Sustainable Mobility Indicators

Sustainable mobility indicators help to disaggregate the complex system of mobility in cities and offer a practical framework to help cities understand their mobility situation in relation to criteria such as environmental compatibility, economic efficiency and quality of life and to anticipate emerging mobility concerns.

Nineteen (19) indicators have been identified to describe sustainable mobility in cities. The indicators were developed by an international and multidisciplinary team in collaboration with a core group of experts from different industries involved in urban mobility. In 2016 the European Commission endorsed the indicators and the set will be adopted by 50+ EU cities.

The sustainable mobility indicators framework allows to assess the performance of cities worldwide and at any stage of economic development. The indicator set is derived from a vision of sustainable mobility rather than short term demands: It presents an objective, holistic, picture of the mobility system; It provides balanced coverage of mobility performance, considering positive and negative factors; It is neutral as to transport mode and technology.

The 19 indicators are a comprehensive set spanning four dimensions of sustainable mobility:

Three dimensions are inspired by the pillars of sustainable development and refer to the sustainability of the resource use and/or the impacts of mobility in cities: Global environment **(G)**; Quality of life in the city **(Q)**; Economic success **(E)**. A fourth dimension has been added to consider the performance of the mobility system itself in the city: Mobility system performance **(S)**.

The chart below outlines the full set of the 19 indicators and their respective dimensions:

Set of 19 indicators for the sustainability of urban mobility	Short names of indicators	Dimensions	
Affordability of public transport for the poorest people	Affordability	S	Q
Accessibility for mobility impaired groups	Accessibility for impaired	S	Q
Air polluting emissions	Air pollution	Q	
Noise hindrance	Noise hindrance	Q	
Fatalities	Fatalities	Q	
Access to mobility services	Access	Q	
Quality of public area	Public area	Q	
Urban Functional diversity	Functional diversity	Q	E
Commuting travel time	Travel time	Q	E
Economic Opportunity	Economic Opportunity	Q	E
Net public finance	Public Finance	E	
Mobility space usage	Space Usage	G	E
Emissions of greenhouse gases (GHG)	GHG	G	
Congestion and delays	Congestion	G	S
Energy efficiency	Energy efficiency	G	S
Opportunity for active mobility	Active mobility	G	S
Intermodal integration	Intermodal integration	S	
Comfort and pleasure	Comfort and pleasure	S	Q
Security	Security	S	Q

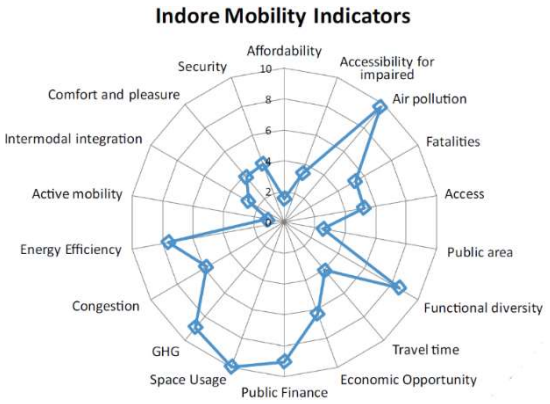
The 19 indicators are not influenced by a technology or a mobility mode itself. Only the environmental, social or economic impact on the variables used to calculate the indicators will change the indicator value.

The dimension on Global environment **(G)** refers to the global scale, i.e. mobility impacts that occur far beyond the city limits, and is focused on long-term environmental aspects (such as Green House Gas emissions, GHG). Quality of life in the city **(Q)** refers to the city or local scale and the short-term (direct impacts) on social aspects of urban life (such as health or fatalities and security). Economic success **(E)** refers to the economic aspects at the city scale (such as public finance related to mobility). Apart from external inputs (resources and materials) and outputs (impacts) of the mobility system (with the three abovementioned sustainability dimensions) a fourth category of indicators refers to the performance of the mobility system **(S)** itself.

Sustainable mobility indicators are **SMART** (Specific, Measurable, Attainable, Relevant, Time-Bound) thus allowing cities to perform a standardized evaluation of their mobility system and measure the improvements resulting from the implementation of new mobility practices or policies. Each indicator represents an aspect of mobility and is often interconnected with other indicators from the set. Holistically optimized solutions can be obtained while considering the interconnection: solutions might improve several related indicators in parallel.

The use of data-based indicators enables the city to look at mobility objectively and comprehensively and to challenge assumptions. The analysis stimulates fact-based thinking, highlights relationships between priorities and drives the search for integrated solutions. As indicators are interrelated, the analysis helps clarify the interactions.

Indicators are calculated from defined data inputs. The scale provided is from 0 to 10 and based on the extremes observed worldwide. The indicator score is decided from its position between the best (10) and the worst (0) parameter values. A score of 10 indicates a sustainable performance for the city in that aspect. A “spider chart” (see figure below) presents the sustainability performance of each component and provides a holistic overview.



By using the full set of 19 indicators, cities can identify where the strengths and weaknesses lie in their mobility system. By calculating the indicators at regular times (e.g. every year) cities can measure in which areas and to what extent they made progress towards sustainability and achieving a better performing urban mobility system. If repeated over time this exercise will reveal the measures impacting most efficiently on specific indicators and thus allow other cities to select the best measures in the context of a targeted action.