



Chapter 5

Conclusions and general recommendations

Economic Instruments have a long history – both in developed and developing countries. Transport has always been used to generate state revenues. Many instruments that have been discussed in this book, in fact, can be found in various forms of horse ownership charges, and road and bridge tolls in many countries' economic histories. Many of these roots, however, have been neglected and forgotten in the recent debate about sustainable transport policy. By 1776, Adam Smith, in "The Wealth of Nations," had already outlined the basic principles of a sound transport policy. These included most of the aforementioned principles and recommendations for taxation and financing schemes.¹ Economic Instruments thus are not new transport policy "tools." But these tools have too long been idle. It is time to relearn their use, and to use them wisely in order to meet the economic, social and ecological challenges that occur today.

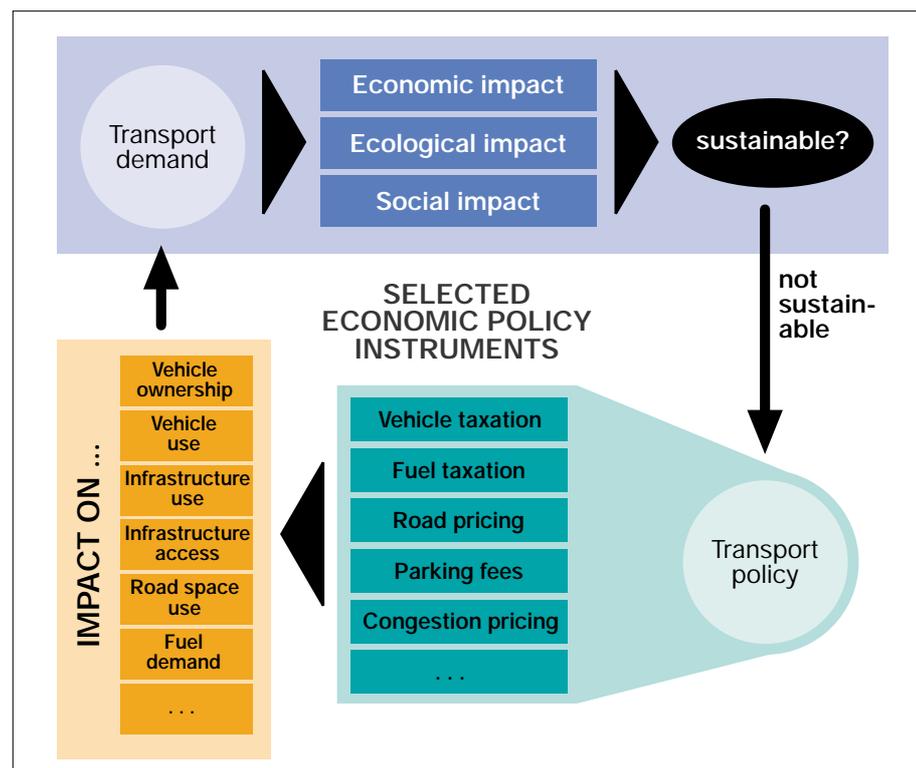
¹ An excellent modern outline of the principles formulated by Adam Smith can be found in Metschies 2001.

Eight basic insights toward a wise use of Economic Instruments.

In the face of diminishing public budgets but increasing internal and external costs of infrastructure and environmental damage a rethinking of transport policy is needed. In this rethinking, Economic Instruments should play an important role. The existing experience with the use of Economic Instruments, as presented in this book, lead to a number of conclusions. These can be summarised as follows:

1. There is a diverse toolbox of Economic Instruments that can be used to address economic, ecological and social goals with tailor-made measures based on economic incentives. Various transport demand aspects can serve as a starting point for Economic Instruments (e.g. vehicle ownership, vehicle use, etc., see Figure 5.1).
2. Economic Instruments are crucial in making efficient use of transport infrastructure. They assign costs according to the “user pays” principle and thus contribute to an efficient management of transport demand. Road users must pay in accordance with the magnitude of the road and external damages they cause.
3. In most cases, Economic Instruments offer the flexibility needed to adapt to specific technical and institutional environments. For instance, road pricing schemes can be introduced using high-tech solutions (as in Singapore), or simply by collecting fees manually (e.g. toll booths).

Figure 5.1: Overview of Economic Instruments in transport demand management



4. Economic Instruments are fully compatible with market economies. By using market-based incentive mechanisms, policy objectives can be achieved without unduly interfering with existing market processes.
5. Economic Instruments are most effective when they are embedded in a comprehensive transport policy approach as outlined in Chapter 1. One example could be a “push and pull” strategy that combines fuel taxation (Economic Instrument as push factor) with improvements of public transport (pull factor).
6. The implementation of Economic Instruments in many cases is rather simple and straightforward. However, a strong political commitment, certain minimum institutional capacities and a clear and transparent assignment of competencies within political institutions are important prerequisites. In addition, Economic Instruments should always be implemented as part of medium- to long-term transport policy strategies.
7. Economic Instruments can serve as an important source of state revenues. In particular, the "transport finances transport" principle should be applied. The transport sector in an economy is too large to be subsidised by other sectors. Thereby, earmarking of revenues is important, because the miscellaneous financial requirements of governments might erode the financial basis for sound transport financing.
8. To avoid public opposition, Economic Instruments should never be perceived as an additional burden. Therefore, it is important that all stakeholders are involved in the process of design, set-up and implementation of Economic Instruments. All steps must be transparent, accompanied by public awareness campaigns, and possibly designed in a manner that guarantees social fairness and a wise use of the revenues created (e.g. for social and ecological projects).

Table 5.1:
Survey of basic
Economic
Instruments

Instrument	Affected transport demand group	Institutional bodies involved	Policy objective	Incentive mechanism	Shortcomings	Selected supplementary measures
Vehicle taxation (chapter 3.1)	<ul style="list-style-type: none"> - Motorised vehicle owners (vehicle tax on cars, motorised two-wheelers, etc.) - Non-motorised vehicle owners (vehicle tax on carriages, horses, etc.) 	<ul style="list-style-type: none"> - vehicle registration office - (national) fiscal office 	<ul style="list-style-type: none"> - tapping stable source of revenue - recovering infrastructure costs - congestion reduction - restricting vehicle ownership 	<ul style="list-style-type: none"> - discourage vehicle ownership - discourage ownership of selected types of vehicles / technologies (through tax differentiation) - encourage use of public transport 	<ul style="list-style-type: none"> - administrative requirements for vehicle registration - high information requirements on vehicle types, engine types, emission levels - tax is independent from actual infrastructure use (no incentive for efficient road use) - rural areas disadvantaged 	<ul style="list-style-type: none"> - fuel taxation - set-up of vehicle registration office and control procedures - traffic police for registration control - public transport subsidies
Fuel taxation (chapter 3.2)	<ul style="list-style-type: none"> - motorised vehicle users 	<ul style="list-style-type: none"> - (national) fiscal office 	<ul style="list-style-type: none"> - tapping stable source of revenue - recovering variable infrastructure costs - efficient infrastructure use - reduce emissions from mobile sources 	<ul style="list-style-type: none"> - discourage vehicle use - encourage use of public transport - encourage fuel-efficient technologies - encourage low-emission technologies 	<ul style="list-style-type: none"> - influence on vehicle use limited if ownership is unregulated - not differentiable for time and location of infrastructure use - low public acceptance if not implemented gradually - evasion possible 	<ul style="list-style-type: none"> - vehicle taxation - subsidies for technology improvement - public awareness campaigns - direct transfers to low-income groups - public transport subsidies

Table 5.1:
Survey of basic
Economic
Instruments
(continued)

Instrument	Affected transport demand group	Institutional bodies involved	Policy objective	Incentive mechanism	Shortcomings	Selected supplementary measures
Road pricing (chapter 3.3)	<ul style="list-style-type: none"> - national infrastructure users (road network) 	<ul style="list-style-type: none"> - (national) transport office - private entities (if commercialised) - traffic police - road inspection and maintenance bodies 	<ul style="list-style-type: none"> - recovering fixed and variable infrastructure costs - efficient infrastructure use - reduce congestion 	<ul style="list-style-type: none"> - discourage use of selected roads - encourage travel time optimisation - discourage road transport - encourage use of public transport 	<ul style="list-style-type: none"> - unwanted traffic diversion possible - equity and acceptability problems - demanding technical implementation - many institutions involved, organisational programmes required - rural areas disadvantaged 	<ul style="list-style-type: none"> - "isolation reimbursements" to rural areas - public transport subsidies - public awareness campaigns - direct transfers to low-income groups - private sector participation
Surcharges on instruments (chapter 3.1 - 3.3; chapter 4.1)	<ul style="list-style-type: none"> - depends on underlying national instrument 	<ul style="list-style-type: none"> - local fiscal office - local transport office 	<ul style="list-style-type: none"> - create local revenues - raise revenues for local infrastructure - reduce externalities 	<ul style="list-style-type: none"> - increase incentives set by national instrument 	<ul style="list-style-type: none"> - depends on national instrument - surcharge evasion - lack of local institutional and legal autonomy 	<ul style="list-style-type: none"> - national instrument fully implemented - local public transportation improvement - public transport subsidies - increase local regulatory power

Table 5.1:
Survey of basic
Economic
Instruments
(continued)

Instrument	Affected transport demand group	Institutional bodies involved	Policy objective	Incentive mechanism	Shortcomings	Selected supplementary measures
Parking fees (chapter 4.2)	<ul style="list-style-type: none"> - inner city road space users 	<ul style="list-style-type: none"> - local fiscal office - local transport office - urban traffic police 	<ul style="list-style-type: none"> - create local revenues - reduce congestion 	<ul style="list-style-type: none"> - discourage car use in inner cities - encourage use of public transport - discourage parking in selected areas 	<ul style="list-style-type: none"> - city residents disadvantaged (if not exempted from parking fees) - urban sprawl - increased through-traffic - evasion toward private parking suppliers - enforcement deficits due to limited institutional capacities 	<ul style="list-style-type: none"> - Park&Ride schemes - improved public transport - free residents parking - parking space limitation
Urban road pricing, congestion pricing (chapter 4.3)	<ul style="list-style-type: none"> - urban infrastructure users (road network, bridges, city access) 	<ul style="list-style-type: none"> - (local) transport and city planning offices - private entities (if commercialised) - urban traffic police - road inspection and maintenance bodies 	<ul style="list-style-type: none"> - emission reduction - congestion reduction - recover fixed and variable costs of local infrastructure - efficient use of urban infrastructure 	<ul style="list-style-type: none"> - discourage use of selected roads - encourage travel time optimisation - discourage urban road transport - encourage use of public transport 	<ul style="list-style-type: none"> - unwanted traffic diversion possible - equity and acceptability problems - demanding technical implementation - many institutions involved, organisational 	<ul style="list-style-type: none"> - integrated land use planning - public transport improvement - public transport subsidies - private sector participation