Regional: Using Frontier Technology and Big Data Analytics for Smart Infrastructure Facility Planning and Monitoring

Project Name	Using Frontier Technology and Big Data Analytics for Smart Infrastructure Facility Planning and Monitoring
Project Number	54114-001
Country	RegionalBangladeshCambodiaIndonesiaLao People's Democratic RepublicMyanmarPakistanPhilippinesSri LankaThailandViet Nam
Project Status	Proposed
Project Type / Modality of Assistance	Technical Assistance
Source of Funding / Amount	
Strategic Agendas	Inclusive economic growth Regional integration
Drivers of Change	Governance and capacity development Knowledge solutions Partnerships Private sector development
Sector / Subsector	Transport - Road transport (non-urban) - Transport policies and institutional development - Urban public transport - Urban roads and traffic management
Gender Equity and Mainstreaming	Some gender elements
Description	The knowledge and support technical assistance (TA) will identify, demonstrate, and evaluate how to use high-level technologies to effectively plan high-quality infrastructure investments, especially for transport infrastructure, to reduce construction and maintenance costs, and measure economic impacts. The usefulness of big data and satellite imagery, in the face of coronavirus (COVID-19) pandemic, has been demonstrated, visualizing movements of people and goods and helping government to design response activities. Lessons learned from the TA will be shared and discussed with developing member countries (DMCs) and Asian Development Bank (ADB) operational departments for planned or future ADB projects and government policies in developing Asia, including upper-middle income countries (UMICs).
Project Rationale and Linkage to Country/Regional Strategy	The recent advances in high-level technology offer opportunities to plan, construct, and maintain high-quality infrastructure. Spatial information, artificial intelligence, machine learning, and Internet of things could be used for designing, constructing, maintaining, and monitoring high-quality infrastructure projects. DMC governments and international development agencies, however, have been struggling to find effective ways to use high-level technologies. Without proper planning and consideration of options available, valuable opportunities could be missed. The value of missed opportunities could be invaluable. Thus, there is a strong and urgent need to conduct pilot case studies involving the effective use of high-level technologies to draw policy recommendations.
Impact	Physical and financial sustainability of transportation infrastructure improved
Outcome	Transportation infrastructure monitoring and maintenance systems in ADB DMCs improved, and operational and maintenance costs reduced
Outputs	Pre-feasibility study of using innovative technologies and data sources for enhanced monitoring of infrastructure quality conducted Research studies on urban infrastructure in developing Asia conducted and capacity building implemented Case studies on impacts of high-quality infrastructure conducted and disseminated
Geographical Location	Bangladesh - Nation-wide; Cambodia - Nation-wide; Indonesia - Nation-wide; Lao People's Democratic Republic - Nation-wide; Myanmar - Nation-wide; Pakistan - Nation-wide; Philippines - Nation-wide; Sri Lanka - Nation-wide; Thailand - Nation-wide; Viet Nam - Nation-wide

Summary of Environmental and Social Aspects	
Environmental Aspects	
Involuntary Resettlement	
Indigenous Peoples	

Stakeholder Communication, Participation, and Consultation	
During Project Design	
During Project Implementation	

Business Opportunities	
Consulting Services	ADB will engage the consultants following the ADB Procurement Policy (2017, as amended from time to time) and its associated project administration instructions and/or staff instructions. The TA requires up to 50 person months of international and up to 100 person months of national consultant inputs.
Procurement	The TA requires both macro and micro data. The data sets will be procured from government agencies, private data providers, and other research institutes. Equipment such as laptop computers, handheld devices, sensors and other infrastructure monitoring equipment and statistical software may also be procured for the TA where needed. Procurement of data, equipment, and software will be in accordance with ADB's Procurement Policy (2017, as amended from time to time) and the associated Staff Instructions. For the equipment, a certificate of equipment turnover or disposal will be submitted at the end of TA implementation.

Responsible ADB Officer	Yamano, Takashi
Responsible ADB Department	Economic Research and Regional Cooperation Department
Responsible ADB Division	Economic Analysis and Operations Support Division
Executing Agencies	Asian Development Bank 6 ADB Avenue, Mandaluyong City 1550, Philippines

Timetable	
Concept Clearance	20 May 2020
Fact Finding	-
MRM	-
Approval	-
Last Review Mission	-
Last PDS Update	15 Jul 2020

Project Page	https://www.adb.org/projects/54114-001/main
Request for Information	http://www.adb.org/forms/request-information-form?subject=54114-001
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