



# WOMEN AND CHILDREN'S ACCESS TO THE CITY

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Institute for Transportation  
& Development Policy

# ITDP BRAZIL

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## PREFACE

Throughout the world, we are witnessing the growth of gender and mobility discussions, sustained by studies that seek to understand how women experience the city. Although patterns of displacement are strongly territoriality determined by the provision of public transport, they do not depend on these factors alone.

Women's daily lives are marked by fear of urban violence and, mainly, gender violence. Harassment and sexual violence deter women from having full access to work opportunities, leisure, culture, and services available in the city. The 2014 ActionAid's survey **Cidade Segura Para Mulheres** (Safe City For Women) revealed that 86% of Brazilian women had already been harassed in public space and 44% on public transport.

Inequalities in the division of domestic unpaid work imply a greater work burden for women, who accumulate the functions of family care and housekeeping. Particularly, children's needs profoundly impact the mobility pattern of the mothers. This socially constructed role largely determines women's travel patterns: their displacements are marked by chained trips to multiple destinations.

However, we must clarify that the access to the city can be very diverse even among women. Mobility is not gender neutral, but it is not race and income neutral either. In Brazil, urban life and vulnerability to violence are particularly challenging for black and low-income women, for whom walking and public transport play a fundamental role in the everyday experience.

Aware of this scenario, ITDP Brazil developed the study "**Women and Children's Access to the City**", to deepen inside the challenges these women face when trying to live the city at its most. This intersectional examination was sustained by dialogues with organized civil society institutions and on the findings of a focus group research that looked into the lives of black and low-income women, mothers, users of public transport, residents of the Recife Metropolitan Area.

The qualitative research approaches issues such as the women's vision of the city; their experience while walking and on the public transport; childcare; their relationship with public spaces; urban and gender violence; the use of the bicycle, and their image of a good city to live in.



## ACKNOWLEDGMENTS

The Institute for Transportation and Development Policy (ITDP) understands that the discussion on gender and mobility is urgent and needs to be incorporated crosswise in building public policies that ensure the right to access the city.

The project **"Women and Children's Access to the City"** was developed with funds from ITDP and is the first study by the Institute in Brazil to focus on gender issues.

We want to especially thank the organizations ActionAid, Casa da Mulher do Nordeste, Coletivo Casa Lilás and SOS Corpo for their contribution in defining the scope of this study. Thanks also to Escola de Ativismo, IEMA (Instituto de Energia e Meio Ambiente) and Veridiana Campos for building bridges with organizations and women who work for gender equality in Recife and Recife Metropolitan Area.

Without the invaluable collaboration of organized civil society, it would not have been possible to gain such a deep understanding of the challenges faced by women and children in accessing the city.

# TABLE OF CONTENTS

<b>07</b>	<b>Introduction</b>
<b>09</b>	<b>1. Gender, race, and class inequality</b>
<b>14</b>	<b>2. The City of Women and Children: A Case Study of Recife and its Metropolitan Area</b>
<b>31</b>	<b>3. An Overview of Recife and its Metropolitan Area</b>
35	3.1. Walking
36	3.2. Mobility in the Public Transport Network
40	3.3. Cycling
45	3.4. Opportunities in the Recife Metropolitan Area
48	3.5. Mobility and Income
50	3.6. Mobility, Harassment, and Sexual Violence
<b>53</b>	<b>4. Recommendations and Impact Indicators for Women and Children's Access to the City</b>
54	4.1. Walking and Land Use and Occupation
59	4.2. Cycling
62	4.3. Road Safety
65	4.4. Public Transport
73	4.5. Housing and Urban Infrastructure
76	4.6. Harassment and Violence
79	4.7. Childcare
82	4.8. Expenses with transportation
84	4.9. Governance and Public Policies
<b>86</b>	<b>5. Conclusion</b>
<b>87</b>	<b>6. References</b>

# INTRODUCTION

Our cities have been systematically planned and built with standards that reinforce class, race, and gender inequalities while also limiting the possibility of human interaction and the movement of people according to their age and physical ability, especially when these inequalities are intertwined.

Urban transportation and land use and occupation policies continue to be developed out separately. Our cities and metropolitan areas are increasingly characterized by scattered land occupation. There is a high concentration of opportunities – jobs, services, health, education, leisure, and culture – in central areas, but the lower-income population lives in peripheral settlements and have to deal with transportation systems that are inadequate and precarious.

We have dedicated the largest share of our cities' road space to cars. An analysis from the São Paulo Mobility Plan<sup>1</sup> indicates that the city has close to 17,000 km of roads but that only 4,500 km of them are used by the bus transport system. Also, on approximately 87% of these 4,500 km, buses share the road with other modes of transportation. In Recife, the city's road system covers almost 2,600 km, but only a little more than 1% of the roads have some type of priority for buses, whether conventional bus or BRT system.<sup>2</sup>

This pattern of development directly contributes to the inequitable way men and women experience the cities where they live.

The [New Urban Agenda](#) adopted at Habitat III – Third United Nations Conference on Housing and Sustainable Urban Development, which took place in Quito, Ecuador, in 2016 – has provisions to make inclusive cities a reality. Among them is the promotion of sustainable urban mobility that is age and gender responsive, is accessible to all, and increases participation in a city's social and economic activities.

However, planning does not generally take gender issues into consideration. According to Carolin Moser,<sup>3</sup> “the assumption that gender is simply another neutral component that can be integrated into existing planning traditions is highly problematic”. The traditional structures and processes of planning are not designed to adopt a gender perspective, and consequently, the monitoring and evaluation cycles of public policies do not consider this dimension either.



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1 SÃO PAULO. Prefeitura de São Paulo. Secretaria Municipal de Transportes. [PlanMob/SP 2015 - Plano de Mobilidade de São Paulo](#). 2015.

2 This calculation was made by ITDP Brazil based on data provided by the Instituto da Cidade Pelópidas Silveira, in 2017.

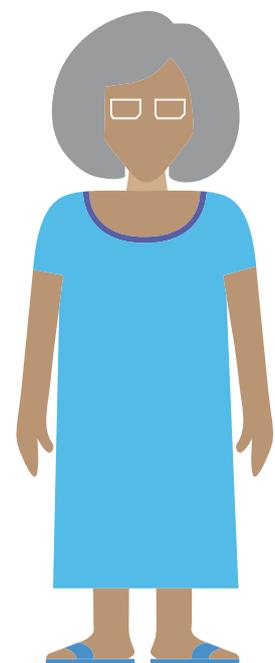
3 MOSER, Carolin O. N. *Gender Planning and Development: Theory, Practice & Training*. London and New York: Routledge, 2003. Pg. 86.

Understanding there was such a gap, ITDP Brazil took on the task of developing indicators that may contribute to monitor and evaluate public policies related to urban mobility and development from a gender perspective.<sup>4</sup> Consistent with the [National Urban Mobility Policy](#) and the [City Statute](#), this set of indicators may help assess the efficacy of these policies in providing greater access to the city by women and children.

Considering the provisions of the [New Urban Agenda](#), the principles of transit-oriented development, the way women experience the city in Recife Metropolitan Area, and the Brazilian context of gender, race, and class inequalities, ITDP Brazil undertook this study to:

- Contribute to the understanding of women's interests and needs regarding their access to the opportunities offered by the city, especially considering the challenges and limitations experienced by black and low-income women in their attempts to affirm their rights to mobility;
- Consider, from a **mother's point of view**, where children go in a city and how their needs for care and mobility affect women's life and travel patterns;
- Encourage the adoption of gender-responsive planning toward a more sustainable and equitable city through a more transparent and participatory development of urban planning instruments. These include goals, indicators, and an effective monitoring system to keep track of improvements in the access to the city by women and children.

The findings of this study are organized in five sections. The first outlines considerations that are necessary for establishing a gender-responsive planning system, together with an analysis of gender, race, and income inequalities within the Brazilian context. Section 2 shows the findings of a qualitative survey of women for the Recife Metropolitan Area (RMR) case study. Section 3 provides a general outline of the RMR, with information and analyses of certain aspects of urban mobility and access to the city from a gender perspective. Section 4 brings recommendations that will be useful in planning a gender-responsive city, as well as indicators that may contribute to monitoring access by women and children to the city. Finally, Section 5 presents the study's general conclusions.



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<sup>4</sup> The use of the word "gender" in relation to women's affairs is not sufficient to cover any discussions on gender identity, which by itself extrapolates the limits of the man/woman gender binary. While we may be advancing our understanding of gender issues and access to the city, we also know that we need to further explore the interests and needs of transgender and genderqueer individuals, thus allowing for broader gender-responsive planning. Recognizing these limitations of scope, it is important to stress that in this paper we attempt to expand knowledge of the interests and needs of cisgender women and children in the access to the city.



## GENDER, RACE, AND CLASS INEQUALITY

According to Carolin Moser<sup>5</sup>, gender-responsive planning must consider the different roles women and men play in society, as well as the fact that each gender has its own specific interests and needs. These can be either:

- Practical, such as immediate challenges and issues that, when met, improve women's lives without otherwise changing the division of labor or questioning the inequalities women are subject to within the social structure; or
- Strategic, i.e. those related to the structural division of labor, power, and control that, when met, effectively contribute to more equality as they transform the unequal relations between women and men.

Women have less access to and control of financial resources than men do, and they face more obstacles when trying to take advantage of the opportunities offered by the urban environment in an equal and safe manner. However, **it's vital to assess who the most vulnerable women are – those that have the least potential access to the city.**

Vulnerability is not necessarily equivalent to poverty, though they may be associated. Vulnerability means lack of defense, lack of safety, and/or exposure to risk.<sup>6</sup> If, in the context of gender, we consider race and social class as the underpinning aspects of vulnerability, it is black and poor women living in outlying districts with less urban infrastructure and little diversity of activities and services who find themselves in the most vulnerable group. Their interests to access the opportunities offered by the city in a more just and safe manner are unique to their experience: They have to handle their exposure to risk differently than women who, for example, live in more central areas or in privileged neighborhoods that, are better served with urban infrastructure and enjoy more services and jobs opportunities.

The Gender Inequality Index from UNDP's Human Development Reports<sup>7</sup> of 2016 ranked Brazil in the 92<sup>nd</sup> position among 159 countries, or as one of the most gender-unequal countries in the world.

According to Carolin Moser, "women experience oppression differently according to their race, class, colonial history and current position in the international

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5 MOSER, Carolin O. N. *Gender planning and development: Theory, Practice & Training*. London and New York: Routledge, 2003. and MARCH, Candida; SMYTH, Ines; MUKHOPADHYAY, Maitrayee. *A guide to Gender-Analysis Frameworks*. Oxford: Oxfam, 2005.

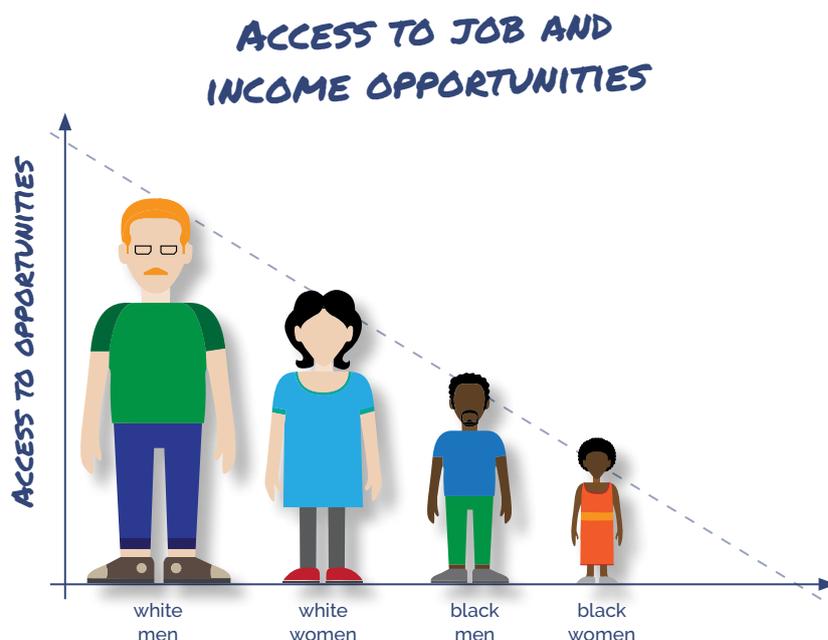
6 CHAMBERS, Robert. [Editorial Introduction: Vulnerability, Coping and Policy](#). *IDS Bulletin*, vol. 20, n. 2. Sussex: Institute of Development Studies, 1989.

7 PNUD - PROGRAMA DAS NAÇÕES UNIDAS PARA O DESENVOLVIMENTO. [Human Development Report 2016: Desenvolvimento Humano para todos](#), 2017.

economic order,"<sup>8</sup> and while they may have general common interests, their specific interests will be determined in large part by these factors. Thus, gender analysis must be considered in the context of race and class for the design, implementation, monitoring and evaluation of public policies related to mobility and access to the city. By doing this, we recognize that we live in a society greatly affected by inequalities, even among people of the same gender.

The *Retratos das Desigualdades de Gênero e Raça - 1995 - 2015* (Portraits of Gender and Race Inequalities – 1995 – 2015),<sup>9</sup> a study carried out by the Brazilian Institute of Applied Economic Research (IPEA) in partnership with UN Women, presents data disaggregated by gender and color/race, which helps us understand that black women are in a more vulnerable position. According to that survey, the number of women who are the head of households increased significantly in Brazil over the last 20 years, especially in urban areas. In 2015, women were in charge of almost 43% of urban households, while in 1995 this percentage was 25%.

**Both white and black women have more years of schooling than white and black men respectively, but this does not guarantee them a better share of the labor market.** Access to opportunities and better incomes decreases in the following order: white men, white women, black men, and then black women. In 2015, the unemployment rate among Brazilian black women of working age (13.3%) was twice that of white men (6.8%), while only slightly more than half of the women (55.3%) participated in the labor market.



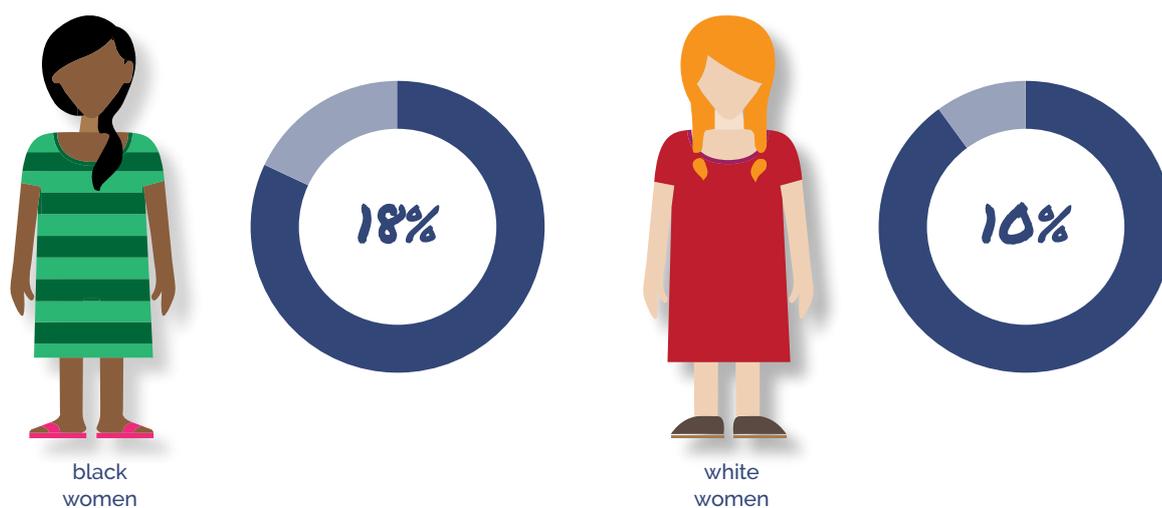
Prepared by ITDP Brazil with data from *Retrato das desigualdades de gênero e raça - 1995 a 2015*. Ipea, 2017.

8 MOSER, Carolin. O. N. Gender planning and development: Theory, Practice & Training. London and New York. Routledge, 2003. Pg. 74.

9 *Retratos das Desigualdades de Gênero e Raça - 1995 - 2015*, IPEA, 2017.

In 2015, domestic work was the occupation of 18% of black and 10% of white Brazilian women. While domestic workers make up an important part of the global workforce, they are a particularly vulnerable group, according to the International Labor Organization.<sup>10</sup>

## OCCUPATION IN PAID DOMESTIC WORK



Prepared by ITDP Brazil with data from *Retrato das desigualdades de gênero e raça* – 1995 a 2015. Ipea, 2017.

This level of vulnerability is also reflected in women's income. In 2015, average income of black female domestic workers was 84% of that of white female domestic workers.

## DOMESTIC WORKERS' INCOME IN 2015



Prepared by ITDP Brazil with data from *Retrato das desigualdades de gênero e raça* – 1995 a 2015. Ipea, 2017.

10 ILO – INTERNATIONAL LABOR ORGANIZATION. Domestic workers across the world: Global and regional statistics and the extent of legal protection. Geneva, 2013.

The accumulation of activities by women results in what is now known as triple work burden, which includes activities related to a paid job, unpaid housework, and the care they provide to immediate and extended family. However, this is still an oversimplified division of labor, since women often occupy their time with still other activities, such as furthering their education.

## WOMEN'S WORK BURDEN



Prepared by ITDP Brazil

According to *Retratos das Desigualdades de Gênero e Raça - 1995 - 2015*, in 2015, Brazilian women worked an average of 7.5 hours more per week than men. They spent 25 hours a week doing housework, while men only worked 10 hours a week on this type of activity. Data from the study also show that the lower their income, the more unequal the time women and men spend doing housework.

10 ILO - INTERNATIONAL LABOR ORGANIZATION. Domestic workers across the world: Global and regional statistics and the extent of legal protection. Geneva, 2013.

Gender and race inequalities are also significant in relation to violent crimes. The [Mapa da Violência 2015 - Homicídio de Mulheres no Brasil](#) (Map of Violence 2015 – Murder of Women in Brazil)<sup>11</sup> shows that between 2003 and 2013, there was an 11.9% drop in the rate of murders of white women but a 19.5% increase for black women. Approximately 67% more black than white women and girls were murdered in 2013, while the number of murdered black women increased 54%.

Statistical data on murders by firearms follow the same pattern of racial disparity. Between 2003 and 2014 there was a 26.1% drop in the number of white people murdered, while the number of black people murdered increased 46.9%. According to [Mapa da Violência 2016 - Homicídios por armas de fogo no Brasil](#) (Map of Violence 2016 – Murders by Firearms in Brazil),<sup>12</sup> the number of black victims of firearms was 2.6 times that of white victims, five deaths every hour. Close to 95% were men, the majority of them between 15 and 29 years of age.

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<sup>11</sup> FACULDADE LATINO AMERICANA DE CIÊNCIAS SOCIAIS - FLACSO BRASIL. [Mapa da Violência 2015 - Homicídio de Mulheres no Brasil](#). FLACSO, 2015.

<sup>12</sup> FACULDADE LATINO AMERICANA DE CIÊNCIAS SOCIAIS - FLACSO BRASIL. [Mapa da Violência 2016 - Homicídios por armas de fogo no Brasil](#). FLACSO, 2016.

## 2 THE CITY OF WOMEN AND CHILDREN: A CASE STUDY OF RECIFE AND ITS METROPOLITAN AREA

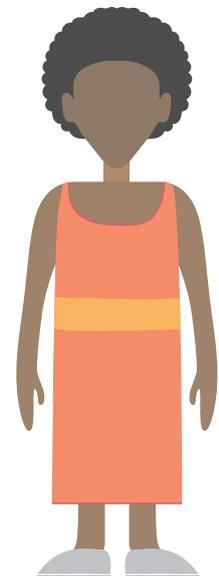
To better understand how gender, race and income issues affect women's lives in the city, and to contribute to the development of indicators on the access by women and children to the city in a Brazilian context, ITDP Brazil developed a case study with women from the Recife Metropolitan Area. The study aim was to:

- Understand how women view the city;
- Look into the conditions of the areas where they live;
- Increase knowledge about childcare;
- Understand how their small children experience the city;
- Know the women's perception of the transport system - BRT, conventional bus, and subway;
- Collect women's perceptions about bicycle use;
- Know their desires for a more equitable city;
- Gather information to support the formulation of indicators with impact on women's and children's access to the city.

The survey used the focus group qualitative technique and was conducted in Recife on August 17 and 18, 2017, covering 50 women divided into five focus groups:

- Two groups of women 17 to 35 years old living in Recife's slums or low-income neighborhoods, half of them with children 0 to 6 years old; at least two of them were students;
- Two groups of women at least 40 years old, living in Recife's slums or low-income neighborhoods; two of them were over 65 years of age;
- One group of women 17 to 35 years old living in slums or low-income neighborhoods in Recife Metropolitan Area, half of them with children 0 to 6 years old; at least two of them were students.

In all groups, 70% of women were from Class D and 30% from Classes E or C;<sup>13</sup> they use either public transportation (subway, BRT, conventional bus, vans, motorcycle taxi), bicycle, or walk to their activities (no respondents were included who have or use private cars and/or motorcycles for their daily trips). In addition, at least half of the women were black.



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<sup>13</sup> Ranking according to level of comfort given by a scoring system found in "Novo Critério Brasil 2015".

**The study findings reflect the *perception of respondents* about the city and urban mobility topics and are not concerned with providing a technical perspective. The study presents the subjective impression held by the respondents, and how they live in and feel about the situations discussed.**

Urban and gender violence, poor quality of transportation, general lack of public facilities, the absence of a citizenship mind-set, and the lack of opportunities for the lower-income people are mentioned without prompting by all respondents, regardless of age and place of residence.

Daily life is a life in fear. These women leave home, move around the city, and return home always dominated by fear.



*We go from one place to another, but we never know if we'll be back, [...] we never feel safe because so much is happening to women."*

Public authorities are practically absent from their thoughts. There is never mention of the state, nor are there complaints about the government, which is also not mentioned as part of the solution to their problems. There is a general feeling of helplessness, and these women can only count on their luck, religious beliefs, or the support network they create with family members, friends, and neighbors.



*Women suffer a lot, they are raped. We women suffer a lot because of these guys. And that's how life is around here, that's how the world is."*



*I have never been raped, never been robbed, thank God. I am lucky, glory be to God!"*

Violence is a constant presence in the lives of these women, affecting and/or limiting their mobility. The type of assault they experience can be robbery, especially of their purses and cell phones; sexual violence, harassment, and rape; traffic-related violent acts; and finally murders, which they witness especially in the areas where they live. Of all the forms of violence they are subject to, their greatest fear is rape.



*As a woman, robbery is not the only thing you are afraid of."*

There is a general perception that violence has no limits anymore. It happens at any time, day or night, anywhere in the city: in the streets, bus stops, stations, terminals, inside public transport. Some women feel that this lack of safety is due to inadequate law enforcement in general, but at the same time they say they do not trust the police.



*We do not trust the police, they are worse thieves than thieves themselves."*

The prevalent sexual violence means that the issue of mobility in Recife and its Metropolitan Area has an undeniable gender component: Respondents feel that men and women are affected differently.



*A woman is more afraid because, as I said, she is more of a target. A woman is not weak, she's afraid because men see her as a piece of meat."*

Women have their own strategies to ensure they can come and go as safely as possible: They try to select the best and safest transportation as far as time of day and mode; they sometimes extend their trips to reduce risks; and they count on their spouses, children, and relatives to accompany them on certain trips. As a last resort, when these strategies are not enough, they will simply give up making a trip or engaging in an activity.

Two situations where they are most afraid are **walking home** after getting off public transport, and **waiting at regular bus stops**. The infrastructure in their neighborhoods and the location of bus stops are the main factors determining this feeling of insecurity.



*It's not when I'm leaving but when I'm arriving, when I'm already on my way home, praying Jesus that I arrive safely."*



*It's on the way back, when it's already dark and you don't know who may be waiting for you along the way. May God help you!"*



*When you're at the bus stop, it's like robbery and rape are lurking around."*

Their neighborhoods are known for the poor quality of the urban infrastructure and public spaces as well as the lack of proper maintenance; the haphazard use and occupation of urban land; and the inadequate availability of services and public facilities. The women believe these conditions affect their quality of life and open up the way for urban violence, increasing the overall impression of insecurity.

Since women still take care of most household chores as well as doing paid work, they must make several trips on foot every day. But walking is always a challenge: Existing sidewalks are too narrow, and their maintenance is extremely poor or nonexistent; street vendors and building extensions occupy some of their space, which is also used sometimes by motorcycles and as car parking; or the sidewalks may be covered with trash or mud.



*It's just awful. [Sidewalks] are broken and full of holes. Sometimes we must walk on the roadway. [...] Recife is a pretty capital, [...] but there's so much neglect, it's terrible."*



*It's very bad, because there's no space to walk. You start to walk, and here comes a bicycle. [...] Motorcyclists do the same thing, but actually they are worse because they ride really fast."*

Women report conflicts in the use of sidewalks as they are also used by cyclists and bikers, so they frequently must use the lanes used by motor vehicles.



*You have to walk very close to the curb, otherwise you are run over by cars. It's very difficult when you're carrying a child."*

While women report that they experience the city differently during the day and at night, surprising there is no mention of street lighting as a factor that increases the feeling of security. The topic is only discussed when prompted by the focus group facilitator, and it seems to be of little importance to the respondents, even when they agree on the inadequacy of street lighting where they live.

**The low number of people in the streets is the factor that most contributes to a feeling of insecurity** when walking in public spaces. For the women, there is a direct relationship between the liveliness of a street and the feeling of safety: Places where many people are present are perceived as safer. Lively streets also add an important element: There will be someone to ask for help if a violent or dangerous situation occurs.



*We always try to walk where there are more people around – that way we feel safer."*



*If you are in a place where there are lots of people around you, in your own mind you feel safer; you can scream for help, and somebody can be a witness."*

They avoid walking along deserted areas, they often change their routes, they ask husbands and family members to escort them on their return home, and they try to stay on streets where shops are still open. In some cases, they switch to other transport modes such as vans and motorcycle taxis, even if these are not always reliable.



*I would get off the bus between 11:30 pm and midnight and would still have to cover a long distance on foot to get home. I swear to God, there were times I would get off and run, such was my fear. There was no one in the streets and it was pitch black, so you feel very vulnerable."*



*It's good to live in an area where there is a lot of movement, but where I live it's not like that."*

Daily crime or violence also affects commercial activities. Due to increasing crime rates, merchants close their doors earlier than before, which in turn affects the time of day when residents, especially women and children, move around the streets. Depending where they live, people remain indoors after 5:30 pm and only go out if there's an emergency.



*We do have street commerce, but the stands close very early. By 5 or 5:30 pm, everything is already closed."*



*Everybody goes home — you can't even see a couple of people in the streets."*

Childcare is a duty almost exclusively carried out by mothers, and most of women's daily trips are associated with this. Women drop off and pick up their kids from day care and/or schools and primary healthcare units, and they also try to find some leisure activity for the children. Most of these trips are made on foot or by bus when the facilities are far from their homes. In these situations, mothers and children experience all the typical problems of the public transport systems, such as long waits, delays, and ignoring boarding and seating priorities, etc.



*I leave at six to make sure they get to school by 7:30 am. It's not very far, but the bus has great difficulty just crossing that bridge over there."*

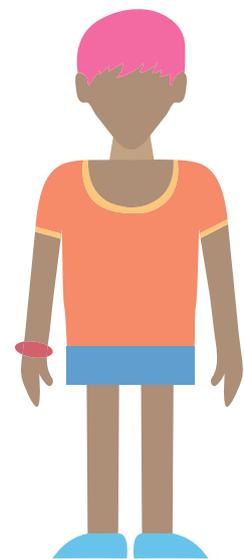


*He's just a baby, [...] sometimes it takes a while before somebody offers me a seat. The bus takes too long and I have him in my arms, together with my purse, shopping bags... It's all very complicated."*

The availability of public education and leisure facilities varies depending on the area where the respondents live, and that influences to a large extent the quality of life for mothers. Public day care centers run out of available spaces, and private ones are often not affordable. Also, the hours of operation of day care centers and schools do not necessarily match the mothers' work hours, and then they are forced to find other childcare alternatives.



*When the day care is only open till noon or if the city does not provide a day care, I see mothers really worried about where to leave the children so they can go to work."*



When an adequate day cares are not available, support is mostly provided by other women in the family. But women who do not have family in the same city have even fewer opportunities to study or work.

“ I have to take [the child] with me to work. There are no family members around where I can leave the child, so it's complicated. **If I manage to find a job, even if it's only part time but that pays me a salary, I must pay out of my pocket for somebody to take care of the child.** That makes it really tough.”

If somehow mothers do manage to find solutions for situations involving school, a major challenge that remains is to find safe places for play and leisure activities. The street is considered a “forbidden” space for children because of the prevalence of violence. When they are not at a day care or school, children are confined to their homes, where they just watch TV or play on cell phones.

“ I'm afraid they'll kidnap my son, that they will grab my daughter. **The other day, my daughter was playing in front of the house when some men ran by, all carrying guns. I was frantic, and from this day on, she cannot play in the street anymore, she has to stay inside the house.**”

“ No, absolutely not. They stay in the house, they watch TV, get the cell phone.”

“ Poor thing, she's like locked in all day, sometimes she complains: ‘Mom, I can't take it anymore.’”

There are very few urban leisure facilities, squares, and parks, and when they do exist, they are in bad condition or have been taken over by drug addicts, and that only increases the feeling of insecurity.

“ **You can't just sit at a square to chat with other people. You can't go out with a child to play at a park, because these days everything is so dangerous.**”

“ There are sports courts and some small parks, but I'm not going to take my children to play if they are going to watch people using drugs.”

In the streets, there's also traffic-related violence. Recife is as a big city where people drive at high speeds; traffic rules and regulations are commonly disregarded and broken. Women feel like they are living in "no man's land," where pedestrians and public transport users seem to be affected the most.

Women think car and bike drivers are mostly to blame for the violence in traffic. They invade bus and BRT-segregated lanes, park unlawfully on sidewalks and other forbidden places, and negatively affect public transport service and pedestrian safety. In their opinion, motorcyclists are the main cause of accidents with pedestrians. At least four of the respondents had already been run over by them.



*In my neighborhood, they behave like race drivers. If he's coming down the street and you don't get out of the way, he'll hit and drag you along. Speeding on a curve, and the bus comes. Cars, buses, motorcycles, they are all the same."*

Bus drivers are also poorly rated by the women, who think they are not trained enough for their jobs. The women report that bus drivers often do not stop at bus stops when people signal them; are very impatient with passengers getting in and out of the buses, especially people with reduced mobility; are not attentive to the needs of senior citizens; resent having to activate the wheelchair boarding ramp; mistreat passengers; and finally, stop the bus too far from the curb, letting bikers go through and run over alighting passengers.



*My father is disabled on one leg. When he tries to get on the bus, the driver will lie and say the wheelchair boarding device is broken, just out of laziness about letting my father get on with the wheelchair."*



*The bus is supposed to stop here, but sometimes they stop a little farther away from the curb, making it difficult for a passenger to get off. If you do get off, you may be run over by a motorcycle because they do not respect bus stops anymore, they just want to get there first."*

According to the women, pedestrians are affected the most because in addition to the poor quality of the sidewalks, they have a hard time crossing the streets, either because cars and motorcycles are coming at very high speeds or they just ignore pedestrian crossings.



*It's very dangerous — you have to run to cross the street. You begin to cross, and then the bus comes, but behind the bus there's always a motorcycle. They just seem to pop right up behind the buses."*

Public transport usually gets low ratings from the women. Contributing to this perception are: violence; reduced availability and frequency of buses at night and on weekends; waiting times; frequent delays which affect the trust in the system; long duration of trips caused by traffic jams; overcrowding and harassment on public transport; user behavior in terminals and stations; disregard for boarding and seating priorities; and bad maintenance of roadways. These are some of the top-of-mind issues for the women who use the transport system.

“

*Crowded buses are a big problem, especially for us women. **But that's life. We must work, there's nothing we can do.***

“

*You see the seniors standing up while the youngsters are sitting down, pretending to be asleep. I see it all the time. A woman can have a child in her arms; they still won't offer her a seat. **We are really suffering here.***

“

***If you have a child, if you are older, things like that, you really have to pick the right time to get a bus. It makes you hate to have to leave the house.***

“

*We women suffer while transferring from one mode to another, because people don't respect the queues — they force their way into the bus, so the strongest get in quicker and take all the seats.”*

“

***Men rubbing against women** — it's a lot of pushing and shoving.”*

Public transport plays an essential role in the lives of these women, since they depend on it for all their activities: working, taking their children places, studying, going for a stroll, shopping, health appointments, going to the beach, etc. It is even more relevant for those living in other municipalities in the Recife Metropolitan Area, where it allows access to work and study opportunities, which tend to concentrate in the capital, Recife.

“

***Even getting a job can be difficult, depending on your transportation options. When I decided to move away from Recife, my boss asked me, 'How are you going to get here?' 'Don't worry', I said 'I'll make sure I'm here on time'. But I couldn't take it having to leave the house two hours before and arriving back two hours after leaving work. I couldn't handle the hassle of riding in overcrowded buses and being harassed all the time just to get to work and spend the day. What did it was the transport, as my boss had said.***

Some of the respondents must travel 1.5 to 2 hours every day, so they spend from three to four hours a day in very grueling conditions due to the low quality of public transport.

Of all the transport modes, the subway was rated the worst. It is seen as the most dangerous and crime-ridden, especially inside the cars. When cost is not a concern, most women reject and avoid the subway, even though it is fast, frequent, and inexpensive (at the time of the survey, fare was R\$1.20).



*It is suicide. They knock everybody down. There's organized groups of soccer fans who invade and overcrowd the trains and scare us to death [...]. The security guards can't do anything, there are too many of them. They go in groups, kill people, look for them inside the cars, inside the station."*

Recife's public transport is considered expensive, and its cost has a real impact on family budgets. Fares vary significantly depending on the routes and whether transfers are necessary. Therefore, the women admit using certain strategies to try to beat the system, such as jumping over turnstiles or "negotiating" payment with fare collectors. Sometimes they give up doing activities, especially leisure activities, because they can't afford the transport expense.



*If you are unemployed, it's complicated: You need [transport] to look for work and for other personal needs."*



*One time I had to decide whether to visit my sister or buy milk for my daughter."*



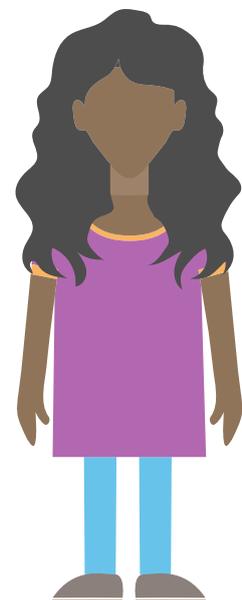
*I gave up going to the mall various times with my children because I had to pay for four fares."*

Respondents said there is little or no visible information available about itineraries, destinations and schedules for both conventional and BRT buses. However, BRT is considered more reliable because of its higher frequency. Many respondents said they were not familiar with smart phone apps showing bus timetables, and the few women who reported using this technology declared that the information they received was not entirely trustworthy.

Many women recognize the benefits of the BRT system, despite its many critics. According to them, the BRT is used for trips from the peripheral settlements into Recife's downtown, or between different counties within the Metropolitan Area. The conventional bus is used for trips from the outskirts to downtown and for transfers to the BRT.

Most women say the positive side of the BRT system is that it increases transport quality and trip comfort. In their view, compared to the conventional bus, BRT offers benefits such as:

- Trip speed: segregated lanes allowing higher speeds and preventing vehicle delays due to traffic jams;
- Vehicle comfort: more space, more comfortable seats, and air-conditioning;
- Improved safety at stations and inside vehicles;
- Increased frequency of buses and reliable schedule.





*I come to downtown Recife every day, and I use BRT a lot. If you compare the [conventional] bus to BRT, you know BRT is 100% better. What kind of safety can a regular bus provide? None. And it's also very uncomfortable. But the BRT is air-conditioned and the seats are much more comfortable. It's agony having to get into a regular bus. Well, that is also a problem with the BRT. Of course, I'm not talking about the station. There's always a lot of confusion in the stations, because everybody needs public transportation."*



*Regular buses take too long because of their schedule and traffic. BRT is a little faster. It doesn't have to stop everywhere, it has its own specific stops. There's always a lot of people, so it can get overcrowded, but it's still more comfortable."*

However, their common perception is that BRT still has a lot of challenges to solve, especially regarding:

- The need for transfers;
- Poor organization of queues in terminals;
- Overcrowded buses and long waits for feeder bus services at the terminals, particularly during afternoon peak hours.

The main criticism of the BRT system relates to the transfer terminals and the transfers themselves. The need to switch from one vehicle to another is, without a doubt, the most negative aspect of the system, and it is top-of-mind for all respondents.

The women reported that switching buses increases the overall distance and the perception of the trip duration. Further, they lose their seat once they get to the terminal where they'll transfer to a feeder bus, and the boarding and alighting of passengers is chaotic because people do not respect the queues.



*We lose time waiting for the transfer. The route is the same, but before the bus didn't stop at the transfer terminal, it was a direct itinerary."*

Terminal management, especially the organization and control of passenger lines, is another major complaint about transfer terminals. There are disturbing reports about the lines to board and alight the buses: They are emotionally charged and show how women are daily subject to uncomfortable situations that cause them a high level of stress and anxiety every day.



*The transfer terminal is torture. Everybody running — it's as if the world was about to end."*



*It's agony waiting in line; nobody respects the queue."*



*If you are courteous, you'll have to wait 10 buses before you can board one. Just being in line will not get you anywhere."*

In addition to the stress of waiting in line, women worry about the gap between the platform and the buses, which they see as a real hazard for passengers, especially seniors and children.



*First time I took it, I swear I almost fell in there, that little gap in the bus stop. I could have fallen all the way down."*

However, compared to conventional bus stops, BRT terminals and stations represent a positive gain in terms of improved comfort and safety, less waiting time, and an enhanced feeling of safety because stations are glass-enclosed and there are a lot more people around.



*I think bus stops are very unsafe. It's a lot more unsafe than going through a station. What I don't like in the station is that I must walk to get another bus. I have to leave my seat, go down the stairs, and get to another location to get the other bus. I have to run, and if I have a child with me, things are even more difficult. Still, waiting at a bus stop is a lot more unsafe than going around a train station. You never hear about a robbery inside a station, but you do hear a lot about them at bus stops."*

There is a recurrent common perception people's attitudes are an important part of the issues involving urban mobility. The absence of courtesy for fellow citizens transforms the city into a "no man's land", where the law of the jungle prevails.



*"It is the community itself that doesn't show respect. People are too much in a hurry, they are frantic, pushing and shoving. They are the ones to blame."*

Negative perceptions about the conventional bus system occur in all the areas assessed. In the respondents' experience, **there is no positive aspect using a conventional bus**, but despite the bad assessment, they just adapt to the situation, since they depend on public transportation and there are very few, if any, alternatives.



*Public transport is crappy, excuse my language, anyway you look at it."*



*I take the bus, but I'm always afraid. I take it because I need to."*

As mentioned, delays and tardiness make for an unreliable system and force the women to organize their time around these long waits. The reduced frequency of buses running at night and on weekends limits their chances of access to night work and to leisure and cultural activities.



*"It's rare to see a bus on the weekends, and at night, there are very few after 8pm."*



*[We need] to have more buses running, especially at the end of the day and over the weekends. We are human beings too, it's not just work all the time. There are things to do over the weekend, so they really need to put more buses on the streets."*

Women have a strong perception of the need to have adequate maintenance of the roadways used by the buses and how this affects their comfort and safety during the trip.



*The surface is full of potholes. When the bus gets into a big one, it goes "Pow!". Sitting in the back, you feel your whole body jerking."*

They are also aware that the lack of dedicated bus lanes greatly influences the duration of the trip, since bus riders are subject to the city's traffic jams. There are frequent stories of people who prefer to get off the bus and complete their trip walking.



*Some people get off the bus and continue to walk over the bridge; even with children, bags, and other things, they get there before the bus."*

Of all the aspects related to safety and mobility that are dealt with here, **bus stops, especially those in the outskirts, are the places respondents fear the most.** This is where they feel most vulnerable and fearful. Bus stops are usually located in remote places where there are not many people around or nearby commercial activities. In the women's minds, they seem to encourage the practice of violent acts against women, especially rape. The feeling of fear is even greater due to the lack of information on waiting times, the low reliability of the system, and the absence of adequate infrastructure. When they are alone at these stops, waiting for the bus, women feel vulnerable, at the mercy of violent criminals, scared of any movement around them. Then any male becomes a threat.



*We already feel insecure during the day, but at night, if we pass a man on the street, it's really scary! We are terrified! Because he can drag us to a place nearby, he can stop in his motorcycle or car, nobody is going to see what happens."*



*This is because the stops are in very deserted places where you do not see a lot of people. They always put these stops [where there is] no movement of cars or people. **If anything happens to go by, you immediately turn your head to see what it is.***

The stops are uncomfortable and unprotected. There are no places to sit, the roofs are falling apart, and the floors are full of holes. Also they are dirty, there's not enough lighting, and there's no information about itineraries and schedules. As the women see it, these conditions reflect the neglect public transport users are subjected to.



*Since I keep my baby with me and in my bus stop there's nothing, no seat, nothing, I have to stand up there."*



***Where I live there's two stops, but they are worthless. When it rains, it's better to be out in the rain. When it's sunny, better stay in the sun.***

Faced with such a low-rated bus system, the use of vans and motorcycle taxis is an alternative to using the conventional bus or to unsafe walking trips through the city. This option fills the void left by the low frequency of public transport on weekends and avoids the overcrowding and discomfort experienced in the BRT system's feeder buses.



*Where I live, the buses took too long to arrive, so a lot of people switched to the vans. It's a lot less stressful, because you know that at least you get a seat."*

The statements made by the respondents claim that harassment has become an integral part of the experience in public transportation. This type of violence against women is so prevalent that it is already perceived as an inevitable part of the public transport experience. Women of all ages are subject to harassment.

For most respondents, harassment is an expression of the male chauvinist culture and the resulting general lack of respect for women, but they do not necessarily think of harassment as a violation of their autonomy over their own bodies.



***Most men see a woman as a piece of meat, that's the truth. And harassment, this has already happened to me inside a bus.***

This type of violence most often happens during the chaos situation when people are boarding the buses, and during the trip itself, when the buses are overcrowded. Inside the stations and terminals, conditions are not so favorable for the perpetrator, who is then more exposed and visible to other people. Also, in the stations, they are more at risk of being reported by the women.





*I think it's easier for them in a crowded bus, because people are huddled together and nobody is going to be looking, while in the stations everything is more visible. More people will be paying attention, there are security guards at the station, you can scream and raise hell. Inside the bus, everything is kind of muffled, so they take advantage."*

Despite the outrage the perpetrator creates, women do not usually and openly confront the man because they are afraid of exposing themselves publicly. Besides, there is always room for doubt as to whether or not it is harassment, especially when there are large crowds of people. There's also the weight of a possible claim that it is the woman's fault because of the way she dresses.



*It even happened to me. I was seated and the man was standing, so I don't know if he was rubbing against me or he was wobbling with the movement of the bus, right? **Everybody knows how the system works: Was he really rubbing?"***



*They don't say anything, they just look at you in that awful way, you feel disgusted, and then we think it's the way we are dressed. They say it's our fault, it's the way we dress."*

According to the women, the other male passengers, drivers, and fare collectors also do not stop or at least embarrass the offenders. Apparently, it's the older women who tend to react more strongly: They accuse and confront the man, especially when young women and girls are involved.



*I was inside the bus and told the driver 'Stop this bus right now because there's a sex maniac right here! Will you open the door?' When the driver finally opened the door, I said 'Get off the bus, you are disgusting!' and I pushed the guy out. Then I told the driver to drive on. Imagine having a maniac like that... He was rubbing himself against a very young girl, nine years old — that was disgusting and unbelievable!"*

Although the subway has women-only carriages, most of the respondents didn't know about that. Some liked the idea in principle, but doubted it would be effective, as they believe that men would soon start invading and riding on the exclusive cars too.

In this scenario of so much suffering and violence, the use of a bicycle is the only topic that positively engages the women. You could tell their excitement by the way their facial expressions changed during the interviews. They smiled when talking about bicycles.

Most respondents said they knew how to ride a bicycle, and some actually used a bicycle routinely to take children to school, go shopping, or simply for pleasure. They associate cycling with a feeling of joy, even though they are also concerned with road safety.



*I use the bicycle to go to Carrefour, because it has that little basket in front. I love riding my bicycle, and it's good exercise too."*

The bicycle is seen as great transport option for short trips. It is highly valued for the benefits it offers, according to the women: faster travel; good for your health; creates no pollution; saves on transport costs; reduces dependency on public transport; and frees women from bus waiting lines and harassment at public transport. No significant negative aspects were mentioned with the use of the bicycle itself, except that it is considered less useful for longer trips.

Urban violence, traffic violence – drivers who disregard pedestrians and cyclists – and the absence of cycling infrastructure are seen as the main obstacles to women using the bicycle. They recognize they are vulnerable when cycling and that they pay more attention when doing so. They have many stories about collisions involving friends and acquaintances.



*I use the bike, but I'm always afraid. I know I must be careful, as I've been riding since I was a child. I think there should be lanes just for bicycles."*



*I used it to go to work, but then I saw a man hitting a woman on a bicycle and running over her head, so after that I never wanted to ride a bike in the street."*

But even if there was a large cycling network, women doubt they would be respected, because of the way car drivers behave.



*There should be paths or lanes just for bikes, but even if there were, they wouldn't respect them because they respect nothing. They actually enjoy driving so close to bikers and pedestrians as to almost hit them."*

When discussing the issue of crime, it is interesting that the women fear the bicycle may be stolen, but that sexual violence is not mentioned as a risk factor in riding a bicycle. They feel that bikes give them more independence and allow them to do more trips around the city.



*I used to just take off on my bike. I would get to a place, lock it up, and was free to do whatever I wanted. I was sure that the bike would be there when I got back, and that I could leave whenever I wanted and not have to wait in fear at a bus stop."*

To close the work with the groups, respondents were asked to describe an ideal city where people lived happily.

It was surprising to see how difficult it was for them to respond to this question. This is perhaps because they lack the reference and experience to describe the city they wish for, as their focus is on the real issues they face, particularly violence.

To have a happier city, the absolute priority would be to have safe conditions which, in their view, could be reached by stepping up law enforcement activity.



*I think our group's motto should be "A Safer City", wouldn't you agree?"*



*Once you feel safe, then you'll be at ease to walk around with your children, let them play and go to school by themselves."*

It is very noticeable how the women stress their great difference in perception about the outskirts versus the city center and the reports of prejudice and racism they suffer for being poor and black. Recife, the capital, has its share of problems, but it is still considered a better city when compared to the rest of the Metropolitan Area. It has more opportunities for work, culture, and leisure; better road infrastructure; better-quality services; and a diversified commerce offer, among others.



*I see a big difference in Recife, especially compared to the place where I live. In Recife, you have better options for pharmacies, grocery stores, etc. It's so good. If I could, I would live there."*



*If you go to a slum, you find that people are for each other, they support and care for the others. But if you go to Boa Viagem (a wealthy neighborhood in Recife) and someone sees you are wearing flip-flops, that's all it takes: They see a poor person in Boa Viagem. They look at you with distrust."*



*There is a whole lot of people unemployed and marginalized, most of them black and poor. They need everything: food, healthcare, love."*

At this point in the survey, politicians are mentioned for the first time, but in a negative way — how they neglect the city and the poor, and engage in corruption.



*They do not think of us. But do you know why? Because they do not walk our paths. I think they don't worry about us just because they have cars."*



*They neglect so many projects. This is what they say about the BRT — the only reason they did it was because they know they would profit from it, they could give 20% and make 80% in profits. But they should have done more. There are stations they never completed, and now they are just there, totally abandoned."*

A happier city has better public education services. Children play without fear in its streets and squares, and safety is enhanced because the stores remain open until late. Public transport has priority over private cars, and bus service is more frequent, especially on weekends, ensuring that people have the desired access they want to leisure and cultural activities. Child education is offered, especially public day care centers. There is cycling infrastructure, space for leisure activities, clean and well-lit sidewalks, and better overall living conditions for women, children, and seniors.



*If at least they had one more school, a day care, a place for leisure activities... Children need a movie theater."*



*I think we need a more densely occupied city and neighborhood. We need stores open till late. We need to start with more safety and respect, then keep adding everything else and keep doing something toward improving our conditions."*



*Have an exclusive lane just for buses and also bikes."*



*Have more buses running and reduce the time between them to 10 to 15 minutes."*



*If we had more squares or parks, if we had bike lanes, if we had more shops open as our friend here said, everything would be better, right?"*

The ideal city guarantees people's access to culture, leisure, and cultural assets.

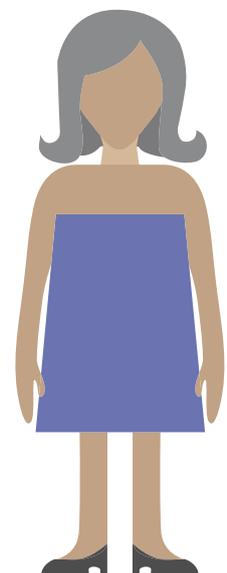


*There are things we can enjoy, take advantage of, but it is all so expensive. Amusement parks are expensive for both adults and children. That place where they show movies, the cinema, that's also expensive for poor people like us. There's so much that we could enjoy, but we cannot afford it. We don't go because we can't. Yes, there's the beach, everybody can go to the beach. But I'm talking about areas inside Recife. I'm talking about going past some places and you just glimpse inside through the glass, but you can't go in, you can't afford it. It is leisure, it is entertainment, that's what I'm talking about. Everybody goes to the beach, myself included, but we go there to sell stuff."*

In a happy city, citizens are conscious of the collective interest and public property. They know they are jointly responsible for common assets, they need to look after public spaces in all their dimensions, and they respect one another.



*I have a habit of saying the solution for everything in the world is respect. Think about it, if everybody respected each other, things would flow more easily, there would be no fights in the traffic, there would be no robbery, and women would be safer. If men respected women, they would be much safer, since women are the topic here. Women would feel much better walking around in the city."*



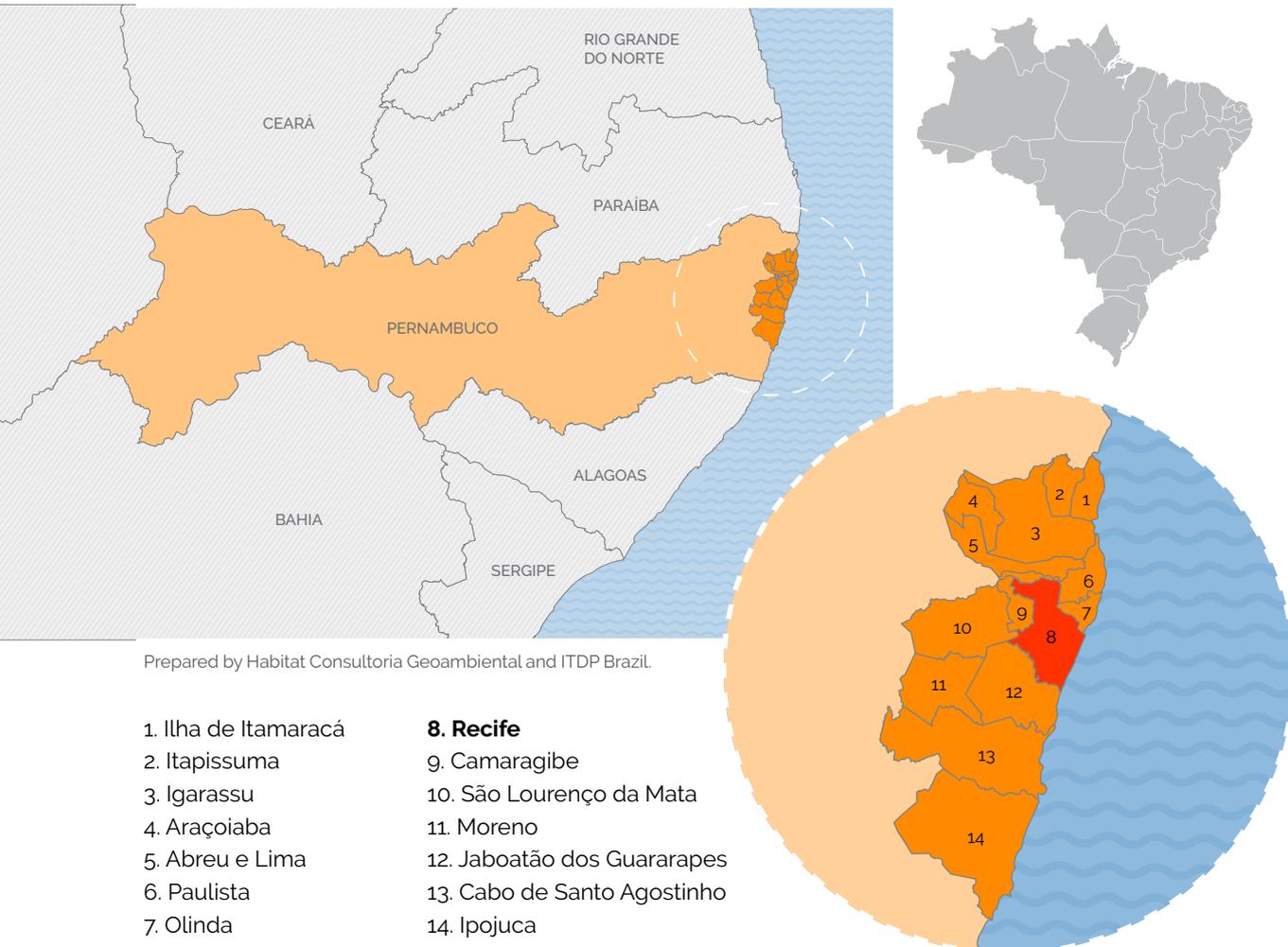
# 3

## AN OVERVIEW OF RECIFE AND ITS METROPOLITAN AREA

Recife, the capital of the state of Pernambuco, was founded in 1537 and became the center of the sugar-based economy of Brazil. Its development was strongly marked by the exploitation of black enslaved Africans. Throughout the country, slavery left deep wounds that are now reflected in racial, class, and gender inequalities.

The Recife Metropolitan Area (RMR) includes 14 municipalities and is the third-densest in Brazil, according to 2010 census data (IBGE). More than half the population of Recife and RMR is made up of women, 60% of whom are black.

### Recife and Recife Metropolitan Area



Approximately half of the heads of households earning up to two minimum monthly wages<sup>14</sup> (around R\$1,000 in 2010) were women.

#### Population of Recife and Its Metropolitan Area

	Total population	% of women	% of black population	% of black women (relative to total number of women)	% of women heads of households earning up to 2 minimum wages (relative to total population of heads of households earning up to 2 minimum wages)
RMR	3,690,547	55%	61%	59%	50%
Recife	1,537,704	54%	57%	55%	46%

Prepared by ITDP Brazil from IBGE data for 2010.

The impact of lack of infrastructure and quality of transport services when considering gender issues can be understood from the conclusions of various surveys.

The study [Sistema Via Livre de BRT: Avaliação de resultados e recomendações de melhorias](#) (BRT Free Lane System: Assessment of Results and Recommendations for Improvement)<sup>15</sup> by ITDP Brazil shows that from 2004 to 2014 the number of vehicles grew 50% in Recife and close to 70% in its Metropolitan Area, per Denatran data. In the same period, data from PNAD (National Survey by Household Sampling) of IBGE (Brazilian Institute of Geography and Statistics) show a 32% increase in the average duration of trips within the Recife Metropolitan Area, from 31.4 to 41 minutes. Data for 2016 from the Moovit<sup>16</sup> app shows that in comparison with 10 other major metropolitan areas in the country, the RMR had the longest total daily trip duration (96 minutes) and the largest percentage (34%) of users who spend more than two hours in their daily public transport trips. This situation is of great concern when we consider that Recife is the fifth-smallest capital in Brazil in terms of territorial extension.

14 For this study, ITDP Brazil considered the group of women heads of households with an income of up to two minimum wages, thus ensuring the alignment between the analyses and measurements of the indicators with the level of comfort of the women interviewed in the focus groups research.

15 ITDP - INSTITUTO DE POLÍTICAS DE TRANSPORTE E DESENVOLVIMENTO. [Sistema Via Livre de BRT: Avaliação de resultados e recomendações de melhorias](#). ITDP Brasil, 2017.

16 The Moovit data considers only displacements by public transport.

According to the [Atlas da Vulnerabilidade Social](#) (Social Vulnerability Atlas)<sup>17</sup> from IPEA, within the Recife Metropolitan Area, the percentage of black women who live in urban households with an income of less than a half minimum wage and who would take more than one hour to get to work in 2015 was approximately 16%. For the city of Recife, this percentage was 11%.

Brazilian women interviewed in ActionAid's survey *Linha de Base* (Baseline) stated that transport was the worst public service among all the services reviewed (public lighting, law enforcement, education, and transport). The least favorable opinions on public transport were held by women from Recife and Cabo de Santo Agostinho, another metropolitan area municipality.<sup>18</sup>

The relationship between socioeconomic inequalities and the issues concerning gender inequality in the division of labor influences the way men and women move around according to their social class. High-income women show a trip pattern that is more similar to that of high-income men, as they do not face economic limitations that restrict the modes of transportation used and the number of trips. On the other hand, the travel pattern of low-income women is more similar to that of low-income men than to that of high-income women. The lower-income people have fewer choices regarding the mode of transportation that they will use for the necessary trips, and they may not always be able to do all their desired trips.

**Walking and public transport are the most important travel modes used by women in developing cities, especially for lower-income women.** In general, they are also the last group to get access to modes of transportation that are more expensive and that indicate higher social status, such as the automobile.<sup>19</sup>

The Origin and Destination Survey conducted in 2016 in Recife<sup>20</sup> shows that 63% of women's trips for educational purposes were made on foot or by public transport, while 27% were by private car. When the aim of the trip was getting to work, trips on foot and by public transport accounted for close to 65% of the total, compared to almost 30% made by private car.

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17 IPEA - INSTITUTO DE PESQUISA ECONÔMICA APLICADA. [Atlas da Vulnerabilidade Social](#). IPEA 2017.

18 ACTIONAID. [Linha de Base Campanha Cidades Seguras para as Mulheres](#). ActionAid, 2014.

19 KUNIEDA, Mika; GAUTHIER, Aimée. Gender and Urban Transport: Smart and Affordable - Sustainable Transport: A Sourcebook for Policy-makers in Developing Cities. Eschborn. GTZ, 2007.

20 RECIFE. Prefeitura da Cidade do Recife. Instituto da Cidade Pelópidas Silveira - ICPS. [Pesquisa Origem-Destino Recife](#) - Relatório Executivo (versão preliminar). 2016.

However, one of the limitations in analyzing women's travel patterns in Recife, from the 2016 Origin and Destination Survey is the lack of data about trips made for reasons other than work and study and the absence of gender analysis disaggregated by income and mode of transportation. For example, in São Paulo, the gender and class analysis of the Origin and Destination Survey shows that 13% of the trips made by women are in cars, and of those, 45% are by higher-income women and only 3% by lower-income ones. On the other hand, 74% of the daily trips made by women are on public transport or walking, while among lower-income women, 50% of the trips were made by walking and 28% by bus. Among more affluent women, only 16% of the trips were made by walking.<sup>21</sup>

The case of São Paulo is proof that choices made toward a model of mobility that favors the use of private car support a travel pattern that benefits especially men and more affluent women, thus contributing to gender and class inequalities. It also highlights the need to produce data disaggregated by gender and income in order to ensure a better assessment of women's travel patterns.

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<sup>21</sup> SÃO PAULO. Prefeitura de São Paulo. Secretaria Municipal de Desenvolvimento Urbano. [A mobilidade das mulheres na cidade de São Paulo](#). 2016.

### 3.1. WALKING

As was reported during the development of the urban mobility plan for Recife that is currently being drafted, the city's sidewalks are in very serious disrepair. Sidewalks are not wide enough for the movement of pedestrians, curb ramps are not adequately lowered, surfaces are irregular, and there are obstacles to the movement of people, for example. Many city streets do not have proper lighting for pedestrians, who are then forced to walk through poorly lit areas and run the risk of being the victim of a traffic accident or urban violence.

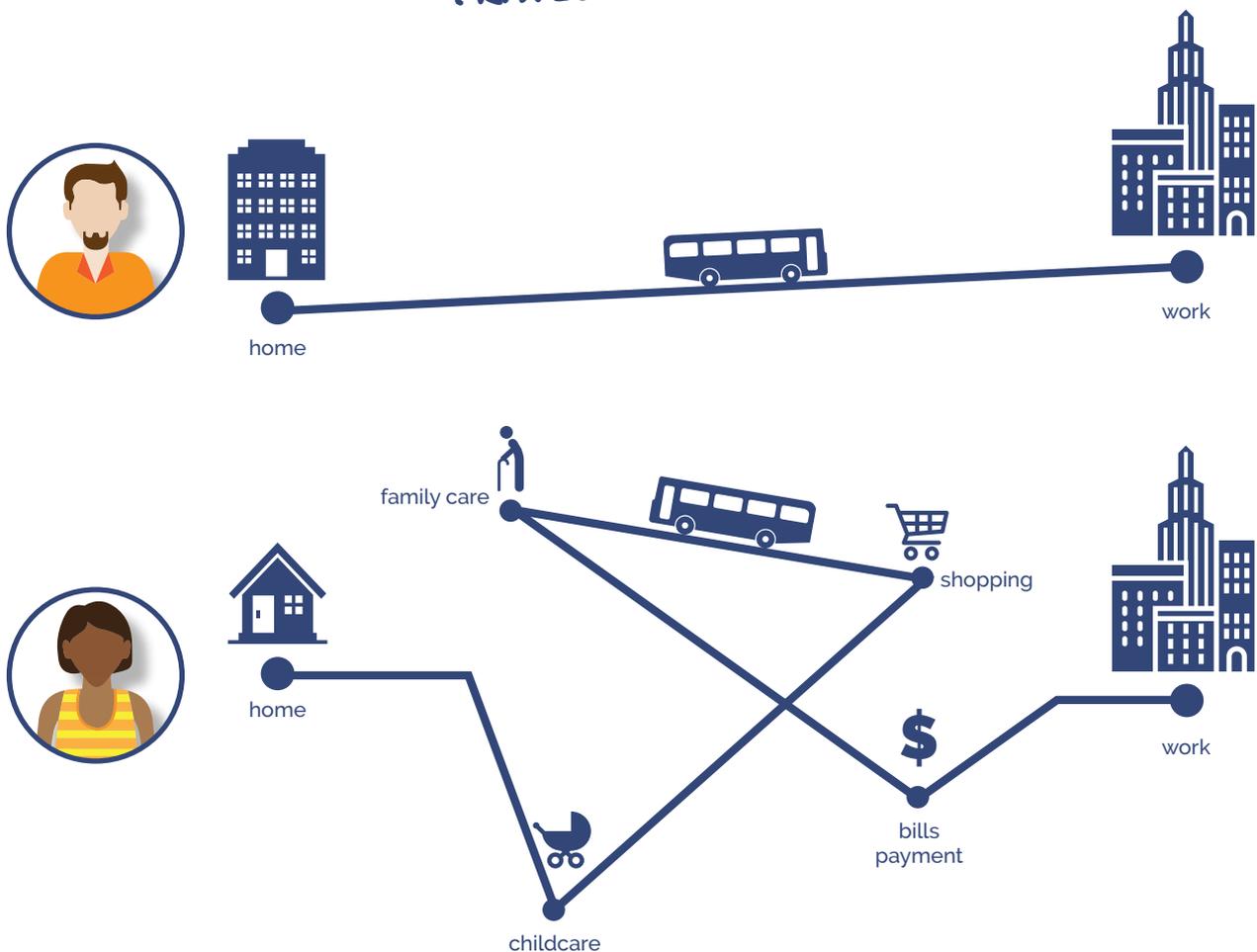
Walking becomes even more challenging in low-income neighborhoods, where there is no proper road infrastructure, and in the elevated parts of the city, which can only be accessed by staircases.

ITDP Brazil focus groups' research showed that for women, daily walking is cloaked in fear and trepidation, caused mainly by the low number of people on the streets. This is the result of an urban development model that does not promote diversity and mixed land use, both essential to encourage people to walk. In general, jobs, commerce, and service activities are concentrated downtown, while other neighborhoods become primarily residential areas.

## 3.2 MOBILITY IN THE PUBLIC TRANSPORT NETWORK

Public transport is regarded as a benefit for all people, but from a gender perspective, transport is one of the most critical basic services.<sup>23</sup> Systems are planned to cover two-way commuting (periphery-downtown), especially at peak times. They do not meet all the interests of women, who generally make chained trips at different times of the day.

### TRAVEL PATTERNS



Prepared by ITDP Brazil

The conventional bus system is subject to the city's traffic — and traffic jams. According to the study [Sistema Via Livre de BRT: Avaliação de resultados e recomendações de melhorias](#) (BRT Free Lane System: Assessment of Results and Recommendations for Improvement) conducted by ITDP Brazil,<sup>24</sup> BRT implementation resulted in a 20% reduction in the duration of trips made by users, but this gain in time could be greater if all the all the routes used dedicated lanes reserved for BRT vehicles.

23 KUNIEDA, Mika; GAUTHIER, Aimée. Gender and Urban Transport: Smart and Affordable - Sustainable Transport: A Sourcebook for Policy-makers in Developing Cities. Eschborn. GTZ, 2007.

Also according to the ITDP study, surveys conducted with system users showed that women use the BRT less to reach their workplace and more for other reasons. Women seem to recognize the qualities of BRT when compared to the conventional bus system,<sup>25</sup> but they rate it in a less positive light than men do, especially when considering aspects such as overcrowding, access to the stations, transfer to feeder services, and service availability on weekends.

#### **Differences in Perception by Gender**

- Travel motivation: Women use the BRT for additional reasons besides access to the workplace, including trips for educational purposes, shopping, access to services, visits, and leisure.
- Waiting time: 69% of the women reported waiting for the BRT for more than 10 minutes.
- Comparison with the previous system: In general, men judged all BRT aspects in a more positive manner than women did, with the most important differences being overcrowding, access to the stations, and transfers to feeder buses.

ITDP Brazil, 2017.

To monitor the evolution of population coverage by rapid transit systems, ITDP uses an indicator known as PNT (People Near Transit). PNT measures the percentage a city or metropolitan area population that lives within 1 km radius (a 15-minute walk) from stations of rapid transit systems such as subway, train, BRT, and LRV.<sup>26</sup>

In Recife Metropolitan Area, only 23% of the population lives up to 1 km from the rapid transit network. This percentage is lower for black women – 22% of them live in the coverage area – but higher (24%) for women who are heads of households with income of up to two minimum wages. Apparently there is an even distribution of the population in the station's catchment area when gender, race, and income aspects are considered. This pattern is not detected in other Brazilian metropolitan areas, where the coverage is significantly higher for affluent population groups.<sup>27</sup>

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<sup>24</sup> ITDP - INSTITUTO DE POLÍTICAS DE TRANSPORTE E DESENVOLVIMENTO. [Sistema Via Livre de BRT: Avaliação de resultados e recomendações de melhorias](#). ITDP Brasil, 2017.

<sup>25</sup> According to the focus group research conducted by ITDP Brazil.

<sup>26</sup> To measure PNT, sections of corridors that operate with mixed traffic are not considered.

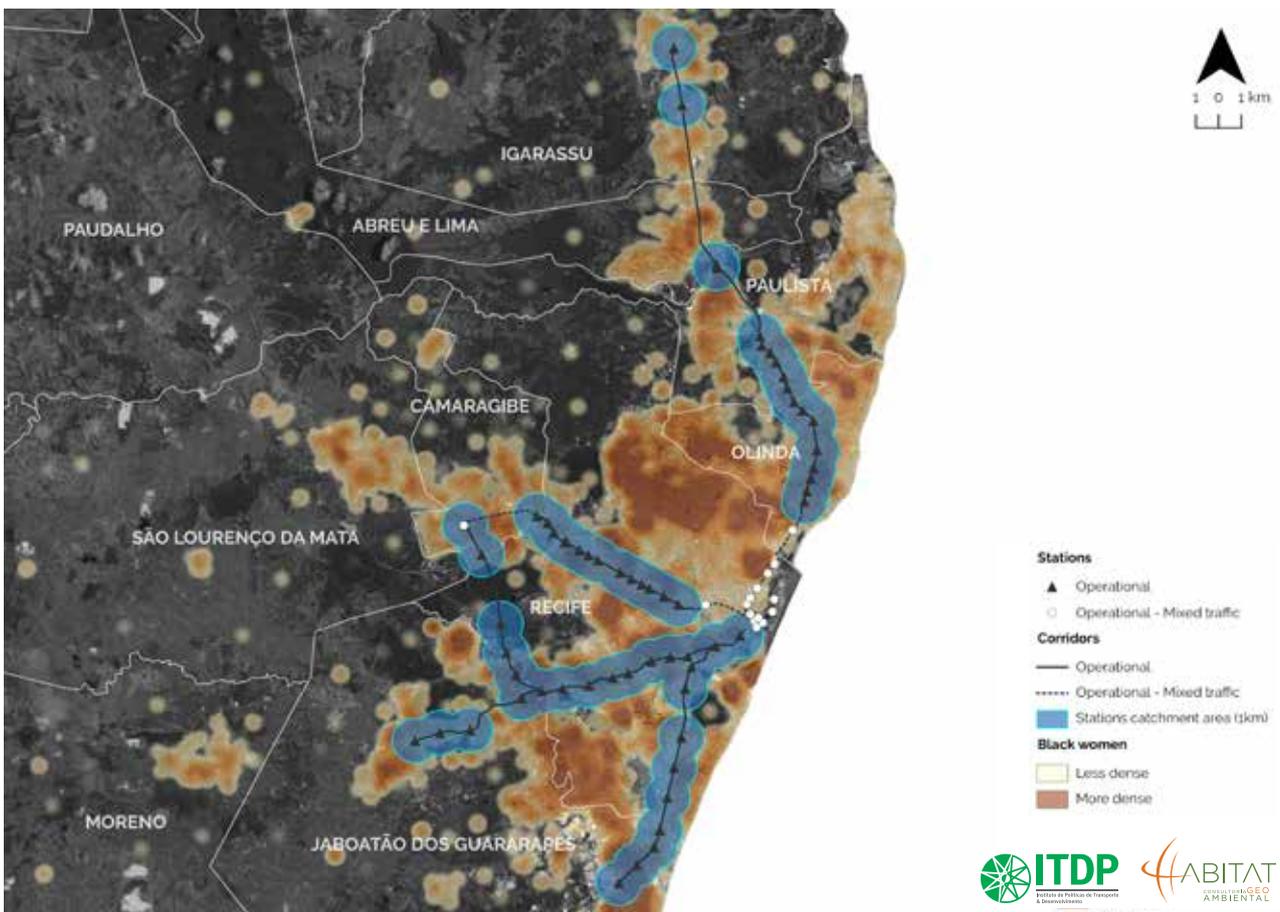
<sup>27</sup> ITDP. [Mobility as Equity: Low-Income People Near Transit](#). Sustainable Transport Magazine, No. 28. 2016

**PNT results for Recife Metropolitan Area**

Total population	Black women	Women heads of households making up to 2 minimum wages
23%	22%	24%

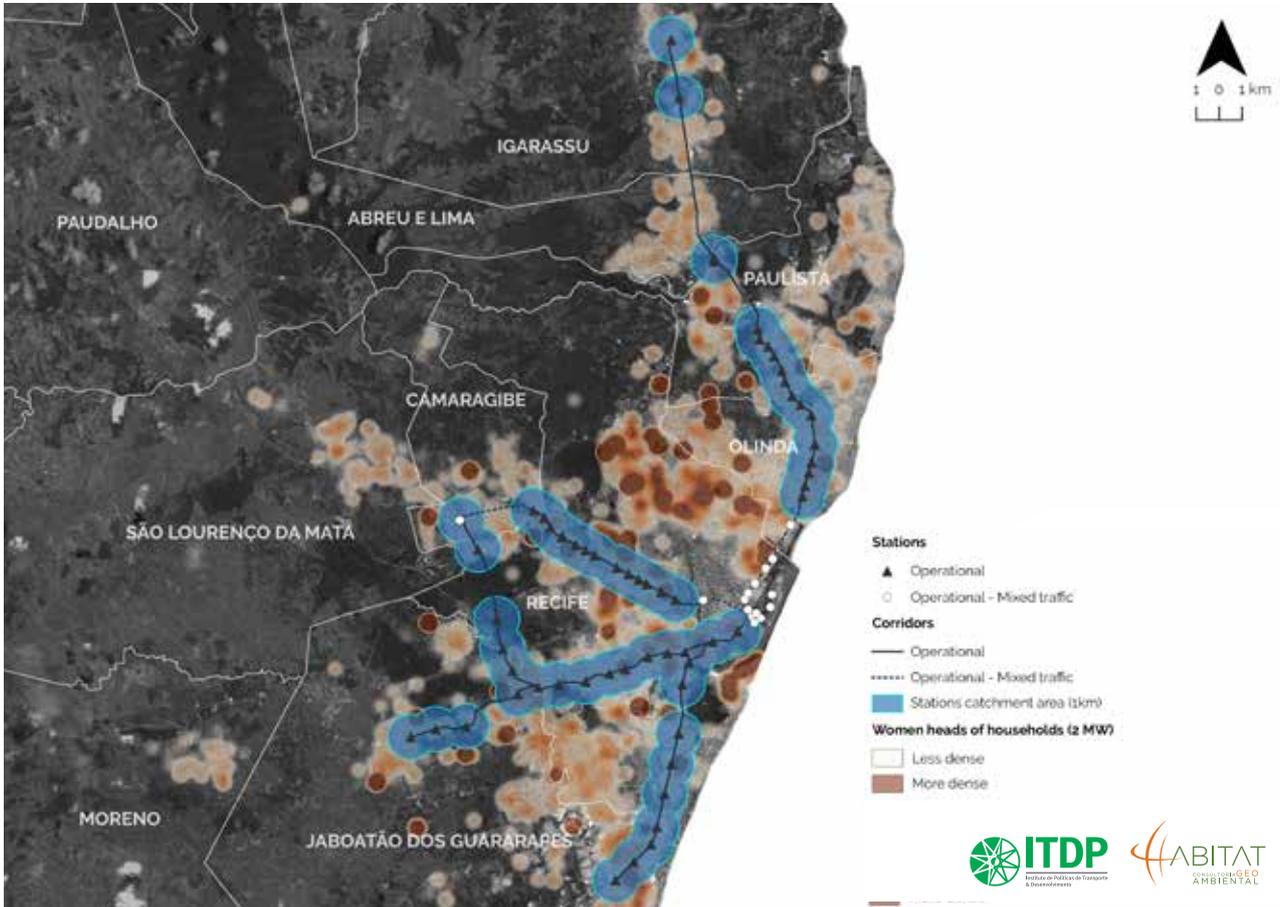
Prepared by ITDP Brazil. Data from IBGE and ITDP.

**Distribution of the black women population in relation to the rapid transit network in Recife Metropolitan Area**



Prepared by Habitat Consultoria Geoambiental and ITDP Brazil. Data from IBGE (2010) and ITDP.

**Distribution of the population of women heads of households making up to two minimum wage in relation to the rapid transit network in Recife Metropolitan Area**



Prepared by Habitat Consultoria Geoambiental and ITDP Brazil. Data from IBGE (2010) and ITDP.

**Total PNT and PNT by Income Bracket in Recife Metropolitan Area**

Total population	Population up to ½ minimum wage	Population between ½ and 1 minimum wage	Population between 1 and 3 minimum wages	Population above 3 minimum wages
23%	21%	24%	27%	22%

Prepared by ITDP Brazil. Data from IBGE and ITDP.

According to Maria Betânia Ávila and Verônica Ferreira,<sup>28</sup> the **“public transport situation most certainly contributes to deplete women’s physical capacity and increase the exhaustion caused by excess of work.”** Confirming the importance of public transport to women’s lives, in their study with women in São Paulo and Recife, 88% of respondents said that a quality transport system would help them considerably in their daily work routine.

28 ÁVILA, Maria Betânia; FERREIRA, Verônica. Trabalho produtivo e reprodutivo no cotidiano das mulheres brasileiras. In: ÁVILA, Maria Betânia; FERREIRA, Verônica (Org.) [Trabalho remunerado e trabalho doméstico no cotidiano das mulheres](#). Recife. SOS Corpo, 2014.

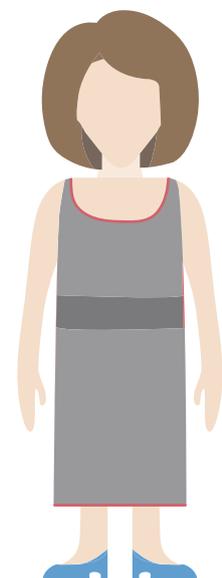
### 3.3. CYCLING

Considering a scenario of contrasting mobility patterns, intensified by the increased number of vehicles per population, a high daily total travel time, and a situation of income inequality, it is not surprising that bicycles have become an important mode of transport for people in Recife and its Metropolitan Area.

[Cyclist counts on urban roads conducted in 2015 by Ameciclo](#) (Recife Metropolitan Cyclists Association) recorded 266 cyclists per hour in certain locations in the capital<sup>29</sup>. However, from a total of approximately 8,900 bike users recorded in the 2015 counts, only close to 7% were women.

According to the [Plano Diretor Cicloviário da Região Metropolitana do Recife - PDC](#) (Recife Metropolitan Area Cycling Master Plan),<sup>31</sup> 58% of bikers in the Metropolitan Area use the bicycle to get to work and 15% for shopping. The bicycle is also used for leisure and to access educational and health services. Fifty percent of the cyclists mention travel speed as the main reason they choose the bicycle, while 25% of respondents gave a budget reason. Seventy-six percent of bicycle trips are made without transfers to/from other modes of transport.

Recife currently has approximately 44 kilometers of cycling infrastructure. To follow how the coverage of the population by the cycling infrastructure has been evolving, ITDP uses an indicator of proximity to the cycling infrastructure, or PNB (People Near Bike Lanes), which measures the percentage of the population in a city or metropolitan area that lives within a 300-meter radius of such infrastructure. In Recife, 16% of the population lives within this area of coverage. When we consider the distribution of the population of black women and the population of women who are heads of households earning up to two minimum wages, the indicator drops three percentage points and the coverage is only 13%.



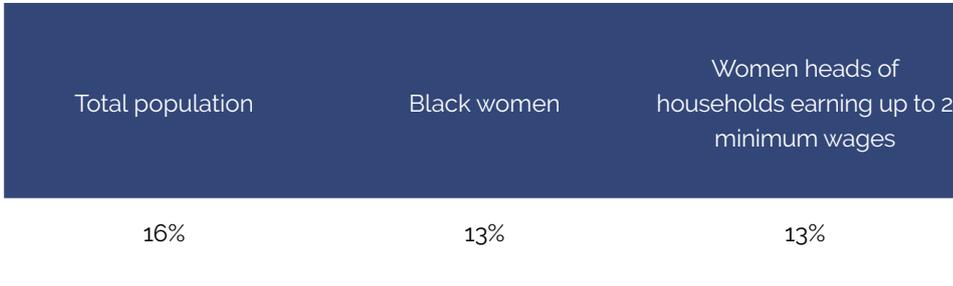
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<sup>29</sup> While the bicycle is not generally adopted as a means of transportation for metropolitan trips, it comes up as a possible option in the context of the Recife Metropolitan Area, as this is a relatively smaller area with moderate distances among its main municipalities.

<sup>30</sup> AMECICLO. [Contagem de Ciclistas](#). 2015.

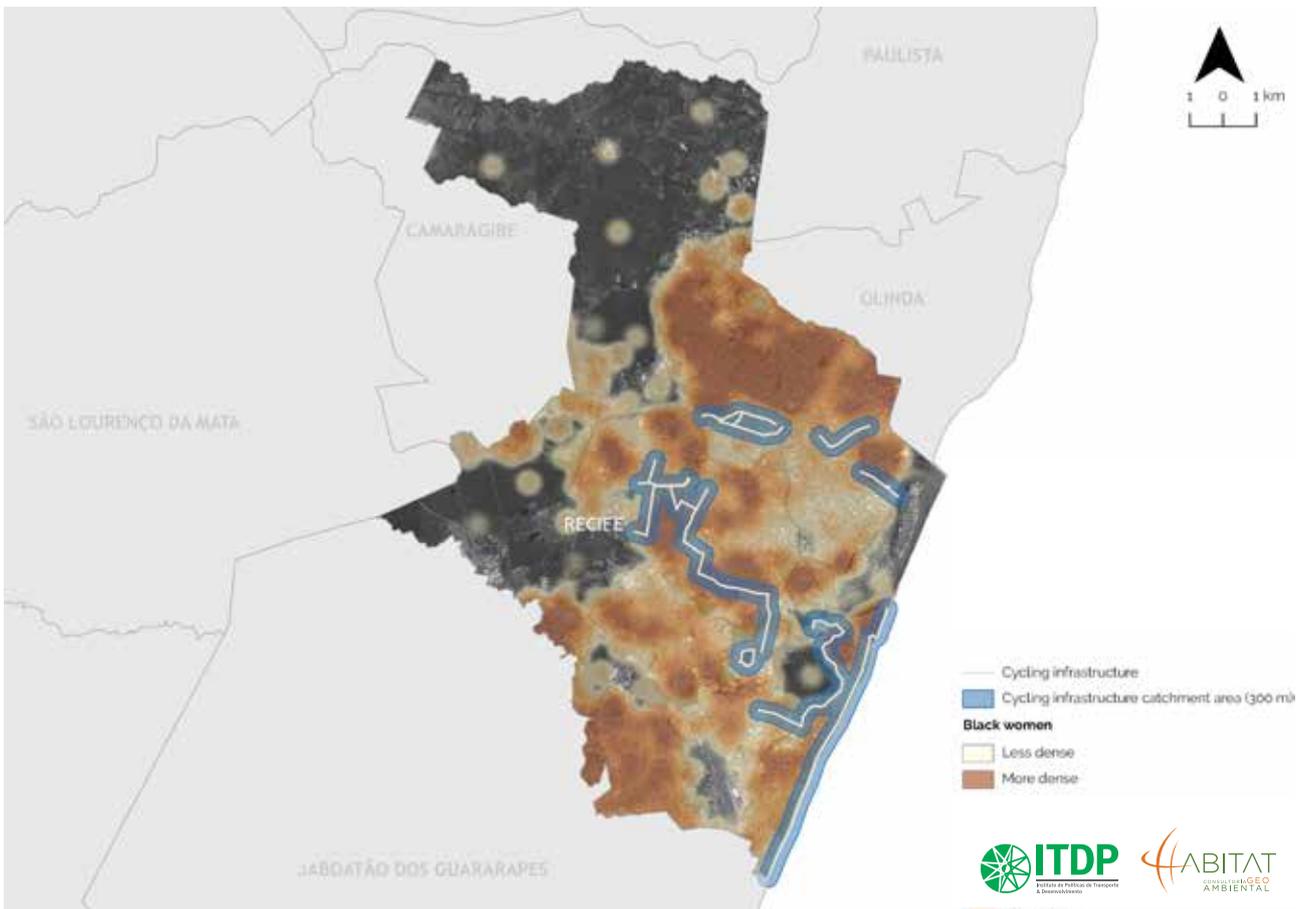
<sup>31</sup> PERNAMBUCO. Secretaria das Cidades. [Plano Diretor Cicloviário da Região Metropolitana do Recife](#). 2014.

**PNB results for Recife**



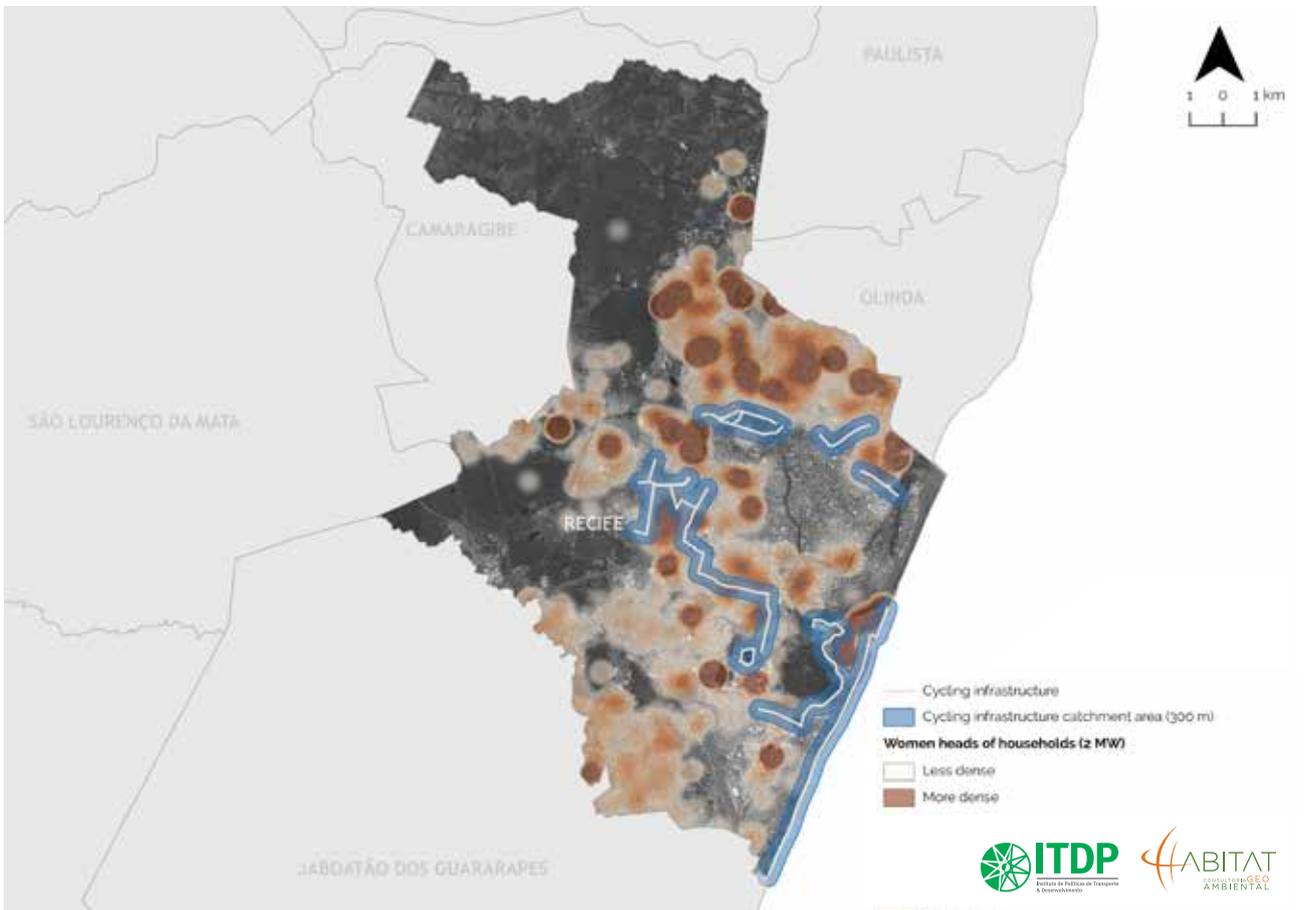
Prepared by ITDP Brazil with data from IBGE and ITDP.

**Distribution of the black women population relative to the cycling infrastructure in Recife**



Prepared by Habitat Consultoria Geoambiental and ITDP Brazil. Data from IBGE (2010) and ITDP

**Distribution of the population of women heads of households earning up to two minimum wages in relation to the cycling infrastructure in Recife**



Prepared by Habitat Consultoria Geoambiental and ITDP Brazil. Data from IBGE (2010) and ITDP

After assessing the coverage provided by the cycling infrastructure for different income brackets, we observed that the percentage of people with income above three minimum wages who live near the infrastructure is three times higher than the percentage of people earning up to half a minimum wage. This distribution shows that Recife's cycling infrastructure currently provides a better service to higher-income neighborhoods, even though close to 77% of cyclists in Recife earned up to two minimum wages, as observed in the 2015 [Cyclist Profile](#) survey.<sup>32</sup>

32 TRANSPORTE ATIVO. [Pesquisa Perfil do Ciclista](#). 2015.

### Total PNB and PNB by Income Bracket in Recife

Total population	Population up to ½ minimum wage	Population between ½ and 1 minimum wage	Population between 1 and 1 minimum wage	Population between 1 and 1 minimum wage
16%	10%	13%	20%	32%

Prepared by ITDP Brazil with data from IBGE and ITDP.

The mere existence of cycling infrastructure cannot explain the increase in bicycle use by women,<sup>33</sup> but the women in the focus group research conducted by ITDP Brazil reported that the lack of an adequate cycling infrastructure is an obstacle to the use of bicycles on a daily basis. This view is based on the perception that traffic conditions are dangerous, especially for pedestrians. In Recife and its Metropolitan Area, more than half the deaths of women in traffic occur during trips on foot, bicycle, or bus.

### Percentage of women deaths in collisions and hits

	Metropolitan Area	Recife
% of deaths of women as pedestrians, cyclists, and bus riders relative to the total number of deaths of women in collisions and hits	47%	54%
% of deaths of women as motorcyclists and private car occupants relative to the total number of deaths of women in collisions and hits	38%	38%

Prepared by ITDP Brazil with data from SIM, Datasus 2015.

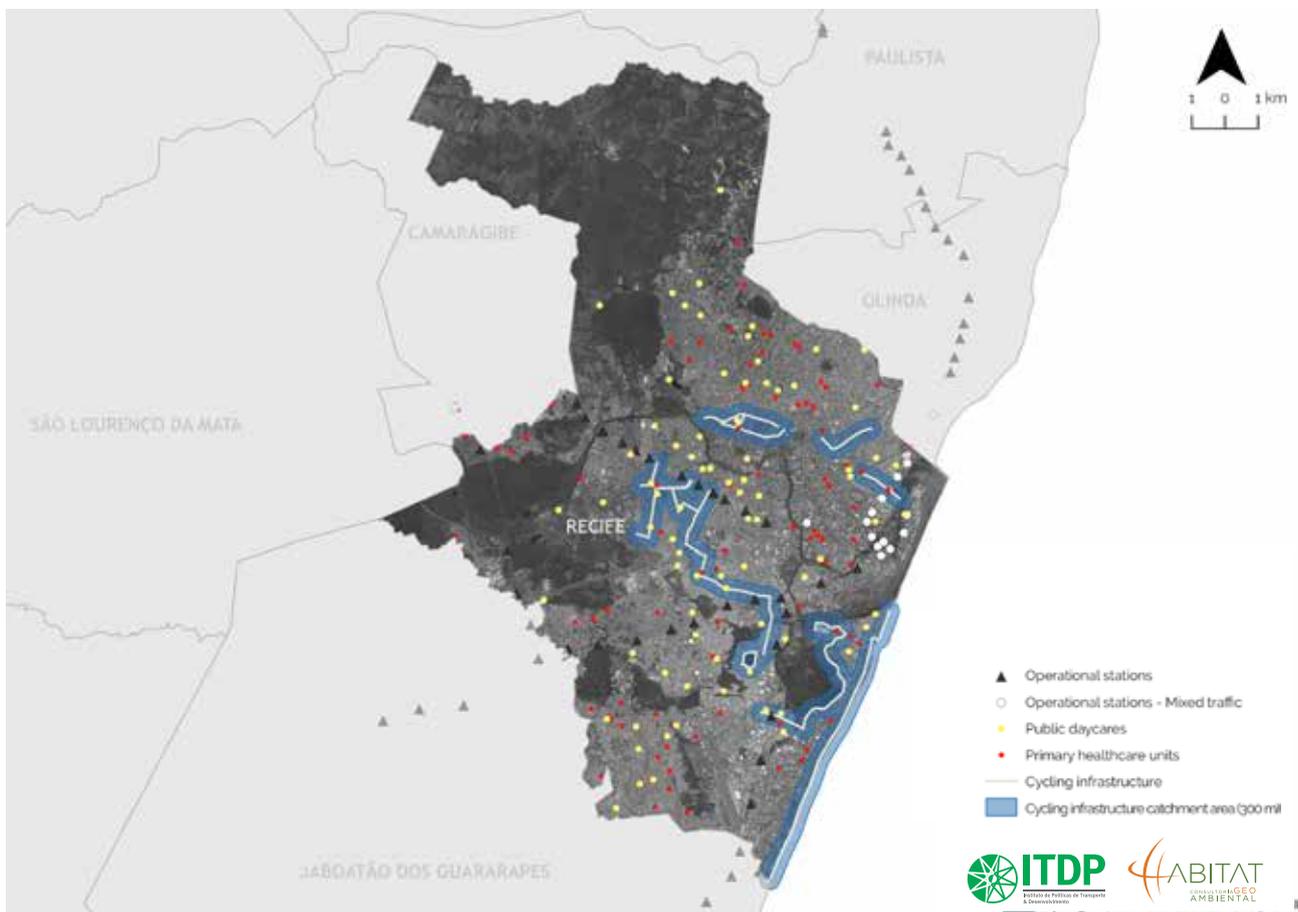
According to the [World Health Organization](#),<sup>34</sup> in 2013 Brazil had the third-highest number of traffic-related deaths in the world. Based on data from Datasus and IBGE, in 2015 Brazil recorded 19 traffic-related deaths per 100,000 inhabitants. In the same year, the number of deaths from traffic occurrences in Recife was about 37 per 100,000 inhabitants, almost twice the national rate.

33 LEMOS, Leticia; HARKOT, Marina; SANTORO, Paula; RAMOS, Isis Bernardo. Mulheres, por que não pedalam? [Por que há menos mulheres do que homens usando bicicleta em São Paulo, Brasil?](#) Revista Transporte y Territorio/16, 2017.

34 WHO – WORLD HEALTH ORGANIZATION. [Global Health Observatory data repository: Road traffic deaths data by country](#). 2013.

In the focus groups, it becomes clear that women recognize the bicycle as a vehicle. It could be the mode of transport chosen to perform daily tasks, such as taking kids to and from schools and day care, going to primary healthcare units, and shopping, among others. It is possible that bicycles could meet women's practical interests and needs too, making their lives easier and saving time on commutes. It could also serve as a complementary mode of transport for longer journeys. However, an analysis conducted by ITDP Brazil found that only 15% of public day care centers, 11% of primary healthcare units, and 19% of rapid transit stations are within 300 meters of the cycling infrastructure.

**Location of public day cares, primary healthcare units and rapid transit stations in relation to Recife's cycling infrastructure**

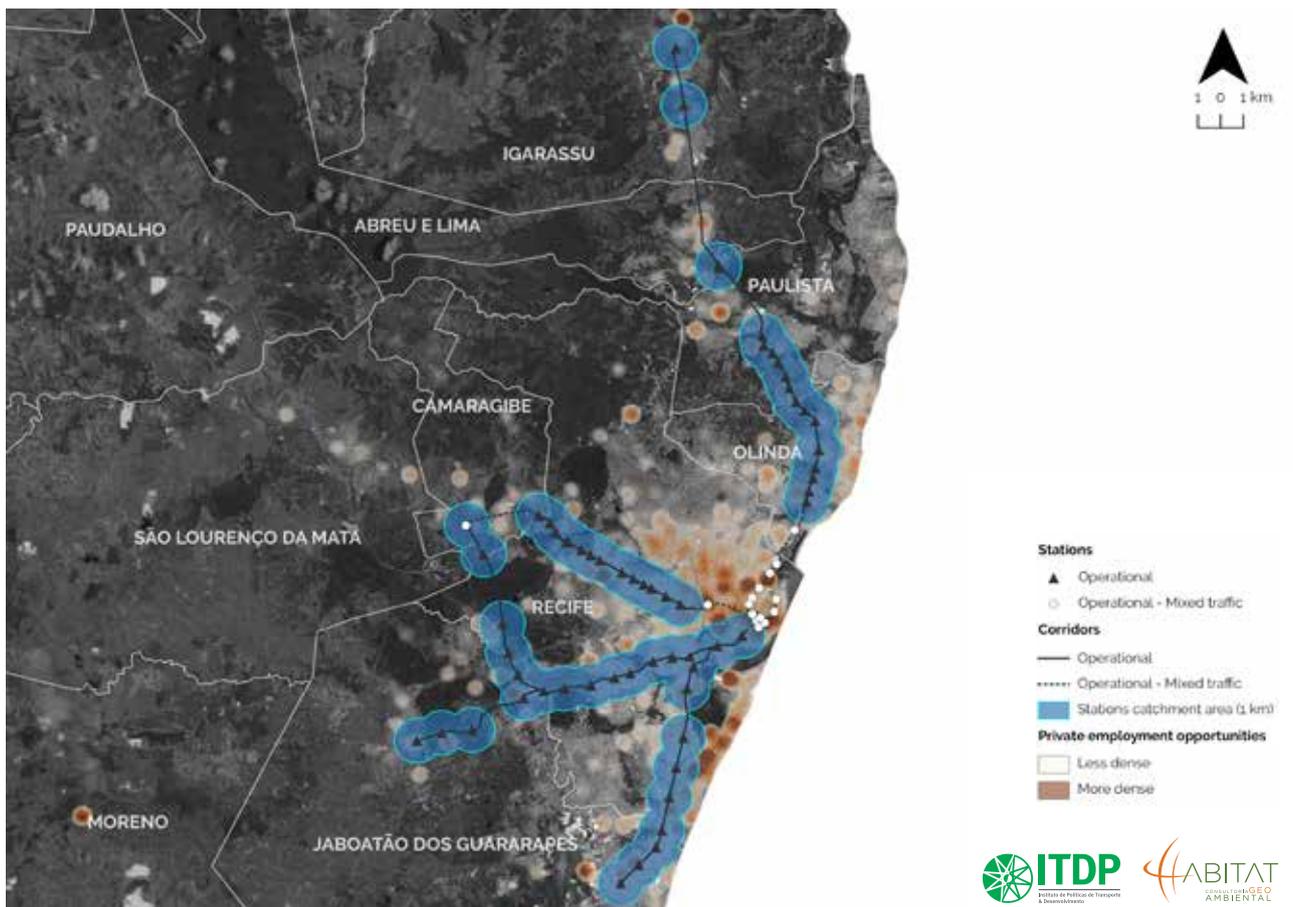


Prepared by Habitat Consultoria Geoambiental and ITDP Brazil with data from IBGE (2010) and ICPS.

### 3.4. OPPORTUNITIES IN THE RECIFE METROPOLITAN AREA

In the study *Sistema Via Livre de BRT: Avaliação de resultados e recomendações de melhorias* (BRT Free Lane System: Assessment of Results and Recommendations for Improvement)<sup>35</sup> from ITDP Brazil, the origin and destination data show the importance of the corridors in providing access to opportunities in Recife's downtown area to the Metropolitan Area population. Due to its length and dynamics, the northsouth corridor stands out for favoring more trips between different municipalities in the city. An analysis of job locations in relation to the rapid transit network shows a high concentration of opportunities, especially in Recife's downtown.

Distribution of private employment opportunities in Recife and its Metropolitan Area



Prepared by Habitat Consultoria Geoambiental and ITDP Brazil with data from RAIS (2015).

<sup>35</sup> ITDP - INSTITUTO DE POLÍTICAS DE TRANSPORTE E DESENVOLVIMENTO. *Sistema Via Livre de BRT: Avaliação de resultados e recomendações de melhorias*. ITDP Brasil, 2017.

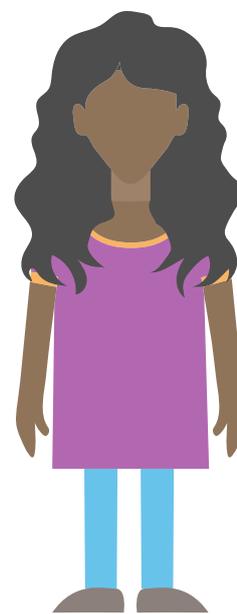
The concentration of jobs in the central areas reflects a historic lack of integrated mobility and urban land use and occupation policies that, encourage the development of other centralities and housing — especially social housing — next to the rapid transit network in downtown areas.

According to a Brazilian Federal Government report, [Por uma cultura de direitos humanos: Direito à moradia adequada](#) (Toward a Human Rights Culture: The Right to Adequate Housing)<sup>36</sup> women represent an important share of the population with no access to decent housing. Historically, they face serious discrimination regarding the security of their property ownership, thus compromising their personal and economic autonomy and putting them in a more vulnerable situation. The lack of adequate housing has a particular impact on the children. Basic infrastructure services associated with housing, such as drinking water and basic sanitation, are essential to guarantee the health of children and have a direct influence on their educational advancement and well-being, most notably for girls. Locating housing near the public transit network is essential to guarantee a higher possibility to access the jobs, services, healthcare, education, leisure, and cultural opportunities offered by the city.

It is not uncommon for women to end up choosing a more precarious or informal job to avoid long distances or long commuting time between home and their workplace, or the high financial and physical costs of commuting. Since public day care centers are limited, when women find work near their home, they can also perform other tasks related to childcare and home-keeping between shifts of their paid work.<sup>37</sup>

However, the absence of full-time day cares and schools does deter many women from joining the labor market.

[Brazilian educational legislation](#) (Lei de Diretrizes e Bases da Educação) provides that all children are entitled to free public education. Early-childhood education covers children from 0 to 5 years, but school enrollment is only mandatory for children over 4. Children from 0 to 3 years are entitled to day care, and ages 4 to 5, are given access to preschooling. However, only 19% of 0- to 3-year-olds have access to day care in Brazil, according to Betânia Ávila and Verônica Ferreira<sup>38</sup>. Besides that, the operation hours of the few existing public day cares are not consistent with working hours, nor do they accommodate commuting time. Not surprisingly, in Ávila and Ferreira's research, public day cares appear as the number-one priority set by the women to alleviate their work overload.



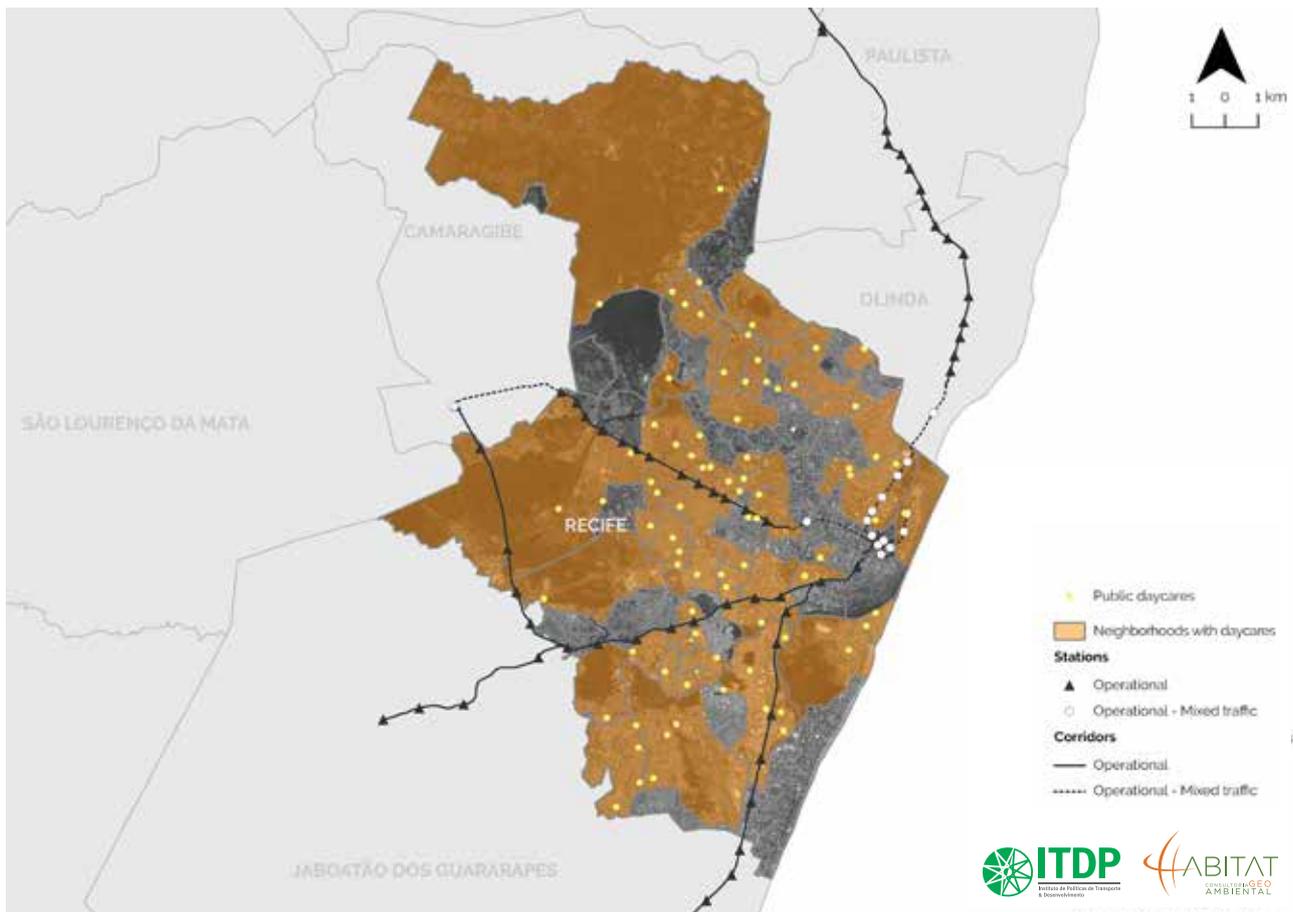
36 BRASIL. Governo Federal. Secretaria de Direitos Humanos da Presidência da República – SDH/PR. [Por uma cultura de direitos humanos: Direito à moradia adequada](#). Brasília, 2013.

37 ÁVILA, Maria Betânia; FERREIRA, Verônica. Trabalho produtivo e reprodutivo no cotidiano das mulheres brasileiras. In: ÁVILA, Maria Betânia; FERREIRA, Verônica (Org.) [Trabalho remunerado e trabalho doméstico no cotidiano das mulheres](#). Recife. SOS Corpo, 2014.

38 Ibid.

Using data from Recife's Secretariat of Education, ITDP Brazil found that 55% of the city neighborhoods do not have any public day care centers.

#### Recife neighborhoods with public day care facilities



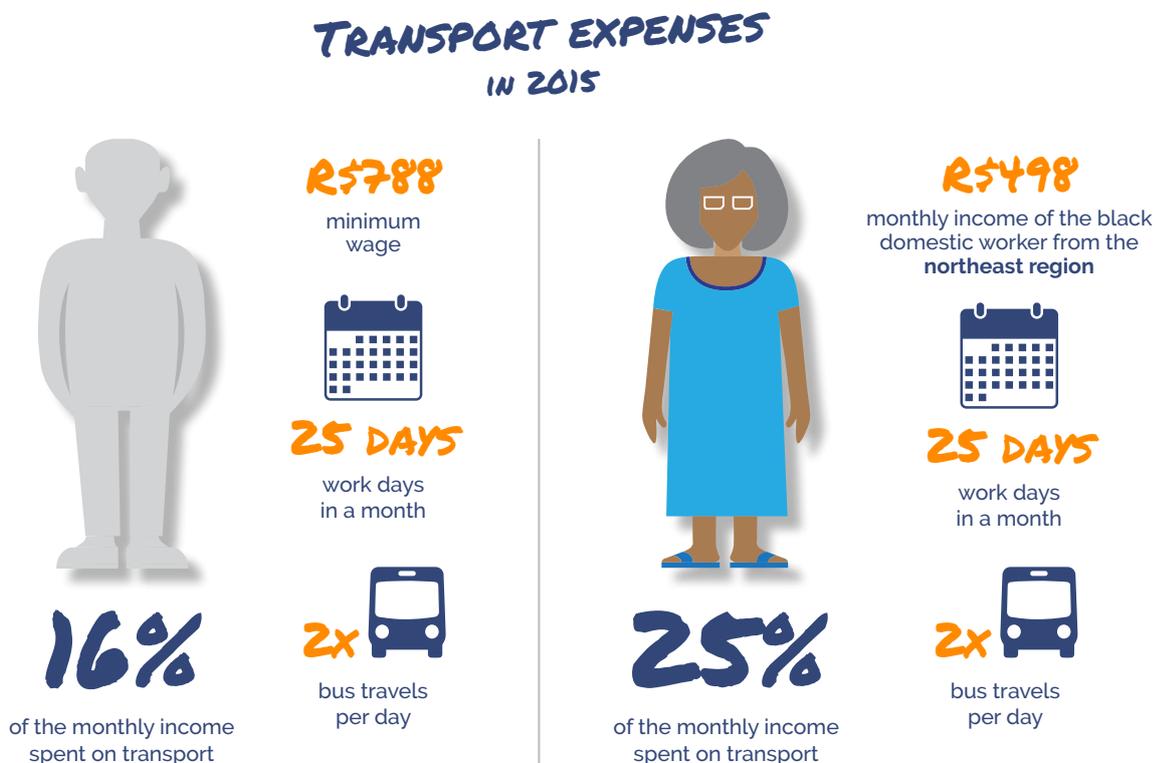
Prepared by Habitat Consultoria Geoambiental and ITDP Brazil, with data from Recife's Secretariat of Education, 2017.

Since most childcare functions are performed by women, trips to the child's education facility significantly impact women's mobility. Not all of them can afford the fees charged by private day cares or the financial and time costs involved in traveling to take children to facilities far from home or their workplace.

### 3.5. MOBILITY AND INCOME

In Recife Metropolitan Area, paid domestic work is still one of the main employment opportunities for black, low-income, and low-education women.<sup>39</sup> **In 2015, the average monthly income of black domestic workers from the northeast region of Brazil was R\$498.50, or equivalent to only 63% of a minimum wage.**<sup>40</sup> This inequality creates a real impact, since the transport costs may take up a significant part of their income.

In a simulation performed by ITDP with data from 2015, if an employed person earning one minimum wage a month makes only two trips a day, 25 days per month, using the conventional bus system, he or she would spend 16% of their income on transportation. But when we consider the average income of a black domestic worker from the northeast region of Brazil, the costs would amount to 25% of her earnings. The weight of transportation expenses is particularly noteworthy, since the sum of expenditures with transportation and housing should not exceed 45% of the family budget, considering 30% for housing and 15% for transportation.<sup>41</sup>



Prepared by ITDP Brazil with data from PNAD 2015, minimum wage value and Recife's bus fare in 2015.

39 DIEESE - Departamento Intersindical de Estatística e Estudos Socioeconômicos. [A inserção da mulher no mercado de trabalho da Região Metropolitana do Recife](#). 2015.

40 Pesquisa Nacional por Amostra de Domicílios - PNAD, 2015.

41 LINKE, Clarisse C.; SERRA, Bernardo; et al. Inserção urbana de habitação de interesse social: um olhar sobre mobilidade cotidiana e uso do solo. In: BALBIM, Renato; KRAUSE, Cleandro; LINKE, Clarisse (Org.). Cidade e Movimento: Mobilidades e Interações no Desenvolvimento Urbano. Ipea : ITDP Brasil. Brasília, 2016.

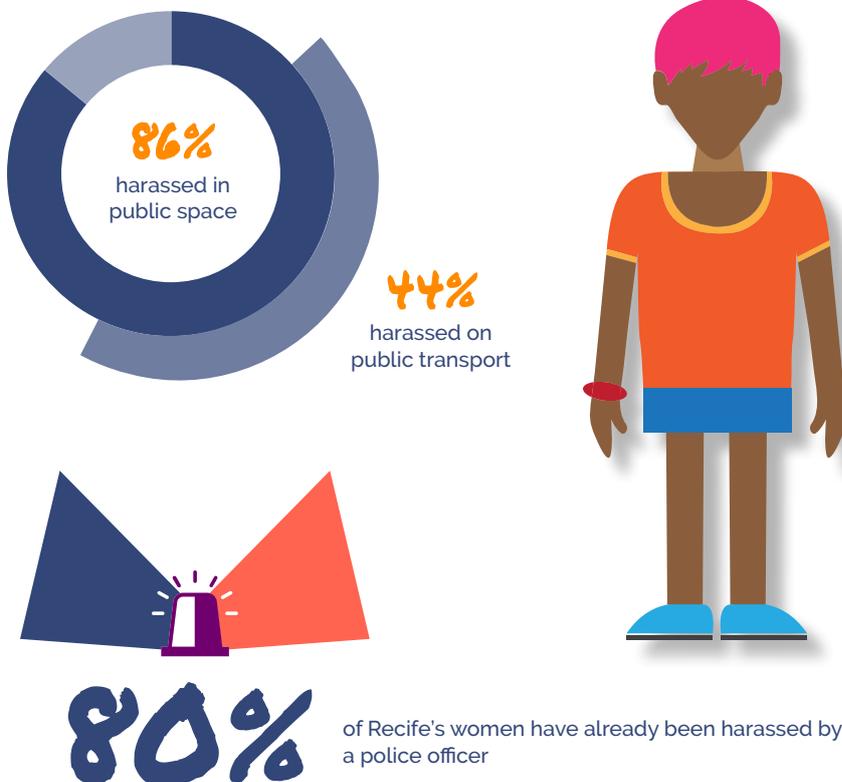
However, the transport cost estimate above does not completely cover the complexity of women's travel patterns. Inequality in the distribution of unpaid domestic work makes women's mobility patterns more complex than men's, since they are more likely to trip-chain.

### 3.6. MOBILITY, HARASSMENT, AND SEXUAL VIOLENCE

The financial costs of transport are not the only ones that have an impact on the way women exercise their right to mobility. There are also the physical and psychological costs of the daily experience of stressful situations.

Women live daily under harassment conditions. ITDP Brazil's focus group research shows that for women from Recife Metropolitan Area, harassment is a major part of the public transport experience. An act of violence that is practically unavoidable. The survey *Linha de Base Campanha Cidades Seguras para as Mulheres* (Baseline of the Campaign Safe Cities for Women) from ActionAid showed that **86% of Brazilian women were harassed in public spaces and 44% on public transport**. Despite the high number of occurrences, only 4% of women in Recife reported harassment cases. Among various other causes, most harassment cases may go unreported because frequently police officers are the offenders. **Close to 80% of women in Recife declared they were harassed by a public security agent**.

#### HARASSMENT



Prepared by ITDP Brazil with data from ActionAid, 2014.

Among the various strategies women use to protect themselves from abuse, "avoiding public transport" is the least adopted. Public transport is essential for women's access to jobs and income-generation opportunities, especially among the poorest,<sup>42</sup> and therefore avoiding public transport is not a viable choice for most of them.

**Measures used by women to protect themselves from inappropriate advances**

Follow a different route than usual	55%
Avoid parks or poorly lit areas	52%
Call or text someone to confirm you are safe and sound	48%
Request another person to accompany you	44%
Decide not to go to a social event	18%
Avoid public transport	17%

Fonte: ActionAid, 2014.

Women are more afraid of being harassed while walking on the streets, leaving or arriving home after dark, and while using public transport. A survey conducted with subway users in Recife shows that 78% of respondents are in favor of setting up women-only carriages, while 67% state that even though it's important, this measure is not enough to end harassment.<sup>43</sup>

Women consider bus stops, alleyways, streets, and squares the most unsafe places. **Close to 80% of Brazilian women who responded to the survey [Linha de Base](#) said they were afraid to wait for public transport by themselves.** For women in Recife, this percentage reaches 92%.

Of all the situations that cause women insecurity and fear, bus stops are where they feel most vulnerable and afraid, according to ITDP Brazil focus group research. Generally built in remote and single land use areas, especially in the outskirts, with a low circulation of people and no nearby commercial activities, the stops are seen as places that encourage urban and gender-based violence. They are considered the worst experience of the journey.

42 FIA FOUNDATION. [Safe and Sound: International Research on Women's Personal Safety on Public Transport](#). FIA Foundation, 2016.

43 LIMA, Jessica; MONTEIRO, Izabella M.; MAIA, Maria L. A. Helena de; et al. *Vagão rosa: segregação ou segurança?*. 2017.

ITDP Brazil study [Sistema Via Livre de BRT: Avaliação de resultados e recomendações de melhorias](#) (BRT Free Lane System: Assessment of Results and Recommendations for Improvement)<sup>44</sup> points out that many of the women have a perception of long waiting times: Close to 70% of respondents said they wait more than 10 minutes in BRT stations and terminals. According to ActionAid's survey, delays in the transport system are the main cause of fear for 41% of Brazilian women. In Recife, 94% of the women declared that the waiting time increases their feeling of insecurity.

Fear has concrete reasons. An analysis of healthcare data on sexual violence in Brazil shows that only 10% of rapes are reported to the police. Among those, in 2011 around 90% of victims were women and more than half of them were at most 13 years old. Fifty-one percent of rape victims were black. Close to 70% of the crimes were perpetrated by relatives, friends or acquaintances, generally in the house. For adult victims, though, 60% of the offenses were perpetrated by people they did not know and took place between 6 pm and 6 am, mostly in streets and public spaces.<sup>45</sup> **These alarming numbers reveal women's vulnerability to sexual violence.**

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44 ITDP - INSTITUTO DE POLÍTICAS DE TRANSPORTE E DESENVOLVIMENTO. [Sistema Via Livre de BRT: Avaliação de resultados e recomendações de melhorias](#). ITDP Brasil, 2017.

45 IPEA - INSTITUTO DE PESQUISA ECONÔMICA APLICADA. [Estupro no Brasil: uma radiografia segundo os dados da Saúde](#) (versão preliminar). IPEA, 2013.

# 4 RECOMMENDATIONS AND IMPACT INDICATORS FOR WOMEN AND CHILDREN'S ACCESS TO THE CITY

It is essential to identify the relationship between gender, race, and income inequalities, the patterns of urban development, and the mobility model adopted by the cities to develop indicators that can help to measure and monitor women and children's access to the city.

We have brought together in this section the main challenges, recommendations, and indicators that may meet women and children's interests concerning their right to the city. The section sums up how women live and experience the city as described in ITDP Brazil's focus group research. It also outlines the overall situation of Recife and its Metropolitan Area, women's perceptions according to ActionAid's survey [Linha de Base](#), and finally the gender, race, and income inequalities consolidated in IPEA's study.

Recommendations and indicators are organized according to the following thematic sections:



Walking and land use and occupation



Cycling



Road safety



Public transport



Housing and urban infrastructure



Harassment and sexual violence



Childcare



Expenses with transportation



Governance and public policies



## 4.1. WALKING AND LAND USE AND OCCUPATION

### CHALLENGES

The precarious conditions of the sidewalks, inadequate public lighting, and streets with very few people on them are all major deterrents to walking.

Going forward, walking must be recognized as a priority mode of transport in accordance with the National Urban Mobility Policy, thus ensuring measures and infrastructure necessary to promote it.

### RECOMMENDATIONS

- Adopt an urban policy aligned with the principles of transit-oriented development, integrating housing, mobility, and land use and occupation dimension, and promoting a mixed-use development to bring more vitality to the streets and public spaces.
- Prioritize walking as a mode of transport, especially for short distances and chained trips.
- Qualify the sidewalks network, especially in low-income areas, by ensuring a minimum 1.5-meter clear width to allow free movement of people.
- Guarantee adequate accessibility conditions in catchment areas of rapid transit stations.
- Encourage public use at night, especially around bus stops.
- Implement public lighting focused on pedestrians, eliminating dark areas, especially around bus stops and rapid transit stations.
- Continuously monitor the movement of pedestrians through pedestrian counts, especially before and after urban interventions focused on pedestrians.



## 4.1. WALKING AND LAND USE AND OCCUPATION

### INDICATORS

#### **Percentage of sidewalks having at least 1.5-meters of unobstructed width**

This indicator measures the number of sidewalk segments with a minimum of 1.5-meters free width in relation to all the sidewalk segments in a city neighborhood. The free width is the part of the sidewalk where pedestrian movement can take place without any impediment, whether urban equipment or other infrastructure, urban furniture, tents or stands, vegetation, planters, trash cans, lowered ramps for vehicle access, building encroachment, or any other type of interference, whether permanent or temporary. A sidewalk segment is the section between the corners marking the beginning and the end of a block, on the same side of the street. To measure the indicator, it is necessary to do a field survey and attribute a binary value to each sidewalk segment, indicating whether it has a minimum free width of 1.5-meters.

The indicator contributes to the assessment of whether the space adequate for the free movement of pedestrians, a condition that can affect the comfort and safety of people walking in different areas of the city. It can also help in assessing priority areas to improve the sidewalks.

After the initial measurement, the indicator should ideally show an upward trend over time.

Data should be collected by the public sector for each neighborhood.

#### **Percentage of totally paved sidewalks**

This indicator measures the number of sidewalk segments in which there is continuous pavement in relation to all sidewalk segments in a city neighborhood. A sidewalk segment is the section between the corners marking the beginning and the end of a block, on the same side of the street. To measure the indicator, it is necessary to do a field survey and attribute a binary value to each sidewalk segment to indicate whether or not it is totally paved.

The indicator helps to evaluate the existence of continuous pavement, a condition that can affect the comfort and safety of pedestrian flow on the pedestrian infrastructure.

After the initial measurement, the indicator should ideally show an upward trend over time.

Data should be collected by the public sector for each neighborhood.



## 4.1. WALKING AND LAND USE AND OCCUPATION

### **Percentage of block frontages without apparent use, excluding parks, squares and green spaces**

The indicator measures the number of block frontages in which there are bordering lots without apparent use (vacant plots or unused buildings) in relation to all block frontages in a city neighborhood. A block frontage is the set of building frontages between the corners marking the beginning and end of a block, on the same side of the street. To measure the indicator, it is necessary to do a field survey and attribute a binary value to each block frontage to indicate whether there are lots without apparent use. Data should be collected by the public sector for each city neighborhood.

The indicator may help to evaluate areas that potentially influence the perception of vulnerability to violence in public spaces, especially by women pedestrian.

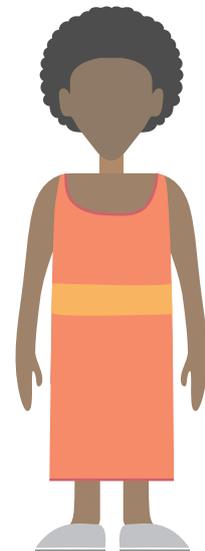
After the initial measurement, the indicator should ideally show a downward trend over time.

### **Percentage of block frontages with visually active frontage, including parks, squares and green spaces**

The indicator measures the number of block frontages where at least 20% of their extension is made up of elements that provide visual connection with activities inside the buildings in relation to all the block frontages in a city neighborhood. A block frontage is understood as the group of all building frontages between the corners marking the beginning and end of a block, on the same side of the street. The following are considered visual connection elements: shop windows, windows, glass panes, or other elements located between the ground floor and the first floor allowing people to see the interior of the building. To measure the indicator, it is necessary to do a field survey and calculate the percentage of each block frontage that is made up of elements of visual connection. Data should be collected by the public sector for each neighborhood.

The indicator may help to evaluate areas that potentially influence the perception of vulnerability to violence in public spaces, especially by women pedestrian.

After the initial measurement, the indicator should ideally show an upward trend over time.





## 4.1. WALKING AND LAND USE AND OCCUPATION

### **Percentage of block faces with public nighttime use**

The indicator measures the number of block frontages where there is at least one public nighttime use for each 100 meters of the block frontage extension in relation to all the block frontages in a city neighborhood. A block frontage is the set of building frontages between the corners marking the beginning and end of a block, on the same side of the street. To measure the indicator, it is necessary to do a field survey and attribute a binary value to each block frontage to indicate whether there is nighttime public use for each 100 meters.

Data should be collected by the public sector for each neighborhood.

The indicator may help to evaluate areas that potentially influence the perception of vulnerability to violence in public spaces, especially by pedestrian women.

After the initial measurement, the indicator should ideally show an upward trend over time.

### **Percentage of sidewalk segments with very dark areas**

This indicator measures the number of sidewalk segments where there is at least one area with dark, poorly lit sections in relation to all the sidewalk segments in a city neighborhood. A sidewalk segment is the section between the corners marking the beginning and end of a block, on the same side of the street. To measure the indicator, it is necessary to do a field survey (conducted at night time) and attribute a binary value to each sidewalk segment to indicate whether or not there are dark areas. Data should be collected by the public sector for each neighborhood.

The indicator may help to evaluate areas that potentially influence the perception of vulnerability to violence in public spaces at night, especially by pedestrian women.

After the initial measurement, the indicator should ideally show a downward trend over time.



## 4.1. WALKING AND LAND USE AND OCCUPATION

### **Percentage of bus stops in areas with active frontage, and public nighttime use, and that are well lit**

The indicator measures the number of conventional bus stops where the immediate surrounding area has active frontage, public nighttime use, and good street lighting in relation to all conventional bus stops of a city neighborhood. Immediate surrounding is understood as the block frontage where the bus stop is and the block frontage on the opposite side of the street. A block frontage is the set of building frontages between the corners marking the beginning and end of a block.

In order for the surrounding area to be considered adequate, both block frontages must: (i) have at least 20% of their extension constituted of visual connection elements (shop windows, windows, glass panes, or other elements located between the ground floor and the first floor allowing people to see the building interior), (ii) have at least one public nighttime use observed for each 100 meters of extension of the block frontage, and (iii) not have any sidewalk sections with dark, poorly lit areas. A sidewalk segment is the section between the corners marking the beginning and end of a block. To measure the indicator, it is necessary to do a field survey and assess whether the immediate surrounding area of each bus stop complies with all the requirements or not.

Data should be collected by the public sector for each neighborhood.

The indicator helps to evaluate the conditions in the areas surrounding conventional bus stops that may influence the perception of vulnerability to violence in public spaces, especially by women, during waiting time.

After the initial measurement, the indicator should ideally show an upward trend over time.



## 4.2 CYCLING

### CHALLENGES

The number of women who use a bicycle as a vehicle daily is low. Women perceive the lack of adequate cycling infrastructure and traffic violence as the main obstacles to using the bicycle as a mode of transport. However, they recognize its qualities and declare their wish to use it to gain autonomy and to cut down their public transport expenses. The bicycle must be adopted as a priority mode of transport, in accordance to the Brazilian National Urban Mobility Policy, thus ensuring adequate measures and infrastructure to promote its use.

### RECOMMENDATIONS

- Prioritize bicycles as a mode of transport, especially in chained trips to multiple destinations and for short distances.
- Expand cycling infrastructure, especially in low-income areas.
- Promote connection between sections of the cycling infrastructure to ensure its continuity, especially in sections where urban barriers exist (such as high-traffic roads), through safe intersections, walkways, or qualified passages, as well as other elements to cross over these barriers.
- Ensure the connection of the cycling infrastructure to public facilities and to rapid transit stations.
- Implement public bicycle parking facilities and bike racks.
- Continuously monitor the use of bicycles through bicycle counts, especially before and after implementing cycling infrastructure, with data broken down by gender.
- Reduce speed limits to promote safer streets for bicycle use.



## 4.2 CYCLING

### INDICATORS

#### **Percentage of population served by the cycling infrastructure**

The indicator measures the percentage of the city population who lives within a 300-meter radius of the cycling infrastructure. This information is obtained by using geoprocessing tools, considering the spatial distribution of the population and the cycling infrastructure location.

The indicator can be used for comparative purposes between cities and to monitor the expansion of cycling infrastructure coverage in relation to the resident population.

The indicator should ideally show an upward trend over time.

#### **Percentage of population by income bracket served by the cycling infrastructure**

This indicator measures the percentage of the city's population in different income brackets living within a 300-meter radius of the cycling infrastructure. This information is obtained by using geoprocessing tools, considering the spatial distribution of the population and the cycling infrastructure location.

The indicator may help to monitor the expansion of cycling infrastructure coverage in relation to the resident population by different income brackets.

Ideally, this indicator will show more equality across different income brackets over time.

#### **Percentage of women among bicycle users**

This indicator measures the number of women cyclists in relation to the total number of cyclists in the city. To calculate the indicator, one needs to consider the total number of women and the total number of cyclists recorded in bike counts performed in the city over one year.

The indicator may help to evaluate the number of women who use the bicycle as a mode of transport in the city. Periodic and continued bike counts are important to define a parameter to monitor bicycle use, especially by women, both before and after cycling infrastructure is implemented.

The indicator should ideally show an upward trend over time.



## 4.2 CYCLING

### **Percentage of public day cares in the cycling infrastructure catchment area**

The indicator measures the percentage of public day cares within a 300-meter radius of the cycling infrastructure. This information is obtained by using geoprocessing tools, considering the cycling infrastructure and the location of the facilities.

The indicator may help to evaluate the possibility of accessing public day care facilities by using the cycling infrastructure. This proximity could encourage bicycle use, especially by women, as the first option of transport for travel between home and day cares.

The indicator should ideally show an upward trend over time.

### **Percentage of primary healthcare units located in the cycling infrastructure catchment area**

This indicator measures the percentage of primary healthcare units located within a 300-meter radius of the cycling infrastructure. This information is obtained by using geoprocessing tools, considering the cycling infrastructure and the location of the units.

The indicator may help to evaluate the possibility of accessing primary healthcare units by using the cycling infrastructure. This proximity could encourage bicycle use, especially by women, as the first option of transport for travels between home and primary healthcare units.

The indicator should ideally show an upward trend over time.

### **Percentage of rapid transit stations located in the cycling infrastructure catchment area**

The indicator measures the percentage of rapid transit stations located within a 300-meter radius of the cycling infrastructure. This information is obtained by using geoprocessing tools, considering the cycling infrastructure and the location of the stations.

The indicator may help to evaluate the physical integration between the cycling infrastructure and rapid transit stations. This integration could encourage bicycle use, especially by women, for intermodal integration.

The indicator should ideally show an upward trend over time.



### 4.3. ROAD SAFETY

#### CHALLENGES

Because of the high number of traffic-related deaths, traffic is perceived and experienced by women in a negative and violent way due to driver's high speeds and noncompliance with traffic regulations. Traffic-related violence needs to be properly addressed, and the right set of measures need to be adopted to ensure that road safety becomes a priority in urban and public health policies.

#### RECOMMENDATIONS

- Adopt a "Vision Zero" policy to eliminate traffic-related deaths.
- Reduce urban road speeds by adopting as a standard reference between 10 and 30 km/h for local roads, 40 km/h for collector roads, and 50 km/h for arterial roads.
- Observe the maximum speed limit of 50 km/h on urban roads, according to the guidelines issued by the World Health Organization.
- Implement traffic-calming elements, especially in local roads.
- Improve pedestrian crossing infrastructure and crossing times at intersections with traffic lights.
- Emphasize coexistence with pedestrians and cyclists in driver training.
- Promote continuous retraining and awareness programs for bus and taxi drivers, with a special focus on pedestrian and cyclist care.



## 4.3. ROAD SAFETY

### INDICATORS

#### **Percentage of the neighborhood area characterized as a low speed zone (Zone 30)**

The indicator measures the total area of a city neighborhood that can be characterized as a low speed zone – Zone 30 – in relation to the total area of the neighborhood. For the indicator calculation, Zone 30 should be considered an area delimited by arterial roads and inside of which an environment for the reduction of traffic-related fatalities is created.

Zone 30s also should have the following characteristics: adequate regulation regarding the spatial definition of the area; regulated maximum speed of 30 km/h; adequate and visible horizontal and vertical signage; intersection adaptations; and widened sidewalks.

Data should be collected by the public sector for each neighborhood.

This indicator can help to monitor the implementation of traffic calming measures in different areas of the city.

After the initial measurement, the indicator should ideally show an upward trend over time.

#### **Percentage of streets with maximum speed limits adequate to ensure cyclist safety**

The indicator measures the number of streets with a regulated speed limit of 30 km/h that have bicycle boulevards, streets with regulated speed limit of 40 km/h that have bike lanes or protected bike lanes, and streets with regulated speed limits of 50 km/h that have protected bike lanes in relation to the total number of city roads. The indicator does not assess the actual practiced speed, or whether the street design with a maximum speed limit of 30km/h is in fact adequate to be shared by both motorized vehicles and bicycles. Streets with speeds above 50km/h will not be considered for the indicator measurement, even if they have cycling infrastructure. If there is no speed regulation, road hierarchy may be used as a data source: The association between road category and the guidelines for speed regulation contained in the Brazilian Traffic Code is accepted.

The indicator may help to understand how adequate speed regulations are for the movement of cyclists in a city.

After the initial measurement, the indicator should ideally show an upward trend over time.



### 4.3. ROAD SAFETY

#### **Percentage of traffic lights that have adequate crossing time to ensure pedestrian safety**

The indicator measures the total number of traffic lights that have acceptable pedestrian waiting and crossing times in relation to all traffic lights evaluated. The traffic light will only be considered for the indicator measurement if it is located near a properly marked pedestrian crosswalk. The time available to cross is considered adequate if it is equal to or higher than 1.25 seconds multiplied by the width of the street. This width is measured as the distance between curbs at each end of the pedestrian crossing. Maximum acceptable pedestrian waiting time is 60 seconds. To be considered adequate, the traffic light must comply with all the preceding requirements.

The indicator is important because it considers a more adequate minimum time to ensure a safer crossing by more vulnerable pedestrians, such as people with disabilities or reduced mobility, seniors, pregnant women, and people carrying or accompanying children.

After the initial measurement, the indicator should ideally show an upward trend over time.

#### **Mortality rate in traffic-related occurrences**

The indicator measures the number of traffic-related fatalities per 100,000 inhabitants, according to the site of the occurrence. The indicator is calculated by dividing the total number of traffic-related deaths in a specific year by the total resident population in the same year and multiplying by 100,000.

Despite the limitations of the Brazilian national mortality database, which is still under-reported and inaccurate, the indicator is important to allow traffic-related mortality to be tracked over time. It also helps to make comparisons between different cities, metropolitan areas, states, and countries. The indicator may present results broken down by mode of transport, gender, and race, allowing for more specific analyses.

Aligned with the efforts of Vision Zero policies to eliminate traffic-related deaths, the indicator should ideally show a downward trend over time.



## 4.4. PUBLIC TRANSPORT

### CHALLENGES

Public transport plays an essential role in the lives of women, who depend on it for all their activities: working, caring for their families and performing housework, accessing educational and health services, and for leisure activities. However, there are considerable challenges to ensure a high-quality service.

The conventional bus system must to be reliable, convenient, and fast. The service needs to be improved by expanding buses' right-of-way, creating a spatially wide and operation-optimized network, and ensuring adequate frequency and schedule reliability, including during off-peak periods and on weekends. Bus stops must be designed for comfort and safety and they should provide essential information about the system.

Rapid transit systems need to be expanded to ensure that public transport has priority on congested roads and that coverage is extended to areas where such corridors do not exist. Attention needs to be given to urban development and to improving walking and cycling conditions primarily in the system catchment area, as well as investing in better management of service frequency, reliability, and quality (comfort and safety).

### RECOMMENDATIONS

- Adopt transit-oriented development policies integrating housing, mobility, and land use and occupation policies promoting mixed land use. Especially important is to take advantage of the potential to strengthen the urban dynamics of rapid transit stations and terminals' catchment areas and the areas around bus stops.
- Promote physical, fare, and operational integration between the different modes of the public transport system.
- Invest in refining the data collection process to allow for better management of operations and planning, with the application of data obtained from GPS, electronic ticketing, and operational control systems.
- Conduct frequent surveys regarding user's perception on aspects such as

*(continues)*



## 4.4. PUBLIC TRANSPORT

comfort, occupancy levels, stopping at every bus stop, waiting time, and system reliability, especially during nighttime, in order to understand women users' satisfaction levels and be able to recommend changes. Perception surveys conducted with system users should present data broken down by gender, race, income, mode of transport, and time of day.

- Adequately maintain the roads in rapid transit corridors and those with dedicated bus lanes to ensure speeds can be kept as planned.

### **For the conventional bus system:**

- Adopt low-floor vehicles to facilitate boarding/alighting.
- Implement a network of dedicated bus lanes/corridors.
- Increase frequency and regularity/punctuality of feeder bus services, especially those exiting transfer terminals in the afternoon peak time.
- Invest in conventional bus system operation management to ensure regularity and reliability, especially at night and weekends.
- Have a system of conventional bus routes with a minimum frequency at night and on weekends.
- Implement bus stop infrastructure with comfort and convenience, including information on lines and schedules.

### **For the rapid transit system:**

- Expand the rapid transit network, balancing the system coverage between low and high-income populations.
- For BRT systems, ensure vehicles' right-of-way along the entire corridor, especially in the segments providing access to the centralities.
- Invest in rapid transit system operation management to ensure regularity and reliability, especially at night and weekends.
- Extend the rapid transit system operating hours to ensure frequent operation, until at least midnight.
- Maintain inspectors at stations, terminals and rapid transit boarding platforms to ensure boarding queues are organized and respected, especially in peak periods.



## 4.4. PUBLIC TRANSPORT

### INDICATORS

#### **Percentage of the population covered by the rapid transit system**

This indicator measures the percentage of the city or metropolitan area population living within 1 km radius of the rapid transit stations and terminals. This information is calculated by using geoprocessing tools, the spatial distribution of the population and the location of rapid transit stations and terminals. The indicator results may also be broken down by gender and race.

The indicator may be used for comparisons between cities or metropolitan areas and to monitor how the proximity of the population to existing or planned transport systems evolves over time.

The indicator should ideally show an upward trend over time.

#### **Percentage of the population by income bracket covered by rapid transit system**

This indicator measures the percentage of a city or metropolitan area population by income bracket that lives within 1 km radius of rapid transit stations and terminals. This information is obtained by using geoprocessing tools to calculate the spatial distribution of the population by income bracket and the location of rapid transit stations and terminals. The indicator results may also be broken down by gender and race.

The indicator may be used for comparisons between cities or metropolitan areas and to monitor how the proximity of the population, divided by income bracket, to existing or planned transport systems evolves over time.

Ideally, the indicator will increasingly show more equality among the different income groups over time.

#### **Percentage of population covered by bus corridors and lanes with road priority**

The indicator measures the percentage of a city population that lives within 400 meters of bus stops in the conventional bus transport system that has buses running in dedicated corridors and lanes. BRT corridors are not considered in this calculation.

This information is calculated by using with geoprocessing tools, considering the spatial distribution of the population and the location of bus stops on roads with priority for conventional bused (in corridors and/or dedicated lanes), broken down by gender, race and income.

The indicator seeks to determine the proximity of the population to conventional bus services that offer less waiting time and shorter trip duration.

After the initial measurement, the indicator should ideally show an upward trend over time.



## 4.4. PUBLIC TRANSPORT

### **Percentage of population covered by conventional bus lines with minimum frequency**

The indicator measures the percentage of the population that lives near bus stops on conventional bus lines that run on working days at intervals of less than 10 minutes during the day. For conventional buses, a 200-meter radius is used from the boarding/alighting stops. For buses using dedicated lanes and corridors, a 400-meter radius is used from the boarding/alighting stops. The suggested period to consider is from 5 am to 8 pm. This information is calculated by using geoprocessing tools, considering the spatial distribution of the population and the location of bus stops that meet these criteria, broken down by gender, race and income.

After the initial measurement, the indicator should ideally show an upward trend over time.

### **Percentage of population covered by night bus lines**

The indicator measures the percentage of the population that lives near bus stops on night-operating lines with service intervals of less than 1 hour. For conventional buses, a 200-meter radius is used from the boarding/alighting stops. For buses using dedicated lanes and corridors, a 400-meter radius is used from the boarding/alighting stops. The suggested night period to consider is from 8 pm to 5 am. This information is calculated by using geoprocessing tools, considering the spatial distribution of the population and the location of these bus stops, broken down by gender, race and income.

After the initial measurement, the indicator should ideally show an upward trend over time.

### **Percentage of population covered by bus lines operating on weekends**

The indicator measures the percentage of the population that lives near bus stops on conventional bus lines operating on weekends with less than 20-minute intervals during the day. For conventional buses, a 200-meter radius is used from the boarding/alighting stops. For buses using dedicated lanes and corridors, a 400-meter radius is used from the boarding/alighting stops. The suggested day period to consider is from 6 am to 8 pm. This information is calculated with geoprocessing tools, considering the spatial distribution of the population and the location of these bus stops.

After the initial measurement, the indicator should ideally show an upward trend over time.



## 4.4. PUBLIC TRANSPORT

### **Percentage of rapid transit corridors operating at least until midnight and on weekends**

The indicator measures the percentage of rapid transit corridors operating at least until midnight and on weekends with less than 15-minute intervals. Data is obtained from the total of operational rapid transit corridors in the city or metropolitan area and the number of these that meet established criteria. Results may be broken down by gender, race, and income.

The indicator can help to monitor the how much of the population is covered by the rapid transit system at night and on weekends.

After the initial measurement, the indicator should ideally show an upward trend over time.

### **Percentage of trips that meet the programmed regularity on BRT corridors**

The indicator measures total number of trips in BRT corridors that meet programmed regularity compared to the total number of trips scheduled for these corridors. Data may be obtained from the vehicles' GPS, time schedules, and inspection at control points.

The indicator can be used for comparison with the perception indicators and provide further information on waiting time as perceived by users.

After the initial measurement, the indicator should ideally show an upward trend over time.

### **Percentage of kilometers of urban streets that assure the right-of-way for bus-based transport**

The indicator measures how many kilometers of urban roads have dedicated lanes for bus-based transport (roads with priority and/or dedicated lanes for conventional bus, bus corridors, and BRT corridors) in relation to the total length of city roads. This information is obtained with geoprocessing tools.

The indicator may be used for comparisons between cities and to track the progress of the bus-based systems prioritization on urban roads over time.

The indicator should ideally show an upward trend over time.



#### 4.4. PUBLIC TRANSPORT

##### **Percentage of black women living in households with income per capita of less than a half minimum wage who spend more than one hour to get to work**

The indicator measures total number of black women, 10 years and older, who are employed and live in households with per capita income of less than half minimum wage and who spend more than one hour to get to their workplace, in relation to the total number of black women in this age bracket who are employed, live in households with a per capita income of less than half minimum wage, and return daily to work.

The indicator may help to understand the situation of black women who live in households vulnerable to poverty and spend more than one hour commuting to work.

After the initial measurement, the indicator should ideally show a downward trend over time.

##### **Percentage of integration terminals with boarding queue organization and supervision**

The indicator measures the percentage of integration terminals where there are agents who supervise the organization of the queues in relation to the total number of integration terminals. There must be at least one agent per boarding point on the highest-demand lines during peak times and in the direction of highest occupancy (periphery to center in the morning peak, and center to periphery in the afternoon peak). This information is obtained from the total of operational terminals in the city or metropolitan area and the number of these terminals that have at least one overseeing agent at each point.

The indicator can contribute to understanding if there is an effective presence of oversight agents at the terminals. Women believe that agents' presence is fundamental to ensure more respect and attention to people at boarding time.

After the initial measurement, the indicator should ideally show an upward trend over time.



## 4.4. PUBLIC TRANSPORT

### **Percentage of bus stops with minimum comfort and convenience infrastructure**

The indicator measures the percentage of bus stops that present minimum comfort and convenience infrastructure in relation to the total number of bus stops. For the bus stop to be considered adequate it must present at least the following elements: information on the bus lines that pass through; bus stop furniture; roofing; lateral protection against wind; and lighting. The data can be obtained on field surveys to examine bus stop conditions for each neighborhood.

The indicator can be used to compare different city neighborhoods and to monitor how this infrastructure evolves over time.

After the initial measurement, the indicator should ideally show an upward trend over time.

### **Percentage of low-floor buses in the conventional bus fleet**

The indicator measures total number of low-floor buses in relation to the total number of buses in the municipal bus fleet. The information is important, as it contributes to understanding the degree of adequacy of the fleet to the specific boarding needs of women, children, seniors, people with disabilities, and passengers with reduced mobility. Women, especially, may be accompanied by children or older people or may be carrying bulky objects, in which case low-floor vehicles will facilitate boarding and alighting.

After the initial measurement, the indicator should ideally show an upward trend over time.

### **Percentage of women who declare waiting for more than 10 minutes in BRT stations and terminals**

The indicator measures the total number of women who declare waiting for more than 10 minutes at BRT stations and terminals in relation to the total number of women interviewed in perception surveys. Data should be obtained through perception survey with transport users, with results broken down by gender.

The indicator can help to evaluate women's level of trust on the system frequency through their perception about waiting time.

Ideally this indicator should show a downward trend over time.



## 4.4. PUBLIC TRANSPORT

### **Percentage of women who indicate lack of comfort in the vehicles as one of the three main problems of bus-based transport**

The indicator seeks to identify the relevance of the lack of comfort among other problems faced by bus users. To assess comfort, floor height in boarding/alighting operations must be considered, as well as aspects such as: ventilation/air-conditioning, interior lighting, cleanliness, seat comfort, and general the condition and maintenance of the vehicles. Data should be obtained through satisfaction survey with transport users, with results broken down by gender and type of bus-based transport.

The indicator can be used to understand the relevance of this topic for women, as well as to identify the main problems reported by transport users.

### **Percentage of women who indicate overcrowding as one of the three main problems of bus-based transport**

The indicator tries to determine the relevance of vehicle occupancy among other problems faced by bus users. Data should be obtained through satisfaction survey with transport users, with results broken down by gender and type of bus-based transport service.

Data should be obtained through satisfaction survey with transport users, with results broken down by gender and type of bus-based transport service.

### **Percentage of women who indicate drivers' noncompliance to stop at bus stops as one of the three main problems of bus-based transport**

The indicator tries to determine the relevance of drivers' noncompliance to stop at bus stops among other problems faced by bus users. Data should be obtained through satisfaction survey with transport users, with results broken down by gender and type of bus-based transport service.

Data should be obtained through satisfaction survey with transport users, with results broken down by gender and type of bus-based transport service.

### **Percentage of women who declares they rely on nighttime bus timetables**

The indicator measures the number of women who declares they rely on nighttime timetables of conventional bus services in relation to the total number of women respondents. Data should be obtained through satisfaction survey with transport users, with results broken down by gender.

Data should be collected by the public sector or organized civil society institutions for each neighborhood.

The indicator may be used to measure the level of trust women have on the frequency of conventional bus services. It may also be used for comparative purposes between different areas of the same city.

After the initial measurement, the indicator should ideally show an upward trend over time.



## 4.5. HOUSING AND URBAN INFRASTRUCTURE

### CHALLENGES

The lack of integration of mobility and land use and occupation policies highlights the characteristics of a city where the opportunities are concentrated in the central areas and where particularly low-income women need to withstand long daily trips to be able to access these opportunities. As part of promoting mixed use of urban land, it is necessary also to promote social housing programs that guarantee the existence of quality housing near the transport network and city opportunities, especially for women in a situation of extreme vulnerability.

### RECOMMENDATIONS

- Adopt a transit-oriented development policy that integrates housing, mobility, and land use/occupation policies and promotes mixed uses.
- Prioritize the implementation of affordable housing in central areas with a significant offer of opportunities and in areas covered by rapid transit.
- Give priority to women in obtaining housing property titles, especially mothers.
- Ensure there are programs for social housing for people in situations of extreme vulnerability and those who live in risk areas.
- Ensure minimum sanitation conditions necessary for child development.



## 4.5. HOUSING AND URBAN INFRASTRUCTURE

### INDICATORS

#### **Percentage of social housing developments located in rapid transit catchment area**

This indicator measures total social housing developments located within a 1 km radius of rapid transit stations and terminals in relation to all social housing developments in a city or metropolitan area. Data is calculated by using geoprocessing tools, considering the spatial distribution of developments and the location of rapid transit stations and terminals.

Data should be collected by the public sector for each city or metropolitan area.

The indicator can help to evaluate the alignment of mobility, housing, and land use/occupation policies.

After the initial measurement, the indicator should ideally show an upward trend over time.

#### **Percentage of women included in social housing programs compared to the total people included**

The indicator measures the total number of women included in social housing programs in relation to the total number of people included in these programs. Data for this calculation may be obtained from government agencies in charge of housing policies. Data must also be broken down by race and income.

Data should be collected by the public sector for each city or metropolitan area.

After the initial measurement, the indicator should ideally show an upward trend over time.

#### **Percentage of women living in households without bathrooms**

The indicator measures the total number of women living in households without bathrooms in relation to the entire population of women. Data should be obtained from census survey.

The indicator can help determine the percentage of women who are in a situation of extreme vulnerability regarding access to basic infrastructure. After the initial measurement, the indicator should ideally show a downward trend over time.



## 4.5. HOUSING AND URBAN INFRASTRUCTURE

### **Percentage of women living in households without water supply**

The indicator measures the total number of women living in households without water supply in relation to the entire population of women. Data should be obtained from census survey

The indicator can help determine the percentage of women who are in a situation of extreme vulnerability regarding access to basic infrastructure. After the initial measurement, the indicator should ideally show a downward trend over time.

### **Percentage of women living in households without garbage collection**

The indicator measures the total number of women living in households without garbage collection in relation to the entire population of women. Data should be obtained from census survey.

The indicator can help determine the percentage of women who are in a situation of extreme vulnerability regarding access to basic infrastructure. After the initial measurement, the indicator should ideally show a downward trend over time.



## 4.6. HARASSMENT AND VIOLENCE

### CHALLENGES

Harassment and sexual violence are perceived as part of women's daily lives in the transport system and in public spaces. Fear of violence restricts a woman's right to freely come and go; have access to work, study, and leisure opportunities; and enjoy the city as they please. Just like urban violence, gender violence must be confronted to ensure women's autonomy over their own bodies and security to exercise their full right to mobility.

### RECOMMENDATIONS

- Have inspectors, preferably women, trained to deal with harassment and sexual violence situations and strategically positioned on rapid transit stations boarding platforms, especially during peak hours.
- Educate drivers and fare collectors working in the public transport system to deal with harassment and sexual violence cases.
- Implement women assistance centers consisting of multifunctional teams including female social workers, psychologists, and attorneys inside public transport stations and terminals.
- Develop and implement a program to combat harassment on public transport and public spaces designed with women's participation and input from organized civil society.
- Develop and implement permanent and continued campaigns against sexual harassment in public transport system designed with women's participation and input from organized civil society.
- Develop and implement programs to combat harassment by law enforcement agents designed with women's participation and input from organized civil society.
- Develop and implement programs to train agents to aid women victims of violence designed with women's participation and input from organized civil society.
- Expand the assistance network to women living under violent and abusive conditions.
- Conduct continuous surveys on the perception on harassment in transport and in public spaces. Perception surveys should present data broken down by race, income, and mode of transport.
- Develop and make available a georeferenced database on sexual violence cases and harassment in public spaces, broken down by victims' gender and race and the type of violence.



## 4.6. HARASSMENT AND VIOLENCE

### INDICATORS

#### **Percentage of women who were harassed in public spaces**

The indicator measures the percentage of women who report being victims of harassment in public spaces. This information should be obtained from perception surveys.

The indicator is important because it helps to measure women's perception of their own vulnerability in public spaces, a factor that can often limit their mobility.

After the initial measurement, the indicator should ideally show a downward trend over time.

#### **Percentage of women who were harassed on public transport**

The indicator measures the percentage of women who report being victims of harassment in public transport. This information should be obtained from perception surveys.

The indicator is important because it helps to measure women's perception of their own vulnerability in the public transport system.

After the initial measurement, the indicator should ideally show a downward trend over time.

#### **Percentage of women who reported cases of rape or harassment**

The indicator measures the percentage of women who report cases of harassment or rape. This information should be obtained from perception surveys.

The indicator may contribute to understanding if the number of recorded cases of rape or harassment reflects the actual degree of women's exposure to violence.

After the initial measurement, the indicator should ideally show an upward trend over time.

#### **Percentage of women who were harassed by law enforcement agents**

The indicator measures the percentage of women who report being victims of harassment by law enforcement agents. This information should be obtained from perception surveys.

The indicator may help to understand and monitor women's perception on law enforcement agents. A negative perception about the police will actually influence women's decision whether or not to report cases of sexual violence and harassment.

The indicator should ideally show a downward trend over time.



## 4.6. HARASSMENT AND VIOLENCE

### **Percentage of women who are afraid of waiting at bus stops**

The indicator measures the percentage of women who report being afraid of waiting for buses at bus stops. This information should be obtained from perception surveys.

The indicator is important because a negative perception about women's degree of vulnerability while waiting for public transport is one of the great limiters of mobility.

The indicator should ideally show a downward trend over time.

### **Number of cases of rape of women in public spaces per neighborhood population**

The indicator measures the number of cases of rape of women that occur in public places in relation to the total population of a city neighborhood. Information on the location of the attacks may be obtained from the local law enforcement agency's records. Information on the neighborhood population can be obtained by using geoprocessing tools, based on the spatial distribution of the city population and the neighborhoods' limits.

This information should be collected by the public sector for each city neighborhood.

The indicator may help to determine city neighborhoods in which women may be more vulnerable to this type of crime. It may also indicate areas that need to be better evaluated in terms of violence against women and urban morphology.

After the initial measurement, the indicator should ideally show a downward trend over time, but since gender-based violence cases are usually under-reported, an increase in the number of recorded occurrences should be expected.



## 4.7. CHILDCARE

### CHALLENGES

Childcare is still an activity performed mostly by women. The absence of public day cares close to households or employment opportunities that have operation hours compatible with women's working hours and travel times is a major factor that limits the participation of women in the workforce, thus preventing their autonomy. Day cares and schools are practically the only places where children are allowed to go to: Due to its violent environment and lack of adequate public leisure spaces, the city has become a "forbidden" place for playing and having fun. Squares are seen as dangerous locations to be avoided by all children, girls and boys.

An increased provision of public day cares needs to be considered in gender-responsive policies to give women more autonomy and better chances to participate in the labor market. Day cares are an essential service to help to alleviate the domestic work burden that continues to fall to women. Public spaces that allow people to meet and enjoy their leisure time need to be reclaimed to allow a more pleasant and playful experience of the city.

### RECOMMENDATIONS

- Increase the offer and capacity of public day cares.
- Have more public day cares operating all day long.
- Adequately maintain public spaces used for leisure, such as squares and parks.
- Implement parks, pedestrian-only streets, and weekend car-free streets in all city neighborhoods.
- Implement cultural spaces in all city neighborhoods.
- Develop and implement a calendar of cultural and leisure events in squares and parks in all city neighborhoods.



## 4.7. CHILDCARE

### INDICATORS

#### **Percentage of city neighborhoods without public day cares**

The indicator measures the number of city neighborhoods that do not have any public day cares in relation to all city neighborhoods. The information is obtained through geoprocessing by cross-checking data on the distribution of public day cares and the limits of the city neighborhoods.

The information should be collected by the public sector for each city neighborhood.

The indicator shows, in a simplified manner, the percentage of neighborhoods where there are no educational facilities for children's initial development phase. It may help to understand the impact the absence of day cares has on women's travel patterns.

The indicator should ideally show a downward trend over time.

#### **Number of public day care vacancies for the 0- to 3-year-old population per neighborhood**

The indicator measures the ratio between the number of vacancies available in public day care centers and the population of 0- to 3-year-old children in each city neighborhood.

The information should be collected by the public sector for each city neighborhood.

The indicator may help to measure the shortage of vacancies in public day cares. However, a closer assessment needs to relate potential demand to the socioeconomic characteristics and distribution of the 0- to 3-year-old population throughout the city. It also needs to consider the hours of operation of the day care facilities.

After the initial measurement, the indicator should ideally show an upward trend over time.



## 4.7. CHILDCARE

### **Percentage of neighborhoods without public cultural facilities**

The indicator measures the number of neighborhoods in the city that do not have any public cultural facilities in relation to the total number of neighborhoods.

The information is obtained through geoprocessing by cross-checking data on the distribution of the facilities and the limits of the city neighborhoods.

The information should be collected by the public sector for each city neighborhood.

The indicator may contribute to a better understanding of the inequality in the offer of cultural facilities among different areas of the city.

After the initial measurement, the indicator should ideally show a downward trend over time.

### **Number of public cultural facilities per neighborhood area**

The indicator shows the relationship between the number of public cultural facilities in a neighborhood and the area of each city neighborhood. The information is obtained by geoprocessing and is based on the distribution of cultural facilities and the limits of the city neighborhoods.

The information should be collected by the public sector for each city neighborhood.

The indicator can help to evaluate areas of the city that may provide greater access to culture.

After the initial measurement, the indicator should ideally show an upward trend over time.

### **Squares per 1,000 inhabitants by neighborhood**

The indicator measures the distribution of squares per 1,000 inhabitants for each city neighborhood. The information is obtained by geoprocessing and is based on the distribution of squares in the city and the limits of the city neighborhoods.

The information should be collected by the public sector for each city neighborhood.

The indicator allows a comparative analysis between the neighborhoods to determine which areas are better served by public leisure spaces such as squares.

### **Density of squares by neighborhood**

The indicator shows the relationship between the number of squares that exist in a neighborhood and the area of this neighborhood. The information is obtained by geoprocessing based on the spatial distribution of squares in the city and the limits of the city neighborhoods.

The information should be collected by the public sector for each city neighborhood.

The indicator is important because it allows a comparative analysis between the neighborhoods to determine which areas are better served by public leisure spaces such as squares.



## 4.8. EXPENSES WITH TRANSPORTATION

### CHALLENGES

Travel pattern differences and income inequalities may result in proportionally higher expenditures on public transport for women. It is not uncommon for low-income women to walk long distances or to refrain from making some trips due to their economic limitations. Women's social right to public transport must be guaranteed, while also considering the extent of race and income inequalities as a means to provide more access to the opportunities offered by the city.

### RECOMMENDATIONS

- Implement fare systems that include reduced-fare mechanisms for the low-income population, regardless of gender or race.
- Promote subsidized fares in public transport, together with policies to discourage the use of private vehicles.
- Provide free public school transport services for children and teenagers enrolled in the public education network.



## 4.8. EXPENSES WITH TRANSPORTATION

### INDICATORS

#### **Percentage of income spent on public transport**

The indicator measures the percentage of income spent on public transport. This value is estimated based on 50 trips/month (only commuting trips are considered), conventional bus fares, and the current minimum wage. The same base year must be considered for all variables. This information must be broken down by gender, race, and income.

The indicator may contribute to a simpler understanding of the weight of transport expenditures on an individual budget. Since it measures only the cost of one round-trip a day, it has limited application, though, considering that women tend to make chained trips.

After the initial measurement, the indicator should ideally stay the same or show a downward trend over time.

#### **Percentage of black female domestic workers' income spent on public transport**

The indicator measures the percentage of black female domestic workers' income that is spent on public transport. Their income was considered as a reference for the indicator because domestic work is still an important activity among low-income women, and black female domestic workers have lower income levels than white female domestic workers, according to gender and race inequality studies conducted by IPEA. This value is estimated based on 50 trips/month (only commuting trips are considered), conventional bus fares, and the average monthly income of black domestic workers in the correspondent Brazilian region where the city under evaluation is located. The same base year must be considered for all variables.

The indicator may contribute to a simpler understanding of the weight of transport expenditures in relation to the income of black female domestic workers. Since it measures only the cost of one round-trip a day, it has limited application, though, considering women tend to make chained trips.

After the initial measurement, the indicator should ideally stay the same or show a downward trend over time.



## 4.9. GOVERNANCE AND PUBLIC POLICIES

### CHALLENGES

Gender, race, and income inequalities must be confronted and combated in a continuous and crosscutting manner among the various spheres of public policies. Gender-responsive policies need to meet women's practical and strategic interests to promote gender equality and guarantee their right to access the city.

### RECOMMENDATIONS

- Conduct an origin and destination survey that investigates the motivation for trips, including those made reasons other than work and study, with data broken down by gender, race and income.
- Adopt urban policies – urban development and master plans, mobility, social housing plans, among others – that incorporate women's interests in their planning, implementation, monitoring, and evaluation phases.
- Ensure the participation of organized civil society in all phases of urban policy-making.
- Establish goals to promote gender equality in urban policies.
- Adopt indicators with impact on women and children's access to the city, to monitor urban policies.
- Adopt and implement parity representation policies regarding gender and race in participatory bodies.
- Create institutional frameworks with women participating in decision-making positions.



## 4.9. GOVERNANCE AND PUBLIC POLICIES

### INDICATORS

#### **Percentage of women in decision-making positions in charge of urban and mobility policies**

The indicator measures the total number of women in decision-making positions for urban and mobility policies in relation to the total number of positions in the same administrative level. For the indicator measurement, authorities such as coordinators, heads of staff, and political positions should be considered. The indicator must present data broken down by color/race.

The indicator may help to monitor the efficacy of gender and race equality policies in decision-making positions in planning, implementation, monitoring, and evaluation of urban and mobility policies.

After the initial measurement, the indicator should ideally show an upward trend over time.

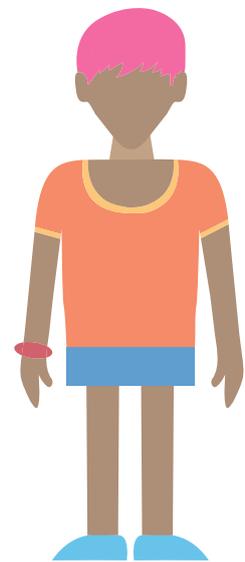
# 5 CONCLUSIONS

Mobility is not gender neutral. Each time one chooses to invest scarce resources in infrastructure that prioritizes travel by private motorized transport, a choice is being made that results not only in setting lower standards of urban mobility and development for all, but also in higher inequality of access to the city. Consequently, black and low-income women living in low-income areas are the most affected and the most exposed to the risks of violence and social exclusion.

Gender issues cannot be simply “incorporated” into the existing planning processes and structures. They require that public authorities generate qualified data broken down by gender, race, and income, and ensure the development (including the adoption of goals and indicators), implementation, monitoring, and evaluation of public policies that meet the practical and strategic interests of specific groups, always with community's participation.

However, solutions to guarantee the right to mobility and to allow women to use their time in a more equitable way will need to be aligned with promoting a more inclusive urban design. This must be done through planning processes that are coordinated between mobility and land use/occupation and that are appropriate for the most vulnerable groups, such as women, children, seniors, and people with disabilities and reduced mobility.

It will be fundamental to design streets that allow users to share the road system, with reduced speeds that prioritize the modes of transport that most serve the interests of women, without excluding any one — walking, public transport, and cycling — to better allocate resources to create more sustainable, equitable, and low-carbon cities.





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