

## Framing Sustainable Mobility

How to ensure that today's mobility needs are not met at the expense of future generations

Nancy Vandycke (World Bank) and Jari Kauppila (ITF)

In its crucial role, transport fosters development as it connects people to goods, services, social, and economic opportunities.

But today's data shows social exclusion linked to accessibility gaps in transport services—in rural areas, women, and the elderly—, high costs to society from poorly integrated transport systems, road fatalities, traffic congestion, air pollution, and environmental degradation.

The question for global and country transport decision-makers is how to meet the mobility needs of people and goods now, while preserving future generations?

The 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs) identify an important and rich array of characteristics that define a sustainable world. Those characteristics, along with those identified in the economic literature, can be used to frame “sustainable mobility” around four global goals, which should address more than access. For mobility to be sustainable, it should have four attributes—equitable, efficient, safe, and green. In this way, mobility can benefit both present and future generations.



### The basic principles

A supply and demand conceptual framework can be used to capture the dynamics of a typical market for transport and mobility. Left to its own devices, this market tends to over- or under-provide, or over- or under-use the various modes of transport infrastructure and services. An example of this is the over-use of roads by private automobiles and motorized two-wheelers to the detriment of public transport systems and active modes—leading to congestion, excessive fossil fuel use, and air pollution.

At the heart of these sub-optimal outcomes are individual decisions to use and provide transport

infrastructure and services that do not take into account other users—both in the present and in the future. But what may be ideal for an individual in the short term may not necessarily be optimal for other individuals—either today or tomorrow. As a result, society is mobile, but at the expense of present and future generations.

### Sustainability conditions

How can we achieve mobility that benefits present and future generations? Two approaches point us in the same direction.

UN Secretary General Ban Ki-moon's High Level Advisory Group on Sustainable Transport identifies

the attributes that mobility must embody to ensure a sustainable future: “the provision of services and infrastructure for the mobility of people and goods—advancing economic and social development to benefit today’s and future generations—in a manner that is safe, affordable, accessible, efficient, and resilient, while minimizing carbon and other emissions and environmental impacts.”<sup>1</sup>

The 2030 Agenda for Sustainable Development identifies similar characteristics that define a sustainable world. The SDG targets capture concepts such as universal access, system efficiency, safety, and green mobility. For example,

- The notion of “universal access” is embodied in SDG target 9.1: develop quality, reliable, sustainable, and resilient infrastructure, and focus on affordable and equitable access for all; and SDG target 11.2: access to safe, affordable, accessible, and sustainable transport systems for all, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities, and older persons.
- The notion of “system efficiency” is captured in SDG target 7.3: energy efficiency; SDG 12.3: food waste; and SDG target 9.4: sustainable infrastructure.

More broadly, these SDG targets provide the basis for a set of global objectives that underpin sustainable mobility.

## Universal access

Inclusiveness is at the heart of this objective. The Universal Access objective places a minimum value on each individual’s travel needs, and ensures that no one is left behind. This means that all people will have access to transport that meets their basic needs—in their own travel and in the shipment of goods upon which they place a high value and priority. This includes commuting to work, and access to schools, medical care, and commerce.

Universal access will ensure that transport is available to people of any income group, gender, age, disability status, vulnerability, or geographical area, however remote.

## Efficiency

This objective seeks to ensure that transport demand is met effectively, at the least possible cost. Since efficiency cuts across multiple dimensions of transport, we arbitrarily define the boundary for this objective from a strictly macro-economic perspective: the optimization of resources—energy, technology, space, institutions, and regulations—to generate an efficient transport system. An efficient transport system has transport modes that are seamlessly integrated and optimal traffic volumes that reduce congestion and cross-border delays. It makes the minimum use of energy resources per unit of transport.

An inefficient transport system has long delays and high costs that are detrimental to competitiveness, economic growth, and development.

## Safety

This objective aims to improve the safety of mobility across all modes of transport, by avoiding fatalities, injuries, and crashes from transport mishaps—thus averting societal and economic losses and public health risks associated with unsafe mobility.

## Green mobility

This objective is aimed at reducing the impact of transport on climate change—through mitigation and adaptation—and to reducing local air and noise pollution. Both dimensions are typically thought of as externalities of the transport system that individuals, shippers, and carriers do not take into consideration when making their transport choices.

These four global objectives substantially increase the complexity of the supply and demand framework. There are synergies among these objectives, and complex trade-offs that make decision-making more challenging than ever.

---

<sup>1</sup> HLAG 2016. “Mobilizing Sustainable Transport for Development—Analysis and Policy Recommendations from the United Nations Secretary-General’s High-Level Advisory Group on Sustainable Transport.” New York: United Nations.

---

*Connections* is a series of knowledge notes from the World Bank Group’s Transport & Information and Communication Technology (ICT) Global Practice. Covering projects, experiences, and front-line developments, the series is produced by Nancy Vandycke and Shokraneh Minovi.

The notes are available at <http://www.worldbank.org/transport/connections>.

The **GLOBAL MOBILITY REPORT 2017** is available at <http://www.sum4all.org/publications/global-mobility-report-2017>