

EarthTrends Featured Topic: **Sustainable Cities, Sustainable Transportation**

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Cities are the focal points and drivers of societal development in all countries. At the same time, they are the largest consumers of natural resources and the biggest sources of pollution and greenhouse gas emissions on the planet.

Fortunately, cities also house the greatest concentration of the world's brains, brawn, money, talent, ambition and vision – all of which need to be deployed to find environmentally and financially sustainable solutions to urban problems.

Urbanization - A Glimpse of the Future

Cities continue to be seen as offering economic opportunity superior to what can be realized in the countryside. Urban migration takes place on such a scale that we now have a new category of cities – megacities, with populations over 10 million. By 2015 there will be 23 of these megacities; most will be found in the developing world. They will include Beijing, China; Cairo, Egypt; Mumbai, India; Lagos, Nigeria; Mexico City, Mexico; and Sao Paulo, Brazil. In 12 years, nearly 3 out every 4 city dwellers will live in a megacity. By 2030, conditions in megacities will define the quality of life for nearly 5 billion of the earth's inhabitants, most of whom will be under 18 years of age.

Urbanization, population growth, and globalization combine to create vast conurbations of millions of poor people in relatively constrained spaces, with wants and needs basic to all of humankind, yet

influenced in particular by the consumption and transportation patterns of Western nations. This is not a recipe for a socially or environmentally sustainable society.

Providing for the needs of today's city-dweller without compromising our ability to meet the needs of tomorrow is thus a primary challenge of sustainable development.

Unsustainable Transport - Defining the Problem

Transportation brings people and goods to people, returning enormous benefits to economies (Braudel 1992). However, transportation also comes with significant undesirable side effects, particularly in terms of air pollution in urban areas and emissions of greenhouse gases, which can impact global climate change. The health consequences of urban air pollution are high; each year, suspended particulate matter (for which car exhaust is a major source) may account for 460,000 premature deaths (Doering 2002). Evidence is also growing of transport's negative impact on local populations, particularly on the poor in developing world cities. There, pollution and congestion often hinder local, national, and regional economic growth.

The detrimental side effects of urban transport problems have long been recognized. Nevertheless, efforts to tackle them have been discouraged by the inherent complexity and cost of such endeavors, their attendant disruptions, and the long lead times

involved. In the absence of a long-term vision for managing urban transport issues, recent growth rates in automobile and motorized two-wheeled vehicle ownership in China and India have soared, often exceeding 10% increases annually (World Bank 1996). Year-to-date sales of cars built in China, as of August 2003, have grown 72% versus the same period just one year ago (ARA 2003).

To illustrate the importance of these statistics, consider this hypothetical situation. Suppose that India and China maintained their populations at today's levels, but adopted as a national goal the same per capita car ownership that occurs in the United States: 1.3 persons per motor vehicle. Under these circumstances, the two countries combined would have 1.7 billion vehicles on their roads – more than twice the number of motor vehicles the entire world has today. How much fuel might these vehicles consume each year? Might the CO₂ emissions from this many cars overwhelm attempts to control global warming? And what of the impact on the quality of life of city-dwellers, who might have to deal with long daily commutes, hazardous levels of localized pollution, aggressive and dangerous driving habits, and burdensome road maintenance and construction costs? Consideration must also be given to the poor, who often cannot afford vehicles. In cities designed for cars, the poor tend to suffer from limited access to jobs, education, hospitals, and recreational facilities.

Governments must find solutions to the transport dilemmas

that face growing cities throughout the world. They must mitigate transportation impacts such as threatened public safety, air pollution, carbon emissions, congestion, noise, and sprawl. If solutions are not found, these same negative impacts will continue to affect the daily lives of millions of people each year.

Sustainable Mobility – Arriving at the solution

One of the most fundamental problems in cities is mobility – access to transportation that meets the broad scope of economic and social needs. Mobility within cities is quite literally the key to economic growth in the developing world. As economic growth is the driver for development, sustainable mobility needs to be among the first problems addressed when we talk about ways to make cities more sustainable.

Sustainable mobility, as defined by the World Business Council for Sustainable Development, is the ability to meet society's need to move freely, gain access, communicate, trade, and establish relationships without sacrificing other essential human or ecological values, today or in the future.

The World Bank has gone on to define what it refers to as the three pillars of sustainable transport:

Economic and Financial Sustainability. “To be economically and financially sustainable, transport must be cost-effective and continuously responsive to changing demands.”

Environmental Sustainability. “Transport has

significant effects on the environment that should be addressed explicitly in the design of programs (and systems in general [our addition]). Making better use of readily available and cost-effective technology is necessary, but not in itself sufficient. More strategic action is also required in the form of better-directed planning of land use and stricter management of demand, including the use of pollution and congestion charges to correct the relative prices of private and public transport.”

Social Sustainability, i.e. equity. “Transport Strategies can be designed to provide the poor with better physical access to employment, education, and health services.” In addition, customer satisfaction is a key ingredient in creating a socially sustainable transport system.

Moving Forward

To meet these challenges, sustainable mobility will need a model representing a social and political approach to sustainable development in cities, one that invites and embraces public-private partnerships to create and finance sustainable transport solutions. To be effective, these partnerships must have a sense of specific purpose; they must be selective and strategic; they must involve a process of engagement and collective innovation by local stakeholders who can lead the way; and they should focus on profitable as well as environmentally sustainable solutions.

Sensing the need for a strategic vision, NGOs are stepping forward

to help organize this collective and necessary effort. The Institute for Transportation and Development Policy (ITDP) is one example; it works closely with partner NGOs to establish regional coalitions and encourage civil society involvement in transport policy decision-making. At present, ITDP is working with a wide range of actors in the private, public, and non-profit sectors to combat urban sprawl in Eastern and Central Europe and increase accessibility to transport in major African cities.

EMBARQ, the WRI Center for Transport and the Environment, is another pioneer in the social-political approach to transport planning. EMBARQ's cooperation with business, civic, and government leaders has produced public-private partnerships that tackle the problems of urban transport from an integrated perspective - from developing a strategic vision to making practical decisions on how to reduce traffic congestion or improve air quality. Through its partnerships, EMBARQ has consolidated and driven broad-based commitments towards sustainable transport in Mexico City and Shanghai. This approach is helping to secure the development and implementation of bus rapid transit systems in both megacities.

While the challenges ahead may be complex and daunting, collaborative initiatives such as these will help move the world's cities towards more responsible and sustainable urban transportation systems.

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