Evaluation of CIFF's Support to Curbing Brazil's Transport Emissions Trajectory by

Transforming City Mobility

Evaluation Report

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Executive Summary

Evaluation Overview and Purpose

In late 2015, the Children's Investment Fund Foundation (CIFF) commissioned an independent evaluation of its investment work programme aimed at reducing greenhouse gas (GHG) emissions from transport in Brazilian cities and at reforming the financing approach of public and private stakeholders to prioritize low carbon infrastructure. World Resources Institute Brasil (WRI) and Institute for Transportation and Development Policy Brasil (ITDP) implemented the programme, which ran for three years from 1 January 2015 to 31 December 2017.

The evaluation sought to inform both CIFF and the grantees' understanding of the results of this programme and contribute evidence and information to support learning around suitable strategies for scaling up climate-smart urban mobility solutions in Brazil. The evaluation was designed to include estimations of the impact on GHG emissions; review of reported outcomes and key performance indicators (KPIs) associated with the work programme; and a qualitative assessment of the programme theory of change and evaluation questions. More specifically, the evaluation has aimed to:

1. Inform CIFF and grantees' theories of change, strategies, and activities in ways that enable learning and potential course adjustment (where appropriate);
2. Inform CIFF's broader investment programme focused on cities and GHG emissions mitigation by generating evidence to inform assessments of the programme theory of change and strategies; and[1]
3. Generate evidence on the efficacy of low carbon urban mobility strategies that can inform the broader field and other partners working on related initiatives (e.g., other funders, NGOs, multilateral development banks) in Brazil and around the world.

This report presents the "endline" findings and recommendations from this evaluation.

Background on the CIFF Brazil Urban Mobility Investment

CIFF's three-year, $8 million investment in a Brazil urban mobility work programme was designed to provide technical assistance, guidelines and tools, research, and advocacy to achieve the following objectives:

I. Fill a technical capacity gap by building the technical expertise of federal and city officials to embed climate-smart transportation and planning principles in city mobility plans.

II. Deliver world-class emblematic projects in key cities to showcase the feasibility of the approach in the Brazilian context and, in aggregate, to provide scale sufficient to influence city development in Latin America and beyond.

III. Reform the lending and grant making criteria of the development banks to be more transparent, policy-based (i.e., set minimum quality standards for transit-oriented development (TOD) and bus rapid transit (BRT)) and incentivize low carbon transport and facilitate the development of a pipeline of low carbon infrastructure).

The investment aimed to build capacity to implement climate-smart urban principles, to identify champions for the new norms who could implement iconic demonstration projects (e.g., city mayors), and to encourage and

[1] During the work programme, CIFF programme staff indicated that the Foundation has moved to de-emphasize direct investment in low carbon urban mobility strategies in Brazil, opting to shift the management and investment of work programme activities in this area to the Instituto Clima e Sociedade (iCS), a regranting partner in Brazil. The evaluation team worked to coordinate the evaluation activities with iCS throughout the evaluation.

enable the replication of successful examples. In parallel, by supporting and encouraging the Brazilian Ministério das Cidades (MoC), Caixa Econômica Federal (CAIXA), and the Banco Nacional de Desenvolvimento Econômico e Social (BNDES) to make funding conditional on consistency with these principles, the work programme investment sought to develop a pipeline of low carbon infrastructure. In turn, the work programme theory of change envisioned that this would contribute to the emergence of a new pattern of urban development and a decisive curbing of the growth in Brazil's urban transport emissions. However, significant changes in the political and economic context in Brazil during the work programme led CIFF and grantees to evolve the work programme, as discussed in the findings of the midline and endline evaluation reports.

Evaluation Findings

The report summarizes the evaluation findings relevant to the five main evaluation areas of inquiry—relevance, efficiency, effectiveness, impact, and sustainability—and the associated evaluation questions. Key findings are listed below and presented in the report.

1. Relevance: *Is the Brazil Urban Mobility programme doing the right things?*

Yes. The evaluation found that the Brazil Urban Mobility programme is generally focused on addressing vital areas relevant to mitigating greenhouse gas emissions in Brazil, as well as other important areas such as poverty alleviation and equity, social inclusion, public health, and safety. Failure to mitigate urban transportation sector emissions will miss an important wedge of greenhouse gas emissions needed to meet national climate change targets. Specific findings include:

Finding 1.1: Given the size and growth of GHG emissions from the transportation sector in Brazil, efforts to advance low-carbon urban mobility strategies remain vital to long-term efforts to curb GHG emissions and mitigate climate change.

Finding 1.2: Addressing urban mobility and transit-oriented development issues to reduce transportation sector GHG emissions has substantial adjacent benefits in areas such as poverty alleviation and equity, public health, and safety, which can appeal to broader constituencies and partners for initiatives.

Finding 1.3: The CIFF Brazil Urban Mobility work programme and theory of change was based on underlying assumptions that did not all hold true as external political and economic shifts rapidly unfolded during the work programme, requiring CIFF and grantees to evolve focus and expectations for the work programme.

2. Efficiency: *Is this the best way to scale up low carbon urban mobility and transit-oriented development in Brazilian cities?*

Yes, in part. The evaluation found that the work programme has addressed an important area of need—providing local and national government institutions with technical assistance to enhance ambition and capacity to deliver climate-smart urban mobility solutions. However, the work programme and theory of change can be enhanced through complementary investments in "outside game" coalition advocacy strategies and broader efforts to enhance government transparency and accountability, as well as efforts to leverage non-federal investment sources for low-carbon mobility solutions. Specific findings include:

Finding 2.1: Scaling up low-carbon urban mobility and TOD requires a multi-pronged, portfolio approach that addresses infrastructure financing, program and project planning, and implementation and diffusion of high-quality demonstration projects; however, the technical assistance, capacity-building, research and knowledge development, and communications activities supported under the CIFF work programme are necessary but insufficient on their own to support efficient scaling.

Finding 2.2: Experts and policy-makers affirmed the importance of city-level planning processes for efficiently guiding creation of a pipeline of climate-smart projects that are ready for financing and implementation.

Finding 2.3: There is strong demand for city-level technical assistance across Brazil, but a key challenge remains how to deliver, leverage, and scale this work in an efficient, cost-effective way.

The following findings under section 2 (Efficiency) elevate areas that the evaluation team did not see emphasized in the initial work programme design or in the programme theory of change but that emerged as key areas needing attention during the work programme to efficiently deliver progress and results.

Finding 2.4: Continued work to leverage financing of transportation infrastructure and public housing development is an efficient strategy to incorporate climate mitigation considerations, although the scope of focus needed to be broadened beyond MoC, CAIXA, and BNDES to explore local and private sector sources of financing.

Finding 2.5: Attention to integrated systems and quality of service are increasingly important to the future success of low-carbon urban mobility and TOD solutions.

Finding 2.6: Political mobilization and strategic communications were less developed elements of the original theory of change that became increasingly important during the work programme, although political mobilization and public-focused strategic communications are not core strengths of the grantees and have required emergent activities and partnerships.

Finding 2.7: Grantees operate within a broad and diverse field of urban mobility and other relevant organizations; empowering a broader range of NGOs and CSOs to do more work with greater capacity and resources in an aligned way through coalitions may be an efficient way to achieve scale and foster accelerated replication and diffusion.

3. Effectiveness: *How well is the programme working?*

Reasonably well, particularly given the external context. The evaluation team found that the grantees have been highly effective in delivering the types of services laid out in the original work programme plans, and in adapting their services in response to evolving contextual shifts. While the evaluation notes some areas for improvement, the work programme has performed well in the face of very challenging economic and political constraints that arose during the work programme. Specific findings include:

Finding 3.1 ITDP and WRI were widely praised by policy makers, experts, and partners for their work on communications, research and knowledge generation, technical assistance, and capacity development to support national and city-level government partners in advancing climate-smart urban mobility solutions.

Finding 3.2: ITDP and WRI effectively pivoted during the work programme from a focus on developing new transit systems to improving the performance of existing transit systems.

Finding 3.3: ITDP and WRI played a significant role in advancing climate-smart Urban Mobility Plans and in the dissemination of climate-smart mobility principles at the local level, through their work with city governments, and at the national level, through their work with the Ministry of Cities.

Finding 3.4: ITDP and WRI engaged 20 cities and 3 metropolitan regions on various stages of the Urban Mobility planning and implementation process, despite limited capacity and challenging political and financial contexts in many cities.

Finding 3.5: ITDP and WRI have been successful in incorporating planning norms and creating climate-smart criteria for Minha Casa Minha Vida projects, though the pace of implementation has been slow.

Finding 3.6: ITDP and WRI were able to push forward several key demonstration projects, which are important to advance policy and infrastructure outcomes, build local political will, and serve as tangible models to spur interest and action among city officials and other actors in Brazilian cities.

Finding 3.7: ITDP and WRI's activities supported CSO campaigns and coalitions, but grantees could do more to collaborate effectively with CSOs.

Finding 3.8: ITDP and WRI widely disseminated information on low-carbon urban mobility and transit-oriented development concepts; however, there is some uncertainty about the extent to which these concepts have been appropriately understood by city officials and other key stakeholders.

Finding 3.9: While the KPI system is relevant for assessing longer-term progress on outcomes, it was largely irrelevant to the management and conduct of the current three-year work programme.

4. Impact: *What evidence is there that the programme has led to the curbing of Brazil's transport emissions?*

There has been modest progress in curbing actual urban transport emissions during the work programme; most progress has focused on interim outcomes that are anticipated to support emissions reduction progress in the future. Severe economic and political crises in Brazil during the work programme substantially limited impact on actual emissions. Implemented activities, such as the development of climate-smart urban mobility plans, seek to influence urban mobility investments when economic activity recovers. Specific findings include:

Finding 4.1: Most progress to date during the programme has been focused on interim outcomes that have the potential to influence GHG emissions in the future.

Finding 4.2: Most actual GHG emissions reductions associated with the work programme are linked to BRT projects that CIFF grantees contributed to before the work programme began in 2015, although the work programme supported continued progress on implementation and improvement of these systems.

Finding 4.3: Policymakers, civil society actors, and other key stakeholders consistently identified improved quality of life and more equitable cities as among the primary motives driving climate-smart urban mobility solutions, while GHG reductions are typically viewed as a co-benefit.

Finding 4.4: Grantees struggled with calibrating funder expectations for the pace of progress with the actual pace of change that is feasible for implementation of city-level, climate-smart urban mobility solutions.

5. Sustainability: *Is this a transformative initiative?*

This is a potentially transformative initiative; however, more work and investment are needed to sustain and expand progress in shifting the complex systems that shape urban mobility and transit-oriented development in Brazilian cities. Focused attention on transportation systems and transit-oriented development are needed to complement electric vehicle deployment strategies and to ensure that solutions work in economically-viable and equitable ways for broad segments of the Brazilian population.

The evaluation team has interpreted the concept of "transformative" to mean that interventions are contributing to systemic changes that can enable scaling of low-carbon urban mobility and TOD solutions that are sustainable in that they persist into the future. In the midline evaluation report, the evaluation team identified several characteristics of transportation and urban mobility in Brazil that influence the ability of the CIFF Brazil Mobility Initiative to be transformative. Endline interviews affirmed those findings, including:

- The initiative is transformative insofar as it is working towards a fundamental shift away from an automobile-centric design for cities and to broaden urban mobility solutions to benefit many who do not have access to cars. (*Midline Evaluation Finding 17*)
- Efforts to grow transparency and accountability around urban mobility and transit systems and their performance are vital to sustaining progress, particularly through mayoral transitions. (*Midline Evaluation Finding 18*)
- For long-term success, efforts will be needed to break the glamour of the automobile among the Brazilian middle class and the government's reliance on cars and oil as the key to national economic growth and development. (*Midline Evaluation Finding 19*)

Additional findings related to Sustainability from the endline evaluation include:

Finding 5.1: While replication strategies appear to be generally sound, more innovation and funding will be needed to expand capacity building (and capacity gap filling) support to meet the need among Brazilian cities in the coming decades.

Finding 5.2: City-level strategies are critical to create lasting change in the transport sector for long-term impact on GHGs, particularly given the inertia at the federal level.

Finding 5.3: City mobility plans are an important, but insufficient ingredient, to drive transformation of urban mobility solutions and sustained political leadership and commitment will be needed to ensure that the concepts are incorporated into city master plans and projects.

Finding 5.4: Political mobilization strategies were helpful to grow support for low-carbon urban mobility and TOD solutions that can weather mayoral transitions and counter opposition narratives that are pushing car-centric strategies.

Finding 5.5: Grantees have been highly-dependent on CIFF funding for scaling their urban mobility work programmes and continued philanthropic investment and assistance is necessary to sustain their efforts going forward.

Key Insights

The evaluation team identified the following key insights related to the CIFF Brazil urban mobility work programme, based on the findings from the midline and endline evaluation activities, as well as from the evaluation team's broader work and experience evaluating climate change mitigation initiatives in these areas. Key insights and lessons include:

Insight 1: "Inside game" technical assistance, capacity building, knowledge and information development, and communications activities are key ingredients of enabling longer-term transformational changes that support low-carbon urban mobility solutions.

Insight 2: Effective civil society engagement on urban mobility issues requires "outside game" advocacy and mobilization work to complement "inside game" technical assistance activities, as well as effective coordination among participants across the NGO field.

Insight 3: External factors can disrupt the best-laid plans; build in robust opportunities for informed reflection that enable learning and course adjustments.

Insight 4: Recognize that change happens in non-linear ways and that setbacks can create opportunities.

Recommendations

The evaluation team identified the following recommendations stemming from the endline evaluation.

Recommendation 1: Continue philanthropic support for low-carbon urban mobility solutions in Brazil because the urban transportation sector is a major source of greenhouse gas emissions and solutions provide numerous other co-benefits to a large population.

Recommendation 2: Continue to support shifts discussed in the midline evaluation to strategies pursued by ITDP, WRI and other partners to address weak spots in the theory of change, to respond to the evolving political and economic context, and to build on the accomplishments of the work programme. These recommended shifts include:

- Recommendation 2.1: Shift focus from mobility plan development to model plan implementation;
- Recommendation 2.2: Focus on strategic communication and dissemination of developed resources to enhance concept diffusion and replication;

- Recommendation 2.3: Focus on enhancing and measuring existing projects and developing shovel-ready plans for future projects during this period of economic investment constraints;
- Recommendation 2.4: Expand support to CSO advocacy coalitions and campaigns; and
- Recommendation 2.5: Develop non-federal financing models, including local mechanisms and private sector financing.

Recommendation 3: Explore creative and innovative strategies for delivering and funding technical assistance at scale to a broader range of mid-size Brazilian cities, building off insights from recent grantee efforts to expand reach and impact through workshops, partnerships, and other means.

Recommendation 4: Explore the transformational potential of smaller place-based interventions as a complement to large infrastructure strategies.

Recommendation 5: Develop stronger philanthropic strategies that take a field-level perspective and include expanded attention to political will-building and mobilization and strategic communications.

Recommendation 6: Use Annual Program Review (APR) meetings as an opportunity to engage grantees, funders, and evaluators to reflect on the theory of change and strategies for climate initiatives and to discuss potential course adjustments; consider additional engagement opportunities when there are major shifts in the external context.

Recommendation 7: In future initiatives, remain open to and supportive of strategy testing and adaptation during the work programme provided it is informed by thoughtful analysis and deliberation.

Recommendation 8: Consider adjustments to the Key Performance Measurement (KPI) system that fit the anticipated pace of change, accommodate interim outcomes of progress, and balance burden with benefit.

Recommendation 9: Develop sustainable funding to support and expand strategic delivery of technical assistance to Brazilian cities on low-carbon urban mobility solutions and to CSO partners and coalitions.

Recommendation 10: Explore opportunities to engage funders working on adjacent issues—such as health, poverty alleviation, livelihood development, public safety, and social inclusion, among others—in co-funding multi-benefit strategies that address urban mobility issues.

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Acronyms and Abbreviations

APR	Annual Program Review
BNDES	Banco Nacional de Desenvolvimento Econômico e Social (Brazilian Development Bank)
BRT	Bus rapid transit
CAIXA	Caixa Econômica Federal (Brazilian Government-owned financial institution)
CIFF	Children's Investment Fund Foundation
CSO	Civil society organization
FNP	National Front of Mayors
GHG	Greenhouse gas
iCS	Instituto Clima e Sociedade
IADB	Inter-American Development Bank
ITDP	Institute for Transportation and Development Policy
KPI	Key performance indicator
LRT	Light rail transit
MCMV	Minha Casa, Minha Vida
MDB	Multilateral development bank
MoC	Brazilian Ministério das Cidades (Ministry of Cities)
NGO	Non-governmental organization
PAC	Brazilian Government Growth Acceleration Plan
PDUI	Plans for Integrated Urban Development
TDM	Transportation Demand Management
TOD	Transit-oriented development
UN	United Nations
WRI	World Resources Institute

Chapter 1: Introduction and Background

Evaluation Overview and Purpose

In late 2015, the Children's Investment Fund Foundation (CIFF) commissioned an independent evaluation of its investment work programme aimed at reducing greenhouse gas (GHG) emissions from transport in Brazilian cities and at reforming the financing approach of public and private stakeholders to prioritize low carbon infrastructure. World Resources Institute Brasil (WRI) and Institute for Transportation and Development Policy Brasil (ITDP) implemented the programme, which ran for three years from 1 January 2015 to 31 December 2017.[2]

The evaluation sought to inform both CIFF and the grantees' understanding of the results of this programme and contribute evidence and information to support learning around suitable strategies for scaling up climate-smart urban mobility solutions in Brazil. The evaluation was designed to include estimations of the impact on GHG emissions; review of reported outcomes and key performance indicators (KPIs) associated with the work programme; and a qualitative assessment of the programme theory of change and evaluation questions. More specifically, the evaluation has aimed to:

1. Inform CIFF and grantees' theories of change, strategies, and activities in ways that enable learning and potential course adjustment (where appropriate);
2. Inform CIFF's broader investment programme focused on cities and GHG emissions mitigation by generating evidence to inform assessments of the programme theory of change and strategies; and[3]
3. Generate evidence on the efficacy of low carbon urban mobility strategies that can inform the broader field and other partners working on related initiatives (e.g., other funders, NGOs, multi-lateral development banks) in Brazil and around the world.

This report presents the "endline" findings from this CIFF-supported work programme. Chapter 1 includes background information and the theory of change for the CIFF-supported urban mobility work programme in Brazil. Chapter 2 summarizes the evaluation questions, methods, and data sources. Chapter 3 presents the findings from the evaluation. Chapter 4 summarizes key lessons and recommendations identified by the evaluation team. Appendix 1 includes a list of publications developed by WRI and ITDP with support from the CIFF investment for this work programme. Appendix 2 includes a bibliography of references relied upon by the evaluation team to inform the evaluation research. Annex A discusses the changes in the external context in Brazil that the evaluation team believes are relevant to understanding the evolution and results of the work programme and the findings of this evaluation. Annex B includes a detailed assessment of the KPIs that were used by grantees, at the request of CIFF, to monitor progress during the work programme.

CIFF's Brazil Urban Mobility Investment (2015-2017)

CIFF's three-year, $8 million investment in a Brazil urban mobility work programme was designed to provide technical assistance, guidelines and tools, research, and advocacy to achieve the following objectives[4]:

[2] WRI received a no-cost period of performance extension under their grant agreement until 31 December 2018, so they are continuing to implement activities supported by the CIFF work programme. This evaluation addresses grantee activities through 31 December 2017.

[3] During the work programme, CIFF programme staff indicated that the Foundation has moved to de-emphasize direct investment in low carbon urban mobility strategies in Brazil, opting to shift the management and investment of work programme activities in this area to the Instituto Clima e Sociedade (iCS), a regranting partner in Brazil. The evaluation team worked to coordinate the evaluation activities with iCS throughout the evaluation.

[4] These objectives are outlined in both ITDP and WRI's multi-year grant agreements with CIFF.

I. Fill a technical capacity gap by building the technical expertise of federal and city officials to embed climate-smart transportation and planning principles in city mobility plans.

II. Deliver world-class emblematic projects in key cities to showcase the feasibility of the approach in the Brazilian context and, in aggregate, to provide scale sufficient to influence city development in Latin America and beyond.

III. Reform the lending and grant making criteria of the development banks to be more transparent, policy-based (i.e., set minimum quality standards for transit-oriented development (TOD) and bus rapid transit (BRT)) and incentivize low carbon transport and facilitate the development of a pipeline of low carbon infrastructure.

The investment aimed to build capacity to implement climate-smart urban principles, to identify champions for the new norms who could implement iconic demonstration projects (e.g., city mayors), and to encourage and enable the replication of successful examples. In parallel, by supporting and encouraging the Brazilian Ministério das Cidades (MoC), Caixa Econômica Federal (CAIXA), and the Banco Nacional de Desenvolvimento Econômico e Social (BNDES) to make funding conditional on consistency with these principles, the work programme investment sought to develop a pipeline of low carbon infrastructure. In turn, the work programme theory of change envisioned that this would contribute to the emergence of a new pattern of urban development and a decisive curbing of the growth in Brazil's urban transport emissions.

CIFF based this investment on its assessment that there was an important window of opportunity for CIFF to address Brazil's increase in transport emissions, given a promising policy framework, the combination of anticipated increases in urban transportation and social housing funding, and high public pressure to address urban mobility issues. CIFF's theory of change for the initiative is graphicly depicted in Figure 1. However, many of the conditions underlying CIFF's original assessment changed rapidly during the work programme, in large part due to the political and economic crisis in Brazil. CIFF's theory of change was developed based on some key contextual factors and assumptions in 2014-2015, including:

- **Promising Policy Context**. Brazil established a robust federal mobility law in 2012 which required cities with more than 20,000 residents (approximately 1500 Brazilian cities) to develop mobility plans during the investment period (2015-2017). This was viewed as a key opportunity to embed TOD and priority for mass transit and non-motorized transport over private cars in cities' plans. However, in 2016, the mobility law deadline was extended to 2019, eliminating the urgency for cities to develop plans, and as of February 2018, only a few hundred cities had complied.
- **Promising Public-Sector Infrastructure Investment Plans**. Significant funds had been allocated to infrastructure investment through the $57 billion Growth Acceleration Plan (PAC) and the $80 billion social housing programme Minha Casa, Minha Vida (MCMV). This was viewed as a key window to incorporate TOD and sustainable urban planning principles in major new infrastructure and housing developments. However, in 2016, the PAC programme was eliminated. It was replaced in 2017 with the Avançar Cidades program which only has approximately $1.2 billion for urban mobility initiatives. In addition, the MCMV programme experienced delays and was consistently under-funded during the work programme.
- **Promising Public Support and Social Mobilization**. There is massive public pressure for higher quality public services providing momentum for better transport infrastructure. Urban mobility, public transport quality and air quality are constantly in the news cycle, providing necessary political momentum behind mass transit. However, the political and economic crisis dominated public attention in 2016 and 2017, displacing the urban mobility agenda and shifting public attention to other issues.

The programme was designed to provide the Brazilian government and cities with the guidance, tools, best practice examples and expertise to institutionalize climate-smart urban transportation and planning principles in city mobility plans and regulations and codes. In tandem, it sought to align government funding programmes to incentivize low carbon infrastructure by incorporating robust climate-smart standards into the funding

approval processes of CAIXA and BNDES. The investment also aimed to encourage replication of the model within Brazil and elsewhere in Latin America.

To accomplish these objectives, CIFF provided three-year (2015-2017) grant commitments to two organizations operating in Brazil—World Resources Institute Brasil Cidades Sustentáveis (Sustainable Cities)[5] and the Institute for Transportation and Development Policy Brasil. The $8 million, three-year CIFF Brazil Urban Mobility Initiative investment was designed to support grantee activities and outputs in the following areas:

1. **Communications**. Diverse activities, events, and materials (e.g., site visits, workshops, press releases, social media updates, reports) to inform key stakeholders and target audiences. Some communications efforts are designed to disseminate research and knowledge generated by WRI, ITDP, and partners to key constituencies relevant to city-level demonstration projects, replication efforts, and/or national policy work. These communications efforts support technical assistance and capacity building activities to foster government officials and partners who are supportive, knowledgeable and capable of taking desired actions. Other communication efforts are more broadly focused at key constituencies (e.g., youth, private sector representatives, civil society organization (CSO) leaders and members) who may be positioned to mobilize support that helps build political will for project and policy progress.

2. **Research and Knowledge Generation**. Diverse types of applied research (e.g., policy and economic analysis; planning; monitoring and analysis of policies and legislation; development of frameworks, principles, standards and metrics; data collection, mapping and analysis) to equip policy makers, government officials, and key partners with data and metrics, frameworks, project selection criteria, tools, and policy options and recommendations. This work includes adaptation of international best practices and quality standards to the Brazilian context. It also includes on-going monitoring and data collection to assess implementation progress and system performance.

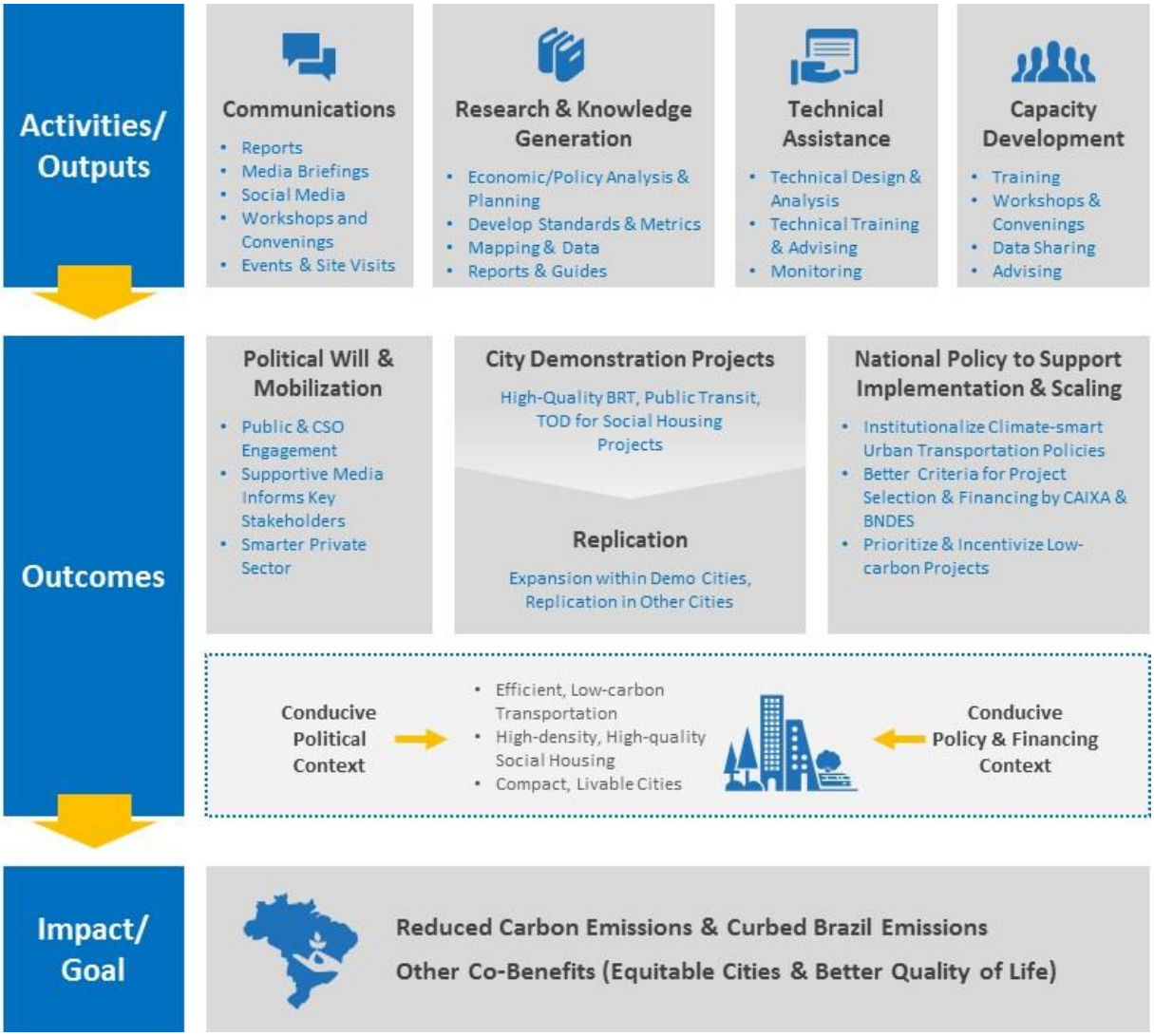
3. **Technical Assistance**. Efforts to engage with policy-makers, government officials, and other partners (from hyperlocal to federal level) to provide support that fills important gaps in knowledge, expertise (both technical and political), and human resource capacity to effectively design and implement projects and policy initiatives. Technical assistance work often involves use of research and knowledge generation resources and communication resources produced by ITDP, WRI, and key partners. Technical assistance under this investment focused on (but was not limited to) five major Brazilian cities—Belo Horizonte, Brasilia, Porto Alegre, Rio de Janeiro, and São Paulo. The CIFF theory of change indicated that focus on these cities would support diffusion, given that other cities in Brazil and Latin America look to these cities as models and for examples.

4. **Capacity Development**. Efforts to grow public sector capacity and capabilities to develop and implement climate-smart urban and mobility policies, plans, regulations (including monitoring and enforcement), and projects. This work includes training, coaching, and advising (often through

[5] World Resources Institute (WRI) Brasil Cidades Sustentáveis was formerly known as WRI EMBARQ.

convenings, workshops, meetings, and direct discussions), and aims to reduce the need for technical assistance in the longer-term. These activities also aim to build effective, multi-level governance systems that are made up of strong institutions, with less (and smarter) bureaucracy.

Figure 1. CIFF Brazil Urban Mobility Theory of Change



Chapter 2: Evaluation Methodology

This chapter summarizes the evaluation approach, questions, methods, and data sources.

Evaluation Approach and Questions

This independent evaluation of CIFF's 2015-2017 investment to reduce GHG emissions from the transport sector in Brazilian cities and to reform the financing approach of public and private stakeholders to prioritize low carbon infrastructure was conducted from early 2016 through March 2018 using a mixed methods approach.[6] The evaluation included a midline evaluation assessment, which was completed in Fall 2016 with a midline evaluation report and a workshop in Brazil in November 2016. The workshop provided representatives from CIFF, iCS, WRI, ITDP, and the evaluation team an opportunity to discuss the evaluation findings in conjunction with CIFF's Annual Program Review (APR) with grantees. This endline evaluation report updates and builds on the midline evaluation findings, covering work programme activities from 2015 through the end of 2017.

The evaluation was designed to address the following questions:

1. **Relevance**: Is the Brazil urban mobility programme doing the right things?
2. **Efficiency**: Is this the best way to scale up low-carbon urban mobility and TOD in Brazilian cities?
3. **Effectiveness**: How well is the programme working?
4. **Impact**: What evidence is there that the programme has led to the curbing of Brazil's emissions?
5. **Sustainability**: Is this a transformative initiative?

The findings in this report (Chapter 3) are structured around these evaluation questions.

Evaluation Audiences

The primary audiences for this evaluation include:

- **CIFF**: The Climate Change team, Senior Staff, and Board of Directors at CIFF are a primary audience to help inform programme theories of change and strategies in Brazil and other countries.
- **Grantees**: CIFF's core grantees, WRI and ITDP, are primary audiences, as well as other CIFF grantees such as iCS. The evaluation is designed to generate evidence that informs grantee strategies.

Secondary audiences for the evaluation include:

- **Peer funders**: Other funders investing in Brazil and/or urban mobility initiatives, including funders participating in the ClimateWorks-supported Funders Table.
- **Multilateral Development Banks (MDBs)**: MDBs such as the Inter-American Development Bank (IADB) and the World Bank which are investing in Brazil and/or urban mobility initiatives.
- **Broader field**: The broader field of NGO's, experts and organizations working on low carbon urban mobility strategies in Brazil and around the world.

[6] The evaluation was led by Nandini Chaturvedula and Tim Larson from Ross Strategic. The evaluation team included University of Texas at Austin Professor Fernando Lara, an expert in Latin American urban planning and architecture and a Brazilian national. The team also included Derik Broekhoff, a Senior Scientist at the Stockholm Environment Institute and an expert in quantification of GHG emissions associated with climate change mitigation initiatives.

Evaluation Methodology

The evaluation team conducted a mixed method evaluation of the advocacy, technical assistance, and policy change-focused work programme. The evaluation approach and methods are described in further detail in the May 2016 Evaluation Plan. Key evaluation methods, activities, and data sources are summarized below.

- **Document review**: The evaluation team conducted extensive background review and analysis of ITDP and WRI programme-level theory of change and strategies as well as work programmes through review of CIFF, ITDP, and WRI documents and reports. ITDP and WRI staff kept the evaluation team apprised of new publications, studies, and reports developed with support from or relevant to the CIFF investment to track work programme progress through the end of 2017.
- **Qualitative interviews***:* The evaluation team conducted more than 110 interviews throughout the evaluation, including 50 interviews in 2017 to inform the endline evaluation report. The semi-structured interviews were conducted with government officials and policy makers, CSO and NGO representatives, multilateral development bank officials, private sector stakeholders, academic researchers and other experts, other key informants, and WRI and ITDP staff. The evaluation team included interviews with individuals who were not recommended by CIFF or grantees, as well as with individuals who were not direct beneficiaries of CIFF investments or grantee services. More than 75 percent of the interviews were conducted in-person in Portuguese.[7] Interview guides were created for key groups of stakeholders including local and national policymakers, CSOs/NGOs, media, and other experts. Interview results were coded to the evaluation questions and analyzed by the evaluation team.
- **Site visits**: The evaluation team gained substantial insights into grantee urban mobility work through site visits to: BRT corridors in Rio de Janeiro, São Paulo, and Belo Horizonte; Metro in São Paulo and Rio; bike lanes in São Paulo; and newly pedestrianized areas in downtown Rio and São Paulo. Site visits also afforded the opportunity to conduct in-person interviews with key informants and with grantees. Site visits were conducted in February 2016 (Tim Larson, Nandini Chaturvedula, and Derik Broekhoff to Porto Alegre and Rio), May 2016 (Professor Fernando Lara to Belo Horizonte and Rio), July 2016 (Nandini Chaturvedula and Professor Fernando Lara to Belo Horizonte, Brasilia, and São Paulo), November 2016 (Nandini Chaturvedula to Rio and São Paulo), and August 2017 (Nandini Chaturvedula to Porto Alegre, São Paulo, and Rio). Professor Fernando Lara was in residence in Brazil for much of 2017 conducting academic research, and he conducted additional interviewees and research relevant to the work programme during this period.
- **Media tracking**: As one means of tracking progress relevant to the work programme, the evaluation team analyzed traditional and social media mentions, official government announcements, and other media coverage addressing urban mobility topics and grantee activities and publications. Professor Lara led this assessment, with support from two graduate students working in Brazil.[8] A key aim of this analysis was to explore the extent to which media and public-sector discussions of low-carbon urban mobility issues, concepts, and solutions (e.g., TOD, BRT, low speed zones, biking infrastructure) were increasing, decreasing, or otherwise evolving during the work programme, and to understand the extent to which low-carbon urban mobility solutions advanced in the major Brazilian cities targeted by this work programme appear to influence discussions of low-carbon urban mobility issues in other large Brazilian cities.
- **External context analysis**: The political and economic context in Brazil has evolved in profound ways since the work programme began in 2015. The evaluation team has carefully tracked the shifting political and economic context by monitoring media accounts of these trends and events, holding informal discussions with expert observers in Brazil and internationally, and by exploring these

[7] Two members of the evaluation team (Nandini Chaturvedula and Professor Fernando Lara) are fluent in Portuguese.
[8] Graduate student activities were not supported by this work programme but were leveraged through other academic funding sources.

contextual factors in interviews. The evaluation team found this to be particularly important as this climate of uncertainty has had clear impacts on grantee progress and the work programme at both the federal and city-level. The evaluation team developed a background paper on these contextual factors and updated it several times during the evaluation (see Annex A).

- **Contribution analysis**: The evaluation team used a contribution analysis approach to develop findings relevant to the grantees work to support the MoC to develop low-carbon urban mobility guidelines and tools and to support targeted cities to advance urban mobility plans. The aim of the contribution analysis was to explore the extent to which plausible associations exist between the work programme and observed outcomes, using the weight of evidence to show each step of the chain between programme inputs and outcomes.
- **KPI analysis**: The evaluation team compiled information on the KPIs, including results reported by grantees during the work programme. Annex B includes a detailed review and assessment of these KPI results, as well as evaluation team reflections on the strengths and limitations of the selected KPIs for informing progress on the work programme and urban mobility interventions more broadly.

Evaluation Limitations

Challenges and limitations associated with evaluating advocacy, policy change, and technical assistance interventions have been well-documented in recent years.[9] Key challenges and limitations associated with this evaluation include:

- **Rapidly changing external context and work programme**: Given the rapid and dramatic changes in the Brazilian political and economic context during the work programme, it was clear early on that the work programme objectives, targeted strategies, and planned activities would need to evolve substantially from those planned and set at the outset of the work programme. Discussions between CIFF and the evaluation team identified the importance of adapting the evaluation approach to focus on exploration of the programme theory of change, how key assumptions were evolving or needed to evolve, and how effectively the grantees were adapting in real time to emergent changes in the external context. The evaluation team has had to adjust its approach to remain aware of the rapidly evolving external context and work programme to ensure that findings and observations remain relevant to the grantees and CIFF.
- **Robustness of qualitative interviews as a data source**: As with most evaluations of advocacy and policy change, a primary data source for the evaluation has been semi-structured, qualitative interviews with a broad range of stakeholders and key informants. There are inherent limitations of qualitative interview data that have potential to affect the validity, reliability, and generalizability of this information. The evaluation team was only able to interview a small fraction of people who have interacted with grantees related to the work programme or potentially benefitted from grantee services and publications.

  To minimize these limitations, the evaluation team selected a broad range of interviewees to triangulate perspectives in ways that can corroborate findings or highlight areas of diverse or divergent perspectives. The evaluation team also worked hard to identify and interview multiple individuals who are familiar with the field (and often with the grantees' work) but who were not recommended by the grantees and who were not beneficiaries of grantee activities or of CIFF investments. The evaluation team also conducted interviews at various points throughout the duration of the work programme, and to interview selected individuals at more than one point during the period to help understand how the work programme and performance were evolving over time. Finally, the evaluation team complemented qualitative interview data with other data sources, including KPI data, review of

[9] For example, see The California Endowment and Blueprint Research and Design, Inc. *The Challenge of Assessing Policy and Advocacy Activities: Strategies for a Prospective Evaluation Approach*. October 2015.

publications produced under the work programme, media tracking and analysis, and external context tracking.

- **Limitations of contribution analysis in complex policy change settings**: Addressing low-carbon urban mobility requires working to advance numerous and diverse policy targets at multiple levels. The complexity of the policy venue requires grantee activities to address national, regional, and local-level changes, and often numerous changes within each level. For example, advancing TOD initiatives in a single city requires working with multiple policy venues (e.g., mayor's office, city council, multiple government agencies, etc.) and multiple, interrelated policy targets (e.g., budgeting, land use zoning, infrastructure planning, etc.). This differs markedly from advocacy and policy change work that is targeting policy change on one topic in a single or small number of venues. This complexity of policy making and policy change venues for urban mobility initiatives increases the challenge of clearly mapping "contribution stories" to specific theories of change and assessing data for each. To address this limitation, the evaluation team focused its inquiry into key areas of the work programme, while allowing some flexibility to pursue new inquiry threads that emerged during the data collection. The evaluation focused much of its contribution analysis activity on grantee support in targeted cities to advance low-carbon urban mobility plans as well as efforts to shift criteria, approaches, and processes at the Brazilian Ministry of Cities.

Chapter 3: Findings

This chapter summarizes the evaluation team's findings relevant to the evaluation questions. These findings are organized by the main areas of inquiry, including: relevance, efficiency, effectiveness, impact, and sustainability.

1. Relevance

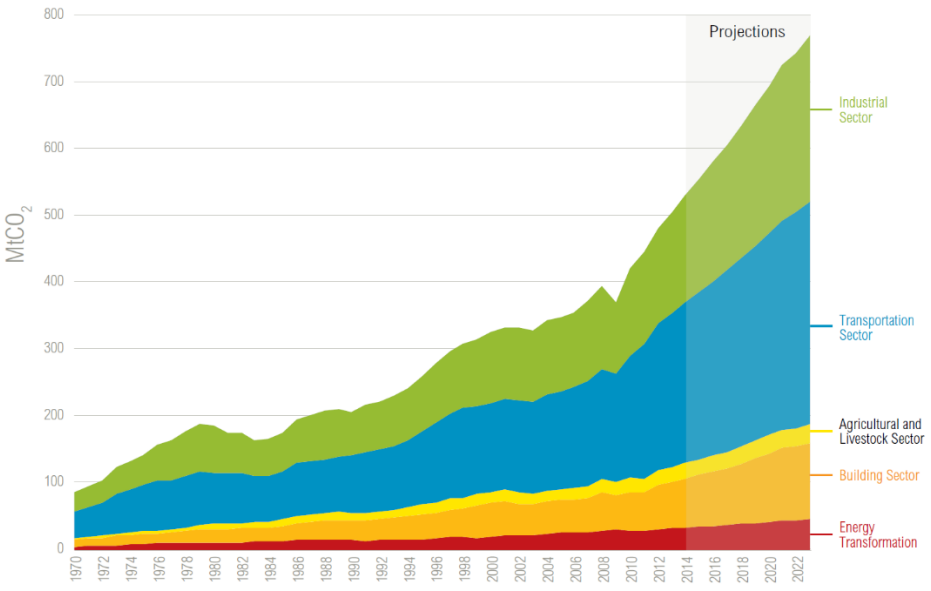
This section explores the evaluation team's findings related to the question: ***Is the Brazil urban mobility programme doing the right things?***

Yes. The evaluation found that the Brazil Urban Mobility programme is generally focused on addressing vital areas relevant to mitigating greenhouse gas emissions in Brazil, as well as other important areas such as poverty alleviation and equity, social inclusion, public health, and safety. Failure to mitigate urban transportation sector emissions will miss an important wedge of greenhouse gas emissions needed to meet national climate change targets. Specific findings are discussed below.

Finding 1.1: Given the size and growth of GHG emissions from the transportation sector in Brazil, efforts to advance low-carbon urban mobility strategies remain vital to long-term efforts to curb GHG emissions and mitigate climate change.

As discussed in the evaluation team's 2016 Baseline Assessment Report and Midline Evaluation Report (Finding 1), urban transportation sector GHG emissions in Brazil are a significant and growing portion of the country's overall GHG emissions. Overall energy-related GHG emissions in Brazil are expected to grow from 483 Mt CO_2e in 2014 to 660 Mt CO_2e in 2023 (Figure 1).[10]

Figure 2. Brazil Energy-Related GHG Emissions



Source: Lucon et al. (2015)

Many experts interviewed by the evaluation team emphasized the importance of addressing GHG emissions stemming from urban transportation systems in Brazil as part of balanced global portfolio of long-term GHG mitigation initiatives. Several interviewees observed that the Brazilian population has an extremely high

[10] The evaluation team was unable to find sectoral GHG emissions projections for Brazil that are more recent than those included in the 2016 Midline Evaluation Report and referenced herein.

urbanization rate—more than 86 percent in 2017—which indicates the importance of addressing urban transportation sector emissions. Brazil is the largest emitter in Latin America, one of the top ten global GHG emitters, and has been an important player in UN climate negotiations. Other experts reiterated that Brazilian urban transportation emissions have potential to grow substantially over the coming decades and that action is needed now to begin to shift the complex urban systems that will affect these emission trends. As during the midline evaluation research, a few interviewees indicated that Brazil has the potential to be one of the first major economies to achieve dramatic reductions in national GHG emissions and could be a lighthouse example to other countries over the next several decades.

Finding 1.2: Addressing urban mobility and transit-oriented development issues to reduce transportation sector GHG emissions has substantial adjacent benefits in areas such as poverty alleviation and equity, public health, and safety, which can appeal to broader constituencies and partners for initiatives.

Many city and federal-level policy makers, CSO representatives, and experts interviewed identified non-environmental benefits—such as reductions in commuting time, increased mobility, access to economic opportunity, safer streets and sidewalks, reduced local air pollution, and enhanced opportunities for physical activity—as key elements of the rationale for pursuing low-carbon urban mobility solutions. Interviewees emphasized that there are powerful reasons beyond climate change for pursuing these initiatives, which may enhance their value and appeal to broader constituencies and funders than would be attracted to strategies focused primarily on vehicle emission standards or electrification. Several experts argued that while vehicle and fuel technology-focused interventions may be important to pursue as part of a balanced portfolio of interventions, they do not fundamentally address urban mobility issues stemming from congestion and limited access to private vehicles among the urban population in Brazil. Several experts noted that they see untapped opportunities to build connections between climate change-centric initiatives to advance low-carbon urban mobility and broader health, poverty alleviation, and economic opportunity-focused initiatives advanced by funders, NGOs/CSOs, MDBs, and other institutions in Brazil.

Finding 1.3: The CIFF Brazil Urban Mobility work programme and theory of change was based on underlying assumptions that did not all hold true as external political and economic shifts rapidly unfolded during the work programme, requiring CIFF and grantees to evolve focus and expectations for the work programme.

Building on experience from the previous decade, the work programme was designed to influence large flows of national government investment in urban transportation and housing infrastructure. Several interviewees observed that the rationale for this approach had appeared sound, as the Brazilian Government had invested billions of US dollars in urban transportation and housing infrastructure through the Accelerated Growth Program (PAC) and other mechanisms in the lead-up to the 2014 FIFA World Cup and the 2016 Summer Olympic Games. The theory of change and work programme posited that future efforts to shape the criteria used to guide these national transportation and housing investments, coupled with technical guidance for applicants, could leverage these major investment flows to accelerate deployment of low-carbon urban mobility systems (e.g., BRT systems) and social housing projects that incorporate TOD principles. Furthermore, the theory of change and work programme envisioned that technical and other support for high-quality demonstration projects in large, iconic Brazilian cities could further support replication and diffusion of these approaches.

However, rapid and dramatic changes in the political landscape in Brazil as the work programme was launching in 2015 virtually froze public investment in transportation infrastructure and social housing and has raised questions about the future of these federal transportation and housing investment programs addressed by the original CIFF work programme. Box 1 discusses the major federal infrastructure financing mechanisms in Brazil, and Box 2 discusses the federal social housing investment program. Annex A discusses the shifts in the political and economic context in Brazil during the work programme (2015-2017). Taxation and budgeting structures in Brazil direct substantial public-sector revenues through federal government offers, which means that Brazilian cities have historically relied on the national government to finance large transportation and public housing projects. Hence, the federal freeze on infrastructure investment that lasted during the work programme also meant that cities lacked financing to support new high-quality demonstration projects that had been envisioned in the work programme.

Box 1: Federal Infrastructure Financing in Brazil

In recent decades, there were two main ways to apply for federal funding for city infrastructure: first, by applying directly to federal institutions—Caixa Econômica Federal (CAIXA), Banco Nacional de Desenvolvimento Econômico e Social (BNDES), and Ministério das Cidades (MoC)—or, second, through the mediation and patronage of legislators in Congress. A third major option was added in 2007 to support national efforts to prepare for the World Cup and Rio Olympics and to fuel economic growth in Brazil. This third mechanism was the bundling of large projects under the Accelerated Growth Program (PAC). However, in 2015, funding allocations to the PAC quickly dried up in the wake of the impeachment crisis that began in 2015. In 2017, a new program called Avançar Cidades was announced by the MoC, but on a much smaller scale than PAC. These three paths for funding are described below.

Path 1: Apply directly to specific funds through CAIXA, BNDES, and MoC

CAIXA is a state-owned bank that finances most housing projects in Brazil. BNDES is a federal "development bank" that finances large infrastructure projects. Ministério das Cidades is responsible for guidelines and policies that should apply to infrastructure projects in all 5,000 municipalities. Large cities such as São Paulo, Rio, Belo Horizonte, and Porto Alegre have the technical capacity to develop and proceed with large infrastructure projects (R$ 100+ million) presented directly to the federal agencies. Small cities typically lack this capacity, and they either hire architects and engineers temporarily or contract with consulting companies to develop the projects. Each of those projects take 3-4 years for approval due to the extensive documentation needed and arcane licensing process.

Path 2: Access discretionary funds through Congressional patronage

"Pork barrel" funding has been an important path for city infrastructure funding, where legislators secure funds for their jurisdictions in conjunction with their support (and commitment to vote for) legislation in Congress. Based on negotiations between the federal executive and the federal legislature, small amounts of discretionary funds (10 to 50 million R$) are made available to certain cities (often based on political relationships between mayors and congressmen) to be used on specific types of public works (e.g., sanitation, asphalt, drainage, bus stations).

Path 3: Apply to the Avançar Cidades Program

This new program launched by the Ministry of Cities in 2017, provides low-interest loans from the federal government to cities for sanitation and urban mobility projects. For 2018, the urban mobility portfolio has a budget of 3.7 billion reais, with funding levels dependent upon city size. This initiative is intended to support infrastructure projects for collective transportation systems as well as non-motorized transport at a minimum level of 5 million reais and a maximum of 200 million reais. In addition, cities can apply to Avançar Cidades for funding to support Urban Mobility Plans and implementation.

Since the political and economic crisis in Brazil deepened in 2017, funding through Path 1 has all but dried up. Large infrastructure projects are no longer a priority, as the country grapples with financial solvency. Funding through Path 2 is still possible, though it is highly irregular and often blurs the lines of legality. Since President Temer has come into office, he has been the subject of multiple corruption investigations, leading to a vote in the House of Representatives on whether to prosecute him or not. It is widely believed that Temer received enough votes to escape prosecution by using discretionary funds as bargaining chips, promising to support the pet projects of Congressman in exchange for a vote of support. Path 3, Avançar Cidades, shows some promise, but it is too early to know the outcomes of projects that are supported or whether they will adequately incorporate climate smart urban mobility and sustainable development principles.

Box 2: Minha Casa Minha Vida (MCMV) Social Housing Program

In 2009, then Minister Dilma Rousseff launched the Minha Casa Minha Vida (MCMV) program with the challenge of eliminating the housing deficit in Brazil, which was estimated at 7 million units at the time. MCMV allocated R$34 billion to build 1 million housing units in its first phase and another R$50 billion for the second phase. Phase III of MCMV was postponed in mid-2016 by the Temer Government, and work on more than 70,000 units was stopped. In early 2018, the Minister of Cities announced that the government plans to deliver 145,000 units of new or stalled projects in 2018 and that 70 billion reais have been allocated to the program. One of the key features of new MCMV projects is that they will be constructed closer to urban centers, a policy that ITDP and WRI promoted in their technical work with the Ministry of Cities.

While better urban insertion, closer to public services and mobility infrastructure, improves quality of life for MCMV residents, there are also some associated problems. The very fact that there is good mobility infrastructure adjacent to potential MCMV land to be developed increases the value of that land making it too expensive for the MCMV model. In addition, TOD increases densities which leads to changes in land values (mostly upwards but sometimes downwards too), makes it more difficult for such projects to be approved at the city council level where real estate interests often dominate.

The São Paulo Master Plan, approved in 2014, laid out all the legal conditions for increased densities along main transportation corridors, which will allow transit-oriented development to be effectively implemented. São Paulo also has approximately $1 billion reais earmarked for low-income housing in 2018, making it a city to watch as TOD projects move forward.

As a result, it became increasingly clear during the work programme that there would not be significant public-sector funding during the 2015-2017 work programme to build large new urban transportation systems or housing developments. This diminished the prospects for new high-quality demonstration projects that could deliver substantial GHG emissions reductions during the work programme. The freezing of transportation infrastructure funding through the MoC, CAIXA, and BNDES, and public housing investment through the MCMV program, also raised questions about the extent to which these mechanisms would be relevant in the future.

During the work programme, CIFF and grantees evolved the focus of their efforts and expectations to recognize that more attention to city-level planning and capacity building would be important to prepare for the future when investments in transportation infrastructure and public housing would flow again. Grantees continued to maintain some focus on development of tools, criteria, resources, and capacity building at the federal level—focusing on the MoC, recognizing that federal institutions would likely have some role in shaping future national public-sector investments.

2. Efficiency

This section explores the evaluation team's findings related to the question: ***Is this the best way to scale up low-carbon urban mobility and transit-oriented development in Brazilian cities?***

Yes, in part. The evaluation found that the work programme has addressed an important area of need—providing local and national government institutions with technical assistance to enhance ambition and capacity to deliver climate-smart urban mobility solutions. However, the work programme and theory of change can be enhanced through complementary investments in "outside game" coalition advocacy strategies and broader efforts to enhance government transparency and accountability, as well as efforts to leverage non-federal investment sources for low-carbon mobility solutions.

This section discusses reflections on the CIFF investment programme theory of change that the evaluation team believes warrant consideration for future investments to advance climate-smart urban mobility and TOD initiatives in Brazil, and potentially in other countries.

Finding 2.1: Scaling up low-carbon urban mobility and TOD requires a multi-pronged, portfolio approach that addresses infrastructure financing, program and project planning, and implementation and diffusion of high-quality demonstration projects; however, the technical assistance, capacity-building, research and knowledge development, and communications activities supported under the CIFF work programme are necessary but insufficient on their own to support efficient scaling.

The evaluation team found evidence from across the interviews conducted indicating that the CIFF work programme's multi-pronged focus to influence financing and investment, city mobility planning, and high-quality demonstrations projects is a vital and efficient approach to advancing low-carbon urban mobility and TOD solutions in Brazil. However, as discussed in subsequent findings in this section, implementation experience has elevated the importance of strategic adjustments within these focus areas. For example, important strategic shifts are needed to address infrastructure financing in efficient and effective ways. In addition, the CIFF theory of change that guided this work programme included elements that were not emphasized in the original design of this work programme but that emerged as important areas of activity. These include political will-building and mobilization; strategic, public-facing communications and narrative framing; and performance measurement and accountability systems, among others. While the grantees were able to enhance emphasis in these areas during the work programme (as discussed more below), some of these areas are well-suited to support by a broader array of CSOs, NGOs, and other stakeholders than were supported under this work programme. It is important to note that iCS, a key regranting partner of CIFF and other funders in Brazil, is supporting a broader field and strategy to address low-carbon urban mobility issues than is covered by the CIFF-supported work programme that has been the subject of this evaluation effort.

Finding 2.2: Experts and policy-makers affirmed the importance of city-level planning processes for efficiently guiding creation of a pipeline of climate-smart projects that are ready for financing and implementation.

Given the financing constraints to support development of many new transportation infrastructure and public housing projects during the work programme, grantees emphasized attention to planning processes that could both (1) embed low-carbon and climate-smart considerations into national and local planning processes and programs, and (2) build a pipeline of shovel-ready projects that incorporated such considerations. The rationale has been to position climate-smart urban plans and potential projects to be ready to compete for funding when investment flows again. Policy-makers and experts interviewed emphasized the importance of this attention to planning, and they broadly affirmed the importance of focusing on integration of climate-smart considerations into the urban mobility plans required under the 2012 federal urban mobility law in Brazil. They emphasized that the urban mobility plans are well-situated to establish and diffuse clear understanding of low-carbon mobility design and TOD concepts and principles among diverse constituencies involved in mobility and transportation planning and implementation processes. In 2017, the evaluation team also heard more policy-makers, city officials, and experts raising the importance of addressing metropolitan-level planning to complement city-level urban mobility planning. They emphasized that city-level plans miss important issues related to the connections between urban cores and peripheries, which is an increasingly important issue in Brazil's mega-cities and as the boundaries between adjacent cities fuse. For example, some experts noted that the Rio de Janiero metropolitan area does a decent job at more integrated metropolitan-level planning coordination, whereas the São Paulo metropolitan region does not.

While policy-makers, city officials, and experts affirmed the value of work to influence planning processes, they widely reiterated themes from the endline evaluation that urban mobility plans alone are insufficient to drive low-carbon and TOD concepts into project design, selection, and implementation (*see Midline Evaluation Finding 4.1*). Additional work is needed to incorporate concepts from the urban mobility plans into city master plans, metropolitan plans, and then into enabling rules, codes, requirements, and processes, such as local zoning codes. Subsequent work is also needed to develop viable project designs that incorporate the concepts, and to ensure that implementation navigates a range of pressures to deliver the desired results. Interviewees emphasized that

technical assistance and support is needed in most cities across this chain from conceptual plans to projects (see Figure 3).

Figure 3. Stages for Translating City Mobility Plans into Climate-Smart Projects

Findings 3.3 and 3.4 below address the progress ITDP and WRI have made at both the federal and local-level in supporting cities' urban mobility planning and implementation.

Finding 2.3: There is strong demand for city-level technical assistance across Brazil, but a key challenge remains how to deliver, leverage, and scale this work in an efficient, cost-effective way.

Much of the city-level technical assistance provided by WRI and ITDP during the work programme focused on a handful of the largest and most visible cities, although various workshops, communications and publications, and other activities targeted officials and practitioners from a broader array of Brazilian cities. Many policy-makers and experts interviewed emphasized the importance and the challenge of moving beyond the biggest cities. Several experts noted that Rio de Janeiro and São Paulo have relatively good capacity on low-carbon urban mobility and TOD planning and implementation in comparison to mid-size cities, where there is often a lack of capacity and much of the technical staff also lack the technical know-how to advance climate-smart mobility planning. Several interviewees noted that the real area for opportunity to replicate and scale urban mobility planning is in Brazil's mid-size and smaller cities where transit systems are not yet fully built out and climate-smart principles can be introduced and implemented. One city official in the metro region of Rio de Janeiro indicated that ITDP and WRI's focus on large cities like Rio de Janeiro and São Paulo is important, but that "the future of Brazil is in mid-size cities."

The evaluation team heard of numerous examples of "unmet needs" and "demand for technical assistance" voiced by officials from Brazilian cities not targeted under the programme. A great challenge for the grantees has been to efficiently meet demands from so many cities, particularly given grantees' own capacity constraints. One official at the Metropolitan Council of Rio de Janeiro stated that he "wished there were ten ITDP's and WRI's" because the need is so great, and he reiterated that the grantees work is highly valued by city officials.

WRI and ITDP have experimented with different approaches for reaching more cities in ways that extend beyond publications and occasional workshops. For example, in 2017, WRI signed an MOU with the National Front of Mayors (FNP), an organization that represents the mayors of the 400 municipalities across Brazil with a population of 80,000 or more, which includes every capital city in Brazil and more than 60 percent of Brazil's population. Every two years the FNP holds a national conference that addresses sustainable development in municipalities—Encontro dos Municípios com o Desenvolvimento Sustentável (EMDS)—which attracts FNP member mayors and more than 8,000 other participants, and where WRI actively participates. In addition, in partnership with the FNP, WRI launched the Complete Streets project in 11 FNP cities. The concept of Complete Streets places the same priority on pedestrians, bicyclists and public transport users as on motorists. The

initiative aims to improve the quality of life for all users by designing streets that are both safe public spaces and that enable high-performance, sustainable transportation networks.[11]

WRI staff indicated that they believe access to the FNP will allow them to develop more efficient mechanisms to replicate and scale their support to cities. Other interviewees corroborated this assertion that the FNP is likely to be a useful channel for efficiently diffusing low-carbon urban mobility and TOD concepts and resources and to strengthening relationships with city leaders and executive staff. However, these interviewees also noted that more direct technical assistance would likely be needed to reach city government technical staff to support implementation of concepts. A few interviewees noted that the Complete Streets model could be an efficient means for leveraging and scaling the reach of limited technical assistance resources. Experts and policy-makers emphasized the need for funders and NGOs to work together to explore efficient models for leveraging and scaling technical assistance approaches.

The following findings elevate areas that the evaluation team did not see emphasized in the initial CIFF work programme design or in the programme theory of change but that emerged as key areas needing attention during the work programme to efficiently deliver progress and results.

Finding 2.4: Continued work to leverage financing of transportation infrastructure and public housing development is an efficient strategy to incorporate climate mitigation considerations, although the scope of focus needed to be broadened beyond MoC, CAIXA, and BNDES to explore local and private sector sources of financing.

While the original work programme activities focused on influencing federal investment flows experienced major challenges during the work programme as investment dried up, there are modest signs that recent and continued work with federal agencies such as the MoC may influence some future investment flows to transportation and housing projects. For example, recent announcements in 2018 of plans for the MCMV public housing program appear to signal that future projects will be located closer to urban centers, as advocated by WRI and ITDP.

However, similar to findings in the midline evaluation (see *Midline Evaluation Finding 4.4*), many policy-makers and experts interviewed in 2017 indicated that low-carbon financing solutions need to look beyond federal financing through CAIXA and BNDES and consider longer-term reforms to address or bypass patronage financing and to find other funding streams. Some grantee representatives and policy-makers indicated that future work is needed to explore opportunities to support more local-scale financing approaches that attract private sector partners, impact investors, or other innovative funding sources, emphasizing the growing challenges of securing federal funding for city infrastructure. A few multilateral development bank (MDB) officials also suggested that there may be more opportunities for NGOs to work with MDB representatives to enhance consideration of low-carbon and climate-smart provisions in MDB investment programs in Brazil and other Latin American countries. Most interviewees emphasized the continued importance of "expanding the financing toolbox" available to support low-carbon and climate-smart transportation and housing development in Brazil.

Finding 2.5: Attention to integrated systems and quality of service are increasingly important to the future success of low-carbon urban mobility and TOD solutions.

Shifts in the work programme away from supporting large, new BRT lines and other major infrastructure projects (due to project financing constraints) created space for WRI and ITDP to focus more attention to technical assistance around mobility systems integration and enhancement of quality of service for public transit systems. Several policy-makers and academic experts noted that some BRT systems and public transit systems have been battered by media coverage and public sentiments about poor quality of service. Increased public support for low-carbon urban mobility solutions and actual modal shifts are predicated on high-functioning—safe, affordable, efficient, and timely—transit systems. One city official noted that it is difficult to promote public awareness and support for low-carbon urban transit systems when they are not working well.

[11] http://thecityfix.com/blog/what-makes-a-complete-street-a-brief-guide-nikita-luke-anna-bray-sharpin-ben-welle/

The evaluation team heard even greater emphasis on the importance of systems integration and quality of service in 2017 interviews with policy-makers, city officials, and other stakeholders (compared with interview results from 2016). Several experts noted that "getting systems integration and quality of service right" are an efficient strategy for building durable public mobilization and political will for expanding low-carbon urban mobility solutions. A few city officials and experts observed that the explosive growth of ride-sharing in some Brazilian cities is a direct response to poor transit system quality of service, although increasing ride-sharing is bringing additional challenges with safety, congestion, and pollutions. Interviewees noted the following areas where they believe WRI, ITDP, funders, and other partners could expand efforts to support systems integration and quality of service in Brazilian cities.

- Expand work to help cities develop transparent performance measurement and accountability systems (see *Midline Evaluation Finding 4.3*), including systems that enhance visibility to the performance of private bus concession operators. Increased use of mobile apps could support these types of system improvements.
- Expand advocacy and technical assistance work to promote private sector transit concessions that incentive performance and quality of service (see *Midline Evaluation Finding 4.2*).
- Expand technical assistance to support enhanced city mobility planning that encourages system network integration solutions that better connect BRT lines, metro routes, and major bus lines with other local transit options and last-kilometer solutions (e.g., bike sharing systems and bike lanes, pedestrian access and "complete streets"). Expand attention to making transfers across different system platforms accessible, safe, time-efficient, and user-friendly.
- Expand work at the neighborhood-scale to improve the design, safety, and mobility service performance of street-scapes as a means of building local support for and engagement around mobility initiatives. The WRI-supported "complete streets" initiative provides an example of this type of intervention (see Figure 4).

Figure 4. Complete Street Model

Source: WRI (http://thecityfix.com/blog/what-makes-a-complete-street-a-brief-guide-nikita-luke-anna-bray-sharpin-ben-welle/)

- Provide technical assistance and disseminate effective practices and system designs that enhance the safety and security issues—particularly for women and children—on public transit systems.
- Provide analyses, advice, and effective practices and regulatory models to Brazilian cities to support effective integration of ride-sharing services into broader urban mobility systems.

Finding 2.6: Political mobilization and strategic communications were less developed elements of the original theory of change that became increasingly important during the work programme, although political mobilization and public-focused strategic communications are not core strengths of the grantees and have required emergent activities and partnerships.

In the original CIFF programme theory of change, political will-building and mobilization strategies were framed as a partial outcome of the major grantee-supported activities—communications, technical assistance, research and knowledge generation, and capacity development. While the evaluation found corroborating information from interviews and examples of instances where grantee research and capacity building were leveraged by CSOs, this framing does not clearly recognize the diverse field of CSOs and NGOs that are needed to drive certain types of "outside game" advocacy, mobilization, narrative framing, and movement building activities. Many interviewees commented that these outside game tactics and CSO actors are needed to complement more "inside game" research, technical assistance, advisory, and capacity building activities that organizations such as WRI and ITDP are well-suited to provide.

Experiences during the work programme highlighted the importance of building political support for initiatives to ensure they can withstand mayoral transitions (see Finding 5.3 below for more discussion about the importance of sustained political support). In addition, CIFF and grantees increasingly recognized the need for expanded strategic communications activities that could reach beyond technical audiences to inform the public and key constituencies about the benefits of effective urban mobility policies and practices and to shape narratives in the media and public discourse. The evaluation team found enhanced grantee strategic communication skills and capacity—as well as enhanced experience in engaging productively with CSOs—as important unintended outcomes of this initiative that will likely enhance the grantees effectiveness into the future.

A few experts, city officials, and CSO partners familiar with the CIFF work programme and grantee activities indicated that the work programme could have benefitted from more coordinated and coherent strategic communications efforts to counter opposition pressures, accelerate diffusion of narratives and concepts, and foster public will around low-carbon urban mobility and TOD concepts and solutions. A few interviewees noted that the grantees are adept at communication with technical audiences and city officials, and around specific products and tools that they develop, but they indicated that broader strategic communications and narrative framing work does not appear to be a significant part of their work portfolios. It is worth noting that both WRI and ITDP reported increases in the number of media references to sustainable transportation policies or projects, or of the grantees' work in this area, during the work programme compared with a 2014 baseline (see Annex B discussion of KPI 9).

Finding 2.7: Grantees operate within a broad and diverse field of urban mobility and other relevant organizations; empowering a broader range of NGOs and CSOs to do more work with greater capacity and resources in an aligned way through coalitions has been an efficient way to achieve scale and foster accelerated replication and diffusion.

In the midline evaluation report, the evaluation team heard from many experts, policy makers, partners, and grantee representatives that while the work programme addressed some essential components of the theory of change, additional NGO and CSO actors were needed for a full-functioning field that could drive change and overcome barriers. The evaluation team found that the relevant CSO field is much more developed in São Paulo, where there is a longer history of advocacy for cycling and other urban mobility issues, than in Rio de Janeiro or other targeted cities. The evaluation team also observed a shift in the first half of the work programme, of grantees increasing their efforts to better engage NGOs and CSOs. The endline interviews affirm these observations though the evaluation team heard from some interviewees, including CSO representatives, that

there are further opportunities for WRI and ITDP to productively engage with CSOs (see Finding 3.6 below) to further work on programme goals and activities.

CSO staff interviewed in São Paulo acknowledged the importance of the work of ITDP and WRI and their high-level of visibility, given their size and resources. Some CSO representatives observed that their organizations are providing similar capacity building and technical assistance to local government agencies and other partners in their areas of expertise, particularly on walkability and biking. Some of these CSOs indicated that they are working closely with neighborhood groups at the grassroots level to get citizens more actively engaged in urban mobility issues and to take ownership of their neighborhoods, often focusing on health outcomes or other areas that are not necessarily the focus of work by ITDP and WRI. CSO representatives indicated that the role boundaries between local CSOs and larger NGOs such as ITDP and WRI can sometimes blur, although they commonly noted that both types of organizations have important roles to play and that more work is needed to build a strong field. A few interviewees observed that iCS is playing an important role in strengthening the broader field of NGOs and CSOs working on urban mobility issues.

3. Effectiveness

This section explores the evaluation team's findings related to the question: ***How well is the programme working?***

Reasonably well, particularly given the external context. The evaluation team found that the grantees have been highly effective in delivering the types of services laid out in the original work programme plans, and in adapting their services in response to evolving contextual shifts. While the evaluation notes some areas for improvement, the work programme has performed well in the face of very challenging economic and political constraints that arose during the work programme. Specific findings are discussed below.

Finding 3.1 ITDP and WRI were widely praised by policy makers, experts, and partners for their work on communications, research and knowledge generation, technical assistance, and capacity development to support national and city-level government partners in advancing climate-smart urban mobility solutions.

Consistent with the results of interviews conducted in 2016 for the midline evaluation report, a diverse range of interviewees praised the quality of work of ITDP and WRI in supporting the diffusion of information, knowledge, tools, and resources to advance low-carbon urban mobility and TOD practices. ITDP and WRI were widely viewed as thought-leaders in helping government agencies and partners conceptualize projects and solutions to diverse urban mobility challenges. Most policy-makers, government officials, and experts interviewed were able to identify specific examples of instances where ITDP and WRI's communications, research and knowledge generation, technical assistance or capacity development activities had provided clear benefits to partner organizations. For example, the Cidade dos Sonhos coalition worked with ITDP and WRI to turn their research and knowledge generation activities into fact sheets as part of the coalition's communications strategy to educate the public on urban mobility issues. Government officials in São Paulo, Rio de Janeiro, and Belo Horizonte all spoke highly of the workshops, technical assistance, and capacity development that ITDP and WRI have provided to those cities' technical staff and other key stakeholders. Officials from numerous other cities also indicated that they have greatly valued and benefitted from assistance provided by ITDP and WRI on low-carbon urban mobility during the 2015-2017 period.

Every city official and technical staff person interviewed affirmed that ITDP and WRI have provided indispensable technical assistance on various aspects of mobility planning. Several officials at the Metropolitan Council of Rio de Janeiro praised the project planning support of ITDP and WRI as they worked together on early phases of a TOD project at the Central do Brasil transit hub. Several city technical staff in Rio de Janeiro and São Paulo pointed to the "great value" of ITDP and WRI's technical workshops that serve to build knowledge and capacity among government policy and technical staff. Given the debilitating economic crisis in the State of Rio that began in 2017, government agencies were starved for funding and welcomed grantee technical support that the

government no longer had the capacity to do. ITDP and WRI were also recognized for bringing new ideas, concepts, and information to government agency partners.

Finding 3.2: ITDP and WRI effectively pivoted during the work programme from a focus on developing new transit systems to improving the performance of existing transit systems.

In the original work programme, grantees intended to encourage the expansion of BRT systems that would be funded through national infrastructure financing initiatives, but as the context evolved, grantees were unsuccessful on this front because financing was not available from the federal government during the work programme.

Grantees shifted some of their demonstration project support activities to monitoring, assessing, and improving the quality of existing transit systems. In midline and endline evaluation interviews, several stakeholders indicated that city efforts to build-out large transportation infrastructure focused on the implementation process and did not adequately consider the quality of service that would be needed to attract and maintain passengers. They noted that focus on improved transit system quality is key to increasing support for and interest in mass transit among the public and in promoting modal shifts, and they applauded the grantees support activities in this area.

One of the main foci of grantee activities prior to the work programme and that became increasingly important under the CIFF investment was support for monitoring of transit system quality, particularly for BRT systems, which were heavily criticized for poor quality of service. ITDP and WRI recognized that continuous improvements in system quality were necessary to counter negative perceptions of mass transit, particularly in a country where car ownership is viewed as a sign of upward social mobility. Under-performing and poor-quality BRT and bus systems have only served to reinforce those negative stereotypes, particularly when BRT routes are not well-integrated to the larger urban transportation network.

ITDP and WRI created ways to measure and track transit system quality that were utilized during the work programme. Prior to the CIFF work programme in 2012, ITDP created the BRT Standard, an evaluation tool to ensure that BRT corridors around the world meet a minimum quality standard. This method of evaluation recognizes particularly high-quality corridors with either Basic, Bronze, Silver, or Gold rankings. The BRT Standard is widely used and recognized throughout Brazil, and under the CIFF work programme, BRT corridors in Brazil were evaluated according to the standard. In 2012, WRI launched the BRTData platform (https://brtdata.org/), an online tool that allows users to access data on BRT infrastructure, operational performance, fleets, and road safety. WRI continued to manage BRTData during the work programme, which is in part meant to inform decision-makers around the world as they plan BRT infrastructure in their respective cities. ITDP and WRI recently partnered on the BRT Data platform, and it is now possible to verify the ranking of BRT corridors around the world. In Brazil, WRI also conducts periodic user satisfaction surveys to assess the profiles and habits of BRT users and their general satisfaction with BRT service.

Interviewees identified a range of different interventions that they believe are needed to improve transit system performance in Brazil, including:

- Concession system reforms that improve the quality and timeliness of service and require performance-based results;
- Feeder routes to BRT corridors that are well-integrated into city transit systems and convenient for passengers, enabling quick and seamless transitions for system users;
- Security measures that ensure passenger safety, particularly for female passengers; and
- Transparency and performance metrics to hold system and concessions operators accountable and to raise public awareness about transit system performance (e.g., commute times).

During the 2015-2017 work programme, implementation of BRT systems occurred only in Rio de Janeiro, largely due to the Rio Olympics in 2016. Development of new BRT systems or lines was abandoned in other cities that were initial targets of the work programme, including São Paulo and Brasília. São Paulo under Mayor Haddad committed to adding another 105 km of BRT that never materialized, but the city did maintain the 45km that were in place at the beginning of the work programme. Brasília lacked the political will to pursue BRT

implementation. ITDP and WRI both provided technical assistance to the City of Rio de Janeiro on BRT and other mobility systems in the lead-up to the Rio Olympics in 2016. The urban mobility initiatives that were part of the Olympics infrastructure were deemed a major success and the city delivered more than was promised (see Box 3 below for more details). The final leg of the BRT system, the TransBrasil line, was not completed prior to the Olympics, but in 2017 construction began on one part of this final line.

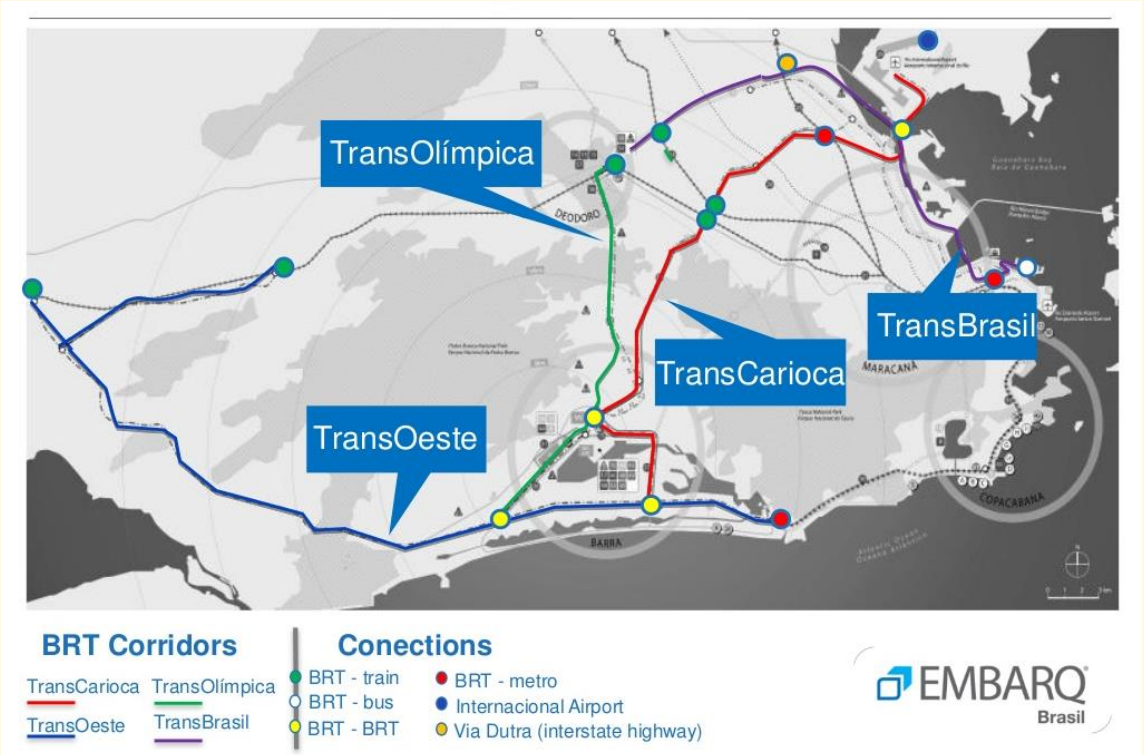
Although the BRT system in Rio de Janeiro expanded significantly during the CIFF work programme, BRT implementation stagnated after the Rio Olympics and quality of service diminished. Several interviewees indicated that the BRT Consortium that runs the BRT system in Rio de Janeiro vastly underestimated the costs of operating the BRT system, largely because it did not take into account the high cost of upkeep of the corridors including maintaining BRT stations, lighting and other safety measures, and cleaning, among other things. In addition, actual BRT ridership did not keep pace with projections, which affected BRT profitability. A former BRT operator and a member of technical staff at the City of Rio cited poor studies that were conducted prior to BRT implementation as the reason that projections were off. According to the technical staff person, the models used to estimate BRT ridership were not well calibrated and overestimated the number of potential riders/users. In addition, the initial BRT studies done prior to the Olympics counted riders who were day laborers helping to build Olympic infrastructure, who stopped using the BRT system when the Olympics were over. Numerous interviewees also noted that the political and economic crisis at the national level, as well as the state-level economic crisis in Rio de Janeiro, led to massive unemployment and a concurrent decrease in the number of mass transit users across all modalities. Several of interviewees indicated that they believe that the only way to make the Rio BRT system profitable would be through government subsidy. The alternative, a tariff hike, would have to be imposed by the city government and all interviewees who spoke to this issue acknowledged that it would be political suicide to attempt such a fare increase. The high cost of upkeep and the diminished passenger numbers have resulted in a negative cycle in which the BRT Consortium is loath to improve quality of service due to the costs, which inevitably leads to fewer riders.

Box 3: **Rio BRT Case Example**

In 2009, Rio de Janeiro won the bid to host the 2016 Olympic games. The city had been unsuccessful on two previous bids, for the 2004 and 2012 Olympic games, in part because urban mobility was not adequately addressed in the bidding process. The failed bids planned only for major extensions of the Rio metro system, with exorbitant costs that were not realistic for the city to implement. The winning bid for the 2016 games presented a revamped urban mobility plan that was based on two principles - connectivity of the four Olympic clusters at Barra, Deodoro, Copacabana and Maracanã and new transportation infrastructure that was financially viable and implementable. This updated plan included a much more modest extension of the metro and the build out of a Bus Rapid Transit (BRT) network.

The BRT network in Rio planned for four corridors with a total extension of 152 km serving up to two million passengers per day. By the 2016 games, three of the corridors were completed including TransOeste, TransCarioca, and TransOlímpica, totaling 120 km of new transportation infrastructure. The TransBrasil line, which would complete the full network by connecting Deodoro to Rio's city center, was not constructed. The State of Rio is currently experiencing a severe economic crisis, limiting the city's capacity for further infrastructure development. Nonetheless, Rio's current city administration has planned to construct part of the TransBrasil line in 2017, around 11 km, though it is not clear what the timeline is for completion of the entire 32 km stretch.

2016 Rio's BRT System



ITDP and WRI were both actively involved in BRT implementation in Rio, providing technical expertise to city staff and evaluating the BRT system. ITDP evaluated the TransCarioca line in 2015, according to ITDP's global BRT standard, awarding the line a Gold ranking in its first year of operation. In 2015, WRI conducted a user satisfaction survey of the TransCarioca line to assess the profile and habits of BRT users and their overall satisfaction with BRT service.

WRI also did a study of the bus system that feeds into the Rio BRT network, looking at ways to remove feeder buses, which cause congestion and pollution, and replace them with bike use as a more efficient and sustainable alternative.

In 2015, ITDP re-evaluated the TransOeste BRT line, which was inaugurated in 2012 and received an ITDP Gold ranking in 2013. ITDP determined that the quality of service offered to users of the TransOeste line had diminished by 2015 and its BRT standard ranking dropped to Silver. In 2016, ITDP created an interactive map of the BRT network in Rio, based on extensive research of the threats and opportunities of each corridor. ITDP made detailed recommendations on principal points along each corridor that required attention.

For many city officials in Rio, the new urban mobility infrastructure built across the entire metropolitan region of Rio, is the greatest legacy of the Olympic games. The city over-delivered on its initial proposals for the urban mobility network by constructing a Light Rail Transit line in the City Center and exceeding proposed BRT kilometers. After seven years of planning, the metro region got a vast and well-connected public transportation network that includes:

- 5 railway trunks (270 km and 102 stations)
- 3 metro lines (57 km and 41 stations)
- 3 BRT corridors (120 km and 134 stations)
- 2 Light Rail Transit lines (18 km)
- 4 ferry lines

The images below illustrate the build out of the Rio transit network, showing existing railway, subway and ferry infrastructure in 2009, compared with the much more robust network that was constructed by 2016 for the Olympic games, which integrated BRT and LRT.

Finding 3.3: ITDP and WRI played a significant role in advancing climate-smart Urban Mobility Plans and in the dissemination of climate-smart mobility principles at the local level, through their work with city governments, and at the national level, through their work with the Ministry of Cities.

At the national level, ITDP and WRI were successful in collaborating with the Ministry of Cities to develop technical guides, metrics, tools, and other resources that are available to cities across Brazil to support development, implementation, and assessment of climate-smart urban mobility plans, programs, and projects. For example, in April 2015, the National Secretariat of Transportation and Mobility (SeMob) of the Ministry of Cities launched a Reference Guide to orient cities developing Mobility Plans called *PlanMob*. ITDP and WRI contributed to the creation of guidelines and development of content for *PlanMob* in partnership with SeMob and worked to disseminate *PlanMob* to cities across Brazil. It is also available for download on the Ministry of Cities and ITDP and WRI websites.

ITDP developed a set of urban mobility indicators in partnership with SeMob and approved by the Ministry of Cities, that will serve to evaluate and monitor how effective the urban mobility law is across Brazil. To ensure a participatory process, the indicators were designed in consultation with civil society organizations and presented to more than 100 urban and transport specialists at two workshops organized by the Ministry of Cities and by the connected Smart Cities initiative. The indicators were made public in January 2017 in a manual called *Effectiveness Indicators of the National Policy for Urban Mobility* and can be downloaded on the Ministry of Cities website.

WRI produced a technical manual in 2015 called *Seven Steps – How to Build an Urban Mobility Plan*, which outlines a set of guidelines for how cities can incorporate the core requirements of the National Policy on Urban Mobility into local development plans. The *Seven Steps* manual presents principles of sustainable urban mobility while emphasizing the need for public participation and institutional incentives to ensure that mobility planning is properly integrated into development planning. According to WRI website statistics, the Manual was updated in 2017 and was downloaded more than 14,000 times since its publication in 2015.

Finding 3.4: ITDP and WRI engaged 20 cities and 3 metropolitan regions on various stages of the Urban Mobility planning and implementation process, despite limited capacity and challenging political and financial contexts in many cities.

The National Policy on Urban Mobility (PNMU) requires that all Brazilian cities with a population over 20,000 create an Urban Mobility Plan to present to the Ministry of Cities by 2019. City staff in mid-size Brazilian cities often lack the technical capacity to incorporate climate-smart Urban Mobility Plans on their own. ITDP and WRI received continuous requests from cities for information and technical assistance in urban mobility planning, but the need across Brazil far exceeded the resources and available capacity of both grantees.

Despite limited capacity and challenging political and financial contexts in many cities, ITDP and WRI were able to make good progress on Urban Mobility Planning in a number of cities. (See Annex B for more discussion of progress on supporting urban mobility planning under KPI 6.) During the work programme, ITDP contributed to the development of São Paulo's Urban Mobility Plan, working with the city's Department of Transportation to produce the Cycling Policy chapter for the Mobility Plan. The Cycling Policy chapter required research, organization and content development, including analysis of

Box 4:
Grantee Mobility Plan Target Cities

Anápolis, GO
Belém, PA
Belo Horizonte, MG
Belo Horizonte Metro Region
Florianópolis, SC
Florianópolis Metro Region
Fortaleza, CE
Joinville, SC
Juiz de Fora, MG
Londrina, PR
Maringá, PR
Natal, RN
Niterói, RJ
Olinda, PE
Pelotas, RS
Recife, PE
Rio de Janeiro, RJ
Rio de Janeiro Metro Region
Salvador, BA
Santarém, PA
São José dos Campos, SP
São Paulo, SP
Volta Redonda, RJ

previous São Paulo cycling laws, best practices and experiences from other cities. In addition, the chapter was submitted to civil society for input. São Paulo's Municipal Mobility Plan was approved by City Hall in February 2016, during Mayor Fernando Haddad's term and implementation began. The Plan builds on São Paulo's Strategic Masterplan and is aligned with TOD principles.

ITDP and WRI both contributed to Rio de Janeiro's mobility planning. ITDP organized several events to collect input from civil society organizations, provided technical assistance to city officials and conducted participatory events across Rio to ensure the Plan was inclusive and addressed the concerns of local communities. ITDP was a key player in the development of Rio's Mobility Plan and had a seat on the technical working group inside City Hall that monitored the Plan's development. The core content of the Plan related to public transportation includes 11 new BRT corridors, two subways lines, and three light rail transit (LRT) lines, carrying a total of 2.2 million new passengers a day. Though the Mobility Plan was completed in 2016, it was not approved by City Hall. In October 2016, new mayor Marcelo Crivella was elected, and grantees expected that the new administration's Secretary of Transport would review and validate the plan before sending it to City Hall for final approval. As of February 2018, the Mobility Plan was still awaiting approval.

WRI worked with city officials and technical staff in Belém, Belo Horizonte, Joinville, Juiz de Fora, Olinda, and São José dos Campos to draft and finalize those cities' Mobility Plans. Five of these six cities have formally launched their Mobility Plans, while Olinda's is currently up for review by the mayor. WRI provided a wide array of technical assistance to cities such as training on Seven Steps Methodology, visioning workshops, public participation workshops, convening of city staff and other key stakeholders, technical assistance on specific aspects of mobility (i.e. NMT, walkability, public transport), review of Terms of Reference, and analysis of products and reports produced by consultants developing city mobility plans.

At the city-level, a total of eight Urban Mobility Plans were finalized, but Olinda and Rio de Janeiro continue to wait for final approval by the city. Twelve more cities are in various stages of the planning process and will continue to receive assistance from ITDP and WRI. Within the six cities that launched their Urban Mobility Plans, implementation activities began, including:

- Joinville, SC implemented 148 km of bike lanes and 18 km of bus lanes, renewed 71 km of sidewalks, and the city is currently working on a Walkability Plan linked to the Urban Mobility Plan.
- Juiz de Fora, MG began bike lane implementation in 2016.
- São José dos Campos, SP implemented several kilometers of bike lanes and sidewalks as proposed in the Mobility Plan.
- São Paulo implemented over 250 km of bike lanes and began walkability planning.

While WRI saw progress in mobility planning in some cities, it has also faced several challenges in other cities for a variety of reasons. Florianópolis, Natal, Salvador and Santarém postponed development of their Urban Mobility Plans due to the Municipal elections held across Brazil in October 2016. Anápolis and Pelotas both postponed development of their Mobility Plans because of financial issues and/or lack of technical capacity among city staff. Londrina held off on further development of the Mobility Plan as it tried to ensure alignment between city mobility and urban master planning. As of February 2018, all these cities' mobility plans remain on hold.

In addition to their assistance to cities, ITDP and WRI also began providing technical assistance for metropolitan regional planning. In January 2015, the federal government passed the Statute of the Metropolis (*Estatuto da Metrópole)* to promote integrated action between municipalities in metropolitan regions, in partnership with state and federal governments. The actions that fall under the purview of the Statute are those that would be impossible for municipalities to realize on their own or that cause an impact on neighboring municipalities including issues like public transportation, basic sanitation, housing or waste removal. The Statute of the Metropolis obligates Brazilian states to establish Metropolitan Regions (where applicable), create governance structures, and develop Plans for Integrated Urban Development (PDUI) that promote quality of life and sustainable growth, by 2018. This law was instituted at the beginning of the work programme and provided grantees a key opportunity to further advance mobility and sustainable development beyond the administrative

boundaries of Brazilian cities. ITDP and WRI are currently working with the Rio de Janeiro Metropolitan Region on the development of their PDUI, while WRI provided technical assistance for the completed Florianópolis Metropolitan Region and is also assisting the Belo Horizonte Metropolitan Region.

The evaluation team found that as both ITDP and WRI accumulate a portfolio of successful Urban Mobility Plans and PDUIs incorporating climate-smart principles, they are contemplating how best to efficiently support mechanisms for the diffusion and replication of urban mobility planning principles. There are more than 1700 cities across Brazil with a population over 20,000 that are required to create Urban Mobility Plans, as well as 26 metropolitan regions with populations over 1 million, which accounts for nearly half the population of Brazil. Grantees recognize that it is not efficient or practical to attempt to provide tailored technical assistance to this vast cohort. Grantees see opportunities to ensure diffusion and replication through continued collaboration with the Ministry of Cities on technical guides and workshops for city technical staff. New collaborations, such as WRI's Memorandum of Understanding with the National Council of Mayors (Frente Nacional de Prefeitos, or FNP), also provide further opportunities to diffuse climate-smart urban mobility principles to cities across Brazil.

Finding 3.5: ITDP and WRI have been successful in incorporating planning norms and creating climate-smart criteria for Minha Casa Minha Vida projects, though the pace of implementation has been slow.

ITDP and WRI worked in partnership with the Ministry of Cities on incorporating climate-smart criteria into the planning and selection process for Minha Casa Minha Vida (MCMV) projects. Both grantees provided their technical input to the Minha Casa Mais Sustentável collection of manuals, produced to assist local city officials with project planning for the MCMV program. WRI produced the first manual in the series, "Reference Costs – Qualification of Urban Insertion," on the impacts and costs related to the placement of social housing projects when inserted into the urban core or placed far from urban centers. The objective of this manual is to influence local decision-making for better placement of social housing projects, with the goal of providing residents better access to social services and transportation. ITDP produced the second manual in the collection, "Reference Parameters – Qualification of Urban Insertion," which provides local city officials with procedures on how to evaluate social housing locations based on demand for public services and other criteria. Both of these manuals are available to all municipalities across Brazil, allowing for significant dissemination of urban mobility and transit-oriented development principles.

WRI was successful in moving a MCMV project in Junção, Rio Grande do Sul from the planning to implementation phase. At the national level, the MCMV program was the target of major budget cuts, which led to numerous delays and hurdles in 2016 and most of 2017. However, construction on the Junção project finally began in 2017 and is expected to be completed in 2018 (see Box 5 below for a full description).

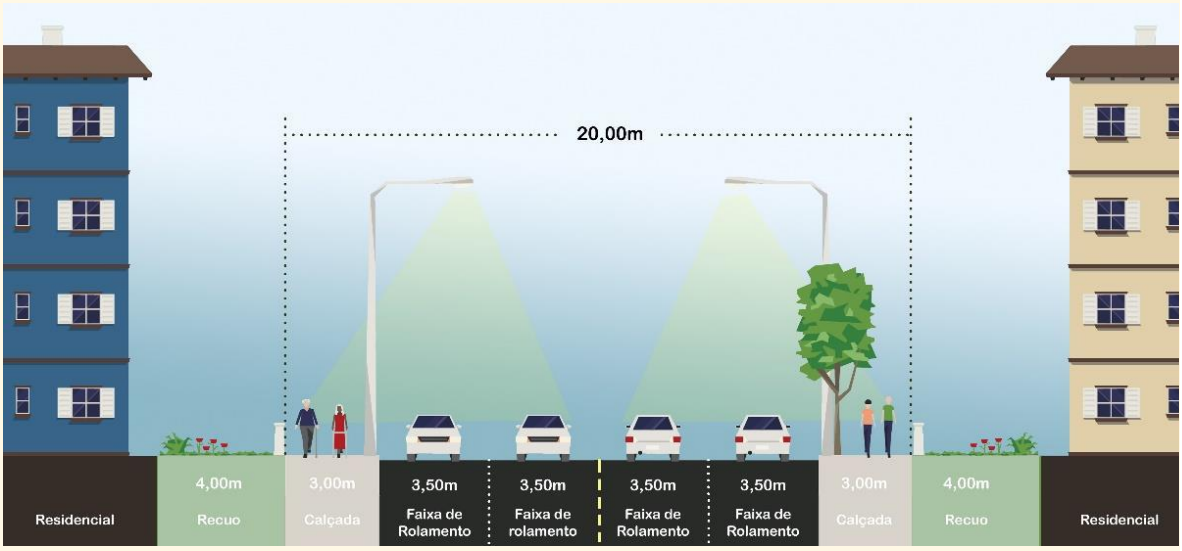
Box 5: **Junção MCMV Case Study**

Rio Grande is a city in the southern Brazilian state of Rio Grande do Sul with a population of more than 175,000 inhabitants. At the height of the MCMV social housing program, the city was awarded federal funds to create two new neighborhoods intended to house 20,000 low-income people. Unlike many MCMV projects, both neighborhoods, Junção and Águeda, will be integrated into the urban fabric of the city instead of being relegated to the distant suburban outskirts. The ultimate project design for Junção and Águeda have been heavily influenced by WRI as a result of an ongoing partnership between WRI and Rio Grande that began in 2014.

WRI worked with city technical staff to incorporate TOD principles to create more compact neighborhoods with more accessible public spaces. WRI suggested numerous changes to the initial project design, perhaps the most significant of which was removing the walls surrounding the housing development which would have isolated residents from the rest of the city. Other improvements include:

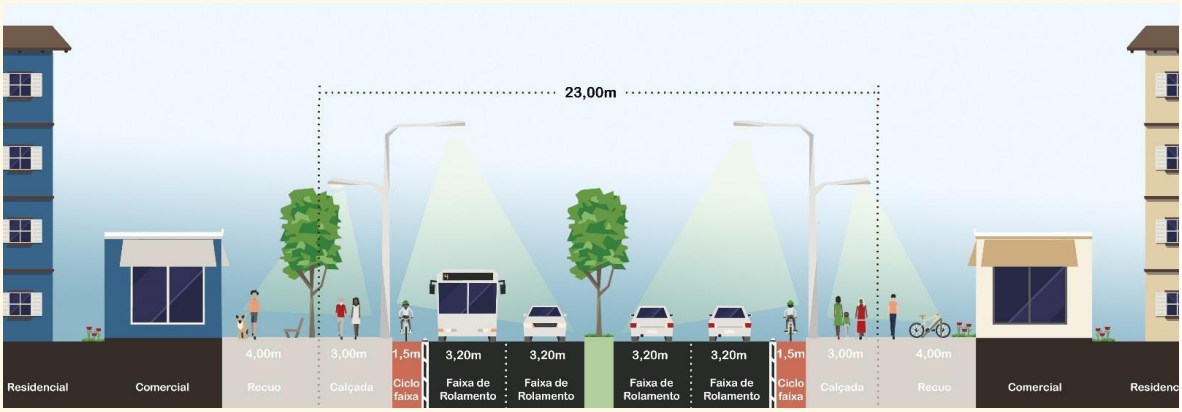
- Creating space for non-motorized transport by incorporating bike lanes and greater walkability
- Incorporating commerce and other services into the center of the neighborhood
- Adding more public and green spaces for residents to enjoy

Before



WRI also brought together water, light and sanitation representatives to participate in the project in an effort to better integrate these services. The greatest challenge during the Junção project was over the issue of parking spaces; the law requires that each unit have one parking spot, but WRI pushed for the reduction of parking spaces to encourage use of public transport and non-motorized forms of transport. Ultimately, WRI had to compromise and the number of parking spots was increased.

After



Due to the economic crisis in Brazil, the Junção project moved in fits and starts as the MCMV program itself faced uncertainty and financing was drastically reduced. However, in 2017 construction of the project began and is expected to be completed by August 2018. The Junção project serves as an excellent example of best practice in the incorporation of TOD principles into social housing. WRI (and ITDP) worked with the Ministry of Cities at the national level to qualify the third phase of the MCMV program including guidelines for location, land-use, and housing projects and criteria for the built environment.

Finding 3.6: ITDP and WRI were able to push forward several key demonstration projects, which are important to advance policy and infrastructure outcomes, build local political will, and serve as tangible models to spur interest and action among city officials and other actors in Brazilian cities.

The economic and political crisis in Brazil continued into 2017, drastically reducing funding for major infrastructure projects and their implementation. Grantees shifted strategies to focus on improving existing systems and project planning for when federal funding once again becomes available. Despite the difficult

funding landscape, ITDP and WRI were successful in moving forward several demonstration projects, which are critical to show sometimes skeptical city officials what integrated urban mobility looks like in practice.

Both grantees have supported the São Miguel Paulista Zone 40 project in the outskirts of São Paulo. ITDP and WRI provided technical assistance on this urban renewal project with mobility interventions designed to improve access for pedestrians and cyclists as well as create more accessible public spaces (see box section below for full description). The project caught the attention of the Mayor of São Paulo, João Dória, who requested ten similar projects in other parts of São Paulo to be implemented during his tenure.

Box 6: **São Miguel Paulista Zone 40 Area Case Example**

Approximately 50,000 people die on Brazilian streets each year due to precarious road safety and security measures.[12] The City of São Paulo has tried to address this issue in recent years, creating several Zone 40 areas around the city, where traffic signs and built infrastructure keep speed limits low and help to keep people safe. Eleven Zone 40 areas exist in São Paulo, but in 2016 the São Miguel Paulista (São Miguel) neighborhood was chosen to undergo a massive design overhaul, with technical support from ITDP and WRI, and funding provided by Bloomberg Philanthropies and NACTO.

São Miguel is 15 miles east of the São Paulo city center and home to more than 370,000 inhabitants. The main thoroughfare of the city, Avenida Marechal Tito, hosts the town's major facilities and attractions and serves as the center of commerce. This main avenue and surrounding streets experience heavy pedestrian flows that cannot be accommodated by the narrow sidewalks and insufficient crosswalks. The severe clogging in this area created numerous road safety hazards and led to Avenida Marechal Tito being named the deadliest street in São Paulo in 2015.

The City of São Paulo was eager to improve road conditions in São Miguel and partnered with WRI, ITDP, Bloomberg Philanthropies and NACTO on an urban renewal project for the community. Interventions in the central part of the city (see map) will include expanded sidewalks, new bike paths, revitalized public squares, and new cross walks with adjusted timers to allow enough time for pedestrians to safely cross at intersections.

Both ITDP and WRI provided technical assistance to ensure that safety for pedestrians and cyclists was considered in the re-design of all spaces. They provided input on the design company chosen for the project and conducted workshops to discuss the neighborhood-scale interventions with citizens who would be affected. Community engagement was a key piece in keeping residents informed of changes that were coming and getting buy-in on the benefits of new urban mobility solutions. Below is an example of what one project will look like. The popular roundabout will be re-designed to include widened sidewalks, a new bike path and bike racks, more greenery and shade, and seating areas to promote greater use of the space itself.

[12] https://sourceable.net/50000-road-deaths-per-year-brazil/

Photo Credit: 23 Sul Arquitetura

The São Miguel project is currently in the implementation phase and construction has begun. This project caught the attention of São Paulo's new mayor João Dória and his Secretary of Transportation, Sérgio Avelleda, who have followed the process closely. Secretary Avelleda is interested in pursuing similar projects in 10 other areas of São Paulo with the assistance of ITDP and WRI, revealing the importance of on-the-ground projects to show both policymakers and communities what integrated urban mobility looks like and to garner political buy-in from city officials. This project is an excellent example of the impact that local, community-scale urban mobility interventions can have in improving quality of life for residents. In addition, São Miguel served as a successful pilot project with the potential for replicability across São Paulo, and very likely in other parts of Brazil.

WRI also provided the City of Canoas, Rio Grande do Sul with technical assistance on an innovative mobility project, the aeromóvel, that includes TOD principles and requalification of urban spaces along the aeromóvel corridor. The project is fully planned and has financing in place but stalled after the October 2016 municipal elections (see Box 7 for details). The Canoas aeromóvel is a prime example of sometimes difficult political scenarios that can impact projects, regardless of how well-planned the project may be.

Box 7: **Canoas Aeromóvel Case Example**

Canoas is the second largest city in the metropolitan region of Porto Alegre, with just over 340,000 inhabitants. In the early 2010's, the city elaborated a mobility project that would utilize an Aeromóvel, an electric, efficient and cost-effective train that operates with technology based on pneumatic propulsion. The aeromóvel system does not produce emissions, rationalizes the use of energy and has a low impact on the existing urban space. The system uses specialized industrial blowers and an elevated guideway composed of prefabricated beams and pillars that are meant to allow for quick and simple assembly, thereby minimizing impact on the surrounding urban area. However, for various reasons, the project was set aside by the city for several years and only began to be re-developed in 2013.

Source: Prefeitura de Canoas, www.canoas.rs.gov.br

The aeromóvel in Canoas is intended to establish a new east-west connection in the city and link the two densest and lowest-income neighborhoods of Canoas, Mathias Velho and Guajuviras, to the main metropolitan railway station. The corridor will be 18 km long, with 26 stations and 21 vehicles. Planned capacity at peak times will be 12,000 passengers per hour and 82,000 per day. The aeromóvel will significantly reduce travel times between the Guajuviras neighborhood and the city center; the journey currently takes up to 40 minutes by bus at peak times, but with the aeromóvel will be reduced to 9 minutes.

The Aeromóvel Project was originally conceived as a transport project focused on urban mobility with systems operations financed by land value capture. However, the municipality did not consider the urban impact or context of the aeromóvel location. With WRI involvement, the original aeromóvel project evolved into a TOD project, focusing on sustainable urban development along the aeromóvel corridor, with building efficiency standards and strategies to prioritize pedestrians. Now the project is better-suited to tackle the major climate change issues facing cities today: traffic congestion, urban sprawl and energy inefficiency. The aeromóvel is a clean transportation system that will help to reduce traffic congestion in Canoas. The integration zone will densify the area along the aeromóvel corridor, reducing urban sprawl. Building efficiency standards in the aeromóvel corridor will drive future buildings towards more green and sustainable standards.

The city initially intended to finance the project by implementing land value capture instruments along the aeromóvel corridor, and the city Master Plan was even revised to align with this new urban plan, but the Master Plan lacked the technical specificity required to ensure that the municipality would effectively apply the land value capture. WRI saw this as an opportunity to assist the city on both land value capture and the incorporation of TOD concepts. The City of Canoas worked with the Latin American Development Bank on a proposal submission to the Green Climate Fund. The project will be implemented in 2 phases and the city received PAC funding from CAIXA for Phase 1, the extension between Guajuviras and the city center.

In January 2017, a new mayor came into office and the Canoas aeromóvel project was stalled. The project was challenged by bus operators who did not want another means of transportation that would inevitably drive down profits. In addition, there was some uncertainty around project financing. WRI also indicated that the previous government did not do enough public outreach about the aeromóvel and the positive benefits to the neighborhoods impacted. One key takeaway from this project is the critical role of community engagement and buy-in to ensure projects move from planning to implementation.

Canoas Aeromóvel Design Plan

Finding 3.7: ITDP and WRI's activities supported CSO campaigns and coalitions, but grantees could do more to collaborate effectively with CSOs.

In the midline evaluation report, the evaluation team observed that both ITDP and WRI made a shift in emphasis over the course of the first half of the work programme to better engage civil society organizations (CSO) on strategies in certain areas (see *Midline Evaluation Finding 6*). This CSO engagement remained a main focus of grantee activities in the last year of the work programme, with both ITDP and WRI increasing the total number of CSO partners by approximately 50 percent from their baseline levels in 2014 (see analyses of KPI 10a and 10b in Annex B). Several areas of CSO engagement by ITDP and WRI are summarized below.

WRI and ITDP supported the City of Dreams (Cidade dos Sonhos) coalition, a non-partisan network of diverse organizations, movements, and civil society groups that came together prior to the October 2016 Municipal elections to encourage candidates and the media to focus attention to and debate solutions on four areas fundamental to the future of Brazilian cities – green space, clean energy, urban mobility, and waste management.[13] Cidade dos Sonhos facilitated a public-facing campaign to educate the public and candidates on these issues. Since October 2016, the coalition has worked to hold candidates accountable for their promises on these four areas. In the lead up to the 2016 Municipal elections, both grantees provided data that could be used publicly and helped to produce communications materials, including videos and fact sheets, on candidates' positions on a host of issues, including urban mobility. One interviewee noted that ITDP and WRI's technical expertise was a good complement to types of support provided by other coalition members, such as outreach, mobilization, and direct advocacy activities.

In the last half of the work programme, WRI promoted gender-focused participation at the local civil society level, and organized several events and workshops focused on women which addressed connections to urban mobility issues. WRI focused some engagement activities on women and road safety issues, and WRI has worked to engage women of all social classes in these dialogues.

[13] See https://cidadedossonhos.org/

Multiple CSO representatives interviewed in São Paulo indicated that they have a good working relationship with ITDP and WRI and that both organizations are very well-respected and viewed as having a great deal of legitimacy among local government institutions. Several CSO representatives observed that the size and funding levels of organizations such as WRI and ITDP enhance their visibility and clout, particularly with city officials. Most CSO interviewees also acknowledged that ITDP and WRI have been transparent about their roles in the broader CSO field. These CSO representatives indicated that they broadly understand that both organizations are willing to provide technical assistance and capacity building support but noted that ITDP and WRI do not engage in direct, visible policy advocacy and avoid direct, visible criticism of the government entities with which they often work. Several of these CSO representatives recognized the value and need for both inside and outside game strategies and indicated that they viewed ITDP and WRI as being effective inside game partners. They further observed that CSOs are generally better positioned to do more direct advocacy work and to more openly critique government decisions and action from the outside.

A few CSO representatives observed that there are sometimes tensions and frustrations around CSO engagement with more established, technical assistance-focused organizations including WRI and ITDP. For example, one CSO staff member noted that some CSO organizations are uncomfortable working with the ITDP and WRI because of their close relationship with city officials and governments and their perceived reluctance to critique them. In addition, some CSO representatives were critical of ITDP and WRI for not taking a firmer stance on specific issues, such as when Mayor Dória increased speed limits in São Paulo. There was a perception among some CSO's that the grantees did not want to jeopardize on-going work with the city on the São Miguel Paulista Zone 40 project. Given that WRI has a specific initiative on road safety, one CSO staff member expected WRI to take a public position on the speed limit issue and was surprised when they did not. Another CSO organization also admitted that there has been some disappointment when ITDP or WRI do not sign on to MOU's or other public-facing documents, but that generally most advocacy CSO's are understanding of their position. One CSO representative expressed frustration about WRI not giving sufficient credit to CSOs for their contributions of information and ideas that are included in WRI publications or events. One CSO staff person indicated that they felt that even if ITDP and WRI cannot do advocacy themselves, they should see the value in the advocacy and outside game strategy of many CSO's and that the grantees could do more to indicate that they support and value this work.

While both grantees have worked to improve their engagement of CSO's, multiple CSO representatives indicated that ITDP and WRI could do more to engage CSO's in meaningful ways. For example, one CSO staff member indicated that there could be more opportunities for co-creation of products and publications as opposed to grantees consulting CSO's after ideas have been fully formulated or finalized. A couple of CSO staff felt that their topical expertise was not being adequately tapped, and most felt some degree of exclusion from urban mobility issues promoted by ITDP and WRI. For instance, one staff person noted that CSO's are often excluded from workshops or other events hosted by the grantees, when grantees should be taking advantage of the position of local CSOs to contribute to and promote dialogue between local civil society and local governments.

CSO engagement more broadly is an area that several government agencies are also trying to improve upon, though some officials acknowledged that this can be tricky. One former city official in São Paulo observed that CSO's can often be difficult to work with, especially when they are advocacy oriented. Another official in Rio de Janeiro affirmed the critical role that CSOs play in advancing urban mobility and other issues and indicated that his agency sought new and better ways of engaging CSOs.

Finding 3.8: ITDP and WRI widely disseminated information on low-carbon urban mobility and transit-oriented development concepts; however, there is some uncertainty about the extent to which these concepts have been appropriately understood by city officials and other key stakeholders.

As indicated throughout the Effectiveness section, grantees have been highly successful in disseminating knowledge of urban mobility concepts, such as TOD and TDM, to technical staff at city agencies and to other key stakeholders. Concepts like TOD are not simply about urban mobility, but also include complicated financial instruments and technical principles that identify true TOD projects. One mobility expert and former city official in São Paulo acknowledged that ITDP and WRI have made a great effort to disseminate such concepts but

questioned the extent to which city officials or technical staff truly understood what these concepts meant. In Rio de Janeiro, one government official indicated that he had long been involved in TOD projects, stating that he had been "putting shopping centers in train stations" for decades. Some CSO staff also noted the difficulty of adequately ingraining urban mobility concepts – a bike activist indicated that it was not uncommon for cities around Brazil to simply paint city roads red to indicate the existence of a bike lane, without considering safety and other issues or how bikes integrate to broader city transport networks. The challenge of turning the dissemination of urban mobility concepts into proper implementation is not exclusively faced by ITDP and WRI, and is a more generalized problem, but one that must be addressed to ensure that low carbon urban mobility solutions are advanced throughout Brazil. Several interviewees noted that the work programme's support for demonstration projects has been important to help advance detailed designs and implementation progress that can create tangible examples that embody these concepts. Many interviewees noted the importance of sustaining efforts to diffuse sustainable urban mobility and TOD concepts and to develop projects that make it easier for government officials, practitioners, and the public to better understand what the concepts can look like in practice.

Finding 3.9: While the KPI system is relevant for assessing longer-term progress on outcomes, it was largely irrelevant to the management and conduct of the current three-year work programme.

In the midline evaluation report, the evaluation team found that it was difficult to develop useful KPIs for the work programme that were relevant to assess progress and inform program management in an annual context (or even in a 2-3-year context), largely due to the slower pace of change of many large transportation system and social housing projects. The endline report affirms this finding. Progress on many of the outcome-focused KPIs was slow and short of targets in large part due to shifts in the external context that halted most government investment in the types of projects that could be implemented during the work programme. The evaluation team conducted a detailed analysis of the KPIs, which is presented in Annex B. Endline interviews with grantee staff found that those involved in implementing the work programme did not use the KPI information to support or inform management of the work programme.

4. Impact

This section explores the evaluation team's findings related to the question: ***What evidence is there that the programme has led to the curbing of Brazil's transport emissions?***

There has been modest progress in curbing actual urban transport emissions during the work programme; most progress has focused on interim outcomes that are anticipated to support emissions reduction progress in the future. Severe economic and political crises in Brazil during the work programme substantially limited impact on actual emissions. Implemented activities, such as the development of climate-smart urban mobility plans, seek to influence urban mobility investments when economic activity recovers. Specific findings are discussed below.

Finding 4.1: Most progress to date during the programme has been focused on interim outcomes that have the potential to influence GHG emissions in the future.

In the midline evaluation report, the evaluation team found that most of the activities supported by WRI and ITDP during the work programme were focused on "interim outcomes" that were intended to lay the groundwork for the future development and implementation of low-carbon urban mobility solutions (see *Midline Evaluation Finding 12*). As a result of the political and economic crises, public investment funding to support new urban transportation and housing projects evaporated beginning in 2015. As a result, grantees concentrated their focus on activities designed to support metropolitan and city-level planning processes to ensure that low-carbon urban mobility solutions were included in urban and mobility planning and project development, and to continue to influence national-level policies and MoC guidance that might inform project investment decisions in the future.

Evidence from the endline report continues to support this finding. In 2017, grantees continued to focus efforts on advancing low-carbon urban mobility and TOD solutions through integrating the concepts into planning processes and documents and into public institutions through capacity-building, awareness raising, and training. For example, WRI and ITDP focused considerable attention on the activities outlined in the boxes below to inform government planning and institutional capacity building.

Transformation at scale, however, will take years to realize and grantees may not begin to see significant progress on indicators such as greenhouse gas and particulate matter emissions for at least a decade (see the KPI analysis in Annex B).

Finding 4.2: Most actual GHG emissions reductions associated with the work programme are linked to BRT projects that CIFF grantees contributed to before the work programme began in 2015, although the work programme supported continued progress on implementation and improvement of these systems.

Most of the actual GHG emissions reductions associated with the work programme, stemming from projects implemented, relate to BRT systems and lines that were started (with WRI and ITDP support) prior to the beginning of this work programme. However, it is important to note that some of these new BRT systems have started operation during the work programme and WRI and ITDP have remained active in working with the implementing government institutions to help them assess system performance and identify system improvement opportunities in Rio de Janeiro and Belo Horizonte. Brasilia and São Paulo, showed early interest in or commitments to develop BRT systems, for example, a 155 km BRT network was intended in Brasília and in São Paulo, Mayor Haddad had set a goal of developing 105 new km of BRT lines, but ultimately these projects were abandoned.

The tables below highlight GHG emissions reductions by grantee from the transportation sector over the course of the work programme. ITDP measured GHG emissions avoided only for Rio de Janeiro and São Paulo, while WRI measured emissions avoided for Rio de Janeiro, São Paulo, and Brasília. The 2014 baseline is a calculation of GHG emissions prior to the CIFF grant and the CIFF 2017 Target is the emissions avoided goal that CIFF and grantees set out at the beginning of the work programme.

ITDP	2014 Baseline	2015 Results	2016 Results	2017 Results	CIFF 2017 Target
Reduced GHGs from transport sector	146,998 tonnes of CO_2 reduced	150,561 tonnes of CO_2 reduced	168,280 tonnes of CO_2 reduced	166,265 tonnes of CO_2 reduced	375,150 tonnes of CO_2 reduced

WRI	2014 Baseline	2015 Results	2016 Results	2017 Results	CIFF 2017 Target
Reduced GHGs from transport sector	179,197 tonnes of CO_2reduced	193,8 10 tonnes of CO_2 reduced	211,529 tonnes of CO_2 reduced	No change	524,687 tonnes of CO_2 reduced

Modest additional GHG emissions reductions may be associated with other mobility projects such as bike lanes and bike sharing programs, speed reduction zones, and pedestrian improvements that encourage residents to opt out of motorized transport for certain trips. For example, São Paulo implemented more than 300 km of bike lanes since mid-2014. The GHG emissions reduction impacts discussed above also do not include potential future GHG emissions reductions from climate-smart urban mobility emissions included in city mobility plans or other transit initiatives in the planning or design stage.

Finding 4.3: Policymakers, civil society actors, and other key stakeholders consistently identified improved quality of life and more equitable cities as among the primary motives driving climate-smart urban mobility solutions, while GHG reductions are typically viewed as a co-benefit.

In the midline evaluation report, the evaluation team noted that urban mobility solutions in Brazil are marked by the importance of their co-benefits beyond climate change mitigation. Midline and endline evaluation interviews indicated that primary drivers for implementing urban mobility solutions are typically to address human needs – reduced travel and commute times, increased reliability of transportation services, and safety, among other quality of life factors. These human dimensions have important economic, health, and social benefits that are much more salient than GHG emissions reduction benefits in the minds of most government officials and partners. In this sense, GHG emissions reduction is often viewed as a co-benefit of addressing these other quality of life factors.

Finding 4.4: Grantees struggled with calibrating funder expectations for the pace of progress with the actual pace of change that was feasible for implementation of city-level, climate-smart urban mobility solutions.

In the midline evaluation report, interviewees indicated that urban mobility change in Brazil takes time, and that progress does not come in a linear manner. The endline evaluation report affirms this finding. The political and economic crisis dramatically delayed implementation progress which is likely to be slow over the next few years as economic and political conditions in the country recover. Several grantee representatives interviewed mentioned that they often feel strong pressures from funders to make bold claims about the amount of change that is feasible in short periods of 2-3 years. They noted that sometimes it is possible to secure significant bursts of change in a short period of time, but that it may take several years of preparatory work with limited progress to get there, particularly when the external context is not ripe. City officials and technical staff noted the high-value they perceive in planning efforts with ITDP and WRI to prepare for periods when federal funding or other sources of urban mobility infrastructure financing eventually become available (see Finding 2.2).

5. Sustainability

This section explores the evaluation team's findings related to the question: ***Is this a transformative initiative?***

This is a potentially transformative initiative; however, more work and investment are needed to sustain and expand progress in shifting the complex systems that shape urban mobility and transit-oriented development in Brazilian cities. Focused attention on transportation systems and transit-oriented development are needed to complement electric vehicle deployment strategies and to ensure that solutions work in economically-viable and equitable ways for broad segments of the Brazilian population.

The evaluation team has interpreted the concept of "transformative" to mean that interventions are contributing to systemic changes that can enable scaling of low-carbon urban mobility and TOD solutions that are sustainable in that they persist into the future. In the midline evaluation report, the evaluation team identified several characteristics of transportation and urban mobility in Brazil that influence the ability of the CIFF Brazil Mobility Initiative to be transformative. Endline interviews affirmed those findings, including:

- The initiative is transformative insofar as it is working towards a fundamental shift away from an automobile-centric design for cities and to broaden urban mobility solutions to benefit many who do not have access to cars. (*Midline Evaluation Finding 17*)
- Efforts to grow transparency and accountability around urban mobility and transit systems and their performance are vital to sustaining progress, particularly through mayoral transitions. (*Midline Evaluation Finding 18*)
- For long-term success, efforts will be needed to break the glamour of the automobile among the Brazilian middle class and the government's reliance on cars and oil as the key to national economic growth and development. (*Midline Evaluation Finding 19*)

Additional evaluation findings related to sustainability and transformation are summarized below.

Finding 5.1: While replication strategies appear to be generally sound, more innovation and funding will be needed to expand capacity building (and capacity gap filling) support to meet the need among Brazilian cities in the coming decades.

Interviews conducted for the midline and endline evaluation universally affirmed that ITDP and WRI have played important roles in building capacity and filling capacity gaps related to urban mobility and TOD in ways that are significantly increasing awareness of low-carbon urban mobility and TOD solutions. Grantees built up technical expertise and knowledge among government officials and technical staff at the local and national level—city and MoC officials interviewed provided numerous examples of how grantees have supported capacity building and gap filling. Grantees also worked with CSOs to build capacity for urban mobility and sustainability work, more broadly. In addition, grantees helped to fill technical capacity within government institutions that were seriously constrained at the municipal and federal level, particularly in the wake of the national political and economic crisis that began in 2016. The need in Brazil for the types of support that the grantees provided was so great, that the grantees themselves also faced capacity issues and were unable to meet the excessive demand for their expertise. Many interviewees—including local and national government officials, CSO representatives, and other experts—indicated that additional capacity will be vital in Brazil to fulfill the needs of growing cities that seek urban mobility solutions but do not have the resources or know-how to do planning or implementation on their own. The grantees have explored creative strategies for leveraging limited capacity—such as the WRI partnership with the National Front of Mayors (FNP) and support for cohorts of cities to advance initiatives in a peer exchange support model, interactive workshops for public officials, and development of publications and web-based materials. However, grantee representatives and other stakeholders interviewed indicated that more work on creative leveraging strategies will be needed to service the demand of Brazilian cities for technical assistance and capacity building support in ways that can support transformation of public transportation infrastructure and housing development in practice.

Finding 5.2: City-level strategies are critical to create lasting change in the transport sector for long-term impact on GHGs, particularly given the inertia at the federal level.

The political and economic crisis at the national level in Brazil brought the federal government to a standstill in terms of both policy intervention and implementation of large infrastructure projects. Grantees were adept at shifting their focus to the city and metropolitan level where planning and small-scale interventions continue despite economic constraints. Many interviewees observed that uncertainty at the federal level makes the city/metro focus more important and is where action and progress has been seen. In addition, federal policy is weak and established legal frameworks do not ensure enforcement of these policies. For example, the National Urban Mobility Law was created in 2012 and slated for implementation across Brazil by 2016. That date was pushed back to 2019 and though the law imposes mobility planning requirements on cities, as of February 2018 only a couple of hundred cities had completed mobility planning among the approximately 5000 that are mandated by law to do so. While the national level policies can send important signals supporting low-carbon urban mobility and TOD solutions, nearly all interviewees indicated that city-level strategies are needed to make transformation real.

Finding 5.3: City mobility plans are an important, but insufficient ingredient, to drive transformation of urban mobility solutions and sustained political leadership and commitment will be needed to ensure that the concepts are incorporated into city master plans and projects.

As indicated in Finding 3.3, grantees had varying degrees of success in working with cities to develop mobility plans. In cities where grantees were unable to advance to finalization of mobility plans, one recurring issue was political – either a change in mayoral regime or lack of political will coupled with scarce economic resources. Demonstration projects such as São Miguel Paulista also revealed that political support can go a long way to ensure implementation. In the future, greater political mobilization (see Finding 1.4) will be needed to assure that urban mobility remains firmly on the agenda of city leaders and broad-based public demand and support for urban mobility will also be critical for sustained progress.

Finding 5.4: Political mobilization strategies were helpful to grow support for low-carbon urban mobility and TOD solutions that can weather mayoral transitions and counter opposition narratives that are pushing car-centric strategies.

Most stakeholders interviewed for the midline and endline evaluations indicated that more attention to political mobilization, strategic communications and narrative framing, and constituency-building and engagement are needed to build durable political coalitions that can support and sustain policies, programs, and projects that advance low-carbon urban mobility and TOD solutions. Several interviewees noted that progress on this front has been made over the past few years, citing examples such as the Cidade dos Sonhos coalition; although they acknowledged that substantial work is needed to better equip, align, and coordinate CSOs and NGOs to support these types of efforts.

Several interviewees pointed to the recent experience with biking infrastructure in São Paulo as an example of how local political changes can both accelerate and rollback low-carbon urban mobility solutions (see Box 8). Several CSO representatives and city officials observed that they believe that communications and advocacy support in São Paulo have helped to moderate roll-back of urban mobility progress in the city.

Finding 5.5: Grantees have been highly-dependent on CIFF funding for scaling their urban mobility work programmes and continued philanthropic investment and assistance is necessary to sustain their efforts going forward.

Numerous interviewees indicated that the urban mobility challenges in Brazil are enormous and the grantee field is constrained by capacity and resource needs. ITDP and WRI were able to succeed on a number of fronts despite these challenges in 2015-2017, and they have laid important groundwork for future progress. The CIFF investment of $8 million from 2015-2017 has helped WRI and ITDP scale up their activities. For example, the investment enabled WRI to bring on several staff members to create an urban development team that was focused on transit-oriented development and activities such as workshops to disseminate the concept, publication of manuals, exploration of project financing mechanisms, and conception of projects, among other activities. Grantee representatives and other NGO and CSO leaders interviewed indicated that there is significant uncertainty about the future levels of philanthropic investment in Brazil urban mobility work, and they voiced a fear that funders may pull back from this space. A few urban mobility experts and academics interviewed wondered whether there are important opportunities to cultivate Brazilian philanthropic, both at the level of wealthy donors and at the community level. For example, a few experts indicated that they believe there are opportunities to develop models for local philanthropy to support micro-scale initiatives, such as Complete Streets, that could be loosely coordinated in a broader network to support efficiencies and scaling. Other experts indicated that there may be opportunities to co-fund local-level initiatives with funders interested in public health, violence prevention and safety, and livelihood development. Many interviewees encouraged CIFF, iCS, and peer funders to work together with major Brazilian grantees in the urban mobility field to cultivate new funding sources that can sustain and grow support for the field.

Box 8: **São Paulo Bike Network Case Example**

The leadership of São Paulo Mayor Fernando Haddad (2012-2016) is illustrative of the type of political leadership that is required to push sometimes controversial urban mobility planning forward, and the political challenges of ensuring changes are sustainable. Haddad came into office promising to tackle the city's daunting urban mobility issues, where residents can spend anywhere between 1.5 to 3 hours in their daily commutes, and this burden falls disproportionately on the poor who tend to live in suburban areas and travel greater distances. Haddad was a major proponent of integrated urban mobility and shifting away from car-centric city planning models. During his tenure, Haddad dramatically increased the bike network in São Paulo by adding more than 250 km of bike lanes, most famously (and controversially) on Avenida Paulista, a central thoroughfare of São Paulo's busy commercial district. ITDP worked closely with the Haddad administration and with the city of Rio on bike infrastructure. In São Paulo, ITDP developed the chapter on cycling policy in the city's strategic master plan. ITDP also collaborated with the Engineering Traffic Company of São Paulo on a study about the increase in bike ridership as a result of more and better cycle infrastructure. During his tenure, Haddad also approved São Paulo's Urban Mobility Plan, that has since been integrated with the City Master Plan.

Opponents, however, framed Haddad's biking initiatives as the source of congestion and parking issues, as biking infrastructure took space away from vehicle lanes and parking spaces. Haddad's support for sustainable urban mobility was framed as "anti-car" in narratives that proved unpopular among some middle- and upper-class constituencies and helped cost him his re-election bid in 2016. His successor, João Dória ran for mayor on a platform of undoing some of Haddad's urban mobility measures, specifically those that were perceived as targeting car use. Because bike lanes became synonymous with Haddad's tenure in São Paulo, once in office, Dória immediately abandoned the bicycle agenda and has attempted to reduce bike lanes. He also raised speed limits in some areas of São Paulo. Every CSO staff member interviewed in São Paulo indicated that the focus during Dória's tenure will be defensive activities to try to maintain some of the great progress made under Haddad. More recent signals from Dória's administration suggest that he has moderated some of his campaign positions and is not pursuing roll-backs of key urban mobility accomplishments in the city. This swing of the political pendulum in São Paulo reveals that it is politically risky and still quite difficult to counter long-held cultural norms related to car ownership and the glamour of the automobile in Brazil. In the absence of sustained political pressure on city officials by CSOs and the public, urban mobility planning, more broadly, is likely to face difficult barriers.

Chapter 4: Lessons and Recommendations

Key Insights and Lessons

The evaluation team identified the following key insights and lessons related to the CIFF Brazil urban mobility work programme, based on the findings from the midline and endline evaluation activities, as well as from the evaluation team's broader work and experience evaluating climate change mitigation initiatives in these areas. Key insights and lessons include:

Insight 1: "Inside game" technical assistance, capacity building, knowledge and information development, and communications activities are key ingredients of enabling longer-term transformational changes that support low-carbon urban mobility solutions.

Philanthropic investment and targeted NGO support directly to government—at the local, regional, and national levels—can play a powerful role in shifting norms, building capacities, and enabling changes that enable long-term shifts in how governments approach urban mobility and TOD issues. The evaluation team found high demand for grantee services, and numerous examples of how grantee activities in these areas has caused shifts in awareness, planning, designs, and decision-making that are likely to persist to varying degrees.

Insight 2: Effective civil society engagement on urban mobility issues requires "outside game" advocacy and mobilization work to complement "inside game" technical assistance activities, as well as effective coordination among participants across the NGO field.

Many interviewees acknowledge the importance of strengthening and connecting the broader field on NGOs and CSOs working on urban mobility issues in Brazil. Several experts and NGO/CSO representatives also acknowledged the important role that iCS—in partnership with other funders—has been playing to support strategic strengthening of the NGO and CSO fields. More work and learning from field building and coalition management and coordination in Brazil will be needed to continue to advance progress and effectiveness.

Insight 3: External factors can disrupt the best-laid plans; build in robust opportunities for informed reflection that enable learning and course adjustments.

During the work programme, Brazil experienced major changes in the political and economic context that affected the work programme strategies and tactics, and their effectiveness. The evaluation team believes that CIFF and grantees did several important things right in this context that are important to learn from, including:

- CIFF program staff recognized the changes in the external context and signaled to grantees reasonable degrees of flexibility in the work programme strategies, activities, and KPIs that enabled course adjustments.
- CIFF and grantees used the 2016 Annual Program Review (APR) meeting as an important opportunity for reflection, learning, and planning for course adjustments. The evaluation team was invited to participate in the APR meeting, creating opportunities for CIFF and grantees to reflect on midline evaluation findings and to factor this information into 2017 work planning discussions.

Insight 4: Recognize that change happens in non-linear ways and that setbacks can create opportunities.

Despite the shifts in external context, grantees did not fully abandon activities to work with federal agencies such as the Brazilian Ministry of Cities. Even though federal investments dried up during the work programme, groundwork laid during the work programme in developing staff capacity, investment criteria, indicators, and technical guides have potential to support meaningful improvement and progress in the future. Many interviewees observed that change often happens in waves or when windows of opportunity open, and that thoughtful investment and planning in "down years" (even when prospects look dim) can enable meaningful progress when the right political and economic factors align. A portfolio approach of activities can help prepare for these windows, while also enabling flexibility to pursue nearer-term opportunities where they arise.

Recommendations

The evaluation team identified the following recommendations stemming from the endline evaluation.

Recommendation 1: Continue philanthropic support for low-carbon urban mobility solutions in Brazil because the urban transportation sector is a major source of greenhouse gas emissions and solutions provide numerous other co-benefits to a large population.

The evaluation team believes that philanthropy can play a vital role in supporting low-carbon urban mobility solutions designed to address a persistently large share of total GHG emissions in Brazil from the urban transportation sector. As discussed in the evaluation team's 2016 Baseline Assessment Report and Midline Report, overall energy-related GHG emissions in Brazil are expected to grow from 483 Mt CO_2e in 2014 to 660 Mt CO_2e in 2023. Transportation accounts for nearly half of Brazil's energy-related emissions.[14]

Without progress on low-carbon urban mobility, Brazil is likely to continue to invest in car-focused urban infrastructure that locks the country into continued long-term transportation emissions. Car-focused development continues to be a major focus in many Brazilian cities, largely due to a combination of factors including cities lacking the capacity and know-how to implement such solutions as well as a lack of political will. Shifting the focus to investing in urban mobility solutions could help lock-in long-term infrastructure for low-carbon transportation.

In addition to reducing carbon emissions, urban mobility solutions improve the quality of life of Brazilians in many ways that may attract a broader range of funders. In the midline and endline reports, policymakers, CSOs and other key stakeholders overwhelmingly cited non-environmental benefits such as reductions in commuting times, increased mobility, safety, and public health, as the primary rationale for pursuing low-carbon urban mobility solutions, indicating that there are powerful reasons beyond emissions reductions for pursuing such initiatives. These co-benefits also have the potential to attract other non-climate funders.

Recommendation 2: Continue to support shifts discussed in the midline evaluation to strategies pursued by ITDP, WRI and other partners to address weak spots in the theory of change, to respond to the evolving political and economic context, and to build on the accomplishments of the work programme.

These recommended shifts include:

- Recommendation 2.1: Shift focus from mobility plan development to model plan implementation;
- Recommendation 2.2: Focus on strategic communication and dissemination of developed resources to enhance concept diffusion and replication;
- Recommendation 2.3: Focus on enhancing and measuring existing projects and developing shovel-ready plans for future projects during this period of economic investment constraints;
- Recommendation 2.4: Expand support to CSO advocacy coalitions and campaigns; and
- Recommendation 2.5: Develop non-federal financing models, including local mechanisms and private sector financing.

Recommendation 3: Explore creative and innovative strategies for delivering and funding technical assistance at scale to a broader range of mid-size Brazilian cities, building off insights from recent grantee efforts to expand reach and impact through workshops, partnerships, and other means.

While recommended shifts under recommendation 2 can help support dissemination and replication of low-carbon urban mobility solutions across Brazilian cities, more concerted attention is needed to develop innovative and creative ways for delivering technical assistance and urban planning capacity to the many mid-size Brazilian cities which lack sufficient internal capacity or sustained access to climate-smart technical assistance. Building

[14] LUCON, O., ROMIERO, V., and FRANSEN, T. (2015) Bridging the Gap Between Energy and Climate Policies in Brazil: Policy Options to Reduce Energy-Related GHG Emissions. World Resources Institute, Washington, DC. http://www.wri.org/publication/bridging-gap-between-energy-and-climate-policies-brasil.

on innovative approaches such as training of private sector consultants and engaging cities through national networks such as the National Front of Mayors, grantees and funders working on low-carbon urban mobility issues should work together to crowdsource and develop ideas for scaling reach and impact.

Recommendation 4: **Explore the transformational potential of smaller place-based interventions as a complement to large infrastructure strategies**

The evaluation team noted that grantees pivoted from a focus on influencing large infrastructure projects to small, place-based interventions over the course of the work programme. While this shift was a practical response to changing economic and political conditions, the evaluation team believes that these smaller interventions have strong transformational potential based on input from a broad range of city officials, policymakers, and experts interviewed during the evaluation. The GHG mitigation impact of numerous smaller projects can add up while building engaged constituencies and local power for advancing low-carbon transportation solutions over time. As referred to in Recommendation 1, co-benefits associated with low-carbon mobility solutions are correlated to improved quality of life, as opposed to just GHG emissions reductions, and smaller interventions can have immediate impact at the neighborhood scale that affects Brazilians on a day-to-day basis.

Recommendation 5: Develop stronger philanthropic strategies that take a field-level perspective and include expanded attention to political will-building and mobilization and strategic communications.

The evaluation team believes that that evolution of the work programme reveals that there is an increasing need to address political will-building, mobilization, and strategic communications. CIFF's original theory of change did not focus on these activities at the outset of the project, but the need emerged as the political and economic context changed and project emphasis shifted from the federal to local level and from project implementation to project planning. iCS, a key regranting partner of CIFF and other climate change funders, appears to be taking a broader field-level perspective in its strategies and investments, capitalizing on insights generated from this CIFF work programme. Sustained political will is needed if projects are to move from planning phases to implementation when the Brazilian economy recovers from the current crisis. Political will-building and mobilization will also be needed to move forward on Recommendation 2, focusing on smaller, place-based interventions. Strategic communications will be needed to overcome cultural bias against public transportation that is prevalent in Brazil, including increasing understanding about improved quality of life from urban mobility solutions for all Brazilians.

Recommendation 6: Use Annual Program Review (APR) meetings as an opportunity to engage grantees, funders, and evaluators to reflect on the theory of change and strategies for climate initiatives and to discuss potential course adjustments; consider additional engagement opportunities when there are major shifts in the external context.

The November 2016 APR meeting in Brazil between the grantees, iCS, CIFF, and the evaluation team was instrumental in creating time and space to reflect on midline evaluation findings, grantee experience, and recent shifts in external context. These interactions provided opportunities to revisit the theory of change and grantee strategies, to inform adjustments to KPI measures and targets, and to prioritize 2017 activities. Explicit agenda time is needed during APR meetings to review the programme theory of change and assumptions and to explore targeted questions (informed by evaluation findings, where appropriate) that draw out insights to inform how strategies and tactics can be improved. APR meetings should be facilitated to create safe space for honest, candid, and productive reflection that recognizes inherent funder-grantee power dynamics and imbalances. APR meetings and similar funder-grantee-evaluator engagement opportunities provide unique and valuable settings for reflection, learning, and improvement.

Recommendation 7: In future initiatives, remain open to and supportive of strategy testing and adaptation during the work programme provided it is informed by thoughtful analysis and deliberation.

As discussed in recommendation 6, insights surface by grantees or through APR meetings may suggest the need for changes in strategy, tactics, and activities. Such changes may be particularly needed when there have been (or are anticipated) major shifts in external contextual factors. These shifts may also be prompted by real-time learning by grantees, or by midline evaluation findings. Funders can help support productive shifts by asking grantees for clear and thoughtful analysis to support proposed changes, and by accommodating adjustments in KPI targets or measures to ensure expectation and accountability systems are calibrated to support the changes. In other cases, funders may need to push grantees to recognize the need for change; however, it is important to cultivate grantee ownership for developing and assessing options for changes in strategy, tactics, or activities.

Recommendation 8: Consider adjustments to the Key Performance Measurement (KPI) system that fit the anticipated pace of change, accommodate interim outcomes of progress, and balance burden with benefit.

Feedback from grantees and CIFF program staff largely affirmed that the KPIs developed and reported during the project were not as useful as anticipated, did not meaningfully influence programme management, and did not sufficiently capture interim progress during the work programme. Interviewees generally indicted that the value of the KPIs was not commensurate with the burden of reporting on them. That said, most CIFF and grantee staff interviewed acknowledged that there is value in identifying and monitoring quantitative measures over time. Going forward, for some outcome-focused KPIs, it may be appropriate to monitor progress on them at wider time intervals (e.g., every 2-3 years instead of annually). This could reduce reporting burden for grantees and recognize that influencing outcomes may take time (particularly during the early phases of a work programme). In addition, it may be possible to identify a few qualitative or quantitative measures that could capture interim progress relevant to a work programme objective or outcome-focused KPI. To develop such interim progress measures, one might ask: *What interim progress would one expect to see, based on the theory of change, if grantees were making meaningful progress towards influencing a specific outcome-focused KPI?*

CIFF and grantees should be encouraged to revisit KPIs during the APR process (or at other appropriate check-ins) to assess how useful they are and to adjust the KPIs or the frequency with which they are reported on to maximize their value and authentic usefulness.

Recommendation 9: Develop sustainable funding to support and expand strategic delivery of technical assistance to Brazilian cities on low-carbon urban mobility solutions and to CSO partners and coalitions.

The evaluation team found that ITDP and WRI provide highly-valued technical assistance and there continues to be a significant demand for the services they provide to cities, which often lack the technical capacity to adequately incorporate urban mobility planning into urban planning, more broadly. As discussed in the midline and endline evaluation reports, policymakers, technical experts, and other key stakeholders cited the importance of grantee activities including workshops and training on urban mobility principles, manuals and publications for wide consumption, and direct technical assistance to cities for urban mobility and other types of planning as fundamental in promoting low-carbon solutions. Sustainable funding for the grantees could help to expand their capacity and subsequently their reach to an increasingly wide set of smaller and mid-size cities across Brazil where the greatest need for low-carbon urban mobility solutions lies and where there is the greatest potential for progress and impact. There may be creative opportunities to develop more sustainable and diversified funding models for core grantees over time. For example, as WRI develops a track record of providing value to cities through the National Front of Mayors, there may be opportunities for cities to provide modest matching funds to defray the costs of expanded WRI technical assistance delivery. However, these efforts need to recognize that valuing services does not always translate into willingness and ability to pay for them. That said, there may be innovative approaches to secure more sustainable and diversified funding from non-philanthropic sources, including from private sector sources. Exploring these opportunities may take near-term philanthropic support—both financial and advisory.

The evaluation team believes that on-going support is needed to help ITDP and WRI to continue to engage productively with the broader field of CSOs and other partners working on low-carbon urban mobility. Grantees play a key role in the field, but a much broader ecosystem of organizations exists, and collaboration will be key in promoting low-carbon urban mobility solutions more broadly in Brazilian cities. CSO engagement was not a

priority focus in CIFF's original theory of change for the work programme but emerged as an increasingly important facet of grantee work. Strengthened capacity and CSO collaboration would also allow the broader field to enhance its effectiveness on political will-building, mobilization, and strategic communications which, as Recommendation 3 also indicates, will be vital in creating strong narratives about the co-benefits and quality of life improvements that Brazilians will experience with more widescale low-carbon urban mobility interventions.

Recommendation 10: Explore opportunities to engage funders working on adjacent issues—such as health, poverty alleviation, livelihood development, public safety, and social inclusion, among others—in co-funding multi-benefit strategies that address urban mobility issues.

Interviews with funders and CSO organization leaders suggested that there are untapped opportunities to develop multi-funder strategies that engage funders working on adjacent issues to expand constituencies engaged, influence, and resources flowing to the field of organizations working to advance climate-smart urban mobility in Brazil. These efforts can build on experiences and insights from recent CIFF and Funders Table-supported efforts to engage food and agricultural funders and health funders around climate-related philanthropy. CIFF, iCS, and other funding partners (including the GO BIG initiative) could intensify efforts to identify and cultivate new philanthropists to support work in Brazil.

Appendix 1: Publications Developed Under the CIFF Work Programme

Publications Prepared by the Institute for Transportation and Development Policy (ITDP)

Note: Links to all the ITDP publications below are in Portuguese.

Year	Publication
2015	Análise de Impacto do BRT Transcarioca na Mobilidade Urbana do Rio de Janeiro Analysis of the Impact of the Transcarioca BRT on Urban Mobility in Rio de Janeiro
	BRT TransOeste: Revisão da Pontuação e Recomendações de Melhoria TransOeste BRT: Revision of the Ranking and Recommendations for Improvement
	Análise de inserção urbana dos empreendimentos “Silvino Montenegro” e “Colombo”, parte do programa Minha Casa Minha Vida no Porto Maravilha Analysis of the Urban Insertion of “Silvino Montenegro” and “Colombo” Projects, Part of the Minha Casa Minha Vida program in Porto Maravilha
2016	Indicadores de efetividade da Política Nacional de Mobilidade Urbana Indicators of the Efficacy of the National Policy on Urban Mobility
	Índice de Caminhabilidade Ferramenta Walkability Index Tool
	Desafios e oportunidades para a expansão do transporte de média e alta capacidade no Brasil Challenges and opportunities for the expansion of medium and high capacity transport in Brazil
	Relatório da oficina "Espaço Público e Mobilidade: os desafios da maré Workshop Report Public Space and Mobility: The Challenges of Maré
	Sistema Vetor de BRT Uberaba MG Recommendations for the Uberaba BRT based on the BRT Standard
	Promoção de Habitação de Interesse Social nas Operações Urbanas de São Paulo Promotion of Social Housing in the Urban Operation of São Paulo
	Coleção Minha Casa Mais Sustentável Caderno 2: Parâmetros Referenciais para Qualificação da Inserção Urbana Minha Casa Minha Vida More Sustainable Collection Manual 2: Parameters for the Qualification of Urban Insertion
	Sistemas e bicicletas compartilhadas em Belo Horizonte, Distrito Federal, Rio de Janeiro e São Paulo Bike sharing systems in Belo Horizonte, Brasília, Rio de Janeiro and São Paulo
2017	Políticas de Estacionamento em edificações na cidade do Rio de Janeiro Parking Policies in Buildings in Rio de Janeiro
	TOD Standard padrão de qualidade DOTS versão 3.0 TOD Standard Version 3.0
	Guia de implementação de políticas e projetos de DOTS Guide for Implementing TOD Policies and Projects

	Financiamento e administração de sistemas públicos de bicicletas compartilhadas Financing and Administration of Public Bike Sharing Systems
	Guia de Planejamento Cicloinclusivo Guide for Bike Friendly Planning
	BRT Recife Avaliação de resultados e recomendações de melhorias Recife BRT Evaluation of Results and Recommendations for Improvements

Publications Prepared by World Resources Institute Brasil (WRI)

Year	Publication
2015	Benefícios econômicos de uma inserção urbana adequada Economic Benefits of Adequate Urban Insertion
	Mega Events and the Transformation of Rio de Janeiro into a Mass-Transit City (English)
	TOD around Transit Hubs: Tools for TOD implementation in Brazil (English)
	Relatório financiando o DOTS no Brasil Financing TOD in Brazil
	Passo a passo para a construção de um plano de mobilidade corporative Step by Step for the Construction of a Corporate Mobility Plan
	Sete passos: Como construir um plano de mobilidade urbana Seven Steps: How to Develop an Urban Mobility Plan
	Oportunidades para qualificar e inovar o transporte por ônibus nas cidades brasileiras Opportunities to Characterize and Innovate on Bus Transport in Brazilian Cities
	DOTS Cidades: Manual de desenvolvimento urbano orientado ao transporte sustentável TOD Cities: Manual for TOD Development
	PlanMob caderno de referência para elaboração de plano de mobilidade urbana PlanMob Reference Manual to Develop Urban Mobility Plans
	Qualiônibus Pesquisa de Satisfação Transcarioca BRT User Satisfaction Survey
2016	Relatório dia um de operação: Transoeste lote 0 Report on Day One of Operation: Transoeste Lote 0
	Benchmarking com foco na satisfação dos usuários do transporte coletivo por ônibus Benchmarking User Satisfaction of Bus Mass Transit
	Alternativas sustentáveis para habitação de interesse social Sustainable Alternatives for Social Housing
	Diagnóstico Áreas 40: São Miguel Paulista Zone 40 Diagnostic: São Miguel Paulista
	Benefícios potenciais do Desenvolvimento Orientado ao Transporte Sustentável (DOTS) Potential Benefits of TOD
	Caderno técnico para projetos de mobilidade urbana: transporte ativo Technical Manual for Urban Mobility Projects: Active Transport
	Caderno técnico para projetos de mobilidade urbana: sistemas de prioridade ao ônibus Technical Manual for Urban Mobility Projects: Bus Priority Systems

	Caderno técnico para projetos de mobilidade urbana: veículo leve sobre trilhos Technical Manual for Urban Mobility Projects: Light Trail
2017	O equilíbrio econômico-financeiro dos sistemas de transporte nos contratos de concessão: casos de Belo Horizonte, Curitiba e Rio de Janeiro The Economic Balance of Transport Systems in Concession Contracts: The Cases of Belo Horizonte, Curitiba, and Rio de Janeiro
	Sustentabilidade em habitação de interesse social: benefícios e custos de medidas para eficiência no consumo de água e energia Sustainability in Social Housing: Costs and Benefits of Efficient Water and Energy Consumption
	DOTS nos planos diretores: guia para inclusão do desenvolvimento orientado ao transporte sustentável no planejamento urbano TOD in City Master Plans: Guide for the Inclusion of TOD in Urban Planning
	Estratégias de mobilidade urbana para organizações Urban Mobility Strategies for Organizations
	Uso do solo enquanto função pública de interesse comum em regiões metropolitanas Land Use as a Public Function of Common Interest in Metropolitan Regions

Appendix 2: References

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