

Is there an Asian model of sustainable transport?

Learning from the Singapore story

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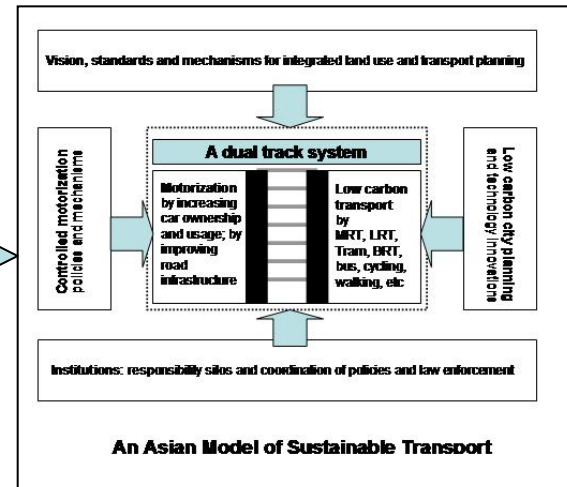
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Highlight

Is there an Asian model of sustainable transport?

The Singapore Story



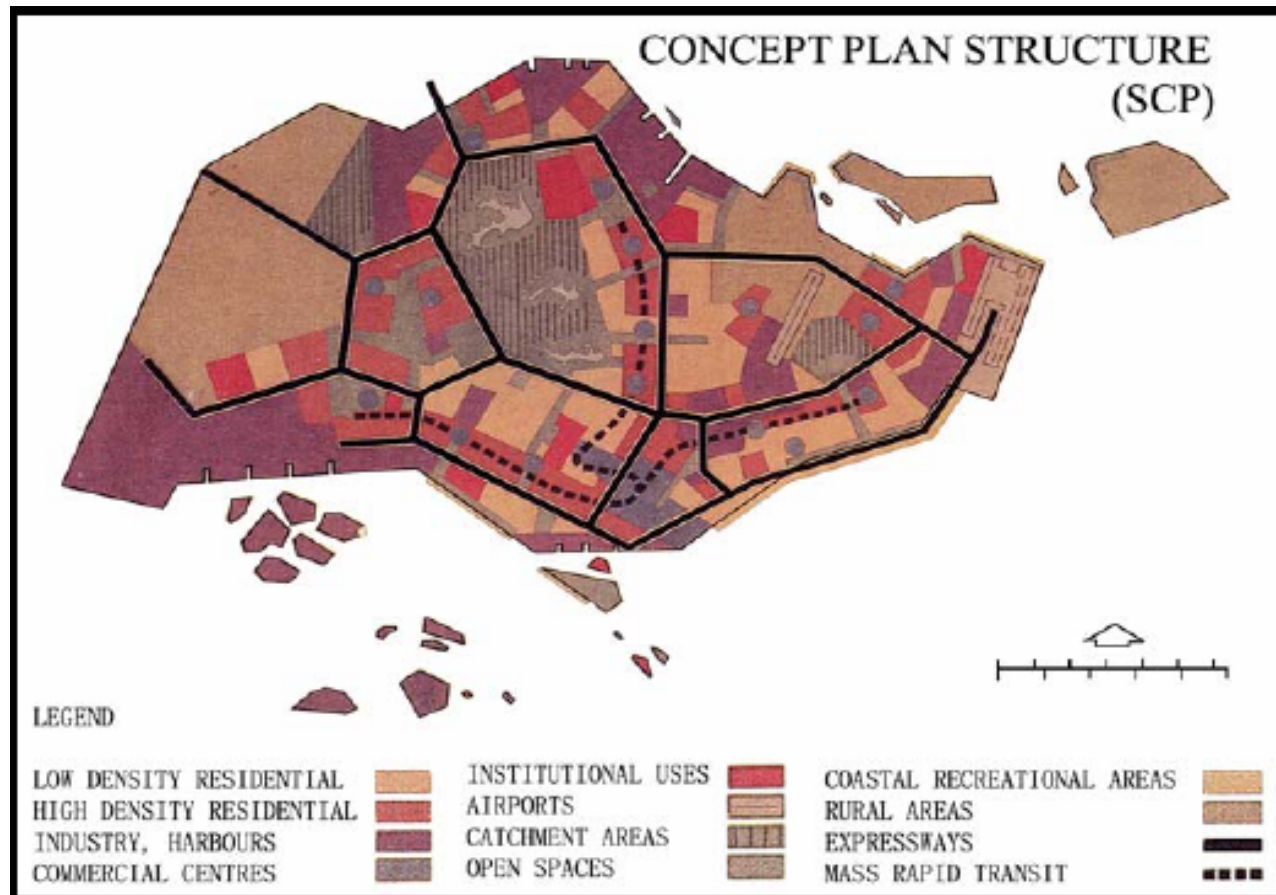
Outline

- Introduction
- Singapore's vision of integrated land use and transport planning
- Motorization and public transport
- Managing car ownership and usage
- Managing public transport
- Towards an Asian model
- Conclusion

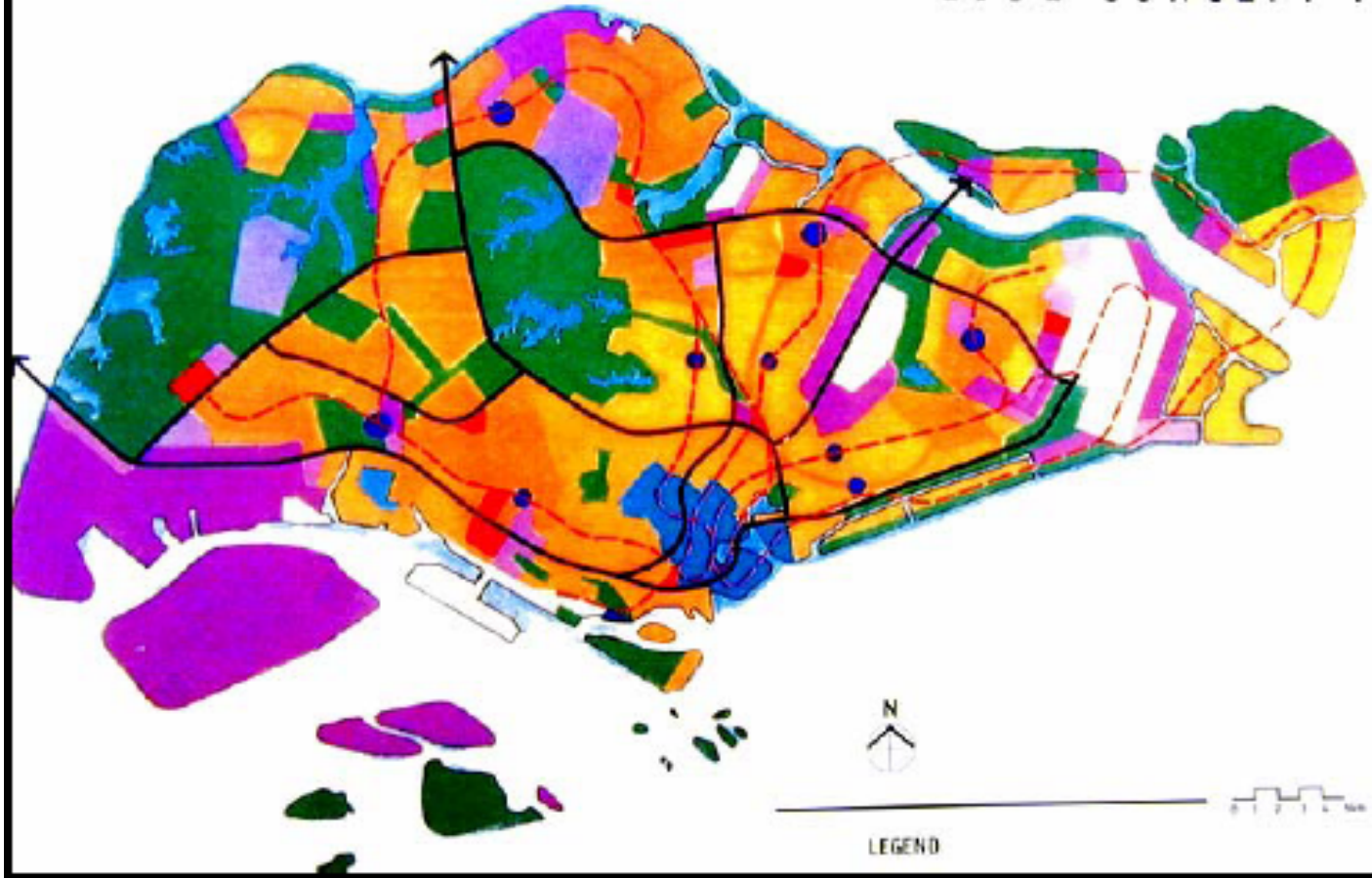
Introduction

- Multiple dimensions of sustainable transport (Black 2000; Steg and Gifford 2005; Richardson 2005; Barter 2008)
- Motorization as a major threat
- The search for sustainable transport models - managing motorization and fostering public transport development

Singapore's vision of integrated land use and transport planning

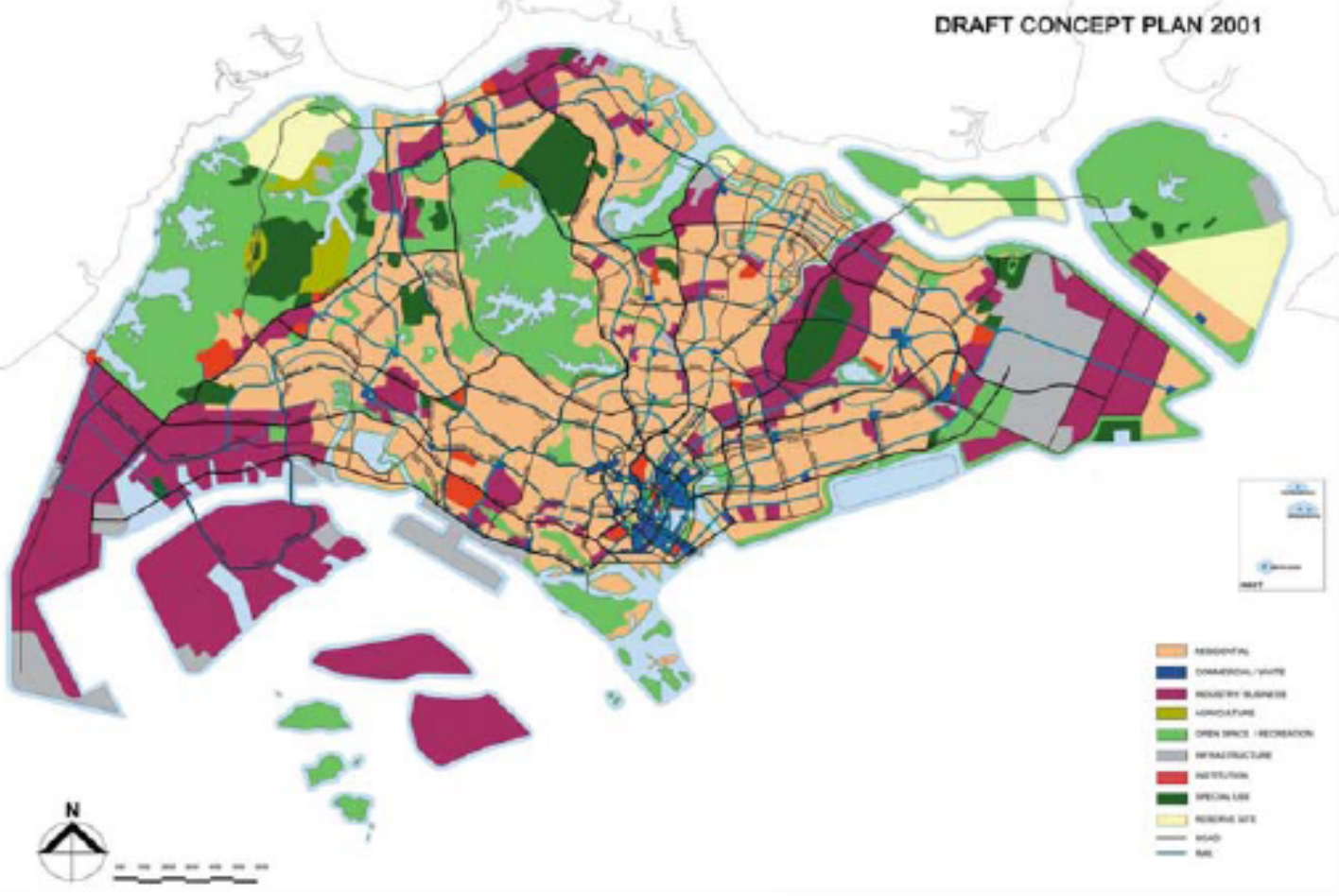


1991 CONCEPT PLAN



LEGEND

DRAFT CONCEPT PLAN 2001



Motorization and public transport

- Controlled motorization
- Efficient public transport network

- **Controlled motorization**

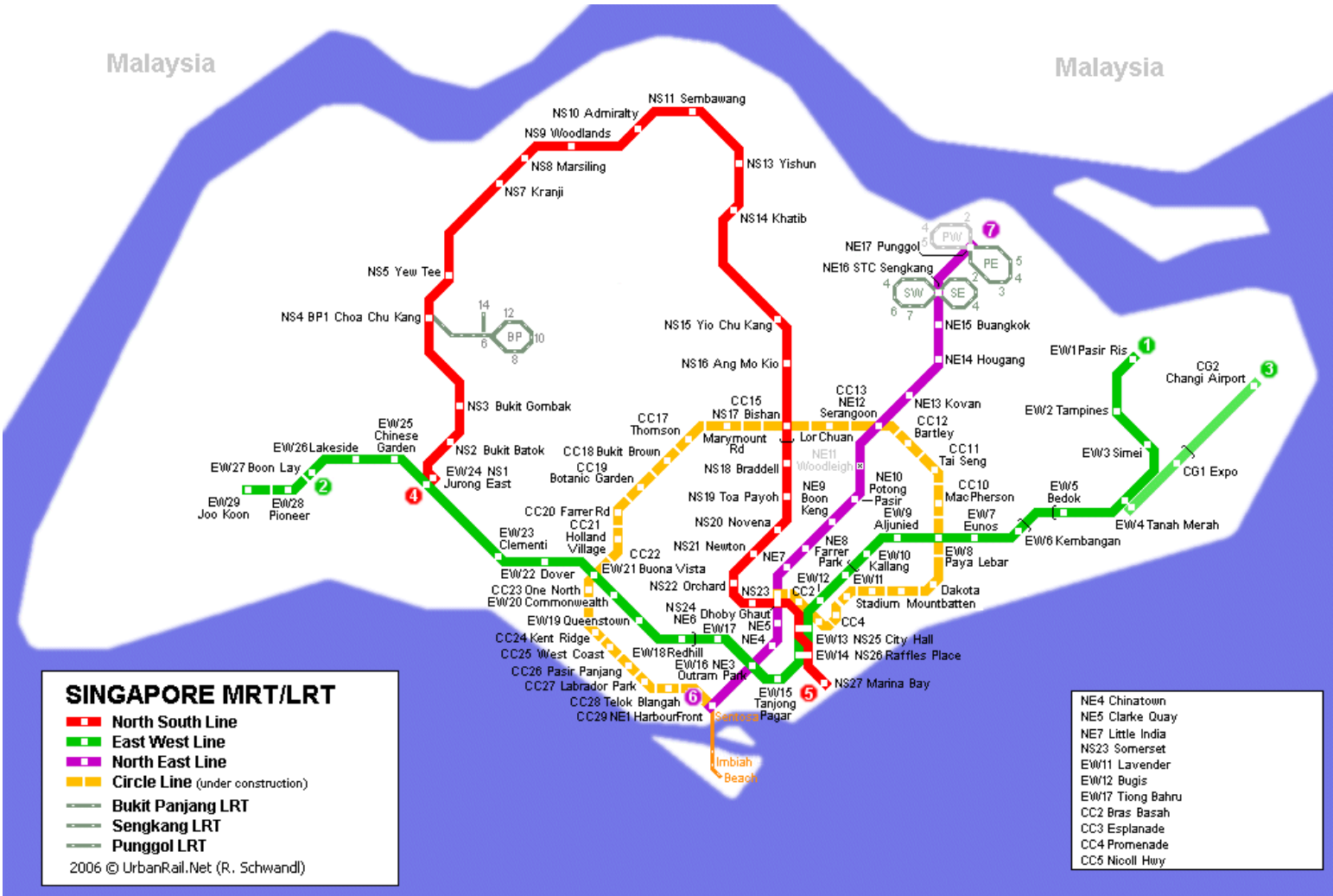
- Vehicle to population ratio –

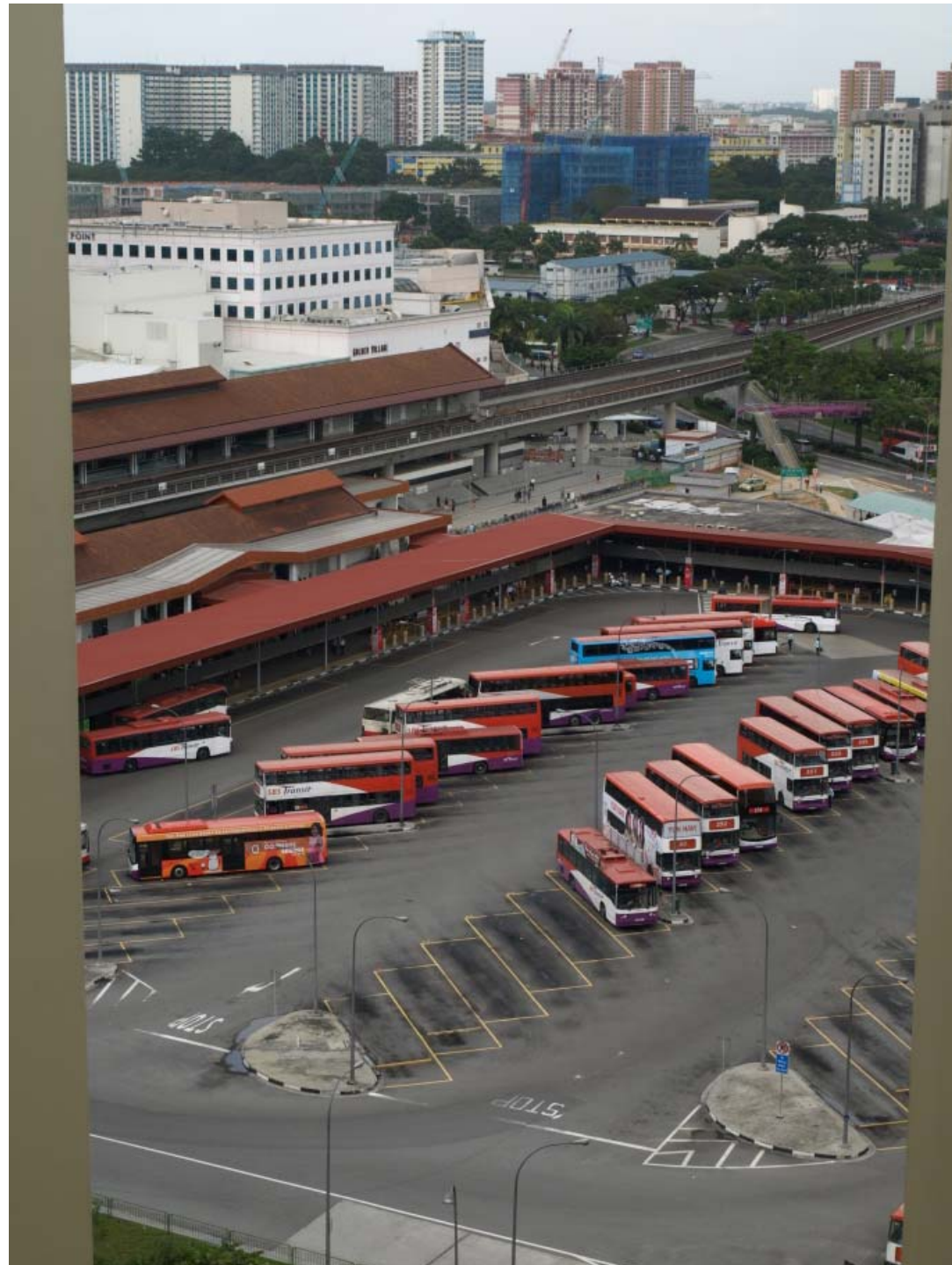
- 1:15 in 1980; 1:10 in 1996; 1:7 in 2010

- From 1986 to 1996, road surface area increased 27%. \$3 billion was planned for 1996-2000 to construct a further 300 lane-km road network. \$570 million was planned for 2001-05 for road construction.

- Car population increased 45% in the period 1986-1996. There were 341052 private cars in 1996, and 421904 in 2006 (LTA 2006)

Public transport network – MRT and LRT lines





Managing car ownership and usage

Results Of July 2007 Second Open Bidding Exercise For Certificates Of Entitlement

- **Vehicle quota system**

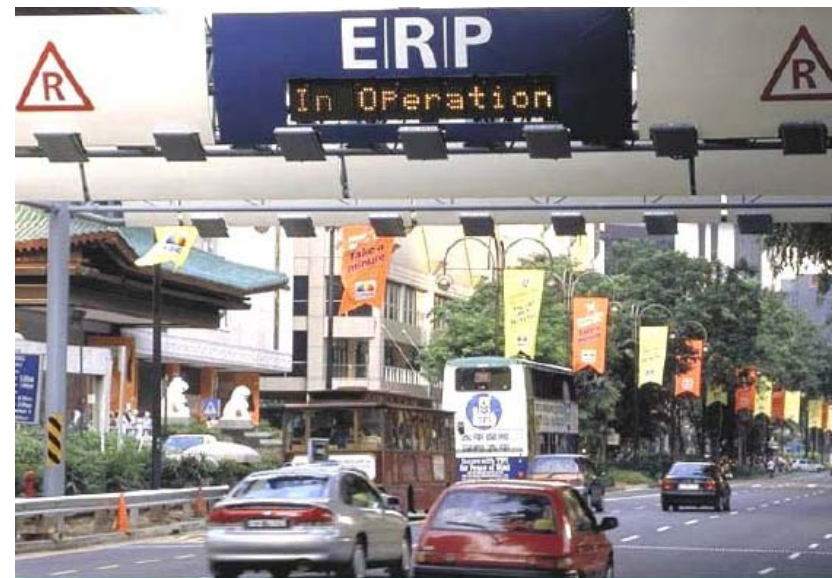
- introduced in 1990
- Certificate of Entitlement (COE) is required to register a vehicle
- COE is valid for 10 years
- Open bidding system, twice a month

The Land Transport Authority (LTA) received 7,177 bids at the end of the July second open bidding exercise for Certificates of Entitlement (COEs). Of these, 5,370 were successful. Detailed results of the tender are as follows:

	Quota	Quota Premium	Total Bids Received	Number of Successful Bids	Unused Quota carried forward
NON-TRANSFERABLE CATEGORIES					
Category A (Cars 1,600cc and below, and taxis)	2,208	\$16,000	2,678	2,177	31
Category B (Cars 1,601cc and above)	1,133	\$17,602	1,393	1,133	0
Category D (Motorcycles)	480	\$1,052	731	477	3
TRANSFERABLE CATEGORIES					
Category C (Goods vehicles and buses)	492	\$3,889	746	484	8
Category E (Open)	1,105	\$17,410	1,629	1,099	6

Managing car ownership and usage

- **Road Pricing**
- The Restricted Zone, about 720 ha, was implemented in 1975. With 34 gentries, its purpose was to discourage private car driving to the zone.
- ERP introduced in 1998
- Decreasing traffic volume by 20-24%
- Increase traffic speed from 30-35 km/hr under ALS to 40-45 km/hr under ERP



Managing public transport

- MRT and LRT
- Daily trips: 1.27 million
- Backbone of S'pore public transport system
- Operation began in 1987

Managing public transport

- Buses
 - Step (stop) based fare calculation
 - Low fare
 - Fare increased 1.5% from 1986-1996; real wage increased 7-9% in the same period
 - Daily trips: 2.65 million



Managing public transport

- Taxis
- Low taxes on import duties, registration fees
- Low tax on diesel
- Daily trips: 0.87 million



Towards an Asian model

- Diversity in socioeconomic and political dimensions – variety of problems, different solutions
- Common features among the less developed Asian cities

less developed economy, high density of population, lack of infrastructure

rapid economic changes and urbanization

increasing social and economic gaps between the rich and the poor

rapid wealth accumulation in both private and public sectors - possible funds available to the transportation sector

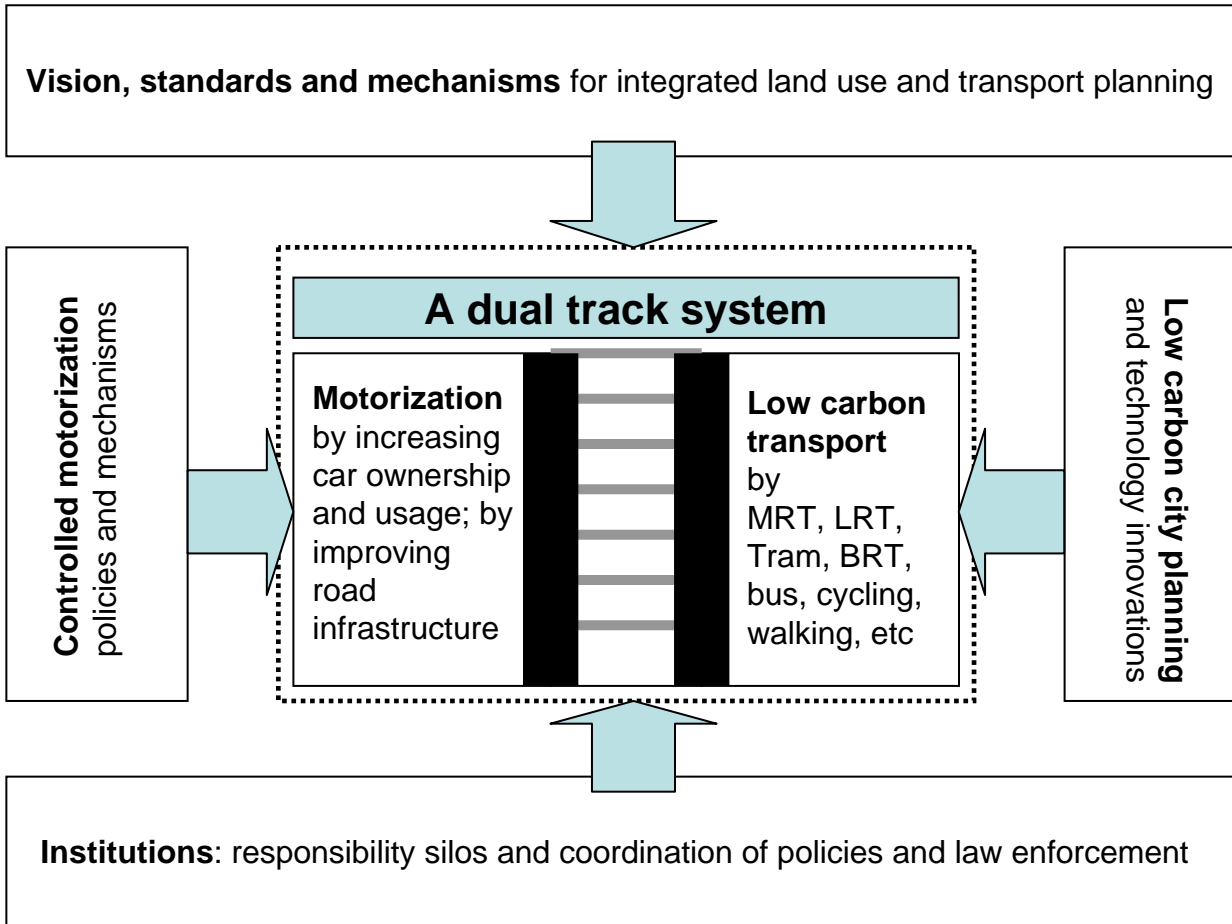
- A private car dependent mode of transport is a popular choice because of
 - the symbolic power of status, wealth, freedom and privacy; the ideas of youth and athleticism, self-reliance, and personal pleasure; and the utility of the car, as a technology that allows for an unprecedented amount of mobility and provides the most efficient trip-chaining capability (Vasconcellos 1997).
 - The lack of capabilities in the public sector to invest on public transport infrastructure

The Singapore experience

- Shares many characteristics with Asian cities in its early stage of development
- Demonstrates a solution for managing motorization and urban public transport
- Offers choices to commuters
- Shows an efficient urban transport system

Conclusions

- The Singapore experience provides one sustainable transport model with a parallel development between motorization and public transport. The articulated planning and management of such a system offers reference value to Asian cities and beyond.



An Asian Model of Sustainable Transport