As there are many fewer job opportunities in the outskirts of Lima, absolute differences in job opportunities seem to indicate less inequality far from the city center. Although Figure 8 is a better measure for inequality in job access between genders because what counts most is relative and not absolute accessibility, this map is a useful complement.

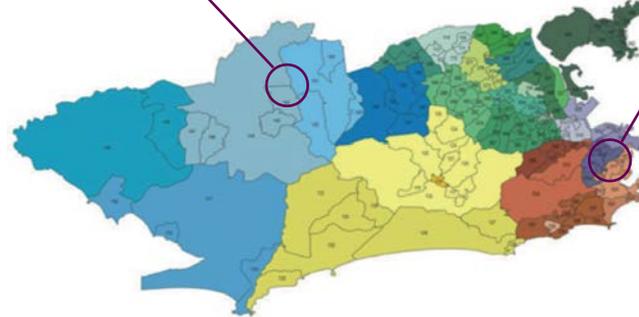
### 3. Rio de Janeiro



**Jardim de Fonte**  
Low accessibility  
Low income



**Tavares Bastos**  
High accessibility  
Low income



Two areas of the city of Rio de Janeiro were selected for this study due to their low-income profile and different accessibility to jobs. These two areas are Tavares Bastos and Jardim de Fonte. Tavares Bastos is a *favela* (slum) located in Morro da Nova Cintra, in the neighborhood of Catete, in the city of Rio de Janeiro. Jardim de Fonte is a neighborhood in the city of Queimados, part of the Rio de Janeiro Metropolitan Region.

#### Mobility profile of the MR

The state of Rio de Janeiro has one of the worst mobility indicators when compared to other regions of Brazil, and the differences have in-

creased over time. Pero and Mihessen (2013) analyzed the proportion of family budgets spent on transport spending and the percentage of workers who spend more than an hour on the way home from work in the RJMR, based on data from 2003/2008<sup>38</sup>. For the population with low-income or living in peripheral areas, the authors found that the region had much worse mobility indicators than any other in Brazil.

A study from ITRANS (2003) showed that people from poorer households in the RJMR make significantly fewer trips. Two explanations for the negative correlation between the number of trips and income levels are the restricted access to motorized transport and the high percentage of income spent on transportation:

<sup>38</sup> The authors use the indicator of time spent in commuting from home to work from the 2010 Census, and the burden of urban transport spending on family income, from the Household Budget Surveys (POF) carried out by IBGE (2002/2003 and 2008/2009).

the poorest 10% of the population in the RJMR tie up around 22% of their incomes on transport compared to 15.5% of the 20% wealthiest (Itrans, 2003; Scovino, 2008).

Moreover, people who earn less depend much more on public transport in the RJMR than higher-income individuals. Data from the origin/destination survey show that, when considering work-related trips, those who receive up to two minimum wages represent 70% of all travelers using non-motorized and collective modes of transportation (PDTU, 2015).

### Low-income women's mobility in the RMRJ

There are significant gender differences in mobility patterns of the metropolitan region where women face more mobility limitations than men in the same income category. The OD survey (2012) shows that women's mobility index<sup>39</sup> was 9% lower in comparison to men's (1.36 for women vs. 1.48 for men). The ITRANS (2003) analysis indicated that in households with up to three minimum wages, women's mobility index was 29% lower compared to men's (0.8 for women vs. 1.12 for men).

Women's lower mobility can be partly explained by the lower participation of women in the economically active population. While 48 % of men's travel is work-related (going to work and/or job-seeking), this figure for women represents only 19% of their trips, with study, health, and grocery shopping, accounting for 38% (ITRANS, 2003). Table 8 shows a comparison of work status by gender for individuals with incomes of below two minimum wages in

the RJMR, based on OD data<sup>40</sup>. Women's participation in the formal job market is substantially inferior to that of men – while the percentage of women who do not work is twice that recorded for men.

An additional reason for gender disparity can be found in the different access to and use of motorized transport modes, as shown in Table 8. Men are much more likely to use motorized transport than women. Furthermore, again according to the OD survey, women use other types of transport more than men: e.g., municipal bus, executive bus, pirate bus, minivan, school transportation, private car, taxi, moto-taxi, walking, and the metro/subway.

TABLE 7

Activities of men and women with incomes below two minimum wages according to the OD survey (2012) of the RJMR.

Activity	Men	Women
Formally Employed	39.0	23.2
Informally Employed	17.3	14.1
Unemployed	20.0	41.5
Transport Worker	1.3	0.2
Not applicable	19.4	17.5
Not Registered	3.0	3.5
Total	100.0	100.0

Source: Authors' compilation based on the OD survey (2012).

39 The mobility index is measured by the average number of trips per capita / day.

40 The data includes a household survey that verifies the socioeconomic, demographic and mobility profile of the residents of the selected census tracts, and records all their trips on one day of the week.

TABLE 8

### Mobility Indices by sex for motorized and non-motorized trips in RJMR.

Ride	Men	Women
Motorized	1.6	0.91
Non-motorized	0.42	0.45
Total	1.48	1.36

Source: Authors' compilation based on the OD survey (2012).

While no comprehensive survey has been conducted on the specific mobility patterns of favela dwellers, a study conducted by Koch, Lindau, and Nassi (2013) offers some data for comparison purposes. The authors collected mobility data from three favelas in Rio de Janeiro: Complexo da Penha, Batam, and Babilônia/Chapéu Mangueira. They found that the total mobility indexes of men and women in the favelas studied differed by only 0.01 daily trips/person, in contrast to the data on the metropolitan region as a whole, which showed significant gender differences. The authors also found that women in favelas rely more on walking than men and that men are more likely to make motorized trips, either in an individual vehicle or using public transport (Table 9). Men are also twice as likely to travel using individual vehicles as women, perhaps suggesting a gender disparity in access to "individual" transport modes.

TABLE 9

### Mobility Index by sex for motorized and non-motorized journeys in three favelas in RJMR

Ride	Men	Women
Motorized	0.81	0.67
Non-motorized	0.90	1.06
Total	1.72	1.73

Source: Adapted from Koch, Lindau, and Nassi (2013).

### Tavares Bastos, City of Rio de Janeiro, RJMR

Tavares Bastos is a favela located in the southern part of the city of Rio de Janeiro. It is considered in this study to be an area with high accessibility to jobs. Its foundation dates back to 1964. At that time, the favela contained 235 families occupying 220 dwellings. In 2010, the IBGE demographic census recorded a population density of 328.03 inhabitants per square kilometer (versus 5,265.82 inhabitants per square kilometer for the city as a whole), with a total of 1,100 residents occupying 338 dwellings. Of these, 51.8 % were recorded as female and 48.2 % as male.

The gentrification process changed the structure of the dwellings and the profile of the population. Real estate price increases encouraged the construction of buildings for rent as well as the "verticalization" of the favela (also due to restrictions placed on further expansion of the area). An average building has three floors, with some six floors high. Some of the alleys and streets are extremely narrow and dark, due to the height of the buildings.

FIGURE 10

## Streets and main services and businesses



Source: Google Earth image (13 May 2017).

Tavares Bastos has two main thoroughfares: Rua Tavares Bastos and Rua Cruzeiro do Sul. Rua Tavares Bastos gives access to the BOPE HQ and is marked by the red line on the map. The other thoroughfare is Cruzeiro do Sul, marked in blue.

The favela has only one street to access the Catete neighborhood: the Rua Tavares Bastos that connects to Rua Bento Lisboa at the foot of the hill. Within the community, there are two main “streets” and an alley that is part of the Rua Tavares Bastos, which is only suitable for pedestrians. Cruzeiro do Sul Street is wider (i.e. wide enough for car access from the Rua Tavares Bastos). It also has a narrower pedestrian-only area).

Its location at the top of a steep hill, the poor state of the street going up to the favela, plus the lack of affordable transportation up and down the hill, are the leading mobility constraints that face residents. The residents’ main option to climb and descend from the commu-

nity consists of informal *combis* and moto-taxis. When residents reach the bottom of the hill, there is ample public transport available in the Catete district, including municipal bus lines, interstate buses, as well as metro/ subway stations. Table 10 highlights the distance and time required to access the main public transport alternatives.

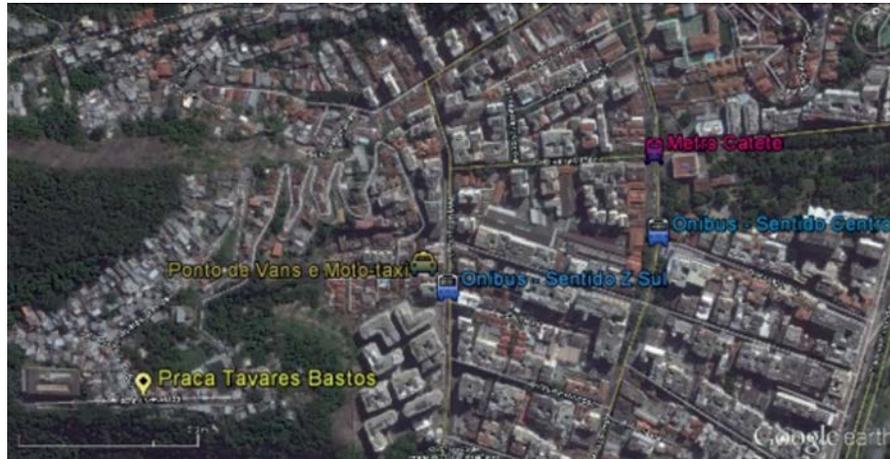
TABLE 10

## Distances and time from Praça Tavares Bastos to multiple destinations

Local	km	Time
Rua Bento Lisboa – Catete Neighborhood Access	1.3	20 min walk
Catete Metro Station	1.7	25 min walk
Bus Stop – towards South Zone	1.3	20 min walk
Bus Stop – toward the Center	1.7	25 min walk
Center of Rio de Janeiro	4.8	30 min public transport (at the cost of R\$3.80)

FIGURE 11

## Location of the main public transport points



Source: Google Earth Image (April 19, 2016).

### Jardim da Fonte, Queimados, RJMR

Queimados is a city located approximately 50 km to the northwest of Rio de Janeiro. It is considered in this study to be a low accessibility area in the Rio de Janeiro Metropolitan Region. Queimados has a population of 137,972, of which 52% are female. There are 3.3 people per household on average. Most of the households have a per capita income below the Brazilian minimum wage<sup>41</sup> (R\$1050 or approx. US\$ 250) (IPEA, 2020).

Queimados residents have a mobility index that is 51% lower compared to the average index of the RJMR. A further significant difference between Queimados and the rest of the metropolitan area population is the travel time per transport mode. Table 11 indicates that travel times for people living in Queimados are significantly longer for all motorized modes.

41 The average household per capita income is distributed as follows: 27% up to half minimum wage; 36% on average earn the minimum wage; 26% between one and two minimum wages; 9% from two to five minimum wages; and only 1% receive more than five minimum wages.

TABLE 11

## General and Motorized Mobility Index

Municipality	Travelers	Motorized trips	Population	General Mobility Index	Motorized Mobility Index
Queimados	175,215	71,280	130,872	1.34	0.54
Rio de Janeiro	1,1114,630	8,056,776	5,983,804	1.86	1.35
Metropolitan region	199,156,954	12,529,755	11,279,789	1.77	1.11

Source: Authors' compilation based on OD (2012).

TABLE 12

## Modes of transport by district

Origin	Non-motorized		Public transport		Private transport		Total
	Trips		Trips		Trips		
Queimados	90,090	56	60,282	37	10,998	7	161,369
Rio de Janeiro	3,662,748	31	5,831,329	50	2,225,447	19	11,719,525
Metropolitan Region	7,386,199	37	9,237,844	46	3,291,911	17	19,915,954

Source: Authors' compilation based on the OD survey (2012).

TABLE 13

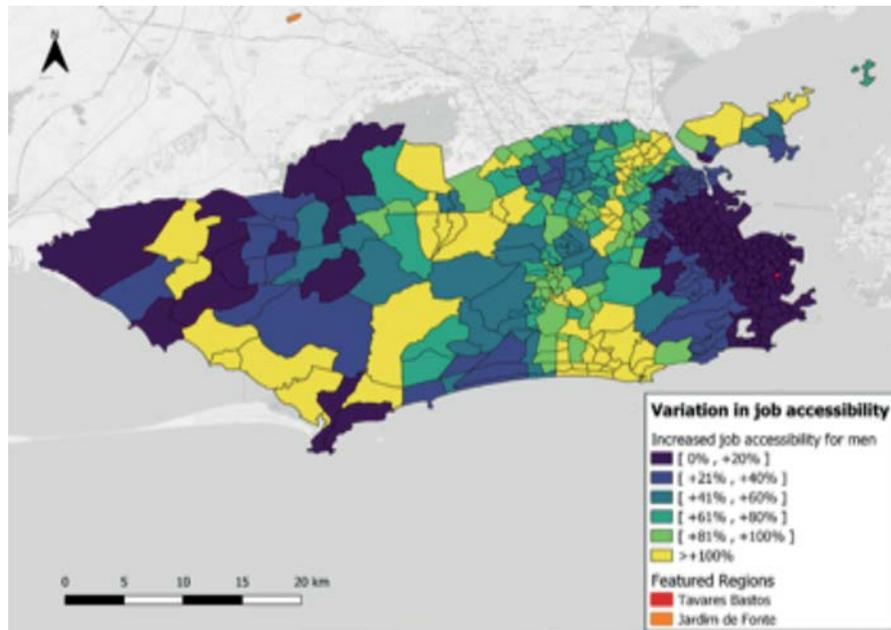
## Average travel times (minutes)

Municipality	Walking	Public transport	Private transport	Total
Queimados	16.5	93.2	44.4	50.0
Rio de Janeiro	17.7	47.5	34.9	35.2
Metropolitan region	17.4	54.8	34.0	37.5

Source: Authors' compilation based on the OD survey (2012).

FIGURE 12

Percentage of increased accessibility to employment opportunities for men relative to women at the radio OD zone level in Rio de Janeiro.



Data sources: OD survey and RAIS, background map layer: OpenStreetMap.

### Gender and Job Accessibility<sup>42</sup>

Differences in travel distances between men<sup>43</sup> and women<sup>44</sup> limit the number of accessible jobs<sup>45</sup> for each. Figure 12 represents the increased employment accessibility of men relative to women. The map shows the spatial distribution of this unequal access to employment opportunities. In some areas, the shorter distances do not imply a massive decrease in em-

ployment accessibility either because a large number of jobs are available nearby or because traveling further does not radically increase the number of available formal posts. In other places, however, the 32.8% increase in distance traveled represents a very large difference in terms of employment opportunities. Altogether, it can be seen from the map that this difference in average commuting distances translates over-

<sup>42</sup> A number of caveats need to be mentioned. The maps below use average straight-line commuting distances. All employment opportunities and households are supposed to be located at the centroids of the zone they belong to. Due to unavailability of informal labor database, these analyses do not consider informal jobs. The employment opportunities are considered to be only formal jobs. Some of the distances between centroids are indeed quite large; this can create a threshold effect that would overestimate the inequalities between men and women, especially in zones with large areas. These maps should therefore be interpreted with caution and for illustrative purposes only, not as hard evidence.

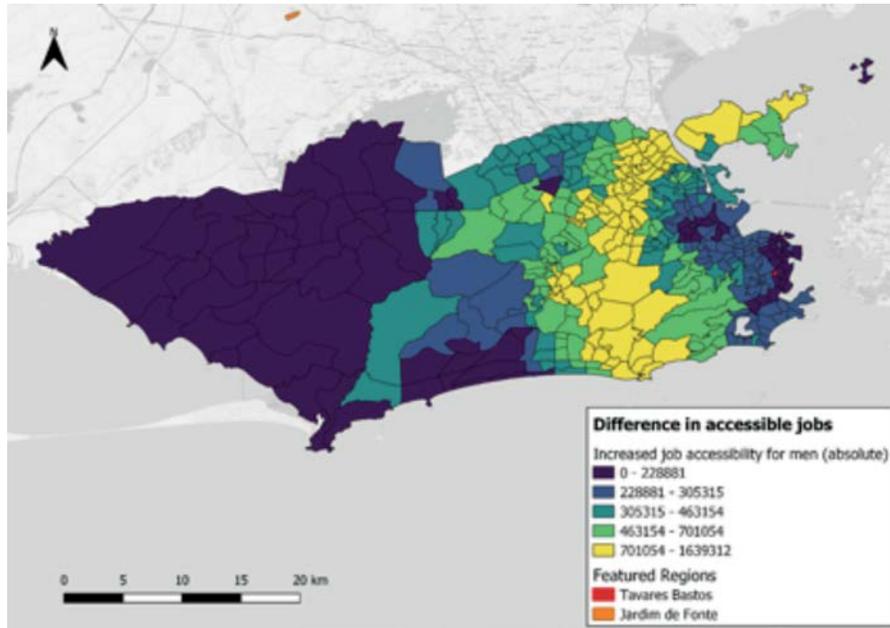
<sup>43</sup> Average commuting distance of 15.8 km.

<sup>44</sup> Average commuting distance of 11.9 km.

<sup>45</sup> Data on formal jobs come from RAIS, a national register organized by the Ministry of Labor and Employment. In 2017, there were 2,992,070 formal workers employed in the city of Rio de Janeiro.

FIGURE 13

Absolute increase in accessible employment opportunities for men relative to women at the radio OD zone level in Rio de Janeiro.



Data sources: OD survey and RAIS, background map layer: OpenStreetMap.

all in much larger differences in employment opportunities.

The spatial pattern of the differences in the magnitude of the unequal job opportunity is not apparent. It is, however, easy to see that considerable differences in job opportunities (>+80%) between men and women exist in various parts of the urban area. This results both from the low numbers of jobs available locally and the existence of employment opportunities in adjacent radios, which without necessarily giving access to many more jobs, will change the results in relative terms. In the city cen-

ter (east side of the city), job accessibilities are quite equally distributed (<+20%) as there are large numbers of jobs available locally.

Figure 13 shows a very different spatial pattern. As there are many fewer job opportunities in the outskirts of Rio de Janeiro, absolute differences in job opportunities seem to indicate less inequality far from the city center. Although Figure 12 is a better measure for inequality in job access between genders because what counts most is relative and not absolute accessibility, this map (Figure 13) is a useful complement.

## ANNEX 3: EXTENDED METHODOLOGY

### BOX

#### Qualitative Research Methods

Qualitative and quantitative research represents different research paradigms. Quantitative methods are valuable for drawing conclusions that are valid for the broader population being studied, and are especially suitable for measuring the frequency of a problem and its distribution in a population. On the other hand, they provide less information about how participants perceive and experience social phenomena and the complex dynamics involved.

Qualitative methods collect data on individual experiences and perceptions. Data collection based on open-ended questions allows the exploration of a range of issues pertinent to a research topic from the standpoint of those who experience social phenomena (including those that are more subjective or sensitive). However, qualitative methods do not seek to provide an understanding of the distribution of the issues identified in the population under study.

Findings from qualitative research should be understood and used in ways that differ from quantitative findings. The aim is not to test causalities and generalize findings. Findings reveal layers of meaning for a particular group of people, which is important when studying human behavior, beliefs, attitudes and perceptions. By studying the conditions, meanings and practices found in specific contexts, qualitative research can provide insights that serve to interpret other types of data as well as build and refine theories.

**Objective.** The purpose of this report is to evidence the range of barriers and facilitators that influence women's mobility and their access to economic opportunities in urban contexts. The ultimate aim is to inform the design of interventions that can successfully resolve the limiting factors and promote facilitators.

**Study phases.** The study was conducted in three Latin American metropolitan regions (MRs): Rio de Janeiro in Brazil; Buenos Aires,

Argentina; and Lima, Peru. In each country, the study was implemented in several phases: (1) Study design and stakeholder engagement; (2) team training; (3) exploratory data collection through focus group discussions and participatory community mapping; (4) analysis of data from focus group discussions and preparation of research tools for individual interviews; (5) data collection through one-on-one interviews with local men and women and key infor-

nants; and (6) data analysis and final write up of results.

**Sequential Implementation.** The research was carried out in the following order of cities: Rio de Janeiro, Buenos Aires, Lima. This helped to ensure methodological alignment and provided an opportunity for teams to submit feedback on the lessons learned in the course of the study.

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### Study design and stakeholder engagement

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Rio de Janeiro team was the first to implement the research. The local team reviewed existing literature on mobility and gender and secondary data on mobility patterns in the metropolitan region. The information was used to develop a preliminary research design, which was then presented to governmental counterparts at the state level for feedback and validation (Transport Secretariat and Subsecretariat for Policies for Women). Next, community leaders were engaged in each of the two sites selected to provide additional contextual information and support the team during data collection. The same process was repeated in Buenos Aires where Ministries in charge of the Urban and Social Agenda, Ministerio de Transporte Nacional and Secretaria de Transporte of Buenos Aires city, were engaged in the former at the government level, while in Lima support to reach out to the communities was provided by local leaders.

**Criteria for selection of sites.** Data were collected from six sites according to the following dual criteria: 1) all the sites consisted predominantly of low-income homes; 2) each metropolitan region contained two locations - one with “poor accessibility” to work opportunities

and one with “high accessibility.” The objective in the sites was to explore the variety of issues that affected individuals with different levels of access to work opportunities. Since there was no single tool that could be used in the three LAC countries to conform to the *accessibility criteria*, each country employed different tools to do this:

- **The World Bank’s accessibility tool was used in Buenos Aires.** This tool factors the use of the public transport system by calculating the prospective travel time for a series of combinations of origins-destinations in the city. With this data, the number of job opportunities that can be accessed within 60 minutes for each origin-destination was defined, and the low and high accessibility areas determined. The communities Villa 31 and Ejército de Los Andes in Buenos Aires were selected as the high and low accessibility neighborhoods, respectively.
- **In Rio de Janeiro, the IBEU mobility indicator was used<sup>46</sup>.** Based on a sample of 290 municipalities and 1500 neighborhoods in Brazil, this tool measures the percentage of the population that takes over one hour to get from home to work in a given location. The communities Tavares Bastos in Catete and Jardim da Fonte in Queimados were selected as the high and low accessibility neighborhoods, respectively. According to the IBEU, Queimados is the fourth-least accessible municipality of 290 municipalities, while Catete is the seventh most accessible of over 1500 neighborhoods in the Rio de Janeiro RM.
- **Lima:** The two target communities were selected according to their high or low accessibility to means of transport, and based on the length of travel times to the places

46 For more details see: [ibeu.observatoriodasmetrosoles.net](http://ibeu.observatoriodasmetrosoles.net)

in the city where most jobs could be found. The Caja de Agua area in the San Juan de Lurigancho district was defined as the high accessibility area. In contrast, the districts of Lurigancho-Chosica and Chaclacayo were defined as low accessibility.

### Team training

In all the sites, team-training workshops were conducted before fieldwork. These focused on: a) research design, objectives and guiding questions; b) research protocols for recruiting and obtaining consent from informants, conducting interviews and ensuring privacy and confidentiality, team security while in the field, recognizing and responding to situations of violence; c) piloting research tools and organizing feedback sessions.

### Exploratory focus groups and community mobility mapping

An FGD guide was developed based on issues identified in the literature as well as in discussions with stakeholders. The guide was piloted in Rio de Janeiro to test the relevance and specifications of each question, as well as to ensure a coherent sequence of questions. We conducted two exploratory focus group discussions in each research site (four per country) with women 18-29 years old and women 30-50 years old. Each focus group contained 7 to 10 women participants from the community and lasted around 1 hour and a half. FGD informants were invited by telephone to participate face-to-face through a list obtained from the local government (BA only), and with the assistance of community leaders. A financial incentive was provided for those willing to participate in the survey.

TABLE 14

#### Data Collection (Focus Groups)

Type	18-29 years	30-50 years	Total per site	TOTAL
Women from low accessibility areas	1	1	2	6
Women from high accessibility areas	1	1	2	6
TOTAL				12

**Themes and methodology.** Using a participatory community mapping methodology, these focus groups aimed to produce a visual picture of women's mobility patterns and experiences and identify relevant themes for individual interviews.

- **Community mapping.** To better understand the differences between women's and men's mobility and the constraints they face, an adaptation of the tool of "community mapping" (WHO, 2005) was developed and used during the interviews. The exercise starts by asking participants about their daily routine, and the researchers draw relevant points and routes on a piece of paper. Then questions and probing are used to collect qualitative data in a visual format on transport-oriented barriers. "Community mobility mappings" include or support the disclosure of information on information: origins; destinations; travel purpose; time-use; routes and alternatives; perceptions on the different transport modes characteristics (fares, perceptions of safety, availability, including preference of one modes vis-à-vis other); time use (distribution of activities in the household); urban space. Maps also registered perceptions of traveling and information on time use, access to employment, community infrastructure, social norms, and self-efficacy.

FIGURE 14

Community mobility map, younger women, low accessibility area, Rio de Janeiro



FIGURE 15

Community Mobility Map, high accessibility area, Lima

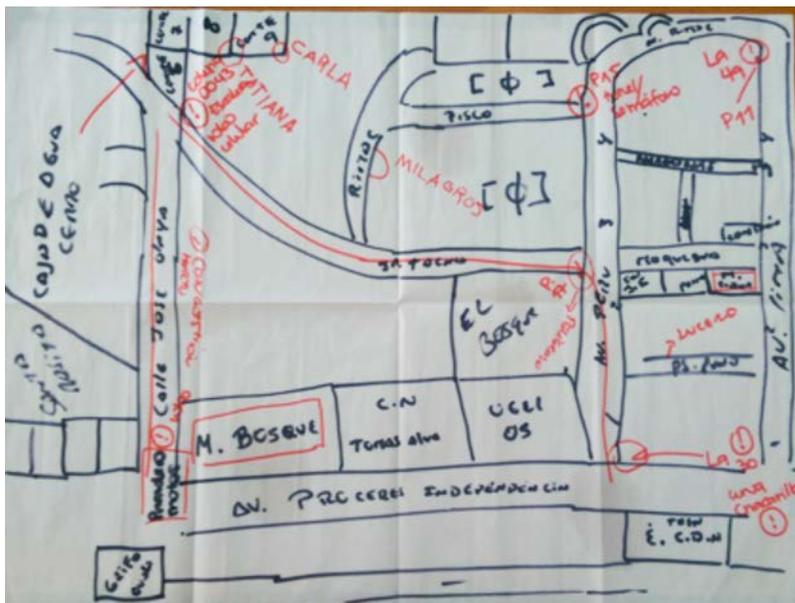


TABLE 15

## Data Collection (Individual Interviews)

Type	18-29 years	30-50 years	Total per site	Total per metropolitan region (HIGH and LOW)	TOTAL
Key informants			6	12	36
Women, working far from home	3	3	6	12	36
Women, working close to home	3	3	6	12	36
Women, not working	2	2	4	8	24
Men, working far from home	3	3	6	12	36
Men, working close to home or not working	3	3	6	12	36
TOTAL					204

## Individual interviews

Altogether, 204 semi-structured interviews were conducted with women, men, and key informants (KIIs). Interview guides were designed based on themes that emerged from the FGDs.

**Selection criteria for participants (individual interviews).** In each of the six sites, the sample was further stratified by:

- **Gender:** Both men and women were interviewed to explore how gender may impact mobility and employment decisions;
- **Age group:** Men and women from a younger (18-29 years) and older (30-50 years) cohort were selected to allow life cycle differences to be explored. For ethical reasons, minors were excluded from the selection. Given that the focus of the research was the relationship between mobility and access to jobs, the age of participants was capped at 50 to avoid selecting people close to retirement age (and possibly less mobile);

- **Work status:** Informants were further separated into those who worked<sup>47</sup> far from home (i.e., in other cities), those who worked close to home (in their neighborhoods), and those who were not working at the time of the study (only applicable to women). The exercise aimed to understand the reasons that influenced people to stay in their communities for work reasons or leave the neighborhood in search of better economic opportunities.

**Participant recruitment.** The selection of interviewees was based on two strategies: a systematic mapping and snowballing. At the systematic mapping phase, the interviewing teams at each site were divided into two groups, each to be located in one of the geographical extremities of the community. Each research group then walked towards the center of the community, making door-to-door calls to identify individuals who fitted the selection criteria. In the second phase, snowballing<sup>48</sup> was employed to identify working women who could participate,

47 "Working" describes any individual who claimed to be engaged in a paid/income-generating (formal or informal) activity at least once a week.

48 "Snowballing" is a non-probability method used when the desired sample characteristic is rare. Informants are selected on the basis of their ability to provide information that may be relevant to the research.

since most of them were either not at home all day or who claimed to be too busy to participate in the study. This phase involved approaching individuals recommended by community leaders and people who had already been interviewed in the same community.

**Themes and methodology.** Topics included: details of informants' daily routine and mobility; references to places outside informants' communities; experiences and attitudes related to mobility and work; capacity to make appropriate decisions regarding mobility and work; role models, aspirations, and plans for the future. The interview tool for individual interviews was also piloted in each site. Interview and focus group guides were mostly the same in all three countries apart from the language: Portuguese in Brazil and Spanish in Argentina and Peru. However, field teams in each country were encouraged to probe specific issues during the data collection phase.

**Key informant interviews.** These were held with community leaders, transport agency representatives, women's groups, and academics (the latter supplied information on social, political, and legal contexts) identified during fieldwork.

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### Data Management and Analysis

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All the interviews were audio-recorded and transcribed. Transcripts were stored under unique identifiers in a protected database managed by the study coordinators. Data was analyzed in several phases. First, local research teams pre-coded data by categorizing relevant segments of the transcripts and storing them in a thematic Excel matrix. Second, all the pre-coded data was analyzed to produce a consolidated data mapping matrix that summarized topics by sampling group, thus enabling a compar-

ative analysis between countries and groups based on a topic's relative frequency across the different groups. Finally, a consolidated table containing data from all the sites was analyzed, and the results compared between countries and sample groups.

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### Limitations

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Certain topics and situations were not explored in-depth in this study. The sample was limited to low-income population groups in urban Peru, Brazil, and Argentina (groups living in different circumstances from those of wealthier people or groups in other geographic locations). Safety concerns meant that fieldwork was restricted to certain hours of the day. The sites were classified by the United Nations Department of Safety and Security (UNDSS) as safe for conducting fieldwork. Women and men living in areas with higher levels of crime may face additional barriers to their daily mobilities that are not fully captured in this research. Underage individuals were not included in the samples because parental consent would have been needed, thus complicating recruitment. Furthermore, given the focus on the relationship between the labor market and mobility, we chose not to explore the circumstances of the elderly and retired population.

The recruitment strategies may have influenced the profile of informants. The local field teams found it difficult to recruit participants for focus groups and individual interviews since many people would either decline to participate or fail to show up at the scheduled times. At the beginning of the fieldwork phase, the field team did daily rounds in the neighborhoods knocking on the doors of all the houses, mapping potential participants who fitted the required criteria, and scheduling interviews.

The team subsequently used snowballing, and information from community leaders to recruit individuals who were more difficult to recruit, e.g., young men and women who worked and studied (and often faced long commutes) were not willing to be interviewed during their limited free time.

Teams encountered challenges due to the study's multi-country approach. Different local teams in each country collected data. Although steps were taken to reinforce methodological alignment through sequential implementation, kick-off workshops (in each country), regular meetings between local coordinators, and continuous data collection, certain discrepancies in application remained. The research team dealt with these discrepancies during the analysis phase either by not recording findings on topics that had not been addressed equally in all three countries or by identifying such results as "country-specific."

## PARTICIPANT PROFILES

