# Major features *of* USAFIRI

- Organizations Management
- Projects Management
- Automatic Data Import from OSM
- Multi Source Data Integration
- Interactive Web Mapping
- Data Validation through Participatory Mapping
- Map Design
- Spatial Analysis for Transport Need Assessment
- Export map as Images

# User journey *in* USAFIRI

1. User first collects available datasets from different sources
2. Conduct Remote Mapping using OpenStreetMap
3. Get Data Collection Templates
4. Conduct Data Collection Exercise
5. Data Cleaning & Management
6. Participatory Data Validation Exercise
7. Spatial Analysis for Transport Decision Making
8. Map design and Export

USAFIRI

# Mapping *for* Participatory Planning (MAPP)

A research project that tests different approaches and methods transitioning from paper-based participatory mapping exercise to digital technology based participatory mapping exercise.

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# *The* **Challenge**

A lack of mobility hinders access for over one billion people globally, and 450 million in Africa, to basic services and amenities such as education, health-care, food, and safe water. At the same time, lack of data and limited community participation leads to a poor understanding of rural mobility and its gender impact. These challenges hamper the progress of development policy and programmes, and put the achievement of the Sustainable Development Goals (SDGs) at risk. The need for transportation sidelines a large proportion of rural communities, for whom mobility is one of the main factors of vulnerability. Moreover, important knowledge gaps regarding these populations' mobility needs, including obstacles to their travels, hamper the elaboration of effective solutions.

# **About** *the* **Project "MAPP"**

| | |
|---|---|
| Objective of the Project | **Developing a set of online GIS tools and methodology to assess mobility challenges and solutions in rural areas.** |
| Project Duration | **2 years** |
| Start Date | **March 1, 2022** |
| End Date | **31 April, 2022** |
| Locations | **Kakamega, Kenya \| June 1-28, 2022**<br>**Birendranagar, Nepal \| March 1-30, 2023** |

A preliminary research was conducted in the initial stage of the project among people belonging to the PGIS community and development partners working on transport need assessment related works in different locations across the world. The preliminary research suggested that Participatory GIS (PGIS) tools have the potential to improve the way in which transport needs in rural areas are understood, particularly first-and-last mile challenges and concerns. The responses from the participants showed that PGIS tools do exist, but so far lack transport and mobility planning applications. Hence this project aimed at developing a GIS-based toolkit to assess, in a participatory way, the unmet transportation needs and mobility barriers of rural communities.

# **Components** *of the* **Project**

The project has three components:

## Research

Research about the integration of digital and participatory approaches to carry out a data-driven transport assessment in rural communities. A postdoc based at EPFL , one of the leading research institutions in the world is carrying out the research.

## Development of a PGIS Software

The software development component involves the development of "USAFIRI" - An easy to use web based GIS application that allows data import from multiple sources including automatic data download from OpenStreetMap , data management and spatial analysis using these datasets to generate different transportation assessment related decisions.

## Data Collection

This component involves data collection in multiple ways. The project prioritizes the adoption of OSM based remote mapping exercises to first understand the data availability in a community. The field based data collection can be done in two ways: participatory community based mapping exercise and mobile based data collection exercise.

# About tool **USAFIRI**

USAFIRI is a web-based participatory mapping tool aimed at rural communities, intended to guide development planners and policy-makers in identifying transportation needs and barriers in marginalized areas. Additionally, because the tool adapts existing mapping tools to make them more user-friendly, this project tackles a significant barrier (tech-literacy) to the implementation of participatory geographic information systems. Ultimately, the tool aims to facilitate both collecting and sharing geodata required to evaluate the accessibility, utilization, and sustainability of mobility options.