IV International Media Forum on the Protection of Nature:
"Protection of Nature, Protection of Health"

"Linking Health and Environment towards a Sustainable Mobility"

Villa Mondragone – Monte Porzio (Rome)
4-7 October 2006

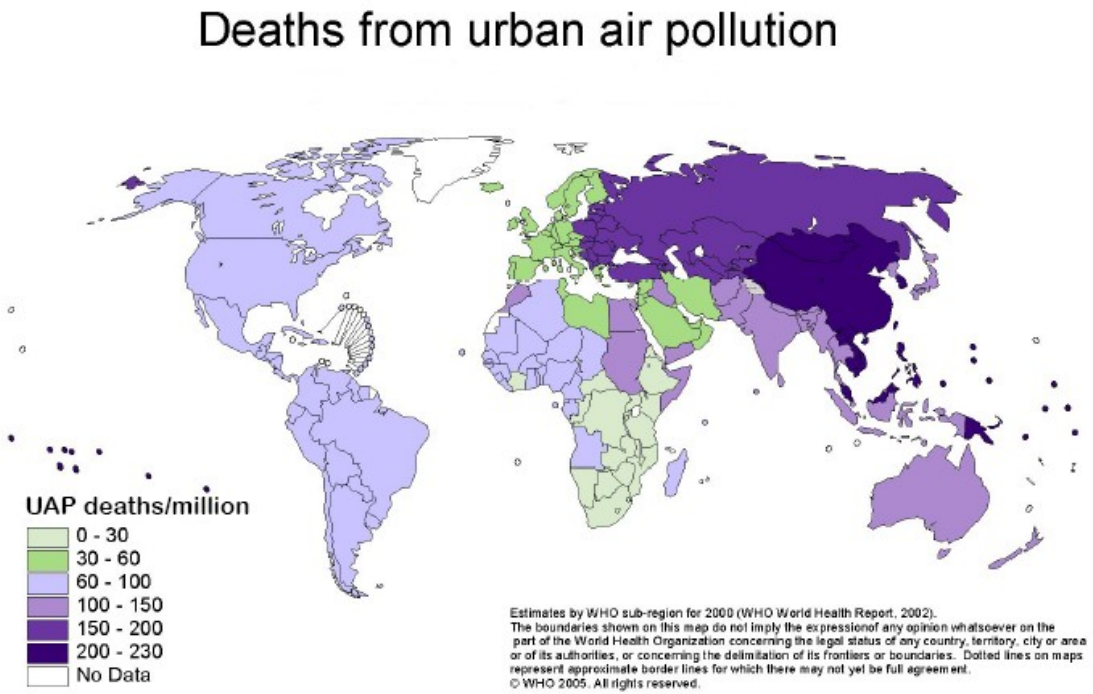
The Trends:

Growth in transport in developed and developing countries

Indicator	OECD (1980-1995)	OECD (1995-2010)	Non-OECD (1995-2010)
Population	+13%	+ 8%	+24%
GDP	+44%	+35%	+123%
Vehicle stock	+50%	+33%	+76%
VKT	+65%	+42%	+70%
Road fuel	+37%	+21%	+55%

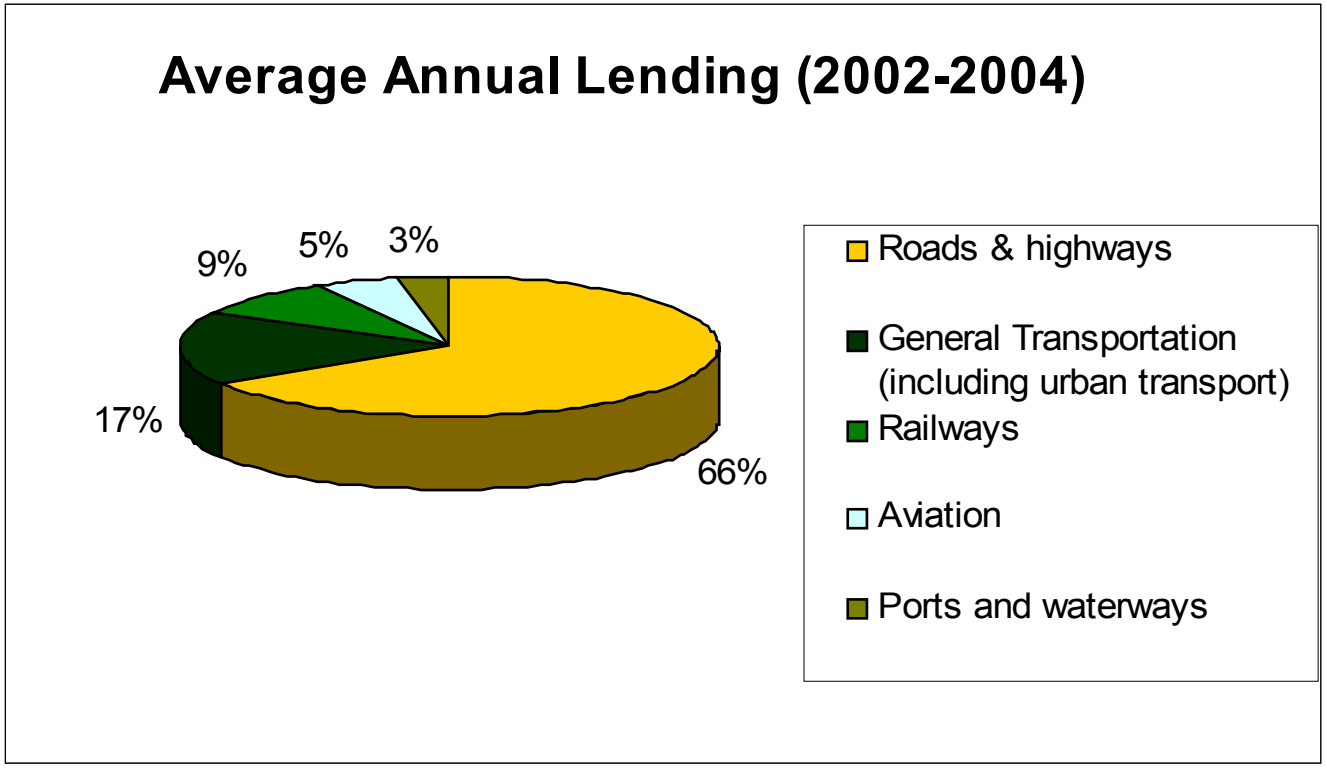
Source: OECD, 2001; IPCC, 2000; ICAO, 2005 (4-7).

The trends:
A major Sustainable Development Challenge



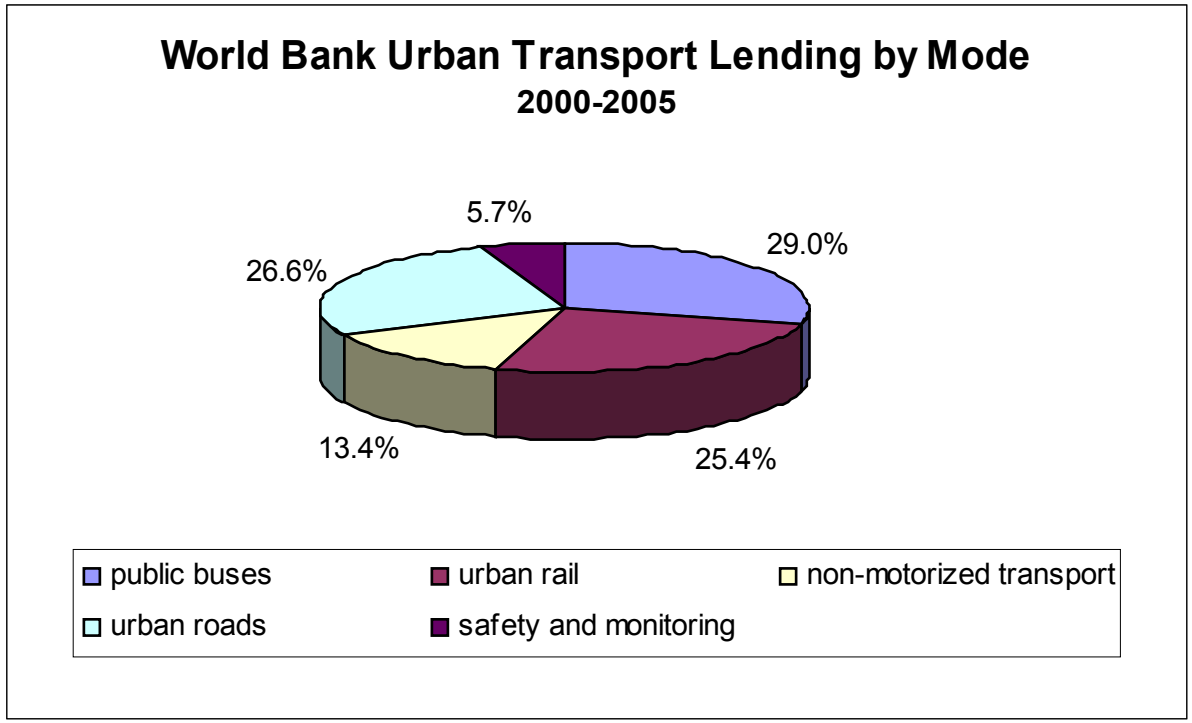
The trends: Road building: the dominant transport investment

World Bank Transport Lending by Mode



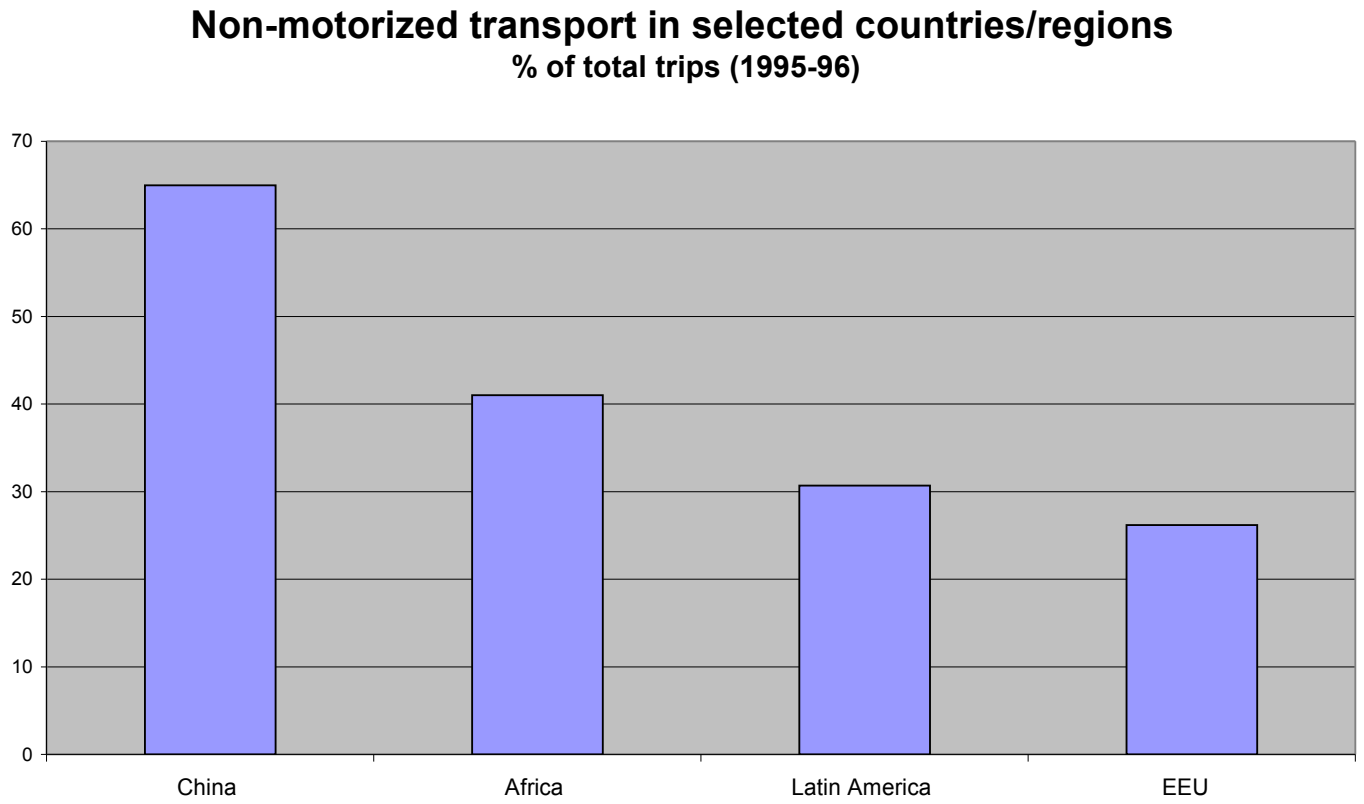
Source: World Bank

The trends: Lending by Mode



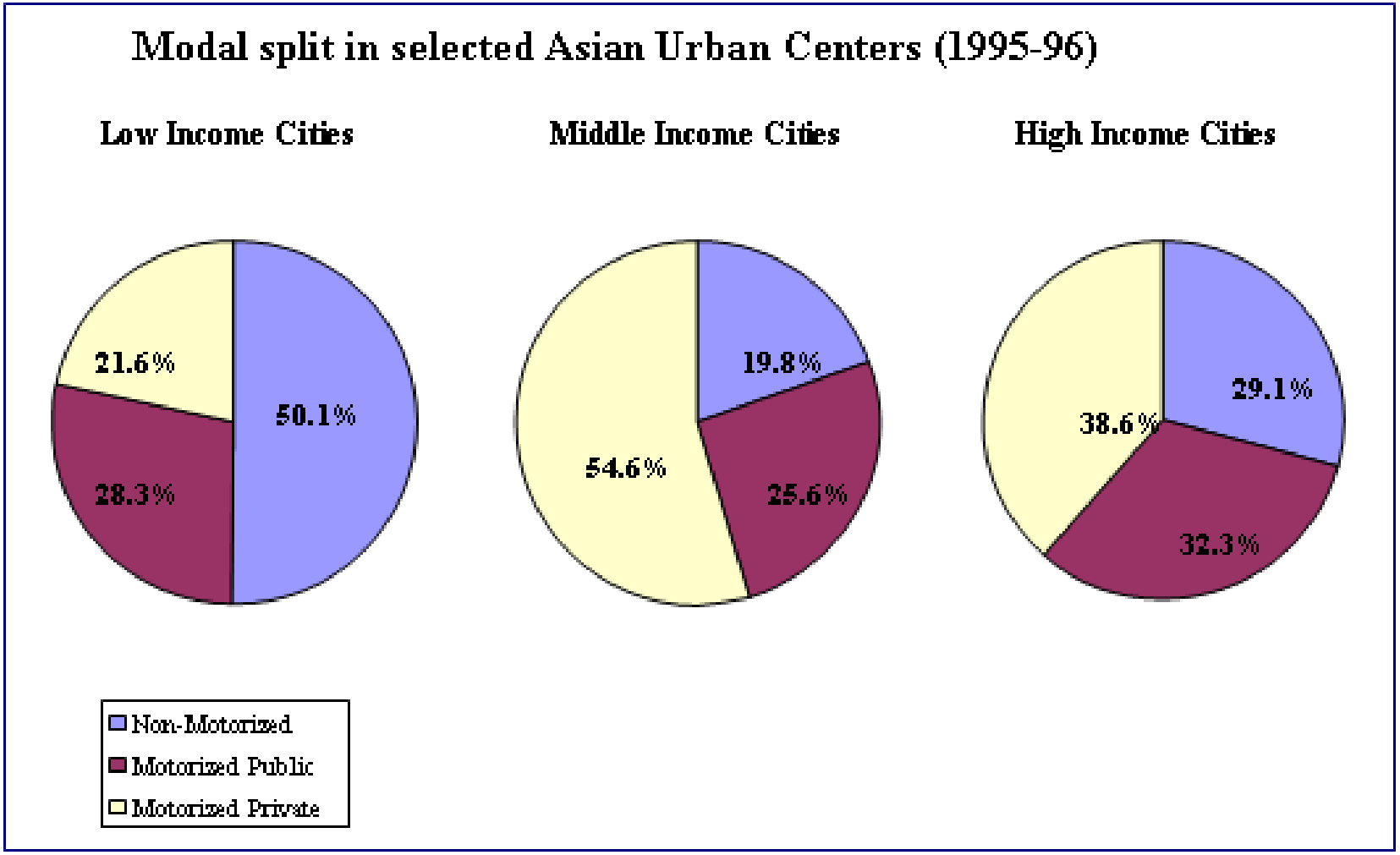
Source: World Bank & Sophie Bonjour, 2005

The trends:
Non Motorized Transport



Source: Kenworthy & Laube, 2002

The Trends:
Non motorized transport – an "inferior" mode?



Source: Kenworthy & Townsend (UNU/IAS-IIED, in press

Health and Environment Impacts of Transport in Developing Cities

- Patterns of transport and land use generate measurable crosscutting health impacts in developing cities through traffic injury; air pollution and noise; and certain patterns of physical activity.
- Transport also impacts community social interactions, social equilibrium and well-being in a variety of ways that are more difficult to measure, but which have been documented in qualitative research

Health risks associated with transport

- ***Urban air pollution****,* is estimated to kill some **800 000 people annually around the world.**

- ***Road traffic injuries*** are responsible for another estimated **1.2 million deaths**

- ***Sedentary lifestyles.*** is estimated to cause some **1.9 million deaths annually**;

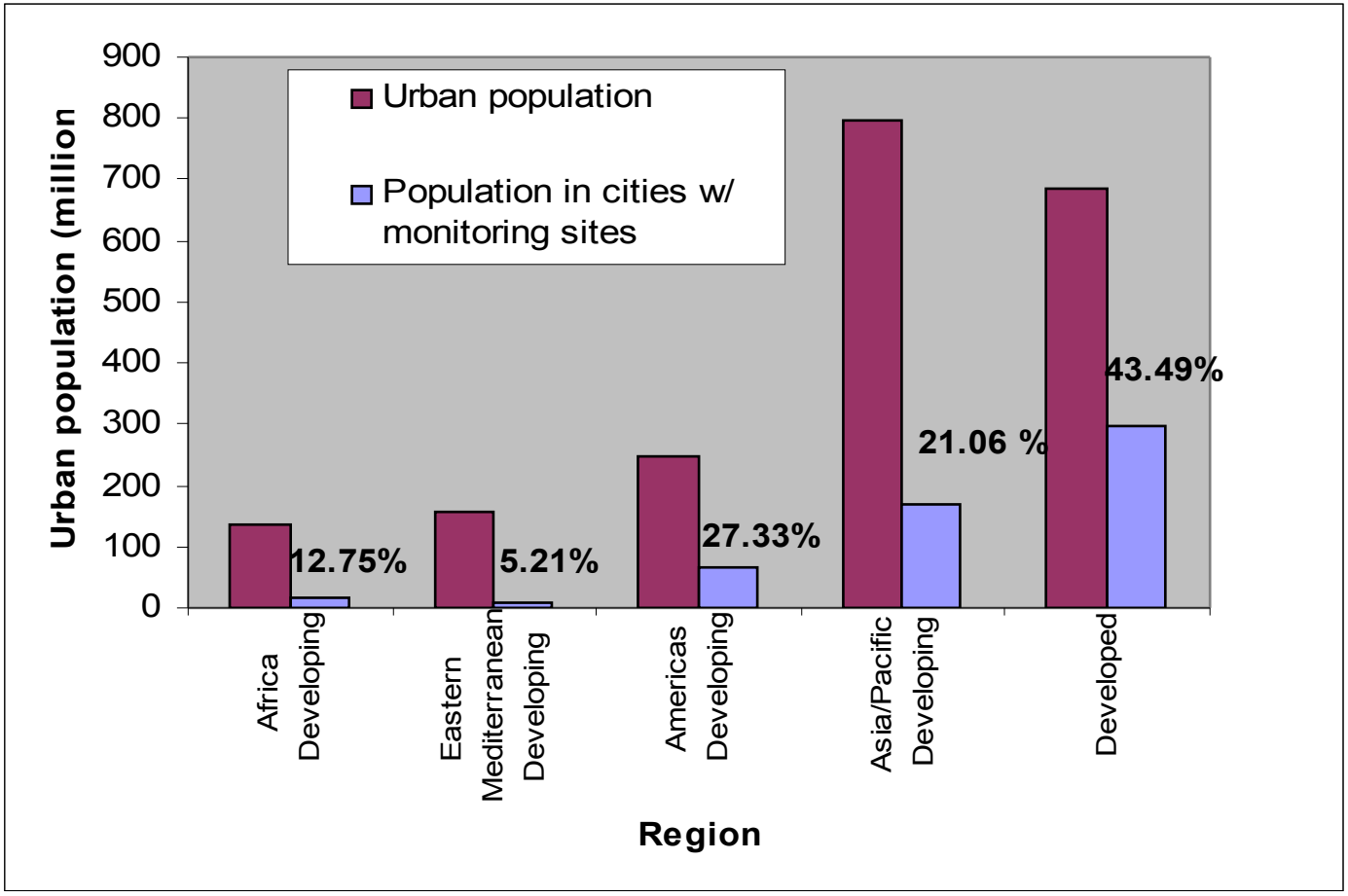
For comparison**:**

Malaria	**- 1.1 million**
HIV/AIDS	**- 2.9 million**
Tobacco-related	**- 4.9 million**

- ***Poverty and inequalities*** may be exacerbated by transport patterns when large gaps develop between the quality of private motorized transport and that of public and non-motorized transport, which are most accessible to the poor

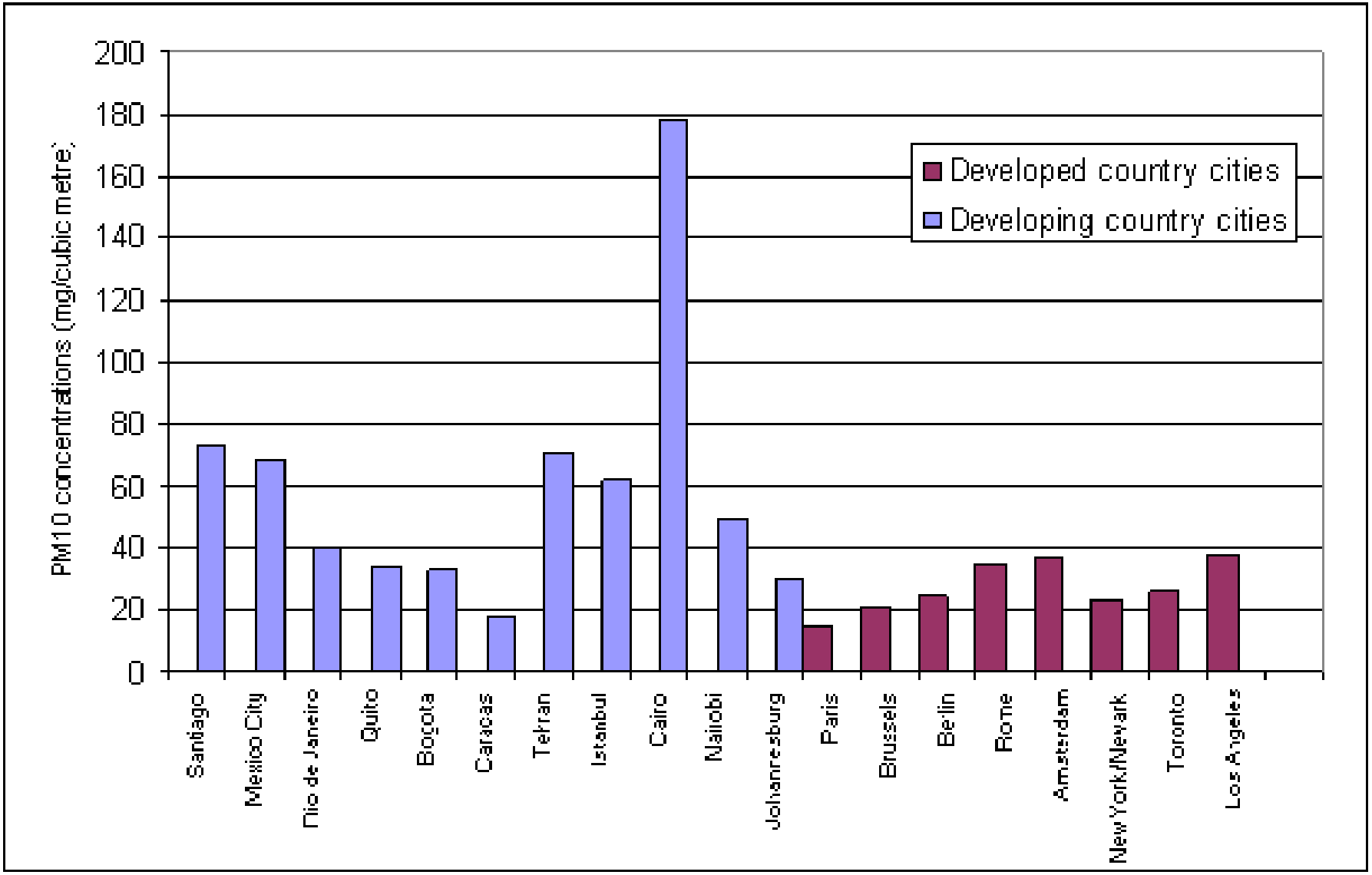
- Transport is a driving force ***shaping cities and communities,*** affecting not only patterns of physical movement but also fundamental social interactions and patterns of social health and well-being .

Health impact of Air Pollution "Particulate"



Particulate contd.

Average annual PM10 concentrations in residential areas: micrograms/m3 (1999)



Other Pollutants

- nitrogen oxides (NOx);
- carbon monoxide (CO);
- volatile organic compounds (VOCs) such as benzene;
- benzene derivatives in the form of polycyclic aromatic hydrocarbons (PAHs);
- and various metals, particularly lead.

Environmental Impacts

- Use of energy and other resources
- Air pollution impacts at urban, regional and global levels:
  - Urban
  - Regional
  - global
- The need for land and infrastructure

Towards Sustainable Mobility: a set of Principles

- Maximize Access VS Manage Traffic and Mobility
  - Vision of social equity
  - Transport demand management
  - Integrated transport
  - Prioritizing non-polluting modes
  - Separated NMT networks
  - Dedicated public transport corridors
  - Active community environments
  - Managed, integrated land use
  - Improved vehicle standards and technology
  - Economic tools

Economic Valuation

- **Externalities**: the external costs of transport in the European Union, while large and uncertain, amount to about 8% of GDP
- **qualitative evidence** to indicate that healthier transport systems may be beneficial to the macroeconomic development of cities
- **Poverty reduction**

Health and Environmental Costs and Benefits

Health and environment valuation of NMT and public transport investments

City	Investment US$ million	Benefit	cost:benefit	Time frame	Health and environment factors included
Bogotá, Colombia Cycling infrastructure	186 m	1302 m	1:7.3	1999-2009	Pollution; traffic injury; user costs
Morogoro, Tanzania Cycle paths, traffic calming;	1.3 m	14 m	1:5	2000-2010	User costs; travel time
Delhi, India High capacity bus and cycle	5 m	100 m	1:20	2000-2025	Traffic injury; pollution; travel time

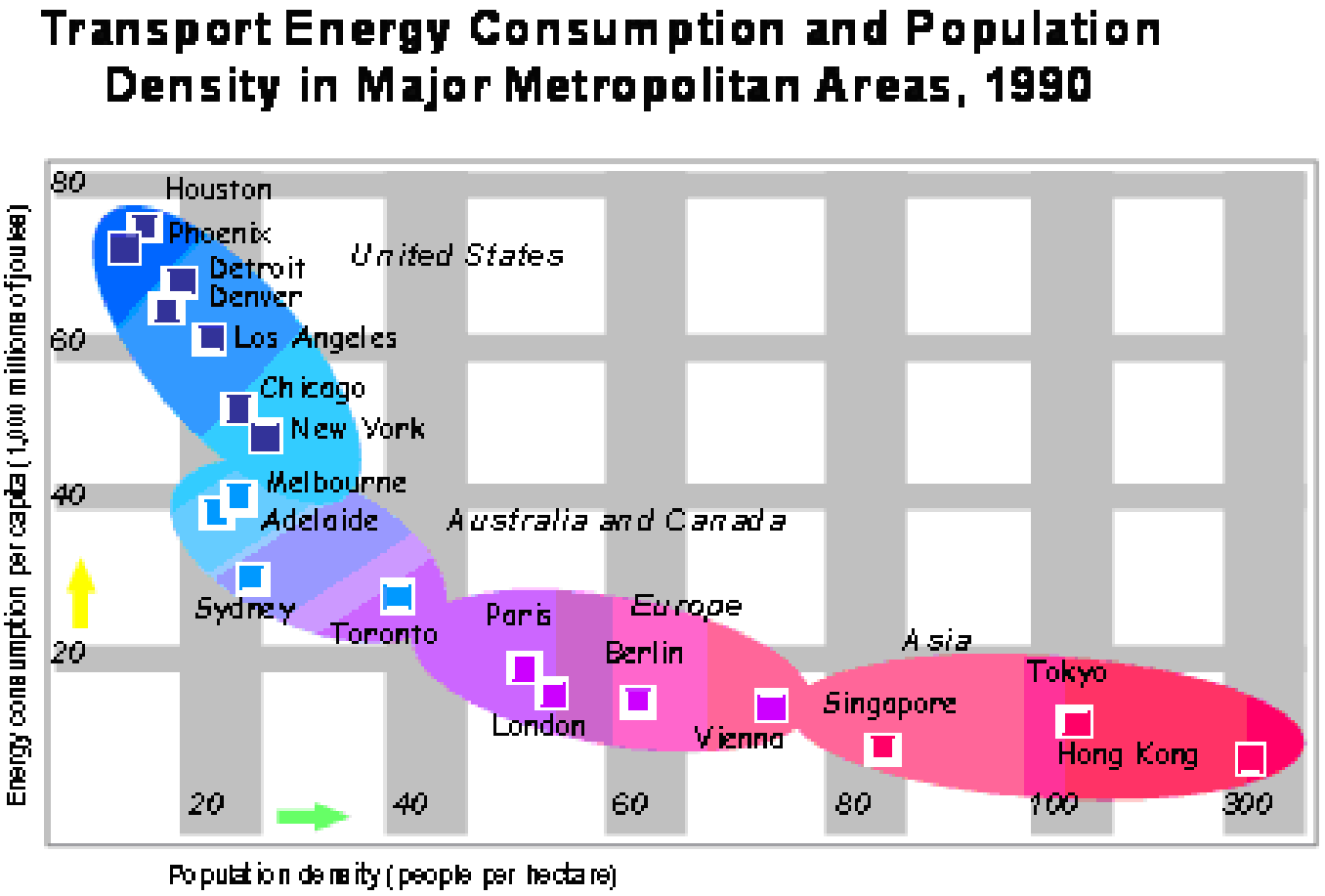
Barriers to Sustainable Mobility

- **Social perceptions**

"The car is a status symbol everywhere and more so in developing countries. To own one shows you are successful. It is like wearing jewels".– Enrique Peñalosa, former mayor of Bogotá, Colombia

Barriers to Sustainable Mobility:

Land use: the challenge of sprawl



Case studies of healthy transport

- **Curitiba**
  - Its system accounts for about 55% of passenger trips in the city
  - per capita fuel consumption in Curitiba is about 30% less than that in eight other Brazilian cities of comparable size
  - one of the lowest rates of ambient air pollution in Brazil
  - 1.6 million residents spend only about 10% of their income on travel - low relative to the rest of Brazil
  - in 1970 there was less than 1 m2 of green space per person, today there are 52 m2
- **Bogota**
  - TransMilenio system accounted for more than 540 000 trips per day, 9% of which formerly were made by car
  - A 20% petrol surcharge helped the city to finance infrastructure investments

Taking Action

- **Develop a vision:** include health and environment aspects
- **Build strategies**: The European Charter on Transport, Environment and health – a Model
- **Environmental and health assessment of transport plans and scenarios**
- **Take action based upon best available evidence**

International Support

- **UN Road Safety Collaboration** to reduce exposure to the risk of road traffic injury, particularly among vulnerable road users such as pedestrians and cyclists. 42 agencies, including 11 UN entities and 31 other international, non-governmental, research, donor and private sector agencies
- **UNEP Partnership for Clean Fuels and Vehicles** with developing countries in Africa, Asia, Latin America and the Mediterranean region to continue phasing out leaded gasoline; facilitate adoption of lower-sulfur diesel fuels; retrofit older diesel vehicles; and test alternative vehicle fuel technologies
- **Clean Air Initiative for Asian Cities (CAI-Asia) and Air Pollution in the Megacities of Asia (APMA)** regional approach to improving urban air quality and pollution monitoring
- **PEP - Transport, Health and Environment Pan-European Programme** facilitates scientific and policy dialogue, strategic alliances, dissemination of good-practice models and guidance via a web-based clearing house. WHO–UNECE

It is only by addressing health and environment issues together that the real value of each can be fully appreciated

The Health and Environment Linkages Initiative (HELI)

World Health Organization

UNEP

FURTHER INFORMATION

Website **WWW.WHO.INT/HELI**

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