

TC Document

I. Basic Information for TC

▪ Country/Region:	COLOMBIA
▪ TC Name:	Climate change and transport in Colombia : intermodality and new technologies
▪ TC Number:	CO-T1671
▪ Team Leader/Members:	Cruz Moreno, Paula (INE/TSP) Team Leader; Calatayud, Maria Agustina (INE/TSP) Alternate Team Leader; Sandoval, Jose Manuel (CSD/CCS) Alternate Team Leader; Acevedo Calle, Daniela (LEG/SGO); Bertossi, Fanny (INE/TSP); Mix Vidal, Richard Alexander (INE/TSP); Montes Calero, Laureen Elieth (INE/TSP); Navacerrada Busquets, Pablo (INE/ENE); Rodriguez Gonzalez, Roberto Eduardo (INE/TSP)
▪ Taxonomy:	Client Support
▪ Operation Supported by the TC:	.
▪ Date of TC Abstract authorization:	22 Apr 2022.
▪ Beneficiary:	Republic of Colombia through the National Planning Department, Ministry of Transport
▪ Executing Agency and contact name:	Inter-American Development Bank
▪ Donors providing funding:	United Kingdom Sustainable Infrastructure Program(SIP)
▪ IDB Funding Requested:	US\$1,300,000.00
▪ Local counterpart funding, if any:	US\$0
▪ Disbursement period (which includes Execution period):	30 months
▪ Required start date:	1 July 2022
▪ Types of consultants:	Firm, individuals
▪ Prepared by Unit:	INE/TSP-Transport
▪ Unit of Disbursement Responsibility:	CAN/CCO-Country Office Colombia
▪ TC included in Country Strategy (y/n):	Yes
▪ TC included in CPD (y/n):	No
▪ Alignment to the Update to the Institutional Strategy 2020-2024:	Economic integration; Environmental sustainability; Gender equality; Social inclusion and equality

II. Objectives and Justification of the TC

- 2.1 The objective of this non-reimbursable Technical Cooperation (TC) is to mitigate the impacts of climate change in the transport sector in Colombia through the deployment of sustainable and resilient transport infrastructure by supporting the Colombian Government to promote and implement: (i) electric mobility; (ii) intermodal infrastructure, particularly rail and river modes; and (iii) sustainable urban mobility.
- 2.2 **General context.** Latin America and the Caribbean (LAC) has been one of the regions most affected by the COVID-19 pandemic in terms of social and economic fallouts, increase of the levels of poverty and extreme poverty, job loss and economic recession¹. It is also one of the most vulnerable regions to the effects of climate

¹ The 2021 economic recovery (6.2% of GDP growth) has not been sufficient to mitigate the social and labor effect of the pandemic, and the Economic Commission for Latin America and the Caribbean (CEPAL, for its acronym in Spanish) estimates that 13.8% of the people lives in extreme poverty conditions (86 million). [CEPAL, 2021](#).

change, including natural disasters, such as hurricanes, droughts, and other extreme weather events. Unless global warming is limited to less than two degrees Celsius, the region will suffer damage from climate impacts that could reach US\$100 billion a year by 2050. In this context, sustainable infrastructure is one of the main engines for economic recovery, particularly regarding job creation, regional integration, and inclusive and environmentally sustainable economic growth, as reported in the [IDB's Vision 2025](#) Reinvest in the Americas: a Decade of Opportunity. To ensure these positive effects, it is necessary to support the countries to advance towards the improvement of sustainability standards and strengthen the mitigation and adaptation to Climate Change (CC) framework for transport infrastructure projects. For example, [studies estimate that efforts to make infrastructure resilient represent an over cost of approximately 5%, however, there is evidence that in general this investment is largely compensated for by lower costs of maintenance and reparation.](#)

- 2.3 Climate change disproportionately affects vulnerable populations. [The fight against climate change is an opportunity to contribute to the reduction of gender inequalities.](#) In LAC, [women represent the 50% of the labor force, and yet they occupy an average of 15% of the positions in the transport sector.](#) In addition, women have significant mobility challenges related to their travel patterns and safety. In a survey carried out in Bogota in 2018, 84.7% of women declared having suffered some type of sexual harassment while commuting.
- 2.4 As the rest of LAC, Colombia faces many challenges to ensure the sustainability and resilience of the transport sector. On one hand, [the sector is vulnerable to effects of CC, such as flood, hurricanes, rise of sea level,](#) which requires the implementation of adaptation measures. The destruction of road infrastructure during the 2020 Eta and Iota hurricanes, and the regular road closures due to flood and landslides, are some examples. The country estimates that annual losses due to landslides on roads could represent more than 130,000 million COP according to the [Long-term Climate Strategy \(E2050\)](#). On the other hand, the transport sector is responsible for [12% of Greenhouse Gases \(GHG\) emissions](#) and [78% of polluting emissions mostly from road transport \(91%\).](#) The country aims to reduce GHG emissions by 5.68 Mt CO₂ eq. by 2030 thanks to mitigation measures in the transport sector.
- 2.5 In this context, in the past decades, Colombia has made significant advances in the promotion and deployment of sustainable transport infrastructure to overcome the main challenges of the sector.
- 2.6 First, the country is advancing towards the implementation of national and regional intermodal transport infrastructure to ensure the territorial connection and continuous mobility of people and merchandise nationally and internationally. In that sense, some of the most important policies adopted in the past decade are the National Logistics Policy (CONPES 3547 of 2008) and its 2020 update (CONPES 3982 of 2020), the Railway Master Plan (2021), the updates to the Intermodal Transport Master Plan and the Fluvial Transport Master Plan (in progress), the Policy for the Fourth Generation of Concessions (CONPES 3760 of 2013) and the Policy for the Development of Sustainable Transport Infrastructure Projects for the Fifth Generation of Concessions (CONPES 4060 of 2021). The Colombian rural program, “*Concluir y concluir*” and the implementation of the 4G projects (65% of implementation) have contributed to improve national connection in the past years and have been a fundamental part of the national strategy for the post-COVID-19 economic recovery. Additionally, important advances have been made in intermodal projects with the preparation of the

Public-Private Partnership (PPP) projects for the navigability of the Magdalena River and the *Canal del Dique*, as well as the La Dorada-Chiriguana railway.

- 2.7 Second, Colombia has made considerable advances towards the reduction of the negative environmental impacts of the transport sector by promoting clean technologies. The country is one of the regional leaders for the promotion of the energy transition in the transport sector, through the consolidation of an ambitious framework for the deployment of electric mobility. It is worth mentioning the main policies and laws adopted in the past years, in particular the 2018-2022 National Development Plan that allows the national government to finance clean fleets in systems of transportation (Law 1955 of 2019), the law for electric mobility promotion (Law 1964 of 2019), the law for the protection of health and environmental quality through the reduction of mobile source pollution (Law 1972 of 2019), the law for climate action (Law 2169 of 2021), the law for the promotion of the energy transition (Law 2099 of 2021), the National Strategy for Electric Mobility (2019), and the policies for green growth (CONPES 3934), air quality (CONPES 3943), modernization of the road freight transport sector (CONPES 3963), and energy transition (CONPES 4075 de 2022). The main cities of the country (Bogota, Medellin and Cali) have acquired 1575 electric buses, making of Bogota the city with the largest fleet of electric buses outside of China. Electric mobility will be the main contribution of the transport sector to the objective of reducing emissions by 51% by 2030 and reaching carbon neutrality by 2050 established in the 2020 update to the Nationally Determined Contributions of Colombia (NDC).
- 2.8 Finally, the country is advancing to improve urban mobility and reduce its negative externalities on air quality, national competitiveness and quality of life of citizens. Colombia has been implementing integrated and mass-transit systems in seven main cities and eight intermediate cities of the country (Integrated Mass Transportation Systems [SITM], Integrated Public Transportation Systems [SITP], Public Transport Strategic Systems [SETP]), as well as important railway projects already in construction or in preparation such as the first and second lines of the metro of Bogota, the western and northern local train lines in Bogota, the regional train of Cali, and the 80th avenue metro line in Medellin. It has also created territorial schemes to discourage and restrain the use of private vehicles and cross-subsidize public systems of transportation (Law 1753 of 2015 and Law 1955 of 2019). Finally, the country is promoting the deployment of active and sustainable mobility in cities. Important policies are supporting these actions, in particular the National Policy for Urban and Mass-Transit (CONPES 3260 of 2003), the National Policy for Urban and Regional Mobility (CONPES 3991 of 2020) and the future national strategy for active mobility, as well as national programs such as the TanDem and TOD NAMAs.
- 2.9 The Inter-American Development Bank (IDB) and the UK Sustainable Infrastructure Program (UK-SIP) have been important allies of the country to achieve these results. In the past years, IDB's Transport, Energy and Climate Change Divisions have implemented several projects in collaboration with UK-SIP (ATN/PI-16991-RG; ATN/PI-17108-RG; ATN/PI-17372-CO; and ATN/PI-17934-CO). Some of the main results of these operations include: (i) the elaboration of a tool to measure environmental, social and economic sustainability of PPP infrastructure projects in Colombia with the National Infrastructure Agency (ANI); (ii) the support and evaluation of the green job program with a gender focus for the training of women driver of electric buses in Bogota; (iii) the support to electromobility projects in Bogota, Medellin and Cali, and the strengthening of the national framework for electromobility with the adoption of technical standards for electric vehicles (EV) and charging infrastructure;

(iv) the identification of business model for the deployment of public charging infrastructure for EV; and (v) the implementation of a cost-benefit analysis tool for the purchase of EV by public entities. In parallel, the IDB's Transport Division has also worked with Colombia to support the promotion of intermodal infrastructure (3130/OC-CO; 5229/OC-CO; ATN/OC-16766-CO; ATN/OC-17290-CO; and ATN/OC-17310-CO) as well as sustainable urban mobility projects (4572/OC-CO; and ATN/AC-18083-CO).

- 2.10 **Justification.** To pursue these efforts, [Colombia has announced during the COP26 in Glasgow a strategy based on three priority axes](#): (i) intermodal infrastructure, as it is estimated that moving cargo through river and rail modes could reduce emissions by 62% and 33% per ton transported respectively; (ii) electrification of the sector, as the deployment of 600,000 EV by 2030 would contribute to a [reduction of 4.04 Mt CO₂ eq.](#); and (iii) sustainable urban mobility measures that promote non-motorized transportation (NMT) and mass-transit with clean technologies to reduce the negative impact of private vehicles.
- 2.11 To do so, the country must still face important challenges. For the deployment of intermodal projects, Colombia needs to adopt the technical and economic rules to regulate the implementation of rail infrastructure and services, strengthen technical capacities in the country and prepare and finance the prioritized railway projects. It also needs to improve specialized logistics infrastructure to ensure the intermodal connection between different systems (rail, fluvial, road, maritime and air transport). Strengthening the framework for the management of CC and social risks in infrastructure projects will allow higher quality standards and access to green financing. For the deployment of electric mobility, Colombia will need to overcome the financial, technical, cultural, regulatory and market barriers related to this technology in public and private systems of transportation, especially in medium-size cities. Finally, the country will also need to work on mechanisms to support the implementation of private demand management measures in cities, improve the quality and financial sustainability of public systems of transportation and promote universal and gender perspective in urban mobility projects.
- 2.12 Aligned with the priorities of the Colombian Government and the Sustainable Development Goals 9, 11 and 13, the IDB and the UK-SIP will implement a TC to finance studies and projects that contribute to: (i) the deployment of sustainable intermodal infrastructure; (ii) the electrification of the transport sector; and (iii) the promotion of sustainable urban mobility.
- 2.13 **Strategic alignment.** This TC is consistent with the Update to the Institutional Strategy of the Inter-American Development Bank Group 2020-2024 (AB-3190-2) and is aligned with the development challenge of social inclusion and inequality, by supporting sustainable urban mobility including public transportation and non-motorized transport, which are fundamental to ensure access to opportunities and services to all citizens, especially in peripheral and low-income neighborhood. It is also aligned with the cross-cutting theme(s) of: (i) gender equality, by including gender considerations in capacity building processes as well as promoting universal access and gender perspective in sustainable urban mobility projects; (ii) environmental sustainability, by supporting the adaptation and mitigation of the impact of the transport sector on CC in Colombia; and (iii) economic integration, by supporting the implementation of intermodal infrastructure, as part of the new National Logistics Policy to reduce cost and times of logistics operations. The TC is also aligns with the IDB Group Country Strategy with Colombia 2019-2022 (GN-2972), in the strategic

area of increasing the productivity of the economy through raising the quality of infrastructure, reduce transaction costs in the economy, and improve the international positioning of goods produced in Colombia, by promoting improvements in sustainable standards of infrastructure projects to ensure the quality and resilience of infrastructure, contributing to the promotion of intermodal transport with an important potential of cost reduction and improving competitiveness of cities by improving urban mobility and reducing congestion. In addition, this TC is aligned with the objective of the UK SIP to support countries in LAC to deliver their NDCs to the Paris Agreement.

- 2.14 Likewise, the TC is aligned with the Transportation Sector Framework Document (SFD) (GN-2740-7) and its focus on “Promote efficient, inclusive, sustainable and quality urban and interurban passenger mobility” and “Promote the technological transformation of the sector”, and with the Climate Change SFD (GN-2835-8), as it will contribute to “make CC considerations more central to the transport sector actions”. It is also aligned with the Sustainable Infrastructure for Competitiveness and Inclusive Growth IDB Infrastructure Strategy (GN-2710-5), by supporting the development of sustainable transport infrastructure.
- 2.15 Finally, the TC is aligned with the [Vision 2025](#) Reinvest in the Americas: a Decade of Opportunity with the Tier 1 “Working towards Sustainable and Inclusive Economic Growth” by supporting the implementation of sustainable and competitive transport infrastructure. It will contribute to several immediate opportunities, in particular: economic integration, gender equality and climate change.

III. Description of Activities/Components and Budget

- 3.1 **Component 1: Support to the deployment of Electric Mobility in Colombia (US\$500,000).** The component will finance studies to support the deployment of electromobility in Colombia, both to consolidate the national framework and to support the preparation of projects at local scale, especially in medium-size cities. For this, the TC will finance studies to design and implement national mechanisms to support the acquisition of electric buses in medium-size cities as well as pre-investment studies for the incorporation of electric buses in public systems of transportation (SITM and SETP).
- 3.2 **Component 2: Support the implementation of multimodal transport infrastructure in Colombia (US\$400,000).** The component will support the deployment of multimodal infrastructure projects in the country, especially water and rail transport. It will finance activities to strengthen technical and professional capacities in Colombia, especially regarding the preparation, construction, and operation of rail infrastructures, by working with transport, education, and labor market entities of the government. It will also support the deployment of innovative technologies with high potential in the country such as electric vessels through a study to elaborate the roadmap for technological upgrade of water transport. It will also finance activities that support the preparation of sustainable multimodal infrastructure projects, and the logistics infrastructure associated with it (i.e., logistic platforms), such as a study on integration of water modes in urban systems of transportation.
- 3.3 **Component 3: Support the implementation of sustainable urban mobility projects (US\$400,000).** The component will finance consultancies to support measures to improve the sustainability of urban mobility, with a focus on the sustainability of public transportation, promoting non-motorized transport and managing the demand for private transport and reducing its negative externalities. This TC will finance technical consultancies to support the design and implementation of

measures to improve the financial sustainability and quality of services of public systems of transportation in Colombian cities, to ensure both the financial resources necessary to invest in clean technologies, as well as the accessibility and mobility of citizens and disincentivize modal shift towards unsustainable modes. The component will also support the preparation of policies, programs or projects that contribute to the promotion of non-motorized transport and the purchase and use of private vehicles. Finally, it will support the integration of a gender and universal access focus in the preparation of sustainable urban mobility projects.

- 3.4 The TC will contribute to make more cities advance in the incorporation of electric fleet and generate new technical, legal, and financial knowledge in Colombia on multimodal infrastructure and sustainable urban mobility. The total cost of the project is US\$1,300,000 coming from the UK Sustainable Infrastructure Program.

Indicative Budget (US\$)

Component	Description	IDB/ SIP Fund Funding	Total Funding
Component 1	Consultancies for the preparation of acquisition and incorporation of electric bus fleet in Colombian cities	350,000	350,000
	Structuring studies for the National Fund for the technological upgrade of vehicles for passengers and freight systems of transport	150,000	150,000
Component 2	Consultancy to support the technological upgrade of water transport services in Colombia	150,000	150,000
	Consultancy to strengthen technical and professional capacities for railway projects in Colombia	100,000	100,000
	Consultancy for the definition of technical, environmental, and financial guidelines for the integration of water transport operations in public transport systems in Colombia	150,000	150,000
Component 3	Consultancies on urban and regional mobility with legal and financial focus to identify and prepare alternative financing for the sustainability of public transportation systems	150,000	150,000
	Technical consulting for strategic advice, accompaniment, and specialized technical support for the process of preparing Sustainable and Safe Mobility Plans in Colombian cities with a gender focus	160,000	160,000
	Consultancies to provide technical support for the preparation and supervision of strategic transport projects, urban transport, and electric mobility	50,000	50,000
	Publishing, communication, and dissemination services of the results of the cooperation	40,000	40,000
TOTAL		1,300,000	1,300,000

IV. Executing Agency and Execution Structure

- 4.1 At the request of the National Planning Department (DNP), and in accordance with Point D of Annex 10 of OP-619-4 and Point D of Annex 10 of OP-1155-2, the TC will be executed by the IDB in coordination with the mentioned entities. The Transport Division (INE/TSP) staff at the IDB Country Office in Colombia (CAN/CCO) will be responsible for its execution, supervision, and monitoring, in collaboration with the Climate Change (CSD/CCS) and Energy (INE/ENE) Divisions when it is relevant. The execution will last 30 months.
- 4.2 The IDB will execute this TC to: (i) avoid lengthy internal budgeting procedures that can jeopardize the achievement of its objectives by delaying the start of the TC execution and consultants' payments; and (ii) facilitate coordination between the different public-sector entities.
- 4.3 The Bank will contract individual consultants, consulting firms, and non-consulting services in accordance with the Bank's current procurement policies and procedures: (i) the individual consultants will be hired in accordance with the guidelines set out in the AM-650; (ii) the procurement process for consulting firms will follow the Bank Policy for the Selection and Contracting of Consulting Firms for Bank-executed Operational Work (GN-2765-4) and the related Operational Guidelines (OP-1155-4), and (iii) the procurement of non-consultant services will follow the Bank Corporate Procurement Policy (GN-2303-28).

V. Major Issues

- 5.1 No major risks are anticipated for the development of the TC. A couple of modest risks have been anticipated, including eventual delays in the development of the studies due to potential difficulties in coordinating the different counterparts involved: DNP, Ministries of Transport, Energy, Environment, and ANI. This risk will be mitigated by involving the counterparts from the beginning of the planning and execution of the TC. Another moderate risk identified is the continuity of the projects supported with this TC, especially for what concerns the actual implementation of electric buses in medium-size cities, due to technical and financial limitations of this cities as well as the political continuity. To mitigate this risk, the pre-investment studies will systematically include knowledge transfer mechanisms for local authorities in charge of the projects. No major risks related to COVID-19 are identified for the execution of this TC.

VI. Exceptions to Bank Policy

- 6.1 No exceptions to Bank policies have been identified.

VII. Environmental and Social Strategy

- 7.1 This TC does not intend to finance pre-feasibility or feasibility studies for specific investment projects or environmental and social studies associated with them; therefore, the requirements of the Bank's Environmental and Social Policy Framework (ESPF) do not apply to this TC.

Required Annexes:

[Request from the Client - CO-T1671](#)

[Results Matrix - CO-T1671](#)

[Terms of Reference - CO-T1671](#)

[Procurement Plan - CO-T1671](#)