

# Strategy formulation: European experience

Professor Tony May  
Institute for Transport Studies  
University of Leeds



# Strategy Development:

## Key messages

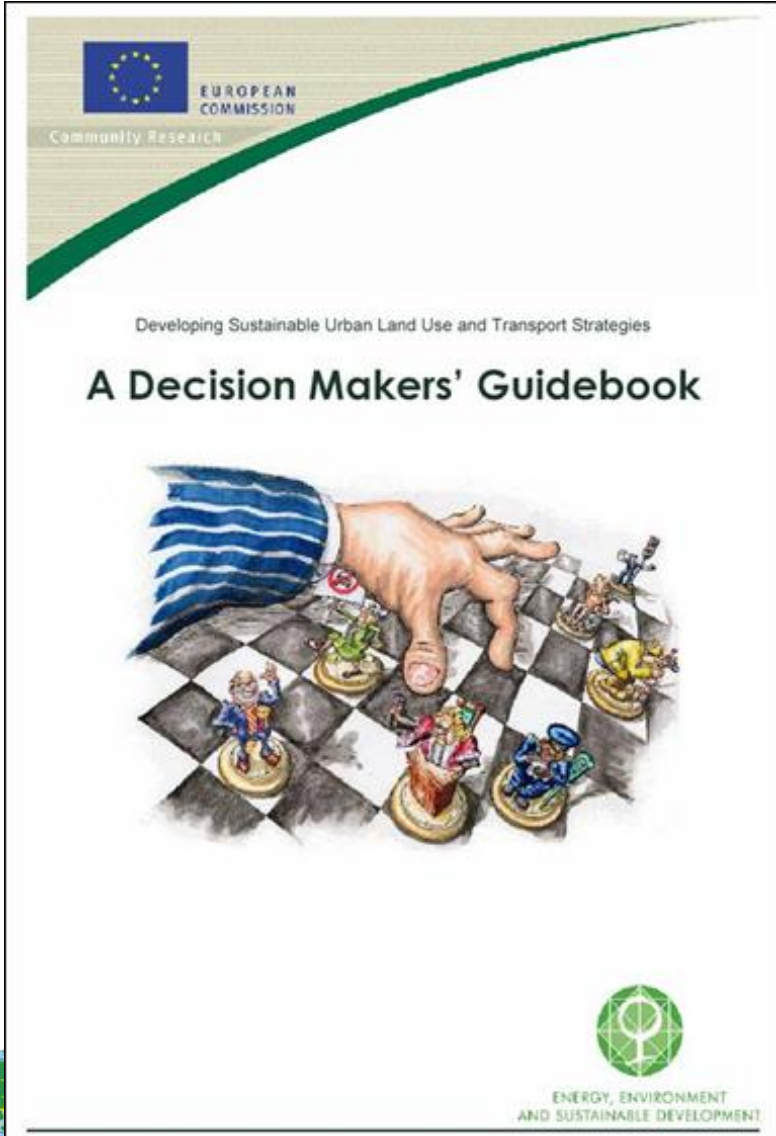
- Decision-making is increasingly complex
- There is a wide range of approaches to decision-making; none is “best”
- However, a formalised logical structure helps ensure that nothing is missed
- Clear objectives are the essential foundation
- Performance indicators and targets can help
- Integrated strategies are needed to overcome barriers
- Public participation helps throughout the process

# What form might plans take?

- Guidance available from PROSPECTS
  - Procedures for Recommending Optimal Sustainable Planning of European City Transport Systems
  - Providing cities with guidance in generating optimal land use and transport strategies to meet the challenge of sustainability in their particular circumstances
  - Funded by EC DG Research

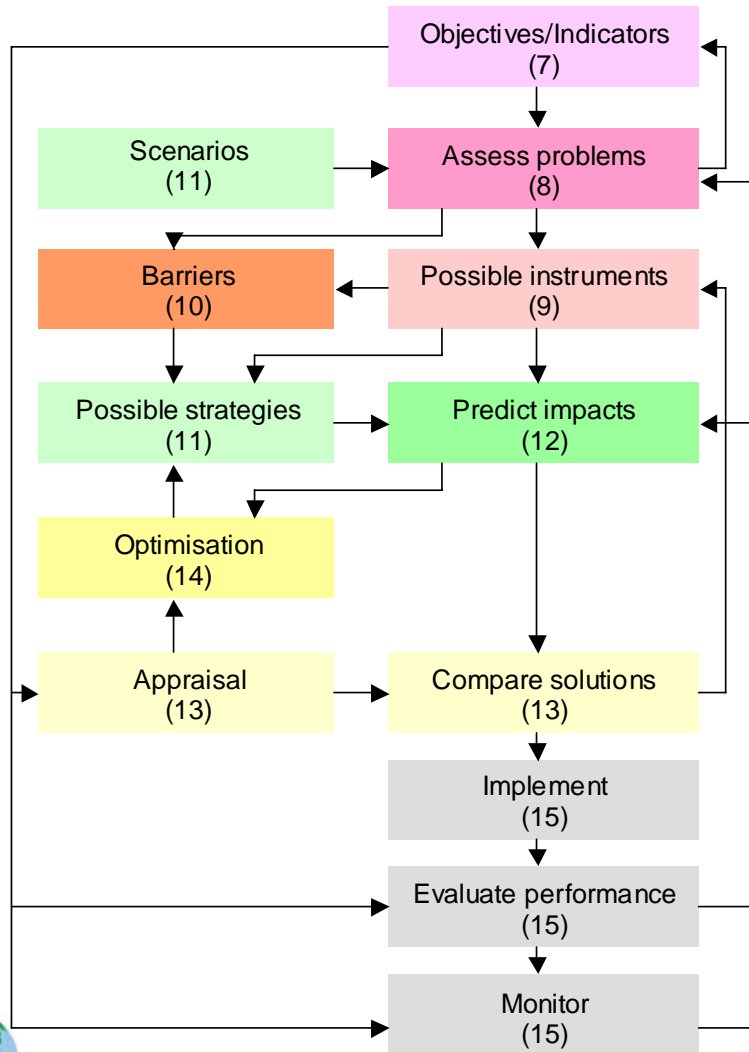


# The Decision Makers' Guidebook



# The logical structure

Source: PROSPECTS



# Clear objectives are essential

- Nationally specified or locally selected
- As contributors to the overarching goal of sustainability
- Specified as desired outcomes of the strategy, not elements of it
- The PROSPECTS list
  - Economic efficiency
  - Environment
  - Liveable streets
  - Safety and health
  - Equity and social inclusion
  - Economic growth
  - Intergenerational equity

# Performance indicators and targets can help or hinder

- Help to identify problems, suggest solutions, monitor performance, benchmark against others, allocate funding
- But indicators need to be appropriate
  - Measuring outcome indicators related to all objectives
  - Not simply measuring actions taken or travel patterns achieved
- And targets must be based on these outcome indicators, be realistic and mutually consistent
- PROSPECTS recommendation:
  - Formulate the strategy first
  - Then set targets which are consistent with it
  - As a means of monitoring progress

# The PROPOLIS indicators

Component	Theme	Indicator
Environmental		
	Air pollution	Greenhouse gases from transport and land use Acidifying gases from transport and land use Organic compounds from transport
	Consumption of natural resources	Consumption of mineral oil products, land use and transport Land coverage; consumption of construction materials
	Environmental quality	Indicator addressing microclimate; potential for biodiversity Quality of open space



# The PROPOLIS indicators

Component	Theme	Indicator
Social		
	Health	<p>Exposure to particulate matter from transport in the living environment</p> <p>Exposure to nitrogen dioxide from transport in the living environment</p> <p>Exposure to traffic noise; traffic deaths; traffic injuries</p>
	Equity	<p>Justice of distribution of economic benefits</p> <p>Justice to exposure to particulates</p> <p>Justice of exposure to nitrogen dioxides</p> <p>Justic of exposure to noise</p> <p>segregation</p>
	Opportunities	<p>Total time spent in traffic; level of service of PT and slow modes</p> <p>Vitality of city centre; vitality of surrounding region</p> <p>Accessibility to city centre; accessibility to services</p> <p>Accessibility to open space</p> <p>Employment effects</p>

# The PROPOLIS indicators

Component	Theme	Indicator
Economic indicators		
	Total net benefit from transport	Transport user benefits; transport operator benefits Resource costs; external costs; investment costs
	Total net benefit from land use	User benefits; operator benefits; resource costs; external costs; investment costs
	Regional economy and competitiveness	

# Scenarios and horizon years

- Need to plan for the future: how far ahead?
  - Far enough to reflect the impacts of policies
  - Not so far that prediction becomes too uncertain
- What will the future context be like?
  - Alternative scenarios give alternative futures
- What are the main attributes of scenarios?
  - Population growth
  - Economic growth
  - Land use distribution
  - Car ownership
  - Others?
- But some of these will be affected by the strategy!



# Car ownership trends in China

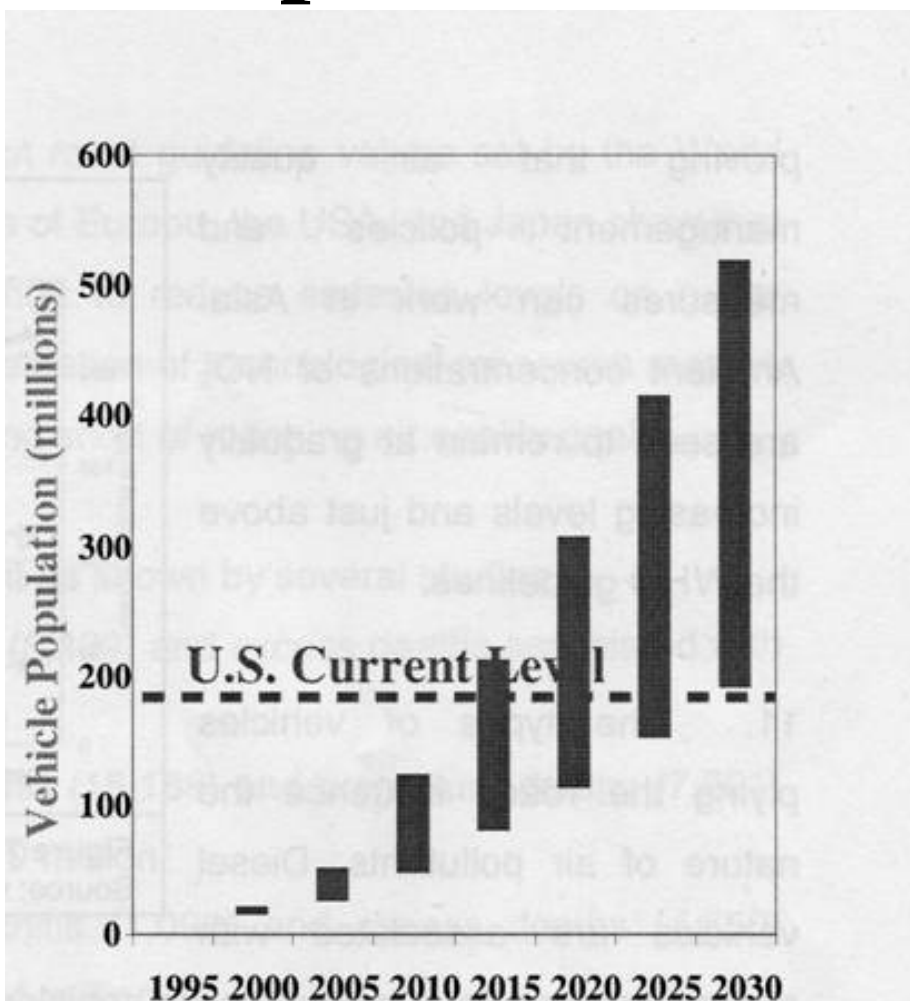


Figure 5. Vehicle growth scenario China  
 Source: Dongquan He, (2004)



# Identifying problems

- Identifying today's problems is not too difficult
  - Based on suitable outcome indicators
- But what will the problems be like in the future?
  - Use a predictive model
  - Assess what will happen
    - If no new policies are implemented
    - Under each scenario
  - Use the same outcome indicators to assess the problems
- Given these problems, what are the possible solutions?



# Seeking solutions

- An increasingly wide range of types of policy instrument
- But relatively little guidance on which to consider
- So many cities fail to innovate
- Two sources of guidance
  - The KonSULT knowledgebase
  - New methods for option generation
- An integrated approach, using a package of measures, will be more successful



# KonSULT

([www.konsult.leeds.ac.uk](http://www.konsult.leeds.ac.uk))

The screenshot shows the KonSULT website interface. At the top, there is a navigation bar with 'SEYEMAP' and 'HELP' links, and three small image thumbnails. A left-hand navigation menu lists: HOME, TRANSPORT STRATEGY, POLICY INSTRUMENTS, Welcome, Mission, Sampler, Userbase, and Registration. The main content area features a 'Welcome!' message, a central image of a hand holding a small yellow and green bus model, and the 'KonSULT' logo. Below the logo, the text reads: 'KNOWLEDGEBASE ON SUSTAINABLE URBAN LAND USE AND TRANSPORT'. A paragraph follows: 'Welcome to KonSULT, the Knowledgebase on Sustainable Urban Land use and Transport.' Another paragraph states: 'The current version of KonSULT is a prototype. Substantive content for many of the instruments is consequently not yet included. Comments from users on any aspects of the design and content to date are invited. These will be taken into account in ongoing development of the prototype.' A section titled 'The following levels of information are available:' lists three levels: Home (the current level), Transport strategy, and Policy Instruments, each with a brief description of the content provided.

# The range of policy instruments

Pedestrian street



Space for slow mode



Bus Rapid Transit (BRT)



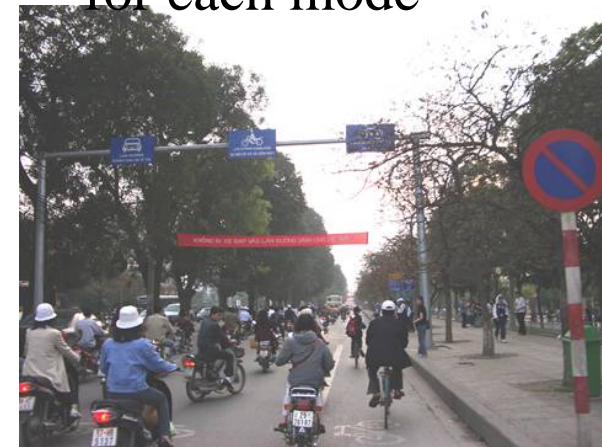
Public transport



P&R



Allocation lane for each mode



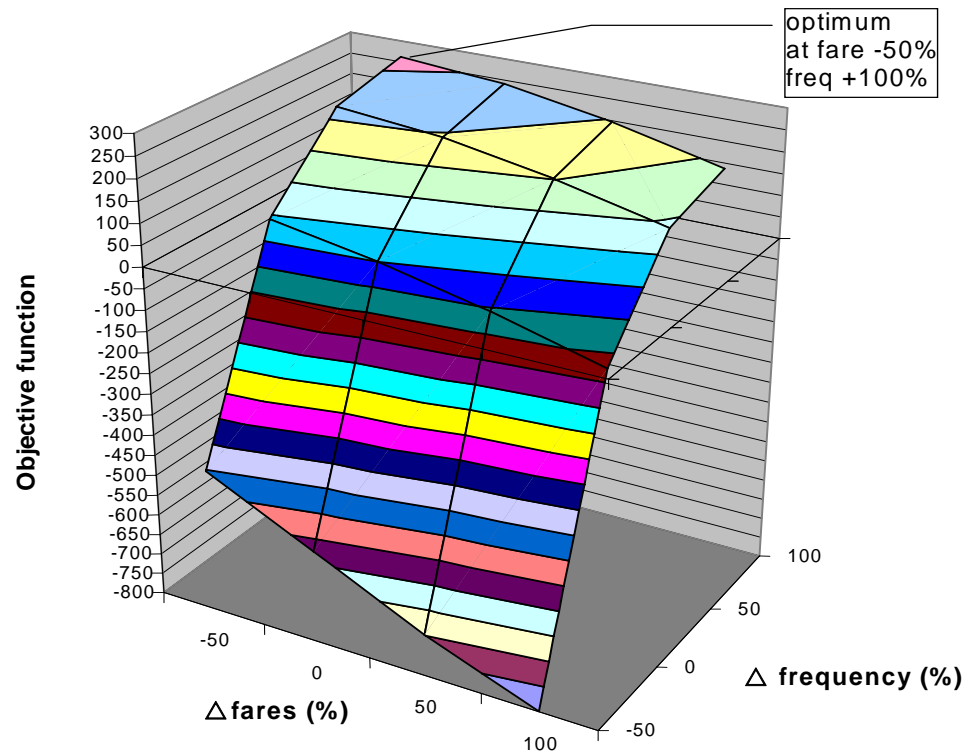


# Integrated strategies

- No one solution to urban transport problems
- So make use of the full range of policy instruments available
  - And the potential for each to reinforce one another
- But note that the interaction between policy instruments may be complex



# The effect of different levels of fares and frequencies on benefits



# Ways of achieving integration

- Two principles
  - Achieving synergy or complementarity
    - Benefits greater than the sum of the parts
    - Benefits greater than any instrument on its own
  - Overcoming barriers
    - Finance, political acceptability, unfair impacts
- So combine instruments in four ways:
  - Instruments which reinforce each other's benefits
  - Instruments which overcome financial barriers
  - Instruments which overcome political barriers
  - Instruments which compensate losers



# The integration matrix

Source: PROSPECTS

An Integration Matrix						
These instruments	Contribute to these instruments in the ways shown					
	Land use	Infrastructure	Management	Information	Attitudes	Pricing
Land use		●				●
Infrastructure	● ●		●			●
Management	● ●	● ● ●			●	● ● ●
Information	●	● ●	● ● ●		●	● ● ●
Attitudes	● ●	● ●	● ●			●
Pricing	● ●	● ● ●	● ● ●	● ●	●	

Key:

- Benefits reinforced
- Financial barriers reduced
- Political barriers reduced
- Compensation for losers

# Predicting impacts, appraisal and optimisation

- Use the same predictive model to test suitable combinations of policy instruments
  - Ideally against different scenarios
- Appraise, at least against performance indicators, possibly using an appraisal method
- Look for ways of improving the strategy
  - Test others; choose the best, most robust
- Optimisation can streamline this process



# Effective integrated strategies

- Public transport speed, service and fare improvements contribute well
  - But can encourage longer distance travel
- Pricing of car use achieves significant benefits
  - But land use impacts need careful assessment
- Alternative land use policies have little impact alone
  - But can support public transport and pricing measures
- Regulating traffic speeds reduces accidents
  - But cannot alone reduce pollution, congestion
- Infrastructure schemes can provide benefits
  - But only if designed to be consistent with the overall strategy

Source: PROPOLIS



# Effective integrated strategies

- A combination of public transport and car use pricing measures achieves the greatest benefits in terms of all aspects of sustainability
  - Particularly when combined with development focused on centres and public transport corridors
  - And the combination helps overcome financial and political barriers
- Potential benefits of such strategies
  - CO<sub>2</sub> emissions reduced by 15% to 20%
  - Accidents reduced by 8% to 17%
  - Economic benefits €1000 to €3000 per capita

Source: PROPOLIS



# Optimal integrated strategies

- Optimal strategies typically involve
  - Substantial reductions in fares area-wide
  - Increases in frequency within urban area
  - Peak period city centre cordon charges
  - Low cost increases in road capacity
- Optimal strategies typically cost more
  - But strategies with no net financial outlay can be achieved for only 15% lower benefit
  - With economic benefits €4000 to €6000 per capita

Source: Optimal Strategies





# Recommendations for Asia

- Publicise the costs of pollution, accidents, congestion
- Develop pro-public transport policies
- Ensure that car use is not subsidised
- Emphasise the role of non-motorised modes
- Adopt a timetable for cleaner vehicles, fuels
- Develop sustainable land use plans

Source: Lohani, 2005

