

# **Sustainable transport: 15 propositions**

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## **What is sustainability?**

- **Intergenerational focus**
- **People, planet, profit**
- **Environment**

**This presentation: focus on environment**

## Proposition categories:

- **Problems**
- **Policies**
- **Evaluation**

# Problems

# 1. The importance of air travel and sea going ships is often underestimated

2050 EU target CO<sub>2</sub> – 60%: air travel alone more!

GHG factor (2? 2.6?)

1 return trip Amsterdam – Chili: same energy consumption as average fuel efficient car in 1 year.

Also big problem: sea going ships.

Both: generally not included in national statistics



**2. Serious health problems exist for lower PM10 values than the WHO norms, and should be included in policies, even if norms are not exceeded**

- PM10: no 'no effect' level.
- Norm = 40 microgram / m<sup>3</sup>
- 5 better than 10



# Policies

### 3. Without pricing the road system will never be 'healthy'

If shortage of capacity / congestion (and no capacity increase 'profitable'): pricing increases welfare (Pigou, 1920; 1924)

Effects:

- Less travel (frequency, distance travelled)
- Time of day
- Mode choice

Problem: public and political support

Theoretical first best versus practice



## 4. CO2 targets can best be met via 'cap and trade' policies

- Effect 'certain'
- Optimal allocation of CO2 emissions allowed
- Feeling of fairness (though in theory same result as pricing)
- Difficult to implement



## 5. Public transport policies should make explicit why they are implemented: accessibility, environment, social goals.



- Increase public transport not goal in itself
- Means for other goals
- A supports B support C: A does not necessarily support C
- Different regions, different goals



## 6. Free public transport is a bad idea

Hardly effect on congestion  
Increase in CO2 emissions  
Very expensive for government



Important reason: limited overlap market car use

Only exception: 'empty seats' for target groups

## 7. For comparing environmental performance of transport modes a disaggregation is needed.

Year, sub category of vehicles, market, category of roads, marginal versus average, life cycle, ...



Van Wee, B, P. Janse, R. Van den Brink (2005), Comparing environmental performance of land transport modes, Transport Reviews Vol 25 (1), pp. 3-24

8. **Car choice is to some extent ‘positional’: the utility of a car depends on the composition of the car fleet. Therefore a shift towards more fuel efficient cars does not very strong reduce utility.**



Verhoef, E.T., B. van Wee (2000), Car ownership and status. Implications for fuel efficiency policies from the viewpoint of theories of happiness and welfare economics. European Journal of Transport and Infrastructure Research, Vol. 0, Nr. 0, pp. 41-56

## 9. Peak travel (saturation in car ownership and car use) reduces the benefits of additional motorways

- reduction in growth or even decrease
- crisis, trends
- ICT, reduced status of car

How about Chili?

Assumptions models violated?



Special issue Transport Reviews 2013

# Evaluation

## 10. Cost Benefit Analysis: useful but ignores equity issues

Good policies: effectiveness, efficiency, equity

CBA: not equity. Relevant:

- distribution effects
- intergenerational justice (see next slide)
- many more reasons (Van Wee, 2011)

CBA nevertheless often 'better' than MCA

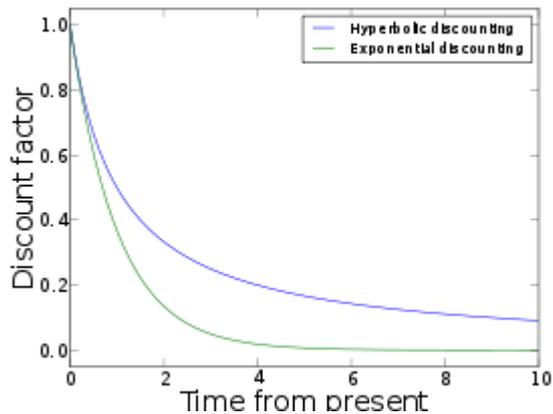


Van Wee, B. (2011), Transport and ethics. Ethics and the evaluation of transport policies and projects. Cheltenham: Edward Elgar

Van Wee, B. (2012) 'How suitable is CBA for the ex-ante evaluation of transport projects and policies? A discussion from the perspective of ethics', Transport Policy 19 (1) 1-7.

# 11. If long term effects / intergenerational justice are at stake, discounting rates should be adapted

Future generations hardly count (discounting)



Van Wee, B. (2013), Transport and long-term sustainability: a discussion on intergenerational justice, WCTR 2013, Rio de Janeiro, Brazil, 15-18 July

## 12. Valuing risks in transport and in health economics is not consistent

Sustainability: cross-sector

Health: Quality Adjusted Life Years (QALY)

Transport: Willingness to pay for lower risks



Age

- health: decreasing
- Transport: reversed U



Van Wee, B. (2011), Transport and ethics. Ethics and the evaluation of transport policies and projects. Cheltenham: Edward Elgar

- 13. If the potential (theoretically possible) impact of land use on travel behaviour does not occur in practice, there must be accessibility benefits for travellers, that they value at least as highly as the benefits of the potential decreases in Generalized Transport Costs.**



Van Wee, B. (2011), Evaluating the impact of land use on travel behaviour: the environment versus accessibility. *Journal of Transport Geography* 19 (6), 1530-1533

## Some final propositions

## 14. Problems due to oil availability / climate change policies? ICT can be a pain killer



Van Wee, B. (2011), ICT as a pain killer. Public Transport International, No 2- March/April 2011, pp. 60

## 15. Sustainable transport: The pain is in the change

(not the outcome)



Questions?