

TC ABSTRACT

I. Basic Project Data

▪ Country/Region:	REGIONAL/Regional
▪ TC Name:	Innovation Mainstreaming in the Transport Sector
▪ TC Number:	RG-T2994
▪ Team Leader/Members:	ARMIJOS LERAY, JEAN POL (INE/TSP) Team Leader; MOJICA, CARLOS HERNAN (INE/TSP) Alternate Team Leader; PEREZ JARAMILLO, DANIEL (INE/TSP); MONTES CALERO, LAUREEN ELIETH (INE/TSP); SOSA SARTORI, MARTIN DANIEL (INE/TSP); PASTOR DE ELIZALDE, MANUEL JOSE (INE/TSP); RIOBO PATINO, JAIRO ALEXANDER (INE/TSP); RUBINSTEIN DA SILVA, ELIAS (INE/TSP); GRANADA GARCES, ISABEL CRISTINA (INE/TSP); RODRIGUEZ CABEZAS, PAOLA KATHERINE (INE/TSP); PROANO SOTOMAYOR, MARIA FERNANDA (CAN/CEC); ALONSO MARTIN, TANIA (INE/TSP); CHRETIEN, LOUIS-FRANCOIS (LEG/SGO); JIMENEZ DE ARECHAGA, MARIA DEL PILAR (LEG/SGO); COLINA UNDA, VANESSA CAROLINA (ITE/IPS); CRESPI, GUSTAVO ATILIO (IFD/CTI); SUAZNABAR, CLAUDIA (IFD/CTI); AUERBACH, PAULA FLORENCIA
▪ Taxonomy:	Research and Dissemination
▪ Number and name of operation supported by the TC:	N/A
▪ Date of TC Abstract:	26 Mar 2018
▪ Beneficiary:	Belice - Bolivia - Brazil - Colombia - Ecuador - El Salvador - Paraguay - Peru
▪ Executing Agency:	INTER-AMERICAN DEVELOPMENT BANK
▪ IDB funding requested:	\$ 500,000.00
▪ Local counterpart funding:	\$ 0.00
▪ Disbursement period:	36 months
▪ Types of consultants:	Individuals; Firms
▪ Prepared by Unit:	Transport
▪ Unit of Disbursement Responsibility:	Infrastructure & Energy
▪ TC included in Country Strategy (y/n):	No
▪ TC included in CPD (y/n):	No
▪ Alignment to the Update to the Institutional Strategy 2010-2020:	Productivity and innovation

II. Objective and Justification

- 2.1 The objective of this Technical Cooperation (TC) is to support the national and sub-national authorities of several countries in Latin America with the design and implementation of innovative technologies in transport projects. Specifically, this TC seeks to support the following activities:
- (i) Design innovative projects with BIG DATA applications added to artificial intelligence for demand forecasts that can be used in transportation planning and management; especially for vulnerable groups.
 - (ii) Carry out the implementation of pilot projects of transport technologies which incorporate new trends in urban merchandise distribution, transport planning tools and MaaS (Mobility-as-a-service)
 - (iii) Use Blockchain technology applied to transport projects including, but not limited to: project management throughout full project cycle; logistics and freight; and climate change accountability tools regarding the measurement, reporting and verification

(MRV) of GHG emissions in transport projects.
(iv) Technology applications for transport projects under execution to better monitor, supervise and evaluate the progress of works.

- 2.2 Technological advances allow for better transport interventions, since they increase the degree of understanding of the characteristics of the area involved and the effects that these interventions will generate. Through the application of technological tools, the amount of information available is increased and the ways of visualizing and using it are improved. This feeds the processes of decision making, planning, design and implementation, allowing to develop more optimal projects for the area, with a greater scope and more efficient. In addition, it facilitates the involvement of different actors - including citizens - in decision making

III. Description of Activities and Outputs

- 3.1 Big Data analysis gives us an idea of the past and of the hidden patterns in vast amounts of information. It takes Artificial Intelligence (AI) to adapt the behavior and predict what could happen in the future. AI can use Big Data to make predictions. There are new technologies in AI evolving in the transport sector, but some applications are already proved and their implementation in the transport sector is foreseen in the short term. For instance, AI can help to decide the best option for a trip and the best possible path. From the travel patterns of a person (AI can learn where home is and where is workplace for a persona) and can be used to define at what time someone must leave to arrive on time to work considering the existence of events in the city and perhaps suggest to leave than usual to arrive on time. Mobility-as-a-Service (MaaS), describes a shift away from personally owned modes of transportation and towards mobility solutions that are consumed as a service. Users can benefit from customized services based on their travel needs. There are already trends in mobility service providers such as ride-sharing and e-hailing services, bike-sharing programs, and car-sharing services and other mechanisms. Countries and local governments may benefit from the implementation of AI & Big Data tools for transport planning and management purposes.
- 3.2 Blockchain is a "distributed logging technology" (DLG) that has evolved over the last decade and has had its best known application in the world of cryptocurrencies (ie Bitcoin), however, its architecture, elements, operation and, of course, their benefits are being increasingly studied in multiple sectors, where the transaction of assets or data play a fundamental role. In short, Blockchain acts as a distributed database that allows you to share records that are continuously updated and verified by users. It allows for transparent and safe monitoring of the stages of a process and defines the execution of actions automatically enabled by intelligent contracts in each stage. In the transport sector, applications could be several to streamline management, monitoring and logistics processes that today even computerization has not really made reliable. It is also interesting to analyze potential synergies to take advantage of this technology, not only to solve technological and economic solutions, but also environmental ones. In this regard, the UNFCCC is strongly supporting the application of the blockchain technology for climate action and has promoted the Climate Chain Coalition, with the MRV of GHG emissions as one of its priority areas of work.
- 3.3 **Component I: Artificial Intelligence and Big Data in Transport.** Design innovative projects with BIG DATA applications added to artificial intelligence for demand prediction that can be used in transportation planning and management; especially for vulnerable groups
- 3.4 **Component II: Innovative trends in delivery of urban goods, transport planning tools and Mobility as a Service tools.** Carry out an implementation of pilot projects of transport technologies with new trends in urban merchandise distribution, transport planning tools and MaaS (Mobility-as-a-service) tools

- 3.5 **Component III: Blockchain technology.** This component will provide a framework for the use of Blockchain technology in transport projects, resulting in a number of applications for management of transport projects; streamline processes related to logistics and freight, and increase transparency regarding the MRV of GHG emissions from cargo transport projects,
- 3.6 **Component IV: Technology applications for transport projects under execution.** This component will seek to include technology applications to improve the execution of projects through an array of tools to better monitoring, supervision and evaluate the progress of works
- 3.7 **Component V: Dissemination of knowledge and technological innovation applied to transport projects.** This component will allow for the documentation and dissemination of the products developed under this TC through the organization of events and the elaboration of knowledge products.

IV. Budget

Indicative Budget

Activity/Component	IDB/Fund Funding	Counterpart Funding	Total Funding
Artificial Intelligence and Big Data in Transport	\$ 230,000.00	\$ 0.00	\$ 230,000.00
Innovative trends in delivery of urban goods, transport planning tools and Mobility as a Service tools	\$ 115,000.00	\$ 0.00	\$ 115,000.00
Blockchain technology	\$ 60,000.00	\$ 0.00	\$ 60,000.00
Technology applications for transport projects under execution	\$ 55,000.00	\$ 0.00	\$ 55,000.00
Dissemination of knowledge and technological innovation applied to transport projects	\$ 40,000.00	\$ 0.00	\$ 40,000.00

V. Executing Agency and Execution Structure

- 5.1 The Bank will execute the operation through the Transport Division (INE/TSP), in close coordination with other involved divisions at IADB and the beneficiary countries. Additionally, INE / TSP has specialized knowledge in the provision of assistance in matters of interest related to the purpose of this TC.
- 5.2 The Bank will perform the hiring in accordance with the Policies for the Selection and Hiring of Consultants (document GN-2350-9) and the Policy for the Selection and Hiring of Consulting Companies for Operational Work Executed by the Bank (document GN-2765-1). INE/TSP will be in charge of the preparation and publication of requests for expressions of interest, the preparation of short lists, the preparation and distribution of requests for proposals, the evaluation and selection of consultants according to the criteria established in the applications of proposals, and the negotiation of the respective contracts.

VI. Project Risks and Issues

- 6.1 There was not any significant risk identified in this project

VII. Environmental and Social Classification

7.1 The ESG classification for this operation is "C".