Division 44
Water, Energy and Transport

Social Change and Urban Transport

Sustainable Urban Transport Technical Document # 2

By Marie Thynell

gtz Transport Policy Advisory Services

On behalf of
Federal Ministry
for Economic Cooperation
and Development

About the author

Dr Marie Thynell is a social scientist focusing on urban development and transport development. She obtained her doctoral degree at the Department of Peace and Development Research, University of Gothenburg, Gothenburg, Sweden. Dr Thynell has extensive research experience in the area of sustainable transport and public transport in developing, as well as developed cities. She has carried out case studies in Tehran, Dhaka, Xían, Hanoi, New Delhi, Rome, Copenhagen, Skopje, Brasília and Santiago de Chile. One picture that emerges from these studies is that implementing international agreements such as the Kyoto protocol or the notion of sustainable development has been problematic at the city level. Other findings related to the social aspects of development and urban transport that reveal the social dimension is by and large not integrated into transport planning (Thynell 2005). Thynell has published a number of articles and is a co-author of the Aichi statement (2005) regarding environmentally sustainable transport in Asia. She is also an expert member to the Environmental Sustainable Transport (EST) in the Asian region promoted by United Nations Centre for Regional Development (UNCRD). Dr Thynell holds a position as senior research fellow at the School of Global Studies, University of Gothenburg, Gothenburg, Sweden.

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1. Introduction

Most work related to sustainable urban transport policy (SUT) has focussed on ecological and environmental issues. However, there is another aspect of transport management that merits attention. The social dynamics of urban transport are related to societal changes in a number of areas including globalisation, politics, economics, and technical advancement, as well as cultural changes. These are issues that pose some of today's major challenges and represent important components of governing personal mobility needs. Briefly put, this document is a guide to understanding the various social aspects of urban transport and their implications in policy, planning and projects related to this sector.

During the last few decades, the notion of globalisation has become nearly synonymous with conventional Western development. Globalisation is the increasing volume and speed at which the flow of capital and goods, as well as information, ideas, people and forces emanate among countries (Keohane 2002:194). Transport issues are complex, and their analysis can just as easily involve diverse arenas such as city governments and global agreements, as it does the domestic politics of nation states. We define internationalisation today as not only the lateral relations among states but as the triangular structure of relations among states and international institutions, which produce opportunities for non-state interests to engage in collective action at different levels of the system (Tarrow 2005:25). We usually referred to three stakeholders: state (politicians), market (business) and civil society (the public sector). Within the state-market relationship are a variety of ways to negotiate the role of the state (and government) and the needs of the marketplace to satisfy transport requirements. Current policies and practices are the results of the interaction (or lack of interaction) between the two. The role of these stakeholders in developing transport systems will be further developed in Section 3 below.

This technical document is part of the "Sustainable Urban Mobility in Asia" (SUMA) initiative, which has launched a programme to combat the poor governance or inappropriate handling of mass motorisation. According to the SUMA programme description, it was designed to "promote the exchange of experiences and concepts, [and] the development of new tools and instruments […] target engagement with the following stakeholders: Men, women and children in Asia who want reliable, affordable and secure transport systems; policy makers and legislators responsible for approving sustainable transport and urban air quality policies and overseeing their implementation." Furthermore this program would "focus on (i) improving urban air quality, (ii) improving road safety, and (iii) reducing transport's contribution to climate change, through the formulation and implementation of sustainable transport policies".

Moreover, the programme was developed to assist "Asian cities and countries in accelerating progress towards their air pollution reduction and sustainable urban transport goals". An important step in this direction is "the integration of *Air Quality Management* (AQM) and SUT into the economic and social strategies, policies, programs and projects of the *Asian Development Bank's* (ADB's) developing member countries as well as mainstreaming such concerns into the operations of ADB and other development agencies". Such was the background of this document as well.

The document will provide background for understanding the priorities within the transportation sector at various levels in the developing world's cities. Several examples from Asia will be used to underscore initial discussions. Section 2 includes a general presentation of urban transport conditions in Asia. Seven different factors are outlined to provide a background to understanding how urban transport policies are formed; their eventual impacts; and ways in which they can be analysed and acted upon. In the following section, we will have a look at the various actors that are involved in the shaping of urban transport and traffic. In Section 4 different strategies to develop sustainable transport conditions are described. In the final section, the notion of social change related to urban transport is considered followed by the introduction of social assessments and a discussion of how social development can be achieved through a strong partnership among different stakeholders to determine urban policies at various levels.

2. Urban transport development in Asia

2.1 Societal change and urban transport

The spread of motorisation, which began about one hundred years ago, is having profound consequences for cities and societies.[1)] In accordance with differing perceptions and political practices, views of the car's role in societal development and ways of handling the individual motorised transport in general vary between cities, countries and continents. One of the lessons learned is that modern lifestyle usually spurs increased use of motorised vehicles. The underlying assumption has been expressed as follows by the British sociologist John Urry:

> "Transport is mostly a means to certain socially patterned activities and not the point of such activities" (Urry, 2004, p. 26).

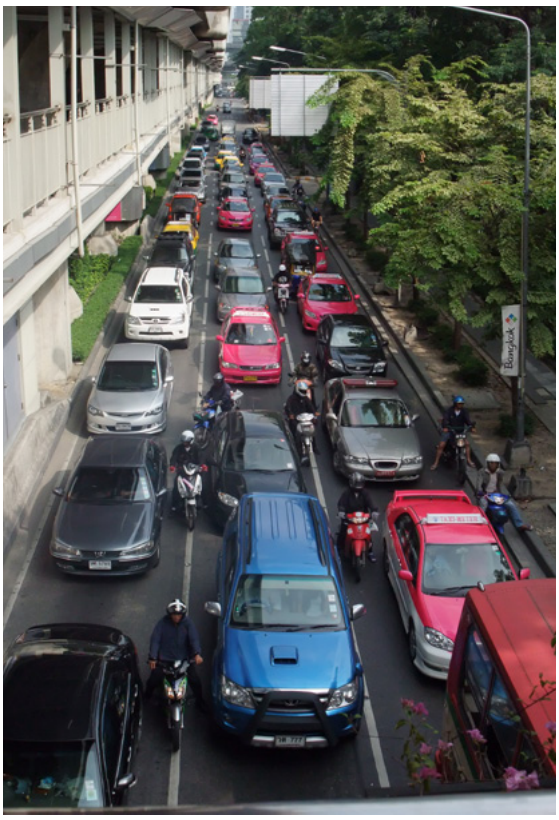

Figure 1
Mass motorisation has resulted in growing traffic problems, most recently in the Global South.
Photo by Marie Thynell (Bangkok, Thailand)

Accordingly, this document focuses on social activities, how they change, and how they are perceived by various stakeholders.

The growing populations in Asian cities and the rapidly changing lifestyles and consumption patterns of those with higher incomes, accompanied by dramatic increases in motorisation are acknowledged worldwide to show, not only important developmental progress, but also major resource and environmental challenges. Asian cities and countries have struggled to develop mass motorisation, but have failed to plan sufficiently for its onslaught. As a consequence, the infrastructure moves closer to collapse; and access and mobility are only partially facilitated.

These issues are complex, multi-faceted and difficult to manage. Furthermore, urban transport is a modern technical phenomenon not rooted in natural or historical institutions. For instance, in China and many other countries, a growing number of institutions are involved in managing and regulating urban transport. Therefore these issues are handled in different ways in the various countries and cities.

Decisions about how to handle the growing demand for transport and the ensuing traffic problems should be made by elected politicians that govern cities and countries in cooperation with the various stakeholders. However, there

Figure 2
Mobility and access for the urban poor in developing cities are complex, especially when considering the great distances travelled and their lack of appropriate means of individual mobility.
Photo by SThanthon (Villivakkam, India)

[1)] For the purpose of this paper the notion of Asian developing-world cities refers to the larger cities in East Asia, South and Southeast Asia (more than 1 million inhabitants).

Figure 3
Some cities prefer to give greater importance to motorized means of transport, leaving pedestrians in difficult situations and at great risk that ultimately decreases their quality of life.
Photo by Carlosfelipe Pardo (Kuala Lumpur, Malaysia)

are many interests at stake and concerns abound about which group will have the greatest influence over economic development, environmental improvement and social benefits.

Based on decisions generally made relating to urban transport, the resulting increases in number of trips and length show the "successful" introduction of a "modern", western lifestyle in Asia. Nearly the same development in the way of life was observable in the post-war times after World War II in the United States and it is based on an ever-increasing level of consumption, raised standards of living and extensive motorised travel which, in turn, depends on extensive motorised travel. Mobility inequality results when huge differences in incomes are reflected in available choices. In Asian cities, the modes of travel are diverse and mirrors the socioeconomic conditions of the users or drivers.

Figure 4
Cities in the United States, despite their increasing problems of sustainability and exceedingly high emissions from urban transport, are generally viewed as models by those in developing countries.
Photo by AtwaterVillageNewbie (Los Angeles, USA)

2.2 Urban Asia: a background

Urban Asia's history goes back thousands of years. The old metropolises are now modern global cities often assumed to be places of political development, arenas for artistic and scientific creativity, and melting pots of ethnic and cultural diversity. Larger cities are competing to display what they have to offer as a means of becoming attractive and dynamic transnational centres. The processes of globalisation are related to social, cultural, economic and political transformations in contemporary cities around the world.

Figure 5
Sprawl, like this seen in Beijing, China, has become part of the landscape in Asia as its large cities try to "modernize".
Photo taken from Google Earth

A number of important Asian cities act as nodes in the global economic system and are hosting rapid industrialisation. Economic activities are reshaping the old cities and new businesses that strongly influence life in the city are emerging. The constantly occurring socio-spatial re-structuring drives behavioural changes in daily life. One example is the construction of new systems of transport and the expansion of cities, so called urban sprawl. Taken together, a city's structure and social activities define the basic demand for urban transport.

At the same time, travel distances are increasing in large urban areas. Low-income passengers frequently spend 1–2 hours on public transport in order to arrive at their workplace. The poor also spend relatively more money on transport than the wealthy. This means (in particular for the poor) that "time poverty", distances travelled, and transport costs are increasing as urbanisation goes forward. Low income families need low-cost solutions that are, for the most part, turning out to be poor solutions. These unsatisfactory conditions are usually not alleviated because of harshly unbalanced city budgets for transport infrastructure or improvements. In the near future, another thousand Asian cities will be investing in modern urban transport infrastructure. Decisions that will lock cities into lifestyle patterns for the next decades. The influence of current transport planning is highly relevant to the quality of life of huge numbers of middle and low-income groups.

Figure 6
Public transport conditions in Asian cities are generally very poor and travelling is exacerbated by the very long distances to be covered.
Photo by Santhosh Kodukula (Hyderabad, India)

A growing number of urban households depend on public transport. But, the profound inequality built into the way cities develop transport systems is a major barrier to equitable development. Members of low-income households often have longer commutes to work (creating time-poverty), pay a higher percentage of income for fares (economic poverty) and are exposed to more risks (fatalities, injuries, dirty air, and noise) than wealthy families. Socio-spatial development contributes to discriminatory urban structures in many cities. In summary, the

Figure 7
Large highways only worsen transport's quality of service and lessens chances of future improvement for the urban poor.
Photo by Carlosfelipe Pardo (Beijing, China)

social-development challenges facing urban transport are daunting. The conditions for transport-disadvantaged persons need to be explored and responded to in the planning and construction of future transport systems.

City changes and urbanisation can be studied from various points of view such as:

- Spatial changes
- Demographics
- Social issues
- Culture
- Economics
- Ecology
- Physical features
- Governance.

Therefore, among relevant social concerns are the access and mobility demands of the most disadvantaged categories of people who are often marginalised in transport planning and project evaluations. In urban areas, they suffer disproportionately from the negative social effects of bad transport arrangements that restrict access to the labour market, education, health and other essential services. Poorer users are victims of social exclusion and according to their *modus vivendi* are exposed to the risks associated with hectic traffic such as injuries, fatalities, harmful noise levels and pollution. Furthermore, the time has come for policy-makers to take a more equitable approach to

Figure 8
Cars are parked where many people walk to and from school or work. This car is parked on the sidewalk and so the only choice is to walk through the roadway. The poor, women, the elderly, children and disabled are generally excluded from urban transport planning priorities, making it more difficult for them to move about the city.
Photo by Carlosfelipe Pardo (Kuala Lumpur, Malaysia)

urban planning and confront various negative consequences of central areas (such as gentrification) because urban retrofitting and re-structuring also mean breaking established social and professional networks that are paramount for people coping with daily life. Besides, access to informal work-places and social activities of marginalised social groups are often neglected in planning, whereas wealthy groups are much more visible as consumers and accordingly, their preferences are present in city planning.

The first decade of the new millennium witnessed the emergence of some compelling and rapidly occurring challenges in urbanising Asia. A brief presentation of some of these follow:

A. Population growth in cities

Figure 9
Since 2007, 50% of the world's population live in urban areas. In Asia, the proportion is even higher. This poses a challenge to urban transport improvements.
Photo by Szymon Kochanski (Beijing, China)

Asia continues to exhibit impressive economic growth. Between 1980 and 2005, the continent's share of the global gross domestic product grew from 20–36%. The prognosis is for continued growth and there are no signs of any break in this mega-trend. Already today more than half of the global urban population lives in Asian cities and this share will continuously grow during the next 25 years. Almost 80% of this growth will take place in India, Pakistan, Bangladesh, China and Indonesia. McGee (2005) sees the expansion of urban areas and populations in the next 30 years as "an underlying 'demographic imperative' that drives all policy formation". The increases are expected and wanted but, as stated before, not planned for. This generates a challenge to development and growth; and necessitates smart development of urban transport policies and projects.

B. The fast-rising numbers of the middle-class

The rapidly growing middle class in countries such as India, China, Thailand and Indonesia will set the standard for mobility patterns as well as sustainability. In other words, the lifestyle in cities will drive future definitions of sustainable transport, since daily real-life practices and decisions constitute social and societal changes.

Statistics from China show that the middle class is growing; about 45% or 350 million people in urban areas can be said to belong to it. China's stable economic growth is more rapid than that of India. Similar estimations of the size of the Indian middle class arrive at somewhere around 150 million people. The adoption of the western lifestyle means that people travel longer distances, and their vertical and horizontal social networking spurs important value changes. This means

Figure 10
Middle class citizens around the world (and particularly in the Global South) are generally more prone to using motorized vehicles and thus related problems such as congestion increase. This is a difficult situation to tackle, especially when there are issues of social inequity where high-income families enjoy much more access and mobility than low-income families. At the same time high-income families generate much more pollution.
Photo by Carlosfelipe Pardo (Jinan, China)

that they move both vertically and horizontally provoking different kinds of social change than that seen by earlier generations. In this way we notice how car use is intertwined with new social practices. However, rapid modernisation and motorisation tend to favour a small percentage of the high-income groups. These elites are served by a large and growing group of less visible urban poor whose demands for access are not taken into account when designing urban transport systems. This seems to be a common pattern of development in a number of countries and cities.

C. Increasing demand for travel

The new urban form determines the conditions for sustainable development. Sprawling cities, together with relocations of workplaces, schools and other urban amenities, lead to more and more people making more trips and travelling longer distances. In general, the urban population commutes greater distances than rural dwellers. According to a Chinese survey (Tsinghua University, 2005) trips are growing from 1–1.5 per day to 3–3.5 trips per day, as it can be observed in richer cities. Trip length is growing from on average 3 km a day to 10 or 15 km in expanding Chinese cities (Schipper, Ng, Thynell). Furthermore the study has shown that people spend more time on the road. Also, many people make more trips than earlier generations. More on this topic can be seen in the GTZ Technical document "Demystifying Induced Travel".

D. Decreasing safety and increasing insecurity

Rapid motorisation has also resulted in an increase in deaths and injuries. Recent estimates show that the number of people dying in road accidents in the Asia Pacific Region each year has reached 600,000 and the number of injuries is roughly 20 million. A large portion of these have occurred in the cities (WHO).

The modern, global risks associated with mass motorisation in developing cities are two-fold:

1) Traditional road safety; and
2) Personal security from physical and environmental harm.

These threats are of a greater magnitude than in developed cities in Europe, where most dangers have been acknowledged and appropriate action has been taken by means of implementing laws and regulations or reconstruction of dangerous places.

box 1

India's increased travel demand

Cities across India are choked with cars. Between 1981 and 2001, the population of the six metro cities on average grew 1.8 times but the number of vehicles increased more than 6 times. With approximately 1,400 cars per square kilometre, Chennai has a higher car density than the vastly more affluent Berlin. This development causes extensive traffic problems and the crisis is sure to escalate further as the new set of mini-cars hits the roads.

Figure 11

Indian cities have increased their gross domestic product and, simultaneously, their car population and congestion.

Photo by Carlosfelipe Pardo (Ahmedabad, India)

"Cars occupy 75% of road space but are used by less than 15% of the populace even in the most affluent Indian cities. In contrast, buses occupy a mere 8% of the road area but are used by 20–60% of the people. Pedestrians and cyclists constitute an overwhelming 40–75% of commuters but are completely marginalised in transport planning as a major part of budget allocations is consumed for road widening or flyover building, which primarily benefit cars and two wheelers." The Hindu date:06/05/2008 URL: http://www.thehindu.com/2008/05/06/stories/2008050654720800.htm.

Transport security is viewed differently today than in the past when it meant military security and restrictions on personal travel and car use. Today, economic growth is a major interest and freedom of mobility as it relates to increased economic growth has become a major concern. The changing role of transport in urban development has also changed the perception of transport security emphasising its economic role within liberal market economics.

In urban Asia, personal security is losing ground due to dramatic societal changes brought about by the introduction of urban mass motorisation. For instance the growing awareness of the harmful effects of vehicle emissions on human health is a new and growing topic that cries out for attention and forceful initiatives. The World Bank has identified the problems as follows: "Outdoor air pollution increasingly places both children and adults at risk, a problem particularly acute in urban areas of fast-growing economies," (Global Monitoring Report 2008).

Figure 12
The World Health Organization (WHO) recently reported that traffic accidents are becoming a world pandemic, and a rapidly increasing threat.
Photo by Rescue Dog (Penang, Malaysia)

The notion of human security underscores this modern menace and emphasizes the need to recognise the new and growing dangers that are associated with motorised mobility. Often institutions that should protect citizens from risk fail to understand their role – and it often takes time for the public sector to organise against these problems. Transport insecurity is a social reality, especially in the growing areas of cities hosting low income populations for whom it is increasingly difficult to provide accessibility, security, safety and well-being.

Any discussion of human security must address safety from physical harm for individuals and their communities. A closer look at the people living in major cities and slums highlights the need to

Figure 13
Poor air quality contributes greatly to sickness and death in citizens of all ages in Asia.
Photo by Swisscontact (Jakarta, Indonesia)

box 2

Danger from pollution in the roads of Delhi

A current threat caused by the traffic in New Delhi has been expressed as follows: "Roll down the window of your bullet-proof car, Mr. Prime Minister. The security threat is not the gun. It's the air of Delhi." By 1996, one person died every hour in Delhi as a result of air pollution. In 20 years, between 1975 to 1995, the GDP more than doubled in India but vehicular pollution load went up 8 times. And the industrial pollution load went up 4 times. How then can the growing risks be managed?

(Based on a speech by Sunita Narain, April 25, 2008)

Figure 14
Security and safety in urban transport should be a top priority in any transport policy.
Photo by Carlosfelipe Pardo (Bangkok, Thailand)

reduce traffic injuries and fatalities. In some Asian countries the costs of traffic injuries and fatalities are estimated to be 3–5% of the national GDP.

According to sociologist Anthony Giddens, the dangers and the risks have kept pace with modernisation. Risks are not only associated with personal action but with a risk-filled milieu including dangerous traffic situations or environmental degradation. For various reasons, human security is increasingly at risk in urban areas where access to important means of livelihood can be restricted. For instance food security and the dependency on transport opportunities is a major concern in distant parts of urban Asia.
More on this topic can be seen in the GTZ *Sourcebook* Module 5b: "*Urban Road Safety*".

E. Inappropriate infrastructure and services

Urbanisation is both expected and desired, but its attendant population growth is seldom planned for. Extensive passenger rail networks exist only in some Asian cities and the common transport systems lag well behind those of the developed world. The rapid pace of urbanisation together with inefficient governance leads to decaying infrastructure and inadequate services. The acute (and fast rising) housing and infrastructure shortages, widespread environmental degradation, loss of productive agricultural land, and increased loss of productive time to rising traffic congestion comprise another set of critical challenges. Accordingly, the expensive, modern systems of transport often only meet the needs articulated by wealthy citizens. At the same time, inadequate infrastructure seriously impedes economic and social development. This is particularly evident in urbanising Asia where inappropriate infrastructure is a barrier to city development.

One imperative of modern mainstream development is to expand the transport infrastructure despite the high cost of doing so. Cities in Asia have *too often* pursued road-building projects to serve their development needs and relieve traffic congestion.

Figure 15
Urban transport policies in the Global South have prioritized the needs of motorized vehicles, leaving badly planned facilities for the low-income, non-motorised and disabled population.
Photo by Marie Thynell (Dhaka, Bangladesh)

Figure 16

Bogotá is one of the few examples in the developing world where transport infrastructure is properly allocated. Wide sidewalks were built extensively in low-income areas where there was a greater need for amenities for non-motorised vehicles and pedestrians.

Photo by Carlosfelipe Pardo (Bogotá, Colombia)

Therefore the spatial policy plays an important role in tackling issues of mobility. Integrated policy approaches in this area, for example, are intended to achieve better spatial coordination of homes, places of work and other facilities. This would reduce the need to travel and therefore the growth in car traffic while also reducing energy consumption. The Centre for Energy Conservation calculates that proper spatial planning can lead to a 17% energy saving in traffic and transport (November 1997). This will, in turn, have a positive effect on the environment. More on this topic and a positive approach to dealing with it can be seen in GTZ *Sourcebook* Module 1a: "*The Role of Transport in Urban Development Policy*".

F. Resource scarcity and improper distribution

The issue of resource scarcity is primarily linked to availability and distribution of provisions, such as fuel, and the growing constraints dictated by the threat of shortages. Increasing insecurity regarding oil puts increasing pressure on all kinds of fuels. According to recent studies, oil production may reach its peak in the near future (Kjell Aleklett, Global Energy Systems, Uppsala University, Sweden, 2008), or we may have already surpassed it. Developing countries with rapid economic and population growth account for 74% of the global increase in primary energy use. China and India alone are credited with 45% of this increase. China is developing more rapidly than India, which today uses less than half the oil that China consumes. Taken together, developing countries are projected to make up 47% of the global energy market by 2015 (IEA). The huge increase in China's demand for oil and the resulting rise in global oil prices are among the most

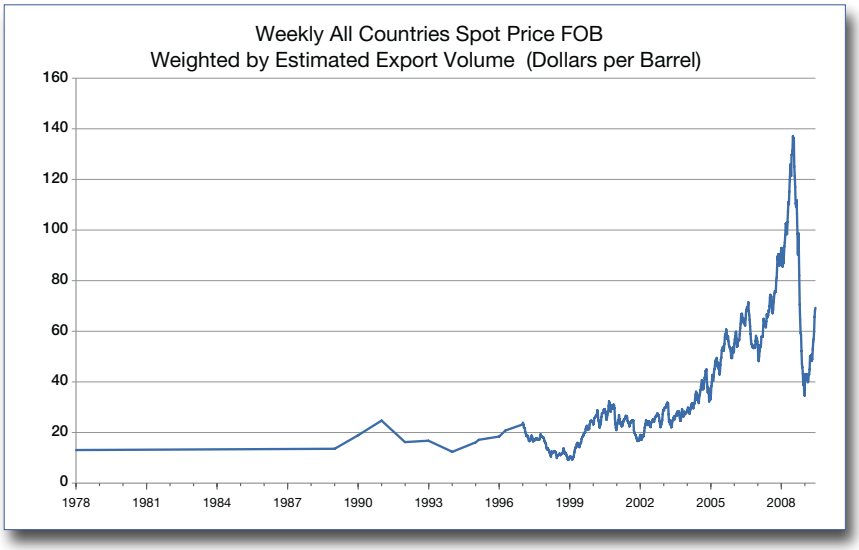

Figure 17

The price of oil, linked to geopolitical tensions and growing concern about "peak oil", has fluctuated enormously in past years. Graph of price of oil 1978–2009.

Data from EIA,
Graph by Carlosfelipe Pardo

important challenges. Some countries (*e.g.* Indonesia) have already stopped exporting oil in order to secure their own supplies.

Scarcity of space is another associated issue. The outward spread of urban activities raises the question of where to locate future development. In conjunction with economic growth and the spread of a modern lifestyle that was referred to previously undeveloped land is shrinking. Large investments in six-lane, North American-style highways have taken over precious land suitable for agriculture. With concerns about the scarcity of energy and space, the modes used by cities to finance infrastructure becomes their Achilles heel. Analysis of extant funds and how they will be invested must take into account their effects on low income populations and other disadvantaged groups.

A check of government funding earmarked for non-motorised investments offers clues as to whether spending is efficient and socially equitable. The answers to these questions will shed some light on how institutional management relates to personal mobility and how to achieve the best results in social, environmental and economic terms. More on this topic can be seen in the GTZ *Sourcebook* Modules 1d: "*Economic Instruments*" and 2b: "*Mobility Management*".

G. Climate change issues

Rapidly increasing traffic contributes to worsening congestion, accidents, air pollution, and other impediments to regional and economic growth. Information about the global spread of pollution and its devastating implications illustrates how a message gains acceptance and hopefully leads to forceful action. Finding ways to reduce greenhouse gas emissions is one of the key environmental challenges of our time. Whatever political initiative replaces the Kyoto Protocol, the first commitment of which expires in 2012, needs to be fully applicable to the transport sector. Most probably it will be based on low cost solutions since the technically advanced, low-emission lifestyles will not reach the poor areas of Asia soon. A further question is how climate change interferes with public transport policies and initiatives to increase urban access for low-income households. Cleaner fuels and the enforcement of vehicle emission standards may greatly reduce vehicle emissions but in the face of a rapidly growing number of vehicles, the effect made by emission controls may be offset. This is usually referred to as the rebound effect. Unfortunately, in most cases the trend is toward motorisation without effective traffic and demand-management policies in place (UNCRD 2008). Whenever appropriate policies and measures are taken, the situation could improve significantly.

More on this topic can be seen in GTZ *Sourcebook* Module 5e: "*Transport and Climate Change*".

Figure 18
Action must be taken to tackle and reduce the impact of climate change. Urban transport is a major emitter of greenhouse gases and needs therefore be considered in emission mitigation activities.
Photo by Cindy Seigle

3. Local actors in societal development

"It is not the impossible which gives cause for despair, but the failure to achieve the possible."
—J. L. Shiltz

Urban transport management suffers from a number of shortages. Market and political failures, as well as the failure to integrate the needs of the public sector into the definition of sustainable transport, all work to make an uneasy future. Any discussion of these issues must begin with identification of basic stakeholders. As we know, the issue of development is more pressing today than ever before. So far development strategies have not abated poverty, food shortages, or common health problems. Therefore at the turn of the millennium the United Nations introduced a new set of goals for global development — the so called Millennium Development Goals (MDGs) a set of eight globally agreed development objectives to be achieved by 2015 (A full list of these goals can be seen on http://www.unmillenniumproject.org/goals/index.htm). According to the European Commissioner for Development and Humanitarian Aid J. L. Shiltz, these goals for global development "can and must" be reached since there is no other strong project for societal development.

In 2009 it is obvious that international agreements about public cooperation have not been successful and cooperation has failed to reach its overall targets. A recent report from the World Bank warns that most countries will fall short of the MDGs. The report also stresses the link between environment and development, and calls for urgent action on climate change. To "build on hard-won gains, developing countries need support to address the links between growth, development and environmental sustainability". (Global Monitoring Report/GMR, 2008)

This daunting information raises the questions: What about the future of transport and the idea of sustainable transport? What do we mean by development? Mainstream modern development and the per capita GDP growth in developing countries have contributed strongly to poverty reduction, while the long-term effects of natural resource depletion and environmental degradation on both growth and poverty remain serious concerns (GMR, 2008). An analysis of the links between MDGs and transport can be seen in GTZ's document "Why Transport Matters" (GTZ, 2005).

Within the area of urban transport there are some basic stakeholders that act as agents of development. The three general stakeholders are: market, state and civil society also referred to as the general public. Let us look at their diverging roles and different goals within urban transport. To begin with, it should be stated that the views of national progress and development emerged as an ideal in many countries to meet the interests of these three categories of actors.

The urban challenges described above are of concern to all stakeholders. To set the agenda for the social dimension of urban transport, short descriptions will be given for basic national actors: the market (1), the state (2), and civil society (3). The following section presents the role of some international actors: development banks (4), UN agencies (5) and international aid agencies (6), whose actions also influence the management of urban transport in a number of Asian cities. Taken together, these organisations set the framework — or simply make decisions, as in the case of the politicians — for how the social dimensions of urban issues are handled.

3.1 The market

The infrastructure sector is one of the most successful fields of business and, as such, is the object of international investments. Many national construction firms have gone global in the search for greater earnings. Metros, highways, tunnels, bridges, overpasses and so on are currently a hot market for engineers and technicians as well as for development banks.

Automobile manufacturing was the first production industry to globalize, and it has been a forerunner in several areas such as assembly line production and just-in-time transport of material in many countries including US and the various European countries. Governments have adopted mainstream motorisation as a strategy to foster national development, industrialise, and achieve

continued economic growth. The auto industry has modernised both developed and developing countries. Even today we find the same recipe for success adopted in China. The Chinese and Japanese ways of developing vehicle production have been successful; the Japanese belong to the world leading countries in car production and are expected to remain so in the future. The Asian elites are pushing for mass motorisation and the abandonment of non-motorised transport. One novelty on the Asian roads is the Indian Nano car — seen as the Asian variant of the "peoples" car. The huge car manufacturers in countries as diverse as Japan, China, India, Indonesia, South Korea and Indonesia present fierce competition on the global market.

The introduction of mass motorisation was a vital part of the global market extension and the process of industrialisation and modernisation. The imperative for countries to either "modernize or disappear" from the international arena was in effect since the 1950s. A number of countries worldwide followed this ideal. Because many Asian governments see motorisation as the fulfilment of a development vision and a sign of economic vitality, they welcome the dramatically increased activity of the motor vehicle industries, as in the cases of China, Indonesia and Malaysia. And furthermore many different stakeholders benefit from the economic growth in China and India. Rapid economic development in China and India will inevitably lead to an increased global energy demand, but it will also bring major economic benefits to the rest of the world. Economic expansion in China and India is generating opportunities for other countries to export goods to them, while increasing other countries' access to a wider range of competitively priced imported goods and services. Commodity exporters would gain the most from even faster economic expansion in China and India (World Energy Outlook, 2007).

However, one must also note that the downturn in the world economy in 2008 and 2009 and the subsequent impact on the car industry has forced them to reshape their national plans for development. Though it is too early to predict any major changes, it seems that restructuring the industry and the rethinking of policies is a principal topic in urban and transport development today.

3.2 The role of the state

The government makes decisions regarding transport, tax levies and fees, regulations, and so on. The political systems and the role of government vary from city to city. The sovereign national state is normally a part of regional groupings such as the Asian Economic Association (ASEAN).

Figure 19
The State has the main role in regulating markets and protecting society.
Photo by China Pictorials

Figure 20
The emergence and greater economic predominance of global cities assign greater importance to urban transport.
Photo by Marie Thynell (Seoul, South Korea)

An underlying assumption remains that "no economic system can exist without a political framework of some sort". Scientists (Polanyi 1944) noted that markets are not able to regulate themselves, and that an unregulated market "could not exist for any length of time without annihilating the human and natural substance of [its] society". Due to the way that unregulated markets make use of resources, there is a need to protect human beings and the environment through laws and regulations that hinder destruction and strengthen societal development. States intervene in "defence of society" to enable countries to survive long-term. The first step is the expansion of the market. Societal response is the second step in a "great transformation" toward a negotiated means of modernizing. This protective and social reaction towards market expansions that harm societies is channelled by the political administration and called the second movement or countermovement (Polanyi 1944).

Nearly all economies, regardless of their degree of market freedom, are observed to be regulated in some way. The reason is plausible: Many markets, and in particular the transport sector, are confronted with market failure, for instance caused by externalities or market power (natural monopolies). This market failure may lead to an inefficient use of resources. That fact can justify a regulatory intervention by the state. In the area of transport political intervention is commonly strongly present.

The negotiated and effective agreements with regard to public service and public transport appear differently in different countries. In developed countries, like the US, collaboration between the public sector and private companies has been the rule. China seems also to embrace such a position in its shift to a "planned market economy".

The issue is therefore not that development strategies or projects could or should have been better planned and implemented in general. Development that imposes itself on "target populations", *i.e.* companies and the more affluent part of the population, is basically the wrong approach to develop entire societies. It was a strategy for development born and refined in the North mainly to meet the needs of the dominant powers in search of a more "appropriate" tool for economic and geopolitical expansion. As such, it could at best transfer to the new nation-states the contradictions of their own socioeconomic systems. This issue is extremely broad but it is useful to take note of these difficulties in governance and development for Asian cities (and in general, for cities in the Global South).

When this strategy of development is applied on the sector of transport we find that a number of crucial issues today are being taken into consideration such as the various social aspects of urban transport. There is also an additional concern related to the greater importance given urban policy

and governance as opposed to the national state. Under this current scenario, global cities have become the hubs of major decision making and are no longer the arm of the state but its catalyst for a number of driving forces.

3.3 The role of civil society

The concept of civil society refers to the citizens in their social roles as voters, employees, tax-payers, users and members of other social associations. There are different local factions (the so-called grass-roots movements) of those sharing a similar problem like unsatisfactory access to transport facilities. Moreover there are also international non-governmental organisations (NGOs) that articulate a common need from below, as opposed to national policies that usually originate from the top. By and large, the interests and demands for access to mobility for different social groups (*i.e.* low-income, women, disabled) are often missing. Urban Asia has few examples of transport planning carried out in close relation with the public sector. Moreover, the social dimension of urban transport is also largely neglected in research and policies aimed at sustainable transport. So far the role of society in shaping the urban future has been limited. Still it is recognised that the ability to cope with today's planning challenges requires more ideas and points of view to be effective.

box 3

Where is civil society in the planning of sustainable cities and transport?

Some initiatives to modernise urban public transport have been taken in highly developed cities like Singapore and Hong Kong. They were successful in some aspects but not in others such as integrating the various social aspects into planning for modernisation. In poorer and less developed cities few efforts have been seen. One of today's challenges concerns daily life in big cities and calls for integration of the civil society in the planning of sustainable cities and transport systems. How can the demands and wants of citizens be integrated into the shaping of urban transport systems in Asian cities in increasing sustainable mobility as well as social equity?

Stakeholders and passengers provide a rich source of information that is often more valuable than the points of view expressed by a few experts. Gathering this information can be done through surveys, travel inquiries, public hearings and so on. The various preferences must be present in the planning as well as when evaluating the results of investments. The role of the public sector in shaping the urban future is increasingly important for defining needs as well as finding solutions. Increasingly democratic conditions and the acknowledgment of human rights make public participation essential as a resource for organising urban life.

The custom of building expensive transport systems in the cities of richer countries has been transferred to poorer and less developed cities. Planning and investment decisions have been made by economists and technicians without much interaction with the potential users or any deeper understanding of how it will work in the consumer's social environment. The best, or worst, examples are the habit of building excessively expensive rail systems or highways in cities which cannot afford them in the immediate or long term. Therefore, such systems of transport might not match the demands for access at a reasonable price.

The following section describes how transport targets and measures are shaped by three important international stakeholders who complement the work and decisions of market, state and civil society.

box 4

Social analysis can help to improve governance

The policy framework regulates critical issues in the transport sector, such as poverty, gender equity, land ownership, acquisition procedures, compensation, resettlement, labor, access for the disabled, decentralisation, and small and medium enterprises. Social analysis can identify where regulations may need strengthening to address these issues more effectively. Public and private agencies have different responsibilities and accountabilities in these critical issues. This applies especially in critical areas, such as stakeholder engagement, planning principles, cost recovery, subsidies, and decentralisation. Social analysis helps to define the sociopolitical factors that influence the flow of services — for example, what is the relative weight in decision making between transport agencies, political bodies, private sector, and civil society? How well do key agencies and staff in those agencies handle stakeholder engagement, poverty, and social risks in transport provision? Social analysis can answer such questions as how well decision-making processes work to provide transport benefits to the poor; how well subsidies work; and what proportion of the total cost of accessing public transport goes on bribes and harassment" (Technical Note Social Analysis for Transport Projects ADB 2008:4).

Figure 21

The development of many transport projects does not assess the demands of different population groups.

Photo by Carlosfelipe Pardo (Beijing, China)

4. Urban transport governance initiatives

To further outline the framework of stakeholders, another set of international and non-state actors must be evaluated. They are: development banks (4), international cooperation agencies (5) and UN agencies (6). Their backgrounds and strategies are briefly described below.

4.1 Development banks

Between 1996 and 2004, the World Bank Group's lending increased on average by 105% (Information Paper on ADB Interventions in Transport under the Medium-Term Strategy II, ADB 2007). The World Bank and the Asian Development Bank (ADB) are two of the banks in Asia that will be referred to here because of their important role in Asia. Their banking activities in international economic cooperation are based on the rules and norms that regulate international relations established at Bretton Woods during the Golden Age in the US, the period after World War II of economic expansion, stable prices, low unemployment, and rising standards of living. The agreement at Bretton Woods influences the activities of the World Bank and the International Monetary Fund (IMF). Today things look different. From this, it follows that even economic development processes are structured by a social order of which the World Bank Group plays a role in influencing the choice of investments and setting the agenda in the various cities today. Their activities are based on cost-benefit analysis. The role of transport in society has been perceived as facilitator for economic growth for a long time.

In the World Bank, this can be summarized in the following: "The Bank Group's transport business strategy articulates how transport and development goals come together" (World Bank, 2008). The focus of an intervention "must be on its contribution to economic development". Accordingly, any social costs of a project cannot be made part of a loan. Financing institutions have established guidelines for integrating certain social dimensions into projects that receive bank loans. During

Figure 22
Various social effects are generated by transport interventions and these are seldom acknowledged. Although there is a growing concern for changes related to public transport initiatives, a lot of work still needs to be carried out.
Photo by Marie Thynell (Dhaka, Bangladesh)

recent years they have also integrated more general development goals. The ADB operations in the transport sector are described as:

> Transport is the largest and fastest growing sector of ADB's operations. ADB expects rapid, even explosive growth in transport demand in the Asia and Pacific Region, fuelled by flourishing international trade. Roads and highways dominate expenditure in the transport sector, accounting for approximately three quarters of all sector lending. ADB also lends for railways, ports, waterways and shipping, civil aviation, and occasionally to urban transport and multimodal projects. Urban development projects may also include a transport component (Technical Note, ADB, 2008).

In China, for some projects the social costs are estimated to be about 15% of transportation investment. This money is paid by the state. In this case, they comprise costs for forest clearance, relocation of people, providing resettled families with water and food, etc. The problem is that only some of the costs are being calculated and integrated. This does not cover the long-term side-effects related to changes in livelihood. It should also be remembered that focusing on the direct economic costs does not take into account the long-term consequences and costs for relocated families or forest clearances. The indirect changes and long-term changes can be positive or negative. Such changes need to be considered as well in order to evaluate the value of the intervention.

For instance, efficient freight infrastructure, translated through well-functioning markets into affordable transport and logistics services, is crucial for the development of trade. Similarly, efficient and affordable transport strengthens personal accessibility and mobility in both urban and rural areas.

box 5

The World Bank's transport strategy and development

"The Bank Group's transport business strategy articulates how transport and development goals come together:

- ***Safety*** acknowledges the prominence of health outcomes within the Millennium Development Goals; it implies safety for transport users, for transport workers, and for the wider community.
- ***Cleanliness*** reflects the contribution that transport can make to the environmental aims of the Millennium Development Goals, and the need to address its impact on climate change.
- ***Affordability*** acknowledges that physical supply of infrastructure is not enough. Efficient freight infrastructure, translated through well-functioning markets into affordable transport and logistics services, is crucial for trade. Similarly, efficient and affordable transport underpins personal accessibility and mobility in both urban and rural areas.

Finally, transport for development asserts that, while transport can have many purposes, the Bank Group's focus must be on its contribution to economic development."

Source: http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTTRANSPORT/EXTTES/0

The strategy of the World Bank regarding financial investment fits well into the notion of mainstream development of the sector of transport. That is the predominant, hegemonic and economic part of their values, goals and means of development. In sum, the objective of development banks is to handle the direct economic costs associated with systems of transport.

4.2 UN agencies

The United Nations has a set of declarations which also guide the implementation of sustainable transport such as Chapter 9 on Atmosphere and Chapter 7 on Human Settlements in Agenda 21. The

box 6

The Environmentally Sustainable Transport program from UNCRD

Figure 23

Mayors and city representatives from 12 Asian cities signing the Kyoto Declaration in Bangkok, 2008.

Photo by UNCRD

The Environmental Sustainable Transport program hosted by the UNCRD in Nagoya is an exceptional programme. Its main description is as follows:

Collaborating with the Ministry of Environment, Government of Japan, other governments, and relevant national/international organisations and in line with the recommendations made in the Aichi Statement (August 2005) and the Manila Statement (January 2004), UNCRD is promoting environmentally sustainable transport (EST) in Asia by initiating a range of activities that include national strategies with short and long-term actions and establishment of a regional EST forum.

The main objective is to integrate environmental considerations into the transport sector in Asia. With this purpose in mind, the project will promote EST by identifying issues, strategic challenges required actions and measures. Targeted areas include vehicle emission control, inspection and maintenance; cleaner fuel; road-side air quality monitoring and assessment; transport planning and demand management; road safety and maintenance; traffic noise management; environment and people friendly urban transport infrastructures; land use planning; social equity and gender perspectives; mobilizing collaborative research and regional cooperation; strengthening knowledge base, public education, health and raising awareness, institutional co-ordination, which being the key elements of EST have significant socio-economic concerns.

With the collaboration of the ministry of environment, the ministry of transport, relevant stakeholders in the participating Asian countries, sub-regional intergovernmental organisations (*e.g.* Association of Southeast Asian Nations (ASEAN) South Asia Co-operative Environmental Program (SACEP)), and international organisations, the project would contribute to the Johannesburg Plan of Implementation by addressing the following objectives:

- Promote EST through a range of activities such as catalyzing local /national level actions to formulate/ promote an appropriate set of policy instruments and programmes;
- Establish knowledge base on EST in Asia to meet the needs of the developing countries in the region;
- Develop a set of EST performance indicators to measure government agencies execution of work in EST thematic areas. The indicators would be developed through extensive consultation

with the mayors, relevant ministries/agencies, local governments, and other stakeholders;
- Formulate national strategy-cum-action plan on EST for selected countries involving key stakeholders at national level and addressing short-term, mid-term and long- term targets/ commitments/activities/measures;
- Set in motion a regional mechanism to promote collaborative efforts towards harmonisation of vehicle inspection and maintenance, roadside air quality monitoring, fuel quality standards, monitoring exhaust gas emissions, road safety and maintenance, and traffic noise management;
- Increase awareness and capacity at local, sub-national, national, and regional (Association of Southeast Asian Nations, GMS, South Asia, etc.) levels on various aspects of environmentally sustainable transport […] through workshops/trainings and regional EST forums;
- Facilitate cooperation/partnership among countries for the exchange of information, tools, technology and experiences on innovative EST systems by documenting and analyzing best practices and lessons learned, and disseminate them among the stakeholders through trainings/ workshop/consultations/expert meetings/forums; and
- Facilitate cooperation/partnership between the Asian countries and possible donors active in EST areas.

On the socio-economic side, transport inequities in Asian cities are most acutely experienced by groups that are least able to cope with the constraints of daily life. Gender and age inequities create mobility challenges for large groups. Women face specific restrictions on movement due to the very nature of their activities such as child care, household management, and engagement in informal sector employment which require them to take more and shorter trips than men and more trips at off-peak hours and off main routes. A basic assumption is that women of all ages and social groups need safe and reasonable transport and that such service would substantially improve their everyday lives, as well as their health and the health of children and elderly. This view is based on the idea that gender equality refers to the notion that women and men should enjoy the same rights in all aspects of life. However, gender perspective in transport planning and decision-making demonstrate that woman's interests are not given much attention in most Asian countries. Rather consideration has been paid mostly to the technical standard of the transport systems and to the demands of formerly employed persons.

Therefore, one objective is to also influence local and national governments to promote and address the social and gender dimensions of transport policy and planning as recommended in the Aichi Statement and the Kyoto Declaration on EST. National EST strategies will provide a unique platform to address short and long-term commitments that comprehend the importance of social and gender equality in urban policy.

Source: http://www.uncrd.or.jp/env/est/

most important shift in policies was probably the Sustainable Development Act, adopted at the Earth Summit 1992. The act was based on a comprehensive study, the Brundtland Report *Our Common Future* in 1987. The notion of sustainable mobility is in line with sustainable development and includes concern about economic growth, social equity and a healthy and sound natural environment. Other relevant declarations are the Beijing Declaration on Gender Justice (1995), the World Summit on Sustainable Development (WSSD) 2002, the Millennium Development Goals (MDG) 2000 (see discussion in Chapter 3), as well as the Declaration of Human Rights – to mention only a few.

The UN plays a different role. UN strategies for development are complementary to private and most governing activities which are influenced by new business interests, industrialisation and growing cities. Mainstream transport development has failed to manage many of the constraints in rapidly growing cities, and is unsuitable in dealing with today's demand for transport facilities. States and their public sectors appear obliged to support the private sector's short-term interests as opposed to the long-term and protective interests represented by the UN strategies.

The UN-sponsored goals and projects represent an alternative to modern mainstream development in general. Unlike the economic approach to development, the UN recommendations are socially inclusive and encompass sustainable development. The long-term vision of United Nations

Development Programme (UNDP) and United Nations Environmental Programme (UNEP) differs from that of the development banks and states since banks, driven by their business practices, only lend money for projects that have a possibility to pay back the loans. The introduction of sustainable transport into the urban transport sector at a local level is one of the most challenging aspects of strategy formulation. It also brings the promise of a shared and integrated future as expressed by the UNDP projects and the EST process of the United Nations Centre for Regional Development (UNCRD) project, which is one such project stressing fundamental developmental goals. During the 1990s, environmental goals and later on societal goals were emphasised. In the last decade the economic ambitions have been highlighted within the area of sustainable transport as well.

4.3 The international donor community

International aid with its various interventions in urban transport is a fairly new phenomenon and raises other questions. In what way can international and non-state actors influence urban transport? How can development interventions address and monitor these issues locally and nationally? What are the implications in terms of local rights and participation, and what, in fact, is new and innovative compared to existing approaches in managing urban transport systems in different countries and cities?

Figure 24
The German Technical Cooperation (GTZ) is an international cooperation agency which has developed the Sustainable Urban Transport Project (SUTP)-Asia to build capacity in urban transport policy for Asia, Africa and Latin America.
Photo by GTZ SUTP (Beijing, China)

Development assistance is interlinked with civil society and social movements. At the same time the programmes of donor organisations are closely connected to the economic strategies of the various development banks. Urban transport and social change offer these interesting questions: who is doing what, and what are the results? Some problems are addressed by intervention agencies such as Canadian International Development Agency (CIDA), Swedish Sida, Danish Agency for Development Assistance (DANIDA), German GTZ and Norwegian Agency for Development Cooperation (NORAD). Their programmes are directed by their national governments. The business community also influences these policies and programmes in various ways. However, international cooperation organisations tend to be distant from the business goals of their countries or those in which they work.

The European Union is the most important cooperation contributor in the world. The significance of their development policies is growing at the same rate of the increasing inequity between rich and poor countries. Sustainable environmental development is growing in acceptance among governments and the international development community, albeit the pace is too slow to effectively address the harm done by unabated motorisation. The programme that the various donor organisations use is based on strategies adopted by the various national governments. Therefore Swedish Sida and the United States Agency for International Development (USAID) have separate reasons for their involvement that mirrors positions held by their respective governments. Accordingly, their efforts focus on different approaches and areas.

4.4 Development and local context

As we have seen, many poverty reduction programmes and the environmental goals integrated within sustainable transport have failed. Development has long been the subject of field of studies stretching beyond the social and into the societal – analysing social, economic and political issues. Moreover, it encompasses important debates on the dynamics of social change and strategies to achieve development. The notion of transport development needs to be examined in context with local space, economics and social conditions. The human, natural and cultural conditions vary widely and influence travel behaviour in different ways. The elaboration of the effect of development should always include the surveying of the basic needs of different social groups in a defined local space. A number of values and conditions influence needs. Just the definition of development is open to change and local interpretation. These conditions have been captured by Hettne (2008, p. 3) as follows: "Development in the modern sense implies intentional social change in accordance with explicit societal objectives". Accordingly, policies such as that of sustainable transport are required to define national and city objectives.

Although societal aspects such as order and structure are of a universal character used globally, the various social and cultural values influencing transport are less universal, but remain influenced by Western or European ideas.

Development paths, practices and means of transport will have to clearly reflect a city's social patterns – not mainstream ideas or global customs. Therefore, the strategy needs clearly defined objectives: economic and social, national or local. Another crucial issue is the target of the cooperation intervention: is it poor countries and cities or poor people?

The ongoing processes of social stratification are a major concern in cities. In general the dynamic and affluent segments of the population are being increasingly separated from the less wealthy. As this reshaping takes place and globalisation spreads, it becomes increasingly apparent, that these developments are not only associated with individual (and household) "winners" and "losers" but also with winning and losing communities and regions. As newly built infrastructure links some settlements and passes others by, the number of people that suffers from poor mobility and hence

Figure 25
Some urban transport solutions have been brought in from industrialised countries. Some have failed to meet citizens' needs because lack of proper infrastructure, control and management.
Photo by Marie Thynell (Hanoi, Vietnam)

Figure 26
Various transport interventions directly exclude poor citizens and greatly impair their mobility.
Photo by Marie Thynell (Dhaka, Bangladesh)

deprived from work opportunities grows. Estimates indicate that at least one billion people are living on one U.S. dollar a day. The spatial structure and planning of residential areas can, in general, explain mobility, and, in particular, the choice of transport mode, and which aspects of spatial planning and traffic management play a significant role. The effects of the planned environment are particularly apparent in trips made for shopping, social or recreational purposes. A collaborative approach to residential planning is required to achieve any great changes in mobility. Only then we can expect spatial planning to have any significant impact on car use. In conclusion, the essentials of modernisation and a belief in linear development were already shaping the political and economic practices of the developed nations long ago. But conditions in the world have changed and such increases in consumption, standard of living and economy cannot be expected to be sustained.

So far the roles of six stakeholder groups involved in urban transport have been outlined: the market, states, business, civil society, development banks and international donor agencies. The actual performance in the Asian region varies and the stakeholders fulfil different roles and pursue dissimilar strategies regarding urban transport. The next section will focus on social change more in detail.

5. Social change

By social change we refer to a number of modifications related to lifestyles or livelihoods: family structure, age profiles, number of children, education, social and economic behaviour, and occupation (informal or formal), as well as desires and dreams about raising one's standard of living or achieving personal goals. In other words, changes are related to the determinants of people's living standard in terms of physical, financial, natural, human and social conditions. Moreover, the social dimension includes a variety of physical and societal aspects related to household location, urban/rural, citizenship, marital status, age, sex or disability, as well as ethnicity/race/caste.

Figure 27
Improvements in transport generate positive impacts on the livelihoods of citizens.
Photo by Marie Thynell (Yogyakarta, Indonesia)

From this we understand that studies of social change are, by definition, akin to chasing a moving target. Some of the changes are temporary while others are continual and will contribute to permanent change that will strongly affect structures at city and national levels. The spread of the Western lifestyle is an example of social change that has re-structured daily life and travel patterns through the adoption of widespread motorised travel. The Western lifestyle has also contributed to changes in values and patterns of material consumption. In modern societies transport mobility and access are intertwined with social change and cannot be seen as separate.

Human characteristics and social practices make up the collective activities that dictate transportation needs. Transport systems serve essential daily needs and influence traffic (in some cases

box 7

What do people do in the streets?

A study in India gives insight into multiple, unplanned, urban road uses: (i) pavement to sort rubbish, (ii) play area for children, (iii) local depot for cycle taxis, (iv) bed to sleep on when it is hot, (v) spare room for guests to sleep in, (vi) tent base for festivals, (vii) site for hawkers, (viii) dry place to sit and enjoy a cool breeze, (ix) extra space for visiting relatives, (x) track for children to learn how to cycle, (xi) run-off for waste water, (xii) space for door to door hire purchases, (xiii) place for daily collection for loans and savings, and (xiv) area for social functions, such as marriage and festivals.

Source: Amis, Philip. 2001. Rethinking UK Aid in Urban India: Reflecting on an Impact Assessment Study of Slum Improvement Projects. Environment and Urbanization 13(1).

directly, in others indirectly). A city's transport options affect people's access to basic services, resources, economic opportunities, public decision-making, and their actual choices in life in a range of areas. Transportation behaviour is a mirror reflecting, for instance, social roles, reproductive roles and income disparities.

An analysis of transport systems and their users can be accomplished by dividing the population into five income or socioeconomic groups called quintiles. The first quintile comprises the richest 20% of the population. The last quintile includes the poorest 20% of the population. One can then pose questions like the following:

How do the members of the poorest quintile travel? How does the middle group (the third quintile, from 40–60% on the scale) travel? Or how common is car ownership among the group in the second quintile (those just under the richest fifth of the population)?

Non-motorised travel remains very common. The various ways of travelling can be described in terms of the five quintiles. Another way of analysing social change and transport behaviour is through a trip pyramid (shown in Figure 28). In the bottom – top direction the pyramid shows the tendency in mode choice between man and women. The width of the pyramid represents the portion of population in each category.

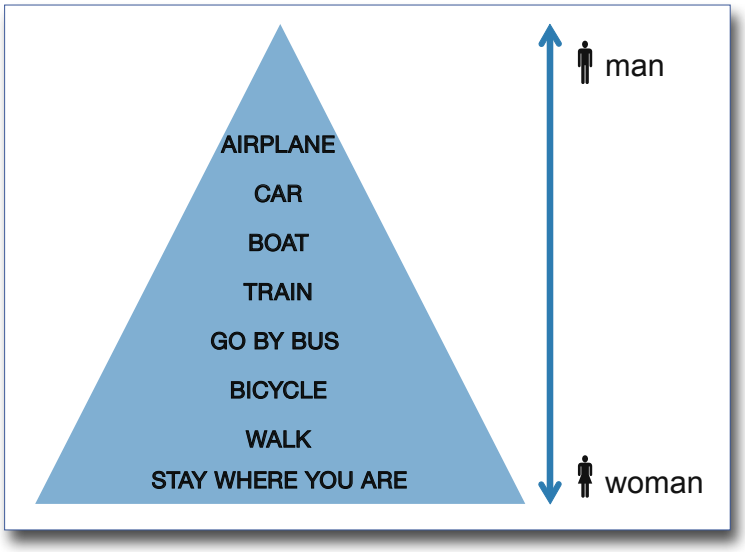

Figure 28
Travel pyramid for analysis of social change.

The organisation of urban transport influences conditions in a city. Analysis of some of the most adequate ones can be done through studying the influence of transport on:

- Productivity;
- Economics;
- Job opportunities;
- Quality of life.

The social dimensions are best understood through direct, real-life experiences. Unfortunately, today there are very few evaluations of modes of transport as they relate to social change. For instance, plans to introduce BRTs are being discussed in more than 50 cities worldwide. Still, we have no information about the scope of social change that has occurred in cities where BRTs currently operate. A bus system providing good capacity and comfort is seen as meeting the needs of many commuters, however, not much is known about the users' experiences and how they perceive it. Studies of travel behaviour and issues like how much time is spent on public transport, which fraction of the household income is spent on travelling and evaluations of social change related to public transport could shed some light on these questions.

Some important questions require answers. Will BRTs play a positive role in congested cities? What kinds of transport problems can be alleviated by means of these systems? Is this a matter of price

Figure 29
No deep social analysis is being done to capture passengers' experiences on public transport in the developing world.
Photo by Carlosfelipe Pardo (Bogotá, Colombia)

of fares and trip comfort, or are there other factors and attitudes involved? The typical approach of transport operators or regulators is to implement surveys to achieve some level of knowledge of users' satisfaction. But no methodical approach from their side has been implemented to identify deep issues related to the passengers' experience which could answer the questions given above.

In order to plan for the future of urban transport systems, an understanding of how Asian cities develop is necessary. Two major social trends influencing travel demand can be pinpointed:

Firstly, the gentrification of parts of the city, often the so-called historical centres, and the displacement of low-income households to peri-urban areas[2)] is a trend in urban Asia. The physical gentrification parallels a social and economic process of gentrification as increased privatisation contributes to social divides. Privatisation tends to make residential areas more homogenous from a number of points of view including transport behaviour. For instance the increasing use of motorized vehicles changes the social practices in the street space. Today's cities (especially in developing countries) plan for huge arteries or corridors by which people can travel rapidly.

[2)] Meaning immediately adjoining an urban area.

Figure 30
Hyper-mobility, as it relates to modern lifestyles, has become a trend in Asian cities. Increased mobility is a vital contributor to this trend.
Photo by Carlosfelipe Pardo (Bangkok, Thailand)

The modern lifestyle based on increased social networking, consumption and mobility is sometimes referred to as "hyper-mobility". This notion is meant to describe new social habits such as weekend trips outside the cities, an elevated material standard and increased participation in social networks, both horizontal as well as vertical. In sum it breaks with the traditional lifestyle that was less socially and physically mobile and opens up for further social change as family structures and employment patterns are modified.

Secondly, enormous differences – historical, economic, social, political and cultural – between Asian developing cities are observable; the problem of worsening transport conditions is a generic feature of all of them. In most countries and cities the car has not replaced public buses. In Delhi, about 55% of travellers make their daily trips by bus. The means available for the poor to travel are often stigmatised and marginalised by affluent social groups. This limited mobility helps perpetuate social inequities in the range of choices to the vulnerable sections of society, such as floating populations, unskilled workers and the elderly and the disabled. By and large, these mobility inequalities are reflected in poor public transport availability and service, staggering congestion at peak hours, alarmingly high numbers of accidents causing injuries and deaths, and critical traffic-related perils such as air pollution, noise and long-term impacts on the environment. The separation of wealthy households from low-income household might imply a barrier for continued development and lead to a social divide.

Figure 31
Growing migration from rural to urban areas is putting pressure on infrastructure in cities.
Photo by Marie Thynell (Seoul, South Korea)

Thirdly, migration from the countryside, other countries, or cities, and the increasing feminisation of the labour force, mostly in care-giving occupations like hospitals, education, nannies and others such as sex workers, contribute to a growing social stratification which is reflected in the choice of transport. Social characteristics should be defined and analysed in their urban and local settings. An approach based on various perspectives, impacts, and analysis methods such as the travel requirements of the five socioeconomic groups is appropriate to sort out how they deal with their desires for physical access.

Social diversity cannot be successfully handled from a top-down approach or by means of social engineering. Accordingly, there is no universal way of relating to different transport needs. Each of the six groups of stakeholders presented have their own ways of relating to social aspects and their own solutions to problems of governance that reflect their interests or role in society and are, therefore, limited in scope. None of them have been using the interactive methods such as dialogue, focus groups or public hearings. In fact we find an impasse in transport development. Some of this is discussed in GTZ's "Training Course: *Public Awareness and Behaviour Change in Sustainable Transport*".

6. Analysis

It is clear that social change is something that must be taken into account when analysing urban transport policies, trends and projects. As such, it can include a social assessment process and must be critical in its approach. This section describes these two issues as closing to this technical document.

6.1 Social assessment process

How should the social assessment process be carried out? Are there generalised initiatives, or are specific groups targeted? Due to all the challenges involved how is social diversity understood and what steps should be taken by the stakeholders? Another crucial topic is the role of the stakeholders and what can be expected of them to improve urban mobility.

Some stakeholders push for increased efficiency and expansion to make transport systems match their needs. Others lean towards using urban transport as an agent of sustainable change. These two options can be roughly classified as the mainstream development of motorisation versus innovative initiatives. The interests of the stakeholders are "negotiated" and the resulting character of current urban transport is the upshot of the interests of those with power. Clearly the responses to the transport conundrum vary according to the goals of the stakeholder analysis as presented below in Box 8. It should be highlighted, however, that civil society has not been asked about social change and transport demands. The most important source of information about social change can arguably come from the users who are rarely consulted or involved in planning or evaluation. This can be viewed as a representation failure — failure of the state, failure to put the UN recommendations and the Agenda 21 into effect, and failure to ask the users about their demands. The historical neglect to incorporate the passengers or users perspectives into planning and decision-making has led to missed opportunities to manage existing resources and to create legitimacy. Based on this, we will turn to the tools available for exploring the social dimension and take a closer look at the role of dominant stakeholders in the designing of sustainable urban transport.

box 8

Stakeholder analysis – what to look for in urban transport governance

- Development banks, WB, ADB and others, act according to the economic criteria of their business mission. They have developed guidelines about how to integrate some social aspects into planning for providing loans, but do not evaluate the impact in real life.
- The states (and their local politicians) define interventions according to laws, the ideology of current government, etc. Presumably, they will provide public services such as transport in order to develop their cities — but this is not always the case.
- The market focuses on how to increase business opportunities within the sector of transport — purchase vehicles, build infrastructure and so on. Money defines the solution to this sector's problems. But, the market does not solve societal problems. However, some argue that the market itself is not the problem but its improper regulation.
- The UN takes a holistic view focusing on social inclusion, health, poverty reduction and the environment. That means that the UN has the potential to push for and implement protective societal development but so far not much has been done. In its declarations the UN has stressed the importance of broad public participation in planning and decision-making as put forward in the Sustainable Development Act, adopted at the Earth Summit in Rio de Janeiro, 1992.
- International cooperation agencies target special areas or issues such as air pollution, improving bus standards and operations in accordance with the current governing policies of their countries.

A more comprehensive description of the process of stakeholder analysis and related tools is given in GTZ's Training Course on Public awareness and behaviour change.

6.2 Critical review

During the last decade banks have published several policy papers that highlight the need for an inclusive social approach to development of urban transport. Most of them focus on either poverty reduction or an assessment of the environmental and social aspects of infrastructure projects.

The assumption is that "social analysis can help to improve governance" (ADB 2008:4). There is a perceived need to correct or revise the failure of the market to achieve rock-solid urban development. The liberal, economic principles that have been generally adopted contribute to economic growth, modernisation and development, as well as to dislocations and disturbances (disorder) associated with market penetration into new areas. This needs to be put right, managed and regulated by political actors who adopt relevant policies. For instance, the Asian Development Bank (ADB) highlights the need for analysis of social and economic development by means of the adopted programmes of PRSP (Poverty Reduction Strategy Papers) and Millennium Development Goals. These policies have increased the need for more systematic analysis of the poverty and social implications of reform.

Some different guidelines have been developed within the transport sector to address poverty reduction, environmental deterioration, road construction, gender issues and human trafficking. The World Bank (WB), the Asian Development Bank (ADB), the African Development Bank (AfDB), and the Inter-American Bank (IADB) all developed such guidelines during the last decades but only few studies have been found that evaluate the use of the guidelines themselves or discuss the outcome from a user perspective.

Banks also have developed guidelines about how to become more knowledgeable and inclusive, improve accountability, and raise awareness of the social aspects related to access and mobility in cities. There is also a users' guide placing special focus on the poor and vulnerable that recommends teams appointed by each country to identify reforms in a government's agenda likely to have significant affects on different stakeholder groups. Poverty and social impacts refer to beneficial improvements reducing poverty and inequality, increasing employment, asset endowments, access to goods and services as a result of proposed policy actions.

box 9

Poverty Social Impact Assessments (PSIA)

"The poverty social impact assessment is a systematic approach to integrating analysis of potential distributional impacts of policy reforms in the [World] Bank's operational work," p. 7. (The development policy operations may involve IBRD loans; IDA credits, including IDA poverty reduction support credits or IDA grants. See also the http://www.worldbank.org/psia). ADB has a number of guidelines and documents such as the Good Practice Note 2 (2004). The World Bank provides advice on how to promote poverty and social impact analysis in-country and integrating with development policy operations. Country Partnership Strategy Guidelines, 2007, and the Poverty handbook from 2006 by the ADB.

In 2007, A Handbook on Social Analysis was presented by the ADB. This was developed to facilitate the realisation of ADB's intentions to improve:

1) Inclusiveness and equity in access to services, resources, and opportunities,
2) Empowerment of poor and marginalised groups to participate in social, economic and political life.

Until now, and despite these recommendations, few evaluations of the social impact, direct or indirect results are available. Perhaps this is due to the fact that the ADB's social analysis tools do not normally provide ex-post social impact assessments. This means that the ADB pay attention to

the social aspects only when planning of a new project but not when it is finished and launched. In order to learn any lessons, the social issues have to be experienced and evaluated in practice.

Despite the fact that climate change and, as an example, oil shortages influence all citizens, the approach of targeting special groups of people is often chosen. This in turn provokes imbalances of various kinds. Since social change and transport are of concern to the vast majority of urban dwellers, these kinds of evaluations should not only include the vulnerable groups but embrace all passenger groups.

The increasing urban population and a growing social divide stress the importance of governing access more efficiently. The next step is to explore the social dimension of urban transport or public transport in order to catch up with the historical neglect of linking users' preferences and travel demand to city and transport planning. This can be done through evaluations of existing and operating public transport such as BRT, traditional bus lines, metro systems, trams, trolley buses, light rail, etc. The goal is to find out if these systems respond to the travel demand in different parts of the city.

Connecting the planning of public transport to the experience of the passengers and the potential users will raise the quality of the service because the knowledge of practitioners and users is required to find proper solutions to complex urban transport issues. The conclusion is that users represent a more important variety of experiences than a limited group of experts. The integration of several different views will have a positive impact on city planning, transportation developments and environmental management. Furthermore the participation of the general public helps to address social exclusion and to provide for a positive urban development.

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