

# Vehicle Ownership as a Focus of Transport Policy: Time to Take Another Look?



Paul Barter, LKY School of Public Policy,  
National University of Singapore

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*All photos  
Paul Barter  
except where  
specified*

# Summary

1. Introduction/motivation
2. Reasons to shy away from addressing vehicle ownership
3. So why take another look?
4. New perspectives on transport markets
5. Policy opportunities?

# 1. Introduction: an elephant in the room?

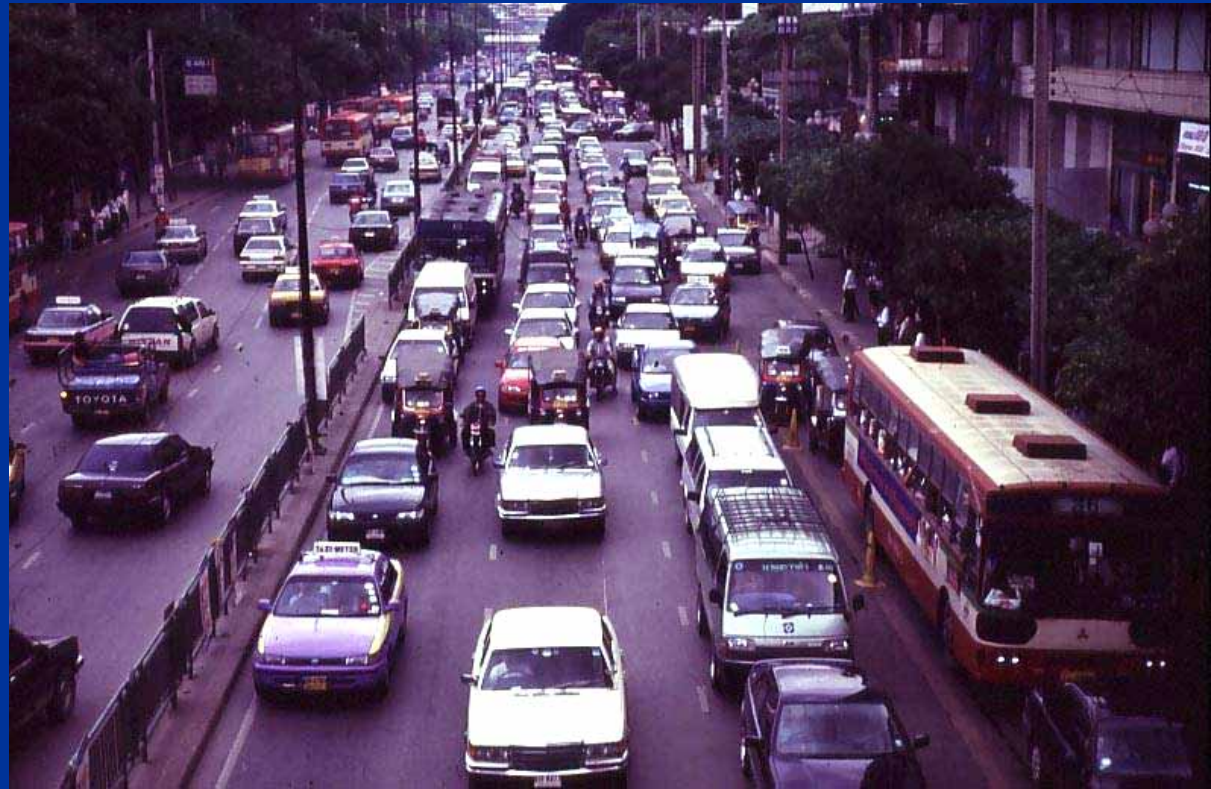
- n Traffic has large and diverse impacts
- n Some progress reducing impacts per km
- n Limited progress containing usage and improving alternatives for urban trips (mostly focused on city centres)
- n Relentless growth in traffic
- n Possible (likely?) need for dramatic change to transport trajectories
- n Role of motorization rarely confronted

# My main point

- n Most urban areas may be missing important opportunities by ignoring the possibility of slowing the growth of vehicle ownership
- n Likely to be an unpopular suggestion. Many reasons to shy away from such a policy goal!

## 2. Reasons to shy away from addressing ownership?

- n Unpopular objective?
- n Wrong policy target?
- n Problematic tools?



# Unpopular objective

- n Consumer sovereignty
- n Association with freedom
- n Vehicle industry opposition
- n Positional goods (status)
- n Limiting ownership as austere or elitist
- n Private motor vehicle superior mobility tool –  
no alternative matches convenience or comprehensiveness
- n Seen as ‘denying aspirations’: better individual  
mobility equated with car ownership

# Wrong policy target

- n Most impacts linked with vehicle use not ownership
- n Targeting ownership seems poorly targeted way to deal with externalities



# Problematic tools

- n Vehicle taxes undermined by high income elasticities of demand for car purchases
- n Most tools are blunt, penalizing heavy and light users equally
- n Have side-effects, such as incentives for excessive usage or vehicle lifetimes



# 3. So why even consider containing ownership?

- n Desperation?
- n Motorization as key driver
- n 'Path dependence':
  - n Whole cities – motorization as path changing
  - n Households – vehicle purchase as pivotal
- n Potentially high 'leverage'?
- n Making complementary policies easier

# Motorization as a driver of trends?

- n Motorization a key enabling factor in increased vehicle use
- n Closely linked with increasing incomes
- n Both profound household behaviour change AND system-wide trends flow from motorisation



# Vehicle ownership 'pivotal' choice for households

- n Household travel patterns profoundly changed by vehicle purchase
- n Irreversibility – personal and household automobile dependence (luxury before, necessity after)
- n Mechanisms: housing location, job location, further vehicle purchases, travel habits
- n Contributing to wider societal lock-in and systemic automobile dependence

# Wider impacts of motorization

- n Congestion – speeds drop
- n On-road public transport speeds drop more
- n Off-peak and non-radial public transport demand drops (even for traffic segregated modes)
- n Vehicle ownership as expected norm
- n Suburbanization, dispersal, hollowing out, making alternatives less feasible

**Automobile dependence** (involves systemic change that 'locks in' high levels of traffic and car use)

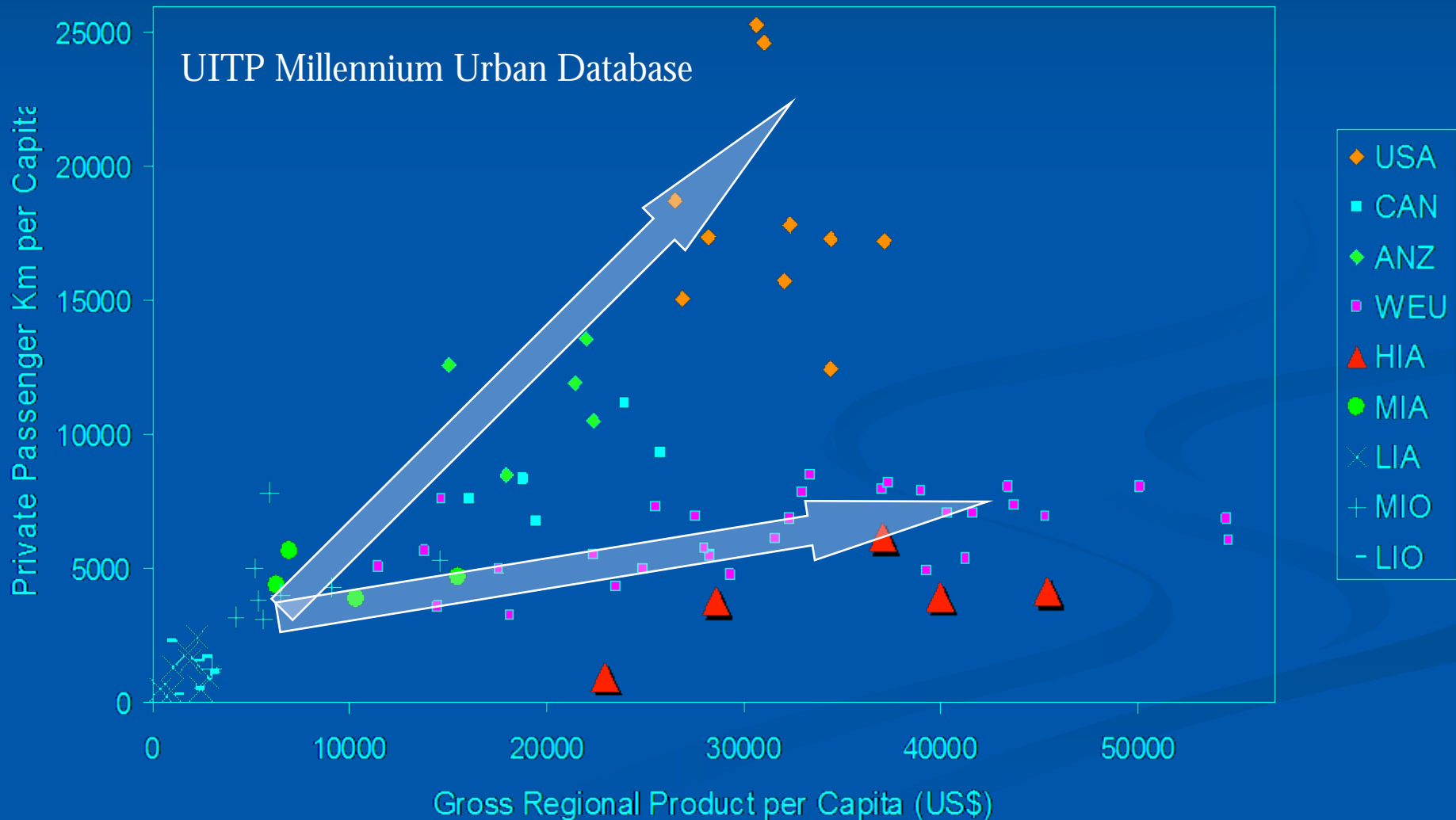


# History matters: path dependence

- n Transport history - lasting legacy in long-lived infrastructure and urban structures
- n Patterns can become 'locked in'
  - n characteristics may not reverse quickly even if the stimulus is reversed ('hysteresis')
  - n and may reinforce further trends in same direction
  - n 'Automobile dependence' – high use of cars locked in via system changes
- n Slowed motorization: the difference between becoming transit-oriented or automobile dependent?

# Private vehicle use versus income per capita

For urban areas alone, income and vehicle use are not as tightly linked as at national level.

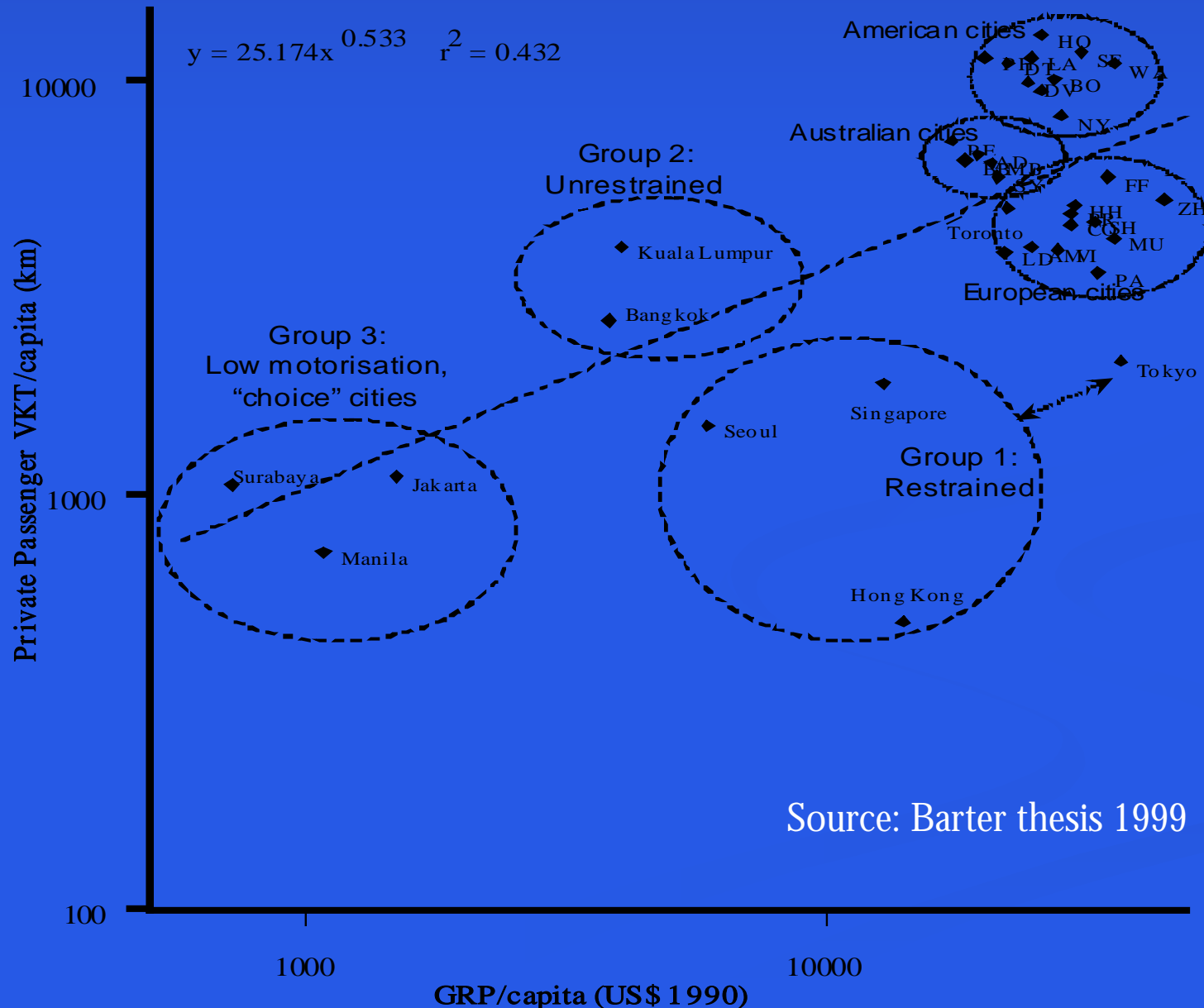


# Hypothesis: slowing motorization can buy time to improve alternatives AND change trajectory of urban structure development

- Slowed or delayed motorisation helped Japan, Korea, Hong Kong and Singapore move toward transit-oriented cities despite rapid economic growth
- Japan (until late 1960s) and Korea (until mid 80s): macroeconomic strategies contained consumer credit and spending
- Hong Kong and Singapore: used purchase and ownership taxes from early 1970s to deliberately slow motorization



# Private passenger vehicle use per capita versus GRP per capita in an international sample of cities, 1990



# Singapore example

## n Usage-based tools:

- n Fuel tax increases (starting in early 1970s; so now gasoline price similar to Japan, but lower than HK, UK)
- n Parking restraint and levies (for a time from early 1970s but no longer)
- n Area Licensing Scheme (ALS) from 1974, then ERP from late 1990s
- n ERP Mark II (20??): vehicle-positioning based, comprehensive ERP?



# Ownership restraint more important

- n Excise duty + ARF (at purchase);  
road tax (annual) (increased in steps between early 1970s and 1989)
- n From 1990 Vehicle Quota System (VQS) with its auction of COEs
- n 1990s: taxes/fees on purchase and ownership >80% of vehicle-related revenues
- n Parking not linked to HDB housing ('unbundled' - rented as separate transaction)



# Singapore results

- n Drastic slowing of motorization from early 1970s (plus city centre traffic constraint)
- n Made it much easier to:
  - n Delay road investment and parking space expansion
  - n Grow the market for public transport with step-by-step, relatively low-cost (initially) improvements  
... so that MRT became economic by mid-1980s
  - n Implement transit-oriented urban plan
- n Some perverse results, eg high car use per car!
- n Bangkok, Kuala Lumpur as counter-examples

# Objections?

- n So some places achieved transit-oriented path with help of slowed motorization? Does not prove it was the most efficient approach
- n Proper pricing of all travel should achieve same purpose, right?
- n Hitting ownership is still blunt, misdirected and unlikely to be politically possible in most places, right?
- n Even Singapore wants to shift towards usage pricing, right?

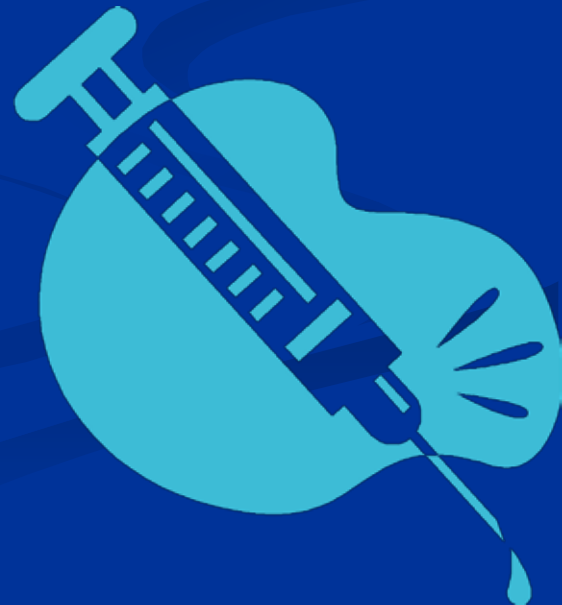
# 4. New perspectives on transport markets required

- n Tackling ownership seems harsh & wrong-headed without new ways of looking at urban transport markets
- n 'Commitment' – ownership as a market distortion
- n Market reframed in terms of 'mobility packages' or lifestyle choices, not modes competing for trips



# Commitment?

- n Commitment: ownership as 'loyalty plan'
- n Sources of commitment:
  - n Fixed costs of vehicles, especially sunk costs
  - n 'waiting service' – car always on hand, waiting
  - n Emotional attachment, prestige value
- n For motor vehicle owners, other trips struggle to even be considered, let alone compete on a 'level playing field'



# Ownership as 'distortion'? Really?

- n Sounds crazy perhaps ...
- n OF COURSE ownership prompts use!
- n But note that using a car does NOT necessarily require owning a car
- n Car-sharing – both formal and informal - as well as taxis and car rental provide usage without ownership, but are underdeveloped
- n Maybe we could do more to de-link ownership and use?



# Reframing the alternatives

- n Non-ownership of private vehicles currently the second class option
- n So containing ownership seems harsh
- n Could policy focus more on non-ownership as an attractive alternative?
- n Reframing urban transport market – mobility tools or packages
- n (Less focus on market for daily trips and more on big lifestyle choices)

# 5. New policy possibilities?

- n Ownership as focus of policy is more than direct disincentives (such as registration freezes, purchase or ownership taxes or Singapore-style quotas)
- n Wider possibilities open up by considering the ownership/motorization implications of a wide range of policies and by reframing the transport market
- n Cleverer ownership disincentives avoid accidentally adding to commitment

# Which vehicle fees best match total marginal vehicle costs?

*Adapted from Litman (1999)*

<i>Rank</i>	<i>Fee Category</i>
<b>Best</b>	<b>Time &amp; location-specific road and parking pricing</b>
<b>Second Best</b>	<b>Distance-based pricing</b>
<b>Third Best</b>	<b>Fuel charges</b>
<b>Blunt</b>	<b>Fixed vehicle charges</b>
<b>Worst</b>	<b>External &amp; infrastructure costs not charged to motorists</b>

# Variabilisation: shifting costs from fixed to variable

- n Reduce 'commitment' to already-owned vehicles
  - n Road pricing & congestion charging (currently hot)
  - n Distance-based insurance (debate in Nth America)
  - n Variabilise fixed taxes (European efforts, proposals)
  - n Mass-distance fees (Heavy vehicles in Switzerland)
  - n Car sharing business (proliferating globally)
  - n Distance-based car leasing (US trial)
  - n Tradeable usage permits (academic proposal)

# Remove the fixed-cost problems of Singapore's ownership disincentives?

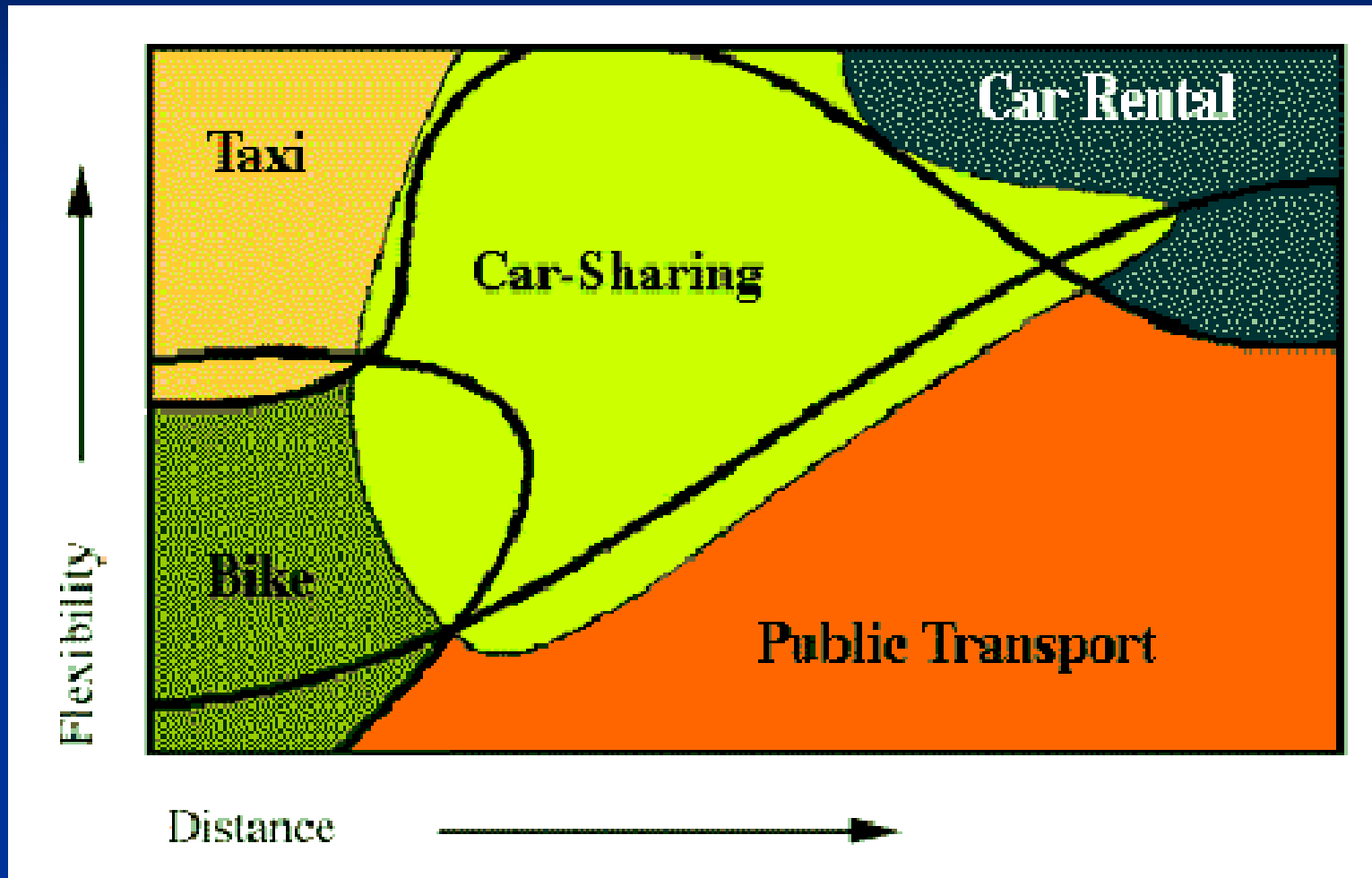
- Convert 10-year limit under the vehicle quota system to a USAGE LIMIT
  - ➔ COE variabilised
  - ➔ Equivalent to fee per unit of usage (eg per km or per 'unit of road pricing')
  - ➔ But COE is still a lump sum and therefore compatible with bidding exercises
  - ➔ Usage limits on other fixed vehicle taxes too (eg ARF), to variabilise them at the same time

# Build commitment to alternatives

- Public transport marketing and pricing schemes aimed at customer loyalty
- Example: 'rainbow cards' in Europe = season or year passes for unlimited public transport travel (steep discount if used daily)



# Fill gaps in the car-free lifestyle



# Not just alternative modes (for trips) but alternatives for whole lifestyle

## n 'Alternative mobility packages'

Example: HannoverMobile <http://www.gvh.de/eng/1453.htm>

HANNOVERmobile	
<ul style="list-style-type: none"><li>• <b>Public Transport</b> Annual Pass included Timetable + Transit-Map for free</li></ul>	<ul style="list-style-type: none"><li>• <b>Public Car</b> Carsharing-access included Car-Rental discount rates</li></ul>
<ul style="list-style-type: none"><li>• <b>Taxi</b> Discounted tariff, cashless-payment</li></ul>	<ul style="list-style-type: none"><li>• <b>Long Distance Rail</b> BahnCard 25 (German Rail discount card) included</li></ul>
<ul style="list-style-type: none"><li>• <b>Bicycle</b> Various discounts and special services at bicycle stores and bicycle parking spots</li></ul>	<ul style="list-style-type: none"><li>• <b>Delivery + storage</b> grocery delivery-service with special conditions and exclusive online-shop beverage-delivery for free downtown-shopping storage for free</li></ul>
<ul style="list-style-type: none"><li>• Integrated mobility bill for all basic costs, carsharing- and taxi-trips</li></ul>	

## n 'Car-free' lifestyles that include access to cars



# And price vehicle usage properly too

- n Focus on ownership need not detract from usage pricing (road, pollution, congestion, fuel, parking ...)
- n In fact, reducing commitment should help make usage disincentives more efficient
- n Usage pricing also discourages ownership
- n Politics of usage pricing assisted by ownership policy focus?

# Business opportunities?

- n Mass vehicle sales may be hurt
- n Niche vehicle sales?
- n Numerous service-oriented transport market business opportunities opened by this agenda?



## 6. Summary/conclusion

- n Good reasons for both interest in and suspicion of ownership restraint as a policy goal
- n Traditional blunt tools can indeed be counter-productive and unpopular
- n Cleverer approaches and a reframing of the market create new possibilities
- n An opportunity for policy leverage towards more sustainable systems?