

Non-reimbursable Technical Cooperation (TC) Document

I. Basic Information for TC

▪ Country/Region:	PERU
▪ TC Name:	Support for the Bus Operation System Initiative in Huancayo, through PROMOVILIDAD Program
▪ TC Number:	PE-T1570
▪ Team Leader/Members:	Capristan Miranda, Rafael (INE/TSP) Team Leader; Fernandez Ovelar Paloma Victoria (INE/TSP); Oh, Jiwon (INE/TSP); Bonilla Merino Arturo Francisco (LEG/SGO); Moreano Marquez Wendy Lidia (INE/TSP); Lee Jieun (INE/TSP); Fabiola Espinoza (INE/TSP); Richard Mix (INE/TSP); Seungyeon Kim (INE/TSP) Miranda, Rafael (INE/TSP) Team Leader; Fernandez Ovelar Paloma Victoria (INE/TSP); Oh, Jiwon (INE/TSP); Bonilla Merino Arturo Francisco (LEG/SGO); Moreano Marquez Wendy Lidia (INE/TSP); Lee Jieun (INE/TSP); Fabiola Espinoza (INE/TSP); Richard Mix (INE/TSP); Seungyeon Kim (INE/TSP)
▪ Taxonomy:	Client Support
▪ Operation Supported by the TC:	.
▪ Date of TC Abstract authorization:	01 Nov 2023.
▪ Beneficiary:	Ministry of Transport and Communication (MTC)
▪ Executing Agency and contact name:	Inter-American Development Bank
▪ Donors providing funding:	Korea Poverty Reduction Fund(KPR)
▪ IDB Funding Requested:	US\$550,000.00
▪ Local counterpart funding, if any:	US\$0
▪ Disbursement period (which includes Execution period):	36 months
▪ Required start date:	14 April 2024
▪ Types of consultants:	Firms and consultancies
▪ Prepared by Unit:	INE/TSP-Transport
▪ Unit of Disbursement Responsibility:	CAN/CPE-Country Office Peru
▪ TC included in Country Strategy (y/n):	Yes
▪ TC included in CPD (y/n):	No
▪ Alignment to the Update to the Institutional Strategy 2010-2020:	Productivity and innovation; Institutional capacity and rule of law; Environmental sustainability; Gender equality

II. Objectives and Justification of the TC

- 2.1 **Objective.** The objective of this TC is to design a Bus Management System (BMS) and enhance the governance of public transportation in Huancayo to make public transportation more competitive and attractive and to reduce social cost associated with inefficient car mobility. It will provide necessary technical assistance, benchmarking the BMS model of South Korea, to Provincial Municipality of Huancayo, which is among the jurisdictions within the metropolitan areas covered by the PROMOVILIDAD (Programa Nacional de Transporte Urbano Sostenible, National Sustainable Urban Transportation Program).
- 2.2 **Justification.** PROMOVILIDAD under the Ministry of Transport and Communication (MTC) is charged to support the cities in Peru that have a population greater than 100,000 inhabitants and the departmental capitals to have a better public

transportation infrastructure. It aims to ensure convenient and sustainable transportation systems as they are important for large cities, but providing such a service is often as challenging as it is desirable.

- 2.3 In Peru, urbanization has caused cities to expand into metropolitan areas, but the development of urban infrastructure has not kept pace with population growth. Public transportation systems are often disorganized, leading to externalities like traffic congestion, insufficient roads and parking, and increased noise and air pollution. The lack of a proper management system also leads to inefficient bus route organization and intense competition between operators, negatively impacting service quality, safety, and security.
- 2.4 To address the challenges, PROMOVILIDAD actively promotes public transportation infrastructure projects that should be operated by the cities themselves. However, many cities often lack the necessary capacity and technological solutions to effectively manage their public transportation infrastructure. For instance, none of the cities in Peru currently possess a transportation management system, including a BMS, which is crucial for improving the efficiency and quality of public transportation services. Introducing a BMS has the potential to yield positive economic outcomes and facilitate evidence-based policy making. Notably, the municipality of Gyeonggi Province in South Korea experienced significant cost reductions of approximately US\$52,000 per year and observed a remarkable increase in work processing speed by 10 times following the implementation of their BMS.
- 2.5 There is a relevant need to support local governments in the operation and management of public transportation. The public transportation system can be improved through the implementation of policies that facilitate the management and operation of the bus systems and introduce Information and Communication Technology (ICT). Specifically, the introduction of a BMS designed for the specificity of each city could increase the level of service of the public transportation and help prepare the cities to operate the future investment of public mass transportation what PROMOVILIDAD is planning in their project portfolio.
- 2.6 In this context, PROMOVILIDAD has proposed a pilot project in Huancayo to support the national initiative and address the economic and social issues arising from the inefficient transportation system. Huancayo has been specifically identified as a strategic city to launch the BMS project in Peru. With a population of 500,000 inhabitants, it is a crucial intermediate city where most citizens rely on buses as their primary mode of public transportation. Additionally, the municipality of Huancayo's Department of Traffic and Transportation, known as the 'Gerencia de Tránsito y Transporte' maintains comprehensive records of the existing routes and fleet.
- 2.7 Huancayo, situated in the center of Peru, holds significant importance as the capital city of Junin Province. It serves as a major hub where the main land traffic and cargo transportation networks converge within the central macro-region of the country. Also, the city shares strong socioeconomic ties with neighboring provinces in the Mantaro Valley, including Chupaca, Concepción, and Jauja. Moreover, Huancayo plays a crucial role in contributing to the nation's economy. According to the national productive structure of 2021, Junin Province, with Huancayo as its capital, accounted for 2.9% of the country's Gross Domestic Product (GDP), which corresponds to 3.2% of the National Gross Value Added. The region holds the 8th position in terms of its contribution to the national GDP.

- 2.8 In terms of the public transportation structure, the total vehicle fleet in Huancayo amounts to 54,334 vehicles, as per the Huancayo Roads Regulatory Plan (2013). Among these, private vehicles account for 93%, taxis comprise 10%, and only 7% are dedicated to public transportation. It is important to note that the public transportation vehicles primarily consist of "coaster" models, measuring 7 meters in length, "combis" at 5 meters in length, taxis also at 5 meters, and collective cabs. As of 2022, the Provincial Municipality of Huancayo reported 22 coaster-type public transportation bus routes operated by 12 companies. The current public transportation operation system in Huancayo follows the "commissioner-affiliator" model, which is characterized by outsourced services. Under this model, each unit (usually drivers) pays a daily fee for the right to operate on specific routes, as registered beforehand. The drivers' and collectors' income depends on the number of passengers they can accommodate. In essence, the drivers' final profits are derived from the daily fares collected from passengers, with deductions for route fees, and, in some cases, payments to the vehicle owner and fuel costs. This model fosters excessive competition among drivers to secure as many passengers as possible and operate their buses on the most profitable routes. Consequently, it results in inadequate budget allocation for vehicle maintenance, as well as reckless driving, signal violations, and an increased risk of road accidents. The cumulative effect of these circumstances generates poor quality service of public transportation and high emissions in the city.
- 2.9 Sexual harassment remains a significant issue in Peru, especially for women using public transport. A study in Lima and Callao found that 74% of women public transport users have experienced this problem. Although the country has a protocol for addressing sexual harassment in public transportation, cities need to take action. Huancayo is actively working to reduce this gap and promote equal opportunities. In February 2023, the provincial mayor announced the city's commitment to adopting the gender agenda proposed by the Women's Dialogue Table of Huancayo. This agenda, outlined in a comprehensive document, addresses demands and solutions for women's issues, reflecting the city's proactive stance. Through the implementation of preventive municipal ordinances focusing on women's concerns, authorities aim to mitigate the disadvantages faced by women, particularly in terms of the 11% illiteracy rate, which is significantly higher than the 3% observed for men. The document also highlights employment disparities, with the percentage of unemployed women in Huancayo surpassing that of men by 13%. Additionally, 54% of women report not receiving any compensation for their current work, marking a 14% disparity compared to men in similar circumstances.
- 2.10 In Junin, approximately 140,000 individuals live with disabilities. Nationally, this figure rises to around 3.2 million people with disabilities (PwDs), comprising roughly 10% of the total population. According to the Ministry of Women and Vulnerable Populations (MIMP) of Peru, 8 out of 10 PwDs require some type of assistance to carry out their daily activities, however, 39.87% do not have support. Regarding physical accessibility in roads and urban spaces, the "Disability and Public Space" survey conducted by Lima Cómo Vamos in 2023 reveals that 22% of respondents reported facing barriers when interacting with public spaces due to the attitudes of the people around them, including stereotypes, stigmas, or prejudices, as well as the lack of sidewalks and accessibility in pedestrian crossing areas. Among these barriers are structural and urban obstacles such as poorly constructed ramps and stairs, buildings lacking proper access for people with physical disabilities, and limited accessibility in transportation. As a benchmark case, South Korea can provide a prominent example of successfully implementing an efficient public BMS. In the late 1990s, Korea faced a decline in public

bus usage due to the rapid increase in private car ownership and traffic congestion. Consequently, the number of bus companies in Seoul decreased by 50%, while the bus ridership shares continuously declined from 30.7% in 1996 to 26.7% in 2002. To enhance the competitiveness of public buses, Seoul city initiated the establishment of the BMS in 2003 as part of its broader public transport reform efforts.

- 2.11 The Seoul BMS empowered bus operators to implement demand-oriented scheduling and operate routes more efficiently. By providing accurate data on traffic patterns, actual demand per route, section, and time period, as well as real-time traffic flow information, the BMS facilitated evidence-based decision-making in the public transportation sector. Over time, it has led to the development of evidence-based public transportation policies, improved punctuality of bus schedules, and increased overall bus profitability. Moreover, this transformation has brought significant advancements in the city's public transportation system by enabling the integration of bus services, bus-subway services, the establishment of dedicated bus central lanes, and streamlining the integration of public transportation fares.
- 2.12 Seoul recently underwent public transportation reform to modernize its system. The program included seven key elements: overhaul and development of the bus operating system and infrastructure, restructuring of bus lines, implementation of an electronically controlled bus operation system, establishment of a joint Business Management Center (BMC), integration of bus transit with the Metro system, installation of regional bus-exclusive median lanes, and acquisition of funds to optimize road space and compensate bus owners for financial losses due to route changes.
- 2.13 Drawing upon its impressive track record and extensive expertise in designing and developing intelligent integrated BMS, South Korea has been actively providing support to numerous countries worldwide. This support aims to establish the foundation for similar systems, as exemplified by initiatives such as the Establishment and Operation of an Integrated System of Automated Fare Collection System and BMS (2011) and the Building of a Smart Bus System in Mongolia (2015). Several LAC countries have adopted Korea's transportation system to improve efficiency. Medellín implemented the Korean Intelligent Transportation System (K-ITS) to monitor and collect real-time traffic data in urban areas. In addition, the Integrated Transport Information Centre (CITRA) was inaugurated, which integrates this gathered traffic data with safety information (2021). Bogota also brought in the Seoul's transit system between the cable car *Transmicable* and the bus, as well as benchmarking Korea's Fleet Management System (FMS) targeted on more than 7,000 buses and 120 BRT stations (2012). With FMS, Bogota could facilitate the collection of vital data, such as bus locations and driving speeds, and the seamless transmission to the central server for comprehensive traffic management and analysis.
- 2.14 The IDB and PROMOVILIDAD have been collaborating on various projects within the framework of integrated transportation and sustainable, technological, and inclusive infrastructure, such as a program for investment in infrastructure in cities, and the definition of institutional policies to promote sustainable mobility in cities, among others. In collaboration with South Korea, the TC is anticipated to offer valuable technical and institutional support for the digital transformation and implementation of an integrated BMS in Huancayo.
- 2.15 **Strategic alignment.** The TC is consistent with the IDB Group Institutional Strategy: Transforming for Scale and Impact (CA-631) and is aligned with the objectives of: (i)

address climate change, by promoting a more efficient and less polluting transport system; and (ii) bolster sustainable regional growth, by improving the city's mobility. The Program is also aligned with the operational focus areas of: (i) gender equality and inclusion of diverse population groups, by including gender and diversity-focused diagnosis and considering gender equity, labor inclusion and violence prevention in the BMS; (ii) institutional capacity, rule of law, and citizen security, by strengthening the governance of public transportation management and supporting organizational changes for governmental agencies; and (iii) productive development and innovation through the private sector, since the BMS will involve private sector actors. This TC is also aligned with the IDB Country Strategy with Peru 2022-2026 (GN-3110-1) in the objective of enhancing the productive development. It is also consistent with the Transportation Sector Framework Document (GN-2740-12) by: (i) promoting efficient, inclusive, sustainable, and quality mobility for urban and interurban passengers; (ii) strengthening sector institutions and regulations; and (iii) promoting technological transformation in the sector.

- 2.16 The TC is also aligned with the Korea Poverty Reduction Fund (KPR), which was established to enhance social development initiatives for the betterment of citizens' living standards. This alignment is evident in the TC's efforts to address social, economic, and environmental challenges faced by Huancayo residents. These challenges include traffic congestion, inadequate infrastructure such as roads and parking facilities, and increased noise and air pollution due to an inefficient BMS.

III. Description of activities/components and budget

- 3.1 **Component I: Development of institutional transport framework (US\$170,000).** This component will finance the preparation of a transport system diagnosis and a roadmap to improve the governance of public transportation management in Huancayo. The stakeholders are the Provincial Municipality of Huancayo through 3 departments: Planning and Budget department, Transportation Department and Urban Development Department; transport associations and private small companies of minibuses, "combis" and vans. It will include: (i) a diagnosis of the transportation system, including collective, interdistrict, interprovincial, and urban logistics, and the analysis of bus routes, schedules, fares, infrastructure (such as bus terminals, transfers terminals, bus stops), passenger experience, and analyzing mobility situation by gender and people with disabilities; (ii) diagnosis of the transport governance structure, focusing on the articulation of the different actors involved urban transportation, and defining their future role in management and operation processes; (iii) benchmarking of transport governance structure in cities of Korea such as Seoul or other international best practices; and (iv) definition of the operation and management governance of public transportation.
- 3.2 **Component II: Improvement of a Bus Management System and operation services (US\$300,000).** This component will finance a pre-investment program to structure the management system of public buses in Huancayo promoted by PROMOVILIDAD, considering the parameter and methodology of Peru's investment system. In this component, a proposal will be developed to implement and operate a BMS benchmarking the model of Seoul city and customizing it to Huancayo. The improvement of the routes and the operation will improve service levels of the bus system, together with other planned actions, it is expected that will increase the number of trips on public transportation. The designed program will include: (i) defining the model of the BMS for the selected city, based on a benchmarking study of Seoul and adapting the necessary functions to the local context considering a gender equity

(labor inclusion) and violence prevention; (ii) designing the architecture of bus operation and monitoring system; (iii) defining the need for restructuring bus lines and establishing additional transfers stations, bus stops or other relevant infrastructure incorporating a care mobility perspective; (iv) designing the business model for the operation service considering the sustainable framework of the investment; and (v) defining baseline indicators to establish the starting point for evaluating the impact of a BMS, including gender related indicators.

3.3 Component III: Capacity Building and Knowledge Disseminations (US\$80,000).

This component will support the design of a BMS in Huancayo through a study tour in Korea. This component will finance in-person capacity building workshops in South Korea for Peruvian government officials to derive benchmarking points from Korea’s policy experience and technology expertise related to public transportation and BMS. Gender equity will be warranted for the workshops and the tour to promote the participation of women. As part of the study tour, which will involve men and women, a discussion session will be held to gather opinions from government officials and reflect them in creating a BMS model for the city. The topics covered are: (i) lessons on Seoul public transport reform and policies; (ii) public transportation planning based on smart solutions and integrated data platforms; (iii) state-of-the-art BMS and bus information system. It will also cover all the costs of dissemination and communication activities of the project (possible publications, translations, events organizations, etc.).

3.4 Indicative Budget. The total cost of the project is US\$550,000, which will be financed with resources from the Korea Poverty Reduction Fund (KPR).

Indicative Budget

Activity/Component	IDB/KPR Fund	Total Funding
Component 1. Development of institutional transport framework	US\$ 170,000	US\$ 170,000
Component 2. Improvement of a Bus Management System and operation services	US\$ 300,000	US\$ 300,000
Component 3. Capacity Building and Knowledge Disseminations	US\$ 80,000	US\$ 80,000

3.5 Supervision. The Transport Division (TSP) with the support of the Country Office of the Bank in Peru (CAN/CPE) will be responsible for the supervision of the TC. This will facilitate the supervision of project implementation and foster a good communication with local counterparts.

IV. Executing agency and execution structure

4.1 The executing agency will be the IDB through its Transport Division (INE/TSP) in accordance with OP-619-4 Annex 2. The TSP Division will be responsible for all aspects of this TC, including disbursements, under the supervision of the team leader. Activities developed in any country in the region will be coordinated with the respective INE/TSP specialist in Country Offices (COF); and, if necessary, when activities are developed in a specific country, with the liaison authority in the country and/or sector officials. The activities to be executed under this operation have been included in the Procurement Plan and will be executed in accordance with the procurement methods established by the Bank, namely: (i) selection and hiring of individual consultants, as established in the regulations AM-650; (ii) contracting of consulting firms for services of an intellectual nature in accordance with GN-2765-4 and its associated operating guidelines (OP-1155-4); and (iii) contracting of logistics services and other non-consulting services, in accordance with policy GN-2303-28.

- 4.2 This execution strategy is grounded in the added value that the Bank's expertise brings to the implementation of TC resources, as demonstrated in the TC for the Promotion of sustainable urban transport in Peru ([ATN/OC-18158-PE](#)). The IDB has (i) the specialized knowledge of its Transport Division in the topics covered by this TC, backed by extensive experience in the transport sector and successful collaborations with public agencies throughout the Latin American and Caribbean (LAC) region; (ii) strong relationships with the beneficiary government, coupled with a deep understanding of the local context; (iii) the crucial role of effectively bridging and coordinating between Korea and Peru, essential due to the core benchmarking factor of this TC; and (iv) the greater capacity to ensure that the deliverables of this TC will be met within the proposed timeline. This execution structure will facilitate enhanced coordination among various stakeholders, such as the Ministry of Transport and Communications, PROMOVILIDAD, and the city of Huancayo.
- 4.3 The Bank plans to organize advisory and technical meetings with a major city in Korea, such as Seoul, for benchmarking purposes. These meetings will seek cooperation to acquire essential data and conduct relevant studies. Inputs and feedback will also be solicited on various products financed under the TC, including workshop focuses.

V. Major issues

- 5.1 The main risk is the lack of access to the information required to prepare the studies and analyses. In the event of resorting to primary sources, the risk will be mitigated through the Bank's relationship with actors in the public and private sectors in Peru, both from previous financed projects and the technical assistance that is being provided in the sector, given that they would oversee supplying this information. If this is insufficient, secondary sources of information may be used, such as previous reports and similar studies to prepare the analyses and reports that will support the consultancies.
- 5.2 Another risk for the development of the TC to be considered is the high turnover of authorities in the sector. To mitigate this risk, the dialogue for the development of this TC must be carried out at mid- and technical level. This communication strategy is already being carried out in other TCs and operations in the country, this is allowing the consolidation of lines of work and execution of activities.

VI. Exceptions to Bank policy

- 6.1 No exceptions to the Bank policy are considered for this TC.

VII. Environmental and Social Aspects

- 7.1 According to the Environmental and Social Policy Framework (ESPF), when a technical cooperation operation or a pre-investment operation finances pre-feasibility or feasibility studies of specific investment projects that may include environmental and social studies, the terms of reference and products of these studies must adhere to the applicable requirements described in said policy framework.

Required Annexes:

[Request from the Client_90711.pdf](#)

[Results Matrix_50180.pdf](#)

[Terms of Reference_21976.pdf](#)

[Procurement Plan_59534.pdf](#)