Swedish example on 11.2.1, Access to public transport

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SDG Indicator Tests by Countries in Europe

- GEOSTAT 3: ESS Project with a purpose to guide countries in Europe how to implement the Global Statistical Geospatial Framework AND to test the how the framework helps in producing SDG indicators

- Statistics Sweden has tested indicators 11.2.1, 11.3.1 and 11.7.1

- Supported also by UN-GGIM: Europe Working Group on Integration, testing 11.2.1, 11.3.1, 11.7.1 and 15.1.1
Assessment by UN-GGIM: Europe

15.1.1

11.3.1

11.2.1

11.7.1

Disaggregation for disabled persons not possible yet

A national complementary indicator on the share of public green areas is already available as official statistics

National level indicator on the autonomous utilization of public transport by persons with disabilities (Health Survey)
The Global Statistical Geospatial Framework

- Accessible & Usable
- Interoperable data & metadata standards
- Common geographies for dissemination of statistics
- Geocoded unit record data in a data management environment
- Use of fundamental geospatial infrastructure and geocoding
11.2.1: Data and Methods

- Data coming from national authorities, Eurostat and open access data on public transport stops
- Comparing results of National delineations of localities and European urban clusters
- Comparing different network calculation methods
Workflow

- Geocoding population data
- Delimitation of urban agglomerations
- Selection and preparation of public transportation stops
- Computation of service areas
- Calculation of the population within service areas
# Test of different Geospatial Methods

<table>
<thead>
<tr>
<th>Method</th>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method 1: Euclidian distance buffering</td>
<td>Easy to use, robust and fast.</td>
<td>Does not take barriers into account (e.g. a buffers crossing water, railways etc), resulting in overestimation of the population with convenient access to public transportation</td>
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<tr>
<td>Method 2: Network distance measurement</td>
<td>If street network is complete and includes walkways and bicycle lanes, distance calculations are very accurate and close to truth.</td>
<td>If street network is not complete, the calculations will most likely underestimate the population with convenient access to public transportation. Very demanding and complex calculations.</td>
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The GSGF is useful when producing indicator 11.2.1

- Availability of authoritative, point-based location data for geocoding
- Availability of population data from administrative sources, enabling easy, annual updates of the indicator without having to use population estimations
- Use of point-of-entry validation of address information in population registry providing very good conditions for geocoding and few non-matching observations
- Availability of traffic data with national coverage from a trusted provider
Population within 500 meters from public transport stop 2015

<table>
<thead>
<tr>
<th></th>
<th>In urban areas</th>
<th>Outside urban areas</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td>89,6</td>
<td>20,4</td>
<td>81,1</td>
</tr>
<tr>
<td>Men</td>
<td>88,9</td>
<td>20,1</td>
<td>79,5</td>
</tr>
<tr>
<td>Total</td>
<td>89,3</td>
<td>20,2</td>
<td>80,3</td>
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