

THE INSTITUTIONAL ENVIRONMENT FOR SUSTAINABLE TRANSPORT DEVELOPMENT

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Abstract

Many issues in sustainable transport development as well as their possible resolutions have a cross-sectoral dimension. Generally, multiple ministries, government departments and agencies at different levels of government are involved in transport development. Policies and plans across the sectors need to be consistent, and actions at all levels of government need to be coordinated to have the desired results. Furthermore, given that transport demand is a derived demand, complementary interventions in related sectors may be required in order to make transport development more inclusive and to realize its full potential to support the development process. These tasks can be rather challenging for various reasons, especially owing to deficiencies in the institutional environment comprising laws, regulations, rules, and governance institutions outlining how organizations function and conduct dealing with other organizations and stakeholders. Considering the importance of the institutional environment to sustainable transport development, this article focuses on institutional issues that need deliberation by elected officials, policy makers, experts and other stakeholders to find solutions, as needed. Otherwise, they may stand as barriers seriously limiting the progress on sustainable transport development.

Introduction to Sustainable Transport Development and Institutional Environment

The Brundtland Commission report, published in 1987, brought global attention to the concept of sustainable development. The report formalized the concept. Subsequently, the World Commission on Environment and Development adopted the concept of sustainable development at the first Rio Summit in 1992 and introduced sustainability into public discourse.²

During the 1990s, the concept was extended beyond the original environmental concerns. Three dimensions of sustainable development namely, environmental, economic and social are now generally recognized. The concept gained further prominence at the World Summit on Sustainable Development (WSSD) held in Johannesburg in 2002. At the Johannesburg Summit, governments agreed to support, among other things, an integrated approach to policymaking at all levels for transport services and systems to promote sustainable development in the sector.³

The Rio+20 Summit in 2012 renewed global commitment to sustainable development. The Rio+20 Outcome Document noted that transport and mobility were central to sustainable development. The Outcome Document recognized the importance of efficient movement of people and goods, and access to environmentally sound, safe and affordable transportation as a means to improve social equity, health, resilience of cities, urban-rural linkages and productivity of rural areas. (Paragraph 132)⁴

¹ The author is a former staff member of the ESCAP secretariat. This article is based primarily on information from an unpublished report entitled "Sustainable Transport – Integrated planning, policy formulation and coordination" prepared for the Transport Division of UNESCAP by the author in 2014. Some new materials have been added, however. The findings, views and opinions expressed and arguments employed in the article are that of the author, and do not necessarily reflect the official views of the ESCAP secretariat or of the member States of ESCAP.

² The concept of sustainability is however much older. The concept broke into mainstream development discourse in the 1980s. The use of the term in the transport sector also dates back to that time. Before this the use of the term "sustainability" can be found in the fields of economics and natural resources. The Rio Summit is credited for bringing the issues in sustainable development in public discourse and for its subsequent inclusion in development agenda.

³ Johannesburg Plan of Implementation, paragraph 21; available at http://www.un.org/esa/sustdev/documents/WSSD_POI_PD/English/WSSD_PlanImpl.pdf (accessed on 9 June 2014).

⁴ The Rio+20 Outcome Document, paragraph 132, available at http://www.uncsd2012.org/content/documents/774futurewewant_english.pdf (accessed on 9 June 2014).

The outcome of these global and subsequent regional and national conferences have had a profound effect on the formulation of a national and international development agenda incorporating the concept of sustainable development in all areas of development especially in energy, environment, transport and other economic and social sectors. Now, efforts to apply the concept in all conceivable areas of development and at all levels can be seen.

As reflected in recent national plans and policies of many countries in Asia, governments have political commitments to sustainable transport development. Most developing countries, if not all, have considered various sustainable transport development initiatives or are in the process of doing so. However, most of these initiatives are ad-hoc and project-based in nature. As of 2014, only a handful of countries were known to be pursuing a programmatic approach to sustainable transport development at national and/or urban/metropolitan levels.

The most recent development would be in the inclusion of transport related targets in the Sustainable Development Goals (SDGs) adopted by the United Nations General Assembly in September 2015. Of the 17 SDGs with 169 targets, five targets related to goals 3, 7, 9, 11 and 12 are directly related to transport. Through this, more focused sustainable transport policies, strategies, action plans and improved institutional mechanisms can be formed by countries and transport communities.

Despite inclusion of sustainable transport development in national plans and policies and efforts made so far, the progress on the ground in most developing countries is far from satisfactory. Political commitments and the current level of efforts may not be sufficient for persistent sustainable transport development. One needs to revisit the challenges to sustainable development, consider the barriers and find ways to overcome those barriers.

A review of relevant documents on current practices, administrative arrangements and institutional issues in selected developing countries reveals that so far institutional issues in sustainable transport development have drawn much less attention. These issues are related to the institutional environment, comprising overall transport sector governance including planning, policy formulation, resource allocation, and coordination among multiple actors involved in transport development.⁵ The governance issues appear to be a major factor behind the slow progress so far.

The institutional issues concerning sustainable transport development need greater attention. Many barriers to sustainable transport development are institutional in nature. Deficiencies in present institutions, particularly laws, regulations, rules, and governance institutions outlining how organizations function and conduct their dealings with other organizations and stakeholders can be barriers to sustainable development.

Fortunately, many governments now recognize the importance of the institutional issues and have initiated measures to address them. The primary objective of this article is to focus on such institutional issues with the aim that it would generate further debate among the policy makers, experts and other stakeholders, to increase awareness about the implications of these issues, and seek their possible resolutions.

In this paper, the institutional environment and its importance in sustainable transport development is first explored. Thereafter, the shared responsibility of transport development and the need for coordination of action is elaborated. The third section focuses on other institutional issues in sustainable transport development such as rapid economic development and urbanization, the fragmentation of authority between multiple agencies under different levels of government together with institutional, resource and capacity constraints. Next the paper provides a summary of the main observations on institutional arrangements highlighting the need for reforms in transport sector governance and finally some conclusions and recommendations are drawn.

⁵ The importance of these issues has also been highlighted in the Rio+20 Outcome Document. For example, see paragraphs 75 and 76 of the Rio+20 outcome document.

1. THE INSTITUTIONAL ENVIRONMENT AND ITS IMPORTANCE IN SUSTAINABLE TRANSPORT DEVELOPMENT

Multiple ministries, government departments and agencies at different levels of government – national, provincial, metropolitan/urban and local as well as many international organizations and agencies are involved in transport development. Generally government departments and agencies are established under different laws or by decrees. Usually, their governance structure and mandates make them accountable only to their line ministries. In some cases, the laws may require the agencies to coordinate with other stakeholders but may not mention any definite means (institutional mechanism) for that purpose.⁶ Because of their systemic and multi-sectoral nature, policies and plans across transport sub-sectors and the other related sectors need to be consistent and actions at all levels of government as well as those by international organizations and the private sector need to be coordinated to have the desired results.

In the absence of an institutional mechanism, typically transport development decisions, planning and policy formulation, and coordination of actions between responsible agencies are undertaken within a setting which is deficient to address the consistency of policies, plans and programmes and coordination of action by multiple actors.

The success of transport planning and policies depend greatly on the institutional environment within which they are prepared and implemented. An example is considered here. Public transport or transit oriented development (TOD) can be an effective strategy for guiding sustainable urban (transport) development. However, TOD is rarely adopted in urban planning and transportation planning practices in cities of developing countries. Effective TOD requires appropriate type of development control along the transit corridors and other complementary measures, which are generally administered by land use control authority. TOD and development control together with measures for land value capture along the transit corridor can support the development of an effective high-capacity transit system and also provide for its funding, at least in part. However, most cities fail to guide transit-oriented land use development or generate funds for public transport development due mainly to deficiencies in their institutional environment.

There are three main elements that comprise the institutional environment. These include:

- a) Governance institutions that define the distribution of power and authority between levels of governments, organizations, and other actors. They also specify rules of business for organizations including how they conduct dealings with other organizations and actors;
- b) The legal institutions that refer to statutes, constitutional provisions, laws, regulations and rules, and high level administrative orders governing the sector; and
- c) Social and organizational culture within which the organizations and other stakeholders play their role. It also includes personal and group dynamic relationship between the organizations and the private sector, and various pressure groups that influence the decision environment and the allocation of resources.

However, according to Williamson (1994), there is another type of institution – the informal ones. Examples of informal institutions are deeply embedded social values, norms, practices, customs, and traditions. These are powerful conditioners of behaviour but they change very slowly. It is important to note that many deeply rooted informal institutions can be the basis for formal legal institutions at a later date.⁷

The institutional environment within which decisions are made or policies are developed is one of the key factors that influence the effectiveness of planning, policy formulation and implementation of projects. As has been observed by Meyer and Miller, the institutional environment can also be one of the major barriers or constraints that can limit innovation, change in current practices, as well as create institutional inertia to consider new initiatives. The institutional environment can guide the way countries, regions, cities and other jurisdictions implement or avoid implementing actions related to planning, policy formulation, coordination, infrastructure financing, the

⁶ The Basic Act on Transport Policy (Act No. 92 of 2013) of Japan is an example. Article 6 of the Act underscores the necessity of cooperation and collaboration among the State and local governments, transport operators and other undertakings but does not specify how that may be undertaken.

⁷ Williamson, O.E. (1994) Institutions and economic organization – the governance perspective, Washington, D.C., World Bank.

role of markets, the role of the state, the role of governments at different levels, technology standards and technological change.⁸ The institutions that define how these processes are carried out and roles are played determine greatly how a country, province or city develops its transport systems and how they are used and operated.

The deficiencies in existing legal institutions may become barriers to sustainable transport development and limit the actions of implementing agencies, while appropriate legal institutions can catalyze sustainable transport development in many ways. For example, the US Intermodal Surface Transport Efficiency Act (ISTEA) of 1991 placed a great influence and emphasis on incorporating intermodal connectivity issues into investment and planning decision-making, which has encouraged the development of intermodal transport development. There are similarly many other examples.

Cross-border transport is another area where the existing institutional environment may prove to be a major barrier. Efficient cross-border traffic flow requires, among other things, interoperability on both sides of the border. Interoperability includes common institutions such as driving and vehicle licenses, insurance and liabilities, waybills, customs/border control clearance procedures, information systems, safety standards, labour laws and practices, as well as matters related to technical specifications of vehicles (standards, permissive axle loading, etc.) and equipment. However, existing laws, rules and administrative arrangements can result in undue delays at borders, increases in costs and other adverse effects.

2. SHARED RESPONSIBILITY OF TRANSPORT DEVELOPMENT AND COORDINATION OF ACTION

The overall efficiency of a complex system such as transport depends much on the integration of shared responsibility between levels of government as well as coordinated action by multiple agencies. An integrated approach to transport planning is a positive way to influence the planning and provision of transport systems towards more sustainable patterns. Integrated transport planning can take into account major transport development issues such as intermodal transport, system interdependencies, interactions between transport and land use and accessibility, transport safety, traffic congestion, and transport demand management.

It is important to note here that policy formulation is more important and pertinent at higher levels while typical planning may be seen more important at lower levels. Responsibilities for planning and managing transport infrastructure and systems are shared across all tiers of government. National and provincial governments have important roles to play in planning, developing and managing national transport systems and establishing policy environments for lower levels of government.

Lower level government policies and strategies for transport development should therefore be based on strategic transport policy environments set by the national and/or provincial governments. Likewise, urban/metropolitan and local transport development should support the overall objectives of sustainable transport development at national and provincial levels.

The development of integrated intermodal transport (IIT) systems for both freight and passengers has the promise to significantly improve and make the transport processes more efficient in terms of cost, time, resource use, and reduction of adverse effects on society and environment. Governments' intentions to develop such intermodal systems are well reflected in many countries national transport plans.⁹ The development of IIT systems requires close collaboration between multiple government departments, public and private sector transport operators, and other stakeholders. Often government departments involved in the process are under different ministries. In the absence of a formal institutional arrangement it is hard to ensure close collaboration between all such parties, which is essential for the purpose. As a result, although the necessity of IIT systems are recognized and outlined in national plans, their implementation badly suffers.

The development of urban transport, especially in large and metropolitan cities, involves actions by multiple agencies that are not always well coordinated. Very often, transport agencies

⁸ Meyer, M.D. and Eric J Miller (2001). *Urban Transportation Planning: A Decision-Oriented Approach*, p.42, Singapore: McGraw-Hill.

⁹ For example, Bangladesh, China, India, Malaysia, Nepal and Thailand.

responsible for various systems such as metros, light rail, bus rapid transit (BRT) and other urban and national transport modes develop such systems without much consideration of all such systems together. The absence of coordination in developing these systems may result in several issues including lack of integration among transport modes, costly and poor transport services, and the poor quality of urban environment.

The institutional environment of urban transport and land-use development in cities of most developing countries generally exhibit a mixture of multi-level national, regional and local government and semi-government development agencies and operators, as well as a host of private-sector transport operators and investors. With the fast-growing demand for urban transport in the region, transport organizations face a host of challenges including coordination of their efforts to develop a unified urban transport system. Another related issue is that such agencies are generally responsible to address formal sector transport concerns. Consequently, the informal and non-motorized transport (NMT) modes remain neglected in terms of the planning, resource allocation and management leaving them to care for themselves. This phenomenon occurs largely because these improvements while essential have low visibility and the marginal impact is low resulting in the tendency to focus on projects that have more fanfare and can thus hold more weight politically in terms of visible improvements made.

The rapid increase in motorization in Asia combined with limited attention to pedestrian, cycling and public transport facilities have resulted in a decrease in the overall non-motorized transport trip mode share. However, it needs to be highlighted that walking and cycling still provide mobility to a large percentage of people in many cities. Short distance non-motorized transport trips are very common in Asian cities which are characterized by very high population densities and mixed land-use development. But this trend is changing fast.

Rapid urbanization and migration of people is causing population growth in city areas with new developments being sprawled in the absence of more public and non-motorized transport modes, especially along massive ring road networks. This "steroid effect" results in higher trip lengths causing an increase in motorized trips. Due to the low visibility of NMT projects, planners and politicians usually go for large scale flyovers, metro or road projects which get high publicity.

Lack of priority and quality of NMT infrastructure such as footpaths and cycling tracks are not helpful for increasing the share of NMT mode and in reducing road crashes involving the Vulnerable Road Users (VRU). Authorities need to give priority to NMT and improve their quality. NMT infrastructures, footpaths and cycle tracks should be integrated with public transportation systems to facilitate mobility. Many Asian cities such as Chennai, India, Bangkok, and Kathmandu are improving their NMT infrastructure.

Ignoring the informal transport and NMTs could become a serious issue in urban transport management in the long run as demonstrated in Dhaka, Bangladesh and elsewhere.

Another important issue is that the lateral or horizontal links between relevant agencies – in functional as well as geographical terms – are typically poor compared to their vertical links.

In some respects, the institutional arrangements in Hong Kong, China and Singapore may be considered as good examples. Although the actual institutional arrangements in these two cities are different, both have been successful in dealing with the coordination issue in planning, development and management of urban transport. There are some commonalities in both the cases, however. One may argue that they have the advantage of being city states with a single tier government system, which automatically allows them to overcome many institutional issues. Nevertheless, some other factors may have contributed more significantly to their successes than the single-tier government system. As has been observed in a GTZ publication,¹⁰ these factors include:

- Continuity of government policies – the basic policies related to transport development namely, development of integrated public transport system, restraint of private vehicles number and use, and investment in transport infrastructure have remain unchanged for decades

¹⁰ GTZ (2004). Sustainable Transport: A Sourcebook for Policy-makers in Developing Cities – Urban Institutions, Module 1b, revised edition in 2004, GTZ.

- Adequate professional expertise supplemented by external experts as needed, and availability of sufficient resources for transport development
- Effective regulatory and coordination mechanisms that subjugate all agencies and transport operators to basic policy objectives of the government.

It is being increasingly realized that the gap between planning and implementation by multiple agencies under different levels of government cannot be bridged without institutional reforms, capacity building and streamlining of the overall procedures in planning, policy formulation and implementation. In order to deal with this problem many governments have taken measures that include reforms in transport sector and urban governance, and creation of a unified special agency for metropolitan transport development and other matters related to traffic and transport management.¹¹ However, the successes of these unified specialized agencies at national or metropolitan levels are yet to be fully assessed.

3. SOME OTHER INSTITUTIONAL ISSUES IN SUSTAINABLE TRANSPORT DEVELOPMENT

Rapid economic development and urbanization in many developing countries in the region have led to unprecedented growth of demand for transport infrastructure and services. Often the growth of transport demand far exceeds the growth of the national economy. As a result, governments find it difficult to meet such high levels of demand based on a well thought out strategy for the overall long-term development of the sector. Often, a common response has been consideration of disjointed measures through implementation of a range of incoherent transport projects.

Fragmentation of authority between multiple agencies under different levels of government together with institutional, resource and capacity constraints has further compounded the problem. A literature review suggests the following are some of the major institutional issues in sustainable transport development:

- Formulation of integrated policies reflecting the multi-sectoral nature of transport and the necessity of vertical and horizontal coordination of actions
- Inherent weaknesses of the transport planning processes - national or urban (basically have remained “technical processes”)
- Integration of public transportation and land use
- Absence of a programmatic approach to development
- De-linkage between planning and financing
- Institutional capacity and incentives to translate good knowledge into effective actions
- Decentralization of powers and responsibilities

The following paragraphs summarize these issues and their possible general remedial measures.

The need for coordination within the governance structure

In most developing countries there is no formal mechanism to ensure policy consistency between different levels of government – national, provincial, urban/metropolitan and local. Often, due mainly to an organizational system of governments at different levels and their defined role and function in the national constitution, it is hard for the national government to ensure policy consistency at all levels. In order to circumvent such problems, especially at the urban/metropolitan level, some countries (for example, the United States of America) have enacted laws that require the governments at those levels to follow certain policy directions of the national/federal government. Some other countries (China and India, for example) have formulated national policy frameworks (including on urban/metropolitan transport) and made resource support from the national government conditional to adherence of the national policy framework.

¹¹ For instance, Dhaka Transport Coordination Authority or DTCA for Dhaka in Bangladesh; Metro Manila Development Authority or MMDA for Manila in the Philippines; and Urban Metropolitan Transport Authority or UMTA for many large cities of India have been created. In Thailand, a special agency under the Ministry of Transport called Office of Transport and Traffic Policy and Planning (OTP) coordinates the development of transport projects at both national and metropolitan levels.

Cities in the developing countries are rarely able to integrate public transportation and land use owing to the fragmented governance structure of public transportation systems, transport and land use planning in different departments under different ministries and levels of governments. Functional as opposed to jurisdictional issues can make it even more complex, especially in large metropolitan areas and conurbations. Reforms of the existing governing structure may be required to overcome this barrier.

Transport is a derived demand, meaning that the benefits from improved transport (for example, reduced time and cost for freight transportation) are passed through to prices for products and factors of production.¹² However, under imperfect market conditions and weak institutions, which is generally the case in most developing countries, additional policy and complementary interventions in related sectors are required to realize the full potentials of transport development. This suggests, transport development should follow a programmatic approach. This approach can also make transport development more inclusive in nature and create synergy between sectors. However, key to the programmatic approach to development is a governance structure that can ensure a comprehensive and integrated approach (also referred to as coordinated approach) to planning and policy development across the sub-sectors and other related sectors as well as coordination of actions by all actors as well as that of the private sector. The absence of such a governance structure is a major barrier to programmatic approach to development.

The importance of a strategic planning approach for long term development

It is recognized that a strategic planning approach is helpful to look into the longer term socio-economic and spatial development possibilities of an urban region. This planning approach can consider potential future development in a much broader context such as national development, regional integration (at sub-national level) and natural resource constraints. The strategic transport planning approach at the national level is also equally relevant to consider the possibilities of potential development in a similar broader perspective and longer term.

There are good examples of practicing this approach both at the national and metropolitan levels. The Netherlands government applied this approach in the formulation of the Second Transport Structure Plan (1987-1990). The Dutch approach was later adopted and applied by the “Group Transport 2000 Plus”, established in December 1989 by the European Community to develop a European transport strategy. At the city/metropolitan level, the city of Guangzhou in China, for example, has adopted this approach by putting the future development in a much broader context of globalization, regional integration, and ecological preservation.¹³

The linkage between planning and resource allocation and its availability for infrastructure development is generally poor. The linkage between planning and financing, if any, is further weakened by the lack of sustainable financing mechanisms for transport infrastructure at both national and urban levels. In order to lessen the burden of financing on government, some countries such as China, India, Indonesia, the Philippines and Turkey have considered greater involvement of the private sector through public-private partnerships (PPP), and other innovative financing measures.¹⁴ However, only a handful of countries have been able to pursue a programmatic approach to PPPs and/or considered other alternative financing measures. Consequently, in most countries, the burden of infrastructure development and financing has remained primarily on the government.

In most developing countries, transport infrastructure developments contained in the national transport plan or urban master plans are implemented on an ad-hoc basis as and when funding is secured for specific projects – often through unpredictable donor funding. The implementation process is further complicated when complimentary/component projects are to be implemented by multiple agencies under different funding arrangements. Usually, the national or urban transport plans are not prepared considering the expected development budget. Few countries or cities develop a

¹² It also means some demand for transport can be reduced by various measures including non-transport measures such as ICT applications.

¹³ As mentioned in a World Bank publication China: Building Institutions for Sustainable Urban Transport, EASTR Working Paper No. 4, World Bank, 2006.

¹⁴ These measures may include earmarked taxes and user fees, dedicated road/transport funds, tolls, indirect beneficiary payments, land readjustment, various types of debt financing instruments, carbon financing and private investment promotion funds.

Capital Improvement Plan—a common practice in developed countries. This approach can greatly enhance the pragmatism in transport planning and make it easier to implement.

The need to develop technical expertise in developing countries

An important common constraint for developing countries is the lack of technical capacity and practical experience in strategic planning. Another weakness of the current planning process is that planning is still very much a technocratic process - institutional arrangements for public/stakeholder participation in planning and decision making processes are rare. Wide participation increases the likelihood that actions taken or services provided by public agencies more adequately reflect the needs of people and that the benefits of development are more equitably shared, which is an important objective of sustainable development.

International knowledge and experience about many sustainable transport development measures is now widely available. Many international organizations have produced excellent manuals and guidebooks on sustainable transport development policies and specific measures. However, efforts to utilize the available knowledge and experience seem to be very limited.

The lack of interest in considering sustainable urban transport development measures probably has been much to do with institutional inertia, and absence of incentives and local initiatives to translate good knowledge into effective actions. In 2014, the ESCAP secretariat organized a series of national workshops and a regional workshop on sustainable transport development. It was observed that local leaders, such as many city mayors, were not fully aware of their leadership role that was necessary to considering bold initiatives to transform a city's transport system and make the city a more liveable place to work and prosper.

A related issue is the lack of technical and managerial capacity. Many agencies in developing countries are not able to recruit and/or retain qualified personnel to plan, implement and manage the complexity of transport projects. There is an urgent need to upgrade the capacity through training and professional development programmes in technical areas as well as for working in a multi-sectoral environment and inter-agency coordination.

Decentralization of powers and responsibilities has taken place in some countries (Indonesia and the Philippines, for example) with governments providing national planning guidance for local authorities and other agencies to use in determining their own priorities. However, such a flexible and supportive national environment has not been always very effective due mainly to limitations of internal capacities of local agencies and their power to mobilize local resources for project funding. The national government controls the revenue raising mechanisms and the means by which the funds are distributed. Such arrangement gives little incentive to innovate locally or to promote exemplary local leadership.

4. SUMMARY OF MAIN OBSERVATIONS ON INSTITUTIONAL ARRANGEMENT

Available national policies and the literature review reveal that the institutional environment in most developing countries is not conducive to promoting sustainable transport development. There are a number of important institutional barriers including the ones related to transport sector governance, legal and resource constraints. The other important barriers include: absence of integrated policies reflecting the multi-sectoral nature of transport and programmatic approach to development, inherent weaknesses of the current transport planning (national or urban) practices, de-linkage between planning and financing, decentralization of powers and responsibilities, and institutional capacity to handle complex transport issues especially in a multi-sectoral environment.

A wide range of transport sector governance structure exists in the Asia and the Pacific region. These structures often reflect a country's historical legacy and the political system of the government. The transport policy environment in most developing countries of the region is fragmented, with infrastructure planning, policy making, and financing strategies scattered across and within levels of government. In most countries, the present institutional environments to manage national and urban transport systems are quite fragmented and responsibilities are diffused. Effective institutional mechanisms for inter-agency cooperation and collaboration are either lacking or deficient. In the absence of an appropriate institutional environment for the development of integrated transport

systems, agencies usually follow a sub-sectoral approach to transport development that results in inefficiencies in the transportation process in terms of cost, time, convenience, and capacity and resource utilization.

Cities in most developing countries have a fragmented institutional arrangement to deal with transport issues. Generally multiple government departments and agencies under different levels of government as well as local governments may be involved. In most cases, there is no institutional arrangement to coordinate their planning and development initiatives. In addition, often city governments do not have a framework on national urban transport objectives, policies and guidelines that they can follow to take development initiatives and implement them. In recent years, some countries have taken steps to address this issue.

Some governments have considered improvement of the institutional environment by creating a specialized umbrella agency for the metropolitan regions and other large cities (for example, in Bangladesh, the Philippines and Thailand). The literature review reveals that these agencies are yet to fulfil their mandates due mainly to legal and capacity constraints. It is also rather common to see the national government's transport related ministries deal extensively with transport issues in capital and large metropolitan cities. Such involvement of the transport and urban development agencies of the national government are mostly disjointed and ad-hoc in nature and can be a barrier to considering a well thought out strategy essential for planning, development, and operations and management of transport infrastructure and services. In addition, the city/metropolitan governments with limited capacity and mandates do not take an interest to develop their own capability.

Governments have also considered other measures including enactment of new law and/or amendment to the existing ones, mainstreaming of sustainable development issues in national transport policies and launching of national programmes on sustainable transport development.

Generally the institutional environment in most developing countries is weak. In view of this, the Johannesburg Plan of Implementation document considered strengthening institutional environments for sustainable development at the national level and suggested a number of measures.¹⁵ It seems these considerations are still very much valid for most of the developing countries of the Asia-Pacific region.

5. THE NEED FOR REFORMS IN TRANSPORT SECTOR GOVERNANCE

Some major reforms of the transport sector governance institutions may be needed in most developing countries. It is not uncommon to see that the mandates of transport development agencies, as may be specified in their legal statutes or administrative orders, can be often contradictory as well as over- and under-lapping. The laws may require the agencies to coordinate with other relevant agencies but may not mention any definite means (institutional mechanism) for that purpose; or whatever mechanism is specified is not effective to deal with complex multi-sectoral issues handled by multiple agencies.

Reforms may also be needed in existing legal institutions. Many laws and rules can be obsolete or require changes in view of the changing environment; for example, regulatory standards on vehicle, fuel and emission control financial and other incentives for the promotion of sustainable development measures, and recognition of electronic documents to facilitate fast paperless transactions or payment of fees.

Many sustainable transport development policies and measures may need changes to existing laws and regulations, within or outside the realm of transport. Without such changes, the implementation of such development policies and measures may remain complicated by legal requirements or even made impossible due to legal barriers. A good example would be changes in development control regulations to facilitate TOD as well as funding of transit systems.

¹⁵ Johannesburg Plan of Implementation, op. cit. p. 61, paragraphs 162-165. These measures include coherent and coordinated approaches to institutional frameworks at all levels, establishment or enhancement of sustainable development councils and/or coordination structures at the national and local levels, enhancement of the role and capacity of local authorities, and institutionalizing public participation, including access to information regarding legislation, regulations, activities, policies and programmes.

Cross-border transport is an area where considerable institutional reforms may be required. Efficient cross-border traffic flow may require many changes in the existing laws and practices related to matters such as recognition of driving and vehicle licenses from other countries, insurance and liabilities of goods in transit, waybills, customs/border control clearance procedures, information systems, safety standards, and labour laws and practices. Changes in laws may also be required for matters related to technical specifications of vehicles and other equipment to permit traffic from one country to another.

The existing organizations involved in transport development need to be reformed. The reform may include redefinition of their roles, and changes in organizational structure and operational practices to reflect the redefined role as well as accommodating operations in a multi-sectoral and multilateral environment (particularly for national transport). In order to assume the changing role of the public sector, revitalization of the existing organizations should focus on capacity building, developing a culture and institutional mechanisms for cross-sectoral policy formulation and collaboration between organizations, allocation of resources, and access to new technology (especially related to applications of ICT), etc.

The role of a national planning organization deserves special consideration here. As needed in many developing countries, consideration may be given to strengthen the role of the national planning organization. Besides allocation of socially optimal level of resources to different sectors, the organization should also assume the coordination function for cross-sectoral policy formulation by ministries and government departments.

In the context of globalization, often the effectiveness of national policies requires greater articulation of efforts by all national agencies within a multilateral framework. Since markets do not take into account the externalities, governments need to consider such externalities through appropriate policy instruments at the national level, and in case of cross-border transport within the framework of multilateral agreements, which can ensure the sustainability of development in the sector. The national planning agency can take a lead role in this aspect. The national agency should also take the initiative to develop a vision and broad strategies for transport development as may be outlined by the political leaders.

Along with the reforms and revitalization of existing organizations, setting of new ones especially regulatory bodies, and reform of existing regulatory regimes may also be required to facilitate greater involvement of the private sector, public participation, competition, and to protect social interests at large.

Coordination between multiple agencies is a major issue in urban transport planning, development and management of transport services. However, the nature of coordination can be expected to change with time, owing to a country's overall level of development, institutional maturity and technical and social changes. As such, the institutional design for coordination needs to be flexible to accommodate such future changes. The overall structure of government and the governance culture vary by country. Because of such differences and changing needs, there is no universal institutional design that may serve the purpose of coordination for all countries and may also remain valid over the long-term. Any institutional framework will have to consider examination of the existing measures, assess the need of any additional measures and make changes as needed.

Lessons from developing and developed countries suggest that there is a strong case for developing cities to have a centralized transport supervising agency or authority, which already do not have one. The literature review reveals that the following are rationale for establishing dedicated transport authorities:

- To plan and manage public transport networks on a conurbation basis (that may overlap several local jurisdictions), with full network, fare and service integration between modes and operators; and
- The management of public funds to plan and develop infrastructure facilities, and procure transport services from transport operators.
- To overcome the typical administrative constraints of government departments for the above two functions namely, a legal basis, technical capacity, and financial resources.

The main purpose for such a supervising authority is to create an institutional arrangement to ensure necessary coordination between government departments and other agencies. It needs to be clarified here that a supervising authority does not necessarily require centralized decision-making. It may also be achieved through setting up of systems for information flow, and interactive dialogue between concerned organizations throughout the processes of planning and policy formulation, and programming and project development cycles. The related organizations should have clear obligations, responsibilities and financial and human resources to carry out their mandates. For this decentralized approach to work, it is necessary to develop an organizational culture and professional capacity to work in a multi-sectoral environment and in collaboration with other agencies.

6. CONCLUSIONS AND RECOMMENDATIONS

One of the main conclusions that may be drawn from the discussion presented in earlier sections is that planning and design for sustainable transport systems requires a fresh look at the conceptual level of understanding the transport issues, planning and policy formulation methodologies as well as institutional arrangements. Whatever planning methodology is followed, it is important to see whether it can consider the fundamental issues in sustainable transport development and satisfy the needs of decision makers and stakeholders.

The gap between planning and implementation by multiple agencies under different levels of government cannot be bridged without necessary institutional reforms, capacity building and streamlining of the overall procedures in planning, policy formulation and implementation.

A departure from the conventional planning, policy formulation and sub-sectoral approach to transport development practices is necessary. However, with the existing institutional weaknesses and governance problems in the sector, which are endemic in most developing countries, it is rather difficult to pursue a holistic approach in policy formulation, planning and coordinated action by multiple agencies.

The national government can play an important role in promoting sustainable transport development by creating an institutional environment for the implementation of national policy framework at all levels – national, provincial and local. The deficiencies in governance institutions defining the relationship between responsible agencies and other actors responsible for transport development are a major hindrance against their collaboration and cooperation to develop integrated transport systems. Without an effective solution to this problem, it would be hard to develop integrated transport systems that are key to sustainable transport. Also, an institutional mechanism such as the mandatory inclusion of national sustainable development policies in project/programme evaluation is needed to be in place to ensure implementation of national policies at all levels.

The political support of decision makers is very much essential, especially in countries where sustainable development has just started to take a root in national policies, planning, resource allocation and project development. It may be necessary to enhance their awareness about sustainable development and the commitments that their governments have made to sustainable development at international, regional and national levels. Where national policies exist, local decision makers need to be fully aware of such policies and how those may be implemented through local initiatives.

Concerned government agencies and local authorities may need advice and guidance in considering suitable projects, their financing and design as well as necessary technical assistance in project planning, design, financing and implementation. As part of creating a supportive environment, the national government may consider creating a national institute to provide such support. The institute, among other activities, may develop necessary resource materials, design guides, and train concerned officials according to their training needs.