



FISITA
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DRIVING FORCES BEHIND MOBILITY DEMAND

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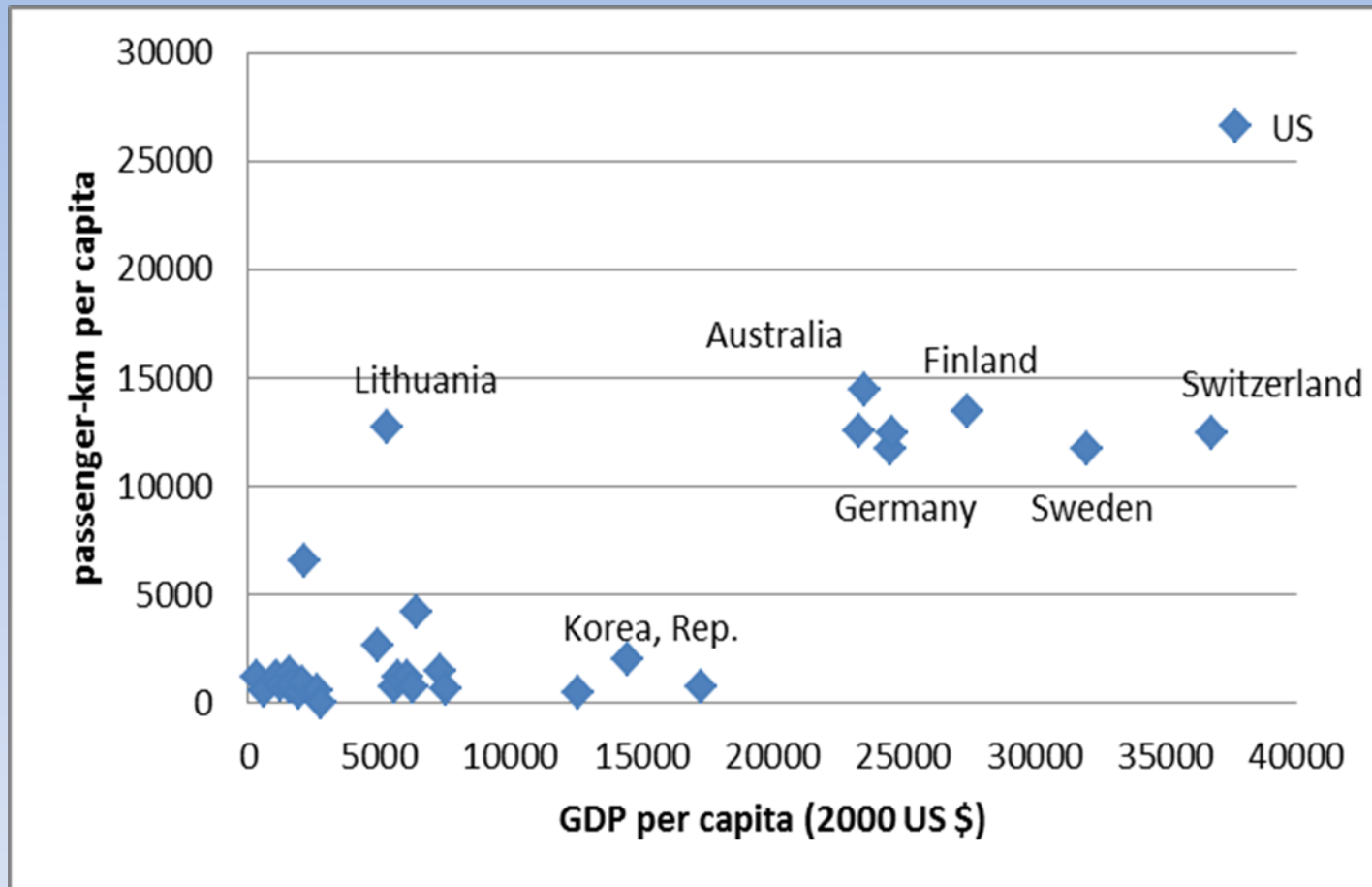


OUTLINE: DRIVING FORCES BEHIND MOBILITY DEMAND

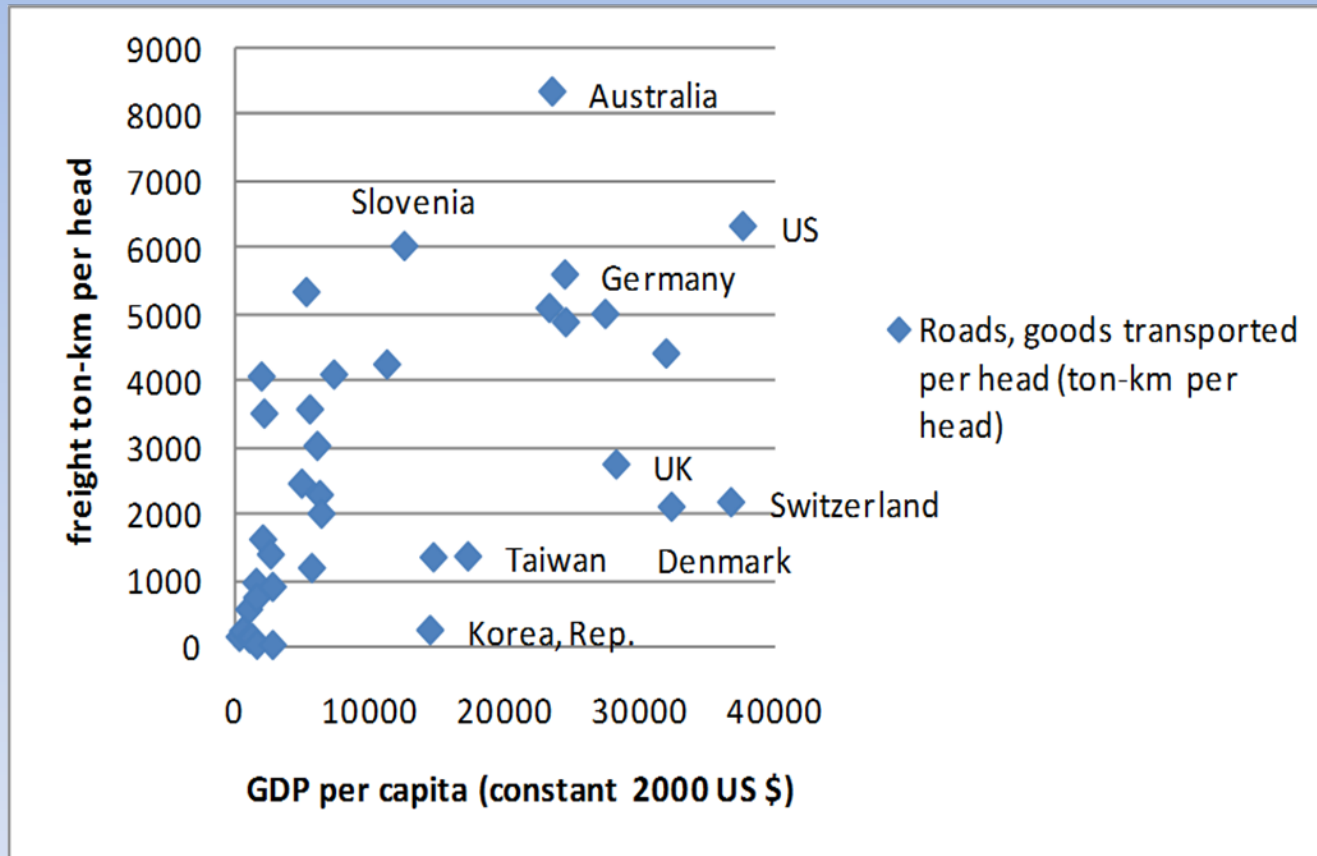
- Affordability of transport services
- Freight transport: Opportunities of gains from trade
- Passenger transport: urban land dynamics
- The legacy and irreversibility of early infrastructure policies
- Convenience and sunk costs of individual cars



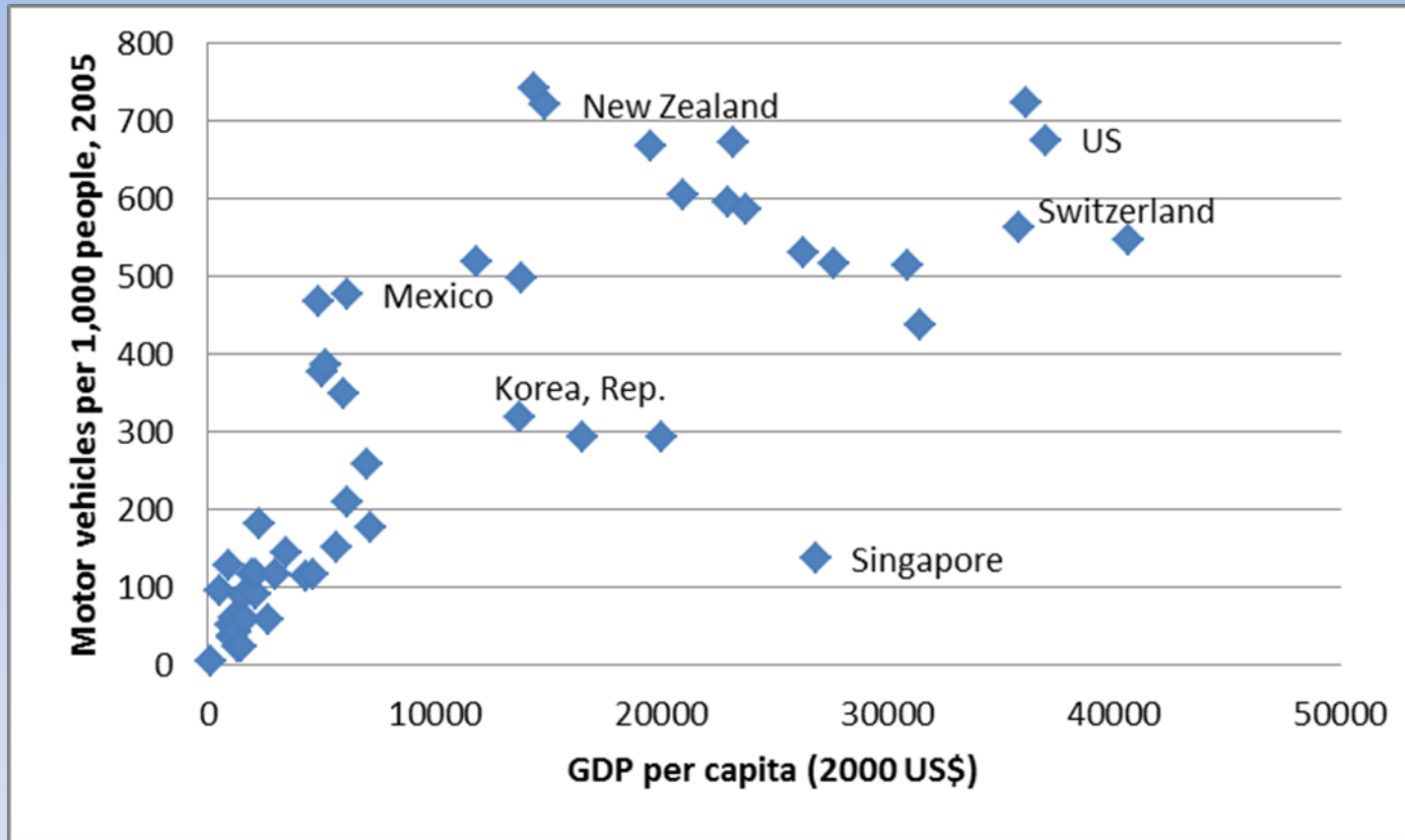
PASSENGER DEMAND INCREASES WITH INCOME



FREIGHT TRANSPORT DEMAND INCREASES EVEN MORE WITH INCOME



THE ACCELERATION OF TRANSPORT DEMAND OCCURS WITH AN EXPONENTIAL INCREASE IN VEHICLE OWNERSHIP



MOBILITY ENSURES GAINS FROM TRADE

- The lowering of transport costs works for the trade between cities and regions like the reduction of tariffs between countries.
- Lower trade costs increase growth.



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MOBILITY ENSURES GAINS FROM TRADE

Regional economy: example of the US highway system

- Access to the highway system increased retail sales by 7 to 10 percent in rural communities
- Rural counties that had a high share of white collar workers saw an increase of their wages relative to blue collar production workers.
- Rural counties with a high share of blue collar workers saw an increase in the relative wage of the blue collar workers.



URBAN DYNAMICS DRIVES MOBILITY DEMAND

- City growth is driven by agglomeration economies
 - Producers want to pay a price for nearness to infrastructure facilities or other producers.
 - Increasing central land rents drive businesses with low value added and residents to the outskirts.
 - Mobility allows to increase real incomes by avoiding a higher land rent bill by having a higher transport bill.



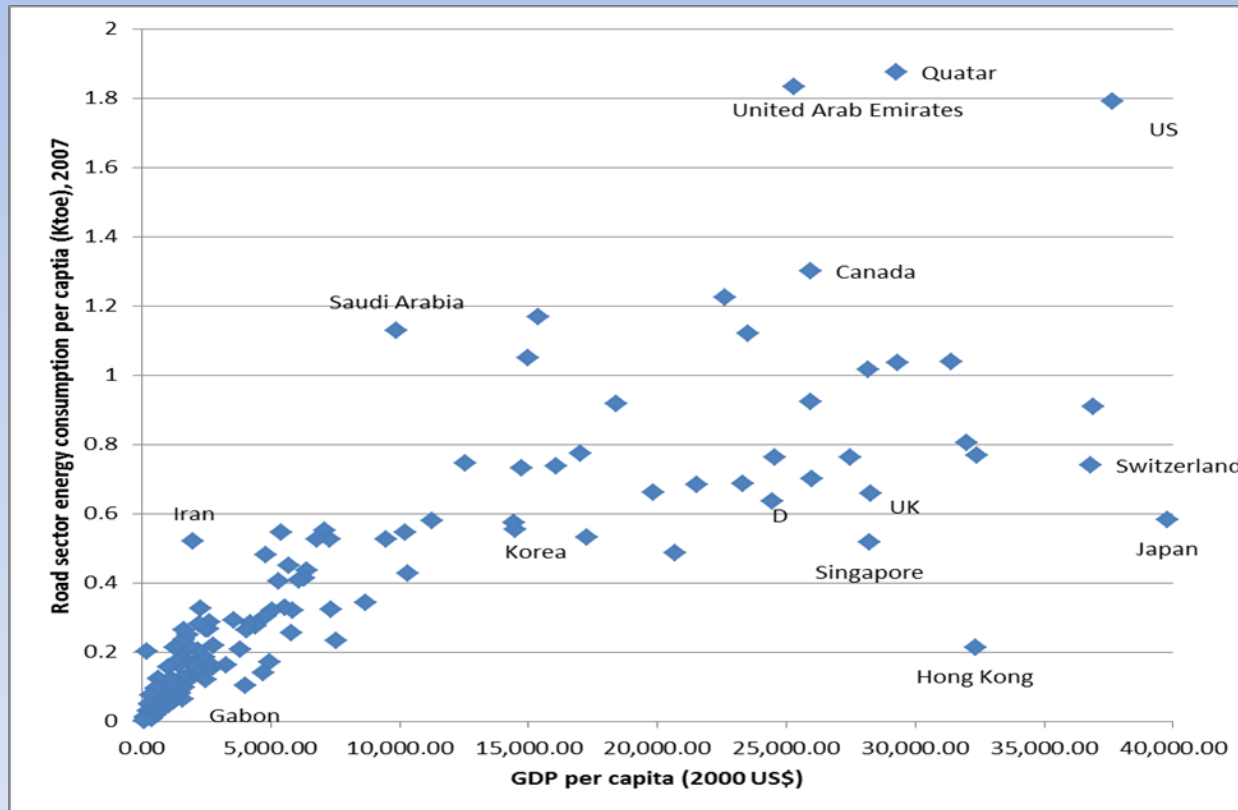
URBAN DYNAMICS DRIVES MOBILITY DEMAND

- The city-growth transport link is conditioned by geography and transport policies at early stages
 - Alternatives to individual car use shape urban form
 - Pricing of the external costs of car use shape urban form
 - Congestion
 - Local air pollution
 - Road safety
 - Greenhouse gas emissions



COUNTRIES HAVE A CHOICE IN TRANSPORT POLICIES

Countries have a choice: energy consumption in road transport can be low at high per capita incomes



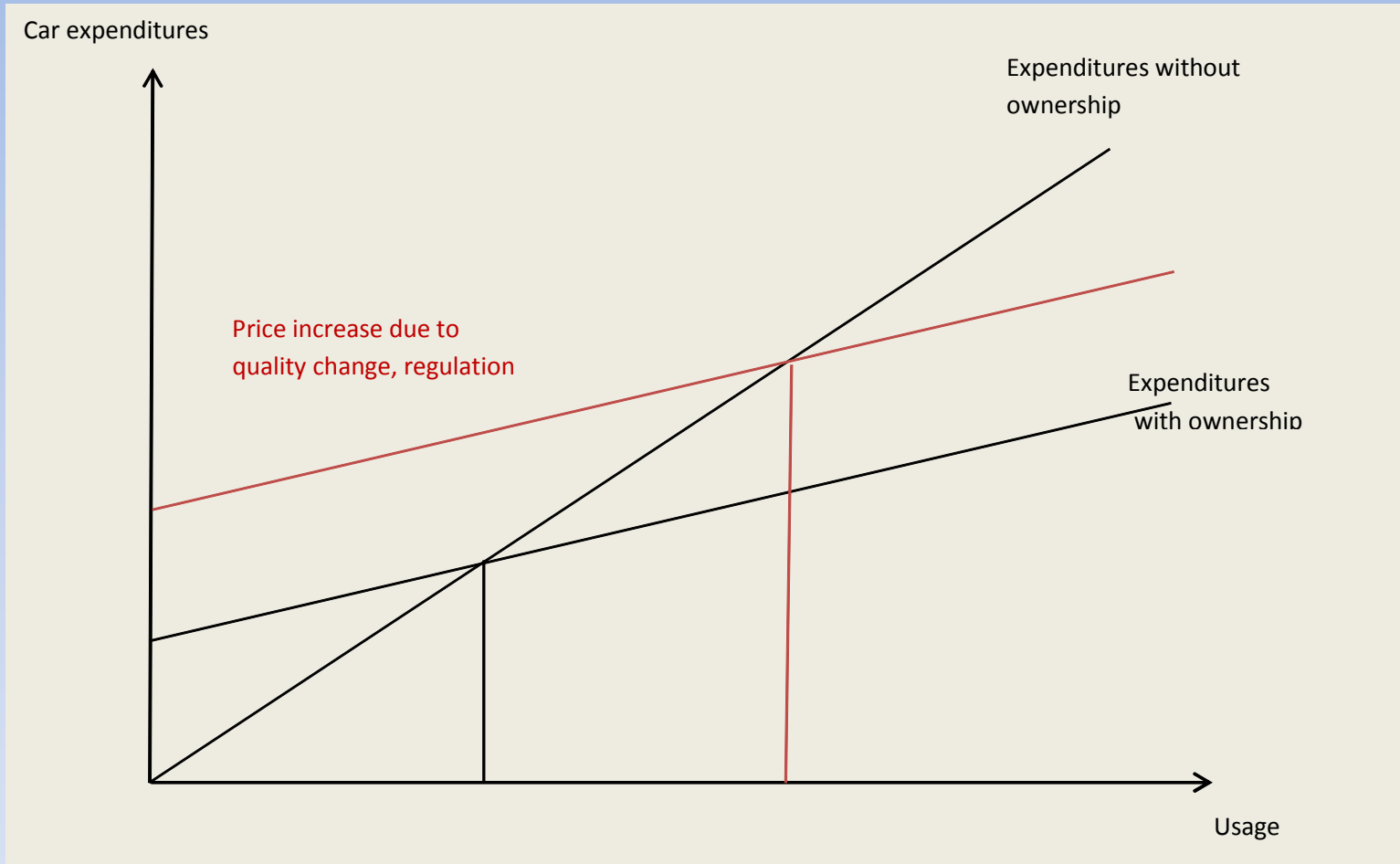
DIFFERENCES DUE TO MODE STRUCTURE OF URBAN TRANSPORT

Drastic example of Hong Kong:

- Car registrations more than doubled in the '70s, swamping HK with congestion
- City government trebled license fees for cars to 90 % of their import value
- Massive expansion of underground and heavy rail system
- Car ownership was halved within 7 years.
- Congestion charging failed in 1985 due to low traffic density. Infrastructure score of 6.2 out of 7 (WCR)



Demand for convenience and attributes of cars: Ownership and Usage



DEMAND FOR ATTRIBUTES

- Miles per \$

Demand elasticity of 1 for small cars, decreasing with MPG ranking

- Acceleration

Demand elasticity of 0.45 for HP/weight (acceleration) for small cars, mixed for mid size cars, smaller for large, luxury cars

- Price

– Highest price response for small cars, mixed picture for mid size cars, smallest but still substantial for large, luxury cars



ASYMMETRY BETWEEN FORFEITURE AND ACQUISITION CHOICE

- Preferences for attributes depend on reference point
 - For small cars, luxury attributes play a very small role.
 - Moving to a higher value level vehicles “utilitarian” attributes remain dominant but get less important.
 - Moving to a lower value level “hedonic” attributes are valued more, than moving upwards from the same value level.



SUMMARY

- Higher incomes lead to higher mobility demand. For a broad range of incomes mobility is a superior good.
- Economic development is driven by and requires higher levels of mobility.
- There is a high willingness to accept high fixed costs, and lower per km costs and to avoid transaction costs.
- Vehicle choice is not only about moving people (or goods). Mobility behavior has many dimensions.
- Weighting of attributes changes with income and consumption histories.



Thank you!

