

First Steps: Urban Mobility in Early Childhood

EXECUTIVE SUMMARY



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Introduction

How small children move around cities may have a major impact on their development. Early childhood (ages 0 to 6) is a crucial stage for a child's full development, including their cognitive functions and their ability to develop more complex skills, such as motor skills. The daily experiences of children in the spaces where they live and frequent have a great impact on them, particularly on those below 3 years of age¹.

At this stage, caregivers play a central role in children's lives, being primarily responsible for monitoring their day-to-day activities. The quality of the urban environment and the modes of transport that enable the performance of such activities may have a positive or negative impact on caregivers' behaviors and well-being, which may consequently affect the development of infants and toddlers.

Transport planning generally seeks to facilitate home-work commuting patterns. However, caregivers tend to have more complex travel patterns, including several off-peak chained trips². In this context, it is essential to consider the interests and needs of these groups at all stages of planning, implementation, and evaluation of urban policies, based on the understanding that ad hoc measures may have a major impact on their lives.

Context and Objective

Aiming to understand the relationship between urban mobility and some aspects that impact development and quality of life in early childhood, ITDP Brazil conducted a study in the municipality of Recife between 2019 and 2020 with the support of the Bernard van Leer Foundation and the Recife Secretariat for Planning and Management (SEPLAG/PCR).

This is the executive summary of [a set of two reports that integrate the study](#). In the first report, we addressed caregivers' views on the direct and indirect impacts of the quality of urban spaces on children's lives in relation to their walking mobility and the role of bus stops in their daily trips.

In the second report, we discussed in further detail the obstacles and issues raised by caregivers regarding the bus system as a whole, as well as the opportunities and challenges for government officials and transport operators that play a direct or indirect role in the urban mobility and/or early childhood agendas.

It should be noted that the discussions proposed in both reports do not end here. We expect them to provide food for thought and to serve as inspiration, guidance, and reference for the development of an increasingly sensitive urban mobility that meets the needs of early childhood.

¹ Bernard van Leer (2019). Urban95 Starter Kit. Available at <https://bernardvanleer.org/pt-br/news/available-now-the-urban95-starter-kit/>. Accessed in January 2020.

² During a single trip, caregivers may make a number of stops to perform multiple tasks, including looking after children and other family members, completing activities related to their paid job, going shopping, and performing other domestic chores (ITDP Brazil, 2017).



Methodology

The study was conducted in several stages:



1. Identification of study area:

Identification of the area to be studied considering socioeconomic characteristics of each neighborhood, location of facilities and services for early childhood care, and proximity to arterial and express roads.



2. Analysis of results of focus group survey:

Analysis of the perception of primary caregivers of children aged 0 to 3, based on interviews/discussions.



3. Interviews with key players in Recife:

Analysis of semi-structured interviews with government officials and bus system operators to identify crosscutting aspects of mobility and early childhood policies within the municipality of Recife.



4. Recommendations

General recommendations for improving mobility infrastructure and for planning public transportation systems by bus so that they are more responsive to early childhood needs, as well as for improving initiatives, policies, and projects related to urban mobility in early childhood to make them more crosscutting, effective, and efficient.

The following sections discuss the main results for each of these stages.

1. Identification of the study area

The Morro da Conceição district and surrounding areas were chosen for the study because they constitute a densely populated area with a high concentration of low-income population; have several educational facilities; have health facilities that provide family healthcare and preventive monitoring services; and are crossed by Avenida Norte, one of the main traffic routes in the city.

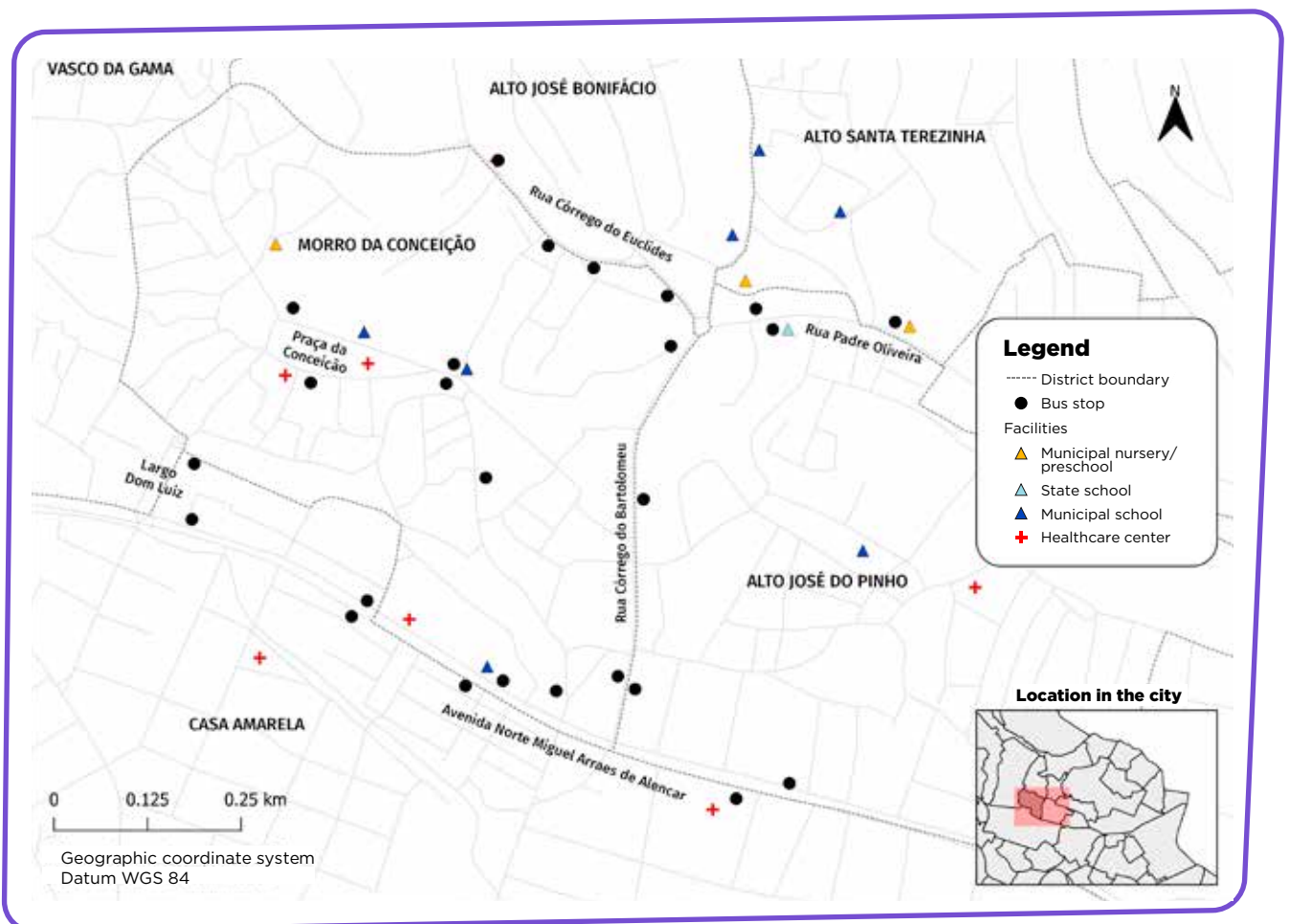


Figure 1. Study area.

Although the main focus of the study was the Morro da Conceição district, residents of adjacent neighborhoods such as Casa Amarela, Alto José do Pinho, Alto Santa Teresinha, and Alto José Bonifácio were also invited to join the focus groups. This decision was based on the understanding that they also benefit from local facilities, and thus their experiences and perceptions would also be of great value for the study.

2. Analysis of the results of the focus group survey

When talking about mobility from the perspective of caregivers, two very different situations ought to be considered: traveling with or without children. When caregivers are accompanied by children, their difficulties increase: they have to pay extra attention to their surroundings, their walking pace tends to be slower (if they have a toddler), or their physical effort is doubled (if they are carrying a baby or goods). Some statements heard during the focus group discussions are quoted in this chapter.

Thus, three factors affect caregivers' decision on how to move around: distance, cost and affordability, and whether or not they are traveling with children. Therefore, decisions tend to vary between:

- Walking, when routes are shorter or when they have no money; and
- Taking public transport, when they have a child and/or the journey is long.



2.1 Mobility on foot

Walking around the neighborhood is compared to participating in a **hurdle race**. Sidewalks and streets have to be shared with vehicles, drivers, street vendors, piles of garbage, retailers displaying products outside their stores, and trucks unloading goods.

For caregivers who live in steep, hilly, or rugged areas, stairways up and down the hills demand additional effort and stress their vulnerabilities. They are often long, have no handrails, and are poorly maintained. In addition, they tend to be too warm and sunny during the day and unsafe and poorly lit at night. However, despite these problems, many participants prefer to use these stairways to avoid the potential safety risks of walking on sidewalks.

These risks derive from the perception of road traffic as chaotic and violent, with drivers exceeding speed limits and disregarding pedestrian crossings and dedicated bus lanes. There are also recurrent complaints about the quality of pedestrian infrastructure: Although participants recognize the increased number of pedestrian crossings on the main thoroughfares, they criticize the lack of signage and respect for pedestrian crossings.

Nevertheless, in spite of all these obstacles, caregivers understand that walking gives them a great opportunity to strengthen their relationship and bond with their children. Upgrading sidewalks, decorating a local school with art and graffiti, and closing some streets to traffic on Sundays (a program that has been discontinued) have been mentioned by focus group participants as positive initiatives that can make public spaces better and more attractive.

"For some activities that would normally take us 20 minutes, we may spend an hour and a half if we have a child."

"When you are walking with a child on the sidewalk, you either have them walk in front of you or you carry them. The sidewalks are just too narrow"



2.2 Bus system

In general, caregivers' perceptions are very negative when talking about public buses, and their reports are worse when children, pregnant women, or senior citizens are involved.

Boarding areas for bus stops are identified as the first obstacle. For caregivers, these are devoid of comfort and safety: They lack seating and are not sheltered from the sun and rain; they rarely display any useful information; and they are often located in places with no sidewalks or where the area is too small. As a result, caregivers are forced to wait for the bus on the road.

The bus service itself also presents a number of challenges: unreliable timetables; overcrowded vehicles; and drivers who are impatient, aggressive, and disrespectful. Besides, caregivers often have to stand for the entire trip while carrying a child. These are just some of the most cited examples.

In order to deal with all these obstacles, caregivers understand that **riding a bus often requires adjusting your routines and planning in advance**. They need to identify the best bus stops in terms of comfort and safety; leave in advance so they can wait for an empty bus; and try to choose buses whose drivers are friendlier and help them to board safely and comfortably.

Caregivers adopt a similar strategy to reduce the impact of daily trips on their household budget. In other words, caregivers plan and choose how to travel according to how much they can spend: They study their potential routes, the number of buses they need to take, and whether or not single or integrated fares are in place.

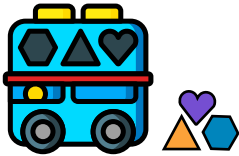
Several people claim that bus fares end up limiting inclusion and access to leisure and culture. Caregivers often avoid going to distant parks, heading to the beach on weekends, or exploring beyond their neighborhood with the whole family.

Despite all the difficulties mentioned above, caregivers perceive these outings as opportunities for children to have fun. They also indicate that taking a bus enables children to leave the restricted spaces in which they live and that the time spent traveling could be better used as a moment for interaction. In the view of caregivers, taking a bus is something new and unusual for children, and it is also a means to access leisure facilities such as parks or beaches.

"It is difficult. It is not one line or another —all lines are unsuitable for children, because they are all overcrowded. There are just too many people! When you take a child out in the morning, you need to be strong, because it is really hard."



3. Interviews with key stakeholders in Recife



In order to ensure that urban mobility is adequate for early childhood and sensitive to the needs of young children, it is essential to plan, implement, monitor, and evaluate policies and projects from a coordinated and crosscutting approach. In this section, we will discuss the knowledge of local government actors and transport operators in Recife regarding the challenges affecting early childhood mobility; initiatives and projects related to this topic; and how multiple sectors coordinate their project planning and implementation strategies to meet these goals. Some responses to interview questions are quoted in this chapter.

3.1 Perceived challenges affecting early childhood mobility

When we talk about urban mobility in early childhood, a common assumption shared by many interviewees is that most daily trips made by children and their caregivers involve short distances, and walking is presented as the main way to move around their own neighborhood. The difficulties and obstacles highlighted by interviewees are related to the width of sidewalks, lack of safety when crossing the street or climbing stairs, and steep roads or streets.

Although cycling was mentioned by some respondents, it is often seen as a leisure activity for children and also a mode of transportation used by caregivers accompanied by children on shorter trips.

Access to leisure areas in other parts of the city—including beaches or historical and cultural events—is made impossible if public transportation does not meet the wishes and needs of these users, as we learned from the focus groups. Not many interviewees stressed these challenges when asked about early childhood mobility, except for the need for bus stops to provide adequate and comfortable waiting areas.

However, when asked directly about bus systems, some respondents reported a feeling of insecurity and lack of comfort when taking their children on public transportation, and they talked about the importance of complementary transport as a way to overcome the obstacles affecting mobility on foot, especially for caregivers and women.

Traveling around the city offers opportunities for children to develop cognitive skills and become more aware of their role as citizens. In addition, these trips are opportunities for social interaction. Some interviewees highlighted this point in their responses and also mentioned the need for routes to be attractive when we talk about mobility in early childhood—colorful and fun, with trees and adequate furniture.

"At this stage (early childhood), although they are still in the beginning of their life, children are citizens and have rights. They already benefit from various services provided by the city. They are users of the city, and to make the best use of that, they need to move around."

3.2 Initiatives and projects related to the topic

In synergy with the perception of the main challenges mentioned by respondents, many initiatives and projects related to early childhood in Recife (both implemented and in development) **prioritize the rehabilitation of public walkways to facilitate walkability**. For these key local stakeholders, one cannot talk about early childhood without considering access to public health, education, and social assistance facilities.

For some other initiatives, in particular those involving bus systems, toddlers and young children are not mentioned as the focus of the projects and appear only as indirect beneficiaries. This is because these initiatives are not directly aimed at infants and toddlers, as the use of this mode of transportation by caregivers is very limited.

A desire to expand efforts (mentioned by some respondents) evidences a growing awareness of the importance of designing more initiatives that address early childhood mobility, especially in the current context of the COVID-19 pandemic, notably:

- Maintaining and expanding initiatives for the provision of safe facilities for active mobility. Respondents see the current moment as an opportunity to encourage more walking and cycling, and thus offer alternative solutions to the effects of the pandemic on young children, who have suffered restrictions in their opportunities for social interaction and capacity building; and
- Developing projects and initiatives related to bus systems with more sensitivity to the perspective of women and caregivers. Respondents stress that the uncertainties and challenges posed by the pandemic further reinforce this need, and that infants and toddlers are directly affected.

3.3 Intersectoral coordination

One of Recife's top management priorities is its early childhood agenda, as mentioned in several interviews. Another common trend across most responses is the perception that this is a crosscutting topic, and that it is key for the provision of more holistic initiatives that may facilitate mobility options more suitable and sensitive to the wishes and needs of early childhood.

However, most interviewees believe that discussions about activities aimed at early childhood mobility are still quite limited, particularly with regard to public transport. Many respondents expressed their wish to see more resolute and concrete partnerships as well as knowledge exchanges about initiatives that favor early childhood mobility. The pandemic has added some challenges to this, as it has changed each secretariat's own internal priorities. There are still many actions that have to be defined for the post-pandemic period due to the complexity and uncertainty of the moment, but this situation will require a more holistic approach and further strengthening of intersectoral cooperation.

4. Recommendations

The pathway to actions that may ensure the improvement of early childhood mobility is complex and multidisciplinary. This section compiles the main recommendations based on the analysis of focus group discussion and semistructured interviews with key local stakeholders. The general recommendations listed below³ aim to enhance existing mobility infrastructure and the planning of public bus systems to make them more sensitive to early childhood needs. In addition, they expect to improve intersectoral coordination with a view to establishing early childhood mobility policies, projects, and initiatives.



4.1 Mobility on foot

4.1.1 Addressing narrow sidewalks

One recommendation is to turn smaller thoroughfares, such as local streets and lanes, into shared spaces for pedestrians, cyclists, and motor vehicles, and to intervene in their design with traffic control elements to prioritize pedestrians and cyclists.

Actions and mechanisms that increase the space and priority for pedestrians are recommended on larger roads with higher speed limits. Examples might include reducing the width of motorized traffic lanes, widening sidewalks on both sides of the road, and installing speed-reduction devices.

4.1.2 Removing temporary or permanent obstructions from sidewalks

To minimize the conflict over space on sidewalks, it's necessary to remove temporary or permanent obstructions, such as cars and motorbikes parked in the pedestrian spaces or trash dumped on sidewalks.

Despite the fact that in Brazil, property owners are responsible for building, preserving, and cleaning sidewalks in front of their properties, it is up to municipalities to inspect them and to establish clear parameters to raise awareness and inform owners. Therefore, public areas in front of early childhood facilities and services, for example, should benefit from priority interventions.

Finally, efforts to raise awareness and oversee waste collection services, illegally parked vehicles, and other irregular sidewalk uses are essential to promoting the value of walking as a transport mode and may directly influence the quality of transport for caregivers and children.

³ The recommendations described here can be applied to any context. More details on these, including specific recommendations for the Morro da Conceição district, are available [here](#). Recommendations related to walkability and bus stops are available in Report 1, and those on the bus service as a whole and the crosscutting aspects of early childhood policies are in Report 2.

4.1.3 Providing thermal comfort and planting trees

The environmental comfort and benefits from the presence of trees in urban areas are very significant, especially for babies and toddlers. Trees reduce ambient temperature, provide a buffer against the noise from vehicle traffic, and improve air quality.

Where sidewalks are sufficiently wide, we recommend planting trees alongside the street furniture. The tree species selected must follow municipal tree-planting guidelines, which should consider their size, type of root, and foliage⁴. Where sidewalks are not sufficiently wide, it is recommended that, whenever possible, they be widened, reducing the width of traffic lanes or even eliminating a full lane to create room for vegetation and street furniture, thus prioritizing pedestrian mobility. On narrow streets, with a single or shared lane, attaching awnings (or other elements that provide shade and shelter) to buildings should be considered.

4.1.4 Improving empty, deserted streets at night

Analysis of patterns when people walk or use public spaces at different times of the day reveals the demand in certain areas, and this can generate an understanding of the extent to which some spaces are more or less attractive for walking. The presence of facilities and the diversity of uses may influence the area's potential for attracting people.

Efficient public lighting also contributes to creating a more favorable and vibrant urban environment for walking, cycling, or accessing public transport during nighttime. As such, lighting fixtures should be sufficient in number and well located to eliminate dark spots on sidewalks and on the road, and they must undergo periodic maintenance.

4.1.5 Providing comfortable and safe crossings

Intersections and pedestrian crossings are areas of natural conflict for users of different modes of transportation—pedestrians, cyclists, and drivers. The first step toward improving intersections and crossings is to identify all existing traffic flow and desired routes, especially for caregivers with young children.

The dimension of intersections should be assessed, paying special attention to the parallel pedestrian and cycle pathways and their turning radii. Finally, crossings must follow the universal accessibility criteria established in the Brazilian Accessibility Standard for Urban Buildings, Furniture, Spaces, and Equipment (NBR 9050), which includes the requirement for ramps and tactile signs.



⁴ For reference, we suggest consulting the [Rio de Janeiro Municipal Master Plan for Urban Afforestation](#), which presents an integral approach for tree planting in the city, including the best forms of management and actions to reuse pruning waste

4.1.6 Creating infrastructure for urban furniture and recreational spaces

Certain items of urban furniture are essential to ensure caregivers' safety and comfort, and that they have adequate room to care for and meet the needs of children. Examples include benches and waste bins located on each block; landings along the extension of urban stairways; and seats and shelters protecting from harsh weather conditions at bus stops.

Cities naturally have a series of sensory stimuli that contribute to children's learning and brain development processes. These factors could be further enhanced by the presence of appropriate furniture and play facilities. Thus, the recommendation is to use different colors and textures on walls, benches, flooring, and other elements along sidewalks, stairs, or near or within bus stops. Vegetation and landscaping can similarly promote curiosity and play.

Another way to encourage the use of public spaces by children and caregivers is through temporary use of urban space for pedestrians and cyclists. A good example of this is the Open Streets program operating in Rio de Janeiro and São Paulo and the Street Leisure program in Recife, which temporarily ban motor vehicles from some areas on certain days of the week. Initiatives such as these are extremely important because in addition to providing benefits to the local community and visitors, they have the potential to boost the local activity⁵. This is achieved simply by encouraging people to take ownership of public spaces, without the need of installing large structures.



4.2 Bus Systems

4.2.1 Prioritizing bus services

One of the key ways to increase confidence in the system and reduce overcrowding is to ensure that vehicles stick to their schedules through maintaining the programmed operating speed and meet the minimum frequencies required. Prioritizing public transport services also improves road safety, as it reduces the potential impact and interference of other vehicles when young children and caregivers get on and off buses.

Therefore, implementing and extending dedicated and/or priority bus lanes is recommended, together with enforcing stricter inspections on the frequency and regularity of bus services to avoid overcrowding and to offer users a more comfortable ride, especially during off-peak hours (in view of caregivers' different travel patterns).

⁵ In the [Open Paulista Program Impact Assessment](#) (2019), 38% of local businesses reported an increase in sales on Sundays after the program started.



Operational integration measures should also be promoted to offer caregivers more reliability, providing up-to-date information on the entire transport network. Finally, cities should invest in management and monitoring strategies to ensure regular services, especially during off-peak hours, at night, and on weekends.

4.2.2 Improving system integration

Caregivers may use different modes of transportation to reach bus stops, stations, or terminals and after they disembark and travel to their destinations. Integrating different routes within a bus transport system and connecting buses and other modes of transportation available in the city or metropolitan region are essential to improve the efficiency and reliability of the system.

Users generally associate transfers with discomfort—particularly caregivers with babies and toddlers. Therefore, it is essential that the public transport system provides full and comfortable integration, considering physical, operational, and fare integration.

4.2.3 Ensuring staff training

Any public transport system requires constant and regular interaction between staff and users. Every day ticket collectors, drivers, ticket officers, and security guards working on vehicles, in stations, and at terminals interact with thousands of passengers. When we consider issues that affect early childhood, interactions of staff with caregivers is one of the main concerns raised in focus group discussions.

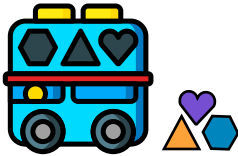
Thus, it is recommended that clear protocols are introduced to make it easier for caregivers to get on and off buses and that all staff, and drivers in particular, go through mandatory training on how to interact with users. Such training should be clearly established in contracts with employees and service providers. Training and capacity-building activities should make the team aware of the obstacles that most often impact female users, caregivers of young children, and people with reduced mobility to help them overcome these limitations.

4.2.4 Adapting the fleet

Certain adaptations to the fleet can offer caregivers higher levels of comfort, safety, and efficiency in their daily trips. Level boarding at terminals, stations, and bus stops is crucial for caregivers carrying large items or traveling with babies and young children. A more effective and long-term way that could contribute even further is the adoption of low-floor vehicles.

Other elements that may have an impact on the day-to-day activities of caregivers and young children are air and noise pollution⁶. It is recommended that a requirement be introduced when reviewing contracts with operating companies that establishes mandatory and regular replacing of the fleet with less-polluting vehicles. In order to contribute more effectively to reducing the emission of air and noise pollutants, we suggest that replacements should favor low-emission, low-floor vehicles, such as electric vehicles.

⁶ Pollutant emissions by the transport sector may aggravate or generate a number of health problems affecting pregnant women, babies, and children. Respiratory diseases, impaired lung growth, and premature births are some of the risks faced by young children due to air pollution. Noise pollution affects development during early childhood, with risks related to reduced cognitive function, inability to concentrate, and increased feelings of nervousness and helplessness in babies and toddlers.



4.3 Crosscutting early childhood policies

4.3.1 Strengthening technical knowledge

Continuous training of transport professionals and experts is recommended as a way to harmonize vision and concepts. Longitudinal studies of caregivers' perceptions should be carried out regularly to ensure that the existing knowledge and skills of the transport professionals are in line with the needs and desires of caregivers.

Technical and pioneering solutions are continually growing and developing, including specific approaches to early childhood issues. It is also suggested that training in data analysis and the use of new technologies might support better interventions.

Finally, mobilizing multidisciplinary and diverse teams is essential to guarantee and foster exchanges and experience-sharing reflecting different sectors, perceptions, and knowledge. Thus, it is essential to ensure equal gender and race representation.

4.3.2 Coordinating an integrated approach

Crosscutting initiatives are required to ensure that urban mobility is adequate and responsive to early childhood needs. These initiatives rely on a solid institutional framework. The different levels of coverage and the multiplicity of actors involved in different aspects of mobility require a governance model that promotes intersectoral coordination and takes into account the role of each actor while focusing on the full picture. It is essential that this framework includes a set of measures to ensure the availability and engagement of each stakeholder, as necessary.

The first step in this direction is mapping the different actors engaged in and integrated within the scope of a project or initiative, even if this is done on an ad hoc basis, and establishing their potential contribution and role in this process. Equally important is creating a harmonized vision and management mindset that promotes transparency and engages different sectors in the planning and management processes. In this regard, we suggested standardizing the process to build on previous exchanges, and creating spaces for dialogue and communication that stimulate further cooperation.

The type of interaction among the different actors involved must also respond to the specificities of the context in which the initiative is taking place. Legal constraints, local demands, availability of resources, and the socioeconomic context are some of the fundamental aspects that need to be addressed in this integrative activity.

4.3.3 Ensuring the political continuity of initiatives

Mobility and early childhood policies and projects depend on coordinating efforts, resources, and skills around a common goal. This type of coordination requires time, and it generally demands medium- and long-term actions that guarantee its existence across different administrations. In addition to political will, the continuity of these actions will require a systematic strengthening of the role of civil servants. A robust regulatory and legal framework will enable these actors to clearly communicate the social and economic benefits of early childhood mobility policies. In this regard, the policies and plans designed at municipal level need to establish clear guidelines, indicators, and goals.

A permanent and qualified technical team, clear cost forecasts, and the guarantee of available financial resources to carry the initiatives through to completion will support future managers in their decision-making. This is paramount for the implementation and integration of actions, but mainly to scale interventions so that they can result in tangible benefits within the scope of the municipality and do not end up being isolated efforts.



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