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BICYCLE RESEARCH REPORT NO. 6

1990

NETHERLANDS AGENCY FOR ENERGY AND THE ENVIRONMENT THE NETHERLANDS - TRAVELLING CLEAN

Insoluble environmental problems call for a "trend breach" in transport.

The Key Facts

Even if every possible means is used to clean up car exhausts and save energy, the environment can only be preserved if motor traffic in the future is reduced. The figure of 192 billion private cars forecast for the year 2010 needs to be reduced to 106 billion, and the proportion of motor traffic on the roads must fall from 83% to a mere 27%.

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In future motor traffic will have to be reduced, whatever technical means are used to clean up exhausts and save energy. This is the conclusion of the research study 'Travelling Clean', carried out jointly by the Netherlands Agency for Energy and the Environment (NOVEM), the pressure group Wijs op Weg and the environmental movement Vereniging Millieudefensie.

The following reductions in pollution, all caused by traffic, will also be ecologically necessary: acidification (eg acid rain), of which 20% is caused by motor traffic, must fall by 80-90%, Photochemical air pollution, half of which is caused by motor traffic, must fall by 75-90%, and noise, 70% of which is traffic-generated, must fall by 50%, (table 1).

According to current trends passenger transport would increase from 137km per person (Pkm) in 1984 (cars 75%, walking or bicycle 12% - see table 2) to 192 km in the year 2010, 83% of this would consist of private motor vehicles, with only 8% walking or cycling. Ecological targets on the other hand call for a 'trend breach'. The trend breach scenario model in table 3 shows that private motor traffic would have to fall to 106 billion Pkm, of which only 27% would be in cars. The proportion of non-motorized traffic would have to be treble.

Such a development can only be brought about by changing behaviour patterns. These would be expected to result from changes in land use and housing development, substantially improved rail and bus services, lower speed limits on the roads, a ban on cars in city centres and lower capacity on the main road network.

Whilst costs for the state will be high, there will be savings for the individual. Instead of spending 800 million guilders a year on new roads, the government would require only 30 million; on the other hand the infrastructure for public transport would then require an investment of 781 million guilders instead of only 30 million (see table 4). But the individual will save a total of 26 billion guilders.

Whereas the trend scenario in table 2 requires a figure of 56 million guilders for transport, the trend breach scenario required only 30.5 million guilders for passenger transport - see table 5.

Research — "The Netherlands travelling clean. Towards a trend breach in passenger transport' published by Netherlands Agency for Energy and the Environment (NOVEM), English edition, Utrecht 1989.

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Table 1: Proportions of pollutant emissions and reductions required

TABLE 1

Theme	Indicative contribution road traffic %	reduction required %
1. Acidification	20	80 to 90
2. Photochemical air pollution	50	75 to 90
3. Disturbance (noise)	70	50
4. "Over-parcelling"	>50	0
5. Health	10 to 90 (depending on substance)	N/A
6. Climatic change (due to energy consumption)	15	70

Table 2: Traffic structure in 2010 as forecast by the Trend Scenario

TABLE 2

Number of journeys:				
Journey purpose (% of total): work/school	shops/services	commercial	social/recrea	Total (10^9)
24.3	26.4	4.9	44.4	16.203
Number of passenger kilometres travelled:				
Modal split (% of total): bike/walk	public tr.	motor tr.	other	Total (10^9 pkm)
7.8	8.7	82.9	0.6	191.8
Distance class (% of total): 0-5 km	5-20 km	20-50 km	>50 km	Total (10^9 pkm)
11.4	27.1	25.3	36.2	191.8
Journey purpose (% of total): work/school	shop/services	commercial	social/recrea	Total 10^9 pkm)
32.2	11.5	7.5	48.7	191.8

Table 3: Traffic structure in 2010 as forecast by the Trend Breach Scenario

TABLE 3

Number of journeys:				
Journey purpose (% of total): work/school	shopping/services	commercial	social/recrea.	Total (10^9)
24.3	26.4	4.9	44.4	16.203
Number of passenger kilometres travelled:				
Modal Split (% of total): bike/walk	public tr.	motor veh.	other	Total (10^9 pkm)
23.4	48.7	26.8	1.1	106.2
Distance class (% of total): 0-5 km	5-20 km	20-50 km	>50 km	Total (10^9 pkm)
25.9	25.6	20.4	28.7	106.2
Journey purpose (% of total): work/school	shopping/services	commercial	social/recrea.	Total (10^9 pkm)
35.1	11.7	13.5	39.7	106.2

Table 4: Government revenues and expenditure for passenger transport

TABLE 4

Revenues:			
Sort of levy:	1985	Trend	Trendbreach *(incl. set of measures ch 5)*
Road tax	2,169	3,918	1,388
Excise (incl. VAT) (VAT = Value Added Tax)	3,728	4,942	2,623
Special Consumer Tax (incl. VAT)	2,387	4,121	736
Add. charges (see section 5)	0	0	1,835
Total:	**8,284**	**12,981**	**6,582**
Expenditure:			
	1985	Trend	Trendbreach
New road construction	650	800	30
Road Maintenance	612	900	680
Government spending on provincial roads	726	800	700
Incidental expenses	201	200	200
Public transport running costs	3,494	3,844	8,126
Public transport infrastructure	358	30	781
Total	**6,041**	**6,574**	**10,517**

TABLE 5

	Trend	Trendbreach
Public transport tickets	2.2	5.5
Motoring taxes and excise	12.9	6.5
Motoring incidental costs	40.8	8.0
Extra taxes	0.0	10.5
Total	**55.9**	**30.5**