

URBAN SHELTER TRANSPORT



An accelerating problem

One of the most salient features of 20th century urban life has been the rise of the private automobile, reshaping urban life at every level: physical, environmental, social and political. Developing countries are now experiencing the same car-related social and environmental ills as those in developed countries, and increases in rates of motorization now approach 10 percent per annum in many of them - substantially higher rates than ever found in automobile-bound societies like the United States, Australia and Canada. The management of transport systems therefore becomes a priority for urban policy.

The environmental cost

According to recent European Commission statistics on greenhouse gas (GHG) emissions, transport emissions increased 15.3 percent between 1990 and 1997. Transport already accounts for 70 to 80 percent of total emissions in the cities of developing countries, and is still rising. According to the International Energy Agency, worldwide emissions of carbon dioxide (CO₂) - the principal green house gas - will rise by 60 percent between 1997 and 2010, and 65 percent of this increase will come from developing countries: China's contribution alone will equal that of all OECD countries combined.

The human cost

Traffic accidents currently cause over 500,000 deaths every year and are the third leading cause of disability and premature death. By 2020, according to

the International Red Cross, road accidents will kill or disable more people than war, tuberculosis and HIV combined. According to a recent study funded by the EU, over 300,000 cases of chronic bronchitis, 500,000 asthma attacks, and 16 million person days of lost activity are related to air pollution from transport. Health costs from traffic pollution amount to 1.7 percent of GDP in developed countries. In the developing world, where the regulation of vehicles and fuels is less controlled, the problem is even worse.

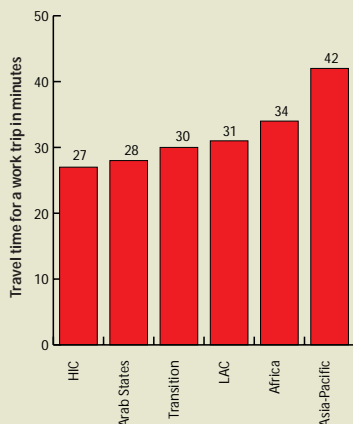
Economic Inefficiency

Efficiency in sustainable transport means providing a diversity of transport means for different trip lengths and purposes - at different times of the day and at different prices. Just as an ecological system is healthiest when it displays great diversity and differentiation, so a transport system is more robust, less intrusive and prone to system breakdown when there is a diversity of options, including walking, cycling, motorized two and three wheelers, public transport (rail and bus), automobiles - and various combinations of these.

However, current global trends indicate a reduction in the diversity of travel options in favour of a few higher-cost alternatives, such as the private car. There are other choices: for example, public transport and para-transit systems (such as the *matatus* of Kenya and the *jeepneys* of the Philippines, which carry 10 to 15 persons) perform a number of functions in making cities more sustainable. When demand is sufficiently high to secure viable commercial loads, they are much more efficient users of space and fuel - and less polluting - than other modes.

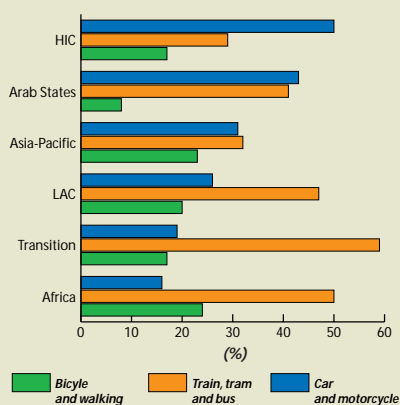


Travel time in cities



Travel time is a key performance measure of transportation systems. Long transport time to work is an obvious sign of urban dysfunction, associated with severe traffic congestion, uncontrolled mixes of traffic types, poorly operating public transport networks, lack of adequate local traffic management, accidents and general dissatisfaction of the population who daily commute to their workplace. Reducing travel time has become a real challenge for transport planners of fastly growing mega-cities such as Mexico, where commuters spend 83 minutes on average to reach their workplace.

Transport modes in cities



Travel time needs to be analyzed in relation with other indicators such as the percentage of work trips made by private cars, public transports, motorcycles and non-motorized modes. Travel times in Asia-Pacific appear to be longer than in other regions. This can be explained by the high use of non-motorized transport, with 23 percent of work trips made by foot and bicycle. City commuters of industrialized countries spend an average 27 minutes in work trips, mostly by private car and public transport. Commuters of transition cities spend 30 minutes in work trips and enjoy a developed public transport system which is used for 60 percent of their work trips.

After investing considerable national resources in highway infrastructure, many countries and cities in the developed world have learned that new roads become quickly congested by increased demand. More cost-effective options of public-transport-friendly infrastructure - recognizing the role non-motorized transport can play for many urban trips - should be considered first. In many European cities bicycle use is growing exponentially, while in Tokyo 21 percent of residents now commute by bicycle, with numbers rising.

Social Inequality

Transport systems designed to move vehicles rather than people further disenfranchise and marginalize the urban poor, the handicapped and the elderly. For example, road-building programmes split and isolate neighborhoods, while airports take large areas of land which could be used for urban housing - as well as subjecting nearby residents to noise and increased hazard. Investment in transport infrastructure is the leading cause of urban eviction and relocation, either directly or indirectly due to land speculation.

Urban transport systems often discriminate against women, being based largely on servicing a male, '9 am to 5 pm' work force. In developing countries, where the poor are forced into peri-urban areas because of high city land costs, women with child care and domestic responsibilities are often left stranded, since commercial transport systems often cannot profitably serve scattered trip destinations and travel times. Furthermore, sexual harassment of women on public transport vehicles is of epidemic proportions: in Mumbai, the problem became so acute that the entire local bus system was segregated by gender, with the unintended result of practically bankrupting the system due to the high costs of running separate vehicles.

Challenges for the Future

Globally, the level of understanding and action which relates urban transport issues to other urban development indices has been low. However, the tide appears to be shifting, and a fundamental review of how to sustainably meet future urban transport needs is emerging. It is now accepted by the wealthier countries that demand-management measures are as necessary as supply-side investment. Instead of simply copying the developed world, some developing countries are now creating urban transport systems which address local economic, social and environmental circumstances. Decentralizing urban transport decision-making to the local level - to ensure all urban residents are adequately served by effective transport at affordable prices - is of paramount importance.

Development strategies need to integrate shelter, land use, transport and other urban service delivery planning objectives in order to shorten trip distances and reduce overall travel demand. Only in this way can the negative social, environmental and economic impacts of urban transport systems be reduced.

Meeting the challenges posed by the urban transport sector calls not only for technological innovation, but also for influencing individual travel behaviour through demand management techniques, pricing, and integrating land-use and transport planning. In developing countries, more effective land use controls and

spatial planning can impact positively on urban transport patterns, along with more effective transport infrastructure investment. The social, environmental and economic costs of urban transport must be reduced - to ensure sustainability as well as contributing to economic development at all levels.



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The Petit Train Bleu of Dakar, Senegal
 Dakar solved urban transportation problems through rehabilitating obsolete French locomotives, forming the highly successful "Petit Train Bleu." The need for rapid, punctual, secure and affordable mass transportation was satisfied, while increasing transport choice. Further, jobs were created, and the transport shortfall of the disadvantaged suburban population was improved.

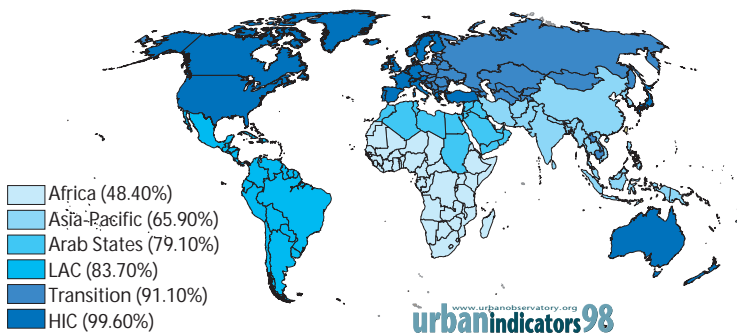
www.idp.org www.uitp.org
 www.worldbank.org/html/tpd/transport

URBAN MAPS SHELTER

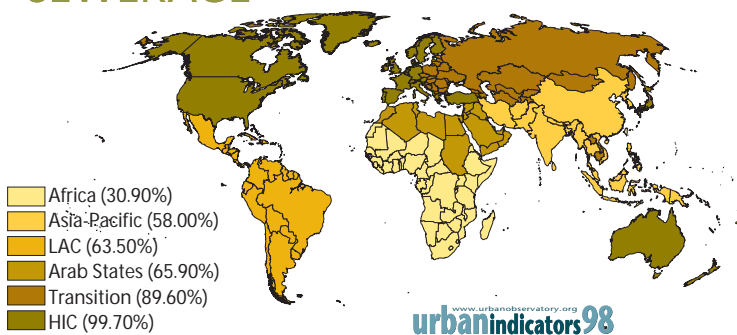


Urbanization Rates, 2000

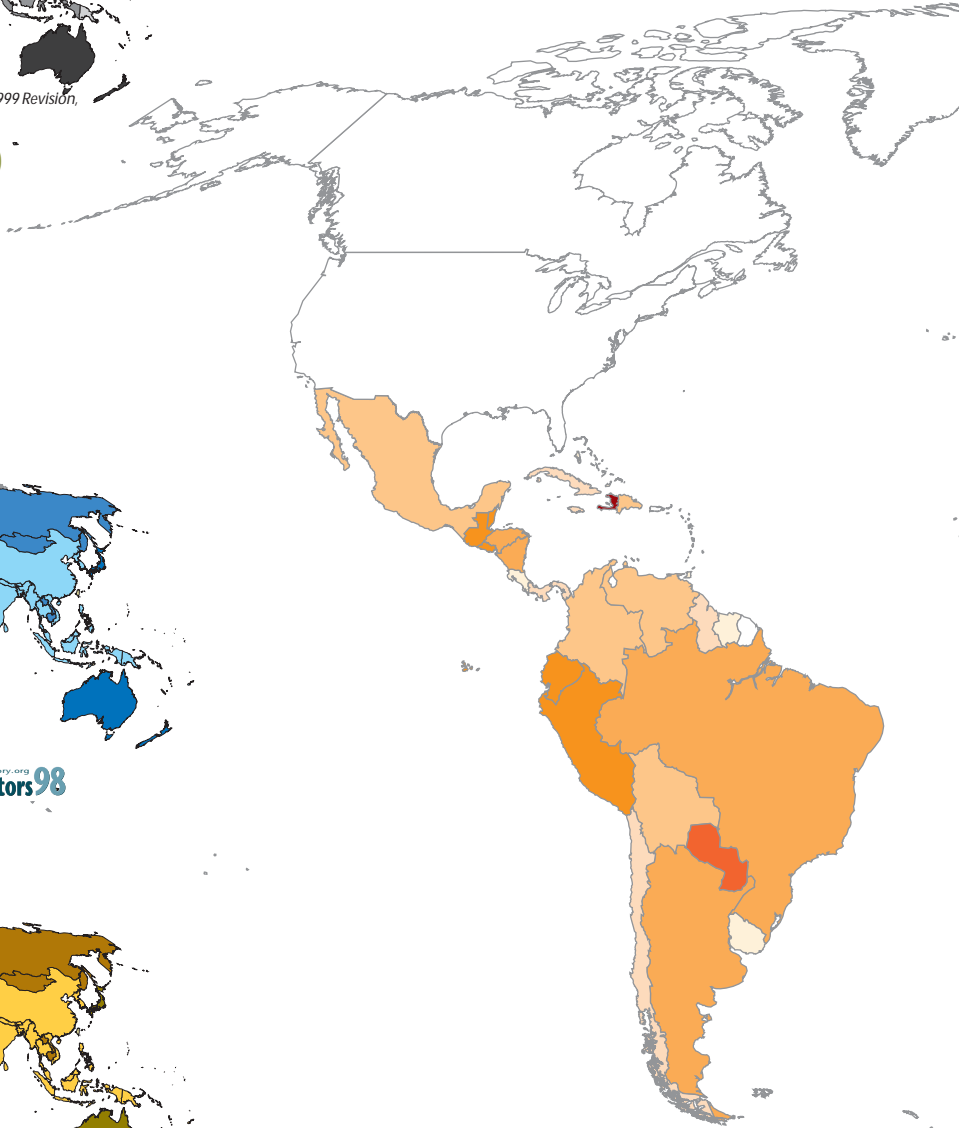
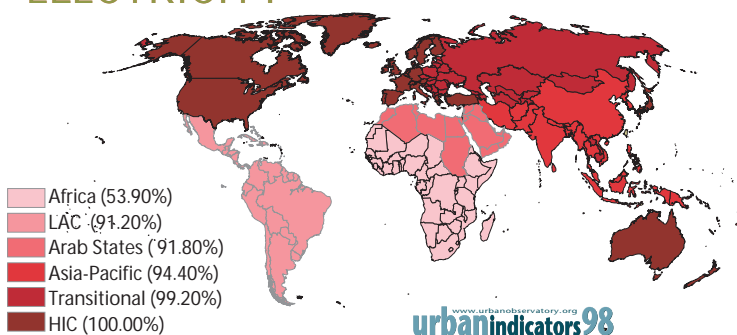
Household access to services WATER



SEWERAGE

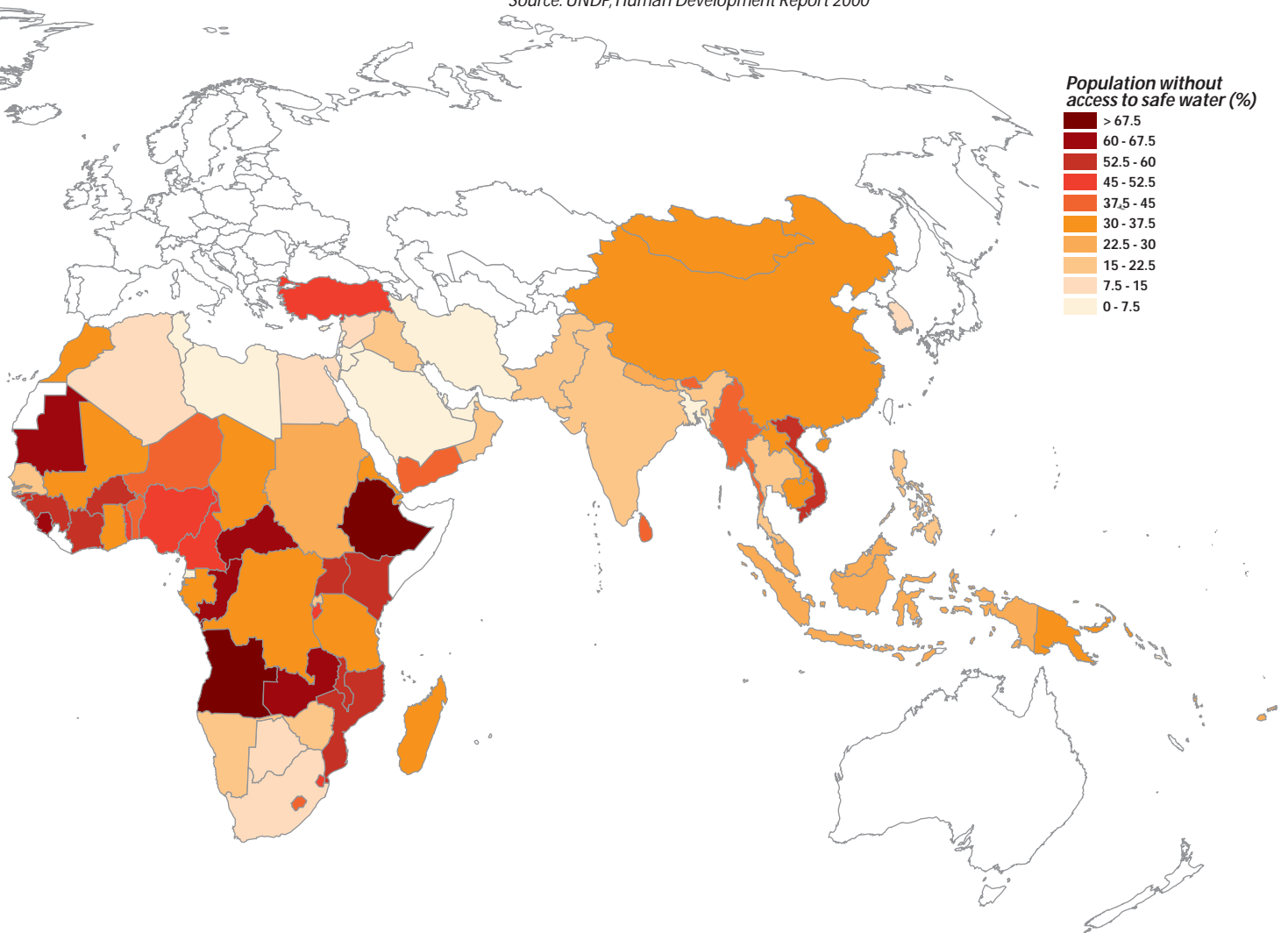


ELECTRICITY

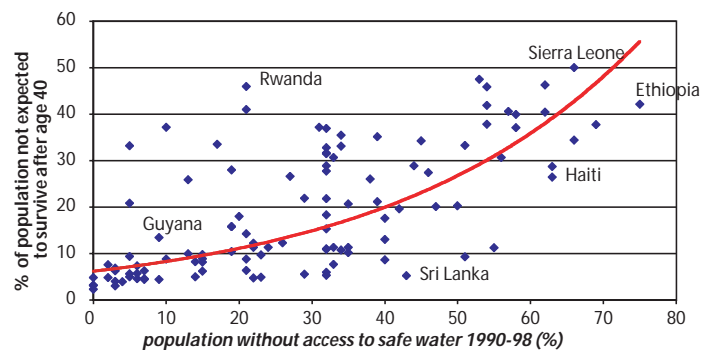
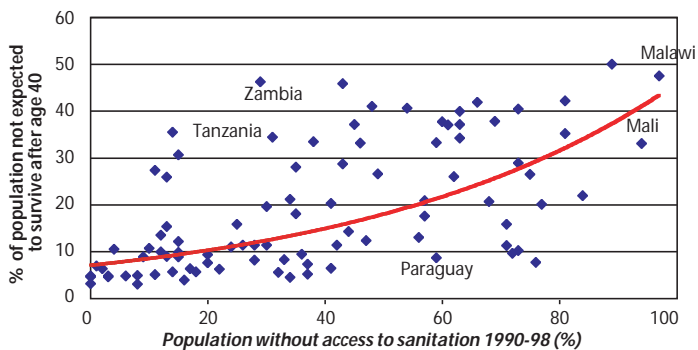


ACCESS TO WATER IN DEVELOPING COUNTRIES

Source: UNDP, Human Development Report 2000



People are more likely to die before 40 years of age in countries where access to water and sanitation is low



Source: UNDP Human Development Report, 2000