Update on Progress of Monitoring SDG 11.2.1 “Access to Public Transport”

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SDG 11.2 “Access to Public Transport”

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, and children, persons with disabilities and older persons

Indicator 11.2.1 (Tier II)
Proportion of the population that has convenient access to public transport by sex, age and persons with disabilities

Custodian Agency:
UN-HABITAT
FOR A BETTER URBAN FUTURE
Monitoring Not For the Sake of Monitoring and Reporting…but for informed policy-making

• Monitoring Frameworks and Data Systems need to be developed to build capacity, direct action and track progress, compare and forecast

• UN is tasked to develop simple, but meaningful indicators and methodologies, that are universal in their application
Metadata Methodology – a guide to assist Nat. and Loc. Governments to monitor and report on SDGs

Sustainable Development Goal 11

METADATA FOR INDICATOR 11.2.1
Category: Tier II
Contributor: UN-HABITAT FOR A BETTER URBAN FUTURE

1. TARGET AND INDICATOR

Target 11.2.1: By 2030, provide access to safe, affordable, accessible, and sustainable transport services for all, improving road safety, notably by expanding public transport, with special emphasis on the needs of those in vulnerable situations, women, and children, persons with disabilities and older persons.

11.2.1.1: Proportion of the population that has convenient access to public transport by age, sex, and persons with disabilities

DEFINITION AND METHOD OF COMPUTATIONS

This indicator aims to systematically monitor the use and access of public transportation systems and new modes using a range of indicators on the performance of public transport, including the access to areas with high concentrations of transport-disadvantaged groups such as elderly persons, physically challenged individuals, and low-income earners of low- and middle-income countries.

The accessibility of public transport services is measured through a series of indicators related to the service area of the transport mode, the frequency and quality of services, the distance to the transport stops, and the travel time to the transport stops.

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Method of Computations

The indicator is composed based on the following criteria:

a. The definition of service area is typically achieved using the buffer zones, which are defined as areas within a specified distance from each transport stop. The size of the buffer zone depends on the characteristics of the transport mode and the frequency and quality of services.

b. The accessibility of public transport services is measured through a range of indicators related to the service area of the transport mode, the frequency and quality of services, the distance to the transport stops, and the travel time to the transport stops.

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The Transport Community is discussing SDG 11.2.1 and monitoring methodology

- EGM held on 19-20 Oct 2017 in Berlin
- Virtual EGM held on 1 April 2019
Global Partnerships and coordination are a strategic pre-requisite for SDG 11 monitoring and reporting.

Collection of data and upscaling of efforts to track SDG 11 targets and indicators require new partnerships and better coordination at the local, national and global levels, including those with organizations generating non-traditional forms of data.
UPDATES TO METADATA
Core Indicator of 500 m Walking Access to transit stop (instead of buffer)

From buffer to road network - distance of 500 m (or 1km)
A tiered system – Sub-Indicators

Alternative metrics of “convenient access”:
e.g. 1km to high capacity

Transit system performance: e.g.
frequency of service, capacity, safety/security, comfort

Affordability

Modal shift to sustainable transport:
e.g. Modal share, Passenger-KM travelled on a certain mode of transport

Obstacles to reaching stations:
Universal Accessibility

Access to opportunities:
Achieving a higher level of “convenient access”
UN Habitat Interventions

Ideal Scenario:
Countries are capacitated and report on SDG 11.2 to UN-Habitat and partners

Reality:
Capacity gaps and lack of tools in Countries

Actions include:
• Bring together actors/experts to support
• Develop methodologies and tools
• Train countries on broad indicator aspects
• Support direct data generation initiatives
• Quality control
• Use of data

Goal is to empower national agencies to generate data, report and inform action
Data on SDG 11.2.1 is available for more than 500 cities

Share of population with access to public transport

- Global Average: 49%
- Sub-Saharan Africa: 35%
- Central Asia and Southern Asia: 37%
- Eastern Asia and South-eastern Asia: 41%
- Western Asia and Northern Africa: 48%
- Latin America and the Caribbean: 54%
- Northern America and Europe: 72%
- Australia and New Zealand: 80%

• Demand for public transport has been on a rise worldwide, but access to public transport is enjoyed by few urban residents.
• Investing in smart, green and integrated transport systems that are inclusive, safe, accessible and affordable contributes to inclusive development where no one is left behind, and isolation and marginalization is reduced.
Data Situation

- Different actors generating transport data
- Huge variation in data availability in countries
  - City/National level – GIS format data
  - Open sources – OSM/GTFS
- Capacities to generate data at the local level
- Data sharing challenges in countries e.g. between ministries in charge of transport and the SDG monitoring units
- Resolution of population data (spatial and temporal)
- Challenges gathering qualitative data (frequency of modes, comfort/accessibility/safety, convenience)
Implementation Methodology

Training Manual
DATA INPUTS AND PROCESSING
Data Compilation Work Flow

City Level Data on Location of Public transport stops and street networks available

Create service areas per thresholds

Integrate population and estimate share with access

Visualize data, integrate qualitative aspects for decision making

Gather Data

Validation by Countries / cities

Where city level data is not available

- OSM
- GTFS
- Google Streets (tile server)
- Other Sources
  - WhereIsMyTransport
  - ITDP
  - WB
Establish the functional urban area

Step: 1

Urban Extents Approach
Population (2015) 1,327,498

DEGURBA Approach
Population (2015) 1,325,067

Pop. Data source: GHSL Population Grids, 250M
Collect data on location of public transport stops

- From city authorities, ministries in charge of transport, etc.
- Open source platforms – e.g. OSM, GTFS
- Extraction from satellite imagery, google streets tiles

Detail of data available from open sources varies greatly across cities

General Transit Feed Specifications has downloadable data on location of stops, frequency of service, etc. for some cities

Google streets can be used as source of data

Visual interpretation from high resolution imagery offer a good data source where general public transport structure is known
Create service area for each bus stop

- Access to public transport is measured by delimiting areas within 500 meters walking distance along street network to bus stops, 1000m to high capacity modes
- Service areas for all spaces merged to avoid double counting (GIS network analyst tools)
- Identify barriers to accessing stops – e.g. where streets are not walkable, where pedestrian crossings/bridges are missing on major highways
Integrate population data

How many people live in the enclosed area?

- NSO high resolution population data
- Gridded population
Step: 5 Compute indicator for total population and different interest groups

\[
\text{% with access to public transport} = 100 \times \frac{\text{Population with convenient access to public transport}}{\text{City Population}}
\]

Disaggregate by:
- Age
- Gender
- Persons with disabilities

There is a major challenge of disaggregating the indicator by different groups where high resolution population data is lacking.
**Database creation**

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Global Sample of Cities (200 Cities) – Data Generated > Computations done > packaged and sharing with countries for validation ongoing

National Sample of Cities (300 Cities) – Data Generated > Computations done > packaged and sharing with countries for validation ongoing
Challenge (formal vs. informal transport)

Bus stops available on OSM and Google street (formal)

Bus stops gathered from a detailed survey by ITDP (formal and informal)
Challenge (formal vs. informal transport)

Population with access to PT = \( \frac{487,588}{3,076,879} = 15.8\% \)

Population with access to PT = \( \frac{1,555,521}{3,076,879} = 50.6\% \)
NEXT STEP

• Submission of revised metadata and data for tier reclassification to UNSD/ IAEG-SDGs

• Support to countries for data collection and reporting

• Pilots on Disaggregation

• Establishment of global urban indicators platform