Accessiblity to healthcare and primary education services

Version history

0.9 (10/01/2025) - First release

General description

These datasets describe various accessibility indicators to main healthcare and primary education services on a 1km resolution grid. They rely on transport time measures using road transport network from populated places to the services.

These datasets rely on the standard European grid used for Eurostat gridded datasets. For more information on this grid, see: https://ec.europa.eu/eurostat/web/gisco/geodata/grids.

Attributes (for healthcare)

Attribute	Data type	Description
grd_id	Text	Grid cell identifier
health_2020_n1	Float	Time to the nearest service in 2020, in minutes
health_2020_n3	Float	Average time to the three nearest services in 2020, in minutes
health_2023_n1	Float	Time to the nearest service in 2023, in minutes
health_2023_n3	Float	Average time to the three nearest services in 2023, in minutes

Attributes (for primary education)

Attribute	Data type	Description
grd_id	Text	Grid cell identifier
educ_2020_n1	Float	Time to the nearest service in 2020, in minutes
educ_2023_n1	Float	Time to the nearest service in 2023, in minutes
educ_2023_n3	Float	Average time to the three nearest services in 2023, in minutes

Data Sources

The accessibility indicators are produced from the following input datasets. Two for the location of services (education and healthcare), the 1km grid and a road network.

- The location of services as published by Eurostat:
  https://ec.europa.eu/eurostat/web/gisco/geodata/basic-services
- The 1km population grid as published by Eurostat:
  https://ec.europa.eu/eurostat/web/gisco/geodata/grids
- The TomTom Multinet 2020 and 2023 datasets.

Methodology

To catch each grid cell to the road network, we used the nearest network node from the centroid inside the cell. When there is no node inside the cell, we used the nearest one outside.

For hospital and education service, we also catch the nearest network node from the location of the service.

The time travel is given by TomTom Multinet datasets. It corresponds to the driving time. We use the weekly average time to travel each road segment. For the ferry line, we use an average speed of 45 km/h.

The Dijkstra algorithm is used to calculate the shortest distance.

Geographical extent (for healthcare)

The dataset covers EU country (except the French overseas regions) plus Norway and Switzerland (only in 2023).

Geographical extent (for education)

The dataset covers EU country (except the French overseas regions, Latvia in 2020) plus Norway. The Spanish region of Catalonia and the Italian regions of Aosta and Trentino are not included due to missing data.

Update Frequency

Every three years.

Download service

Eurostat website download page:
https://ec.europa.eu/eurostat/web/gisco/geodata/geographic-accessibility/

Download folder: https://gisco-services.ec.europa.eu/pub/accessibility/

API: https://gisco-services.ec.europa.eu/pub/accessiblity/services/grid_accessibility_<*type*>.<format> where **type** is the service type among (educ, health) and **format** is the encodings format among (gpkg, csv, parquet, geoparquet).

Encoding

The data is encoded in GeoPackage, CSV, Parquet and GeoParquet formats.

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Disclaimer, support and contributions

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