Data collection frequency	Seasonal
Level of expertise required	Low for sampling, intermediate/high for testing/interpretation.
Synergies with other indicators	Moisture content, field capacity, wilting point, soil type, soil strength
Connection with SDGs	11,13,15,17
Opportunities for participatory data collection	yes
Additional information	
References	Gonzalez-Ollauri, A. and Mickovski, S.B., 2017. Plant-Best: A novel plant selection tool for slope protection. Ecological Engineering 106 (2017) 154–173. Hoogsteen, M.J.J., Lantinga, E.A., Bakker, E.J., Groot, J.C.J. and Tittonell, P.A. (2015), Estimating soil organic carbon through loss on ignition: effects of ignition conditions and structural water loss. Eur J Soil Sci, 66: 320-328.

7.3.1 Soil Organic Matter Index

Project Name: Nature4Cities (Grant Agreement no. 730468)

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Soil Organic Matter Index	Green Space Management
Description and justification	**SOM** is a crucial parameter of soil biological, chemical and physical quality. All soil properties are highly depending on this parameter (soil aggregation, soil nutrients, soil decomposers…)
Definition	This indicator is a numerical value used to ensure/Improve soil organic matter content to allow long-term soil quality. This indicator is available to everyone and easy to implement It is possible to apply the indicator in different locations. The indicator has been used in different circumstances (different soil uses) and delivered reasonable results.

Strengths and weaknesses	This indicator is capable to describe initial planning problems, like soil nutrient deficiency for plant growth, soil compaction
Measurement procedure and tool	● No required tool, No formula, direct parameter
Scale of measurement	Plot or building scale (NBS)
Data source	Measuring this parameter is the best way to calculate this indicator, because urban soil properties are very heterogeneous. If it can't be measured, parameters estimation is possible thanks to the bibliography ● Bibliography ● Measurement/Monitoring
Required data	● Soil organic matter content (SOM) Measurement Unit : g of organic matter per kg of soil
Data input type	● Soil physico-chemical properties
Data collection frequency	In concept and detailed design phase of urban and object planning.
Level of expertise required	Easy to calculate and requires few data
Synergies with other indicators	In Nature4Cities this indicator can be evaluated (SOM score). The SOM score needs bulk density (B_d) of soil as input data expressed in g/cm^3. Based on Cambou et al. (2018) study, a pedotransfer function has been used. SOM index is given in form of a performance bar with numerical values ranked in terms to the best (1) and worst (0) scenario
Connection with SDGs	SD15 Life on Land
Opportunities for participatory data collection	
Additional information	
References	Acín-Carrera, M., José Marques, M., Carral, P., Álvarez, A. M., López, C., Martín-López, B., & González, J. A. (2013). Impacts of land-use intensity on soil organic carbon content, soil structure and water-holding capacity. Soil Use and Management, 29(4), 547-556. Cambou, Aurélie, Richard K. Shaw, Hermine Huot, Laure Vidal-Beaudet, Gilles Hunault, Patrice Cannavo, François Nold, and Christophe Schwartz. 2018. "Estimation of Soil Organic Carbon Stocks of Two Cities, New York City and Paris." Science of The Total Environment 644 (December): 452–64. https://doi.org/10.1016/j.scitotenv.2018.06.322.

Šimanský V, Polláková N, Halmo S (2014). Soil crust in agricultural land, Acta fytotechn. zootechn., 17(4): 109–114

Nature4Cities, D2.1 - System of integrated multi-scale and multi-thematic performance indicators for the assessment of urban challenges and NBS. https://www.nature4cities.eu/post/nature4cities-defined-performance-indicators-to-assess-urban-challenges-and-nature-based-solutions

Nature4Cities, D2.2 - Expert-modelling toolbox

Nature4Cities, D2.3 – NBS database completed with urban performance data https://www.nature4cities.eu/post/applicability-urban-challenges-and-indicators-real-case-studies

Nature4Cities, D2.4 - Development of a simplified urban performance assessment (SUA) tool