

Humanitarian Innovation Hackathon



11 SUSTAINABLE CITIES
AND COMMUNITIES



THE GLOBAL GOALS
For Sustainable Development

Hackathon Challenge A

Addressing the transportation data gaps in order to design solutions in developing nations.

Overview

The daily journey to work is a primary activity that connects billions of people to their workplaces and therefore to their means of employment and income each day. This relationship is particularly complex in developing countries, where high degrees of variation, diversity, and socio-economic inequalities exist in mode choice, travel times, private versus public transit options and usage, and other key demographic attributes, such as trip chaining based on purpose, or daily behavioural patterns.

This also represents one of the biggest data challenges and solutions. For example, India recently crossed China to become the most populated country on the planet. China and India combined represent more than a third of the world population and are geographically co-located. But there are massive data gaps – national censuses are delayed or cancelled, and large geographic, social, and political variations between states within a nation can lead to different patterns of data availability, data quality, and data frequency and longitudinal archives.

This data gap results in a lack of information and understanding of the transport needs of the poorest and most vulnerable sections of the population¹. While higher-income households have access to motorised private transport, there is an astonishing diversity in how, when, and where the lower-income households organise their daily transport to work. Planning agencies cannot plan for effective transport solutions till such data gaps are addressed.

Challenge Task

Design new innovative data sources to address the data gap in transport network structure and dynamic transport behaviour (mode choice, travel times, private versus public options and usage, trip chaining and daily behavioural patterns pertaining to the journey to work) for developing countries and cities. The solution should have a focus on lower-income communities, consider combining multiple data sources and be globally transferrable across geographic and demographic contexts.

SDG Targets

- **SDG 11.** Make cities and human settlements inclusive, safe, resilient and sustainable².
- **Target 11.2.** By 2030, provide access to safe, affordable, accessible, and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons.



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References

1. BBC, 2016, Commuters tales: No room to sit even in toilets, <https://www.bbc.com/news/magazine-35541660>
2. United Nations, 2023. SDG 11. Sustainable cities and communities. <https://sdgs.un.org/goals/goal11>