

Technical Cooperation Document

I. Basic Information for TC

▪ Country/Region:	BRAZIL
▪ TC Name:	Sustainable Transport and Logistics in Brazil (InfraLog)
▪ TC Number:	BR-T1478
▪ Team Leader/Members:	Brakarz, Barbara (CSD/CCS) Team Leader; Figueiredo De Castro M, Ana Beatriz (INE/TSP) Alternate Team Leader; Callau Ferreira, Vanessa (CSD/CCS); Cardenas, Anna Carolina (ORP/GCM); Carpizo Riva Palacio, Carlos Ignacio (VPC/FMP); Celeste Marzo, Cristina (LEG/SGO); De Freitas Severino, Ligia (CSC/GBR); Frisari, Giovanni Leo (CSD/CCS); Gomez, Juan Carlos (CSD/CCS); Madrigal Martínez, Marcelino (INE/ENE); Maia Ribeiro, Karisa (INE/TSP); Navacerrada Busquets, Pablo (INE/ENE); Netto De A. C. Schneider, Maria E. (IFD/CMF); Piereck, Guilherme C. (INT/TIN); Valente Lins, Paula (CSC/GBR); Betancourt Munoz, Marcela; Diniz Abud, Joao Paulo Madrigal, Marcelino (INE/ENE); Navacerrada, Pablo (INE/ENE); Netto., Maria (IFD/CMF); Piereck, Guilherme (INT/TIN); Valente, Paula (CSC/GBR); Betancourt, Marcela (DSP/ADV - BIDInvest); Diniz, Joao (DSP/SEG -BIDInvest; Piereck, Guilherme (INT/TIN); Siqueira, Marcos (PPP/VPC);
▪ Taxonomy:	Client Support
▪ Operation Supported by the TC:	N/A
▪ Date of TC Abstract authorization:	23 Feb 2021.
▪ Beneficiary:	Federal Republic of Brazil, through its Ministry of Infrastructure
▪ Executing Agency and contact name:	Inter-American Development Bank
▪ Donors providing funding:	United Kingdom Sustainable Infrastructure Program(SIP)
▪ IDB Funding Requested:	US\$800,000.00
▪ Local counterpart funding, if any:	US\$0
▪ Disbursement period (including execution):	18 months
▪ Required start date:	June 2021
▪ Types of consultants:	Firms and Individual Consultants
▪ Prepared by Unit:	CSD/CCS-Climate Change
▪ Unit of Disbursement Responsibility:	CSC/GBR-Country Office Brazil
▪ TC included in Country Strategy:	Yes
▪ TC included in CPD:	No
▪ Alignment to the Update to the Institutional Strategy 2010-2020:	Productivity and innovation; Environmental sustainability; Institutional Capacity & Rule of Law

II. Objectives and Justification of the TC

- 2.1 The objective of this TC is to support the Brazilian Government's efforts in delivering sustainable infrastructure by promoting a modal shift to low carbon transportation systems. This will be achieved by: (i) developing feasibility assessments for sustainable transportation and logistics; (ii) incorporating climate risk and vulnerability criteria into transport and logistic infrastructure planning; (iii) designing tailored sustainable financial instruments to enable private and public investment on green and sustainable projects; and (iv) transferring knowledge on sustainable transport

infrastructure and logistics. The modal shift will also contribute to advancing towards Brazil's Nationally Determined Contribution's (NDC) goals.

- 2.2 Brazil's infrastructure gap represents a vast opportunity for new investments, especially in sectors where financial returns are highly associated with significant social and environmental co-benefits. Between 1990 and 2016, Brazil's annual average investment in infrastructure was just over 2.0% of its Gross Domestic Product (GDP) (CBIC, 2015; Oliver Wyman, 2018). To reach the world's average, the country needs to invest around 4.7% of its GDP/year for the next 20 years.
- 2.3 Between the energy, transportation and water and sanitation sectors, only 1.72% of Brazil's GDP has been invested in infrastructure over 2011 to 2015 (World Bank, 2017), when levels of at least approximately 4.0% are needed for basic maintenance. Transportation requires more investment than any other sector (1.92% of the GDP), according to the World Bank.
- 2.4 The quality of Brazilian infrastructure and its services are significantly below other BRIC and Latin-American and Caribbean (LAC) countries. Based on overall infrastructure quality, in 2019, Brazil ranked 78th out of the 141 countries surveyed by the World Economic Forum, with particularly poor results on roads and air transportation infrastructure quality.
- 2.5 Largest non-land use greenhouse gas (GHG) emitter. Nearly 41% of non-land use emissions' growth in Brazil, between 2000-2013, came from transportation. Freight and passenger transportation are the main drivers of these emissions. In 2019 the sector reached 196.5 MtCO₂ (40% from trucks and 31% from cars).
- 2.6 Transportation and logistics require improvements. Transportation costs account for nearly 60% of Brazil's total logistics costs —roughly 12.3% of GDP compared with 7.8% in the United States' GDP. Although the country has one of the longest highway systems in the world (close to two million kilometers long), just about 12.3% of the system is paved. Of that fraction, only 38% are in good or excellent condition, 34% are in fair condition, and 28% are in poor condition. Brazil's paved system suffers mostly from problems related to signage, pavement quality, and engineering. The railway system is limited and suffers from operational bottlenecks, representing 18% of the total cargo flow. Obsolete equipment, limited multimodal terminals, and shortfalls in capacity reduce the efficiency of Brazilian ports.
- 2.7 Urban mobility and integration can improve performance of urban transport systems. Brazil is the eighth most congested country in the world. Inadequate urban planning is the main challenge, together with poorly integrated urban development policies. Even when mobility plans are in place, cities lack technical and institutional capacity to deliver them. The Country Development Challenges (CDC) indicates that restricted urban mobility imposes high environmental costs and has a negative impact on reaching the NDC's. Therefore, improving the performance of transportation systems through efficiency and technology will support Brazil's commitment under the Urban Mobility Sectoral Plan and promote better infrastructure services.
- 2.8 With the demands to improve existing transport and logistics infrastructure and services, and the need for new infrastructure projects, there is an opportunity to incorporate sustainability throughout the infrastructure cycle. Sustainable infrastructure refers to projects that ensure economic, financial, social, environmental, and institutional sustainability over the entire life cycle of the project (IDB, 2018).

- 2.9 A significant portion of the current investments in Brazil are not as sustainable as they should be. Targeting the upstream level can help the incorporate sustainability criteria from the conceptualization stage of the project. In general, the upstream planning stage includes policies, plans, legislation, regulations, as well as the organizational set-up and capacities.
- 2.10 Investments in sustainable infrastructure are a “win-win” for economies: they help increase productive capacity and lift economic growth rates, while strengthening a country’s resilience to withstand and even combat future climate risks (World Bank, 2019). Additionally, sustainable infrastructure boosts progress towards several Sustainable Development Goals.
- 2.11 Investing in infrastructure leads to economic growth. Analyses from the Organization for Economic Co-operation and Development (OECD) and International Monetary Fund (IMF) have shown that for every dollar of investment in infrastructure, there is an average 1.6x multiplier in the form of a boost of short-term employment combined with a long-term productivity gain in the economy. Further, the net benefit of building more resilient infrastructure in low- and middle-income countries would be around US\$4.2 trillion, with US\$4 in benefits for each US\$1 invested (World Bank, 2019). In Brazil, it has been estimated that inefficiencies (due to inadequate infrastructure) subtract around 10-15 percent from the country’s GDP (IMF, 2015).
- 2.12 Post COVID-19 Sustainable Recovery. Infrastructure is a central element for a post-pandemic sustainable economic recovery. Infrastructure has secondary effects on other sectors of the economy and can boost their productivity as they recover from the pandemic crisis. However, the efficiency of infrastructure investment affects its multipliers effects. Sustainable infrastructure can help address such issues and increase Brazil’s resilience to future shocks, including those related to climate impacts. Recommendations for a sustainable recovery indicate that efforts should be directed towards the maintenance and upgrade of existing infrastructure assets, followed by the prioritization of new projects, and the reevaluation of infrastructure developments plans. This TC supports these efforts as it focuses on how transport and logistics projects can be improved to deliver better services, while incorporating sustainability elements that address climate change mitigation and adaptation. The design of innovative solutions for infrastructure investments, particularly on mobilizing private funding, will also be fundamental to stimulate sustainable growth.
- 2.13 Integrated transport and logistics systems are central components of Federal Strategic Plans. This TC is aligned with: (i) the National Transport Policy (Ordinance 235/ 28 March 2018) that aims at the expansion and improvement of the transport infrastructure and national and international integration to increase Brazil’s competitiveness and reduce inequalities; (ii) the Integrated Transport Planning (Ordinance 123/21 August 2020) that aims the integration of federal road, rail, waterways and air transportation, to improve the country’s logistics system; (iii) the National Logistics Plan, which assesses different transport modals to incentivize costs reduction, improvement in services and efficiency across freight transportation, including the reduction of GHG; and (iv) sectoral plans across different transport modals, including road transportation, ports, waterways, air transportation. The operation is also aligned with the General Partnership Plan, which intends to attract private sector investment.
- 2.14 This TC will provide inputs to new government initiatives, such as the Infrastructure Planning Inter-Ministerial Committee and the Long-Term Integrated Infrastructure

Plan. The Committee will develop the Long-Term Integrated Infrastructure Plan, setting a strategic vision for sustainable infrastructure planning. The plan will also indicate the need for investment by sector, over a thirty-year period, list large scale projects, together with a preliminary socio-environmental assessment, and map infrastructure investment trends from private and public sectors.

- 2.15 This TC benefits from the knowledge created and enhanced institutional capacity derived from previous experiences with the federal government in implementing sustainable-infrastructure-related projects, such as the Infrastructure Observatory (ATN/PI-16991-RG), the InfraInvest-Sustainable Infrastructure in Brazil (ATN/MC-16594-BR), the Support to subnational governments of Brazil in the structuring of infrastructure operations (ATN/OC-17439-BR), and the Support for Design of Strategies and Instruments for the Structuring Infrastructure Projects with Private Participation in Brazil (ATN/OC-16518-BR).
- 2.16 The TC is consistent with the Second Update to the Institutional Strategy 2020-2023 (AB3190-2) and is aligned with the development challenge of *productivity and innovation* as it increases resource mobilization by providing assistance to government and catalyzing private financing. The operation is also aligned with the cross-cutting themes of: (i) *climate change and environmental sustainability*, as it supports the shift to low carbon transport infrastructure and improved logistics efficiency; and (ii) institutional capacity and rule of law, as it will strengthen capacities at Federal Government agencies with training activities. It also contributes to the delivery of following objectives of the Brazil country strategy 2019-2022: (i) promote greater economic competitiveness; (ii) increase the role of the private sector by improving business environment; and (iii) facilitate Public-Private investment in infrastructure. Transportation and logistics are also mentioned as a priority in the IDB Group Country Strategy with Brazil (GN-2973), particularly the development of multi-modal transport systems, climate-resilience infrastructure, and efficiency improvements that support competitiveness. This operation is also aligned with the IDB's Infrastructure Strategy: Sustainable Infrastructure for Competitiveness and Inclusive Growth (document GN-2710-5), with its periodic updates. It is also aligned with the objectives and eligibility criteria of the United Kingdom's Sustainable Infrastructure Program, in accordance with the provisions of document GN-2903. The operation is also aligned with the Brazilian Federal Government's desire to attract investments in infrastructure. Finally, the TC is aligned with Indicator 3.5 of the Corporate Results Framework —Climate finance in IDB Group operations (% of approved/committed amount).

III. Description of Activities/Components and Budget

- 3.1 **Component 1. Economic impact assessment and feasibility studies for sustainable transportation and logistics infrastructure (US\$300,000).** The objective is to support the development of an integrated tactical plan for transportation and logistics infrastructure, feeding into the broader Programs of the Brazilian Ministry of Infrastructure. This component will focus on: (i) assess the potential economic impacts of low carbon transportation and logistics in Brazil, including in urban areas crossed or impacted by federal infrastructures; (ii) leverage the existing and planned base infrastructure; and (iii) provide projections for expansion. The following work will be developed: (i) a diagnosis of the current project structuring process for road partnerships; (ii) a proposal to improve the Government's Road Concession Program, considering national and international sustainable tools and methodologies, including the incorporation of sustainability and climate risk; (iii) propositions of techniques to

monitor the Program, enabling the evaluation of public policies; (iv) a pilot project, to evaluate the recommended techniques, and verify the feasibility of indicators for evaluating the Program performance; and (v) a monitoring, evaluation and control strategy to disseminate information and tools to relevant institutions and verify the incorporation of sustainability within the Program.

- 3.2 **Component 2. Mitigating transport and logistics infrastructure's climate risk and exposure (US\$150,000).** This component will focus on integrating climate resilience within infrastructure planning and multi-modal integration planning, at the strategic and tactical levels, as well as on identifying decarbonization plans for transport and logistics and delivering feasibility studies on alternative mitigation energy measures. It will assess existing infrastructure plans and strategies, and provide recommendations on how to embed climate risks. It will also strengthen the institutional capacity and propose governance and management criteria for planning instruments by establishing clear guidelines that will lead to a more sustainable transport and logistic development. This component requires closely engaging government and market players with focus on reducing asset liability and identifying reinsurance alternatives for climate-related risks. This component is directed at the Federal Government, planning and regulation agencies, infrastructure operators, developers, intermediaries, and financiers, to mitigate risks across their programs and/or actions.
- 3.3 **Component 3. Designing sustainable infrastructure investment instruments (US\$250,000).** This component will focus on resolving financial bottlenecks for low-carbon and resilient transportation and logistics infrastructure. Activities will focus on assessing capital and operational requirements, encouraging partnerships between the government and the private sector to attract investment flows, and proposing an investment structure, focusing on financial risk mitigation products such as guarantees, insurance, and credit enhancement to mobilize investment. A pilot project will be structured to test sustainable infrastructure investment instruments. The selection of the project will be based on international green eligibility criteria, such as the Climate Bonds Standards that provide clear guidance on requirements that should be met. Potential pilot projects include freight and passenger transportation and logistics systems; and will be defined after an assessment and prioritization of the existing pipeline in Brazil. The TC only foresees the contracting of consulting and training services, and does not contemplate the acquisition of goods.
- 3.4 **Component 4. Knowledge dissemination on sustainable transport and logistic infrastructure and climate change (US\$100,000).** This component will support the dissemination of knowledge through different approaches, including: (i) workshops to present results; and (ii) the structuring of products to disseminate knowledge, including printed and digital materials. The target public are technicians from the federal government's institutions involved in the development and execution of transport and logistics policies and plans. The Bank's sector specialists will also be invited to contribute with actions developed in other countries, and assess the possibility of replicating what was developed in this TC in their countries. The activities will be conducted in line with the UK SIP communications strategy developed by the IDB and IDB Invest and agreed with the donor.
- 3.5 The total cost of this operation has been estimated in US\$800,000, which will be financed with resources from the UK Sustainable Infrastructure Program Fund (SIP).

Indicative Budget (US\$)

Activity/Component	IDB Funding	Total
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Component 1. Economic Impact Assessment and Feasibility Studies	300,000	300,000
Component 2. Mitigating transport and logistics climate risk	150,000	150,000
Component 3. Design sustainable infrastructure investment instruments	250,000	250,000
Component 4. Knowledge Dissemination on Sustainable Transport	100,000	100,000
Total	800,000	800,000

IV. Executing Agency and Execution Structure

- 4.1 At the request of the beneficiaries and in accordance with the Procedures for the Processing of Technical Cooperation Operations and Related Matters ([OP-619-4](#)), the Bank will act as the Executing Agency given its experience in the preparation and development of the operational and technical instruments proposed for this type of operation and its knowledge of the scope of work. The activities financed with the TC will be executed in coordination with the beneficiary and/or public entities designated by the beneficiary. The Bank will be responsible for: (i) identifying the studies and technical work necessary for the structuring of the project; (ii) selecting and hiring consultants to provide the necessary services; (iii) managing the execution and delivery of the consulting services. The IDB's Brazil Country Office (CSC/CBR) will act as the Unit of Disbursement Responsibility and will be in charge of the operation's procurement, which will ensure that the relevant processes carried out within the framework of the TC are timely and foreseen in the execution time. There will be no other institutions involved in the execution structure of this TC.
- 4.2 The project team has identified Climate Bonds Initiative (CBI) as the most appropriate consulting firm to carry out specific activities under Component 3. CBI is the global authority on identification, screening, classification, and certification of green projects and assets across infrastructure sectors. It has unique experience and qualifications to carry out these activities in sustainable transport, presenting a clear and strong advantage over any other organization in Brazil. Given its comprehensive set of knowledge and international standards that are used for taxonomy and certification, and experience in development of green financial instruments to attract private investment, and the fact that the Climate Bonds Standards and Certification Scheme are the only currently available certification for green financial products worldwide, CBI is uniquely placed to support the elements of design of sustainable instruments under the assignment. Furthermore, CBI has worked with the Ministries of Infrastructure, Regional Development, and Agriculture (all directly related to the assignment), and given this assignment, this is a continuity of the work already carried out under a previous TC with Ministry of Economy's Secretariat of Infrastructure Development (ATN/MC-16594-BR), with an exceptional performance per government's and IDB's evaluation. The firm has been key in the definition of green infrastructure projects and assets, as well as in the development of Brazil's green infrastructure bond market. It has international and local expertise to propose sustainable investment instruments, and its credibility provides governments and investors with certainty regarding the integrity of green financial products and their impacts. Finally, CBI provides a unique specific advantage to the Bank given their previous work with a regional TC to develop the Government of Chile's first sovereign green bond in Latin-America.
- 4.3 The activities to be executed under this operation have been included in the Procurement Plan (Annex IV) and will be executed in accordance with the IDB's established procurement methods. Specifically, the Bank will follow its procurement policies and guidelines related to contracting processes: (i) individual consultants will be hired according to the guidelines established in policy AM-650; (ii) consulting firms of an intellectual nature will be hired according to the "Policy for the selection and

contracting of consulting firms for operational work carried out by the Bank” ([GN-2765-4](#)) and its Operational Guidelines ([OP-1155-4](#)); and (iii) other non-consulting services in accordance with the “IDB Institutional Procurement Policy” ([GN-2303-28](#)). No missions are planned for this technical cooperation.

- 4.4 Bank staff is expected to provide its expertise regarding this operation’s activities and missions to ensure timely dialogue and coordination of implementation between the Bank and the recipient.
- 4.5 The beneficiary may provide technical inputs to terms of reference and consultants’ reports, but the Bank will have the autonomy to approve such documents and act as the SO of the TC. This dynamic will facilitate a better articulation between the different actors in the framework of the technical dialogue of this TC.

V. Major Issues

- 5.1 The project faces a medium risk related to the upcoming elections in Brazil in 2022 and the potential ensuing changes in government priorities for sustainable infrastructure. In addition, there may be a lower risk associated to the deployment of innovative financing mechanisms, depending on the proposed structure (e.g., participation from the public and private sector for de-risking, green or sustainable bond issuance, credit enhancement) and regulatory environment. Such risks will be mitigated through a thorough assessment of the most adequate solutions for Brazil based on the Bank’s expertise on sustainable finance, and a close coordination among CCS, TSP and CMF Specialists. We also consider low a risk associated with potential governmental measures to fight the pandemic that could shift the priority from this technical cooperation, as investing in infrastructure (or in policies and tools may reduce the challenges for investments in the sector) is one of the most recommended paths to overcome the crisis. Political risks on government priorities will be mitigated throughout the project through close engagement with technical and high-level government officials, and closely monitored by the IDB’s specialists leading the project. As the IDB will be the executing agency of this TC overseeing the delivery of Components 1, 2, 3 and 4, which will be implemented by consultancy firms and individual consultants, the risks of delays and miscoordination are low. The Bank’s coordination will ensure all activities are aligned and converging to reach the TC’s planned objectives and outcomes. In addition, lessons learned from other projects (above mentioned) will be taken into consideration.
- 5.2 The Bank shall own the intellectual property of all works and results obtained as a result of the execution of this TC. The Bank grants a non-exclusive, royalty-free license for non-commercial purposes to the recipient, including the rights to reproduce and publish in any medium any product owned exclusively by the Bank. All contracts entered into by the Bank with consultants in connection with the execution of this TC will include the express assignment in favor of the Bank of copyrights, patents, and any other intellectual property rights.
- 5.3 The TC does not present fiduciary management risks since it will be executed by the IDB, therefore no financial audit is required. For more information on planned procurement, please refer to the procurement plan.

VI. Exceptions to Bank Policy

- 6.1 There are no exceptions to Bank policy in this operation.

VII. Environmental and Social Strategy

- 7.1 Per the Environment and Safeguards Compliance Policy of the IDB (OP-703), the operation has been classified as “Category C” (see the [Safeguards Screening Form](#) and the [Safeguards Policy Filter](#)).

Required Annexes

[Request from the Client - BR-T1478](#)

[Results Matrix - BR-T1478](#)

[Terms of Reference - BR-T1478](#)

[Procurement Plan - BR-T1478](#)