

IV-29 Implementation Measures for Transport, Landuse and Environmental Policies in Developing Metropolises

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1. INTRODUCTION

In rapidly growing Asian metropolises, many kinds of urban problems including traffic congestion are constantly emerging. Landuse and transport can be seen as the cause as well as the effect of the urban problems. The impacts of infrastructure development, particularly by transport projects, have caused changes in the awareness and attitudes on environment such as air quality, noise, energy consumption and community structures.

There can be little doubt that the formulation of integrated strategy is the key to success in tackling urban transport, landuse and environmental issues. The interaction between landuse and transport should be considered in the planning process, yet considerations for the social and environmental concerns has to be taken. However, the problem in developing metropolises lies in the fact that there is a lack of integration between planning and implementation of landuse and transport. Due to this problem, the implementation of many landuse and transport plans were delayed and some were abandoned. It seems likely that the success or failure of plan implementation is attributed to the selection of policy measures and ways of its formulation. Only an appropriate set of measures can be an effective instrument to translate the plan into operational program. It is apparent, therefore, that the policy measures being used in developing metropolises has to be examined in details of their applicability.

This abstract describes the investigation of implementation measures for transport, landuse and environmental policies which have been employed in Southeast Asian developing metropolises. Furthermore, the study intends to provide a list of measures to serve as prescriptive instruments in the formulation of an integrated policy.

2. APPROACH TO INTEGRATED STRATEGIES

The core feature of the required approach is that an integrated strategy should fit within the metropolis's development plan, encompassing social, economic and environmental concerns. Experience has shown that success is more likely to be achieved by employing a range of

policy measures which help complement each other in their effects. There is a wide range of measures which can be considered for application in transport, landuse and environmental strategies in developing metropolises. These policy instruments should be grouped in such a way that the interactions between different types of measures can be demonstrated.

The alternative approach for developing metropolises should start with the formulation of comprehensive package of appropriate and integrated measures regarding transport, landuse and environmental policies. This will assist as prescriptive instruments for possible adoptions by practitioners. A wide range of policy options need to be tested by taking a series of strategies which represent particular approaches to policy instruments. The selected strategy is developed on the basis of the most appropriate way of combining individual policy instruments. Such guidance can help to group together measures which appear likely to contribute to the resolution of the problems.

3. IMPLEMENTATION MEASURES

Table 1 summarizes major transport and landuse measures which have been implemented or proposed in some Southeast Asian developing metropolises. Each of these measures is categorized according to the following criteria; (1) the nature of measure: regulation, operation, taxation/pricing, investment, and education, (2) direct and indirect scope of influence: landuse(L), transport(T), environment (E), (3) the effects: promotion(P) or restriction (R) on supply(S) or demand(D).

The review of measures for non-investment policies which have been implemented or are proposed illustrates some clear overall trend: (1) the most common form of transport measures are the management of the demand for private car use and the ways of improving public transport services; (2) various measures has emphasized on the improvement of bus operation to encourage the use of public transport; (3) landuse zoning and building control regulations still remain the major measures for landuse policies; (4) development

Table 1 Some Implementation Measures of Transport, Landuse and Environmental Policies in Developing Metropolises

[Regulation]									
(1) Bus priority/ bus lane	T	D	P(PBT)		(2) Area licensing scheme	T	D	R(PVT)	
(2) On street parking restriction	L,T	D	R(PVT)		(3) Road user taxes: imposed taxes on fuel, spare part, etc.	T	D	R(PVT)	
(3) Odd-even numbered	T	D	R(PVT)		(4) Parking charges	L,T	D	R(PVT)	
(4) Traffic management: one-way, truck ban, reversible lane, etc.	T	D	P(PVT)		(5) Landuse taxes	L	D	R	
(5) Landuse zoning	L,E	D	R		(6) Development charges	L,E	D	R	
(6) Building control	L,T,E	D	R		[Investment]				
(7) Preservation & Conservation zone	L,T,E	D	R		(1) Provision of road network	T	S	P(PVT)	
(8) Development incentives	L,E	S	P		(2) Intersection improvement	T	S	P(PVT)	
(9) Unleaded gasoline	E	D	R(PVT)		(3) Installation Area Traffic Control System	T	S	P(PVT)	
[Operation]					(4) Installation parking meter	T	D	R(PVT)	
(1) Bus operation	T	S	P(PBT)		(5) Provision Mass Rapid Transit	T	S	P(PBT)	
(2) Mass Rapid Transit operation	T	S	P(PBT)		(6) Transit Service Improvement	T	S	P(PBT)	
(3) Flexible working hours	T	D	R(PVT)		(7) Land redevelopment scheme	L,E	D	P	
(4) Open hours of shops	T	D	R(PVT)		[Education]				
[Taxation/Pricing]					(1) Car polling, ride sharing	T	D	R(PVT)	
(1) Vehicle ownership restraints by high import & purchase taxes, fee	T	D	R(PVT)		(2) Promotion by mass media	L,T,E	D	P	

Note : PVT=Private transport, PBT=Public transport

control and promotion by employing development charges or incentives are in active consideration; (5) there was an attempt to implement environmental control policy through regulation and pricing measures, however, actual implementation is limited.

Current investment measures are emerging on the following trends: (1) the most common approach to materializing transport issues lies in the development of transport road network and provision of mass rapid transit system; (2) building high-speed motorway and light or heavy rail transit system are the main transport project enclosing in most metropolis's development plan; (3) land redevelopment scheme such as land readjustment and new towns have been introduced, although construction rush in commercial and residential development is now exaggerated by the private sector.

The review of the implementation of plans or policies has brought about the following lessons: (1) the recent transport plans have failed to take into account the social and environmental impacts of their implementation, however, there is a growing awareness in many metropolises about the importance of the environment; (2) the integration between landuse and transport policy is rarely exercised, and it is often the case that the implementation measures of one side have negative effects on the other; (3) legislation and efficient enforcement are the primary requirements to facilitate the implementation of management

measures; (4) the use of regulation measures is likely more achievable than taxation or pricing measures; (5) there is limited success of pricing measures, and several current schemes have been abandoned for various reasons; (6) failure to implement most intensive investment plans on schedule, there are several factors causing the delay of implementation as identified in Miyamoto (1991).

4. CONCLUDING REMARKS

The following conclusion can be drawn from this investigation: (1) the effects of implementation measures on landuse and transport system presently implemented in developing metropolises need to be assessed in more either qualitative or quantitative details; (2) it is also important to study the success and failure of plan implementation of each metropolises, since the comparison between them might give good suggestion to another; (3) the implementation of plans has to be encouraged by providing them with a package of appropriate policy measures to serve as a guidance for possible adoptions by practitioners; (4) the integrated strategy pertaining to transport, landuse and environmental policies is a required approach to group together measures.

References

Miyamoto, 1991. Integrated Landuse-Transport Planning and Implementation in Developing Metropolises, Proceedings of Infrastructure Planning, JSCE, No.14.