

- Imported or locally-developed models that are responsive to relevant policy issues and which enable rapid analysis are required as decision-support tools to assist comprehensive planning.
- Further research should identify, prioritize, and fill key data gaps, and help develop and calibrate models to answer important policy questions.

Travel demand management

Continued increases in motorization can be expected as incomes rise. Each country in the region can influence its own motorization path to some extent, as illustrated in Figure 2, which shows that Hong Kong, China and Singapore have significantly moderated their demand for car ownership. Even so, Hong Kong, China and Singapore found that car ownership restraints alone are insufficient to manage private vehicle use, thus, appropriate pricing, TDM and land use policies are also essential. The most effective policies are those that successfully address the time and location aspects of congestion.

In many Asian cities today there is a bias in favor of private rather than public modes of transport. The result is that public transport's share of the transport task is declining.

TDM involves a multitude of agencies within and outside the transport sector. It consists of many measures covering "hardware," such as physical investments, and "software," such as policies and pricing. TDM is complex and requires multi-agency activity; this frequently causes problems in implementation.

TDM typically consists of low-cost improvement measures which, when combined, can have far-reaching effects. Therefore, TDM investments potentially make good use of limited financial resources. In practice, experience indicates that the implementation of effective TDM is problematic and may have adverse results. The challenge is to find acceptable and appropriate TDM measures for the circumstances.

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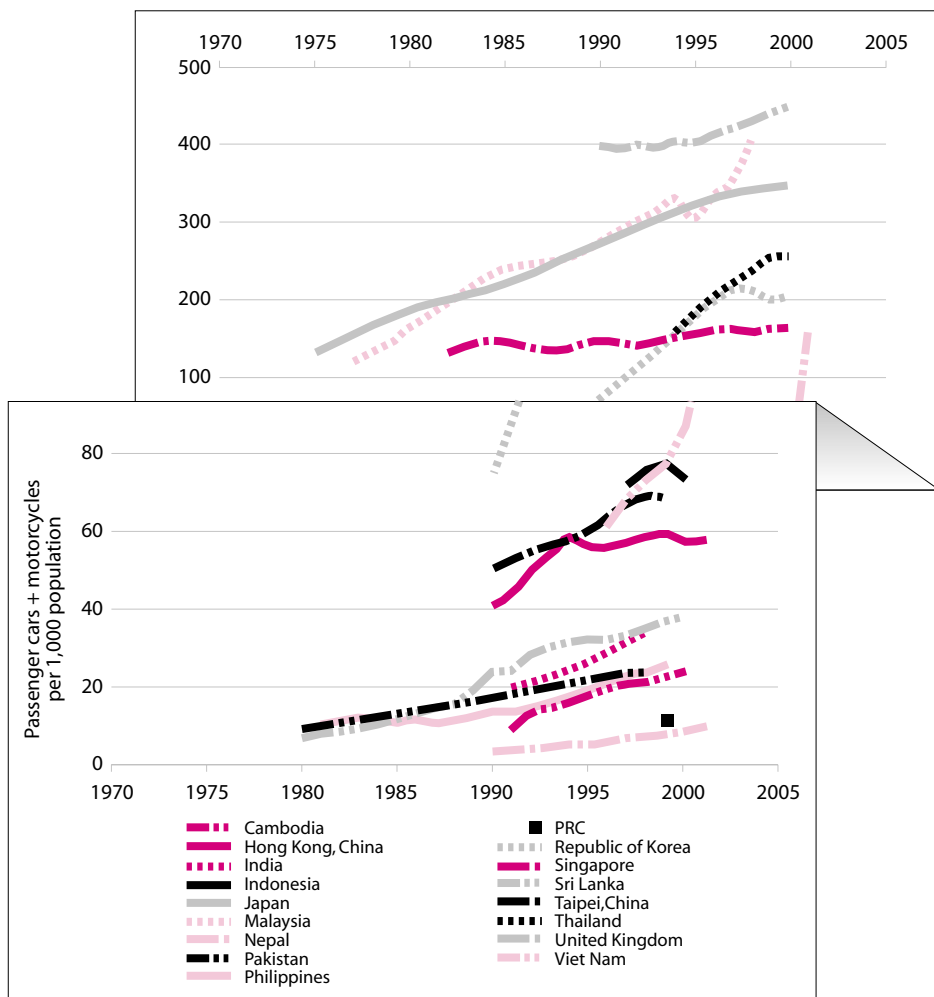


Figure 2
Selected
Motorization
Trends

Notes

1. Motorization includes registered private cars and motorcycles
2. Vehicle registrations in some developing countries are known to overstate actual in-use fleet. In Thailand, for example, the in-use fleet was half of the 1999 registered fleet

Sources: Cambodia Ministry of Public Works and Transport; Hong Kong, China Transport Department website; Paper on "Modeling Anthropogenic Emissions from Energy Activities in India: Generation and Source Characterization" of the Ohio Supercomputer Center website; Indonesian Police Department (Ditlantas Polri); Japan Statistics Bureau and Statistics Center website; Malaysian Roads General Information 1999 of Malaysia Road Transport Department; Nepal Department of Transport Management; Pakistan Statistical Yearbook 2000, Federal Bureau of Statistics; Philippines Department of Transportation and Communication; PRC "World Development Indicators 2001" of World Bank website; Statistical Yearbook 2001 of Republic of Korea Ministry of Construction and Transportation; Singapore Land Transport Authority website; Sri Lanka Ministry of Transport; Taipei, China Department of Transportation website; Thailand Department of Land Transport, Ministry of Transport and Communications; "Transport Statistics Great Britain: 2002 Edition" of United Kingdom Department of Transport website; Vietnam Register; Population statistics for all countries from University of Utrecht website

Parking policies are a practical TDM measure, although, they have limited effect since they do not address through traffic. Most Asian cities do not have a well thought-out parking policy. Parking provision—quantity, location and price—affects the demand for travel (for non-through trips only). Because parking and roads are demanded jointly, there is a case to imposing a higher price on parking than the cost of provision. Parking policy should be properly formulated and designed to be metropolitan in scope so that city center parking controls do not encourage urban sprawl.

Pricing measures in Asia, although efficient, gained limited success. Singapore's electronic road pricing scheme and its forerunner, the "Restricted Zone," are exceptions in Asia.⁷ Hong Kong, China recently investigated the technical, economic and social feasibility of implementing electronic road pricing (ERP). While ERP was recommended, the Government of the Hong Kong Special Administrative Region of the People's Republic of China has deferred consideration of the project for at least five years. Pricing, through fuel taxes, has a limited impact on overall travel demand levels; but, it may influence the vehicle fleet composition by favoring vehicles using different fuel types, with greater fuel efficiency, and other environment-friendly features.

Restraints on traffic may take a number of forms—from physical measures that impact on vehicle use to policies that are designed to reduce vehicle ownership. Cities throughout the region have implemented various physical schemes, including truck bans, traffic-calmed areas, and pedestrian schemes that exclude traffic. Bans exclude certain vehicle types and the costs imposed may sometimes be considerable. Small area-based limitation schemes rarely affect the decision to travel or the mode of travel, but may change the distribution of travel. The impacts and appropriateness of each type of scheme therefore, needs to be individually considered.

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Wide-scale odd-even number plate schemes may affect the mode of travel in the short term but may have unforeseen adverse effects, including the retention of older, more polluting vehicles. While these schemes may bring temporary relief, they are unlikely to provide the basis for an appropriate long-term solution. If there is temporary relief from congestion, then the opportunity should be used to implement schemes with long-term beneficial effects,⁸ such as the implementation of bus lanes in streets where traffic volumes have declined.

These policy guidelines on travel demand management are recommended:

- Public transport is desired as the dominant mode, but this cannot be achieved without the implementation of sound and comprehensive TDM policies. Policies should restrain car ownership and reduce the demand for private car and motorcycle use, and at the same time promote increased public transport use.
- TDM should not be implemented in isolation, but in conjunction with other transport planning, TSM and transport pricing measures. User needs and safety should be considered in the design of TDM measures even when these measures are directed to air quality improvements.
- Parking policies formulated across the metropolitan area should aim to control car use, and ensure that the car parking provided is allocated to promote sound and equitable development.

Transport systems management and regulation

Traffic management

All Asian cities have some form of traffic management system in place. To date, the emphasis has been on the “hardware” rather than the “software.”