
Introduction

Transport plays a significant role in the overall development of a nation's economy. However, this sector also accounts for a substantial and growing proportion of air pollution in cities. In addition, the sector contributes significantly to greenhouse gases emissions and is a major consumer of petroleum fuels. This is a concern that has been reflected in the Agenda 21 as well. This chapter identifies the degree of convergence between the concerns raised in Agenda 21 and India's transport policy.

The chapter is organized as follows. The following section highlights the role of the transport sector in India in terms of energy consumption and environmental impact. Subsequently, Agenda 21 concerns in the transport sector are discussed. The third section reviews transport sector policies – pre- and post-Rio in light of the concerns raised in Agenda 21. Section four evaluates these policies with the criterion laid down in Agenda 21 as the backdrop and section five identifies the gaps that need to be addressed. Subsequently, directions for changes in policy are suggested.

Overview of the transport sector in India

In India, the share of the transport sector in GDP (gross domestic product) in 1997/98 was 7.3% (1993/94 prices). Road transport and the railways account for the majority of this contribution. The transport sector is also the second largest consumer of energy, next only to industry and commercial energy consumption about 98% of which is in the form of HSD and gasoline, grew at the rate of 3.1% per annum in the 1970s and at 5.6% per annum in the 1990s^a.

The relationship between transport and emissions in India is established via the use of fossil fuels. The linkage between transport and the environment is particularly visible in the urban transport sector due to the dominance of road transport. In addition, the transport sector accounts for a large and growing proportion of Greenhouse Gas (GHG) emissions.

^a The demand for HSD has been volatile since 1999/2000 with a decline in 2000/01 and an upswing in 2001/02. However, the trend over the entire 1990s has been upward.

The organizations and institutions in the transport sector, their roles and functions, and the relevant Acts are given in the Table 5.1.

Table 5.1 Organizations in transport sector at the national level

Organizations	Functions	Relevant acts
Roads		
Ministry of Road Transport and Highways	Development of road transport infrastructure and national highways, and overall regulation of freight road transport in the country	Motor Vehicles Act 1988 , Central Motor Vehicle Rules 1989
National Highway Authority of India	Development and maintenance of national highways in the country	National Highways Act 1995
Roads department, state government	Development and maintenance of state highways in the country	VII Schedule of the Indian Constitution (Article 246), List II (State List), Item 13
Ports, shipping and inland water transport		
Ministry of Shipping	Coordination of various activities related to ports, shipping and inland water transport	
National Shipping Board	Advisory body to the Ministry	Merchant Shipping Act, 1958
Director General, Shipping	Implementation of various provisions of the Merchant Shipping Act, 1958, of various international conventions relating to safety, and mandatory requirements under the International Maritime Organization	Merchant Shipping Act, 1958
Port Trusts	Managing daily activities of the individual major ports in the country	Major Ports Trust Act, 1963
Inland Water Way Authority of India	Regulation and development of national water ways for the purposes of shipping and navigation	Inland Waterways Authority of India Act, 1985
Transport Department, state government	Regulation and development of water ways other than national waterways for the purposes of shipping and navigation	VII Schedule of the Indian Constitution (Article 246), List II (State List), Item 13
Tariff Authority for Major Ports	Independent regulation of tariff setting in Major Ports	Major Ports Trust Act, 1963
Civil aviation		
Ministry of Civil Aviation	Planning and development of infrastructure for regulating air traffic. Responsible for Airport Authority of India, Director General of	Air Corporation Act, 1953

	Civil Aviation and Bureau of Civil Aviation Security	
Airport Authority of India (AAI)	Infrastructure and facility for Air traffic is provided by AAI. It is also responsible for maintaining domestic and international airports and civil enclaves at defence airports in country.	Airport Authority of India Act, 1995
Director General of Civil Aviation/Bureau of Civil Aviation Security	Perform regulatory functions.	
Railways		
Ministry of Railways	Planning and development of railway infrastructure.	Railway Act, 1989

The allocation of responsibilities between the Central and State government agencies in this sector is based on the principle of federalism. Similar is the case in the urban transport sector. The management of the urban areas in India is essentially a responsibility of the state government, even though the 74th Constitutional Amendments devolves urban development to local bodies. Urban transport as a subset of urban development is primarily a responsibility of the state governments though some agencies such as the Indian Railways which play an important role in urban transport planning work under the Central Government with no accountability to the state government. Table 5.2 lists some of the agencies involved with urban transport and their specific responsibilities.

Table 5.2 Institutions involved with urban transport in India

Organizations	Functions	Relevant Acts
Urban transport planning		
Ministry of Urban Development	Overall responsibility for urban transport policy and planning	
Land Development Authority, State government	Land-use allocation and planning	State Development Acts
Roads		
Transport Department, State government	Licences and controls all road vehicles, inspection of vehicles, fixing motor vehicle tax rates	Motor Vehicles Act ,1988
Ministry of Surface Transport	Administer the Motor Vehicles Act and notify vehicle specifications as well as emission norms	Motor Vehicles Act ,1988
State Transport Undertaking,	Operation of bus services	Road Transport Corporations Act

State government		1950
Public Works Department, State government	Construction and repair of state roads	VII Schedule of the Indian Constitution (Article 246), List II (State List), Item 13
Local municipality	Construction and repair of smaller roads, road signage, traffic lights, licencing and control of non-motorized vehicles, clearing of encroachments and land-use planning.	Constitution (Seventy-Fourth Amendment) Act, 1992
Police	Enforcement of traffic laws and prosecuting violators	State Police Acts
Railways Ministry of Railways	Own and operate urban rail transit systems wherever they exist	Railway Act, 1989
Others Ministry of Petroleum and Natural Gas	Regulation of prices and quality of transportation fuels	Essential Commodities Act, 1955 The Petroleum Rules, 1976
Department of Environment, State government	Monitoring air quality	

The transport sector and Agenda 21^a

The concerns related to the impact of the transport sector on environment and energy highlighted earlier are reflected in Agenda 21 as well. The overall objective outlined in the document is to reduce the local and global emissions from all modes of the transport sector. To achieve this objective, the document seeks to integrate environmental concerns with the development of the transport network and specially urban transport. Chapters 7 and 9 of Agenda 21 have identified the following key issues in the transport sector.

- Promoting integrated transport policies that consider alternative approaches to meeting commercial and private mobility needs.
- Integrating land-use and urban and rural transport planning, taking into account the need to protect ecosystems.
- Improving efficiency of transportation and related sectors.
- Accelerating phasing-out of the use of leaded gasoline.
- Promoting voluntary guidelines for environmentally-friendly transport and action for reducing vehicle emissions.
- Fostering partnerships at the national level for strengthening transport infrastructure and developing innovative mass transport schemes.

The issues that reflect the concerns in Agenda 21 are listed below.

Mitigating the impact on the environment

The relationship between transport and the environment forms the bulk of the transport sector's concerns in Agenda 21. It calls for a review of the national laws, rules and regulations to reflect upon such issues as protection of the atmosphere and energy efficiency. Apart from this, there is also mention of developing alternative and sustainable modes of transport and upgrading vehicles for curbing emissions. Where fuel quality is concerned, phasing out leaded gasoline is particularly important. In addition to strategies and actions for mitigating vehicular emissions, there is also an emphasis on spreading information related to air pollution and in general promoting public awareness of the impact of transport on the environment through the media.

^a Based on the guidelines for National Reporting to CSD IX on transport.

Social and poverty concerns

Agenda 21 stresses the need for an integrated strategy of urban planning, rural development, and transport infrastructure. It recognizes the import of the mobility needs of commercial, private, and public activities. Specifically for the poorer sections of society, public transport is the only option, and thus vital to their integration with the economic and social mainstream. Strategies to mitigate the effect of air pollution, arising from ill-managed transport and traffic systems, on vulnerable sections of the population are important. Reducing traffic-related accidents and damages is another area highlighted.

Decentralization in decision-making

Agenda 21 emphasizes the need for complete decentralization of decision-making to the lowest level of public authority, or local governments. Participation of groups or individuals other than government officials in the decision-making process is also highlighted. It points out the need to incorporate public opinion into transport policy development.

Private sector participation

Special prominence is given to the role of the private sector in the decision-making, planning, management, and operation of transportation systems. Private sector involvement is considered necessary to augment public resources for infrastructure investment and for improving operational and managerial efficiency.

International cooperation

Agenda 21 also emphasizes international cooperation in bilateral, regional and international transportation schemes by land, air or water.

Review and analysis of policies and other developments in the transport sector

Highlights of major developments

A brief review of the policy developments in this sector is presented in Table 5.3. As is clear, even before Rio, a number of concerns regarding the transport sector in Agenda 21 were reflected in government policy.

Table 5.3 Review of policies in the transport sector

Pre -1992 transport policy status	
Reducing the energy intensity of the transport sector	<p>Railways</p> <ul style="list-style-type: none"> ▪ Initiatives identified in numerous policy documents to increase the share of railways. NTPC (1980) suggested a modal share of road to be 28% for freight and 60% for passenger ▪ Reduced energy intensity of transport systems by increasing the share of electric traction in railways and public transport in urban areas <p>Alternative transport modes</p> <ul style="list-style-type: none"> ▪ Energy-efficient modes like coastal shipping and IWT to be promoted <p>Urban transport</p> <ul style="list-style-type: none"> ▪ Increased share of public transport in urban areas along with efficient vehicle technology to reduce the energy and environmental implications ▪ An efficient mass transport system to reduce the energy intensity of the sector ▪ Given the rapid increase in city size, the need for rail-based urban transport systems should be explored ▪ Pricing of mass transport services should be based on commercial principles so as to ensure viability of public transport ventures ▪ Private sector involvement in the operation and management of urban transport systems would have the twin benefits of efficiency gains and thus cost reductions, and additional resource mobilization. <p>Land use transport implications</p> <ul style="list-style-type: none"> ▪ Optimization of transport effort by policy measures such as dispersal of industries and rational land-use planning ▪ Land-use and transport planning in the urban context should be parallel processes. Develop multi-nucleated metropolitan centres
	Increasing the productivity of transport sector

infrastructure planning

- Predominant role for government in providing transport infrastructure
- Pricing of transport services to be on marginal cost basis

Transport policy post

-1992

Economic liberalization
Improvement in vehicle emission norms

- Introduction of a number of small and fuel - efficient cars
- Certificate of fitness for in use vehicles introduced - it is now mandatory for every motor vehicle to obtain a certificate of pollution under control (PUC) every three months
- Vehicular emissions standards progressively tightened
- A CNG pilot programme launched in 1993 in Delhi, Mumbai, Surat and Vadodara aimed at conversion of petrol vehicles into vehicles using CNG as a fuel
- LPG is now permitted as a transport fuel
- Use of battery operated vehicles/electric vehicles for IPT and buses on a trial basis

Transport policy post

-1992

Improvements in fuel quality

- Pre-mixed fuel (petrol and lubricating oil) for use in two-stroke engines of two- and three-wheelers has been introduced at filling stations in Delhi to optimize the oil-fuel mix.

Judicial interventions in Delhi

- Unleaded petrol introduced into the entire country
 - Diesel sulphur content was reduced from 1% to 0.05% in the four metros and to 0.25% in the rest of the country
 - 1995 - convert all Government of India vehicles into CNG
 - Restrict plying of commercial vehicles older than 15 years from 15 October 1998
 - No eight -year old bus to ply except on clean fuels by 31 March, 2000
 - Replacement of all pre-1990 taxis with new vehicles on CNG or other clean fuels (like CNG) by 31 March 2000
 - Gradual transformation of the entire city's
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	<p>bus fleet into a single mode on CNG by 30 September 2001</p> <ul style="list-style-type: none"> ▪ Financial incentives for the replacement of all post-1990 autos and taxis with new vehicles on clean fuels by 31 March 2001 ▪ Augment public transport by increasing the number of public buses to 10000 by the 1 April 2001
Port sector restructuring	<ul style="list-style-type: none"> ▪ Areas for private sector investment identified ▪ Procedure for inviting private participation laid down ▪ Setting up of TAMP ▪ Policy guidelines to enable major ports to set up joint ventures
Road sector liberalization	<ul style="list-style-type: none"> ▪ The National Highways Act was amended in 1995 to allow private sector participation ▪ The NHAI (National Highways Authority of India) has been mandated to implement the National Highways Development Project comprising strengthening and upgrading to a four-lane status about 13 000 km of high-density corridors ▪ Norms for foreign investment in the road sector liberalized and approval for foreign equity participation under certain conditions ▪ Funds have been made available to the NHAI for its capital base through a tax on motor spirit and a cess on diesel
Liberalization of the civil aviation sector	<ul style="list-style-type: none"> ▪ Corporatization of Delhi, Mumbai and Bangalore airports proposed ▪ Automatic approval for foreign equity participation in airports ▪ Private air-taxi operations permitted ▪ 100% NRI investment permitted in air-taxi operation

Regional cooperation	<ul style="list-style-type: none"> ▪ Proposals for linking Indian railways with Bangladesh railways ▪ Proposals for upgradation as the Bangladesh railways may require in order to carry the additional Indian traffic ▪ Offer to assist Myanmar to extend its railway to the main Yangon-Mandalay rail system and form part of the Trans-Asian Railway in the future. ▪ A need for a revised regional perspective plan for road development in the North East with international linkages, especially Bangladesh-recognized
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Based on the above review, this section evaluates policies with respect to sustainable development concerns identified in Agenda 21.

Achievements

Improving the energy efficiency of transport systems

Nearly every policy in the transport sector emphasises the link between transport and energy. The three key strategies highlighted in every policy document are checking the decline in the modal share of railways in traffic, augmenting the capacity of other modes such as inland waterways and coastal shipping, increasing the share of public transport in meeting urban travel demand, and introducing modern and energy-efficient technologies. Thus it is clear that the policy makers in the transport sector in India are seized of issues that have received substantial attention in Agenda 21.

To further promote energy efficiency in transport systems, efforts have been made to arrest the decline in the share of railways. The share of both passenger and freight movement has been constantly declining. This can be in part attributed to declining budgetary allocations that have declined to 23% of the Railways Plan in 1997/98 from 75% in the Fifth Five-Year Plan (MoF, 1999). In the face of a declining budgetary support to the Railways, they have increasingly taken recourse to market borrowing—Rs 29.71 billion in 1997/98, about 35% of the Railways Plan outlay (MoF, 1999). This has put a constraint on the ability of the Railways to raise resources internally due to a rising interest burden delaying development projects. Moreover, funding has become easier for road infrastructure after its liberalization resulting in a further pressure on the railways share in freight transport. Nevertheless, the government has recognized the importance of ensuring the commercial viability of the railways

and has taken steps to increase its revenue generation (Planning Commission, 2001).

Similarly, efforts are on to check to the decline in the share of public transport in urban areas. This decline can be attributed to a gradual withdrawal of state funding for public transport and increasing emphasis on commercial viability as also the deteriorating service and inability of the infrastructure to keep pace with the increasing demand. The Government of India and various state governments are attempting to address this issue by permitting greater private participation in the sector and restructuring the operations of public transit providers (TERI, 2000).

Insofar as introduction of modern technologies in the transport sector goes, liberalization of the licencing regime in the early 1990s resulted in the introduction of a number of fuel efficient vehicles in the cars and two wheelers segment.

Reducing the impact on environment

There have been substantial improvements in the emission characteristics of vehicles in India. Lead has been gradually phased out of gasoline and the target now is to reduce the benzene and sulphur content of diesel. There has been a gradual reduction in the sulphur content of diesel. Dramatic improvements in emission norms for all types of vehicles have taken place since these were introduced in 1991—additional pollutants such as particulate matter are now considered during the type approval tests for vehicles. Fuel and vehicle emission standards in Delhi are stricter than those in the rest of the country owing to the severity of the problem. To address the issue of the slow turnover rate of vehicles in India, vehicles of a certain vintage are not permitted which have high utilization rates to operate on city roads unless retrofitted for use with cleaner fuels. Since the government recognises the need to lay down a roadmap for emission norms and fuel quality specifications, it has initiated a dialogue with the automobile and oil industry to prepare a roadmap for emission reduction from vehicles under the aegis of the Working Group to Formulate Fuel Standards for Automobiles (CPCB, 2000).

In September 2001, the Government of India constituted the Mashelkar Committee to recommend an auto fuel policy for the major cities of the country, to devise a road map for its implementation and recommend suitable auto fuels, automobile technologies and fiscal and institutional measures. The Committee presented its report in January 2002 and has recommended that the Bharat Stage II norms, which are in place in Delhi, Mumbai, Kolkata and Chennai be

introduced into the entire country from 1 April 2005. Euro III equivalent emission norms for all categories of vehicles (excluding two- and three-wheelers) are recommended to be introduced in the seven mega cities from 1 April, 2005 and extended to other parts of the country from 2010. The necessity and the feasibility of extending the Euro III norms would be reviewed in the light of the experience gained after the introduction of Bharat Stage II norms in the entire country.

Social and poverty concerns

The underprivileged sections of society find mention in nearly all policy statements of the transport sector. The emphasis is on improving access to public transport and infrastructure for non motorized modes such as bicycles and pedestrians. Another policy that reflects the state's social concerns is the continued support provided to the Indian Railways in ensuring rural connectivity. The Ninth Five-Year Plan document states that 'budgetary support is necessary for a public utility like the railways which has to take up developmental projects for social and strategic reasons'. Also, rural connectivity is one of the key objectives of policy-making in India's transport sector in India. Another objective of the Ninth Five-Year Plan is to achieve connectivity by road for at least 85% of the villages in India.

Decentralization in decision-making

As the earlier section on the Organizational structure of the transport sector in India highlighted, the institutions in the transport sector derive from the principle of federalism. At the national level, there is very little policy provision for participation at the local or even the state level – most transport sector activities are carried out by agencies of the Central Government. At the local level, urban development is a local government subject under the 74th Constitutional Amendment. The local governments are assisted in administering the sector by a number of state government agencies.

As far as participation by non governmental organizations, community pressure groups, and civil society is concerned, while there are no policy guidelines requiring their formal participation in decision-making at any level, the Government consults such stakeholders at a number of fora during policy making. One such instance is the deliberations of the Working Group to Formulate Fuel Standards for Automobiles (CPCB, 2000) where a number of research interests and stakeholders were consulted.

Market orientation and commercialization

All policy statements in the transport sector recognize the importance of using market signals in transport planning. However, before the liberalization of the licencing regime in the early 1990s, the emphasis was on planning independent of market signals. Post-liberalization, there has been increasing emphasis on commercial orientation of the service providers as has been highlighted earlier for the state transport corporations. Private investment can now provide transport infrastructure for roads, civil aviation, and ports. Access to capital markets was made easier for government agencies such as the NHAI to permit greater public-private partnerships.

Regional cooperation

Indian initiatives on regional cooperation in the transport sector have been limited to the north east border of India given the problems with Pakistan on the western front and China to the north. The region borders Myanmar on its south and east, Bangladesh on its west and China (Tibet) and Bhutan on its north. Rapidly developing economies such as Thailand, Malaysia and Singapore are not far, being closer to the region than many important cities of India. Thus, policy initiatives have focussed on regional cooperation using the north east as the hub for the entire south east Asian region.

Concerns

Most policy documents in the transport sector recognize the concerns raised by Agenda 21, and suggest strategies to address them. However, the impact of these policy documents has been limited. This section analyses some of Agenda 21's concerns in the Indian transport sector.

Improving the energy efficiency of transport systems

While every policy in the transport sector emphasizes the nexus between the transport and energy sectors, the implementation of these policies has been inadequate. The share of the railways has constantly been declining. Of greater concern is the dichotomy in policies for the road and rail sectors. While the import of arresting the decline in rail shares has been universally recognized, liberalisation of the road transport sector has put further pressures on railways share in freight transport.

A similar trend has been seen in urban transport where the share of public modes is declining because of fiscal discipline leading to a gradual withdrawal of state funding leading to increased usage of personal modes and therefore energy. For instance, in Delhi, the penetration of public transport has declined from 62% in 1985 (GNCTD, 1997) to 57.25% in 1990, to 49.54% in 2000 (TERI, 2000a) resulting in personal modes meeting an increasing proportion of travel demand. Another problem has been the limited concern for consumer satisfaction because government-owned agencies operate and manage public transport services in most cities. The virtual monopoly that public sector service providers enjoy has meant that service planning is largely dominated by operating convenience than consumer convenience.

Finally, the integration of land use and transport planning, essential to optimization of transport demand, has not been realized due to a lack of coordination between agencies in the transport and land development sectors.

This can be partially attributed to these activities not being devolved to the local bodies despite the 74th Constitutional Amendment.

Reducing the impact on environment

While there has been substantial progress in improving emission characteristics of vehicles in India it is well recognized that current vehicle technology in India is inferior to that in the developed world, especially for heavy-duty diesel vehicles. Diesel vehicles do not have particle traps to reduce the emissions of particulate matter. Buses are built on a truck chassis and designed for speeds that are possible only on highways and not within the city. The largest segment of the vehicular fleet, namely two-wheelers, mostly uses the highly polluting two-stroke engine.

Petroleum fuels sold in India have less stringent specifications compared to those sold in other parts of the world. For example, the sulphur content in diesel here is higher than that sold elsewhere in the developed world. Some recent developments have seen a tightening of the fuel quality standards, particularly for Delhi. However, other cities in the country are yet to follow suit and policy directions would be necessary if the same standards as those applicable to Delhi are also to apply to other urban centres. Here again, the constraint in the financial resources to build the required capability in the refineries.

The turnover rate of vehicles in India is low and the progressively stricter mass emission norms for new vehicles will have only a limited impact. It is, therefore, necessary that policy initiatives apply to 'in-use' vehicles as well. So far, these initiatives have been directed largely at commercial vehicles, by not allowing those of a certain vintage to operate in the city roads or requiring them for use with cleaner alternative fuels. The strategies for making 'in-use' vehicles less polluting would revolve around mandating stricter emission standards coupled with a requirement for periodic certification.

Social and poverty concerns

The emphasis on efficiency and commercial orientation often leads to undermining the social and poverty concerns. For instance, the Ninth Five-Year Plan says that funds for fleet replacement would be made available only if the State government is able to commit a similar amount for this purpose and the state transport corporations are financially viable. The result of this policy has been the withdrawal of capital contribution to the public transport sector in urban areas. Consequently, fleet replacement and augmentation has suffered leading to a decrease in the penetration of public transport. Similarly, an

emphasis on the efficiency on transport networks has resulted in an increase in expenditure on improving the road infrastructure for motorized transport at the expense of non-motorized modes.

Market orientation and commercialization

While there have been initiatives to introduce private sector participation into transport infrastructure, these initiatives have not resulted in the desired outcomes. In the road sector, private investment has been limited to building overbridges and bypasses owing to uncertainties and risks in funding road projects. In the ports sector, India has not gone the whole hog towards making the major ports commercially-oriented. New investments by way of some berths or container handling facilities have been made by the private sector in the existing major ports, with the Port Trusts themselves continuing to handle the other berths and facilities. Even where the private sector has been allowed to invest, there has been no attempt to encourage competition by introducing two or more service providers. The Tariff Authority for Major Ports has not been given the power to function as a quasi-judicial body and ensure compliance of its orders.

Despite the well-documented and obvious advantages of using the market for environmental regulation in the transport sector, very little has actually been done. Nevertheless, there are a number of fiscal policies that impact the emissions loading from the transport sector such as pricing of transportation fuels. Some correction in fuel prices has resulted after the APM was dismantled in April 2002.

Integrating Agenda 21 concerns - directions

A transport policy must develop and promote cost-effective policies, reduce emissions into the atmosphere and also take account of development priorities as well as social and poverty-related concerns. An integrated approach is called for over the entire transport sector to ensure that the developed modes complement one another.

The increasing share of road transport is a cause for concern, reflected in the Approach Paper to the Tenth Five-Year Plan. As mentioned earlier, the impact on the economy, particularly energy consumption, would be severe. Being an intermediate service for all economic activity, restraining transport demand could be counterproductive. Thus efforts would be directed towards meeting the demand in more sustainable ways. Attempts will be made to check the decline in the share of the railways by actively pursuing strategies identified in

the Approach Paper to the Tenth Five-Year Plan such as adjusting fares to reflect actual costs, especially for passenger transport, and promoting multimodal transport. A step in this regard has been taken in the railway budget this year. Also development of infrastructure for other modes of transport such as inland waterways, coastal shipping and pipelines is necessary to check the growth in road transport.

The development of cost-effective and safer transport, specially for integrated rural and urban mass transit needs to be addressed. Apart from the policies, cost effective programmes will be undertaken to encourage the use of modes transport which have the minimum impact on the environment. Mechanisms for integrated transport planning strategies and urban and regional settlement strategies to reduce environmental impacts of transport need to be put in place. To promote cleaner technologies, especially zero-emission technologies in the urban Indian context, and to promote R&D leading to their commercialisation, available technology options will be evaluated with a view to identifying vehicle technologies and fuels for the future. Also, the use of market-based instruments in mitigating the environmental concerns in the transport sector will be encouraged.

Agenda 21 calls for greater regional cooperation. One potential location for this is the North Eastern part of India, which can become the hub for virtually the entire Asian continent, and as a gateway for south east Asia. Hence, a good way of rethinking the economic development strategy for the region is to look at it as a transit route for the movement of goods between east and south east Asia, and south Asia.

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