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TRANSPORT AND THE MILLENNIUM DEVELOPMENT GOALS

Note by the secretariat

SUMMARY

The present document explores the relationships between transport and poverty and the role of transport development in achieving each of the eight Millennium Development Goals. In recognition of the important role of the transport sector in achieving the Goals, the document raises the need to consider specific development targets in the sector. It proposes a set of targets that can be used as planning tools and for monitoring progress in transport development. Countries are invited to share their experience concerning interventions in the transport sector for poverty reduction and improvement of the general welfare of the people, and discuss the issues to be considered by the Ministerial Conference on Transport.

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INTRODUCTION

1. The Millennium Development Goals are an agenda of the United Nations agreed upon by world leaders at the Millennium Summit in September 2000 in order to reduce poverty and improve lives. With a central focus on poverty reduction and defined targets to be achieved in a specified time frame, the main thrust of the Goals is to make economic development more inclusive than it has been in the past and to bring all people to a readily feasible set of basic standards of health and education.

2. With the adoption of the Millennium Development Goals, there has been a necessity for new approaches in analysing and targeting the needs of the poor as well as monitoring the progress in achieving the Goals. The eight Goals range from eradicating extreme poverty and hunger to ensuring environmental sustainability, reducing child mortality and improving maternal health, promoting gender equality and developing a global partnership for development.

3. There is ample empirical evidence from both within and outside the Asian and Pacific region that transport has an important role in poverty reduction and improving the general welfare of the people.¹ Improvements in transport infrastructure and services can provide people with access to a broad range of socio-economic opportunities and services and strengthen their capability to work and increase productivity, which are keys to poverty reduction.

4. The present document explores the relationships between transport and poverty and, in particular, the role of transport development in achieving the eight Millennium Development Goals and the need for consideration of specific development targets in the sector. Issues for consideration of national Governments are raised and possible programmes of action at the national and regional levels are identified.

I. INCIDENCE OF POVERTY IN THE REGION²

5. The Asian and Pacific region is home to about 60 per cent of the world's population. However, 679 million people in Asia are still living on a less than a dollar per day, which accounts for more than two thirds of the world's poor.

6. Notable achievement has been made in reducing the number of poor, owing to rapid economic growth and affirmative actions in the form of various programmes and projects. Between 1990 and 2001 the absolute number of poor people fell from 931 million to 679 million. Despite this progress, with the exception of a few countries, poverty continues to be endemic in the region. In

¹ For example, see Selim Jahan and Robert McCleery, *Making Infrastructure Work for the Poor: Synthesis Report of Four Country Studies Bangladesh, Senegal, Thailand and Zambia* (New York, United Nations Development Programme, 2005); and R. Sengupta, D. Coondoo and B. Rout, "Socio-economic impact of national highway on rural population living in its proximity", *The Asian Journal*, vol. 12, No. 1, (New Delhi, Asian Institute of Transport Development, 2005), pp. 43-64.

² This section draws heavily from the recent ESCAP report *Achieving the MDGs in Asia: a case for more aid?* (available at <<http://www.unescap.org/publications/detail.asp?id=1152>>); and United Nations, *The Millennium Development Goals Report 2005*, (New York, United Nations, 2005). The purpose of this section is not to lead to any further discussion on the subject but to reiterate that poverty is still a development issue of major concern in the region.

terms of absolute numbers, China and India are still home to a very large number of poor people. Setbacks in eradicating hunger nearly outweigh progress in some other areas. Between 1990 and 2002, the number of people suffering hunger has increased considerably in many countries of the region. About half of children in Afghanistan, Bangladesh, India and Nepal are undernourished. Asia also still accounts for over two thirds of all people living in rural areas without access to clean water and sanitation, of underweight children and of tuberculosis cases in the world.

7. A recent assessment by ESCAP of the poverty situation in the region finds that "...not all the developing countries in Asia and the Pacific are making sufficient progress; indeed none are currently on track to meet all Goals by 2015".³ A large number of countries are off track for reducing the infant mortality rate, maternal mortality rate, proportion of children not enrolled in primary school and HIV prevalence.

8. Without going into any further details of the poverty situation, it can be said that further efforts are required by most countries in the region if they are to achieve the Millennium Development Goal targets within the specified time frame.

9. The great majority of the Asian poor in both urban and rural areas face a basic access problem owing to deficiencies in transport. In this respect, the links between poverty reduction and the transport infrastructure and services need to be assessed. It is necessary to assess how greatly the deficiencies in this sector are affecting progress in achieving the Millennium Development Goal targets and how these deficiencies may be tackled.

II. CONTRIBUTION OF THE TRANSPORT SECTOR TO ACHIEVING THE MILLENNIUM DEVELOPMENT GOALS

10. In recent years, ample empirical evidence of the positive impact of transport (rural roads, in particular) on poverty reduction has emerged from studies conducted by the Asian Development Bank, the Department for International Development of the United Kingdom of Great Britain and Northern Ireland, the International Food Policy Research Institute, the World Bank, the United Nations and other donor organizations in a number of countries in the region, including Bangladesh, China, India, Indonesia, the Philippines, Sri Lanka, Thailand and Viet Nam. A recent report entitled *Assessing the Impact of Transport and Energy Infrastructure on Poverty Reduction* provides a literature review synopsis of many of these studies.⁴

³ ESCAP, United Nations Development Programme and Asian Development Bank, *A Future within Reach: Reshaping Institutions in a Region of Disparities to Meet the Millennium Development Goals in Asia and the Pacific* (ST/ESCAP/2376) (United Nations publication, Sales No. E.05.II.F.27), p. 1.

⁴ Asian Development Bank, United Kingdom Department for International Development (DFID), Japan Bank for International Cooperation and World Bank, 2005, available at <<http://www.adb.org/Documents/Reports/Assessing-Transport-Energy/default.asp>>.

11. Findings from these studies show that investment in rural roads/access improvement can have a positive impact in five major areas: increases in total factor productivity in agriculture,⁵ shifts from subsistence farming to higher earning commercial farming, increases in rural wages, growth of non-agricultural employment and better social impacts through improved access to basic services. Studies carried out in China, India and Viet Nam by the International Food Policy Research Institute found that transport infrastructure investment often yields high economic returns in less developed areas. Investment in transport infrastructure in less developed areas are often yields higher returns than investment in other sectors (highest in India, second highest in Viet Nam and third highest in China).⁶

12. This section highlights the potential direct and indirect transformative roles of transport in fostering human development through the achievement of each of the eight Millennium Development Goals.⁷ Table 1 presents a summary of these transformative roles, as discussed hereafter.

Goal 1. Eradicate extreme poverty and hunger

13. Improvement of transport infrastructure and services can have a large impact on poverty reduction, as well as a significant impact on productivity and economic growth.⁸ Improved market access through better transport conditions can lead to increased surpluses due to higher producer prices, lower production and transport costs and reduced spoilage in the marketing chain, higher value crop substitution and better market information. On the other hand, deficiencies in transport can have significant adverse impacts on the rural agrarian economy and on the rural poor. Owing to deficiencies in transport and other logistics in most developing countries, a significant part of the agricultural output, including fruits and vegetables and dairy products, is lost on the journey from farms to consumers.

14. The majority of the region's population live in rural areas and vast rural areas are experiencing a basic access problem. Deficiencies in access result in high transport and production costs, low profits, little social interaction, slow spread of new ideas and innovations, problems in networking and diffusion of new technology, difficulties in getting social services, rural-urban disparity and high outmigration.

⁵ Total factor productivity relates to any effects on total output not caused by changes in inputs: land, labour and capital. Such effects could be due to changes in technology, institutional change and other factors.

⁶ Shenggen Fan and Xiaobo Zhang, "Infrastructure and pro-poor growth", presentation made at the World Bank Transport Forum 2006, Washington D.C., 29 March 2006.

⁷ The details of the Millennium Development Goals and their targets are well documented in many United Nations publications. Also available at <<http://www.un.org/millenniumgoals/index.html>>.

⁸ Shenggen Fan, Peter Hazell and Sukhadeo Thorat, *Linkages between Government Spending, Growth and Poverty and in Rural India*, International Food Policy Research Institute Research Report No. 110 (Washington D.C., International Food Policy Research Institute, 1999).

Table 1. Contribution of transport to the Millennium Development Goals and related targets

Millennium Development Goal	Target	Contribution of transport
Goal 1. Eradicate extreme poverty and hunger	Target 1. Halve, between 1990 and 2015, the proportion of people whose income is less than one dollar a day Target 2. Halve, between 1990 and 2015, the proportion of people who suffer from hunger	<ul style="list-style-type: none"> • Stimulates economic growth, raises agricultural and urban productivity, generates surpluses, facilitates diffusion of new technology and spread of new ideas and innovations • Facilitates access to employment and product market • Generates employment • Facilitates growth of secondary and tertiary sectors • Promotes tourism along major transport corridors • Improves food security by increasing food production and distribution through increased efficiency of the supply and marketing chain
Goal 2. Achieve universal primary education	Target 3. Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling	<ul style="list-style-type: none"> • Facilitates access to school for rural children • Facilitates delivery of school supplies • Prevents isolation of rural communities, attracts teachers and helps to ensure their regular attendance
Goal 3. Promote gender equality and empower women	Target 4. Eliminate gender disparity in primary and secondary education, preferably by 2005, and to all levels of education no later than 2015	<ul style="list-style-type: none"> • Facilitates access to school and regular attendance, particularly for girls • Provides gender specific transport needs (time of travel, security, safety, free of sexual and other forms of harassment) • Reduces time-burden of women in carrying out their essential tasks and frees more time for personal welfare • Promotes women's mobility and reduces their constraints for social networking

Millennium Development Goal	Target	Contribution of transport
Goal 4. Reduce child mortality	Target 5. Reduce by two thirds, between 1990 and 2015, the under-five mortality rate	<ul style="list-style-type: none"> • Facilitates access to health facilities and services • Assists in combating major preventable diseases • Attracts health service personnel to rural areas • Increases road accident-related deaths and injuries (negative effect)
Goal 5. Improve maternal health	Target 6. Reduce by three quarters, between 1990 and 2015, the maternal mortality ratio	<ul style="list-style-type: none"> • Provides access to health facilities and services, and medicines and supplies • Facilitates child delivery at a health facility
Goal 6. Combat HIV/AIDS, malaria and other diseases	<p>Target 7. Have halted by 2015 and begun to reverse the spread of HIV/AIDS</p> <p>Target 8. Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases</p>	<ul style="list-style-type: none"> • Encourages access to sustained health services • Facilitates implementation of programmes to eradicate major diseases • Aggravates spread of HIV/AIDS (negative effect)
Goal 7. Ensure environmental sustainability	<p>Target 9. Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environment resources</p> <p>Target 10. Halve by 2015 the proportion of people without sustainable access to safe drinking water</p> <p>Target 11. Have achieved a significant improvement in the lives of at least 100 million slum dwellers by 2020</p>	<ul style="list-style-type: none"> • Assists in promoting resource efficiency by providing services for waste recycling • Facilitates access to natural resources, such as forests and mineral resources (can be a negative effect) • Generates negative externalities due to pollution, congestion, depletion of natural resources, accidents and other effects (negative effect) • Supports disaster management, preparedness and post-rehabilitation activities

Millennium Development Goal	Target	Contribution of transport
<p>Goal 8. Develop a global partnership for development</p>	<p>Target 12. Develop further an open, rule-based, predictable, non-discriminatory trading and financial system</p> <p>Target 13. Address the special needs of the least developed countries</p> <p>Target 14. Address to the special needs of landlocked countries and small island developing States</p> <p>Target 15. Deal comprehensively with the debt problems of developing countries through national and international measures in order to make debt sustainable in the long term</p> <p>Target 16. In cooperation with developing countries, develop and implement strategies for decent and productive work for youth</p> <p>Target 17. In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries</p> <p>Target 18. In cooperation with the private sector, make available the benefits of new technologies, especially information and communications</p>	<ul style="list-style-type: none"> • Facilitates access to and from landlocked countries and regions • Facilitates internal and external trade, improves the efficiency of supply chains • Promotes the integration of isolated economies with regional and global flows of trade and investment • Reduces burden on public exchequer through implementation of public-private initiatives • Facilitates access to decent and productive work for youth • Facilitates access to health services • Facilitates the establishment of information and communication technology networks (along the transport infrastructure right of way)

15. The transport sector is a major source of employment for the poor, particularly in the informal sector involving low or intermediate technology. Labour-intensive public works on transport infrastructure can be used as safety nets for the rural poor, especially in slack seasons and in post-disaster rehabilitation phases. Employment in labour-intensive rural road works can generate additional benefits through the multiplier effect, estimated to be between 1.5 and 2.8,⁹ of expenditures in the rural economy.

16. Transport has an important role in eradicating hunger by improving food security in terms of access to and availability of food, and by improving resource distribution to produce food through increased efficiency of the supply and marketing chain. Transport is needed at all stages through which people may acquire food, produced either by themselves outrightly or by others for them.

Goal 2. Achieve universal primary education

17. Improvement of roads and transport services has major implications for children's school enrolment, particularly that of girls. Many studies from Asia and Africa have shown that school enrolment increased significantly after transport facilities in rural areas were improved. The combined cost of education and transportation (including the time cost) can be a major reason for children dropping out of school. The time constraint of poor households can be a major factor in school enrolment when elder children are needed to assist their parents in productive and household tasks, including the care of younger children. Adequate transport decreases time and money costs and helps lower the dropout rates in the early years of schooling.

18. In addition, lowering transport costs can have a beneficial effect on other school services, for example, by enabling more teaching materials to be purchased and more meals to be provided. The quality of education can be affected where isolation of rural communities fails to attract teachers, and lack of adequate transport services can cause their attendance to be irregular.

Goal 3. Promote gender equality and empower women

19. The travel and transport needs of women and men are different and they face different constraints. As such, access to transport technologies and services is gendered. Very often, the available transport services in developing countries are highly congested, insecure and unsafe. It is difficult for women to compete with men for a modest space on board. In the absence of adequate transport, many women are forced to rely on more expensive modes of transport, spend more time walking or simply abandon the idea of making a trip. They may also risk sexual and other forms of harassment. These adverse conditions can seriously limit women's labour force participation and access to facilities and services, which affects their personal attainment and welfare.

⁹ Asian Development Bank, United Kingdom Department for International Development, Japan Bank for International Cooperation and World Bank, *Assessing the Impact of Transport and Energy Infrastructure on Poverty Reduction*, 2005, available at <<http://www.adb.org/Documents/Reports/Assessing-Transport-Energy/default.asp>>.

20. The economic and social benefits of improving women's access to travel and transport could be very high. Improvement in transport infrastructure and gendered facilities and services can significantly increase girls' school enrolment, help to reduce gender inequality, facilitate women's access to labour markets and paid employment and other economic and social opportunities.

21. Improvement of transport infrastructure and services can also play an important role in empowering the poor, particularly women. The participation of women in the wider social and political processes and local decision-making processes is necessary for their empowerment in society. The provision of gendered transport services can greatly assist in their participation by increasing their mobility and enhancing their opportunities for networking. This is crucial for the diffusion of ideas to improve their personal and family's welfare and to educate them about their rights and obligations.

Goal 4. Reduce child mortality

22. There is a clear link between levels of infant and child mortality and accessibility to health services/centres. When transport costs are high or health centres are difficult to reach, poor people fail to seek health-care services altogether. Transport has an important role to play in combating major preventable diseases, such as tuberculosis and measles. The success of national immunization programmes, for which repeat visits are often required, depends on the availability of affordable transport services to the poor. National immunization programmes require timely delivery of vaccines to health facilities in a cold-chain supply environment for which a dependable transport service is necessary.

23. Faster access to health services is critical to children's health. Transport is crucial for children's survival in medical emergencies, such as accidents (not only road accidents but other types, such as snake bites which may be common cause of death in many countries), and for effective response to outbreaks of communicable diseases (diarrhoeal diseases such as dysentery).

Goal 5. Improve maternal health

24. The link between levels of maternal mortality and accessibility to health services/centres is very clear. Improved transport facilities and services make it possible to increase the use of (reproductive) health-care facilities, antenatal care and professional child birth attendants. These services can reduce maternal mortality, which remains a major concern in achieving the relevant Millennium Development Goal targets in many countries of the Asian and Pacific region, particularly in South Asia. Research in the Lao People's Democratic Republic has shown that health and education attainment are directly related to access.¹⁰ Similar conclusions have been drawn from many

¹⁰ Cited in David Booth, Lucia Hanmer and Elizabeth Lovell, *Poverty and Transport: A report prepared for the World Bank in collaboration with DFID* (London, Overseas Development Institute, 2000), p. 39.

other recent studies. When disaggregated by gender, this relationship has been found to be much stronger for women. Lack of access to appropriate transport services is one of the main reasons for the poor reproductive health of rural women in many countries. Low-cost transport interventions can help to reduce maternal mortality rates by improving access to health centres and facilitating child delivery at a health facility.

Goal 6. Combat HIV/AIDS, malaria and other diseases

25. The increased mobility of individuals and transport sector workers is often blamed for the aggravation or spread of HIV/AIDS and other sexually transmitted diseases. Although transport may have contributed to the spread of these diseases, interventions in the transport sector can also be instrumental in combating HIV/AIDS and other diseases. Often, responses have focused on educating and counselling transport workers and taking preventive measures such as issuing condoms to them, particularly at major terminals and transport infrastructure construction sites. Long distance transport modes, such as intercity trains and buses, have also been used as focus points in HIV/AIDS prevention communication programmes.

26. Persons infected with HIV/AIDS or other sexually transmitted diseases require repeat visits to health facilities for treatment and access to antiretroviral drugs. The success of treatment programmes for these diseases often depends on the availability of affordable transport services to the poor. HIV/AIDS-infected persons also require assistance in order to be rehabilitated in their communities. For this purpose and for regular monitoring of their treatment follow-ups, they require regular visits by social and health workers. The availability of adequate transport services to social and health-care workers can greatly facilitate these vital visits and make them more cost-effective.

Goal 7. Ensure environmental sustainability

27. The transport sector generates externalities that can have serious welfare implications for the poor. Major transport developments may have a substantial negative impact on the environment through pollution and congestion, health, safety and other related aspects. Transport infrastructure that opens up mineral deposits and forest frontiers destroys the natural habitat, and reduced forests contribute to the degradation of the environment.¹¹ Exhaust emissions from transport operations are among the major sources of pollution. Very often the poor take a heavier burden of the negative externalities of the transport sector. While it may not be possible to avoid such externalities altogether, it is possible to decrease their current level of production and reduce their negative effects through new technologies and other intervention/mitigation measures in the sector. For example, the burden of accident costs on the poor can be reduced significantly by improving road safety standards and achieving the related targets (see E/ESCAP/MCT/SGO/9).

¹¹ The transport sector may not be entirely to blame for these negative effects, however. In most cases, they are due to failures in environmental policies and poor enforcement and/or absence of relevant laws.

Goal 8. Develop a global partnership for development

28. There are many landlocked countries and areas in the Asian and Pacific region. Trade and transport transaction costs in these countries and areas are significantly higher than in countries with coastal access. Consequently, integration of landlocked economies and areas with the global production and supply chain remains a major challenge. Transport has a crucial role in addressing the particular needs of these landlocked countries and areas. By providing essential links, transport can transform these landlocked countries into “land-linked” countries and help to integrate them with the global production and supply chain. In the same way, improving transport can help the small island developing States in the region.

29. Allocating limited budgetary resources to competing sectors could be a major problem in many developing countries. The private sector has shown considerable interest in making major new investments in the transport sector. Promoting public-private partnerships in transport can help reduce the burden on the public exchequer significantly as well as accelerate the pace of national and local development.

III. THE NEED FOR TRANSPORT SECTOR TARGETS RELATED TO THE MILLENNIUM DEVELOPMENT GOALS

A. Deficiencies in past practices

30. In the 1950s and 1960s, infrastructure development, particularly of rural roads, was taken as the starting point of economic development. Public works programmes for employment generation were introduced, for example, when Asia faced food shortages. In recent times, programmes to extend basic infrastructure, such as roads, irrigation and water supply, soil conservation and social facilities, in remote and poverty-stricken areas employing landless or agricultural labour have been introduced when no other work was available. Bangladesh, India, Malaysia, Nepal, Pakistan, the Philippines, Sri Lanka and Thailand have all introduced such programmes. Reviews on many of these programmes can be found elsewhere.¹²

31. Many of these programmes have had a beneficial effect on poverty reduction and social development in general. However, a major weakness of most of these programmes was that the processes did not involve people, particularly the poor, in their planning or implementation. As a result, the real needs of the target beneficiaries could not always be assessed and the distribution of benefits to the poor and other disadvantaged groups in society, women in particular, could not be ensured. Consequently, many of these programmes lacked local ownership and failed to achieve long-term goals. Despite the fact that many interventions were undertaken through integrated rural development programmes, budget and human resource allocations were considered on a sectoral and

¹² For example, see ESCAP, *Transport and Communication Interventions in the Alleviation of Poverty* (ST/ESCAP/1867), 1997.

ad hoc basis. No overall comprehensive development objectives or targets and policy framework, such as that provided by the Millennium Development Goals, guided any coordination of the activities undertaken by the multiple ministries and government agencies involved in the implementation process. This had negative effects on the quality of the outputs and the benefits of many of the programmes and on their sustainability.

32. As observed in a recent United Nations Development Programme report, the success of an infrastructure development programme for poverty reduction depends on packaging the programme with all the necessary complementary inputs in order to achieve multiple development targets. Without clear development targets or such a packaging approach and supporting factors, the ability of poor people to capitalize on the opportunities provided by the infrastructure projects could be very limited.¹³ In realization of this necessity and other objectives, the importance of an integrated evaluation framework for the assessment of infrastructure development programmes and projects at national, subnational and local levels is the subject of a separate document (E/ESCAP/MCT/SGO/8).

B. Some recent initiatives

33. Because there is a link between transport and poverty reduction, there has been rising interest in broad performance targets. Some countries in the region have considered national standards for the development of their road infrastructure. China worked to achieve road accessibility for 95 per cent of its towns and 93 per cent of its villages by 2005. In the first phase of India's rural road development programme, settlements with a population of 1,000 (500 in the case of hill states and tribal and desert areas) or more will be connected by all-weather roads. This first phase is near completion. In the second phase, such infrastructure will extend to settlements with a population of 500 (250 in the case of hill states and tribal and desert areas) or more. Viet Nam's target for improving the local infrastructure was to have basic road access for 80 per cent of poor communities by 2005, and 100 per cent by 2010. These road development targets are being pursued as part of much broader development objectives, which are an approach in the right direction to addressing the past deficiencies discussed above.

C. The need for sector-wide development targets and their link to broad development targets

34. The use of broad development targets remains un-common, however, in the transport sector, partly because of the great variety and specificity of services offered.¹⁴ The United Nations Millennium Project team has recognized the importance of adequate transport while developing Millennium Development Goal needs-assessment methodologies. The team could not find suitable data, however, for most areas of the transport sector. Transport proposals included in poverty

¹³ Selim Jahan and Robert McCleery, *Making Infrastructure Work for the Poor: Synthesis Report of Four Country Studies Bangladesh, Senegal, Thailand and Zambia* (New York, United Nations Development Programme, 2005).

¹⁴ Some of the exceptions have been road traffic fatalities, on-time arrival rates of aeroplanes and trains, and ship turnaround times.

reduction strategy papers (PRSPs) and country plans did not prove to be particularly helpful for this purpose. The team therefore resorted to an aggregate analysis involving the relationship between the per capita density of paved roads and a range of macroeconomic statistics for a large number of countries. On the basis of this analysis, the team concluded that countries needed to meet a minimum road density of 0.5 kilometres per 1,000 persons in order to meet the Goals, and used this target for investment needs assessments.¹⁵

35. The Millennium Project team proposed that a better method for future work might be to define levels of access to transport infrastructure and services compatible with the Millennium Development Goals for individual households or communities. The team proposed that, once a country had chosen an appropriate standard for its particular circumstances, attention could then be turned to assessing the increase in the share of the population enjoying this level of access.

36. Following this proposal, the African Union and the Economic Commission for Africa, in collaboration with the African Development Bank, the World Bank and the European Union, developed a set of transport targets and indicators related to the Millennium Development Goals.¹⁶ The development of a similar set of transport-related targets for the Asian and Pacific region may assist countries in monitoring their progress in transport development over time and would help to ensure the supply of transport as a necessary input for achieving multiple Goals.

37. Table 2 provides a set of proposed transport-related targets considered generally suitable for the developing countries of the region. These targets should assist the countries in attaining the Millennium Development Goals. Possible indicators that countries may use to measure and guide their progress are contained in the annex.

Table 2. Proposed transport targets related to the Millennium Development Goals

Millennium Development Goal	Target
Goal 1. Eradicate extreme poverty and hunger	Rural settlements with a population of 1,000 or more are connected by an all-weather road, and those with a population of between 500 and 999 are not beyond 2 kilometres of an all-weather road
	The proportion of the urban poor for whom mobility problems severely restrict access to employment and essential services is halved
	The average transport and logistics cost as a proportion of the total cost is comparable to that of more developed countries in the region and ultimately to that of the member countries of the Organisation for Economic Cooperation and Development

¹⁵ Millennium Project, "Millennium Development Goals needs assessments country case studies of Bangladesh, Cambodia, Ghana, Tanzania and Uganda", working paper, 17 January 2004.

¹⁶ African Union and United Nations Economic Commission for Africa, "Transport and the Millennium Development Goals in Africa", a background working document for the Meeting of the African Ministers Responsible for Transport on the Millennium Development Goals, Addis Ababa, 4-5 April 2005.

Goals 2 and 3. Achieve universal primary education, and promote gender equality and empower women	Rural access and urban mobility are improved in order to reduce travel costs and the time burden on children in order to facilitate safe access to schools, regular attendance, particularly for girls, and effective education
	The mobility of women is improved through the provision and the promotion of transport services to meet their particular travel needs
Goals 4 and 5. Reduce child mortality and improve maternal health	Rural access and urban mobility are improved in order to reduce travel costs and time to reach health facilities
	Transport services/mobile health services are improved to provide isolated and poor communities with outreach health services and to ensure reliable delivery of medical supplies
	Emergency response to medical crises in rural communities is improved by linking telecom facilities to transport services
Goal 6. Combat HIV/AIDS, malaria and other diseases	The transport sector ceases to be an agent for spreading HIV/AIDS and sexually transmitted diseases
Goal 7. Ensure environmental sustainability	The rate of serious road injuries is reduced by 20 per cent
	The pedestrian death rate is reduced by one third
	The coverage of emergency assistance systems for road accident victims is increased
	The negative effects generated by the transport sector on the environment are reduced
Goal 8. Develop a global partnership for development	The proportion of solid waste recycled is increased
	The transport costs for landlocked countries are reduced and their access to global markets is improved
	All links in the Asian Highway and in the Trans-Asian Railway are completed
	All non-physical barriers that increase travel time and related transport costs, such as customs clearance, border delays and other impediments to the flow of goods and services, are dismantled or reduced
	Axle load limits, vehicle and road dimensions, and technical standards are harmonized
	The participation of the private sector in providing and operating transport infrastructure services is increased
Information and communication technology networks along the transport infrastructure right of way, particularly along cross-border routes, are established	

38. These targets can be applied not only for monitoring purposes but, perhaps more importantly, as a significant tool in planning and designing transport infrastructure services at all levels: local, subnational and national. The International Labour Organization has developed a tool called accessibility planning, which is based on simple measures defining the subsistence and economic and

social access needs of rural households in relation to the need for basic supplies, services and facilities.¹⁷ It is a simple planning tool designed to assist local-level planners in identifying the access needs of the local communities and in defining a set of priority interventions to improve access through a bottom-up planning process. Developing transport-related national targets and standards can greatly assist in such an initiative.

39. This is not to suggest, however, that these targets would be universally valid across the region. Many of the targets may be of trivial significance to some countries, and yet other countries may require a somewhat different set of targets in the light of their own local realities and priorities. Therefore, each country may need to develop its own set of targets using the targets proposed in the present document as initial guides. While developing such national targets, it would be necessary to consider the relative population density, the location and distribution of centres of economic activity, the topography, the wealth of the target population, the relationships with neighbouring countries and many other social, economic and geographic factors.

40. There is no generally accepted methodology for the development of national targets or standards for improving the transport sector. Developing such a methodology could greatly assist countries in creating national standards. Once developed, these standards would also provide a basis for assessing appropriate and effective intervention points for transport-related poverty reduction strategies, policies, plans, programmes and projects.

IV. ISSUES FOR CONSIDERATION

41. Poverty remains a development issue of major concern in the region, with large sections of the population experiencing a basic access problem in both rural and urban areas. Transport development that improves access and enhances the inclusion of the poor in the overall development process can be an entry point in poverty alleviation. Consideration of ways in which transport interventions can contribute to poverty reduction at the policy formulation and programming stages may significantly reduce the costs of such transport interventions.

42. However, the lack of a clear understanding about the complementary relationships between interventions in the transport sector and other sectors, and how that affects total factor productivity and the welfare of the poor and other disadvantaged groups often result in narrowly focused transport programmes that fail to achieve the desired outcomes. The Millennium Development Goals provide a unique opportunity to consider transport development within a wider framework of intersectoral collaboration to address poverty reduction and economic and social development.

¹⁷ Chris Donnges, "Rural transport and local government units – How to improve rural transport for the rural poor", in *Transport and Communications Bulletin for Asia and the Pacific*, No. 71 (ST/ESCAP/SER.E/71) (United Nations publication, Sales No. E.02.II.F.33), pp. 27-38.

43. Owing to this opportunity to retool transport planning and policy formulation processes and to redesign transport programme interventions, proposals at the national and regional levels are submitted for consideration.

A. National level

44. Many developing countries in the region have prepared PRSPs. These national documents contain intersectoral strategies and plans for poverty reduction. However, in many PRSPs, transport issues have not received due attention and/or the focus has been primarily on building road infrastructure. The papers have been prepared without much consideration for other areas of transport or cross-cutting issues in transport development, such as gender and the environment. These deficiencies in the PRSPs need to be rectified where appropriate. In this respect, developing national targets similar to those proposed in table 2 and their inclusion in the PRSPs and other national plans may greatly assist in ensuring the provision of transport as a necessary input for achieving the Millennium Development Goals.

45. In order to have a better understanding about the links between transport and social development and poverty alleviation, countries may wish to undertake studies and ex-post evaluation of projects involving transport interventions for poverty alleviation. In addition, they may wish to review the availability of relevant data in order to enable a comparative analysis of the activities of the transport sector and those of other sectors. Findings from these studies would assist in the necessary adjustment of policies in the PRSPs from time to time.

46. The economic justification for transport investments has been traditionally based on some form of cost-benefit analysis. However, these traditional planning tools are subject to methodological limitations in the absence of a clear understanding about how and under what conditions the poor can actually benefit from transport projects. It is therefore necessary to consider new broad-based evaluation methodologies, at both the programme and project levels, involving all complementary elements to make transport infrastructure interventions work, and with explicit reference to achieving the Millennium Development Goal targets. Such methodologies are considered further in E/ESCAP/MCT/SGO/8.

47. Participatory approaches to planning and decision-making can help in addressing various issues of a cross-cutting nature and in pursuing sustainable development; ensuring the welfare of the poor and other disadvantaged groups; and resolving conflicts of interest. However, institutional mechanisms to ensure wide participation of all social groups are still largely absent. Where appropriate, countries may wish to consider the steps necessary to incorporate a fundamental change in the local transport planning process in order to promote the participation of all social groups in the process. The needs of all groups in society should be considered and reflected in project formulation,

service delivery and other actions. In this respect, they may wish to consider such a methodology developed by ESCAP through a pilot project.¹⁸

B. Regional level

48. The Senior Officials are invited to comment on the views expressed in the present document and consider the following elements, which could be realized over the course of a decade in order to strengthen both regional cooperation in policy development and capacity-building.

Immediate objective: A better understanding of the links among transport interventions, poverty reduction and the attainment of the Millennium Development Goals

Outputs:

1. Seminars and workshops on transport interventions aimed at achieving the Millennium Development Goals; and informational material on good practices followed in the region for the development of transport consistent with the Goals
2. Reviews and analytical and quantitative studies on the links between transport and socio-economic development
3. The dissemination of information on best practices and interventions designed to improve transport connectivity and access

Indicators of achievement:

1. Proposals for transport interventions aimed at achieving the Millennium Development Goals included in national policy documents
2. The use of ESCAP-promoted methodologies and information/resource materials in support of pro-poor and inclusive transport development
3. Documented exchanges of experiences within the region and instances of technical cooperation among developing countries resulting from activities initiated by the secretariat

¹⁸ The process followed is documented in ESCAP, *ESCAP-UNDP Guidelines for Participatory Planning of Rural Infrastructure* (ST/ESCAP/2029), 1999.

Annex
Proposed transport targets and their possible indicators

Millennium Development Goal	Target	Indicator to monitor progress^a
Goal 1. Eradicate extreme poverty and hunger	<p>Rural settlements with a population of 1,000 or more are connected by an all-weather road, and those with a population of between 500 and 999 are not beyond 2 km of an all-weather road</p> <p>The proportion of the urban poor for whom mobility problems severely restrict access to employment and essential services is halved</p>	<ul style="list-style-type: none"> • An increase in the proportion of the rural population within 2 kilometres of an all-weather road • A road density of 5 kilometres/1,000 persons with 25 per cent of all roads paved^b • An increase in the accessibility of markets (considering the time and the cost to transport goods) • The reduction of travel time and costs (for women in particular) • An increase in agricultural productivity and economic activities • An increase in employment opportunities (including those in local tourism-related activities) and income generation from transport-related activities • An increase in the use of intermediate means of transport • A reduction in the proportion of the urban poor facing severe travel-related constraints
Goals 2 and 3. Achieve universal primary education, and promote gender equality and empower women	<p>Rural access and urban mobility are improved in order to reduce travel costs and the time burden on children in order to facilitate safe access to schools, regular attendance, particularly for girls, and effective education</p>	<ul style="list-style-type: none"> • A reduction in unit transport costs (per ton-kilometre) • An increase in the proportion of roads in good and fair condition • A reduction in freight transport time • A reduction in port handling costs

	The mobility of women is improved through the provision and the promotion of transport services to meet their particular travel needs	<ul style="list-style-type: none"> • A reduction in the proportion of women reporting that available services do not meet their particular travel needs (travel time, safety, security, sexual harassment) • A reduction in women's travel time and costs (for personal needs and household tasks) • An increase in the mobility of women (trips per capita)
Goals 4 and 5. Reduce child mortality and improve maternal health	Rural access and urban mobility are improved in order to reduce travel costs and time to reach health facilities Transport services/mobile health services are improved to provide isolated and poor communities with outreach health services and to ensure reliable delivery of medical supplies ^c	<ul style="list-style-type: none"> • An increase in the proportion of health facilities with reliable access from their service areas • A reduction in the proportion of children under 5 years of age who can regularly visit health facilities with their parents without facing transport-related constraints • A reduction in the proportion of households reporting constraints to health facility access because of distance, cost or difficulty of travel • A reduction in the average cost and time required to reach health facilities; or, alternatively, improvement in accessibility^d • An increase in the proportion of the rural population within 30 minutes of the nearest health facility
	Emergency response to medical crises in rural communities is improved by linking telecom facilities to transport services ^c	<ul style="list-style-type: none"> • A reduction in the proportion of emergency patients unable to reach health facilities in time for treatment • An increase in the number of expectant or post-natal mothers who do not face travel-related constraints in reaching health facilities • An increase in the number of child births at health facilities
Goal 6. Combat HIV/AIDS, malaria and other diseases	The transport sector ceases to be an agent for spreading HIV/AIDS and sexually transmitted diseases ^c	<ul style="list-style-type: none"> • A reduction in the HIV/AIDS and sexually transmitted disease prevalence rate among transport sector workers • HIV/AIDS-related counselling and services available to the transport workers, and through facilities at transport terminals • A reduction in the HIV/AIDS and sexually transmitted disease prevalence rate in communities located along transport corridors • A reduction in the proportion of infected persons reporting difficulties in making repeat visits to health facilities owing to transport-related difficulties

		<ul style="list-style-type: none"> • A reduction in the proportion of health workers reporting transport-related difficulties in visiting HIV/AIDS patients • An increase in intercountry coordination of action in AIDS-related transport
Goal 7. Ensure environmental sustainability	<p>The rate of serious road injuries is reduced by 20 per cent</p> <p>The pedestrian death rate is reduced by one third</p> <p>The coverage of emergency assistance systems for road accident victims is increased</p>	<ul style="list-style-type: none"> • A reduction in the number of road fatalities (and fatality rates per 10,000 vehicles, per 100 million vehicle-kilometre) • A reduction in the number of pedestrian deaths per 100 million people and per 10,000 vehicles • An increase in the number of kilometres of road on which emergency services are provided
	The negative effects generated by the transport sector on the environment are reduced	<ul style="list-style-type: none"> • National plan/programmes for compliance with progressive and higher emission standards (to regulate emissions of oxides of nitrogen, particulate matter, carbon monoxide and volatile organic compounds such as those provided in Euro 0 to Euro V standards) • All available petrol is 100 per cent unleaded • An increase in the number of vehicles using “green” fuels • A modal shift from road transport to rail and water transport
	The proportion of solid waste recycled is increased	<ul style="list-style-type: none"> • An increase in the availability of transport services for waste recycling
Goal 8. Develop a global partnership for development	<p>The transport costs for landlocked countries are reduced and their access to global markets is improved</p> <p>All links in the Asian Highway and in the Trans-Asian Railway are completed</p>	<ul style="list-style-type: none"> • A reduction in transport costs for landlocked countries • An increase in the volume of international trade (by quantity and value) • Completed sections of the Asian Highway network • Completed sections of the Trans-Asian Railway network • An increase in the proportion of the Asian Highway under higher classification (according to ESCAP classification)
	All non-physical barriers that increase travel time and related transport costs, such as customs clearance, border delays and other impediments to the flow of goods and services, are dismantled or reduced	<ul style="list-style-type: none"> • A reduction in the number of checkpoints along trade/transit corridors • A reduction in the time taken to complete border-crossing procedures • A reduction in the time taken at ports to obtain required clearance for passage of shipments

	Axle load limits, vehicle and road dimensions, and technical standards are harmonized	<ul style="list-style-type: none"> • The formulation of regional/subregional standards and national programmes for compliance with those standards • The accession to relevant international conventions^e
	The participation of the private sector in providing and operating transport infrastructure services is increased	<ul style="list-style-type: none"> • An increase in the number and value of public-private partnership projects in the transport sector
	Information and communication technology networks along the transport infrastructure right of way, particularly along cross-border routes, are established	<ul style="list-style-type: none"> • A reduction of the cost and the availability of reliable services for voice and data communication among neighbouring countries and at border crossings

Notes:

^a The actual indicator values would be developed in the context of a country.

^b The suggested road density of 5 km /10,000 persons (of which 25 per cent are paved) was a target originally considered by Food and Agriculture Organization of the United Nations in calculating investment needs for an anti-hunger programme. In estimating road investment needs, the Millennium Project team considered a minimum provision of 0.5 km /10,000 persons.

^c Road safety-related targets are taken from E/ESCAP/MCT/SGO/9.

^d Accessibility may be defined as the ease (or difficulty) of reaching or using a facility or service. Improvement in accessibility may be based on consideration of mobility and proximity combined in a manner such as that applied in the integrated rural accessibility planning concept developed by the International Labour Organization. The concept has been applied in a number of countries in the region. See reference cited in footnote 18 for more details on the concept.

^e In its resolution 48/11 of 23 April 1992 on road and rail transport modes in relation to facilitation measures, the Commission recommended that countries in the region should consider acceding to the following seven international conventions: Convention on Road Traffic of 1968, Convention on Road Signs and Signals of 1968, Customs Convention on the International Transport of Goods under Cover of TIR Carnets (TIR Convention) of 1975, Customs Convention on the Temporary Importation of Commercial Road Vehicles of 1956, Customs Convention on Containers of 1972, International Convention on the Harmonization of Frontier Control of Goods of 1982, and Convention on the Contract for the International Carriage of Goods by Road (CMR) of 1956.

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