



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)

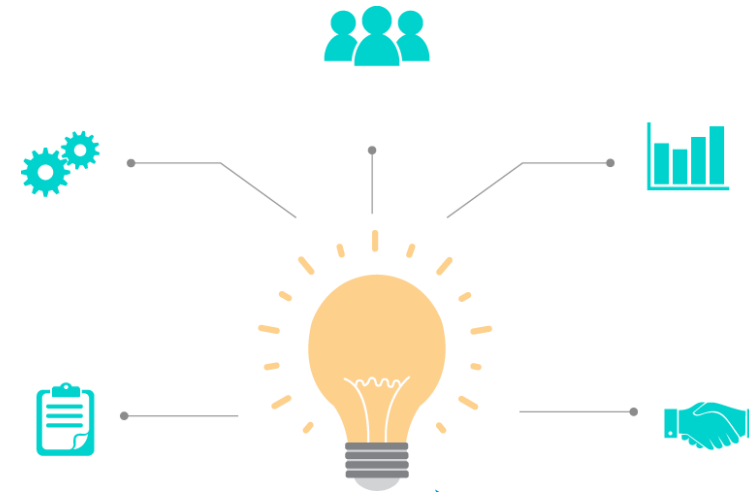
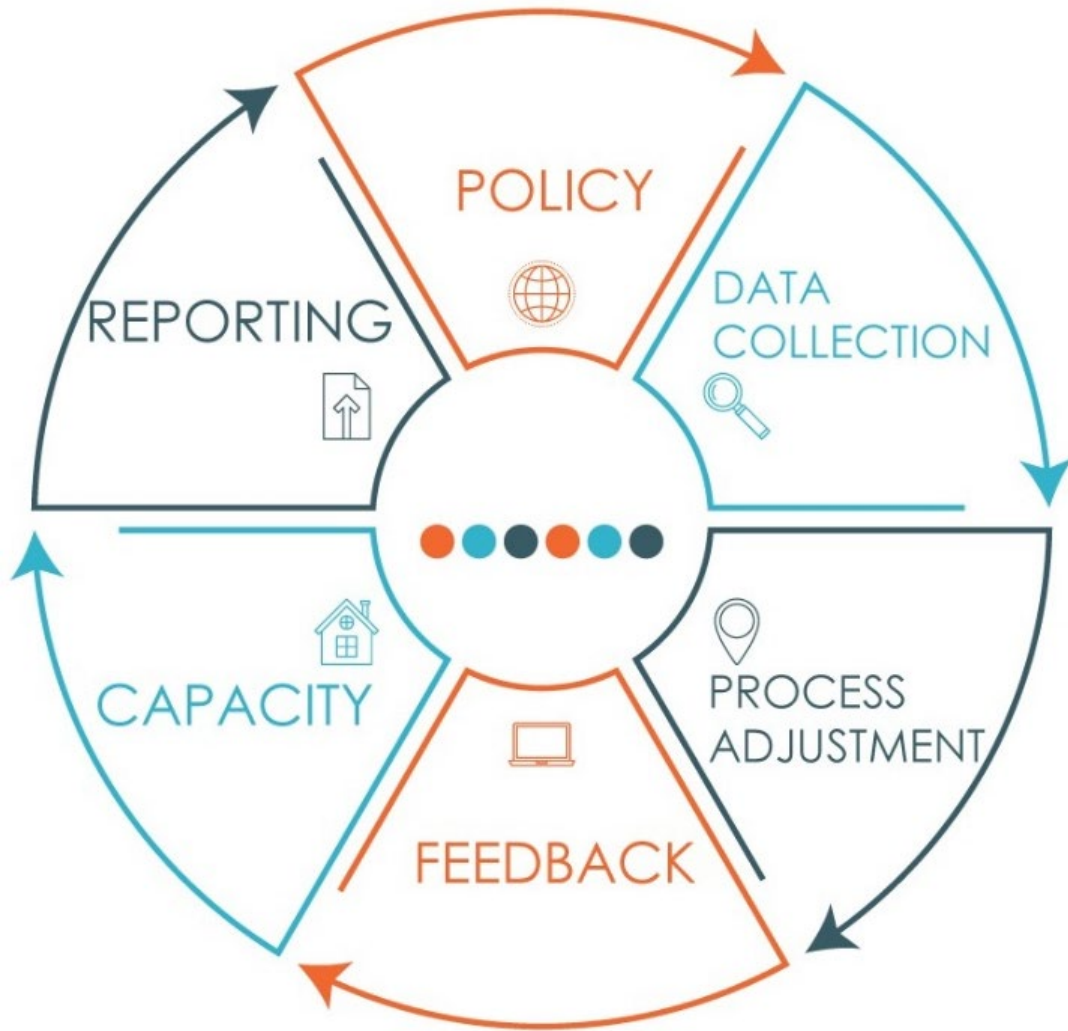
Proportion of the population that has **convenient access to public transport** by sex, age and persons with disabilities

Custodian Agency:

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Monitoring Not For the Sake of Monitoring and Reporting...but for informed policy-making

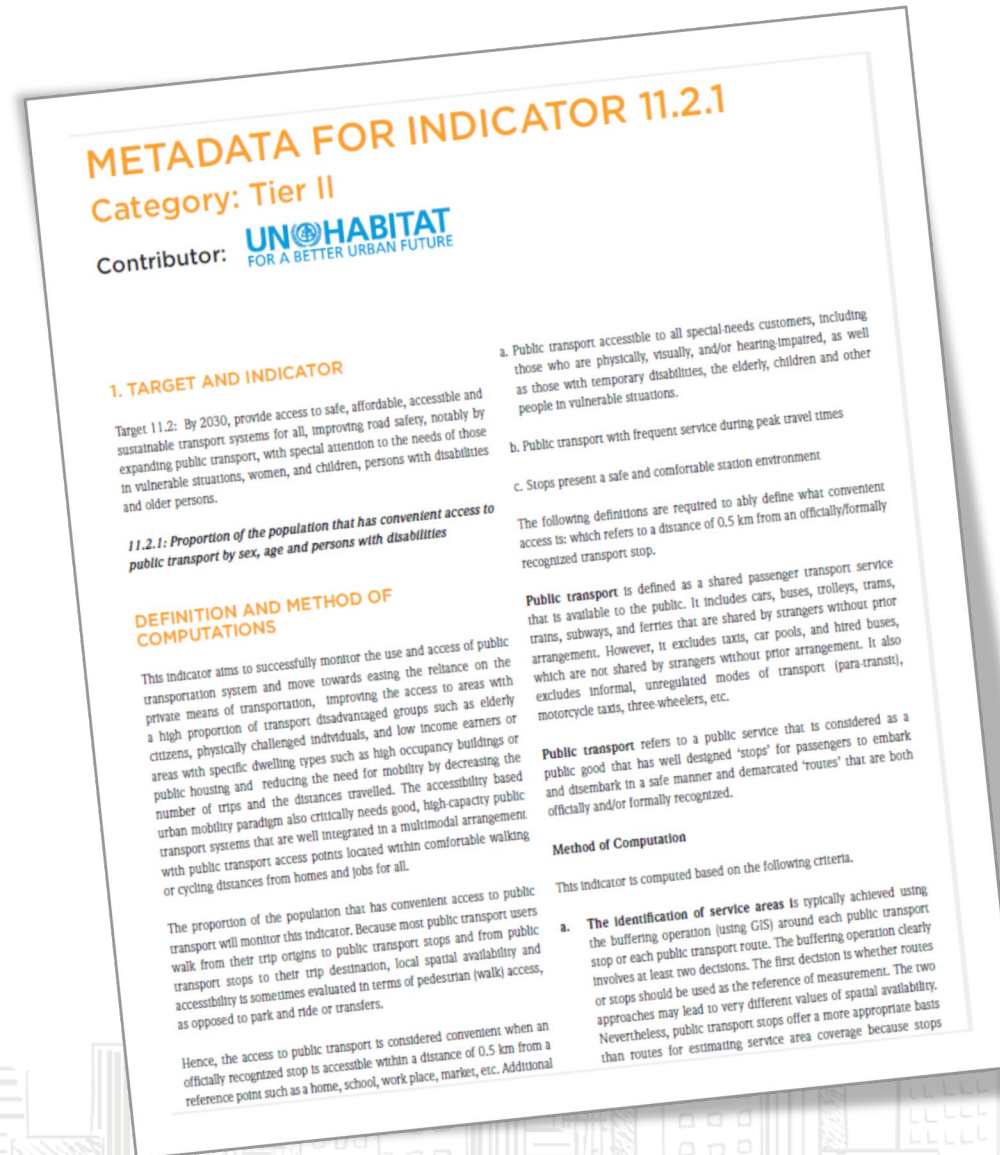
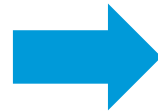


- Monitoring Frameworks and Data Systems need to be developed to build capacity, direct action and track progress, compare and forecast
- UN is tasked to develop simple, but meaningful indicators and methodologies, that are universal in their application

Metadata Methodology – a guide to assist Nat. and Loc. Governments to monitor and report on SDGs



Sustainable Development Goal 11



The Transport Community is discussing SDG 11.2.1 and monitoring methodology



WORLD BANK GROUP

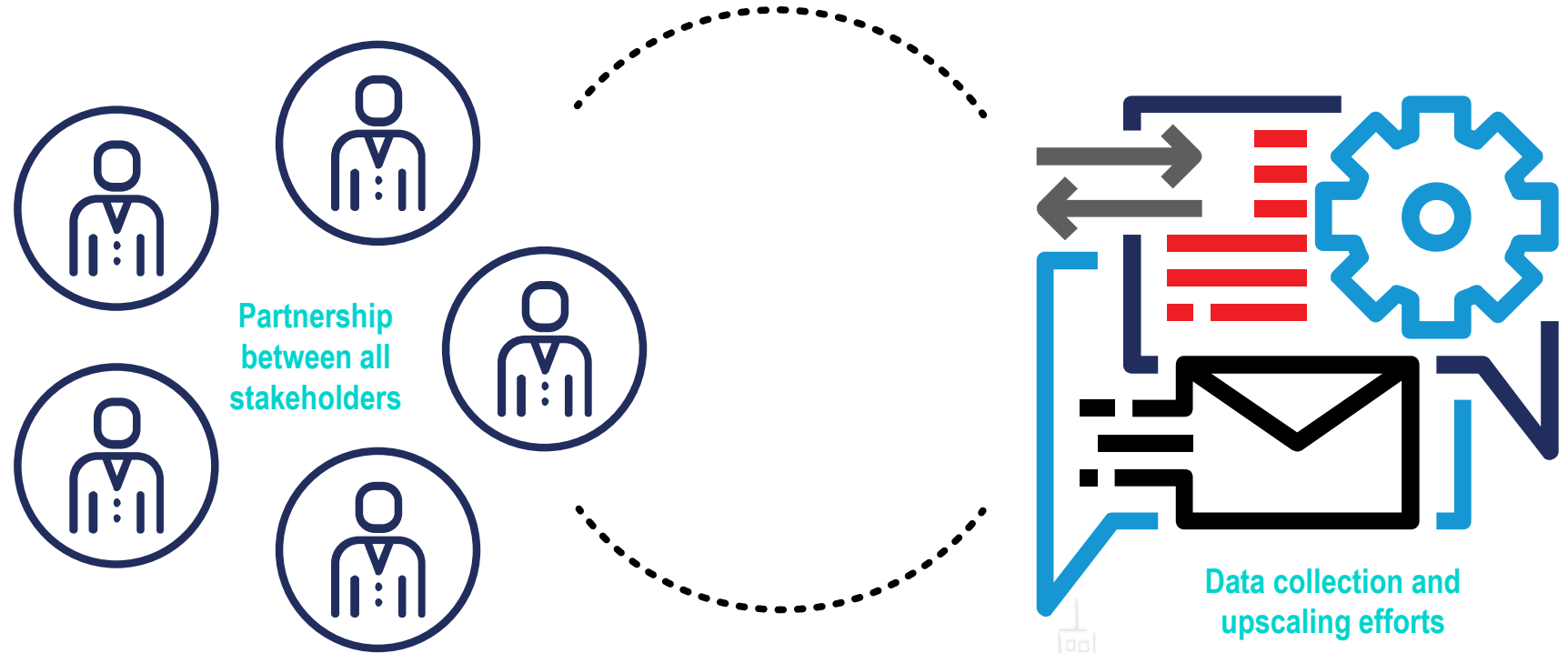


- EGM held on 19-20 Oct 2017 in Berlin
- Virtual EGM held on 1 April 2019



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

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”

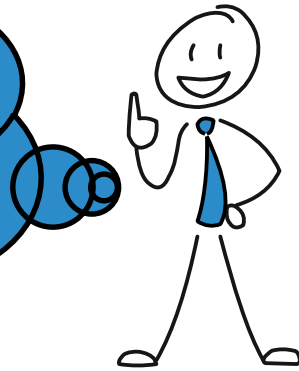


GLOBAL OVERVIEW

UN Habitat Interventions

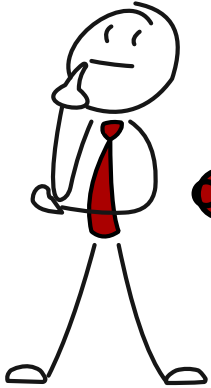
Ideal Scenario:

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



Reality:

Capacity gaps and lack of tools in Countries



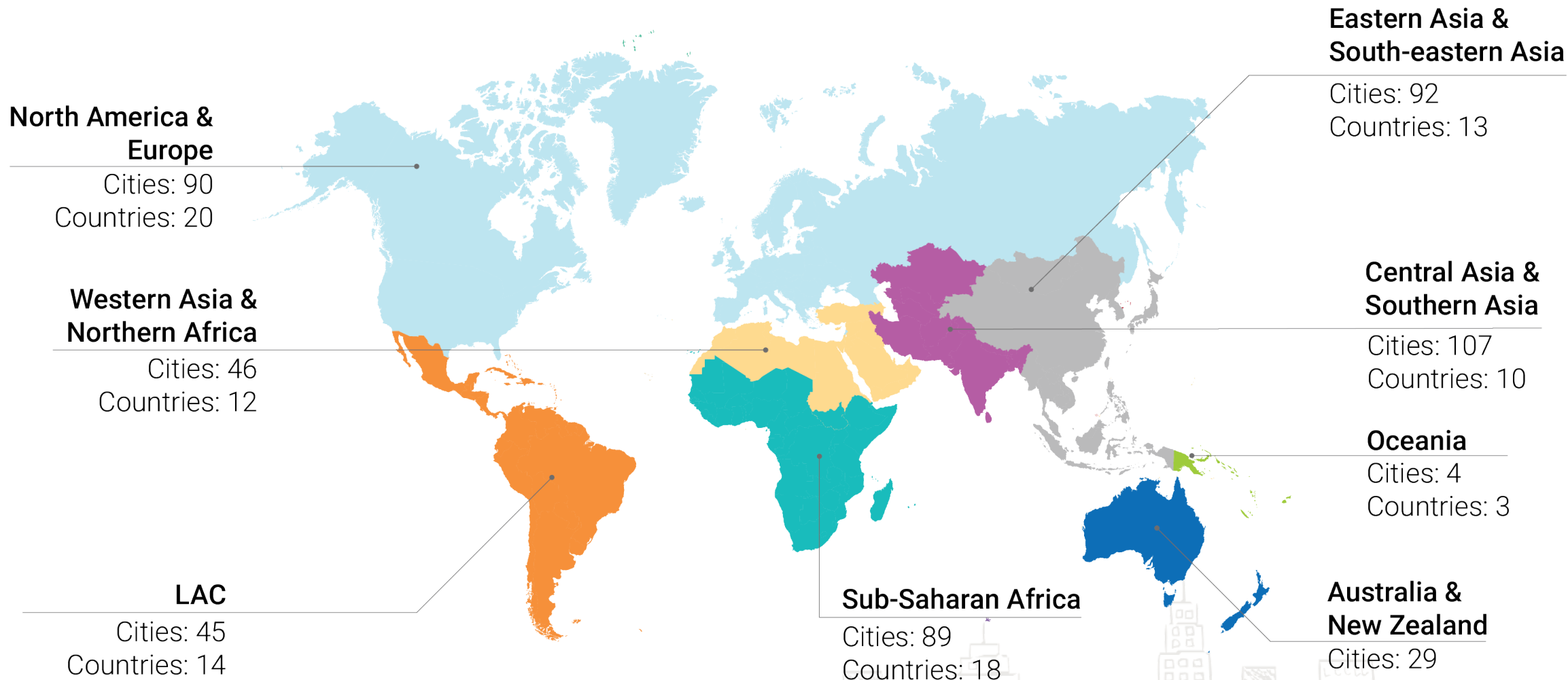
Actions include:

- 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

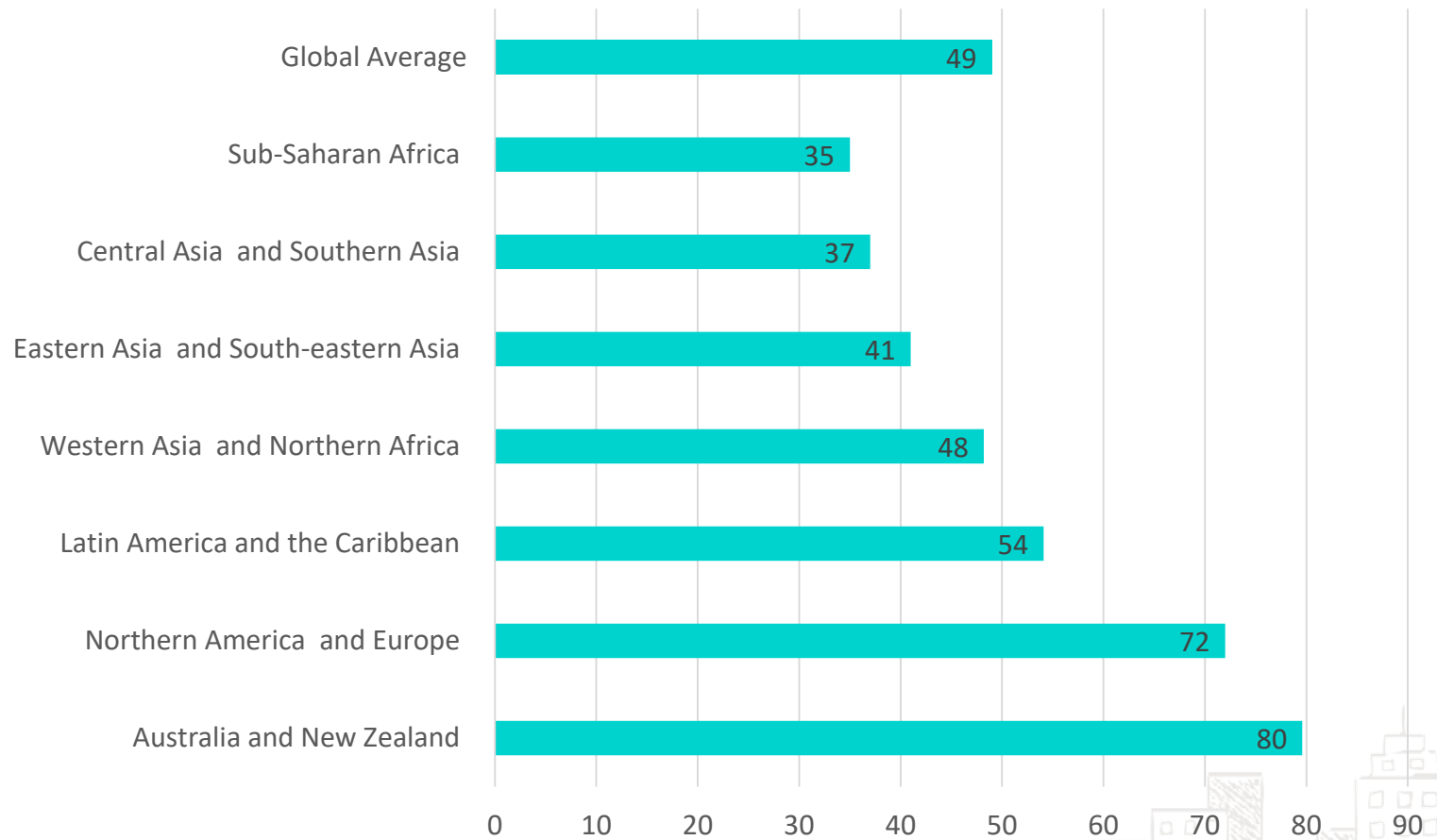


Regional Overview



Data on SDG 11.2.1 is available for more than 500 cities

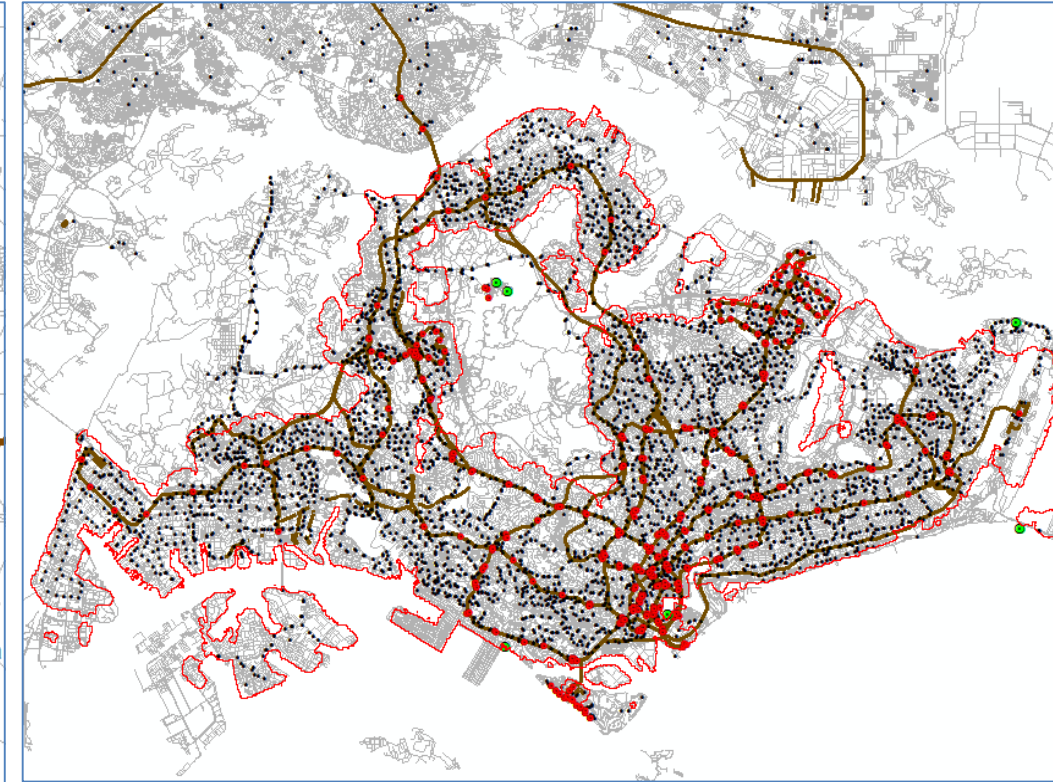
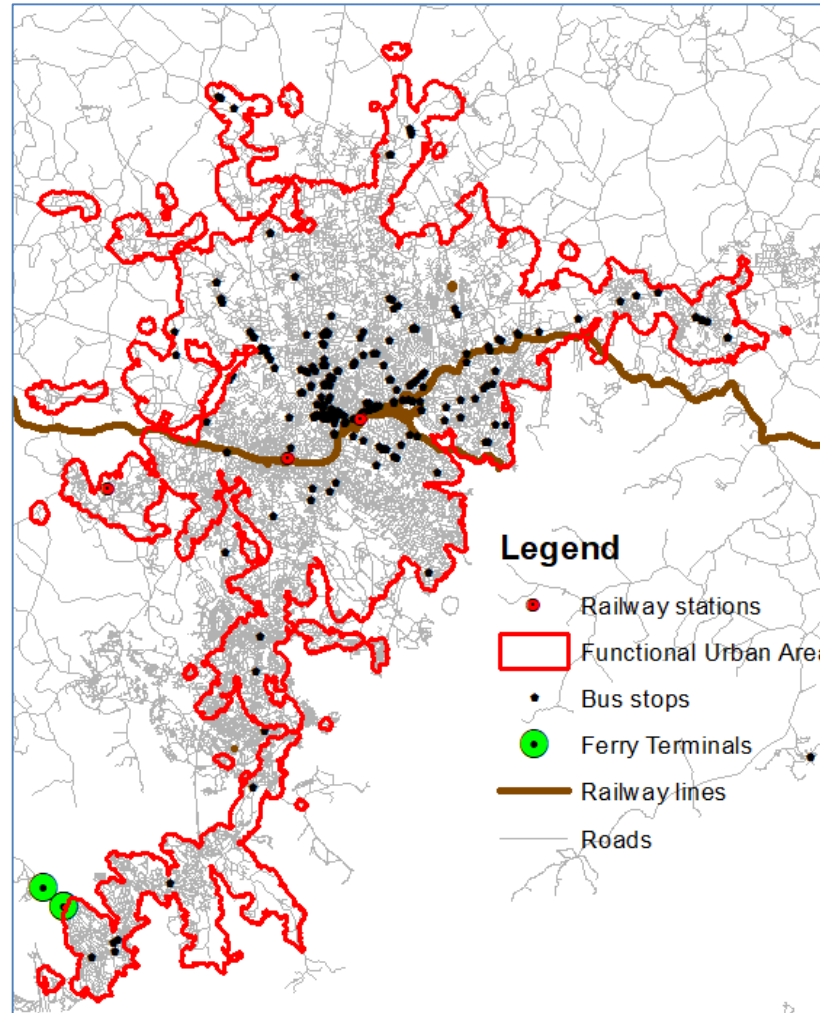
Share of population with access to public transport

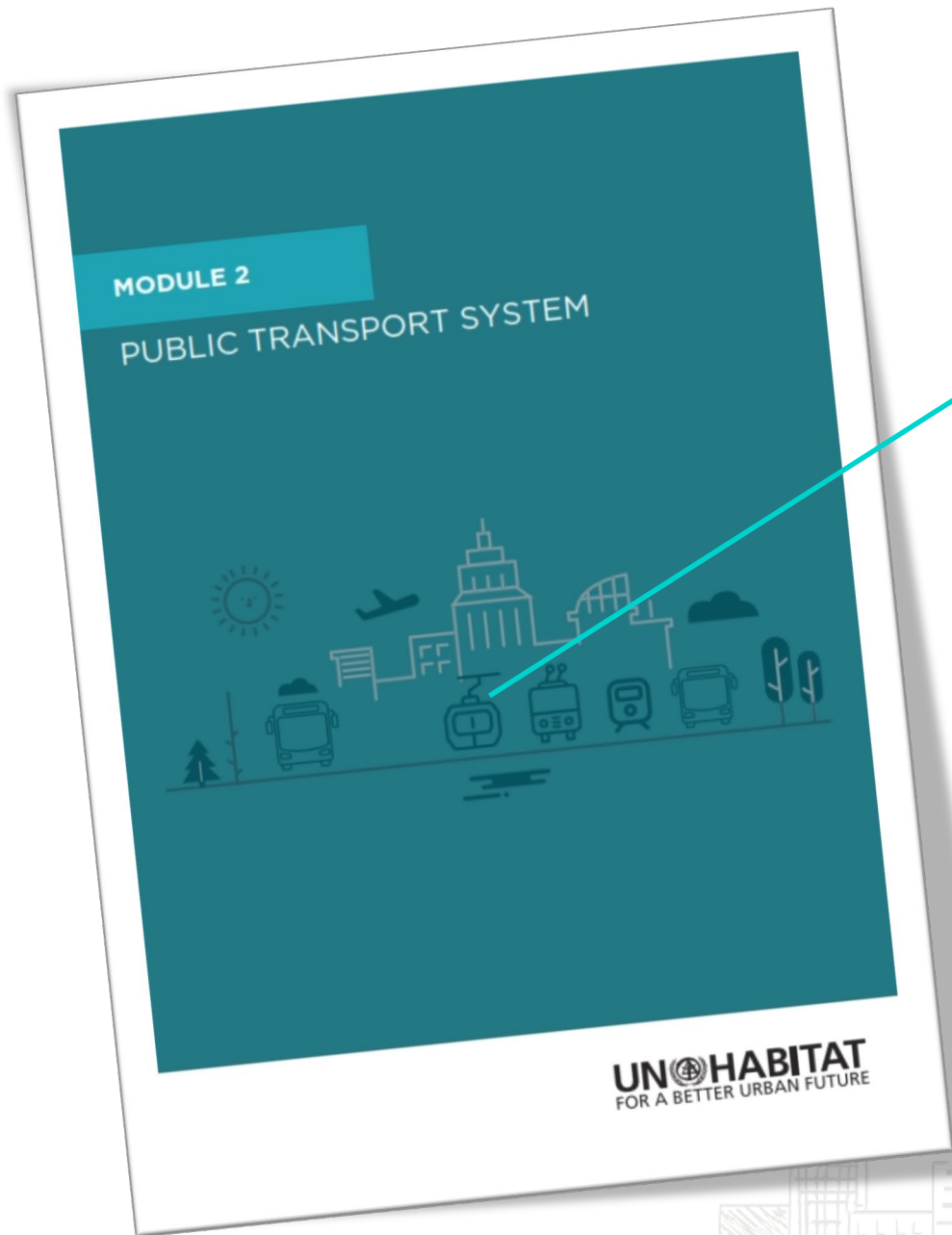


- Demand for public transport *has been on a rise worldwide*, but access to public transport is enjoyed by few urban residents.
- Investing in smart, green and integrated transport systems that are inclusive, safe, accessible and affordable contributes to inclusive development where no one is left behind,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



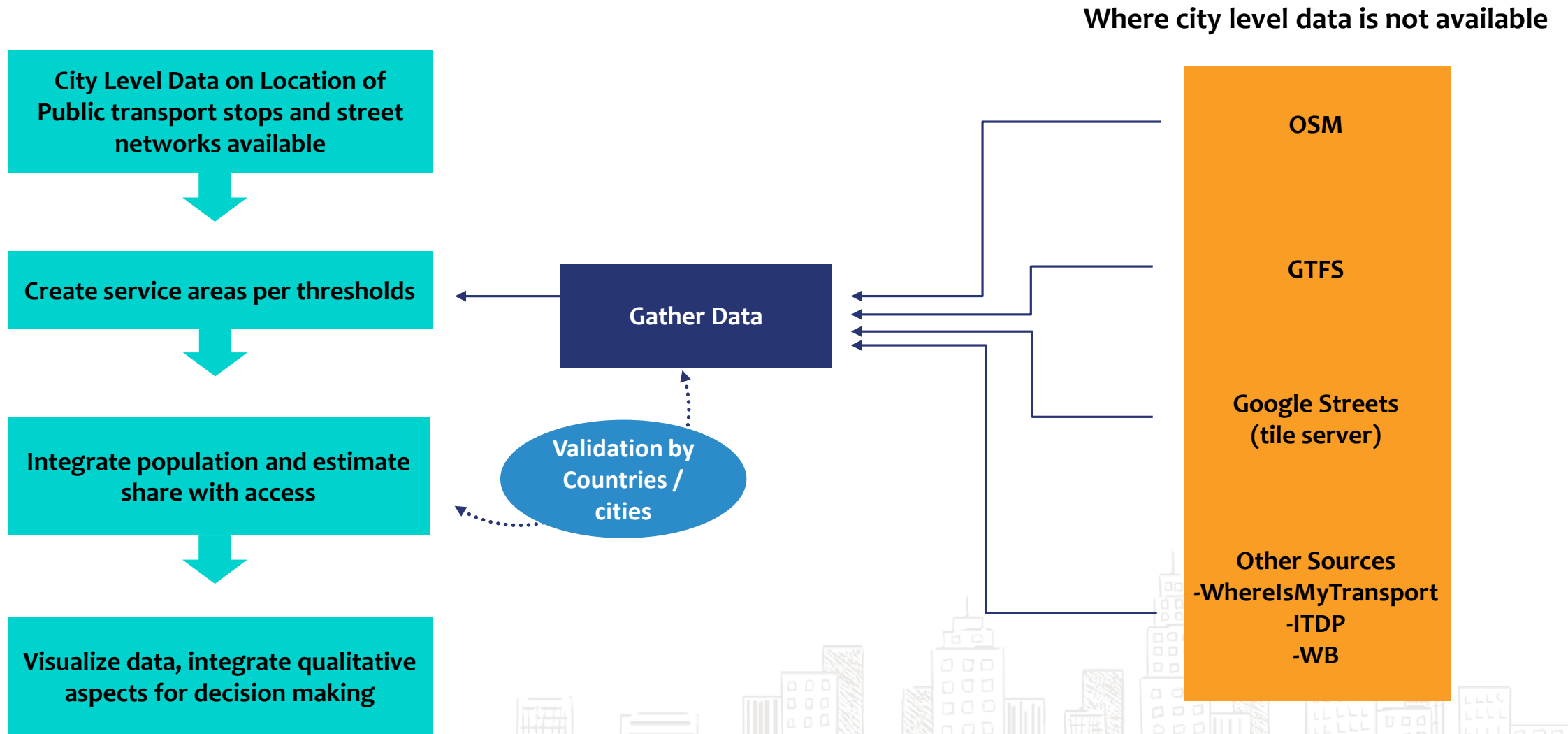


Implementation Methodology
Training Manual



DATA INPUTS AND PROCESSING

Data Compilation Work Flow



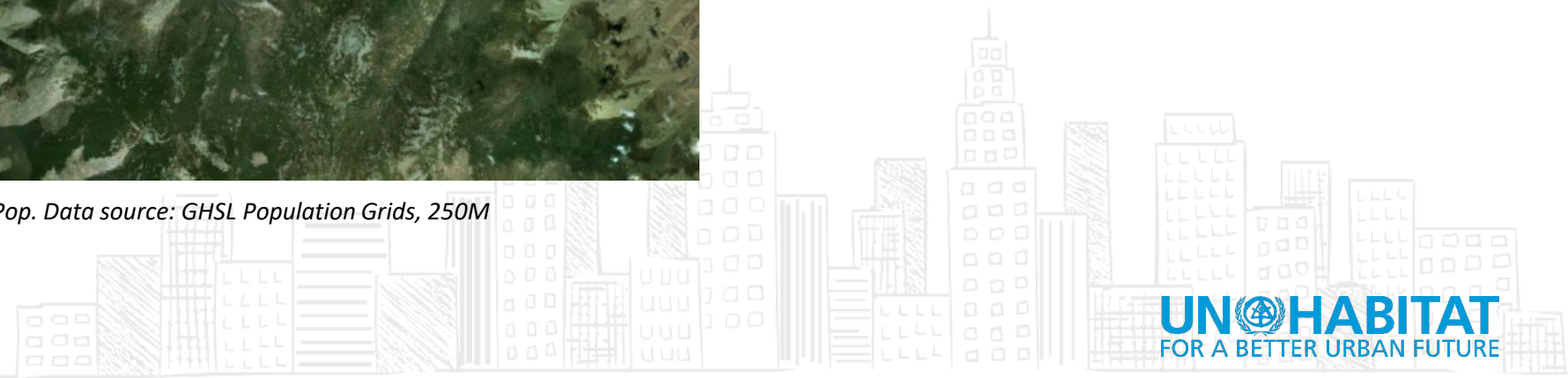
Step: **1**

Establish the functional urban area



Pop. Data source: GHSL Population Grids, 250M

Urban Extents Approach	Population (2015)	1,327,498
DEGURBA Approach	Population (2015)	1,325,067

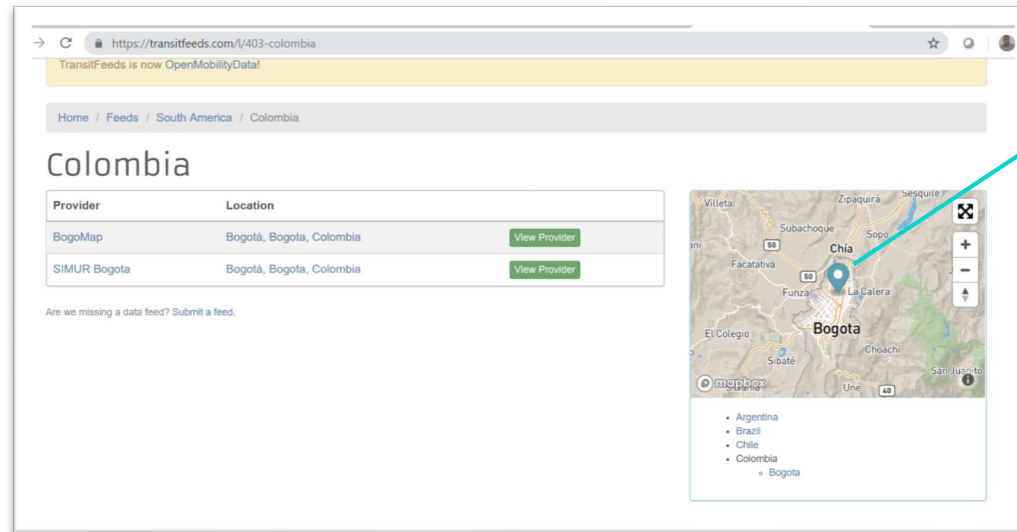


Step: 2

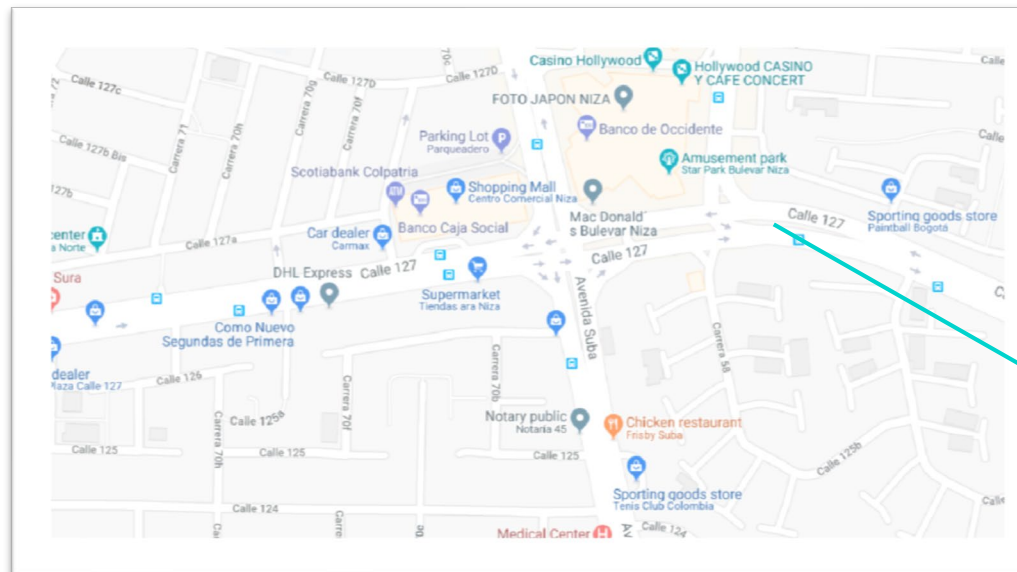
Collect data on location of public transport stops

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

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

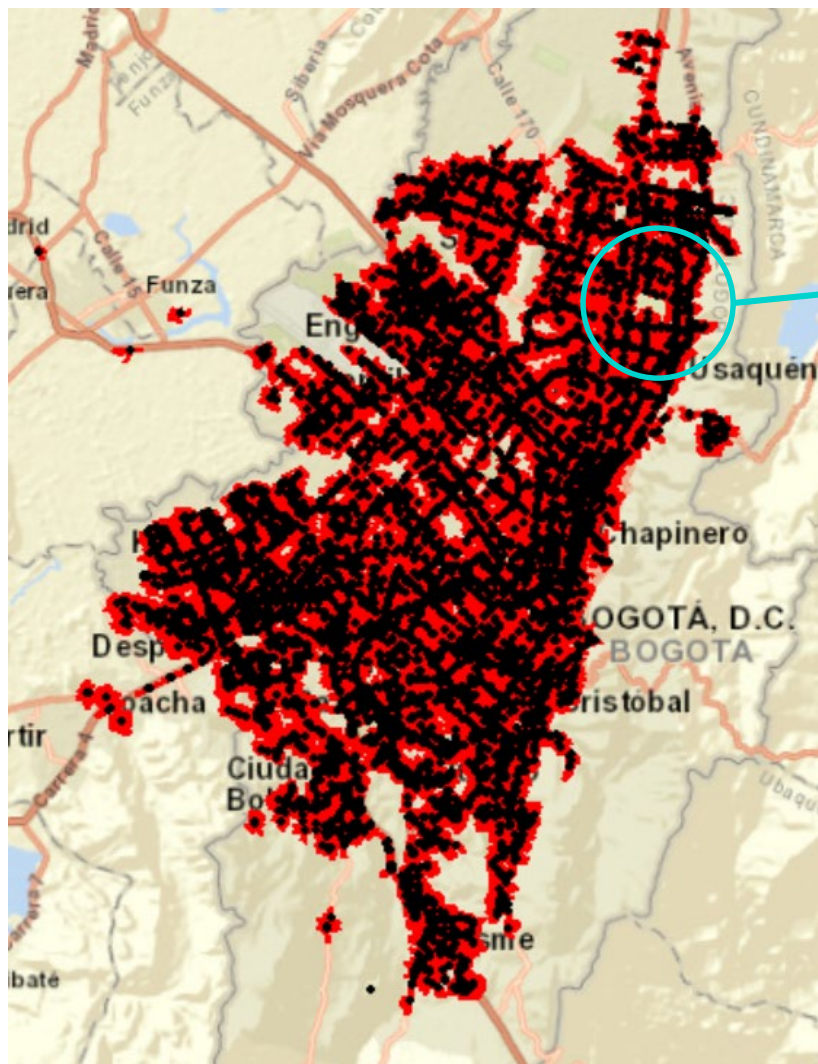


Google streets can be used as source of data

Visual interpretation from high resolution imagery offer a good data source where general public transport structure is known

Step: 3

Create service area for each bus stop



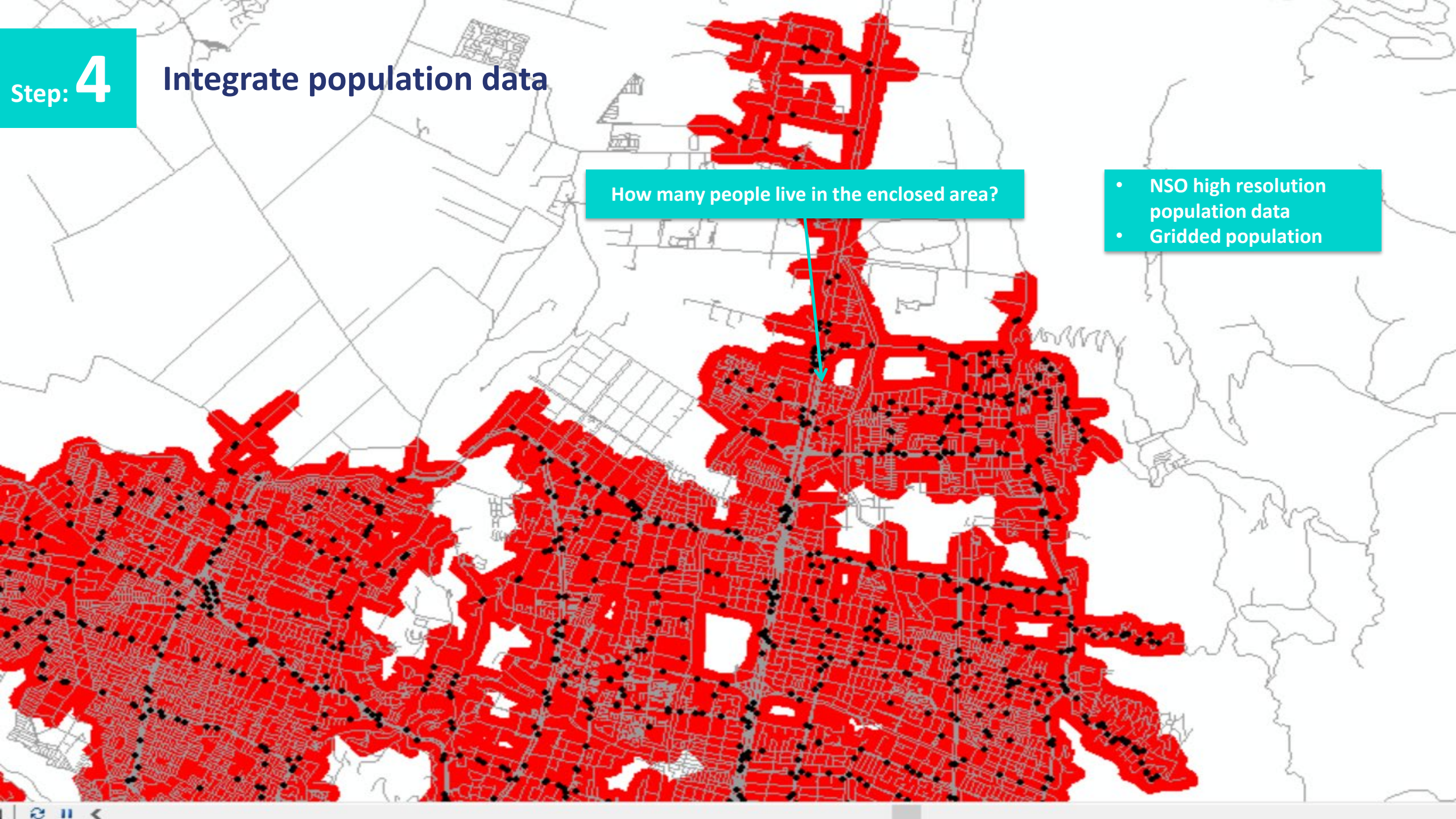
- Access to public transport is measured by delimiting areas within 500 meters walking distance along street network to bus stops, 1000m to high capacity modes
- Service areas for all spaces merged to avoid double counting (GIS network analyst tools)
- Identify barriers to accessing stops – egs where 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



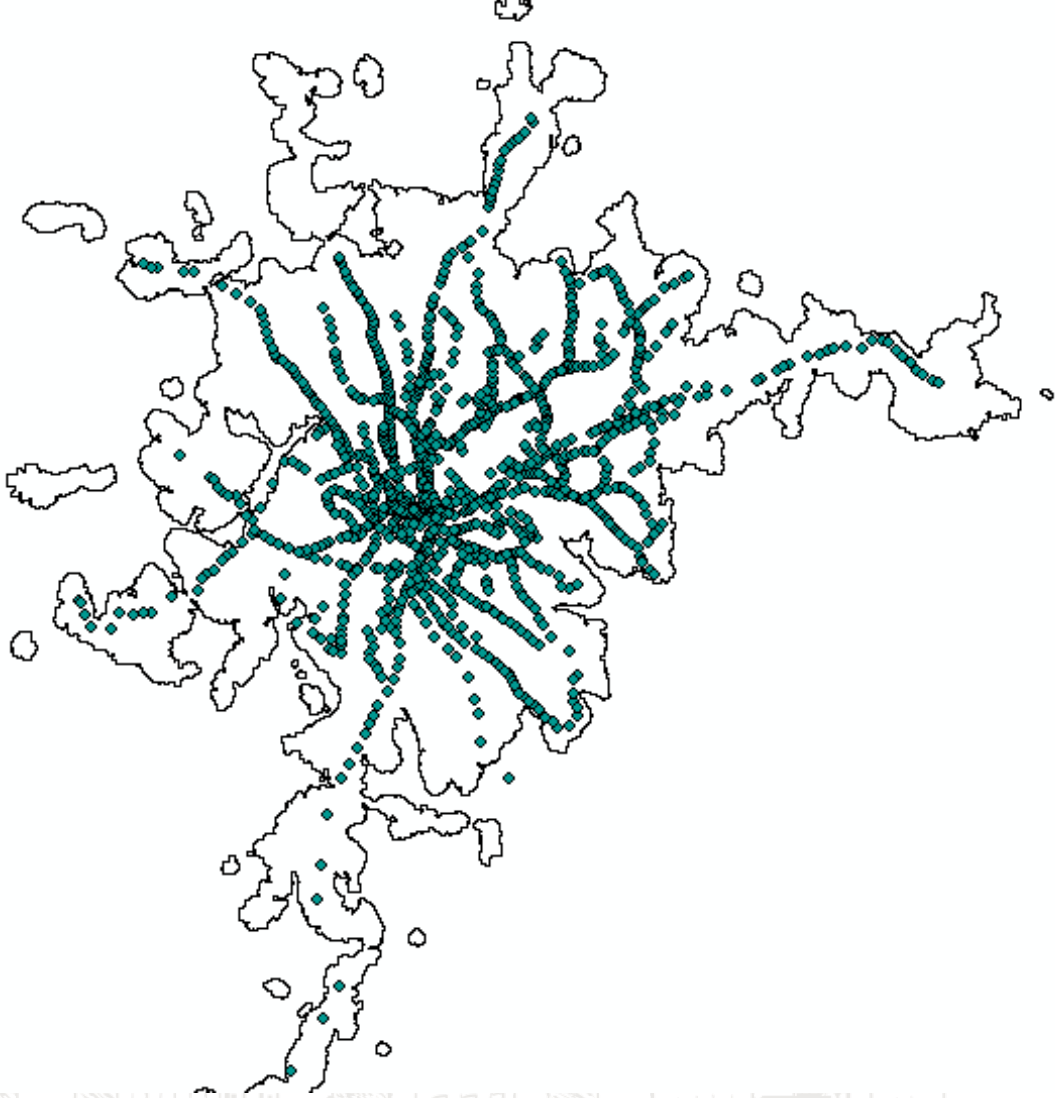
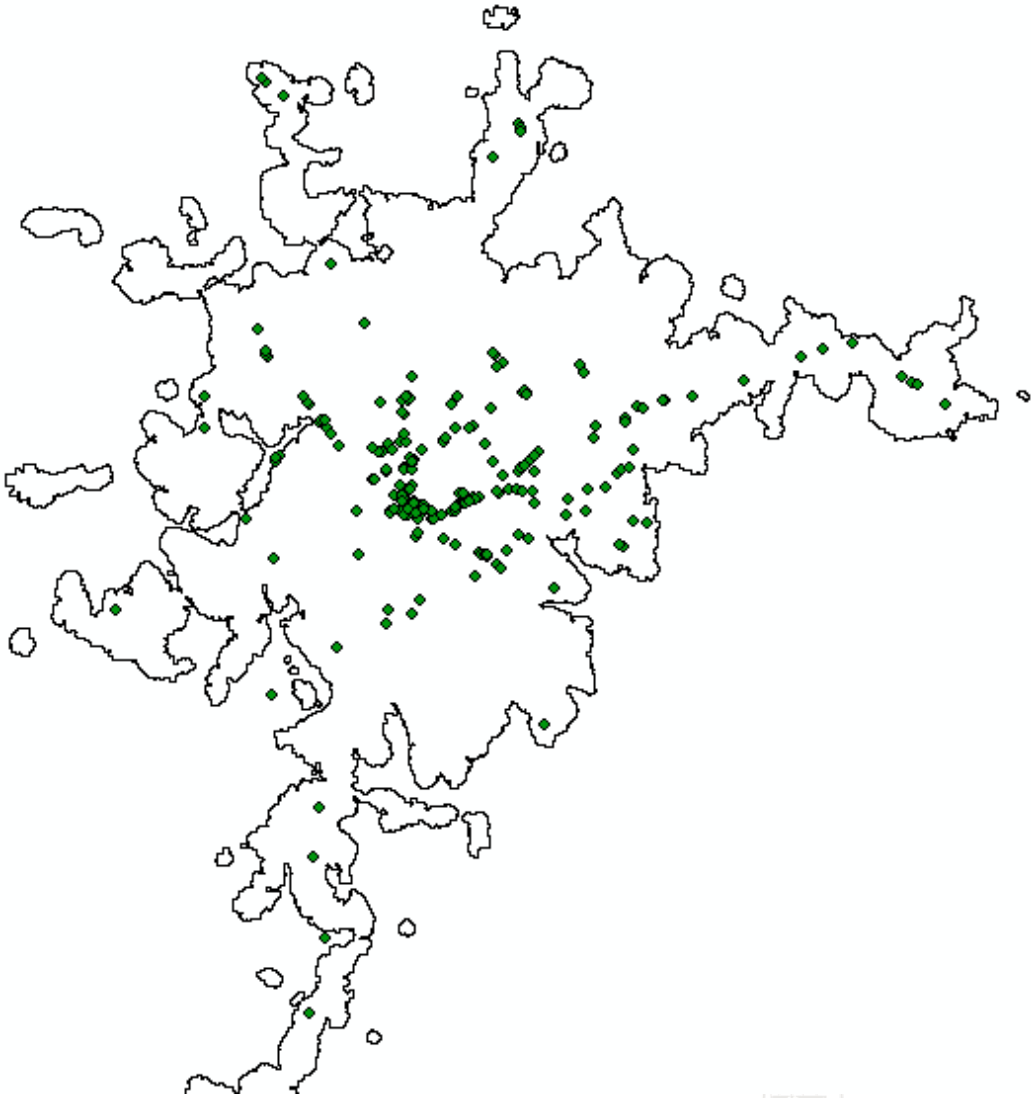
Database creation

A	B	C	H	J	K	L	M	R	S	T	U	V
No.	CITIES	Country	T3 PoP_GHSL	POP_TRANS	POP_BUS	POP_RAIL	POP_FERRY	POP_TRANS%	POP_BUS%	POP_RAIL%	POP_FERRY%	LAS%
No.	City	Country		All Means	Bus_pop	Rail_pop	Fery_pop	% All Trans Access	% for Bus	%for Rail	%Ferry	
174	Tehran	Iran	9,469,118	5,156,588.26	4,371,086.88	2,092,677.32	-	54.46	46.16	22.10	-	28
175	Tel Aviv	Israel	2,547,053	2,219,987.42	2,212,776.07	108,656.51	8,057.56	87.16	86.88	4.27	0.32	22
176	Thessaloniki	Greece	844,835	780,136.21	777,442.46	60,494.73	15,762.42	92.34	92.02	7.16	1.87	21
177	Tianjin, Tianj	China	10,793,362	5,048,310.35	4,738,692.87	2,390,543.80	75.36	46.77	43.90	22.15	0.00	23
178	Tijuana	Mexico	1,791,868	93,442.34	92,600.69	3,587.57	-	5.21	5.17	0.20	-	26
179	Tokyo	Japan	35,077,465	24,036,017.54	19,808,833.31	14,228,767.98	-	68.52	56.47	40.56	-	25
180	Toledo	United States	479,016	254,726.39	254,036.12	2,620.51	-	53.18	53.03	0.55	-	18
181	Tyumen	Russia	607,198	442,646.04	434,508.54	34,414.15	-	72.90	71.56	5.67	-	19
182	Ulaanbaatar	Mongolia	1,325,418	734,703.65	730,645.96	21,657.56	-	55.43	55.13	1.63	-	12
184	Victoria	Canada	323,480	265,024.30	258,421.71	13,147.90	32,297.71	81.93	79.89	4.06	9.98	17
185	Vienna	Austria	1,988,813	1,838,330.05	1,730,328.63	1,381,045.61	26,627.11	92.43	87.00	69.44	1.34	18
186	Vijayawada	India	1,182,713	739,440.34	707,596.98	77,956.91	-	62.52	59.83	6.59	-	18
187	Vinh Long	Vietnam	281,135	26,061.47	26,061.47	-	-	9.27	9.27	-	-	10
188	Warsaw	Poland	2,316,180	2,013,806.43	1,921,390.18	1,191,867.65	37,672.87	86.95	82.96	51.46	1.63	15
189	Wuhan, Hube	China	8,805,969	4,755,160.70	4,392,583.87	2,429,330.13	138,721.90	54.00	49.88	27.59	1.58	23
190	Xingping, Sha	China	265,445	111,827.12	111,827.12	173.25	-	42.13	42.13	0.07	-	17
191	Xucheng, Jian	China	158,423	72,204.36	72,204.36	-	-	45.58	45.58	-	-	24
192	Yamaguchi	Japan	255,404	50,658.55	6,604.14	44,875.31	1,343.76	19.83	2.59	17.57	0.53	29
193	Yanggu, Shar	China	306,094	68,969.47	68,969.47	-	-	22.53	22.53	-	-	15
194	Yiyang, Hunan	China	620,123	327,181.72	327,181.72	4,177.74	-	52.76	52.76	0.67	-	16

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

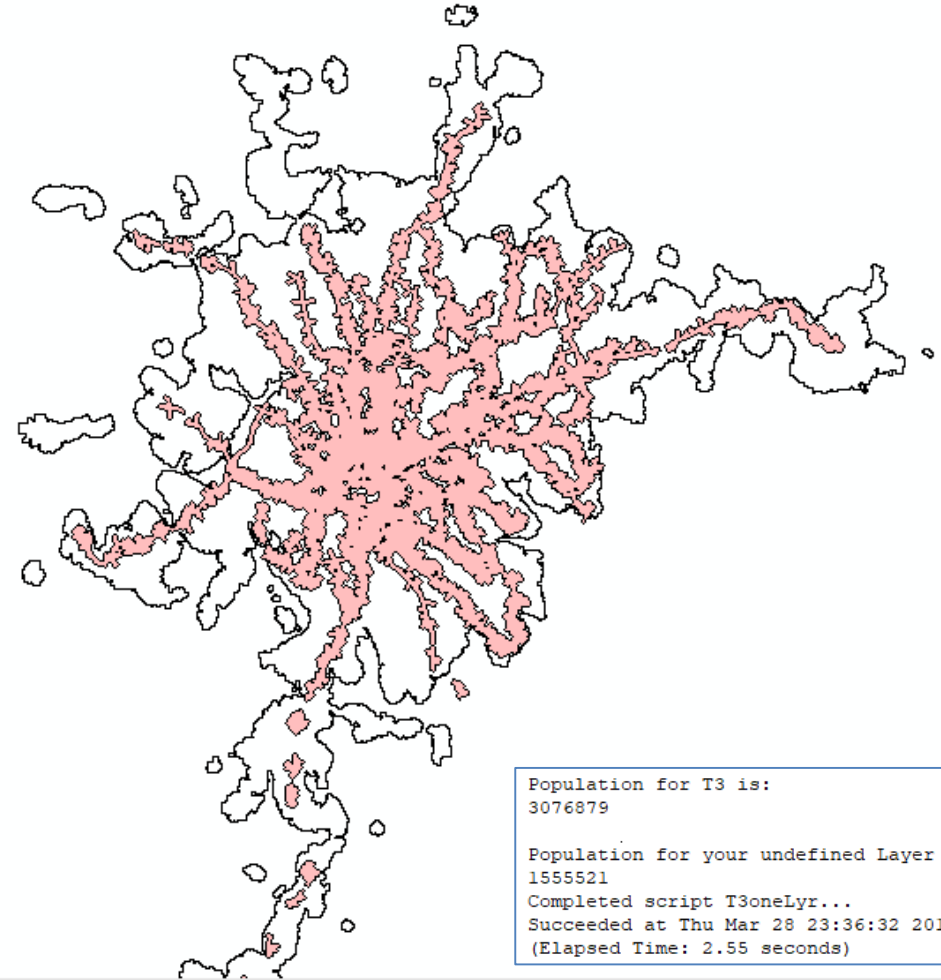
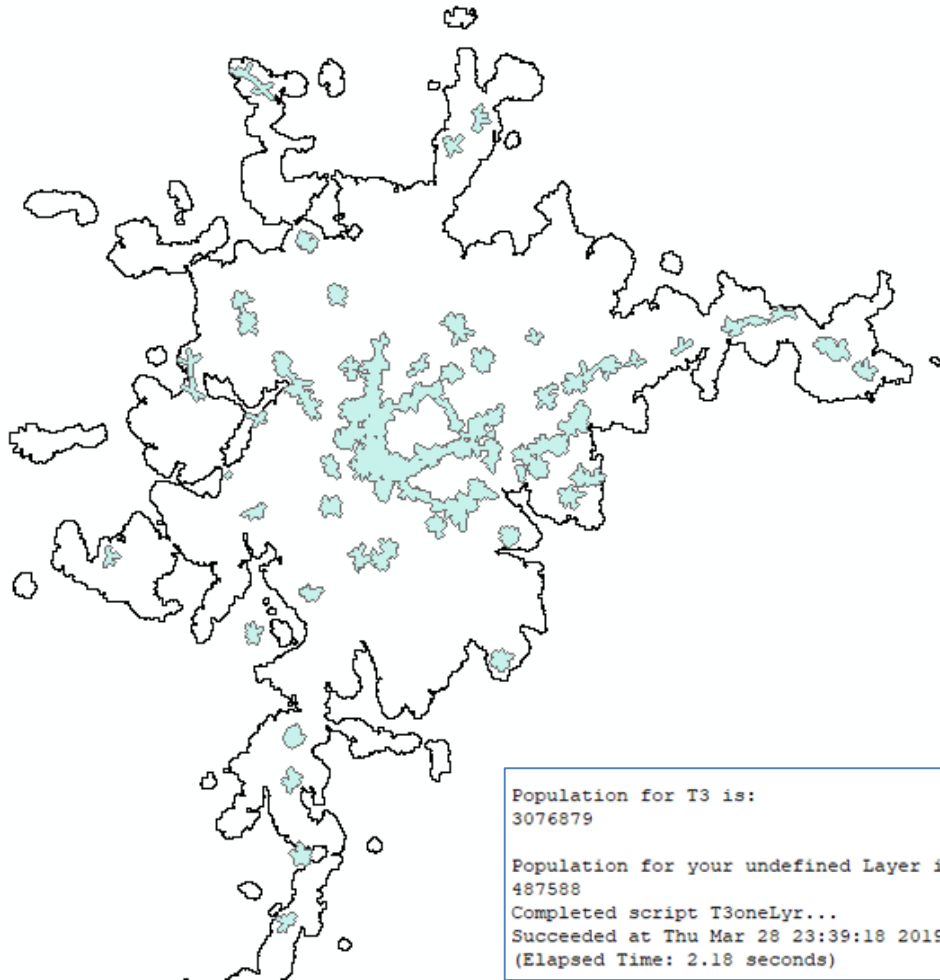
Challenge (formal vs. informal transport)



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)



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

$$\text{Population with access to PT} = \frac{1,555,521}{3,076,879} = 50.6\%$$

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

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