**EU Results Framework Indicator methodology note**

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| 1. Name of indicator | **Road density**  **(km of road per 100 square km of land area)** |
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| 2. Which sector (using Result Framework heading) | Transport |
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| 3. Technical Definition | This indicator defines road density as the ratio of the length of a country’s total road network to the country’s land area.  The road network includes all roads in a country: motorways, highways, main or national roads, secondary or regional roads’ and other urban and rural roads. |
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| 4. Rationale (including which policy priority, and how is this indicator linked to that policy priority) | EU strategic or policy documents:  [Operational Handbook: Transport Infrastructure](https://myintracomm.ec.europa.eu/dg/devco/thematic-activities/infrastructures-networks/Pages/tools-documents-guidelines.aspx) |
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| 5. Level of disaggregation | N/A |
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| 6. Data Sources (including any issues on (i) different definitions by source, and (ii) level of availability of the data) | 1. World Bank World Development Indicators  <http://data.worldbank.org/indicator/IS.ROD.DNST.K2>  This provides the km of road per 100 sq km of land area in a country  This data comes from International Road Federations and World Road Statistics  2. World Bank World Development Indicators  <http://data.worldbank.org/indicator/AG.LND.TOTL.K2>  This provides the land area in a country’s total area measured in square kilometres (excluding inland water bodies, i.e. major rivers and lakes).  This data is taken from the UN Food and Agricultural Organisation. |
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| 7. Data calculation (including any assumptions made) | To be calculated by:  i) taking the latest available measure of road density for each country *where the EU has external action programmes* from the WDI database;  ii) multiplying this number by the country’s land areas as recorded in WDI;  iii) adding together the numbers calculated under ii) for all the countries where the EU has external action programmes. This will give the **first** element for a weighted share of road density  iv) adding together the land area of all the countries where the EU has external action programmes. This will give the **second** element for a weighted share of road density  v) dividing the first element by the second element. This will give the weighted average share of road density in the countries where the EU has external action programmes |
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| 8. Worked examples\*  Example correct at the time of writing (Nov 2014) | **Ukraine**  2011 road density was 28 km per 100 sq km of land area  land area is 579,320 sq km  **Mozambique**  2009 road density was 4 km per 100 sq km land area  Land area is 786,380 sq km  Weighted average for Ukraine and Mozambique road density is calculated as :  (28\*579,320) + (4\*786,380)  579,320+786,380  = 14 km per 100 sq km land area |
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| 9. Is it used by another organization or in the framework of international initiatives, conventions, etc? If so, which? | The African Development Bank uses this indicator in their results framework |
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| 10.Other issues | Most indicators on access to roads are based on infrequent household surveys. The indicator measuring road density serves as a reasonable proxy for the availability of transport and thus access to services and markets. |