

UNIVERSITY OF TWENTE.

HAVE DUTCH CITIES MADE THE TRANSITION TOWARDS NON- MOTORISED TRANSPORT?

MARK BRUSSEL DEPARTMENT OF URBAN AND REGIONAL
PLANNING AND GEOINFORMATION MANAGEMENT



FACULTY OF GEO-INFORMATION SCIENCE AND EARTH OBSERVATION

ISSUES TO BE DISCUSSED

- 🚲 Movie Cycling in the Netherlands
- 🚲 Some facts
- 🚲 Success factors of Dutch NMT
- 🚲 Policy objectives, development and implementation
- 🚲 Have Dutch cities reached their full NMT potential ?
- 🚲 Lessons for Indian cities?

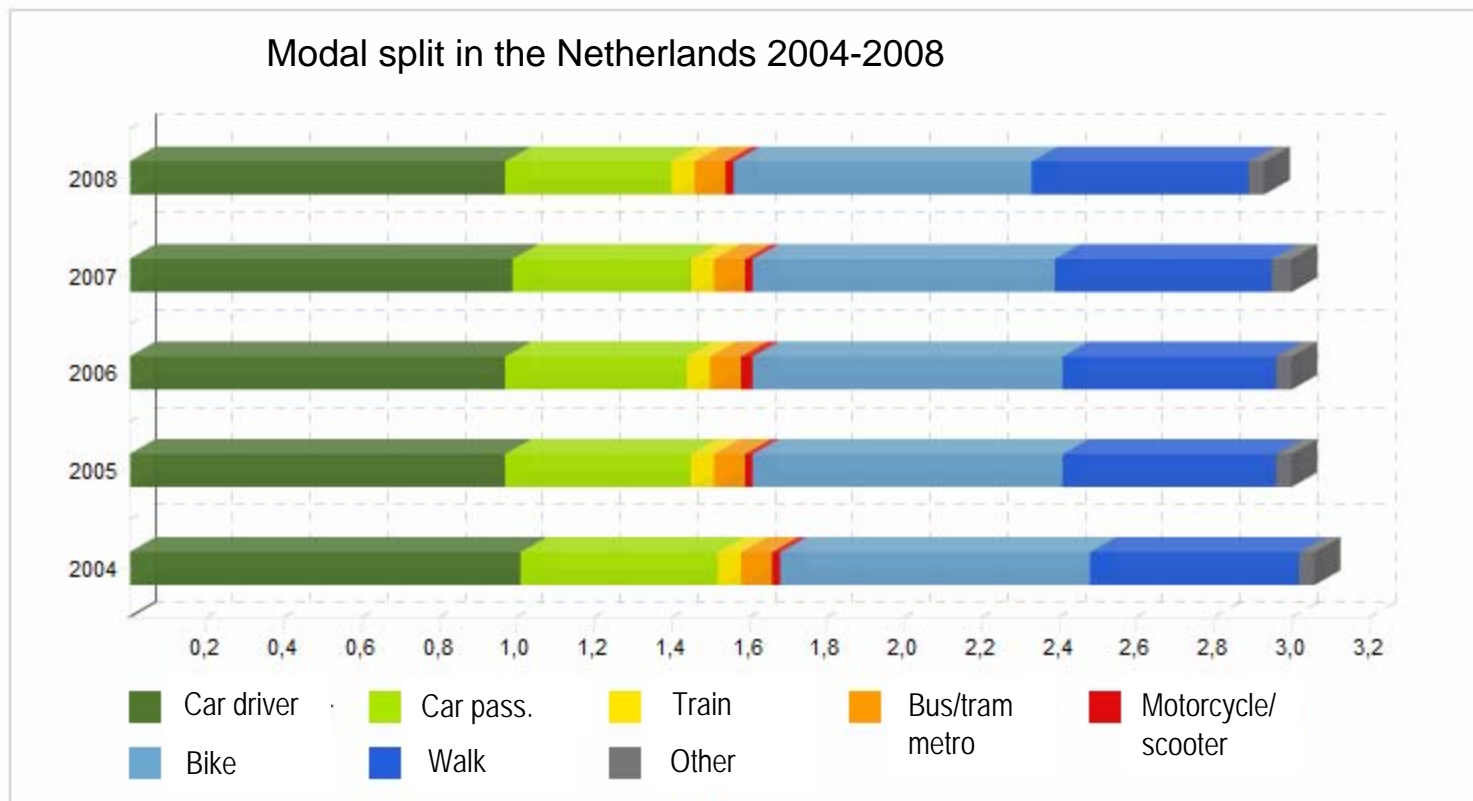


CYCLING IN THE NETHERLANDS



SOME FACTS

- 🚲 27 % of trips are made by bicycle, 19 % by walking
- 🚲 A Dutch person cycles 1000 km/y, walks 250 km/y.
- 🚲 Only nation with more bicycles than people (1.2 per person)



Source: Mobility Survey Netherlands

SUCCESS FACTORS OF DUTCH NMT

- 🚲 Cultural and political
- 🚲 Spatial development
- 🚲 A high level of bicycle infrastructure, good integration with PT and a strong and innovative industry
- 🚲 High level of knowledge in spatial and transport planning, social and policy science and the ability to apply this in actual practice



CULTURAL AND POLITICAL

- 🚲 Egalitarian society: young and old, rich and poor, educated and uneducated, everybody cycles.
- 🚲 The bicycle is an icon of Dutch culture, straight back, against the wind, calvinistic, effort driven.
- 🚲 Politics are therefore deemed to be supportive of cycling
- 🚲 A planning culture, every bit of space is subject of discussion



SPATIAL DEVELOPMENT

- 🚲 Small and compact cities with relatively short trip lengths
- 🚲 Clustering of functions in city centres
- 🚲 Transit oriented development

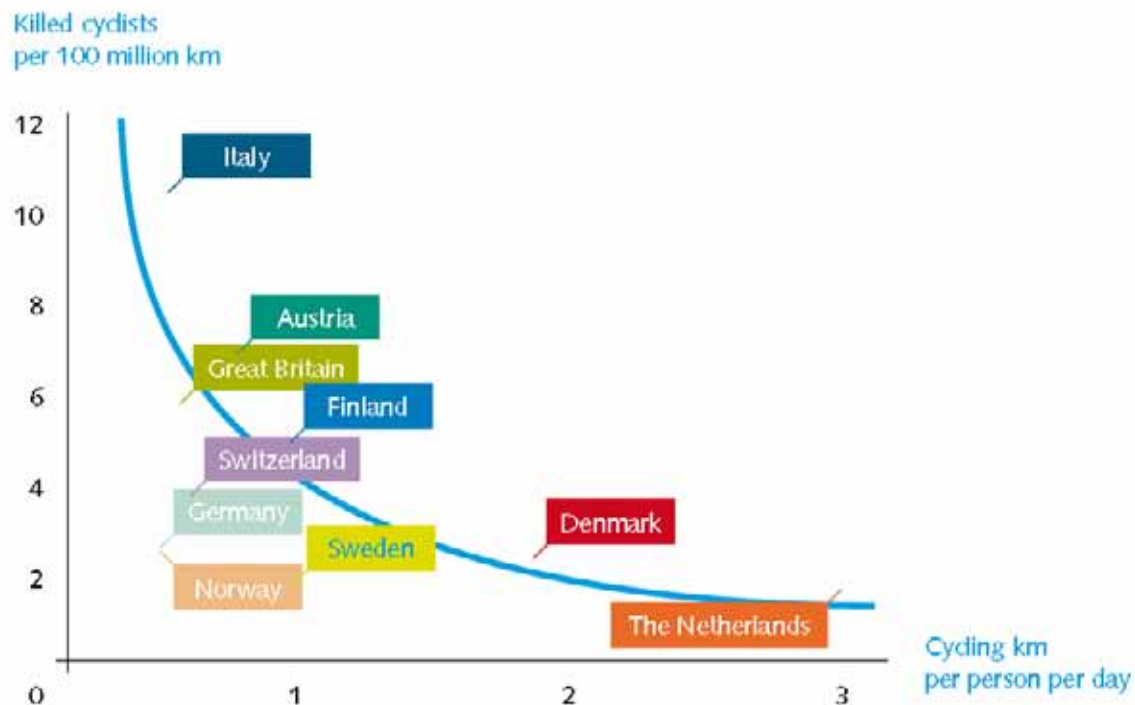


INFRASTRUCTURE, PT INTEGRATION, INDUSTRY



KEY POLICY OBJECTIVES FOR CYCLING

- 🚲 Increasing access to jobs, facilities, education
- 🚲 Improvement of the quality of the living environment
- 🚲 Improving social and traffic safety
- 🚲 Improvement of public health



CYCLING POLICY DEVELOPMENT AND IMPLEMENTATION

- 🚲 Responsibility primarily at municipalities, each municipality can have a different approach
- 🚲 Funding: Municipal budget, subsidies (Central government, EU)
- 🚲 E.g Amsterdam spends 20 million Euro per year on cycling related projects

KEY POLICY INTERVENTIONS

- 🚲 Provision of fully networked infrastructure in integration with PT
- 🚲 Traffic management: give priority to cyclists and pedestrians
- 🚲 Legal: protection of cyclists and pedestrians in case of accidents
- 🚲 Demotivate car use, car-low city centres and streets, transferia
- 🚲 Land use planning



ARE ALL DUTCH CITIES DOING EQUALLY WELL?

Name of City	Population	Total avoided tons CO ₂ per year	CVoC per capita per year [kg CO ₂]	Bicycle Kilometer Travelled p.p.p. year [km]	Total Bicycle km per day [km]	Average cycling distance p.p.p.d. [km]	Cycling share in modal split [%]
Amsterdam	747,090	41,091	55	1,003	2,053,496	2.8	21%
Utrecht	294,740	27,140	92	1,290	1,041,470	3.5	22%
Groningen	182,480	26,055	143	1,644	821,832	4.5	36%
Eindhoven	210,330	25,986	124	1,284	739,869	3.5	26%
The Hague	475,680	22,064	46	735	957,249	2.0	18%
Rotterdam	582,950	20,014	34	538	859,363	1.5	14%
Enschede	154,750	17,588	114	1,023	433,900	2.8	32%

Cultural, economic, demographic, geographical factors determine these differences. Cities with integrated transport policies do better.

HAVE DUTCH CITIES MADE THE TRANSITION AND REACHED THEIR FULL NMT POTENTIAL?

There is room for improvement but gain may be limited

Possible actions:

- 🚲 Improvements in infrastructure design, long distance bicycle infrastructure, better parking facilities etc.
- 🚲 Marketing to achieve all segments of society, e.g. immigrants
- 🚲 More compact spatial development of cities

A theoretical ceiling for Dutch NMT could be 50 % modal share for cycling and 20 % for walking if all trips <7.5 km are made by NMT.

- 🚲 But: hampering factors: financial crisis, popularity of modes like scooters, more liberal spatial policies, climate change.

ARE THERE LESSONS TO BE LEARNT FOR INDIA?

NMT is very big in India, has lots of potential, but it is under threat. (captive riders, quality of the environment for cycling, safety, risk)

Challenge: Make cycling and walking the **preferred modes** of transport for cyclable trips (trips up a max of 5-8 km)

Some ideas:

🚲 Integrated planning at city level: priority for people centered NMT infrastructure of high quality design in integration with PT systems. Implies reallocation of road space.

🚲 Legal and transport planning policy framework needs to put the pedestrian and the cyclist central

🚲 Incentives for cycling, disincentives for short motorized trips

🚲 Marketing of cycling, creation of a culture of cycling



THANK YOU FOR YOUR ATTENTION

brussel@itc.nl

zuidgeest@itc.nl

www.cyclingresearch.nl



UNIVERSITY OF TWENTE.