

Bicycle use in twentieth century Western Europe.

The comparison of nine cities.

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Summary:

Promotion of bicycle use is a policy goal of the Dutch Government. Within this policy the construction and improvement of the bicycle infrastructure was emphasised for a long time. It was expected that with the construction of bicycle paths the bicycle use would follow suit. Bicycle use did indeed increase but not as much as was expected. The question then emerged what effect government policies do have.

Historical policy studies might provide answers. These studies can detect long-term factors that determine different local effects of implemented national policies. By focussing on long term development historical policy studies can thus show what policies are likely to be more or less successful.

In this paper the bicycle use in nine West European cities is compared and explained historically by focussing on long term traffic policy, collective bicycle images and spatial planning.

1. Introduction.

In Western Europe the Dutch do bike a lot. 28 per cent of all trips made in the Netherlands (in 1995) are covered by bicycle, against 18% (in 1990) in Denmark, 10% in Germany, 10% in Switzerland and 2% in England and Wales. The histories of these traffic shares also show remarkable differences. When we look for instance at the development of bicycle use in nine West-European cities – Amsterdam, Eindhoven, Enschede, South East Limburg (Kerkrade and Heerlen), Antwerp, Manchester, Copenhagen, Hannover and Basle – different “trend lines” can be reconstructed.¹

Figure 1 shows remarkable similarities and differences in the development of the local bicycle use. The similarities concern a high bicycle use in the period preceding World War II, followed by a decline until round 1975, and, subsequently, stabilisation or a slightly renewed increase in bicycle use after 1975. Significant differences can be seen within the bandwidth of the general pattern.

		Bicycle share in the 1980s and 1990s		
		High (above 30%)	In between (approx. 20%)	Low (approx. 10% or below)
Bicycle share in the 1920s and 1930s	High (above 60%)	Amsterdam Eindhoven Enschede	South-East Limburg Hanover	Antwerp
	Low (below 50%)	Kopenhagen	-	Manchester Basle

Figure 2: Bicycle share 1920-1995: local differences.

Figure 1 and figure 2 trigger many questions such as why the Dutch did and still do bike more than the inhabitants of neighbouring countries, and how the actual differences can be explained historically. This paper deals with these questions by focussing on the relation between local bicycle use, (long-term) traffic policy, collective bicycle images and spatial planning. The bicycle use in Dutch cities is emphasised. Developments in other cities are used to illustrate long-term Dutch peculiarities.

2. Period of high bicycle use, 1920-1950.

In the period 1920-1940 the bicycle became a familiar and affordable mode of mass transport. This coincided with process of urbanisation and industrialisation. The number of city inhabitants grew rapidly. In Amsterdam the number of inhabitants increased from 530,00 in 1900 to 706,000 in 1924. In Eindhoven the number of inhabitants grew from 20,000 in 1900 to 48,000 in 1920 and 130,000 in 1945 primarily due to increasing employment provided by the Philips factories. Enschede and Heerlen/Kerkrade experienced these processes as they became centres of the textile and mining industry. The coincidence of urbanisation, industrialisation and increasing compact built-up areas (condensation) had a generally positive effect on bicycle use. Because Dutch cities were relatively small, had short trip distances, concentrated most employment in the city centres and lacked extensive public transport systems (except for big cities like Amsterdam), cyclist and pedestrians dominated the streets.

The traffic policy of the Dutch Government was not directed at facilitating dominant bicycle use,

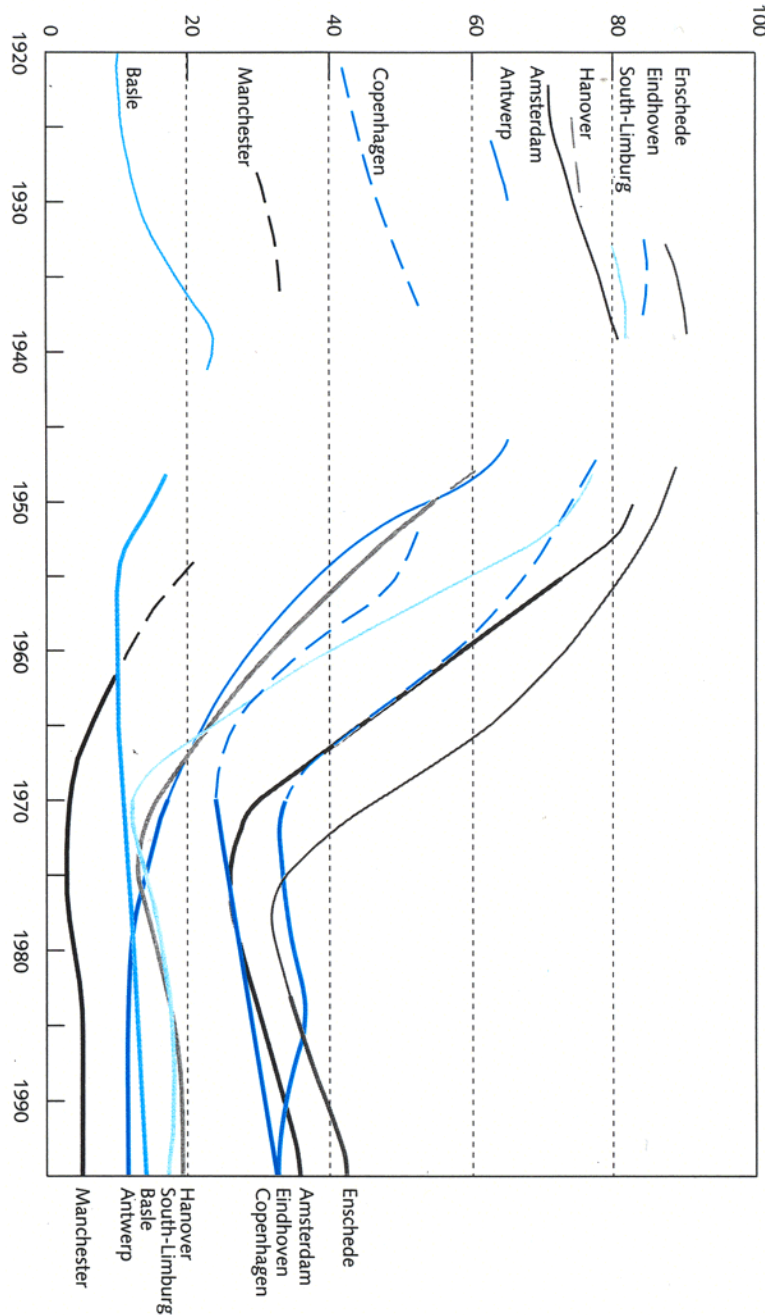


Figure 1: Reconstructed trend lines of the bicycle share in the total number of car, bicycle, motoped and public transportation trips in nine West European Cities, 1920-1995 (in %)(Source: A.A. Albert de la Bruheze and F.C.A Veraart, 1999: 34)

but primarily dealt with facilitating car traffic. The car was seen as the transportation mode of the future, and the building of a car infrastructure was expected to bring economic prosperity. To help finance the construction of main roads a bicycle tax was imposed in 1923. The primary aim of building bicycle paths along existing and new roads was to promote the circulation flow of the car traffic.

In Eindhoven, Enschede and Heerlen/Kerkrade there was hardly any policy attention to bicycle traffic: bicycles were not seen as a problem. In Amsterdam this was different. Here the increasing number of bicycles, the rise in motorised traffic, increasing traffic accidents and commuter traffic congestion on narrow radial roads required due attention. The city authorities faced the dilemma of maintaining the cultural historical character of Amsterdam while trying to adapt the city to the demands of modern motorised traffic. Although existing roads (and canals!) were modified to handle all traffic, the bicycle was the guiding principle in spatial planning set out in the urban development plan of 1935. In this plan residential and work locations were planned in such a way that the maximum cycling distance would require less than 30 minutes at a speed of 15 km per hour. At the same time however the increasing number of bicycles, traffic accidents and randomly parked bicycles also gave rise to the image of the cyclist as a careless, unpredictable and undisciplined traffic participant who seriously impeded other traffic.

Dutch policy makers saw cyclists as normal traffic participants who were always taken into account in traffic and spatial policy. Bicycle paths were being built and cyclists were allowed to use all roads. Dutch traffic policy and bicycle use were inseparable: the 1947 census showed that of all commuters 52% travelled by bicycle, 5% by car and 43% by public transport.

In neighbouring countries local problem definitions of the traffic situation resulted in explicitly anti-bicycle and pro-car policy concepts. The bicycle was seen as an impeding and anachronistic competitor to the car. Many anti bicycle policies were implemented like the obligatory use of bicycle paths, the demolition of bicycle paths, biking prohibition in many streets, obligatory bicycle traffic lessons and the creation of a competitive cheap public transport. Policy makers generally defined the bicycle as a nuisance that had to disappear.

3. Period of decreasing bicycle use, 1950 -1975.

In this period the bicycle use decreased, mainly due to sub-urbanisation and increasing car ownership and use. The number of inhabitants of the Netherlands rose from 10,0 million in 1950 to 13,6 million in 1975, the number of houses doubled from 2,2 million to 4,4, million. The size of the built-up area increased by a factor of 2,9. Cities expanded rapidly. In the mid-1960s sizeable new residential areas were created some 25 to 50 km from existing cities. Because employment did not follow suit, increasing car ownership and commuting by car were the results. In urban areas trip distances increased as a result of upscaling and geographical concentration of companies, schools, hospitals and shopping centres.

National traffic policy was primarily directed at the reconstruction and extension of the car infrastructure. Hardly any attention was paid to the bicycle. Dutch policy makers expected that utilitarian bicycle use would disappear in favour of moped and car use. At the local level this was not different. Within the context of reconstruction and modernisation, and based upon the “scientific” approach of “traffic-engineering” the car and the concept of the car-governed city received most attention. Still, there was no real anti-bicycle policy. On the contrary, cyclists were still being considered as traffic participants with equal rights. In Amsterdam a “laissez-faire” policy developed in which all transportation modes – the bicycle included – were taken into account. Transportation modes were not separated because bicycles and cars had the same rights. Eindhoven and Enschede chose for a modern “city-development” amply provided with a (partly separated) new bicycle infrastructure. Only in Heerlen and Kerkrade a pro-car policy developed. Here, no new bicycle infrastructure was built and part of the existing infrastructure was transformed into car parking space like neighbouring countries. Antwerp, Manchester and Hannover were rapidly transformed into car-governed cities in which there was no place for bicycles at all. Local policy makers considered bicycles as constraining elements that had to be regulated out of the city as soon as possible. Many roads were forbidden for cyclists, bicycle lanes were abolished and one-way traffic rules were introduced for cyclist. Moreover, the bicycle only received negative attention, for example in traffic accident statistics. Policy makers and the press actively and consciously reinforced the image that the bicycle was an unsafe, old fashioned and shabby way of transportation.

4. Period of stabilisation or renewed increase in bicycle use, 1975-1995.

After 1975 bicycle use began to increase and continued to do so until the mid 1980s. This can be largely attributed to developments at the local level. The “issue-chemistry” of traffic safety, energy supply (the oil crises), environmental pollution, urban liveability, economic recession and car congestion raised and connected by local neighbourhood groups resulted in increased policy attention at the local level. The articulation of Traffic circulation plans, bicycle plans and bicycle policies were the result.

Local initiatives diffused to the national level. Budget deficiencies and societal debates on energy and environment stimulated reconsideration of previous traffic policies. Due to local initiatives the bicycle was rediscovered. This was possible because bicycle use had remained rather high and because cyclists were still being accepted as normal full-fledged traffic participants.

In to promote local bicycle use the Ministry of Transport provided funds to build bicycle facilities. The Government also was involved in several large-scale pilot projects, such as the bicycle routes in Tilburg and in The Hague, and the network bicycle route in Delft. With the establishment of the Bicycle Master Plan in 1990 the promotion of bicycle use received national momentum.

In this period the same factors played a role as in the period of declining bicycle use (1950-1975): local spatial structure and related trip distances, car ownership and use, attention to the bicycle in (local) traffic policy, and societal images of the bicycle. There was however a big difference: in the period 1950-1975 all these factors pointed at the same direction and reinforced each other, in the 1970s and 1980's this was no longer the case. Instead, a tension could be distinguished between spatial expansion of cities (“de-urbanisation”) and car ownership on the one hand discouraging bicycle use, and (national and local) traffic policies and societal bicycle images on the other encouraging bicycle use. Within this tension social debates emerged providing opportunities for the bicycle. As a result the bicycle use increased although with explicit local variations.

In other West-European countries increasing policy attention and attempts to alter the prolonged decline in bicycle use could be seen as well. Because bicycle promotion was not integrated in traffic policy and was not linked up with car restrictions, the effects on bicycle use were minimal. In Manchester and Antwerp bicycle promotion was primarily limited to a change in the bicycle's image. No bicycle revival occurred there, probably because bicycle use had declined too far in the meantime and because a material and social bicycle culture had disappeared. Only in Basle, Hanover and Copenhagen a reversal in bicycle policy was accompanied by a (modest) renewed bicycle use.

5. Conclusions.

Actual differences in bicycle use can be explained historically. Bicycle use in the 1990's was to a large extent determined by problem definitions and their translation into policies in the preceding decades. The dramatic decline in bicycle use in the period 1950-1975 for instance already started in the 1920s and 1930s when the emergence of the car was amply anticipated, the most explicitly in Antwerp, Basle, Hanover and Manchester. The bicycle was increasingly seen as old fashioned, shabby and as a traffic nuisance. The car on the contrary symbolised progress, modernity and affluence. The decline of bicycle use in the 1950s and 1960s became a free fall in those cities where it already had been prepared during the high-days of bicycle use. Results and effects of policies thus become visible many years after implementation. This means that future bicycle use will bear the traces of policies set out in the 1980's and 1990's.

Figure 1 shows that the similarities in local bicycle use are substantial. Although the similar trends are determined historically, the local differences are substantial. These differences are rooted in local factors like spatial development, traffic policies and local images of the bicycle. In the Dutch cities the cyclist was accepted as a normal traffic participant with the same rights as the other participants. The image the bicycle was fairly positive and primarily rational (cheap, fast clean mode of transportation). Bicycle policy was always part of the traffic policy. The development of a car infrastructure therefore was not at the expense of cyclists. Moreover, in the first decades following the Second World War all cities still had compact spatial structures. All these factors formed the breeding ground for a bicycle revival in the 1970's.

Besides the relevance of local factors, the interaction between local and global factors and their outcomes is equally important for bicycle use. Local and global factors that become connected can provide opportunities or constraints for local bicycle use. In Enschede for example new opportunities emerged in the aftermath of the breakdown of the local textile industry and the fight against the effects of sub-urbanisation. Local policies to keep the city attractive and liveable became linked with traffic safety demands of inhabitants, societal debates about urban liveability, and with the pro-bicycle policy of the central government. As a result, Enschede became a bicycle friendly city. South-east Limburg on the contrary experienced bicycle constraints after the closing of the local Cole mines. The creation of new employment at greater commuter distances, the absence of active bicycle groups, the local tradition of a reactive bicycle policy and an active pro-car policy reinforced car use instead of bicycle use.

To maintain and increase bicycle use an integrated traffic policy seems crucial. Besides building bicycle infrastructure the spatial planning of functions and activities and trip distances in urban areas have to be taken into account. By spatial concentration of functions and activities in urban areas the greater the chances for the bicycle use. Formulated in another way: the shorter the trip distances the more likely the bicycle will be used. To accomplish this, a lot of different actors have to get involved in the design of an integrated bicycle traffic policy. This is one of the challenges facing future bicycle use.

References.

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