

Terms of reference

Procurement of active mobility volume counting/sensing technology

Issuing organization	ICLEI – Local Governments for Sustainability
Issuing date	22.10.2024
Bids due	15.11.2024

Project background

Active mobility, i.e., walking and cycling, are equitable, affordable, and efficient mobility options that offer much freedom and little adverse environmental impact. They have been recognized for providing a broad spectrum of positive health benefits and have the potential to reduce carbon emissions significantly.

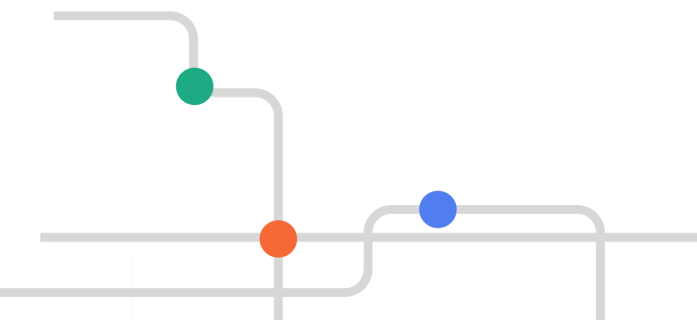
ICLEI’s “SPARK: Sparking active mobility actions for climate-friendly cities” project is supported by the German Federal Ministry of Economic Affairs and Climate Action (BMWK) through the International Climate Initiative (IKI).

The goal of the SPARK project is to increase the role of active mobility in building resilient and safe transport systems, contribute to national emission reduction targets, and promote climate-friendly mobility behavior in Pasig City and Quezon City, The Philippines. The project approach is as following:

- Understand cities’ context and engage with stakeholders.
- Design modal interventions and enhance capacities.
- Use tactical urbanism and open data to jump-start the implementation.
- Scale tactical urbanism and disseminate it globally.

Scope of work

In light of the project’s approach, the service provider will assist the project cities and partners: Pasig and Quezon City in the Philippines to track the volume of people walking and using bicycles in the intervention site. This Terms of Reference (ToR) covers the scope of work for the procurement, delivery, installation, testing, and maintenance of a bicycle and pedestrian counting system in two sites, one in each city. The goal is to provide accurate, reliable data on the volume of active transport



users to evaluate how effectively the intervention designs promote walking and cycling over time.

The potential systems can include (but are not limited to): Loop sensors, infrared sensors, smart cameras, and AI systems linked to detection hardware. The provider(s) are responsible for providing a complete system including the hardware, software, and supporting elements, either as a single provider or in a consortium.

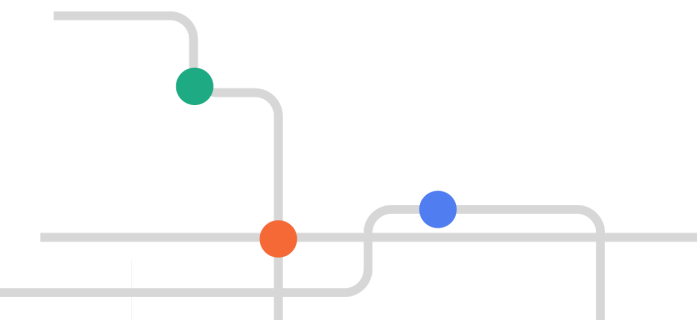
Objectives

The main objectives of this ToR are:

- To determine an optimum technology (hardware and software) to collect data on pedestrian and bicycle users in the selected sites;
- To install and test an automated counting system with real-time or near real-time data collection capability;
- To provide the cities with a intuitive interface that simplifies the readability and accessibility of data allowing local governments and stakeholders to easily interpret the information;
- To provide training for the local governments and stakeholders on how to use the system and extract the relevant data;
- To collect reliable data on the number, type, and time of use of active mobility users. Systems that can support the detection of more types of mobility can also be deployed; and
- To provide a one-year maintenance warranty for the installed systems.
- Document implementation and provide recommendations for replication and scale up.

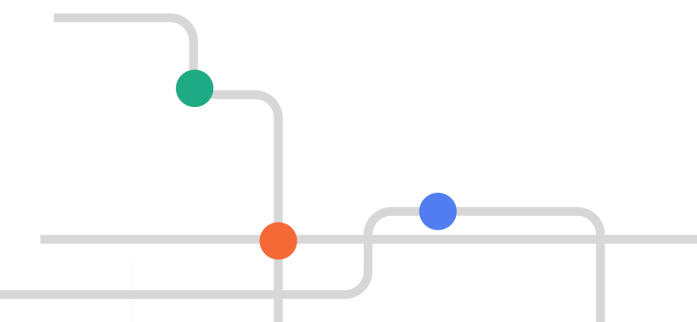
The contractor is expected to deliver the following tasks:

- **Coordination with the project partners (ICLEI and ICSC), as well as the local authorities:** Work closely with local city officials, project coordinators, and the implementation team to validate the deployment locations.
- **Site-suitability assessment:** Assess each identified site for the feasibility of installation, considering technical requirements (e.g., power sources, environmental exposure, safety) and potential challenges (e.g., vandalism, accessibility).
- **Bicycle and pedestrian counting solution:** Procure durable, accurate, and reliable bicycle and pedestrian counting system that can:
 - Differentiate between pedestrians and bicyclists (optionally, other modes of mobility can be part of the system).
 - Count the volume of users accurately.
 - Be installed either overhead or ground-based, depending on the location and type of technology.
 - Ensure that the counters are capable of: Weather and dust resistance for tropical climates (high humidity, rain, and heat). Additionally, it is





- preferred that the technology includes security measures such as secure installation options to prevent theft and vandalism.
- The system should be low maintenance, cost-effective, and energy efficient (e.g., solar-powered options if necessary).
 - Provision of real-time data transmission to a central system or server.
 - Integration with other smart city systems, if applicable.
- **Installation of the counting systems:** The providers are required to install the system (hardware and software) in the two cities. The task includes:
 - Develop and submit an installation plan that includes timelines, labor requirements, equipment, and contingencies for unforeseen issues;
 - Install the bicycle and pedestrian counters at the agreed-upon locations, ensuring proper configuration and setup, including the electrical and connectivity setup, and the physical installation of sensors, cameras, or other devices in compliance with local safety and technical standards;
 - Ensuring that the system does not interfere with road safety or pedestrian accessibility; and
 - Providers will work closely with local project partners.
 - **Testing the system:** After installation, thoroughly test to ensure accurate counting and reliable data collection.
 - **Data collection and management system:** Implement a data management platform that provides local authorities with access to real-time or near real-time data, ensuring optimum size of data for the users and computers' capacities.
 - **Data analytics or reporting tool/ dashboard:** Provide a platform capable of generating reports on bicycle and pedestrian traffic, including daily, weekly, and monthly trends. Ensure data visualization tools such as graphs, heatmaps, and interactive dashboards are available for easy interpretation.
 - **Data storage:** Ensure secure data storage for at least **one year**, including backup and retrieval mechanisms.
 - **Training and capacity building:** Provide comprehensive training to local government staff on system operation, data interpretation, and system troubleshooting. This should include both initial training and refresher courses.
 - **Maintenance and support:** Offer a minimum warranty of **1 year** for all equipment and provide technical support during this period, including both remote and on-site assistance, or a **Develop a maintenance guide for the local governments** to ensure the proper functioning of the system, including periodic calibration, cleaning, and system updates.
 - **Final report:** After successful installation and testing, submit a final report that includes:
 - An overview of the entire installation process.
 - Location details of installed counters.
 - System testing results.
 - Recommendations for long-term operation and data utilization.



The consultant will report to the Sustainable mobility team in the world secretariat of ICLEI - Local Governments for Sustainability, in Bonn, Germany.

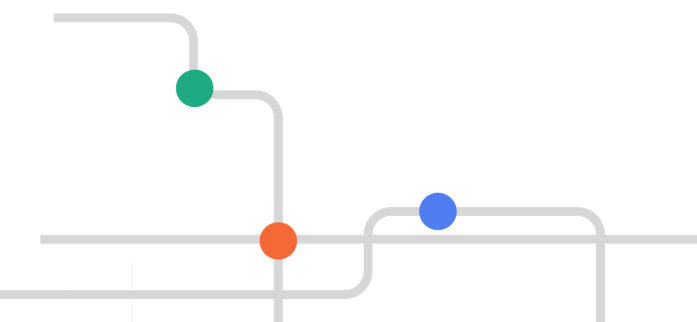
Deliverables and workplan

The contractor is expected to fulfill the following deliverables in the assigned timeline:

Deliverable	Deadline
1. Site feasibility and requirements report.	01 December 2024
2. Procured bicycle and pedestrian counting system that meet the specified technical requirements.	01 December 2024
3. Installation plan including a detailed timeline and schedule.	01 December 2024
4. Fully installed and operational counting system at the identified locations.	01 December 2024 - 15 January 2025
5. Data management platform accessible to relevant local authorities.	15 January 2025
6. Training sessions for local government staff and other stakeholders.	31 March 2024
7. Warranty plan and optionally maintenance guide	31 March 2024
8. Final report on the implementation, testing and further recommendations	30 April 2024

Selection criteria

Demonstrated understanding of the requirements of the ToR	15%
Demonstrated experience of the provider(s) in developing and implementing mobility counting solutions in various geographies (possibly in emerging economies)	30%
Innovation and technical quality of the proposal	40%
Cost effectiveness (cost of acquisition and operation)	15%



Financial compensation

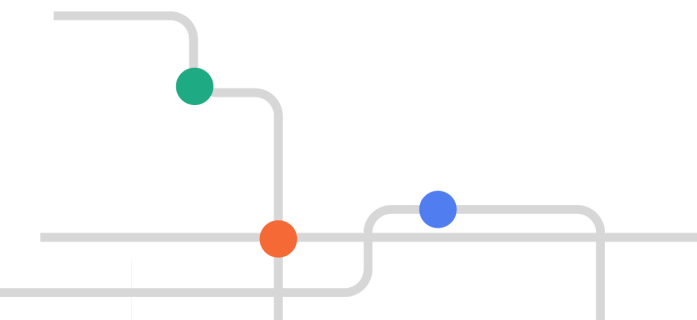
The total budget should be up to 70,000 Euro.

Application

Interested providers (one entity or a consortium) are requested to apply on or before **15 November 2024** by sending the following documents in English to ecomobility@iclei.org with the email subject: SPARK Project Technology_Name of provider:

- Expression of Interest and confirmation of availability for the aforementioned duration of task implementation period.
- Proposal that shall include proposed technology, use cases, implementation approach, and detailed work plan, at the minimum.
- Budget proposal that shall include a detailed breakdown of professional fees, materials, and costs, as well as travel costs for international providers.
- Company profile, portfolio of similar projects, and latest CVs of team members (for firms).

For any queries regarding this Terms of Reference, please contact ICLEI - Sustainable Mobility via email: ecomobility@iclei.org





SPARK

Sparking active mobility actions
for climate-friendly cities



INSTITUTE FOR
CLIMATE AND
SUSTAINABLE
CITIES

Supported by:



Federal Ministry
for Economic Affairs
and Climate Action

Federal Ministry
for the Environment, Nature Conservation,
Nuclear Safety and Consumer Protection

IKI



INTERNATIONAL
CLIMATE
INITIATIVE

on the basis of a decision
by the German Bundestag

