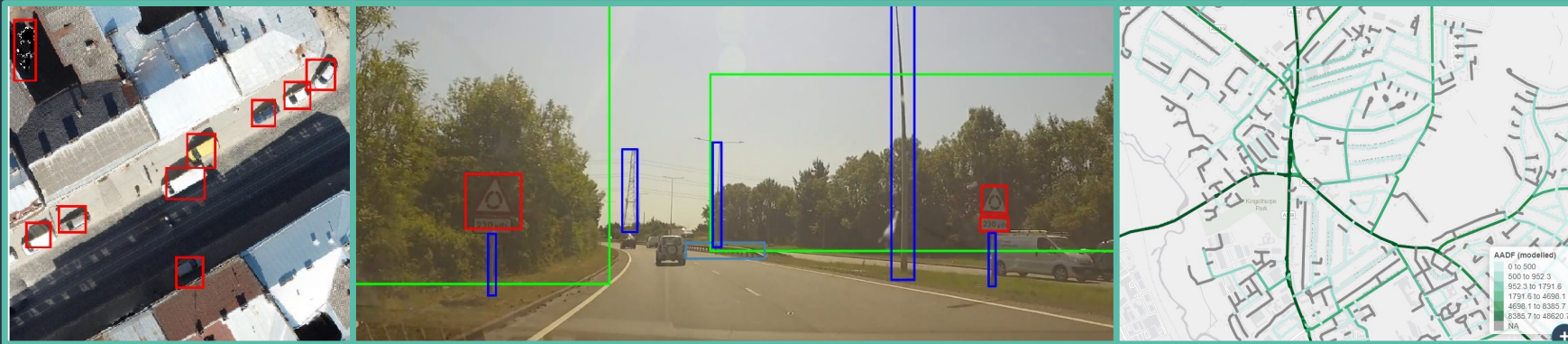




Road Safety Data Collection in LMICs

Exploring Novel Data Sources





History

- Long history of geospatial data & analytics
- Projects on data modelling and use of neural networks
- Preliminary work on deep learning for attribute identification



*αi*RAP

An R&D project to explore novel sources of road safety data

- Explored potential of widely available data sources
- Developed extraction techniques for important road infrastructure, traffic speed and road user flow data
- Focussed on two target countries, Kenya and Ethiopia





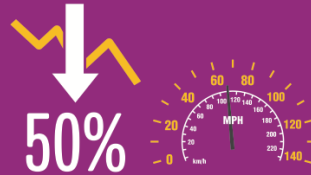
UN Road Safety Targets

TARGET
4
2030



Target 4: By 2030, more than 75% of travel on existing roads is on roads that meet technical standards for all road users that take into account road safety.

TARGET
6
2030



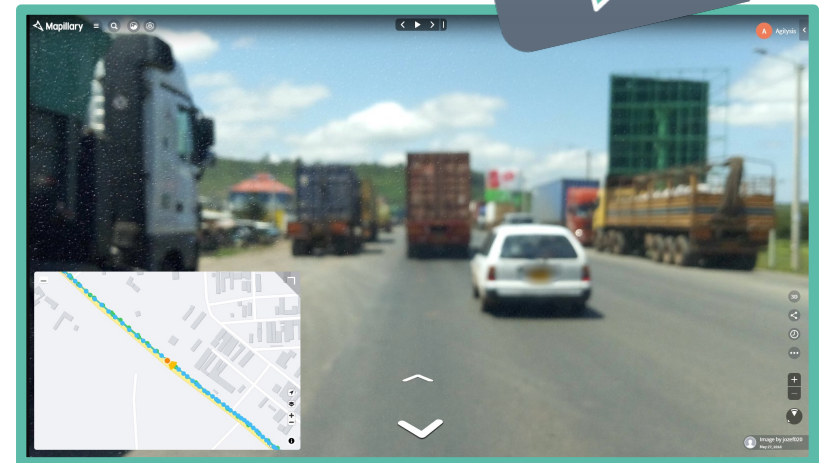
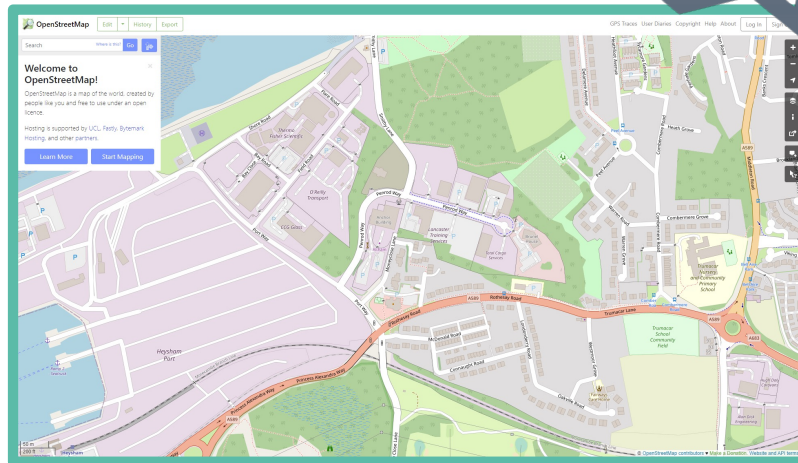
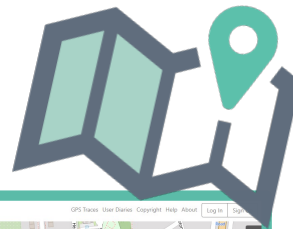
Target 6: By 2030, halve the proportion of vehicles travelling over the posted speed limit and achieve a reduction in speed-related injuries and fatalities.





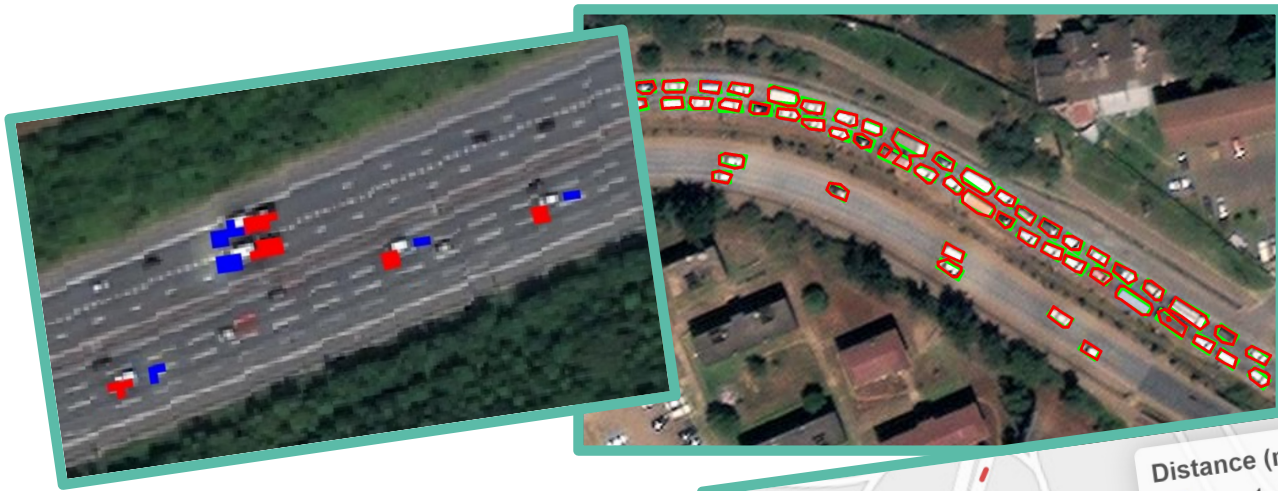
Data Sources

- Earth observation
- Mapillary
- Open Street Map





Speed and Traffic Flow

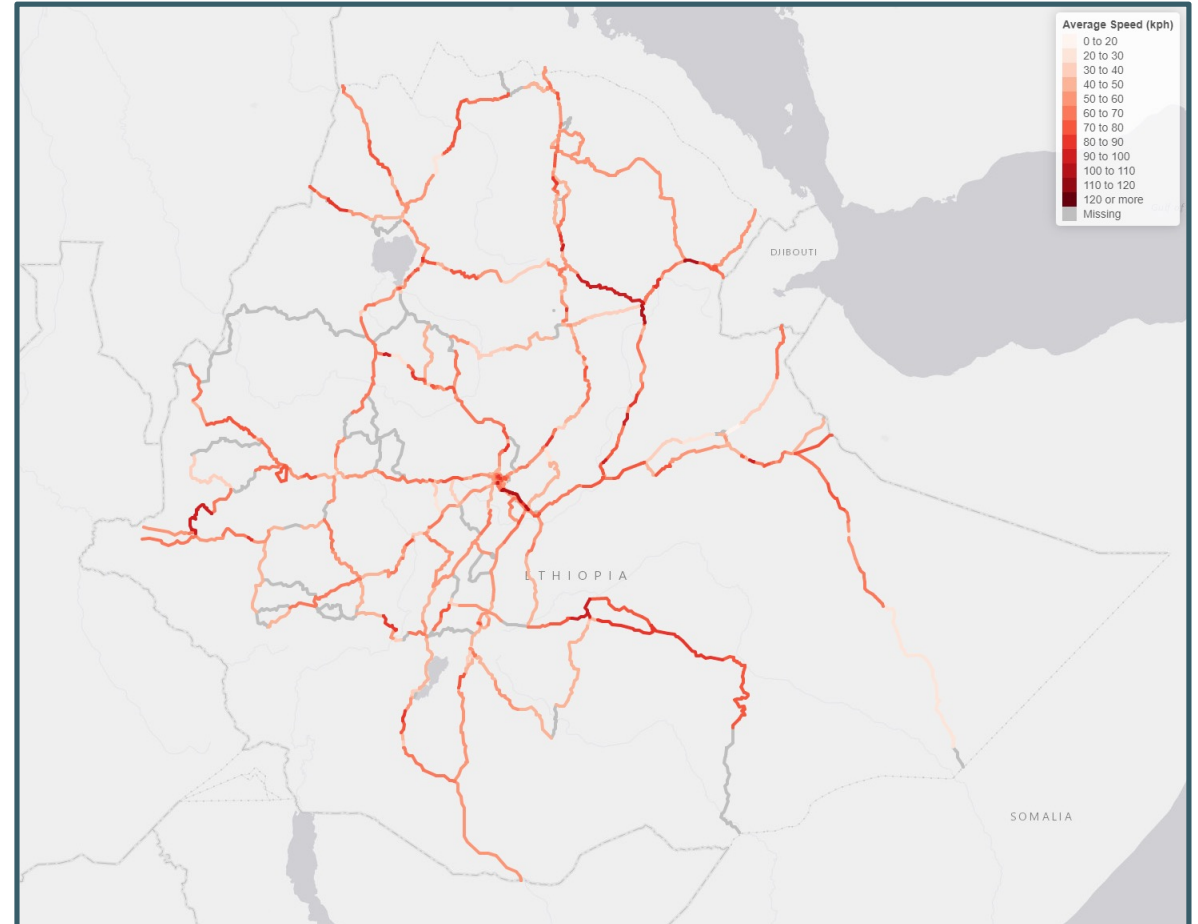
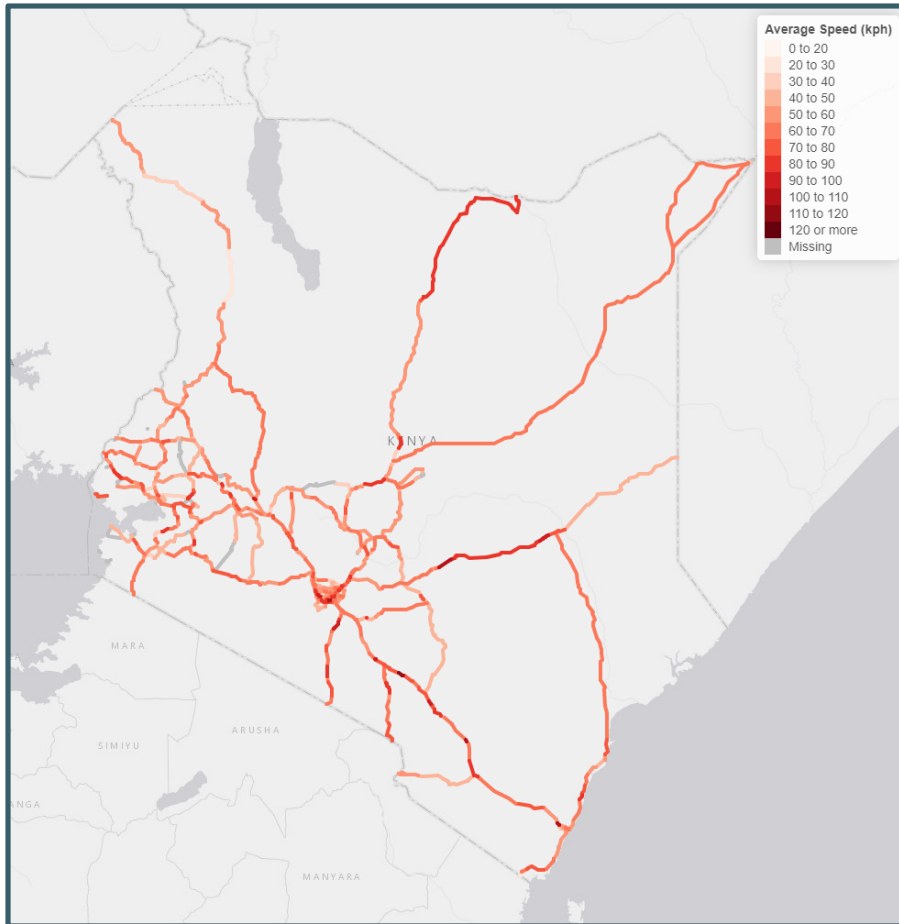


- Earth Observation
- Detect Vehicle Locations
- Measure Vehicle Movement
- Calculate Vehicle Speed



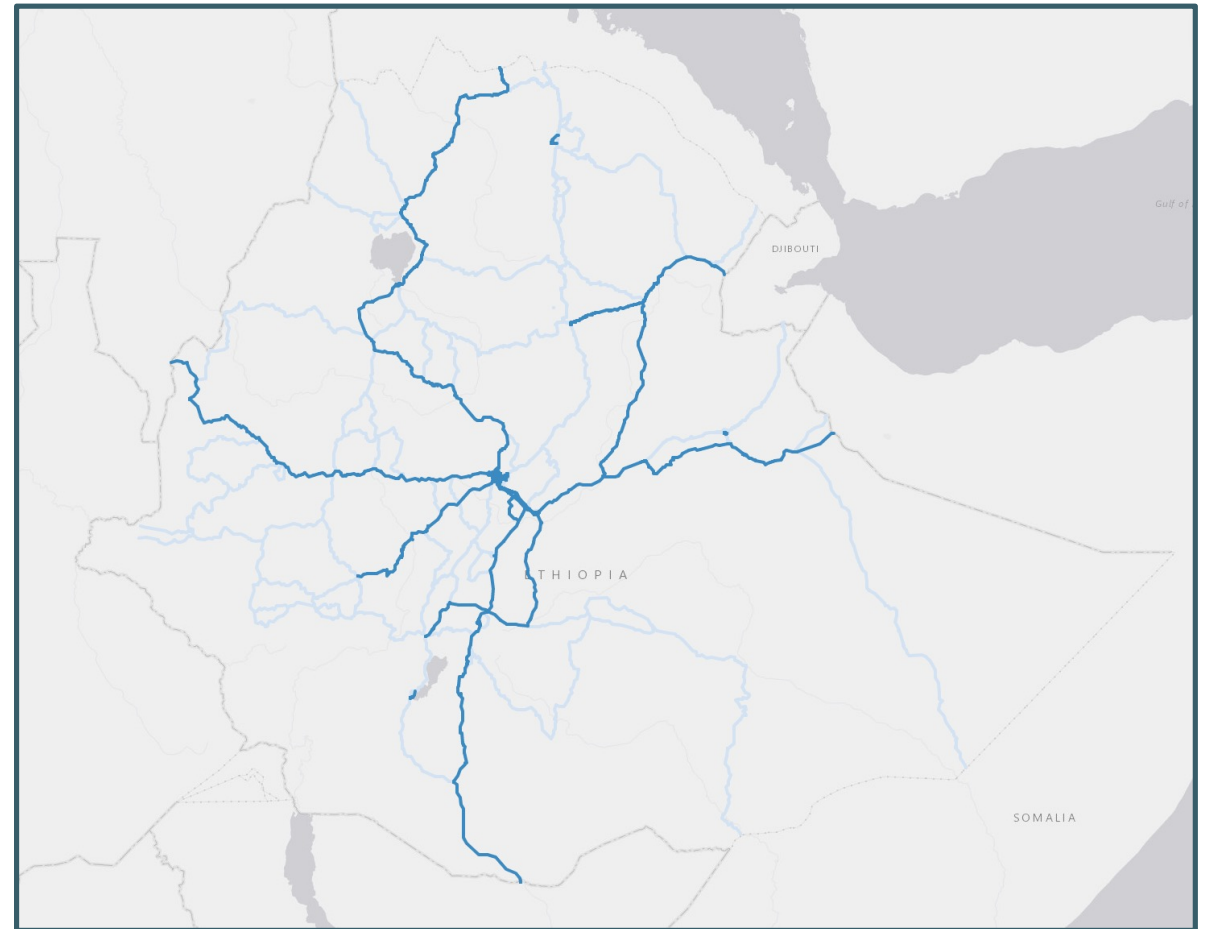
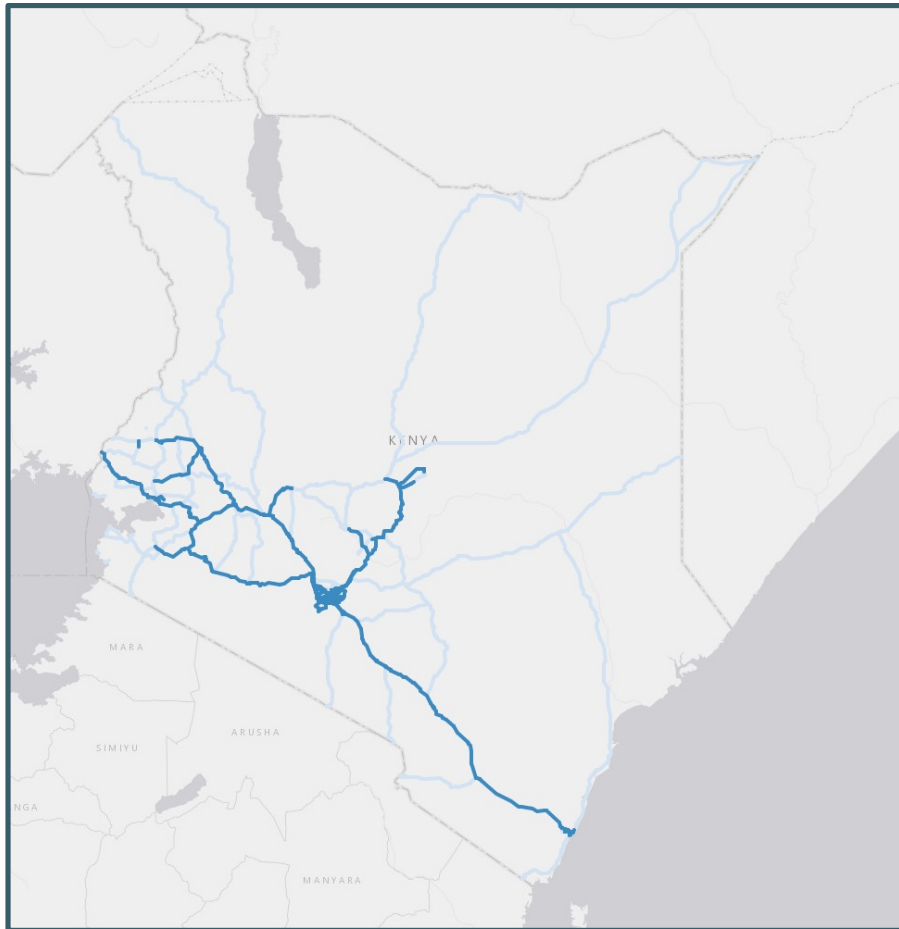


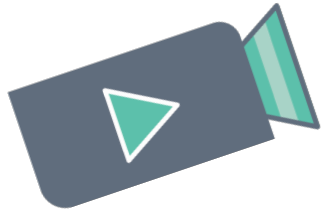
Vehicle Speeds





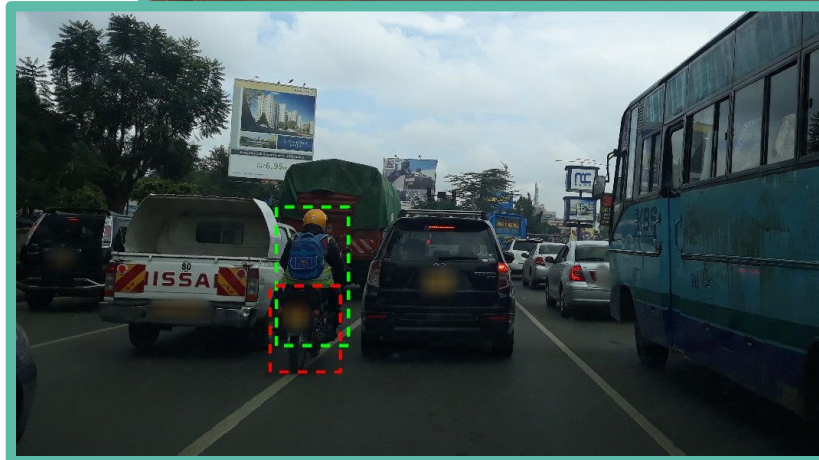
75% of Travel





Vulnerable Road Users

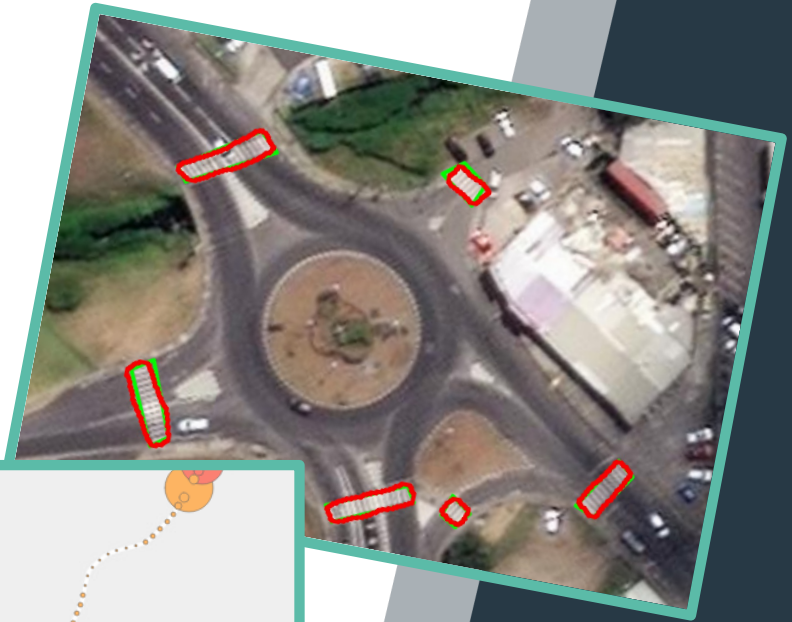
- In-Vehicle Video
- Computer Vision
- Detect:
 - Pedestrians
 - Pedal Cyclists
 - Motorcyclists





Road Infrastructure

- Zebra Crossings
- Speed Limits
- In future:
 - Road Surface Quality
 - Road Width
 - Number of Lanes
 - Delineation

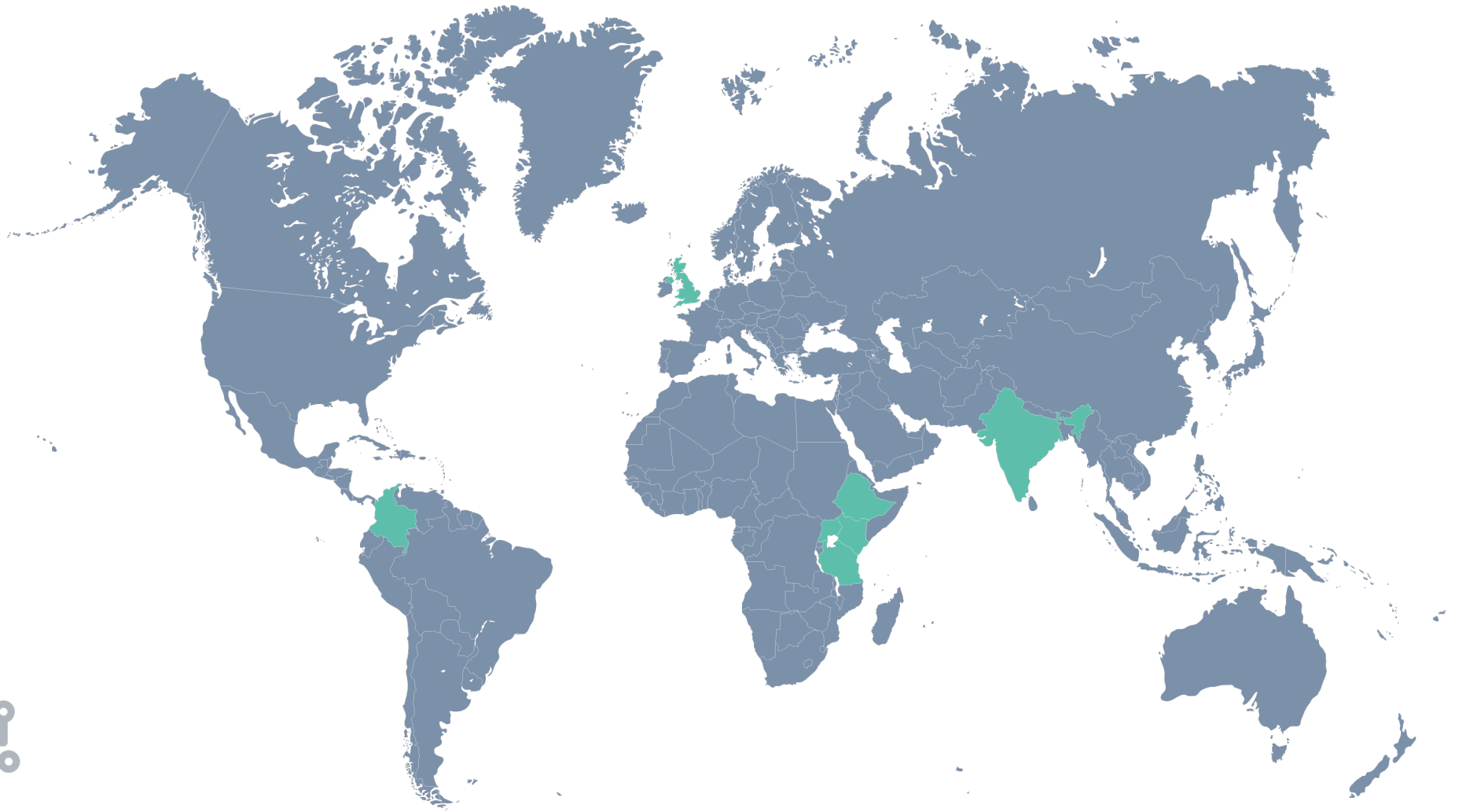




Accredited

- Accreditation for the conversion of source data into iRAP attributes
 - Using AI or machine learning methods
- ✓ aiRAP accredited 3 road safety attributes in rural areas:
- ✓ Average Speed
 - ✓ 85th Percentile Speed
 - ✓ Traffic Flow







globalroads