

SDG 11.7.1 in the Context of Polish Cities: Access to Public Open Spaces



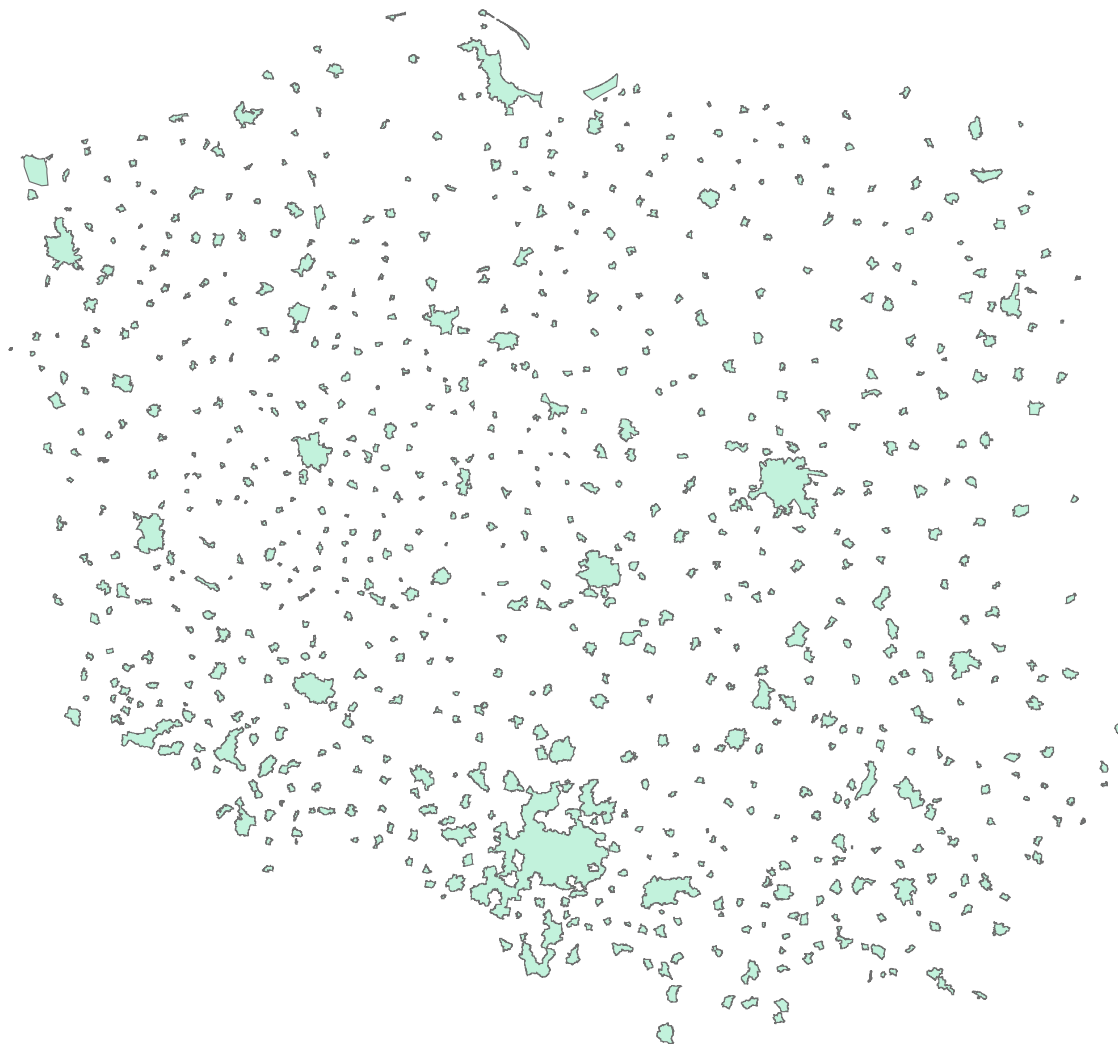
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Indicator 11.7.1 - Average share of the built-up area of cities that is open space for public use for all, by sex and age.

The National Register of Boundaries (PRG)	The National Register of Boundaries (PRG) is an official reference database constituting the basis for other spatial information systems, using data on the territorial divisions of the country and the records of towns, streets and addresses.
WorldPop Database	Global high-resolution data on the distribution of the human population in the form of a 100x100m raster. The datasets provide an estimate of the number of people living in each grid cell in 2010, 2015, 2020, and beyond.
Open Street Map Database	An internet collaborative project to create a free, open available maps of the whole globe. It is editable by registered users. The data and maps based on them are now published under the Open Database License.
Topographic Objects Database (BDOT10k)	A communication network containing information on: <ul style="list-style-type: none">• Road type,• Road management category,• Road surface type,• Road width and length

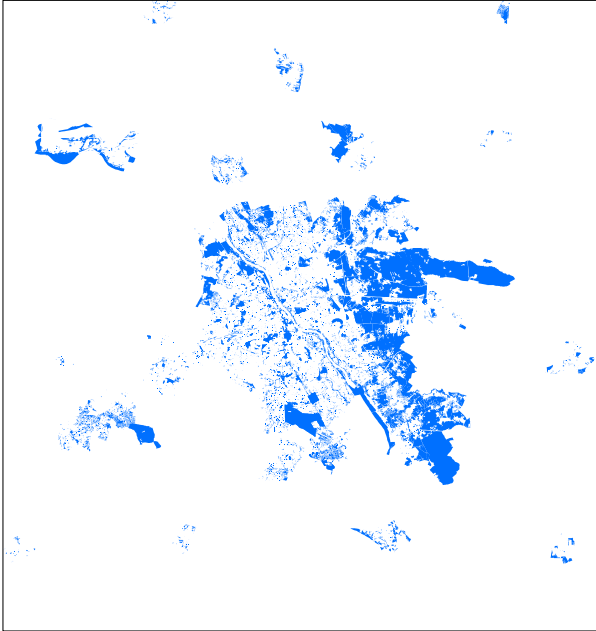
Indicator 11.7.1 - Methods

1. Selection of city administrative borders from The National Register of Boundaries (PRG) database.



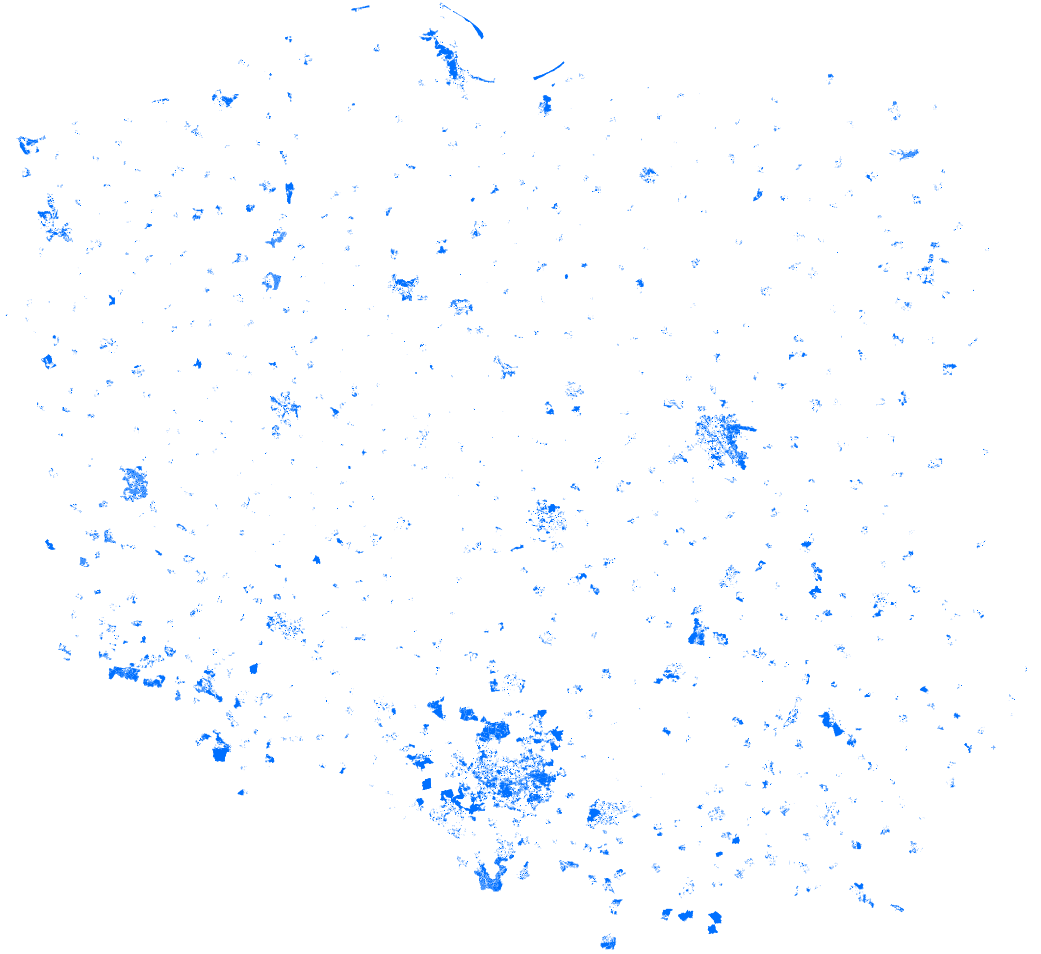
Indicator 11.7.1 - Methods

2. Selection from the Open Street Map database, the so-called generally accessible public areas for rest and recreation (parks, squares, forests, playgrounds, other recreational areas) located in city boundaries.



Types of objects:

- beaches,
- forests,
- reserves,
- parks,
- playgrounds,
- squares,
- other recreational area



Indicator 11.7.1 - Methods

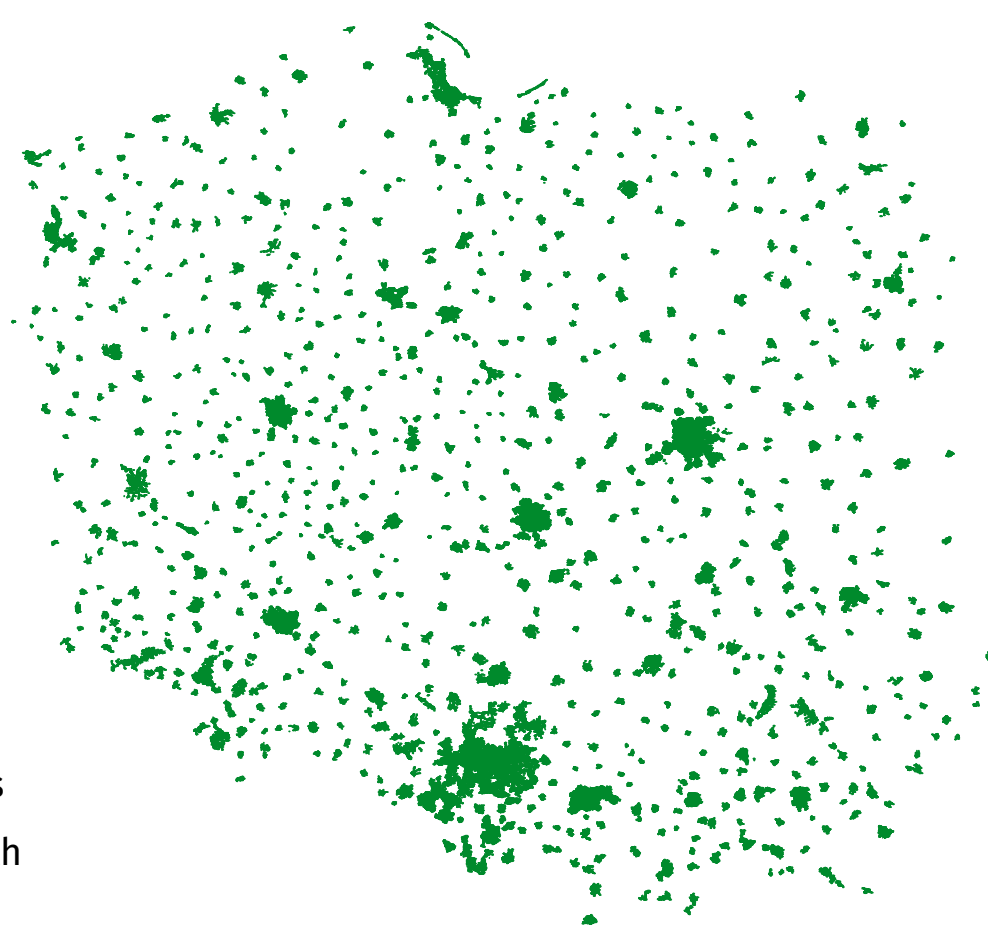
3. Selection of land under roads from the Topographic Objects Database (BDOT10k).



Method of calculating the area:

The sum of the areas of all road sections

Total area = road lane width * road length



Indicator 11.7.1 - Methods

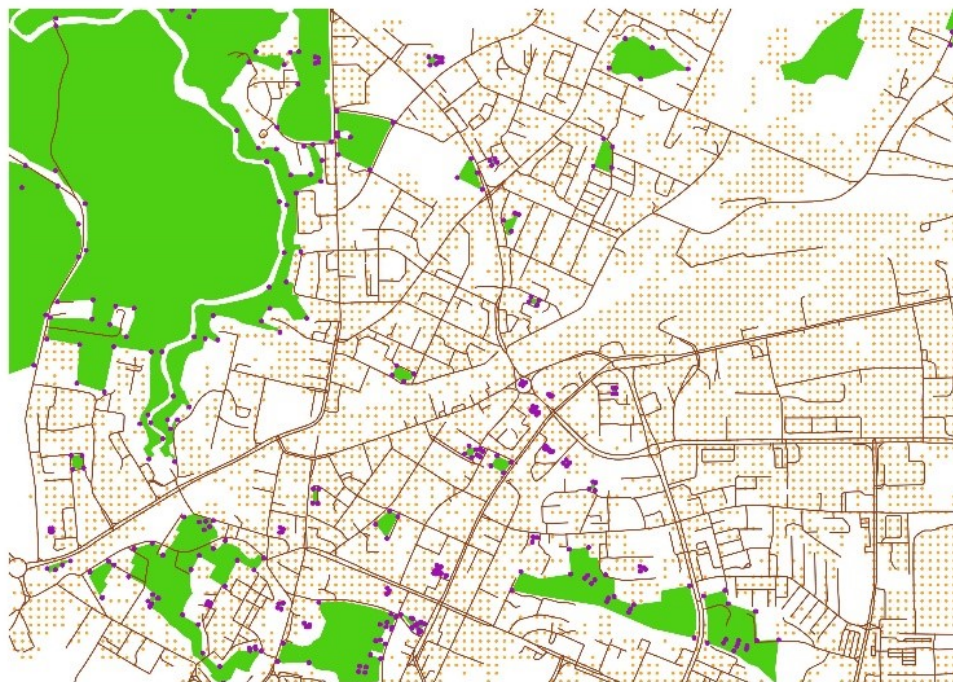
4. Determination context indicators related to indicator 11.7.1

Area of cities	23 483 km ²	The area of land under the roads in city boundaries	678 km ²
Area of generally open space for public at city boundaries		8 220 km ²	
Share of areas under roads in the total area of cities		$(678 / 23483) * 100 = 2,89 \%$	
Share of generally open space for public in the total area of cities		$(8220 / 23483) * 100 = 35,01 \%$	
The average share of areas that are open space for public		$[(8220+678)/23483] * 100 = 37,89 \%$	

Indicator 11.7.1 - Methods

5. Determination the indicators of the availability open space for public in the areas of cities in general, according to age and gender.

- | | |
|---|---|
| 1 | Simplification of polygon geometry of public spaces within city boundaries using the Douglas-Peucker algorithm and reduction of the number of polygon vertices. |
| 2 | Extracting the vertices of the above-mentioned polygons. |



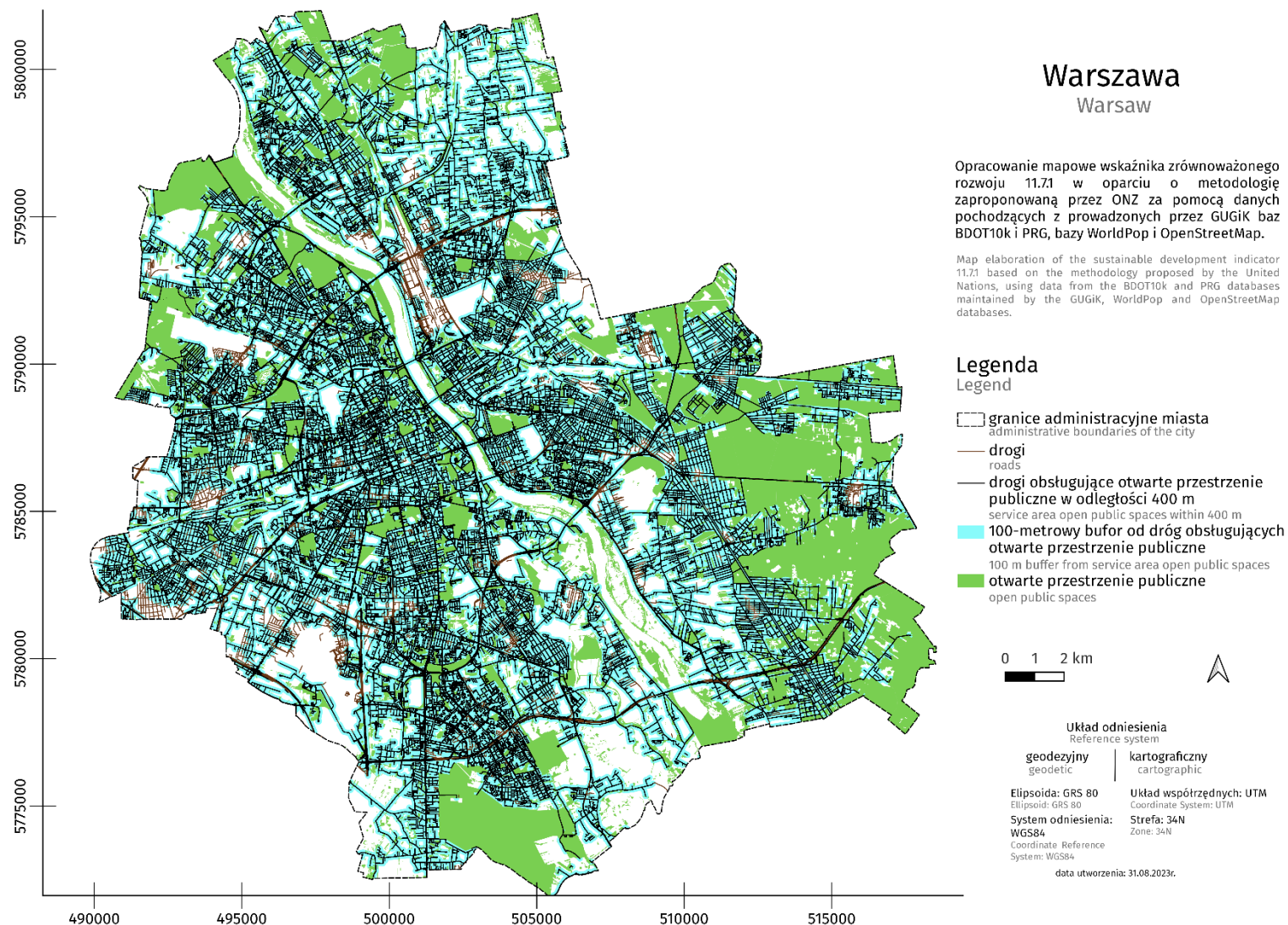
Indicator 11.7.1 - Methods

5. Determination the indicators of the availability open space for public in the areas of cities in general, according to age and gender.

3	Creation of 100-meter buffers around roads (assuming that the OPS entry point cannot be too far from the road).
4	Selecting the vertices of the polygons located within a 100 m buffer from the roads, it is important in the case of large, extensive objects, such as forests - these will be the entry points.
5	Determination of roads for which the pedestrian route to the OPS entrance is not longer than 400 m.
6	Determination of a 100-meter buffer for access routes to OPS.
7	Calculation of the indicator of the availability of open public spaces at a distance of up to 400m according to gender and age.

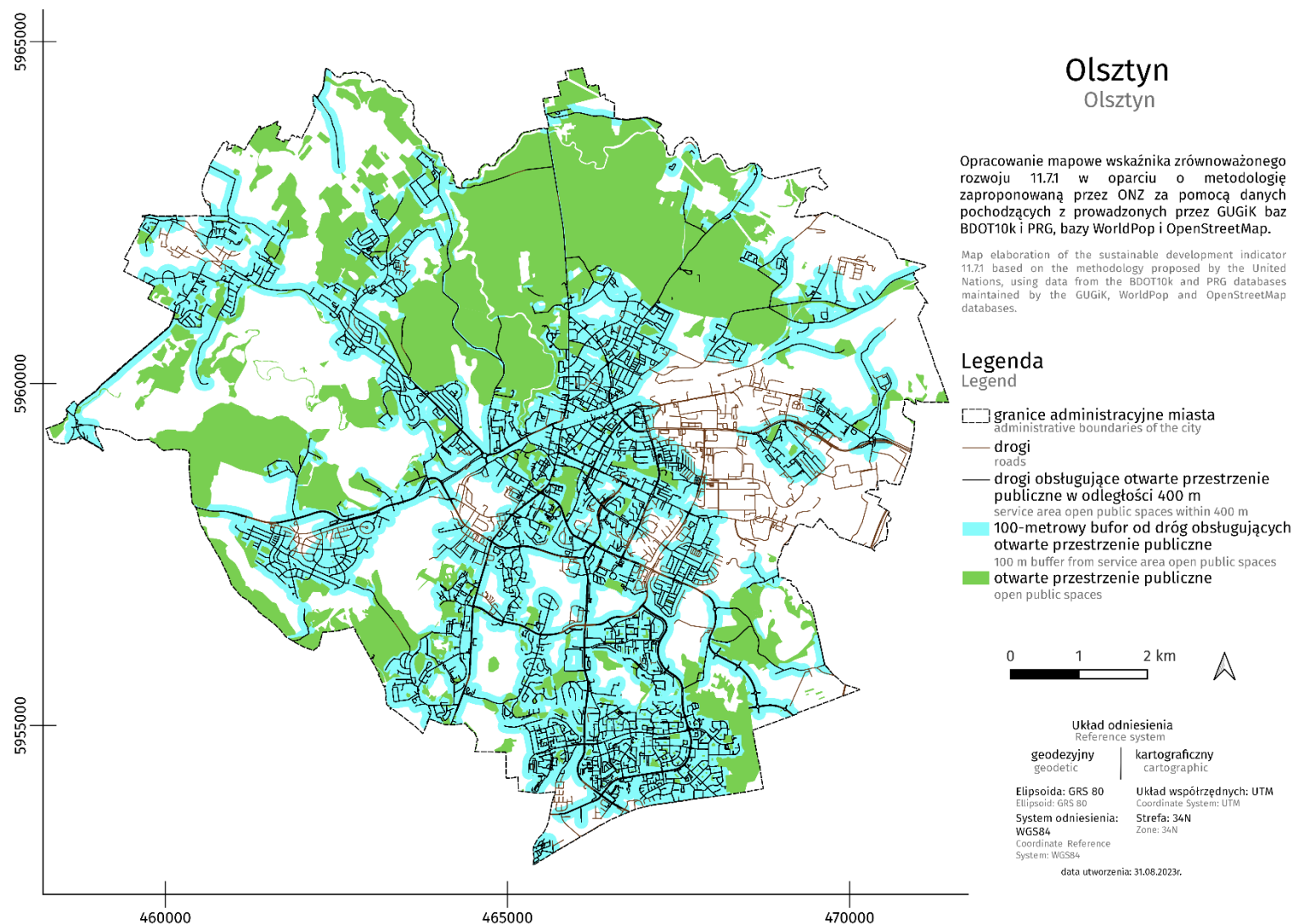
Indicator 11.7.1 - Results

6. Determination the indicators of the availability open space for public in the areas of cities



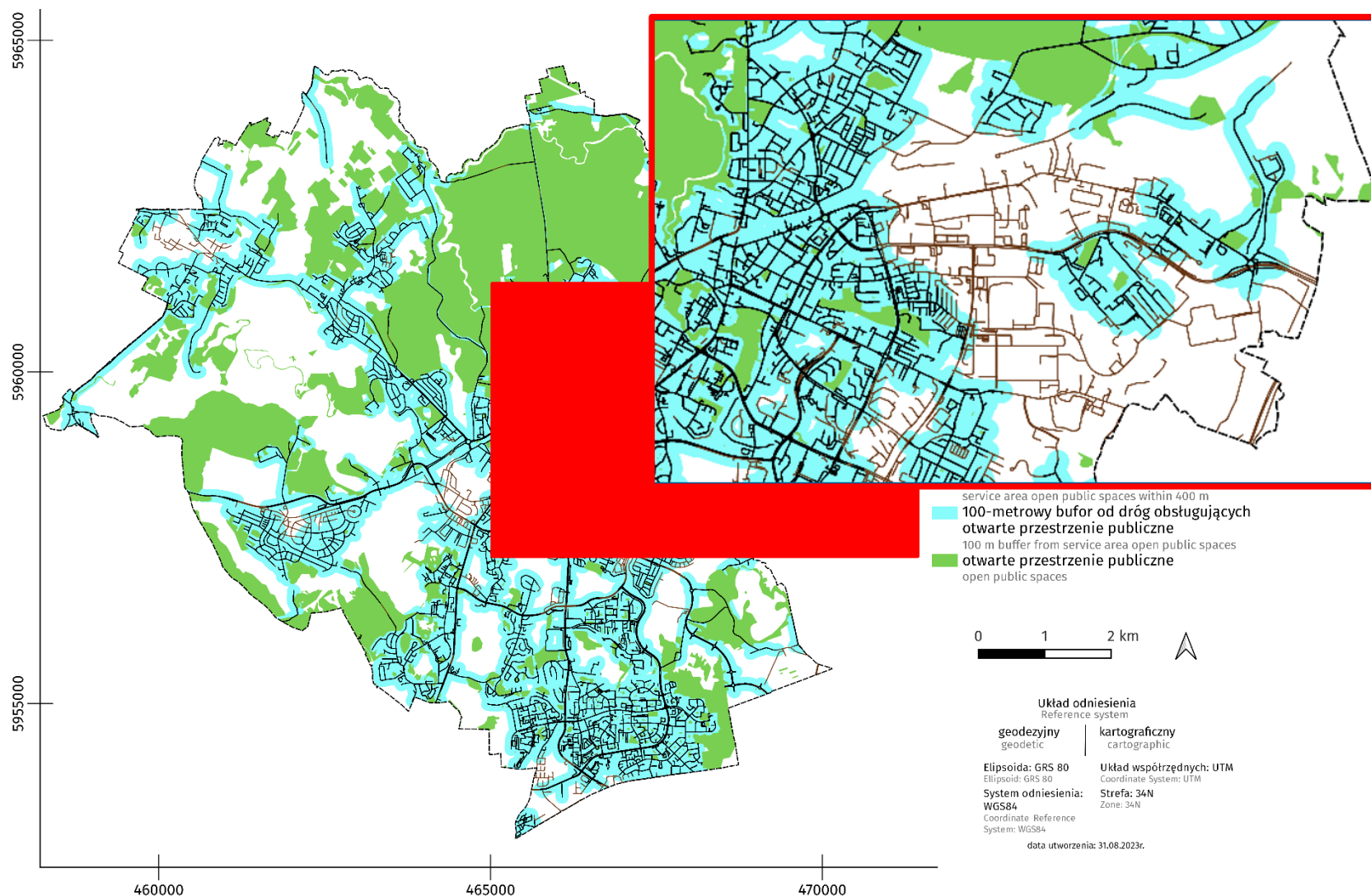
Indicator 11.7.1 - Results

6. Determination the indicators of the availability open space for public in the areas of cities



Indicator 11.7.1 - Results

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Indicator 11.7.1 - Results

7. Determination the indicators of the availability open space for public in the areas of cities in general, according to age and gender.

Age range of men	Population with access to OPS (400m)	Total population in cities	11.7.1 SDG [%]	Age range of women	Population with access to OPS (400m)	Total population in cities	11.7.1 SDG [%]
total_2020	14219872	21001596	67,7				
M_2020	6812014	10064860	67,7	F_2020	7407858	10936736	67,7
M_80+	190041	279330	68	F_80+	441647	650398	67,9
M_75-79	144481	213073	67,8	F_75-79	246162	362973	67,8
M_70-74	282553	417444	67,7	F_70-74	415579	613428	67,7
M_65-69	405575	599010	67,7	F_65-69	520770	768310	67,8
M_60-64	480051	709371	67,7	F_60-64	558793	825080	67,7
M_55-59	425924	628832	67,7	F_55-59	464311	684751	67,8
M_50-54	418217	618627	67,6	F_50-54	434955	642854	67,7
M_45-49	488244	722691	67,6	F_45-49	488342	722455	67,6
M_40-44	567112	838229	67,7	F_40-44	557126	823203	67,7
M_35-39	610951	901255	67,8	F_35-39	595135	876951	67,9
M_30-34	539270	795440	67,8	F_30-34	524344	772186	67,9
M_25-29	471161	696340	67,7	F_25-29	455990	673097	67,7
M_20-24	380308	563263	67,5	F_20-24	365208	540749	67,5
M_15-19	336534	498766	67,5	F_15-19	321923	477081	67,5
M_10-14	378951	561018	67,5	F_10-14	360093	533055	67,6
M_5-9	362786	535776	67,7	F_5-9	344372	508464	67,7
M_1-4	265931	392134	67,8	F_1-4	252443	372244	67,8
M_0-12 m	63925	94261	67,8	F_0-12 f	60666	89456	67,8

Indicator 11.7.1 - Results

8. Determination the indicators of the availability open space for public in the areas of provincial cities

Indicator 11.7.1 - Average share of areas constituting public space accessible to all in the total area of the city							
City name	City area [km2]	Open Public Spaces [km2]	Share of publicly accessible public areas in the total area of cities [%]	Average share of areas constituting public space accessible to all in the total city area	City population	Population with access to public open spaces within 400 m	Percentage of city residents with access to public spaces within 400 m [%]
Białystok	102	22	22	28	290208	191934	66.1
Bydgoszcz	176	69	39	43	342251	251846	73.6
Gdańsk	266	61	23	27	440602	271313	61.6
Gorzów Wielkopolski	86	11	13	17	119915	70520	58.8
Katowice	165	80	48	53	285834	246988	86.4
Kielce	110	32	30	34	186510	111599	59.8
Kraków	327	74	23	28	730280	569817	78.0
Lublin	147	23	16	21	329651	238943	72.5
Łomża	33	1	4	8	20150	15677	77.8
Łódź	293	57	19	24	647250	468253	72.3
Mielec	47	8	18	23	59242	36892	62.3
Olsztyn	88	25	28	32	170366	123633	72.6
Opole	149	13	9	11	105168	61976	58.9
Poznań	262	55	21	26	513906	355626	69.2
Rzeszów	120	7	6	10	205435	113075	55.0
Szczecin	301	76	25	28	389149	287816	74.0
Toruń	116	36	31	36	192344	123616	64.3
Warszawa	517	124	24	31	1691260	1487468	88.0
Wrocław	293	43	15	20	598466	448565	75.0
Zielona Góra	278	158	57	58	137010	102494	74.8

National Reporting Platform - SDG

[Introduction](#)[Select indicator ▼](#)[FAQs](#)[SDG Platform](#)

Experimental statistics Goal 11 - Sustainable cities & communities

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11.7.1 Average share of the built-up area of cities that is open space for public use for all

[Map](#)[Context indicators](#)[Calculations](#)[Data sources](#)[Value for sustainable development](#)

Warszawa

The capital of Poland (for more than 400 years) and also the capital of the Mazowieckie Voivodeship, located in the central part of the country. Warszawa was granted city rights in the 13th century. It is the most populous city in Poland, with nearly 1.9 million residents, which is 52% of urban population of the Mazowieckie Voivodeship (the highest proportion among all provincial capitals in the country). It is also the most densely populated city in Poland, with approximately 3.6 thousand persons per 1 km², and the second-largest city by area (517 km²), after Gdańsk.

Thank you for your attention