



INDICATOR 9: Road Network Density

a) File Name: Road_Net_Dens_Pop_Chg_1975-2015.shp

➤ Coordinate Reference Systems: WGS 84 / UTM zone 34N (EPSG:32634)

b) File Name: Road_Net_Dens_Mun.shp

➤ Coordinate Reference Systems: WGS 84 / UTM zone 34N (EPSG:32634)

Attribute	Alias	Pseudonim
MatBrO	Municipality identification number	Matični broj opštine
MatBrNas	Settlement identification number	Matični broj naselja
ImeNasCir	Name of the settlement in Cyrillic	Ime naselja (ćirilica)
ImeNasLat	Name of the settlement in Latin	Ime naselja (latinica)
ImeOpsCir	Name of the municipality in Cyrillic	Ime opštine (ćirilica)
ImeOpsLat	Name of the municipality in Latin	Ime opštine (latinica)
DENS_Moto	Density of Motorway for settlement/municipality (km/km ²)	Gustina mreže autoputeva za naselje/opštinu (km/km ²)
DENS_Trunk	Density of Trunk roads for settlement/municipality (km/km ²)	Gustina mreže magistralnih puteva za naselje/opštinu (km/km ²)
DENS_Prim	Density of Primary roads for settlement/municipality (km/km ²)	Gustina mreže primarnih puteva za naselje/opštinu (km/km ²)
DENS_Sec	Density of Secondary roads for settlement/municipality (km/km ²)	Gustina mreže sekundarnih puteva za naselje/opštinu (km/km ²)
DENS_Tert	Density of Tertiary roads for settlement/municipality (km/km ²)	Gustina mreže tercijarnih puteva za naselje/opštinu (km/km ²)
DENS_All*	Density of all roads for settlement/municipality (km/km ²)	Gustina mreže puteva za naselje/opštinu (km/km ²)
LEN_Moto	Length of Motorway for settlement/municipality (km)	Dužina autoputeva za naselje/opštinu (km)
LEN_Trunk	Length of Trunk for settlement/municipality (km)	Dužina magistralnih puteva za naselje/opštinu (km)
LEN_Prim	Length of Primary for settlement/municipality (km)	Dužina primarnih puteva za naselje/opštinu (km)



Attribute	Alias	Pseudonim
LEN_Sec	Length of Secondary for settlement/municipality (km)	Dužina sekundarnih puteva za naselje/opštinu (km)
LEN_Tert	Length of Tertiary for settlement/municipality (km)	Dužina tercijarnih puteva za naselje/opštinu (km)
LEN_All*	Length of all roads for settlement/municipality (km)	Dužina svih puteva za naselje/opštinu (km)
Area	Area of settlement/municipality (km ²)	Površina naselja/opštine (km ²)
Decl/Grow	Population trend 1975–2015	Trend promene broja stanovnika 1975–2015
Traff_Key	Unique number for settlement class 1. Good infrastructure with population decline 2. Good infrastructure with population growth 3. Poor infrastructure with population decline 4. Poor infrastructure with population growth 5. No permanent inhabitants 6. No data	Jedinstven broj za klasu naselja 1. Good infrastructure with population decline 2. Good infrastructure with population growth 3. Poor infrastructure with population decline 4. Poor infrastructure with population growth 5. No permanent inhabitants 6. No data
Traff_Name	Class of settlement according to traffic network density and trend of change of population – Good infrastructure with population decline – Good infrastructure with population growth – Poor infrastructure with population decline – Poor infrastructure with population growth – No permanent inhabitants – No data	Klasa naselja prema gustini putne mreže i trendu promene broja stanovnika – Good infrastructure with population decline – Good infrastructure with population growth – Poor infrastructure with population decline – Poor infrastructure with population growth – No permanent inhabitants – No data

*Note. The analysis included the classified categories of roads (motorway, trunk, primary, secondary, tertiary with belonging links).



Description of Indicator: The density of the road network and accessibility of the area indirectly affect demographic changes, the level of development, and attractiveness for settling and economic activities. This indicator is based on the data for five classified categories of roads (motorway, trunk, primary, secondary, tertiary with belonging links). The Road Network Density was calculated dividing the length of roads by the area of the settlement/minicipality (in km²) for every road category and all categories. The traffic network density was compared with the population trend in the period 1975–2015 based on which settlements are divided into two categories: those with population growth and population decline. Finally, four classes were created: Good infrastructure with population decline, Good infrastructure with population growth, Poor infrastructure with population decline, and Poor infrastructure with population growth.

Source data for Indicator calculation

Type of data	Source
Road network	OpenStreetMap
Population count*	GHS-POP R2019A dataset—GHS population grid multitemporal [European Commission, Joint Research Center, 2019], datasets for 1975 and 2015
Administrative units**	GeoSrbija [Open data of the National Data Infrastructure, Republic Geodetic Authority, n.d.]

* Population data for municipalities Preševo and Bujanovac are not included in datasets. Accordingly, the indicator values within these administrative units are missing.

** GeoSrbija (Open Data of the National Data Infrastructure, Republic Geodetic Authority, n.d.) from which the administrative settlements boundaries were taken have no data for the province Kosovo and Metohija. Accordingly, these administrative units were not included in the analysis.