

	<p>The viewshed of a scenario is equal to the envelope of the viewshed obtained considering each scenic sites in the study area.</p> <p>In the Design Scenarios (e.g., NBS Scenario, Hybrid Scenario, Grey Scenario) the viewsheds from the new scenic sites created by the project have to be taken into account too.</p>
Scale of measurement	km ²
Data source	Project team; Regional or Municipal Geographic Information System
Required data	Project layout map (vector data); Digital terrain model
Data input type	Maps; Vectorial and Raster data
Data collection frequency	
Level of expertise required	High
Synergies with other indicators	
Connection with SDGs	3
Opportunities for participatory data collection	
Additional information	
References	

8.33 Satisfaction with green and blue spaces

Project Name: proGIreg (Grant Agreement no. 776528)

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Satisfaction with green and blue spaces	Green Space Management
Description and justification	Satisfaction with green and blue spaces is an indicator of the quality of these spaces. The quality of green and blue spaces is not only an important determinant of use of those spaces but also a potential modifier of the health effects of these spaces. The implementation of nature-based

	solutions is hypothesized to improve the availability and quality of green and blue spaces in the neighbourhood.
Definition	Self-reported satisfaction with the green and blue spaces in the neighborhood
Strengths and weaknesses	A strength of this indicator is that few studies have considered the quality of green space in the association between green space exposure and health. A limitation is that the indicator is self-reported.
Measurement procedure and tool	The indicator is obtained using a survey which is taken by a sample of the general population. The survey includes a questionnaire, adjusted from a previous questionnaire, using the question <i>"Overall, in your neighbourhood, how satisfied are you with the following aspects?"</i> , referring to the following aspects: the quality, the amount, the maintenance, and the safety of the green/blue environment. The answers are given on a scale from 1 (very dissatisfied) to 5 (very satisfied). This survey is repeated before and after the implementations of NBS in order to observe a potential change in the satisfaction with green and blue spaces.
Scale of measurement	General population in residential neighbourhoods
Data source	
Required data	Questionnaire data
Data input type	Continuous variables
Data collection frequency	Twice; once before the implementation of the nature-based solutions and once after.
Level of expertise required	Low
Synergies with other indicators	This indicator is related to other indicators of exposure to green space
Connection with SDGs	Good health and wellbeing: accumulating evidence demonstrates that increased green space exposure has been associated with better health and wellbeing. An increased satisfaction with (and thus quality of) green spaces is likely to contribute to improved health and wellbeing. Sustainable cities and communities: The implementation of nature-based solutions contributes to the quality of green spaces in the neighbourhood and to sustainable cities and communities.

Opportunities for participatory data collection	The questionnaires are self-reported and as such are reported by the citizens themselves.
Additional information	
References	<p>Nieuwenhuijsen, et al. (2014). Positive health effects of the natural outdoor environment in typical populations in different regions in Europe (PHENOTYPE): a study programme protocol. <i>BMJ Open</i>; 4,4</p> <p>Grellier et al (2017) BlueHealth: a study programme protocol for mapping and quantifying the potential benefits to public health and wellbeing from Europe's blue spaces. <i>BMJ Open</i>. 2017 Jun 14; 7(6):e016188.</p>

8.34 Betweenness centrality

Project Name: Nature4Cities (Grant agreement no. 730468)

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Betweenness centrality	Green Space Management
Description and justification	<p>The betweenness centrality is a mathematical concept of graph theory. It can be measured for a node or an edge, and quantifies the number of times a node or an edge acts as a link in the shortest path between two other green areas with certain size. This can be used to assess the importance of streets and connections in the urban green infrastructure, and to detect missing links. It needs a representation of the urban green network as a graph, an abstract structure that sums up the relation between objects disregarding their actual physical appearance.</p> <p>Here you provide examples:</p> <p>An new NBS can change the physical communication network affecting the pedestrian flows, with repercussions or benefits to economic activities in the area nearby, and conversely on a social level.</p> <p>Dismissed tramway tracks converted in a walkway would change the connectivity of an area, turning a barrier to a space of connectivity between green areas.</p>
Definition	<p>The computation of betweenness centrality in urban green networks needs a representation of the city street network as graph. The edges of a graph represent the streets, while the nodes represent the intersections and NBS. The weight of an edge is the actual distance between two</p>