## 14.16 NBS distance from urban centres and public transport

**Project Name:** PHUSICOS (Grant Agreement no. 776681)

**Author/s and affiliations:** Gerardo Caroppi[1,2], Carlo Gerundo[2], Francesco Pugliese[2], Maurizio Giugni[2], Marialuce Stanganelli[2], Farrokh Nadim[3], Amy Oen[3]

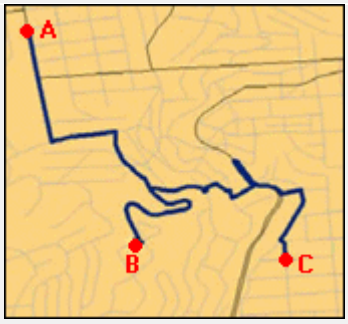
[1] *Aalto University, Department of Built Environment, Espoo, Finland (gerardo.caroppi@aalto.fi)*

[2] *University of Naples Federico II (UNINA), Department of Civil, Architectural and Environmental Engineering, Naples, Italy*

[3] *Norwegian Geotechnical Institute (NGI), Oslo, Norway*

| **Average Distance Of Natural Resources From Urban Centres/Train Station/Public Transportation** | **Place Regeneration** |
|---|---|
| **Description and justification** | The implementation of the Design Scenario can reduce the average distance of natural resources from urban centres/trains stations/public transportation. The more the Design Scenarios will contribute to reduce this distance, the more effective will be the benefits in terms of quality of life for the community. |
| **Definition** | The indicator can be defined as the average distance between the main entry to a natural area (park, wood, etc.) and urban centres/train station/public transportation. |
| **Strengths and weaknesses** | It is easy to be estimated and rapidly provides information concerning the benefits achievable in terms of accessibility of natural areas and therefore of quality of life for the community. |
| **Measurement procedure and tool** | The indicator is equal to the average road network distance between the main entry to the natural areas (park, wood, etc.) and urban centres/train station/public transportation. Common GIS software tools allow finding the shortest route to a given location along a network of transportation routes. If the Design Scenario introduces new roads, the indicator will be calculated considering the road network of the Baseline Scenario upgraded with these new roads. |
| **Scale of measurement** | Km |
| **Data source** | Project team, Openstreetmap; Municipality Geographic Information System |
| **Required data** | Project layout map, road network data (vector data) |
| **Data input type** | Maps; Vector Data |
| **Data collection frequency** | |

| | |
|---|---|
| **Level of expertise required** | High |
| **Synergies with other indicators** | |
| **Connection with SDGs** | 11 |
| **Opportunities for participatory data collection** | |
| **Additional information** | |
| **References** | |




A = Main entry to wood
B = Urban centre
C = Urban centre
Blue line = Shortest road network distance

## 14.17 Natural and cultural sites made available

**Project Name:** PHUSICOS (Grant Agreement no. 776681)

**Author/s and affiliations:** Gerardo Caroppi[1,2], Carlo Gerundo[2], Francesco Pugliese[2], Maurizio Giugni[2], Marialuce Stanganelli[2], Farrokh Nadim[3], Amy Oen[3]

[1] *Aalto University, Department of Built Environment, Espoo, Finland (gerardo.caroppi@aalto.fi)*
[2] *University of Naples Federico II (UNINA), Department of Civil, Architectural and Environmental Engineering, Naples, Italy*
[3] *Norwegian Geotechnical Institute (NGI), Oslo, Norway*

| Accessibility of Natural and Cultural Sites | Place Regeneration |
|---|---|
| **Description and justification** | A new infrastructure, implemented in a rural landscape in order to achieve a risk reduction, could also ensure the accessibility to natural and cultural sites previously isolated. |