Measuring progress against the Sustainable Development Goals (SDG) and implementing the New Urban Agenda

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A Global Vision to Promote Sustainable Urban Mobility

Better facilities for Walking & Cycling + Improved Public Transport = Universal Access = Cities for All

Reduction of transport emissions, zero emission mobility

Sustainable Mobility contributes to all Global Commitments
Action Framework for Sustainable Urban Mobility in the New Urban Agenda

National Policies
- National Urban and Mobility Policies, Integration between transport, urban, environmental policies, Road safety targets, laws etc.

Urban Regulations
- Sustainable Urban Mobility Plans, urban regulations such as limits on parking, development control

Financing
- National allocation, municipal revenues, Prioritising Sustainable Mobility in IFI negotiations, charges, e.g. for parking, taxation

Urban Planning and Design
- Mixed land use, compact and dense neighborhoods, ToD, complete street designs, parks and public spaces

Physical Implementation
- Action, Re-designs, Pilot projects, Road Safety Events, Open Street Days, Intersections
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
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
Updates To Metadata: 1

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

<table>
<thead>
<tr>
<th>Metric</th>
<th>Details</th>
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<tr>
<td>Alternative metrics of “convenient access”:</td>
<td>e.g. 1km to high capacity</td>
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<tr>
<td>Transit system performance:</td>
<td>e.g. frequency of service, capacity, safety/security, comfort</td>
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<tr>
<td>Affordability</td>
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<td>Modal shift to sustainable transport:</td>
<td>e.g. Modal share, Passenger-KM travelled on a certain mode of transport</td>
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<td>Obstacles to reaching stations:</td>
<td>Universal Accessibility</td>
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<td>Access to opportunities:</td>
<td>Achieving a higher level of “convenient access”</td>
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</table>
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

Goal is to empower national agencies to generate data, report and inform action

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
Data on SDG 11.2.1 is available for more than 600 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.
European Commission submitting data for almost 700 cities

- Alignment of Methodology ongoing
- Updates ongoing to include frequency of departures for more than 450 cities in Europe
- Linking spatial access with quality indicators
Data Situation

- Different actors generating transport data → Data sharing challenges
- 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
- Resolution of population data (spatial and temporal)
- Challenges gathering qualitative data (frequency of modes, comfort/accessibility/safety, convenience)

Available data for Kampala (left) and Milan (right) on public transport from online sources.
Data Compilation Work Flow

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

Create service areas of 500 m walking access to PT stop

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

**Legend**
- FUA - Urban Extents approach*
- FUA - DEGURBA Approach**

*Pop. Data source: GHSL Population Grids, 250M*

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<td>DEGURBA Approach</td>
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(EXAMPLE CASE: ULAANBAATAR, MONGOLIA)
Step 2: 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

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.
Step 3

Create service area for each bus stop

- 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
Step: 4
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

Data Generated > Computations done > packaged and sharing with countries for **validation ongoing**

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Global and National Sample of Cities
Challenge (stops known from open sources VS stops known after paratransit mapping)

Bus stops available on OSM and Google street

Bus stops gathered from a detailed survey by ITDP
Challenge (access based on open sources VS access known after paratransit mapping)

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

Population with access to PT = \( \frac{1,555,521}{3,076,879} = 50.6\% \)
Job accessibility indicators of different parts of Cairo in 2019.

Data source: Transport For Cairo GTFS feed, opportunities dataset, CAPMAS population dataset; in WB funded study “Multimodal transport strategy for the Greater Cairo Region”, draft 2019
NEXT STEP

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

• Collaborate with partners to support to countries for data collection and reporting

• Pilots on Disaggregation

• Establishment of global urban indicators platform

• Complementing existing spatial indicator with qualitative analysis
THE WALKING AND PUBLIC TRANSPORT INDICATOR FRAMEWORK

PRINCIPLE INDICATORS
A1. OVERALL EXPERIENCE
A2. SAFETY
A3. SECURITY
A4. WALKING INFRASTRUCTURE
A5. PUBLIC TRANSPORT INFRASTRUCTURE
A6. OPERATIONAL PERFORMANCE
A7. IMPACT OF MOTORISED TRAFFIC ON WALKABILITY

PRINCIPLE INDICATORS
B1. DAILY TRIPS

PRINCIPLE INDICATORS
C1. ACCESS TO PUBLIC TRANSPORT STOPS
C2. ACCESS TO JOBS AND SERVICES

PRINCIPLE INDICATORS
D1. INFORMATION
D2. AVAILABILITY OF WALKING AMENITIES
D3. AFFORDABILITY
D4. INCENTIVES

UN-OHABITAT
FOR A BETTER URBAN FUTURE
Bringing it together ...The New Urban Agenda

Implementing The NUA

- Coordinated National Policies (Urban, Transport, Energy Environment)
- Financing and Implementation
- Walking, Cycling and Public Transport and Public Spaces
- Monitoring; Indicators and Targets
- Metropolitan Level Transport Authority
- Inclusion and Environmental Sustainability