



Interface for cycling expertise

## Towards people oriented indicators for accessibility, road safety and environment





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Contribution to UNEP's Share the Road project |

Interface for Cycling Expertise

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# 1 Introduction

UNEP is currently embarking on a project to encourage institutional donors to allocate a percentage of all investments in road infrastructure to facilities for improving the safety of all users, inclusive of Non-Motorized Transport, with the objective of making entire transport systems safer, more sustainable and more accessible. In order to be able to assess the impact of any investment, the effect on road safety, environment and accessibility has to be anticipated by the investor, the authority and the decision-maker.

UNEP requested I-CE to propose indicators in these three areas which should allow decision-makers to choose between alternative options to invest in infrastructure for NMT as part of an overall investment in improving roads for all users. There are no such indicators on accessibility yet and these have to be developed from scratch. Indicators for road safety have been developed by iRAP and, in consultation with iRAP, will be incorporated in this project. Indicators assessing emission reduction are available from literature; relevant literature has been reviewed and organizations contacted for this project's goal. Indicators have been reviewed mainly to analyze how these indicators can be used in one cohesive and user-friendly manner for all three policy aims. As such a methodology for suitable assessing the impact of roads (e.g. in safety figures, emissions avoided, etc) integrating safety, sustainability and accessibility will be proposed.

The completed methodology, explanatory text, and accompanying data and literature, will be integrated into a UNEP report called *Share the Road: Investment in Walking and Cycling Road Infrastructure*. The chapter on indicators will cover the following elements:

- 1 Definition of three indicators to form an integrated assessment template/methodology for the three requirements for good roads (safety, sustainability, and accessibility), focusing on NMT usage and users.
- 2 Suggest application of this set of indicators in road project assessment and by relevant institutions.
- 3 Describe what the application of this methodology/set of indicators will entail in terms of actual road building when applied on a project basis, i.e. how would the indicators assist in the assessment of alternatives and support the integration of safety together with NMT infrastructure.
- 4 Suggest ways in which the indicators can be further developed, expanded, integrated, and used by institutions to include larger road safety and environmental considerations.



## 2 Conceptual framework for looking at transport and its impacts.

### 2.1 An unbiased view on mobility

Mobility is one of the most important prerequisites to achieve an improved standard and quality of living. In low and middle income countries all over the world prosperity increases. This is accompanied by an explosive growth of cars, particularly in cities. The World Health Organization characterizes this development in 2004 as critical.<sup>1</sup> Not so much because increasing prosperity would be a negative development, but more that transport policies and road users are not prepared for it. As a consequence traffic behaviour is not adapted. The growth in car-use is accompanied by an increasing number of traffic accidents, causing road deaths and injuries. The WHO foresees a major public health problem in the next decades caused by road safety.

Following rapid urbanization and growing prosperity, new roads are constructed to accommodate the growing number of motorized vehicles.

New origins and new destinations have to be connected to the existing ones. This infrastructure, mainly designed for motorized car traffic, is considered to contribute to economic development and prosperity. The affluent parts of the population will benefit most from these investments, as only they can afford to have cars. The impact of new roads on the livelihoods of the urban citizen is hardly considered. New infrastructure allows those who have access to motorized vehicles to reach a wider range of destinations. Without facilities to regulate the interaction between motorized vehicles and non motorized modes of transport: walking and cycling, this new infrastructure limits the freedom of movement of the common citizen substantially. They are dependent of these non motorized modes. To include the interests of the whole population in the decisions on road investments, their impact has to be assessed not only in terms of improved performance of the vehicular system, but much wider on the impact to the well being of all people affected by the investment.

Moreover, transport is globally one of the most important sources of CO<sub>2</sub> and Greenhouse Gas emissions.<sup>2</sup> This is also true for developing countries where transport is also the fastest growing sector in terms of CO<sub>2</sub> emissions. There is therefore an urgent need to make transport more climate-friendly<sup>3</sup>. To avoid a further rapid growth of GHG emissions from the sector there is a need to

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