

**CYCLE PATHS
AND CITY
TRAFFIC,
1945-1995.**

CYCLE PATHS AND CITY TRAFFIC 1945-1995.

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"The dominant economic fact of our age is the development not of manufacturing, but of the transport industries. It is these which are growing most rapidly in volume and in individual power";
(Alfred Marshall, 1890).

"A country can be classified as overindustrialised when its social life is dominated by the transportation industry, which has come to determine its class privileges, to accentuate its time scarcity, and to tie its people more tightly to the tracks it has laid out for them";
(Ivan Illich, 1974)

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Chapter 1

It is my intention in this dissertation to look at aspects of the history of the popularity of Cycling as a transport form since 1945. The focus will be on cycling policy in a comparative perspective, and its expression in the form of provision of traffic infrastructure, especially cycle paths. This will be seen through the window of the urban transport mix.

The term "Cycle Paths" is meant as an inclusive and collective term for cycle tracks, cycle lanes and cycle paths, although the following distinctions exist. Cycle tracks refer to tracks usually used exclusively by cyclists, and not sharing a common route with other vehicles. Cycle lanes refer to special laning of the general carriageway to separate cycles (and often buses) from cars and trucks. Cycle paths refer to two types of provision. They can either form an intermediate part of the roadway between the sidewalk and the motorised carriageway separated by elevation and kerbstones, or a marked section of the sidewalk signed for separate or shared use with pedestrians.

The comparative aspect of this study will include examples of the conception and implementation of policies in England, Denmark and Germany since the war. There will be a cross-national comparison, and an analysis of policy within countries. For illustration reference will also be made to provision for cycling in specific cities.

In order to gain a nuanced view of cyclings' history since the war, and the way in which governments policies have interacted, locally and nationally, it is important to examine transport policy as a whole, taking into account developments outside of cycling which have influenced its potential viability. Generally these have had a more dramatic effect on cycling's role than official policy targeted to facilitate bicycle use.

There are sound reasons for choosing the post war period. It is the period in which people in developed Western European countries gained new choices in decisions relating to their personal mobility. Extremely high living standards combined with technological advance provided affordable options for the individual. The three countries chosen for the comparison have been selected as for most of the period they shared a similar and rising per capita income (excepting Germany immediately after the War). They also share similar generally moist and cool temperate climates, and relatively undramatic topography in areas of population concentration. To this we can add a high (and to the 1960s increasing) urban to rural population ratio. They were also all recognised at the beginning of the period as belonging to the North Sea littoral heartland's of cycle use.

This work will limit itself to cycle transport within urban areas where choice was greatest. Cities have many more real options for transport than rural areas, as high urban population densities have supported public transport networks. This is important as many studies have shown that optimal distances for regular commuting by bicycle are under 8km, and preferably under 5km on each leg of a trip. Such distances are within the average trip distance of large percentages of

urban commuters. Much regular rural travel is further than this. The focus will also be on personal transport, rather than on goods or services.

The type of transport considered here will mainly relate to the movement of people on more or less essential journeys between different points, such as a journey to work, local services, schools or other educational institutions. Leisure journeys will feature less strongly leisure, although the line between the two is often blurred¹. Where modal choice is discussed it refers to the mode of transport chosen. The modal split reflects this choice.

It is also important to remember that transport in general, and choices of modes of transport in particular, are not only influenced by governmental, regional or local policy. Other factors include firstly the spatial organisation of human settlement of an area, region or country, and its topography, which may in large degree determine choices as much as governmental attempts to influence these. Secondly, technological advance is an important dynamic, with a varying effect on transport, depending on access, practicability and affordability. Thirdly, personal preferences in transport do not remain static, but are in constant flux, with novelty and cultural change influencing choice. Fourthly, tradition influences choice, and strong cycling areas can reinforce themselves through time.

This dissertation will consist of five interdependent chapters. This first chapter is an introduction to the issues raised by an analysis of cycling in urban transport. Chapters 2-4 will look at developments within the countries of the study individually. These will show how initiatives at a country level can affect transport choice over time. The concluding fifth chapter will draw together the information provided by its predecessors to cast more light on the validity of assumptions implicit in the choice of a comparative treatment.

A comparative analysis of cycling over 50 years in three different countries helps to explain the present transport outcome here in Britain. We can better understand the position that we find ourselves in today by looking at choices made or avoided.

In Britain now a hot summers' day presents a pollution hazard with ozone warnings and accompanying asthma epidemics, and a minor incident on the roads can produce major congestion. Lives can be ruined or ended (in their hundreds of thousands since the war) as a result of traffic accidents. Viable alternatives have existed and are illuminated by experiences elsewhere in Europe.

It is important to draw attention to a vital fact which makes an analysis of cyclings' fate over the last fifty years difficult to quantify. Bicycles have not been registered or taxed for road use, in contrast to motorised transport. Their use has not been limited to the main traffic arteries (often unsafe) where traffic counts have been carried out. Their significance within the transport mix is consequentially difficult to quantify with certainty at any given time. Statistics thus have to be regarded with a degree of friendly scepticism. Data is sometimes derived from voluntary workplace surveys and public opinion polls. Planning and understanding has been influenced by this. Revenue has not been collected directly from the cyclist in the form of road tax, petrol tax and public transport fares as it has from other road

users. The lack of fiscal focus that this has brought about has led to this form of transport being neglected in official planning and surveys of usage, where provision and legislation often follow revenue.

A further point of vital significance is that industrial complexes in Britain and Germany have been dominated by car manufacture, and related industries. The pre-eminence of auto manufacturing to the economies of these two countries, in terms of industrial activity, employment and exports has given this industry a high level of influence. Policies which have been beneficial to the motor industries have often uncritically assumed be beneficial to their respective countries at large.

The political constituency has often aligned itself with an industrial complex, convinced of automobile avantgardism, without necessarily being aware or significantly interested in the resultant effects on society as a whole, believing that visions of modernity demanded motorisation. This view that has been carefully nourished by politicians, more so in some countries than in others, where the car's role in modern life has been more limited. Britain and Germany have followed car friendly policies to date, whereas other European countries such as Denmark, which have no car industry, were spared this.

There has been a transformation in the way that people move about in the developed countries of North-West Europe in the last fifty years. The most prevalent modes of transport for an overwhelming majority of city-dwellers in 1945 were walking, cycling, rail and bus. Private automobiles were a luxury limited to a small minority. At the same time precursors for the potential rapid transformation of transport by the car could be garnered from the experiences of the USA, Australia, Canada and white South Africa in the early years of the century ². Although the European Continent was only just emerging from the war with devastating effects on infrastructure, by the late 1940's transport modal choices remained in reality close to pre-war norms. This was in spite of disruption and destruction. Fifty years later in 1995 transport choices had altered enormously. Walking remains important as congestion has led to long walks to and from car parks and now-distant public transport facilities. But the share of cycling and public transports in the modal split has shrunk enormously. Private car use has grown hugely in absolute and relative terms, allowing much greater distances to be travelled per head.

Whilst this trend extends throughout North-West Europe, transport mixes today vary significantly between countries with noticeable divergence's in trends. Public transport and bicycles are used less in Britain than in Germany and Denmark. The knock-on effects of differential use of transport are important. The location of services, places of employment and residences reflect this, with a more dispersed pattern of urban land use apparent where transport is more car reliant, such as in Britain, and more concentrated urban land use where urban transport relies on mass transit and human powered transport options, such as Denmark. Use of transport mode is a determinant, as well as being determined by land use, especially density of use. The more dispersed patterns become, the more difficult it is to put together communal transport systems, or encourage people to cycle.

Individualisation of transport choice, based around the car instead of shared mass transport and the cycle has also meant a consequential individualisation of living and working space³.

This is reinforced in the use of roads. Roads are built and ordered to cater for the car. Roundabouts, traffic lights, pedestrian crossings and barriers all serve attempts to increase median speed for cars. The establishment of traffic lanes whose dimensions serve the convenience of the motorist reinforce car-orientation and make road use less attractive to the non-driver.

Cycling as transport has exhibited an inverse relationship to growth of the car transport. Reduced popularity of cycling has been paired with a reduction in the choice of options with Beechams rail cutbacks in the 1960s and their counterparts in Denmark & Germany. Privatisation and fragmentation in the 1980s and 1990s continues to promote the car in Britain. Studies have shown that there is a symbiotic relationship between cycling and mass transport, where cycling provides the important door to door link absent in mass transport schemes. Once car transport becomes dominant within the Urban Transport mix, it seems to displace other transport forms. Displacement occurs not just in the form of direct head-to-head competition on cost or convenience, where the car would come out worst in most urban contexts if true door to door journey times were considered, but in its detrimental effect on the transport infrastructure in general.

The most devastating effect of the transition to individual car use is the way in which land use patterns change, especially with regard to densities of use. Once established they seem unalterable. The sharp and concentrated foci of cities dilute. Where once spatial development in cities was dependent on access to facilities such as workplace, services and homespace by foot and later by public transport and cycle, it becomes dependent on the car. This leads to a pen-umbran sprawl in a twilight world between city and countryside, as can be seen in recent developments of the Cribbs causeway shopping complex here in Bristol. Dispersed patterns are difficult to integrate into a vision of a city as reachable public transport or bike once they have become established.

The symbiotic relationship of cycling and public transport is well recognised. Many journeys to work or school will often depend on both a bike ride and an urban train trip for their speedy and convenient completion. The combination can also be important for both leisure (train trips to the countryside for bike rides) and shopping purposes (making heavy shopping trips by public transport, but using bikes for light transport). Interdependence is thus an important factor to take into account⁴. A decline in provision of one of these components often will translate into a decline for the other⁵.

Post-war Transport history can, at the risk of schematic over-generalisation, be divided into three periods, with relevance for all three countries. Intensifying personal motorisation characterised the first period of the two decades from the 1940s, with high car densities becoming general. In the second period of the 1960s and early 1970s, the car reigned more or less supreme, enjoying larger and larger

shares of the transport pie⁶. There was often uncritical acceptance for this development which was regarded as inevitable and desirable. The car was challenged in the third period from the mid 1970s to the present. Counter-cultural questioning of material values, the oil crises of the 1970s and the pollution scares of the 1980s and 1990s sharpened awareness around the problems of the car and led to legislative action. At the same time the car has kept and increased in its' hegemonies importance in transport. This presents us with a paradox today between car-use on the one hand, and the increasingly widespread ideal of promoting alternatives such as cycling or public transport on the other.

The above factors act as a powerful disincentive to the use of cycles, and often discourage walking on the common highway. Each potential customer attracted to car transport reduces the foundation for public transport, which is highly reliant on customer densities in order to operate on a commercial footing. Loss of revenue and passengers will result in their de-prioritisation by corporations and more importantly legislative bodies. The weakening of both legs of the cyclist/public transport axis seems to work in an exponential fashion towards their individual detriment.

There are, however, contradictions in the hegemonies rise in the use of the car. Whilst car ownership and use has multiplied since the war throughout North-West Europe, and has now become almost universal, cycle ownership has also risen. Although rises in cycle ownership may be relatively recent phenomena (from the 1970s), bike ownership in all three countries now equals or exceeds that of cars, and in the case of Denmark and Germany has done so consistently through the period. Moreover, cycle ownership is still rising and is at an all-time high. Even though cars are used more extensively, a greater proportion of the population has the facility to travel by bike.

This apparent contradiction suggests two important inferences which may also be interdependent. Cycle ownership could be seen on the one hand as a "lifestyle choice", with use restricted to weekend and evening leisure jaunts. Hence it could be part of a movement towards an aspirational society, where cycling fits into an environmentally-friendly personal lifestyle choice. Essentially in this view cycling has become recreational and subsidiary. On the other hand it could be suggested that there is considerable frustrated demand on the part of would be cyclists. Increased ownership could be taken to represent a preferred transport choice. This choice could be frustrated by perceptions of the road system. Cycling, although an admirable and laudable way of getting from a. to b. is seen as difficult to the point of impossible, because of traffic danger, pollution, fiscal disadvantage (car allowances), or lack of safe storage and changing facilities at eventual destinations. This second view would clearly provide a stronger argument for serious governmental attention.

It is likely that the car's dominance will continue to be reinforced without action being taken to confront it. Given the automobile's hegemony and its' ability to reinforce itself in land use and infrastructural patterns there is a need to concentrate on measures taken to ensure the viability of cycling as an alternative or

at least as complementary to car use. The evidence is that auto supremacy can be reduced by concerted action and encouragement of cycling and that modal choice can be determined by policy to some extent.

Three criteria are often perceived to be holding cyclists back from using bikes as regular transport rather than just as leisure vehicles: Lack of safety, lack of parking and lack of direct routes with minimal gradients. A wide variety of schemes have been pursued in the period of this study to overcome these obstacles. Measures taken have included the enhancement of the physical travelling environment for cyclists via the introduction of designated lanes and special provision at junctions. The idea has been to reduce the vulnerability of cyclists in traffic, to encourage people to persist in using bikes and encourage new users onto the roads. Whilst many schemes have been adopted in Britain since the early 1970s, encouragement has often been based on changing attitudes to cycling, rather than in improving the physical milieu for cyclists⁷.

This dissertation will concentrate more on the development of the physical environment for cycling rather than on attempts to popularise cycling by affecting peoples attitudes, which is cheaper though less effective.

The major debate amongst advocates of cycling has been that between Segregation on the one hand and Integration on the other. Segregation implies the separation of traffic into streams according to their type and speed. The classic example of this is the Cycle path, lane or track, which generally grants the two-wheeler exclusive or semi exclusive use. The earliest introduction of these dates back to 1897 in Germany⁸, and thereafter in Denmark in 1906⁹. Segregation of traffic according to type had become common practice throughout much of North-West Europe by the 1940's. Integration involves keeping highway use for all vehicles, with universality of access and provision. Integration was pursued more energetically in Britain, by planners and by cyclists who valued general access to highways above separate provision.

This debate continues to the present, and will form the centrepiece of the Velocity biennial conference in Basel in late September 1995. It is central to an understanding of the varying fortunes of cycling in Europe. The material presented in this dissertation will strongly suggest that the trade off involved in segregation has been most advantageous. In other words, access to the whole of the carriageway has been less valuable than continuous, direct and exclusive cycle lanes and paths. This has given more access and freer passage than the free use of the roads as mean road speeds and traffic loads have overwhelmingly worked against cyclists' safety and convenience. This is in spite of the fact that cyclists and their organisations were at the vanguard of better roads movements in the pre- and inter-war periods.

A key factor for initiatives, and a key constraint on measures deemed anti-cycling, has been the presence in all three countries of strong cycling interest groups, such as the Cyclists' Touring Club in Britain (C.T.C), the Dansk Cyklist Forbund in Denmark (D.C.F.) and the Allgemeiner Deutscher Fahrradklub in Germany

(ADFC). Whilst a myriad of local and regional groups exist in these countries, the above clubs have assumed co-ordinating functions on legislation relating to cycling. Their influence has extended to Departmental and Ministerial levels, and they have strongly attempted to mitigate the effects of legislation and planning seen as detrimental to the cyclists interests. In short they have been both reactive and proactive. As important actors they also belong in an analysis of post-war cycle policy and initiative history.

¹. Some 73% of bike journeys in 1991 were assessed to have been utilitarian. See CTC, Cycle Policies in Great Britain: The 1993 Survey, 1993, CTC, Godalming. p.9

². See for example works by Ling,P.,America and the Automobile, Reform & Social Change 1893-1923, 1990, MUP, Manchester, and Flink,J., America Adopts the Automobile 1895-1910, 1970, MIT,London, for American experiences of motorisation.

³. For more on the discussion regarding causality, see Horn,B., Vom Niedergang eines Massenverkehrsmittel, 1990, KGHS, Kassel, pp26-7, and Bracher,T., Konzepte fuer den Radverkehr, 1987, Bielefelder Verlagsanstalt, Bielefeld, pp63-8.

⁴. See papers by Godefrooij,T., Combinations of bicycles and trains in the Netherlands, and Koop,E., On the recent engagement of bicycles and trains in Denmark, in Jensen,N.(ed), Velo-City 1989 Proceedings, 1990, NAPP, Copenhagen. For a German perspective see Braunsing,J., Public Transport and Cycling: Experience of modal integration in W.Germany, in Tolley,R.(ed), The greening of Urban Transport, 1990, John Wiley & Sons, London.

⁵. The decline in the guards van in intercity trains both in Britain and Denmark during the 1980s and 1990s will result in the loss of journeys by both bikes and trains.

⁶. With a consequential growth of suburbs, reliant on cars for access.

⁷. Via Ministers on Bicycles, see for example The Independent 11.7.95, Dear Sir George Young, section 2 page3..

⁸. Horn,B., Vom Niedergang.p.17.

⁹. Noergaard,J., Cykelisme, bilisme & trafikens politik, 1981, Copenhagen University, Copenhagen.

Chapter 2

The United Kingdom.

The right to cycle on the roads in the United Kingdom was established under the Local Government Act, 1888, which stated that:

"Bicycles, tricycles, velocipedes and other similar machines are hereby declared to be carriages within the meaning of the Highway Acts".¹

Use was allowed on an equal footing with other road users as long as they used front lights at night, and bells for overtaking.

Cycling organisations like the Cycling Tourist Club (CTC) were involved in persuasion from the early years of this century directed at local and national authorities to promote the smooth paving of roads to allow freer passage². Until the First World War cyclists were overwhelmingly the fastest vehicles on the roads, able to outpace horses, and were often regarded by virtue of their speed as hazardous to other road users. Increasing motorisation changed this by the early 1920's. Car ownership began to become significant and meant more motorised road-use. Competition for road space led to increased regulation via the Road Traffic Act, 1934. Points covered by the act included the establishment of speed limits for cars in urban areas. Cyclists were required to increase their night-time visibility by adding both a rear reflector and white mudguard patch to the already mandatory front lamp. Also the use of bikes by passengers beyond their design capability, the "backie", was prohibited. A significant result of this Act was the building of the UK's first dedicated cycle path, built on Western Avenue in London in 1935. This acted as an inspiration and an example for further cycle paths in and around London.

FIGURE 2.1 ROAD FATALITIES BY MODE, 1930-1993

YEAR	PEDESTRIANS	CYCLISTS	M. CYCLISTS	CAR/TRUCK
1927	2774	0644	1175	0736
1930	3722	0887	1832	0864
1940	4724	1363	1363	1252
1950	2251	0805	1129	0827
1960	2708	0679	1743	1840
1970	2925	0373	0761	3440
1980	1941	0302	1163	2604
1990	1694	0206	0659	2608
1993	1241	0186	0427	1960

Source: D.o.T. Transport Statistics GB 1994 HMSO p185.

Figure 2.1 above shows that increasing, and increasingly mixed, road use in the late 1930s was accompanied by spiralling accident statistics. This brought transport into sharp focus. Segregation began to be discussed in earnest with road users being separated according to speed and vulnerability. This was manifested in the suggestion by the 1937 Committee on Road Safety, that all new arterial roads ought

suggestion by the 1937 Committee on Road Safety, that all new arterial roads ought to be single purpose and limited to motorised traffic³. In the same year dedicated cycle paths were suggested as a way of enhancing traffic flows whilst reducing accident vulnerability in the Transport Advisory Council's Report, which also noted:

"If cycle tracks in this country provided a satisfactory alternative to the carriageway, i.e. were of adequate width, reasonably continuous and properly surfaced, cyclist would in the course of time come to use them automatically".⁴

Much controversy raged over whether the use of cycle paths should be made compulsory, or remain voluntary, as is hinted in the above quote. Cyclists were worried that compulsion would be the thin end of the wedge, and that their universal rights of use of roads would be jeopardised. Other measures suggested included the building of cycle paths wherever practicable, that paths should be continuous, all bikes should have red rear lights at night, cyclists should not ride more than two-abreast, all bikes should have brakes, and accidents should be reported to the police in the same way as for motorists.

The first wave of cycle paths were laid in many locations in the late 1930's along many upgraded suburban and garden suburb roads in connection with trunk road building. The improvement of existing tracks and compulsion of use was again put forward by the 1939 House of Lord Committee on the Prevention of Road Accidents, also known as the Alness Committee.

This flurry of legislative activity settled during the war years. The suggestion in 1944 via the Road Transport Lighting (Cycles) bill of permanent adoption of the use of the rear red light which had temporarily been enforced during wartime brought the cycling lobby into a state of agitation⁵. Extraordinary claims of undemocratic activity were levelled at government, such as the CTC Gazette editorial of January 1945.

"We are driven to the conclusion, therefore, that the present moment has been seized in order to use the unprecedented war-time powers of Government for the purpose of placing on the statute book a measure that would not be acceptable to a democratic and representative House of Commons fresh from the polls. It is a deplorable example of bureaucratic methods, and it cannot fail to arouse a feeling of acute cynicism among the thousands of cyclist who are fighting in foreign lands for freedom and fair play. How many other inroads are to be made upon our liberties?"⁶

Nevertheless the proposal reached the statute books.

To summarise, in 1945 cycle paths had become a limited feature of the roadscape, with an operational history spanning 10 years. Cyclists were free to use them as they wished, and had the same freedom of access to the entire road network. Legislation brought broadly the same responsibilities to bear on cyclists and motorised road users. Recommendations by Government constituted committees

were grounded at least as much in an urge to increase road safety, especially for the most vulnerable users, as they were to regulate traffic and encourage its free and speedy flow (see Figure 2.1). This is in marked contrast with the present, where initiatives seem to be shaped at least as much from a desire to increase/optimize traffic flows for cars as they are to increase safety.

There has been a continuing transport revolution in Britain since 1945. Following the establishment of early mass production of cars at the Austin factory in 1920, car ownership had already become significant by the outbreak of the Second World War. However this significance was by no means synonymous with the predominance of car transport before 1945. Although change was underway, and the advance of the car from its North American heartland's perceptible, the vast majority of people relied on public transport for longer journeys, supplemented by walking and cycling for shorter distances. The continued scarcity and rationing of raw materials and fuel, meant that a resumption of trends towards higher car ownership would first become apparent again in the early 1950s.

FIG.2.2 PASSENGER TRANSPORT BY MODE 1952-93

YEAR	PUBLIC TRANS.		CARS		M. CYCLES		BICYCLES	
	A	B	A	B	A	B	A	B
1952	131	60	58	27	7	3	23	11
1955	129	54	83	35	8	3	18	8
1960	119	42	139	49	11	4	12	4
1965	102	29	231	66	7	2	7	2
1970	096	24	297	74	4	1	4	1
1975	095	22	331	76	6	1	4	1
1980	087	18	388	79	8	2	5	1
1985	086	16	441	81	8	1	6	1
1990	086	13	588	85	6	1	5	1
1993	079	11	577	86	5	1	5	1

i) Figures in columns A refer to billion Passenger kilometres.

ii) Figures in columns B refer to percentages of total passenger kilometres.

Source: Department of Transport : Transport Statistics in GB, p.179 1994. HMSO.

The relative importance of public transport and cycling in the early post-war period is shown in Figure 2.2 above, with these two modes of transport sharing 71 percent of trip kilometres between them. By 1960 this picture had changed, with a roughly equal split of choice of transport mode within a vastly expanded market (40% higher than 10 years previously) transport. Changes towards more dispersed land use were causing an increased need for motorised transport. Ten years on in 1970 the automobile's primacy was sealed. Dominance was shown in a near three quarter share of kilometres covered, with public transport spluttering, and cycling's share wheezing away from national significance, although with regional exceptions. In the 1970s and 1980s the motor-car continued to build as the predominant form of transport, with public transport continuously losing its share, and the bicycle remaining marginalised. By 1993, seventeen out of every twenty passenger kilometres were covered by car.

Although the raw information above presents gloomy reading indeed for supporters of the cycle, it is important to register that the decline in cycling's share of transport has been arrested since the early 1970s. From a low point in 1972-3, more kilometres are now wheeled, and cycling's share of total transport is stable. Within urban and suburban journeys of up to 5km, for which it is best suited and which make up the vast majority of trips, its significance and share have increased.

The increased motorisation of personal transport in Great Britain did not happen out of the blue. North American experiences of motorisation, and its influences on everyday life were relayed for consumption and aspiration on this side of the Atlantic. This took place as much through film and other media, as through proposals drawn up by post-war planners. The obvious motorisation of American films where leading players have unfettered access to motorised transport offered attractive and enticing visions of personal transport, based around the Sedan rather than the Saddlebag. It is important to remember that in the gloomy post-War days of continuing rationing, of bombed-out cities throughout much of North West Europe, America and the Automobile offered alluring images of modernity and progress. This was as much harnessed as directed by domestic planners and industrialists. The budding consumerist desire for a modal shift within transport, away from the public and human powered was already apparent in the pre-war years. Frustrated by the war and austerity this demand was blocked. Planners⁷ and politicians were aware of this and understood the popular desire of wanting to create a better world from the sacrifices of wartime.

Advancing the cause of the car gave two benefits to politicians. Firstly, car production contributed substantially to the balance of payments, as Britain, in 1950 the world's second largest producer of cars exported much of her production, and this contributed to the greater weal. Secondly, in helping to articulate and fulfill the electorate's desire for motorisation they increased their chances of re-election.

Modernity, Progressivism, technological innovation, and the need to rebuild the built environment collided to form a vital vision for the post-war years. An improvement of milieu for the citizen through urban renewal, population dispersal to "healthier levels" and increased provision through access to the new services of the state became priorities. In many respects Britain in the 1940's and 1950's deserves to be seen as a confident place. Victory in the war and status as the least-damaged large European economy gave it and its planners a dynamism with which to approach urban planning rather than rebuilding. Britain's urban heritage from the time shows a breathtaking ability to disregard the old and to embrace the new, especially when seen from the almost sclerotically preservationist 1990s, where old and traditional are taken as good and innovation greeted with suspicion.

Planning for the urban environment, and for the transport to bind the dream together reflected this outward looking spirit, with presumptions and celebrations of motorisation which seem distant today. The flip side of this was that legislation and planning increasingly disregarded a potential role for the bicycle as its

importance waned. By the mid-1950's it is virtually ignored as a serious form of transport.

Although dissenting voices can occasionally be heard against the cacophony raised by the advocates of motorisation, like Colin Buchanan in his 1962 Ministry of Transport report "Traffic in Towns", the hegemony of the car was not really questioned in Britain until the early 1970's. Here, the ideas of the counter-culture articulated in transport by Ivan Illich and others, the late 1960s fitness boom and the after effects of the Yom Kippur war combine to provide a new synthesis. This questions the individualisation of transport on grounds of access, mobility, pollution and affordability. Personal motorisation is increasingly questioned by the problems of its own success, congestion, longer journey times and a reduction in convenience, as can be seen in Figure 2.2 below. These influences work together to increase interest in "alternative" and healthy transport forms, such as cycling. By the mid 1970's, with the publication of the Department of Transport/Department of the Environment's joint report "Transport Policy -A Consultation Document" in 1976, officialdom reawoke to the possibilities of the bike. The recognition that promoting this alternative would require physical action to make it more attractive was explicit.

"Real encouragement of ...(cycle) use for journeys to work in crowded city centres would need to be accompanied by extensive and sometimes costly segregation measures".⁸

Bicycle transport has gained a higher profile within government in the 1980s and 1990s. But it is as yet difficult to discern action which will dispel the feeling that most of the pronouncements of government have been directed at appeasing a momentary fad on the part of the public, rather than real planning for an alternative transport form. Less charitable would be the suggestion that recent cycling provision has been designed to allow more space for cars and alleviate congestion caused by cars.

There is a much less fertile seedbed for widescale land use and traffic planning in Britain from the 1970s, with most schemes being localised, and commercially financed rather than socially inspired. Many of the urban regeneration programmes of the post war years had by this time been discredited as visions without a human perspective. This led to a crisis in confidence for planners and architects. Introspection at the loss of Britain's world role, and criticism of the rearrangement of the physical milieu in the post war period has forced planners attention away from grand schemes. Their mandate for action has been severely circumscribed by reluctance from the public to pay the price of entry to the modern world. The conservatism of later years has meant piecemeal schemes on a local and disjointed scale.

One of the contradictions of British transport policy since the war has been contained within government's consistently pro-motor line⁹. Initially Governments were proactive, harnessing the public's imagination. They did this by following a course of modernisation, fulfilling aspirations of personal motorisation to the

consumer, and building roads for them to drive on. Over the years this has become reactive, with a continued course of outdated modernisation based around the car, as transport demand seems unlimited and exponential traffic has worsened. New roads become congested from their opening day as in the case of the M25, but reaction in the form of new road building and improvement continue regardless. It has taken forty years to pass from the liberation of the open road to the enslavement of congestion as transit speeds have lapsed back to premotorised levels. This development in London is well illustrated by Figure 2.3, which shows average urban speed development in London 1968-86.

FIG. 2.3 LONDON TRAFFIC SPEEDS 1968-86 (MPH)

CENTRAL LONDON	1968	1971	1974	1977	1980	1983	1986
Morning peak	12.7	12.9	14.2	12.3	12.1	11.8	11.5
Day off peak	12.1	12.6	12.9	12.6	11.6	11.9	11.0
Evening peak	11.8	12.7	13.2	11.9	12.2	11.5	11.0

OUTER LONDON

Morning peak	19.4	18.7	18.0	17.6	18.0	17.2
Day off peak	24.6	24.2	23.6	22.6	22.4	22.7
Evening peak	20.5	20.0	18.7	18.3	18.7	18.2

Source: London Traffic Surveys 1968-86,¹⁰

Average motor travel speeds declined in London over the period shown. This has forced the realisation that increasing the building and improvement of roads and rationalisation of routes does not necessarily lead to quicker journey times. On the contrary, it is now widely acknowledged that road improvements can actually encourage congestion.

Motorisation, encouraged by government, and willingly accepted by the citizenry has dominated transport thinking in Britain since the war, and led to radical transformation of the British landscape. The transformative effects of the landscape by motorisation have accelerated over recent years, with lax planning regulation unleashing a wave of ring development around many cities. It is within the reality of the "spreading city" that cycling has had to exist. This background needs to be recognised in a closer examination of ideas proposed to aid cycling.

War time destruction, the confidence of victory, "Homes for Heroes" and a "can-do" ethos set the stage for reconstruction. Legislation, and some of the ideas on which it was based reflected this. Possibilities for the implementation of Town planning theories were enhanced by the necessity of rebuilding. "Rational theories" about living and working space came into vogue. These refuted the encumbrance of the accumulated irrationality of centuries in the built environment, where the logic of its own time was subsumed by later development. The professions of Town planning and Road engineering, drawing on American experiences of management, were given greater weight than hitherto and influenced legislation and popular perception. These were especially important in the "New Towns", which acted as flagships for the professions and hothouses for their ideas.

Whilst planners were moving towards a separation of traffic as a way of satisfying the prime considerations of safety and utility, cyclist organisations like the CTC remained implacably opposed.

The CTC has been pre-eminent in articulating user policy on cycling provision in its over 100 years of existence, and has at time brought influence to bear on Government and local authorities. Its' basic founding principle has been to campaign on cyclists behalf for unrestricted and safe access to roads for cyclists. Naturally therefore, growing moves towards segregation led to the CTC Gazette's editorial pages repeatedly restating the CTC's opposition. Readers letters sections from 1945-55 reflect this being liberally spiced with members negative experiences of cycle paths abroad¹¹. The largely middle class social origins of CTC members made them an influential organisation¹². Leisure and tourist jaunts featured strongly as activities for CTC members, who valued their freedom to wend their way on all roads. They were well able to promote their point of view, which was to look for better road conditions in general, instead of the specific provision of cycle paths which they felt would lead to compulsion and restriction of touring rights.

The Trunk Roads Act of 1946 was the first major development in the transport field after the war. Many more roads were designated or projected as trunk routes (3,700 miles) and placed under Ministerial rather than County Council supervision. Trunk routes in the 1930s had been associated with a separation of traffic streams, often with cycle paths alongside which were generally wide and continuous (over 2 metres in width)¹³. The transfer of responsibility gave new impulses for construction and compulsion. Ministers avoided compulsion at several junctures, instead opting for recommended use in the revised Highway code of 1947, echoing the Traffic Advisory Council's Report of 1937.

The Special Roads Act of 1949 supplemented the developing policy of segregation. It allowed for the division of traffic by the creation of Motorways, these were to be limited to certain classes of vehicles only. The CTC supported this as it was felt that this would leave two-wheelers with enhanced access to existing roads.

Talk of separate provision for cyclists then disappears in legislation until the 1980s, although remaining important in new towns. Legislation regarding cycling concentrates on the extensions of highway law to cyclists, as in the 1956 Road Traffic Act, and under the 1988 Road Traffic Act. Recreational rights were extended by The 1968 Countryside Act which allowing cyclists to use Bridleways.

Government becomes more interested in cycling again from the late 1970s. This interest was more centred around publishing consultative papers than enacting legislation however. The 1976 transport policy document encouraged local initiatives to increase provision, and the 1977 Transport White Paper set out a split budget between Government and Local authorities to encourage innovatory schemes. By 1981 the Government was calling for outside input to its policy, but

remained uninterested in proposing national policy. At the same time appropriate local action was advocated. This remains government policy to date. Recommendations and guidelines are issued by Government for local authorities incorporate in their plans, and bid for cash to implement.

The cycling renaissance of recent years has been met by a reluctance on the part of Government to act. Responsibility has been devolved to local authorities, whose financial leeway to consider potentially expensive innovation of appropriate and effective schemes has been limited by cutbacks and capping. Although Government legislation has been lacking, the 1980's saw the first dedicated Act relating to cycle tracks. -The 1984 Cycle Track Act was introduced to the House as a Private Members bill. This Act was influential in altering the roadscape for cyclists, as it allowed for the conversion of footpaths to cycle paths, via shared use with pedestrians. This is an inexpensive solution which was applied by many cash-strapped councils, including Avon. Although provision enabled by this Act may be questioned as paths are generally non-continuous, with rights of way being ceded even to minor roads, it has been effective as a profile raising exercise.

We have seen above how Central Government has been legislatively dormant in addressing cycling measures since bicycle transport's decline in the 1950's. Since the return to interest in the bike, Government has tried to avoid determining policy, by delegating initiatives to local authorities. This contrasts starkly with its policy on roads in general, which have benefited from strong Governmental support.

Although Central government has preferred an advisory to an active role, local authorities have often been quick to take cycle planning on board. Much thinking and planning has been developed in non-governmental circles, especially from the 1970s. The Transport and Road Research Laboratory (TRRL), activists and user groups such as the C.T.C., Sustrans, Friends of the Earth, and local user groups like the London Cycling Campaign have influenced local authorities, and others. The new synthesis was epitomised by the establishment of the Greater London Councils' cycle project from 1981-6 which promised and delivered 1 percent of the capitals roads budget for cycling initiatives.

We have already touched on the effects of town and road planning on cyclists' riding environment. The driving force lay in the example of ideas applied in the building of new towns up until the early 1960s. Planning theory, combined with progressive ideas relating to living space was brought together in the construction of towns such as Stevenage and Corby. The nett affect of these approaches was to encourage differentiation in road and area use, rather than commonality. This essentially rational strategy was beneficial for cycling in the 1940s and early 1950s with the construction of many miles of paths, but became detrimental as it encouraged the division and working space, meaning that average journey to work distances would eventually rise.

With the benefit of hindsight it is possible to argue that until the 1960s planners were still to be trying to be proactive as far as traffic is concerned. Ideals still partially determined plans in mixed cities, with mixed transport needs. Increased

personal motorisation changed this, and later new towns reflected this by their assumption that residents would drive. Planning became more reactive to the "problem" of congestion, with plans drawn up to ease traffic, rather than shape its form. It becomes increasingly skewed towards aiding the flow of cars. Some voices can be heard to question the role of the car in traffic, such as Colin Buchanan who in his report commissioned by Earnest Marples, Minister for Transport in 1960 argued,

"We are nourishing a monster of great potential destructiveness"¹⁴.

But even he accepted that accommodation was essential as:

"One of the peculiarities of the motor car is that virtually everybody wants to have one"¹⁵.

The general consensus remained that planning be determined by car use, even amongst such supporters of the bicycle as E.C. Claxton, Chief Engineer of the Stevenage Development Corporation who was responsible for building many post-war paths as;

"This is an age of speed. it is no longer a novelty for a man in a space capsule to orbit the earth within one hour, which puts him in the speed range up to 25,000 m.p.h. Trips to and from the moon are being planned now and may soon be a practicable proposition. There is no doubt that modern society is going a long way very fast. It would seem in that context almost unthinkable that the same modern society should continue to travel by pedal bicycle at a speed of between 10 and 20 miles per hour. Nevertheless, bicycles were carried by saboteurs parachuted into occupied territory during the Second World War and may well play a similar role in mans ultimate conquest of the moon"¹⁶.

The revival of the cycle path stems back to mid 1970s and the schemes set up in the wake of the 1977 White Paper in many cities in Southern and Eastern Britain, including Peterborough, Middlesborough, Cambridge, York and Nottingham ¹⁷. Many of the earlier paths built from the 1930s-1950s had by this time fallen into disuse and disrepair. The vast majority of the paths currently in use are thus relatively recent additions to city streets, with projects of major visibility owing much to the GLC's mentioned above.

Much recent work has concentrated on junctions where most cycle accidents are judged to happen. Special separate facilities have been put into place to increase safety, including advanced cyclist stop lines of the type that have appeared here in Bristol over the last two or three years.

A unfortunate feature of recent schemes has been their local and fragmentary implementation, with much less journey continuity for the cyclist than for the motorist. Fragmentation is encouraged by the method of financing. Under a bidding procedure local councils approach the Department of Transport with plans for which money is allocated from central funding on a discretionary basis. Given

the small sums involved (a fraction of one per cent of total roads spending) the Departments' role is reduced to that of a weak co-ordinatory body. The watchword is delegation as Government takes a bare minimalist role. The consequence of this is patchy provision, with some Local Authorities more innovative than others and central control and co-ordination at the lowest levels possible, and involving as little central funding as possible.

The minimalist approach sketched above has certainly influenced the practicality of the recently introduced paths, often with the cheapest, and least effective measures being brought into practice. Cycle paths built during the cycling renaissance have differed qualitatively from earlier schemes. New schemes often use the device of painting the last metre or so of the carriageway a different colour, or "lining" it off with a white stripe. No structural changes to the road are usually made, so the lane remains effectively part of the road. Two points work against this type of scheme. Firstly, it reserves for the cyclist the use of the gutter, with all the impedimenta of drains and manhole covers. Secondly, it relies on the uncertain goodwill of drivers to respect the lane. Earlier lanes from the 1930s and 1940s were wider, at around two metres, and separated from the carriageway by grass verges. Another lacklustre innovation has been the pavement or footpath sharing schemes, which for a minimum signwriting outlay have allowed local authorities to claim green credentials in kilometres of tracks laid. The most unsatisfactory feature of these schemes for the cyclist has been their lack of continuity, with their ending at all minor junctions, reinforcing cycling's subservience to motorised transport. Motorists on the other hand, now liberated from the slowing effects of cyclists can continue their journeys at greater speeds.

In spite of recent attempts to promote cycling it remains a marginal force within transport nationally, accounting for one per cent of all passenger kilometres. Although still important in some middle sized towns in Southern and Eastern Britain, these local pinnacles of use only serve to emphasise its' marginality elsewhere. This is represented by profiles of those who generally use cycles as transport, who are mostly children, students, the poor and the "eccentric". In other words mostly those who for one reason or another have no other options.

The irreversibility of personal motorisation may be an explanatory factor for the dichotomy where cycle ownership has increased, and mileage covered has decreased, shown in Figure 2.4.

FIGURE 2.4 - CYCLE OWNERSHIP & MILES RIDDEN 1989/91

YEAR	% HOUSEHOLDS OWNING CYCLES	%HOUSEHOLDS WITH INACTIVE CYCLES IN SAMPLE WEEK	MILEAGE PER CYCLE PER YEAR
1972-73	25	54	295
1975-76	24	48	352
1978-89	29	58	254
1985-86	36	67	176
1989-91	36	70	153

Source: National Travel Survey 1989/91 P.41-2

Although increased wealth may mean that choices do not have to be made, as it is possible to afford to choose to be both a cyclist and motorist, explaining some of the rise in ownership and fall in miles per bike other explanations must also be sought. Stagnant total mileages shown in Figure 2.2 strongly suggest that much of the new use must be limited to recreational pursuits, either by choice or by lack of perceived facilities. This indicates either a failing on the part of Government to provide adequate facilities for safe cycling, the irreversibility of motorisation or that these new cycle owners are deluding themselves with lifestyle aspirations based on fitness and ecology rather than lifestyle choices which would be more onerous.

The domination of motorised transport in the post war era continuing to date has been decisive in reordering urban and suburban space in Britain¹⁸. The spatial infrastructure of cities has been transformed by the change in localisation of services. Where once proximity of living space to working/service space was largely determined by a walk, cycle or suburban train ride this is no longer the case, and cities or "virtual cities"¹⁹ have exploded in terms of the space they use. This was recognised in the Transport Policy Consultation document of 1976, where;

"As car ownership spreads, schools become larger, hospitals are regionalised, out of town shopping centres multiply and the council offices are situated farther away; meanwhile the local shop and post office have often disappeared. Mobility becomes ever more necessary, but command over it for the minority grows less."²⁰

The implication in this is that motorisation is irreversible, except where access to the instrument facilitating it is denied or extensively modified. Consequentially, any action taken to further non-motorised or collective transport must be serious. The travel consumer must recognise this seriousness in order to encourage and support his or her transport choice and promote practical use where this remains an option. Lack of action will result in further diminishment of choice.

Whilst writing this chapter the Millennium Fund announced the donation of £42 million for the provision of a national network of cycle paths to Sustrans (Independent, 11.9.95). As perhaps the single largest scheme on cycling in recent years (to be completed by the year 2005) it could represent a watershed in cyclings' fortunes.

¹ Local Government Act 1888 p.85 paragraph 1.

² CTC Gazette, November 1945, vol.64, no.11, editorial.

³ Or "trunk" roads, with directional carriageways separated often by a grass central reservation. See also: "CTC Gazette", May 1945, p.65.

⁴ "CTC Gazette", November 1945, Editorial. As we shall see later in this text, these comments are at least as relevant in 1995 as they were 58 years ago.

⁵ and reconfirmed as advisable by the Committee on Road Safety in 1943.

⁶ "CTC Gazette editorial", January 1945, p.1.

⁷ For a review of the vision and dynamism of post war town planning see C. Hass-Klau, The Pedestrian & City Traffic, 1990, Belhaven Press, London, pp144-73.

⁸ Department of Transport/ Department of the Environment, "Transport Policy- A Consultation Document", 1976, London. p.79

⁹ See government encouragement of foreign manufactures plans to locate in the 1980s and 1990s, and continuing tax breaks for company car owners.

10. Mogridge, M. "Travel in Towns". 1990. Macmillan. London, quoting from London Travel Surveys 1968-86, p.29

¹¹ Notably in Belgium, with reports from there by British servicemen. See "CTC Gazette", letters pages 1945-50 for unfavourable references.

¹² The social origins of the CTC are well related in; Oakley, "The Winged Wheel", and; Lightwood, "The Romance of the CTC"., see bibliography for further details.

¹³ Many of these still exist today, although largely in a bad state of repair. examples can be seen intermittently in outer South London, for example along the A24 between Dorking and Leatherhead.

¹⁴ C. Buchanan, "Traffic in Towns", 1963, Penguin, London. p.15.

¹⁵ Ibid,p.10.

¹⁶ E.Claxton, "The Future of the Bicycle in Modern society", 1968, Paper given to the Royal Society for the Encouragement of the Arts, 15.11.1968.

¹⁷ And from 1975 in an innovative scheme in Portsmouth.

¹⁸ In much the same way as the suburban train and bicycle had in the pre-war period.

¹⁹ Huge swathes of suburbia and countryside around major cities where the majority of the inhabitants rely directly on jobs and services from the cities, but choose to live outside, their journeys made possible by the private car.

²⁰ Department of the Environment/ Department of Transport, "Transport Policy- A Consultation Document", 1976, HMSO, London. p.12.

Chapter 3.

Denmark.

"Throughout the twentieth century cycling has been the great national mode of transport in Denmark. There have been rises and falls in cycling's popularity, but the importance of the bike has always been great."¹

Cycling's importance as transport in Denmark has been high throughout the post war period, albeit with substantial fluctuations. The car came to Denmark slightly later than many car producing countries such as Britain, in spite of high living standards, as is shown in Figure 1.

Figure 3.1

Citizens per car 1930-80, A Cross-Country Comparison

YEAR	USA	UK	HOLLAND	DENMARK	GERMANY
1930	4.5	31.0	77.0	44.0	
1940	4.1	20.0	56.0	33.0	44.0(1938)
1950	3.1	17.0	50.0	36.0	62.5(1946)
1960	2.4	9.2	22.0	11.2	
1970	1.9	4.7	5.2	4.2	
1980		3.6	3.1	3.2	
1987	1.8	3.2	3.0	3.2	2.3

Source: 1930-80 from Larsen, L., "Bicycling in Denmark", 1989, Velo City Papers, in Jensen, N.(ed) , "Velo City Papers 89", 1990, NAPP, Copenhagen, p.39. 1987 from Preston, B. "Walking and cycling Safety", in Tolley, R.(ed), "The Greening...", p.55. Germany from Horn, B., "Vom Niedergang..." p.119

But cycle sovereignty up until the mid 1950s is replaced by domination of the car to the 1970s. There was a resurgence in interest in cycling from the late 1970s. Reinvigorated interest was reflected in cycle sales figures which vastly outstrip car sales. This also reflects in greater use of cycles as transport in recent years, in contrast to the case in Britain. The reasons for the rise, fall and renewed rise are broadly the same as in Britain. A big difference is that this occurred from a much higher base use of cycling. Even at its' nadir in 1975, cycling remained a significant transport mode with over a million Danes or 20 percent of the Danish population cycling daily². Cycling claimed a similar share of trip kilometers as the railways. The rise in the latter part of the period is much more marked too. By 1983 over 1,3 million were again cycling daily, with an additional 0,9 million cycling at least once a week, representing between 8 and 9 percent of total passenger kilometers. Cycling has consequentially been consistently more important in Denmark than in Britain, and an accepted part of popular culture.

The preconditions for cycling in Denmark in 1945 were better than those in Britain. The first cycle paths, laid in the capital in 1905, had been followed by many others. By the late 1930s some five per cent of the major road network had cyclepaths. A

tradition of indifferent bus provision and limited tram networks was in marked contrast to the innovative nature of some schemes in Britain such as the London Underground. Austerity in the 1930s, where it was obviously cheaper to cycle than to use public transport, and the severe wartime rationing during the occupation, meant that cycling was often the only feasible alternative to walking. Cycling's dominance of the roadscape was also a self-strengthening factor. Because of their weight of numbers, cyclists determined the flow of traffic (much as in 1970s China). Furthermore there was a strong cultural bias towards cycling, cherished as a "Danish" mode of transport, to cover the relatively short distances across undramatic countryside at a restrained speed. Ministers put it thus in 1936:

"The bicycle is both for everyday and recreational use the great national transport mode"³.

"The bicycle... is a democratic mode of transport".⁴

In the light of the above cyclists domination of the late 1940s traffic scene was natural.

Traffic wise, the post war period in Denmark can be divided up into three. The first period extended from the end of the war until the late 1950s, in which the bicycle, aided by public transport dominated urban traffic. Although the influence of the car grew, it rose from a low base, and did not significantly alter transport patterns until the end of the period. The first challenge to the bicycle came not from the car but from the moped, whose significance was greater in Denmark than elsewhere. From the late 1950s the car rapidly gained ascendancy. As elsewhere in the "happy sixties"⁵ the car dominated both the streetscene and increasingly influenced the localisation of services. Motorisation was associated with modernity as in Britain, and the bicycle became the temporary preserve of the poor, the unfashionable, and hence the stigmatised. This period lasted through to the mid 1970s, where as elsewhere the oil crisis, and importantly, the influence of the counter-culture was felt. The rise of the car was temporarily checked, and impetus for future motorisation was lost. In the 1980s and 1990s, although car registrations increased, cycling also increased significantly, as the momentum of the fitness boom and counterculture gave cycling a lift. Noergaard put the change in attitudes well in 1981, backed up by opinion surveys carried out by Gutenberghus Opinion Polling in 1963:

"Where the social perception of cycling just a few years ago was low, the use of the cycle today is the characteristic of (high) status".⁶

The rebirth in popularity of cycling was reflected both in greatly increased sales, shown in Figure 3.2 below, and increased mileages cycled overall, and especially within towns.

FIGURE 3.2
CYCLE SALES IN DENMARK 1963-1993 /000's

YEAR	SALES
1963	102
1968	145
1973	199
1979	416
1993	325

Source: 1963-79 from Noergaard, "Cykelisme" p.237. 1993 from DCF, "Tal om Trafik", 1994, DCF, Copenhagen, p.11

Increased sales were accompanied by a decrease in kilometers per cycle per year. This is the same trend as we have seen in Britain and suggests that many new cyclists use their machines recreationally. The changing fortunes of cycling in Denmark are well-illustrated by figure 3.3 showing the modal split in Copenhagen from 1950. The survey used major bridges as counting points ⁷

FIGURE 3.3
CYCLE TRAFFIC ON THE AMAGER BRIDGES IN COPENHAGEN PER DAY

YEAR	CYCLES	%CYCLE	MOPEDS	CARS
1951	136667	75	1877	41865
1955	91043	52	15423	66765
1960	68528	39	21164	85529
1965	35886	23	13988	104317
1970	24075	16	10941	113449
1975	18408	13	6797	112200
1980	29247	22	2409	102881
1985	34242	24	1660	107569
1990	33259	25	1011	100640
1993	38314	29	932	94914

source: DCF, "Tal om Trafik", p.7.

To add to this high level of cycling, and high cultural acceptance, there has existed throughout much of the twentieth century a potent dirigentiste element within Danish political culture. There is a stronger state, and clearer sense of direction brought by coalition governments containing strong strands of continuity. Even if a government falls, it is usually replaced by another coalition involving most of the same parties. This has underpinned Denmark's corporatist Social Welfare state. Such a system contains a vision of modernity, which has been essential in planning to date. An emphasis on the validity of planning on a societal basis has influenced the physical planning of the urban environment. It has provided a context in which planning has remained proactive, rather than reactive.

Planning within an urban environmental context extends back to the 1860s in Denmark, and has followed a more evolutionary approach. This extended into the 1940s, where "benign" occupation lasting right up to the end of the war, and

extremely limited wartime bombing left urban areas virtually intact, in marked contrast to Britain or especially Germany.

Denmark's "late" industrialisation was also important. Starting around the turn of the century, consequential urban agglomerations allowed new building and planning technology to shape cityscapes. In practice this meant that most of Denmark's urban housing to the 1930s was of a high density, multi-storey type of four or five floors, with residents living in flats. This is in contrast with earlier lower density British terraced housing. The high density apartment blocks required broad streets to meet traffic demands. Late development of urban areas, negligible war-damage, and non-participation in war meant that for structural and psychological reasons the imperative for reconstruction so obvious in Germany and Britain was absent, despite overcrowding and sometimes poor housing stock. Planning and development were not as marked by sharp changes. Trends towards separation of functions continued after the war, with dedicated living and working spaces dominating new development. Separation involved distance, with average commutes in Greater Copenhagen rising from 3,5km in 1945 to 6,0km in 1967⁸.

Distance increasingly had to be spanned by motorised transport. A transition from bicycle to moped to car in the 1950s and 1960s enabled a great change to take place in cities, with the explosion of suburbs. A large part of the Danish middle classes decamped from urban flats into suburban housing, built on large lots on the urban edge. The extra distances involved and growing motorisation meant a precipitous fall in cycling from 1955-1975. Recently this has changed, with a switch back to more space-intensive development and attempts to counteract the potential of trends towards centralisation of services. Tax policy has contributed to this, with Car duty levied at 180% of the factory gate price, no tax privileges for company car users, and hence few company cars.

In counterbalance in the early part of the Post-War period were the combination of concentrated centres of population and broad access roads which gave favourable preconditions for cycling. This translated into a physical environment in which there was space enough to build separate traffic facilities for different modes, as well as the belief that planning for different modes was a legitimate and modern approach.

By the late 1930's many kilometers of cycle paths were already in place along major arterial routes and, as a result of work programmes of the depressed early 1930s, in green areas as well. There was a solid basis on which to build. Work continued through the 1940s and 1950s, as a result of the success of cycling, and as a way of mitigating conflict between cyclists and motorists. This picture changed in the 1960s as the need to create more space for the burgeoning car population meant that in some circumstances cycle paths were removed, turning back fifty years of progress⁹. In the mid 1970s the picture changed again, with renewed interest in the cycle providing new impetus for rebuilding and expansion of the cycle path net, to a point at which in 1995 most main urban routes are provided with two metre or more wide cycle paths placed between the motorised carriageway and the pavement, separated from both by height differentials and substantial kerbstones.

These measurements and method of separation are the predominant ones in Denmark. In the capital Copenhagen in 1989, it was estimated that an extra 15-20km of paths grafted onto the existing 300km would give an integrated and complete main cycle path network.¹⁰

Before the Second World War the building of cycle paths along new main highways (hovedlandeveje) and highways (landeveje) had been made compulsory in urban areas. These, as in some areas of London formed important parts of the network. Further, according to a Law on the Establishment of Cyclepaths and Footpaths(22.11.38), responsibility was given to council authorities allowing them to:

"Build cycle paths and footpaths along roads, where from a traffic point of view they were deemed necessary".¹¹

Recreational paths which would link green areas together were proposed in 1936. Access was to be made simple by the suburban train network, with paths starting from some of these stations. This was enabled by law number 595 of 13.11.1940¹². These laws set the framework for the effective building of cyclepaths.

Much post-war legislation has centred around responsibility for paths, which has generally been confirmed at the county council/regional (Amter) and borough council (kommunal) level, both of which have real tax raising powers¹³. Legislation from the 1960's onward has been characterised by the fact that:

"The role of the cycle in traffic declined at the same time as the number of cars rose. For this reason the road authorities in the 1960s and 1970s have in the main sought to solve the problem of motorised traffic".¹⁴

Hence legislation to the mid 1970s often worked against cycling. However, from the 1970s authorities have tried to cope and plan for the repercussions of the rebirth in cycling. A concrete manifestation of this was the decision in 1977 made public by the Minister of Transport at the Danish Bicycle Association's (DCF) annual general meeting. He promised to work for better conditions for cyclists, and to start some pilot projects¹⁵. These were motivated by the belief that conditions for cyclists had deteriorated due to the weight of motorised traffic and inspired by work emanating from Norway in 1972 and Sweden in 1973. Much of the work of these pilot projects and subsequent projects has gone beyond planning and designing cycle paths as such, as these were already fairly adequate. Instead they looked at issues as varied as covered and lockable cycle storage at train stations¹⁶, and at planning for provisions at junctions where paths have normally stopped due to crossing traffic. Many ideas from the late 1970s and early 1980s were drawn together in the 500 page plus "Cykel og Knallertrafik", published by the Vejdirektorat in 1981, which has had lasting influence, especially on the establishment of schemes in older urban areas where roadspace is limited.

A further factor influencing the fortunes of cycling in Denmark has been the strength of cyclist organisations. The most important is the Danish Cycling

Association(DCF). Founded 90 years ago, DCF has today a similar role in stating the cyclist's case as the CTC in Britain. However with a membership today of over 30,000 or 0.5 percent of population, compared to the CTC's 40,000 in a country whose population is 10 times as large, its influence may be taken to be proportionally greater. An interesting concrete difference between the two has been in their treatment of cycle-political issues has been within segregation. Segregation was introduced by the Traffic Law (faerdselsloven) of 1932. This required the use of paths where they existed. The question of compulsory use of paths attached to roads has not been an issue in DCF at least in the last 50 years. Given the high qualitative level of many paths in Denmark compulsory segregation has not been questioned¹⁷. Contrast this with the UK or Germany where this discussion still rages. Policies advocated by DCF today include "green waving" traffic lights to cyclists speeds allowing them to continue journeys unabated, reducing general speed limits in cities to 30kph and improving storage and parking.

Although cycling in Denmark today is not as popular as it was in the 1940s, it still remains a major form of urban transport accounting for 20% of all journeys in Copenhagen¹⁸. It is still growing as a feature of urban transport. This may well be a realisation of potential demand presented by the events of the 1970s. More likely, it is a reflection of the fact that Danish cycling infrastructure seems to have been adequate almost from the 1940s, with many effective kilometers of cycle paths. This has been reinforced by cultural preference for cycling manifesting itself in continued use and investment. The period of supremacy of the car was probably too short to reorder the road and cityscape irreversibly. Initiatives and actions taken since the 1970s have filled in many gaps in the network by improving safety and hence addressing fears of insecurity of cycling. Central and Local Government policy has consistently and effectively supported extensions on systems based on new research and tried and tested methods. Cycling consumers have worked against separate provision as a matter of principle. A "critical mass" for cycling has been maintained within a mixed transport picture, whereas elsewhere "critical mass" has accrued to the car in exclusivity.

¹ J. Noergaard, "Cykelisme, bilisme & trafikens politik", 1981, Copenhagen University Masters Dissertation, Copenhagen.p.50 "Cyklen har i hele det 20. aarhundrede vaeret det store folkelige transportmiddel i Danmark. Der har vaeret op- og nedture for cykelismen, men cyklens betydning har altid vaeret store."

² Ministeriet for Offentlige Arbejder, "Cykelparkeringer ved trafikterminalerne",1984, Copenhagen,p.2

³ Defence minister Alsing Andersen, 1936, in J.Noergaard, "cykelisme...",p.65. Original "cykeln er baade paa arbejdspladsen og paa hviledagen det store folkelige befordringsmiddel".

⁴ Prime Minister J. Christmas Moeller 1936, quoted from J.Noergaard, "Cykelisme...",p.65.

⁵ Danish term for the boom years of the 1960's, "De glæde tredser".

⁶ J. Noergaard, "Cykelisme..." p.266. Original- "Hvor den sociale anseelse ved at cykle for blot nogle faa aar siden var lav, har cykelanvendelsen idag naermest en statuspraeg".

⁷ The population of Denmark is heavily concentrated in Copenhagen, with 25-30% of the 5,2 million inhabitants of Denmark residing there, and being the only major urban centre of note. As the city centre is surrounded by water on virtually all sides access is granted by bridge, this proved an efficient counting method.

⁸ From Projektgruppe Nord, "Cykel og Knallertrafik", 1981, Vejdirektoratet, Copenhagen, p.11.

⁹ See J.Noergaard, "Cykelisme...",p.269.

¹⁰ Figures from: Stadsingenioerens Direktorat, "Kobenhavn og Cykelisterne" 1989, SD, Copenhagen.

¹¹ From Noergaard, "Cykelisme"... original- "...at paalaege kommunale myndigheder at anlaegge cykelstier og gangstier langs veje og gader, hvor det er af faerdselsmaessige hensyn maa anses for tiltraengt".

¹² From Projektgruppe Nord, "Cykel og Kanllertrafik", p.11.

¹³ See for example the Road Control Act of 1957, (vejbestyrelseslov).

¹⁴ From Projektgruppen Nord, "Cykel og Knallertrafik". Original- "Cyklens rolle i trafikken er aftaget samtidig med, at antallet af personbiler er vokset. Derfor har vejmyndighederne gennem 60erne og 70erne hovedsaglig soegt at loese biltrafikkens problemer".

¹⁵ See the reports on these schemes published by the Road Directorate (Vejdirektoratet), including "Cykel routes in 4 towns - A resume", 1988.

¹⁶ See literature published by DSB, Danish State Railways, including "Cykelparkering og cykelcentre", 1989.

¹⁷ Confirmed in a telephone conversation with Thomas Kragh, DCF Copenhagen, 20.9.95, with thanks.

¹⁸ T.Bracher, "Konzepte...",p.61.

Chapter 4. Germany.

Cycling in Germany today accounts for 11% of all journeys, and 3% of all transport kilometres. Although this is still a significant proportion, it is substantially less than during the cycle's heyday from the end of the first world war to the early 1950s when it was the most important form of urban transport¹. It is appreciably higher than during cycling's trough in the 1970s.

The history of cycling in Germany since the war has much in common with its history elsewhere in Europe, although with subtle differences. In 1945 cycling was utterly dominant as wartime destruction and shortage had seriously reduced motorised transport. Its' importance begins to erode from the late 1940s. At first this was a slow process, but by the mid 1950s motorised transport achieved parity. From the mid 1950s this erosion advanced with astonishing rapidity, so that by the mid 1960s the auto is supreme. Cycling becomes a marginal and diminishing factor and remains so until the mid 1970s. From the mid to late 1970s the decline was staunched, and cycling again becomes more popular.

The first cycle paths (Radwege) were built in Germany nearly a century ago in Bremen in 1897. They were the first in Europe, and provided a working example which inspired others elsewhere².

Whilst the position as a pioneer in cycle infrastructure has moved on in the intervening century to Holland and Denmark, provision for cyclists in Germany is generally higher than in Britain.

A marked feature of German cycling provision has been the use of pavement sharing between cyclists and pedestrians, either divided, or marked with differentiated surfaces. This innovation offers a cheap method of establishing separate non-motorised provision by grafting cycling onto an extensive network of existing pathways. For a minimum of cost, large extensions to cycle networks have been made. As a consequence this method has won popularity recently in Britain³. This method, stemming back to the 1930s has however been questioned on grounds of safety and convenience in Germany.

"This type of facility [classical German 'Radweg'] has been criticised due to a lack of safety and comfort...The most frequent cause of all accidents is the failure to stop at junctions, and this type of accident is most frequent where classical cycle paths exist...On private property drives the number of accidents between cars and cyclists is three times higher"⁴.

Much criticism over the obligatory use of cycle-paths has been levied since compulsion was introduced by the Road Traffic Ordinance of 1926. This has principally centred around shared paths mentioned above, and the narrow dimensions of differentiated paths, which have often been under 1 metre in width.

Shared provision with pedestrians and narrow paths may be in part a response to the history of the development of many German cities. Although Germany's Industrial Revolution and consequential agglomerations of people are of a later age than Britain's, much urban development was carried out whilst urban planning concepts were still immature. Cities were built to serve the needs of industrial employers, unguided by a wider desire to integrate into a city community. Space was (and remains) at a premium encouraging later planners to seek to implement plans requiring limited areas, influencing a segregationist approach.

Several factors have interworked to produce traffic outcomes in Germany. Most of these have also been features of British and Danish post-war cycling history. In Germany they have combined to produce an unique picture. These factors are outlined below.

The Federal and State's Government have played a limited direct role in cycling's fortunes, especially until the early 1970s⁵. This has been strongly influenced by the Federal Republic's power relationships, where much power is devolved down to municipal level. The Federal Governments ability to act through legislation in transport questions has been limited. In practice authority extends to Federal Roads (Bundesstrasse) and to Road Regulations (Strassen Verordnung, StrVO). Effectively:

"Whilst the State Government's (as well as the Federal government) have no direct authority in urban traffic planning, they are themselves planning representatives for main Federal and State roads and can directly promote new goals in traffic policy."⁶

Thus municipalities will often look to State or Federal Government for guidance whilst technical and fiscal responsibility remain at the local level.

Specifically, the post-war period to the late 1970s saw little activity from the Federal Government. Indeed of the;

"277 research items that were commissioned between 1967 and the beginning of 1980 by the Federal Transport Ministry for the improvement of traffic in urban areas..., none dealt with cycling."⁷

The Federal Government became more responsive to cycling from 1970 under pressure from the oil crisis and the growth of Counter-culture. This was portrayed well by the first full attempts at transport modal choice analysis undertaken by the KONTIV survey between 1975-77⁸. To the surprise of many planners (who often have a windscreen-perspective to traffic planning⁹) this showed that walking and cycling remained important local modes of transport. In the same year (1975) the Federal Office for Planning (Bundes Bauamt) commissioned a report; "By which

was followed by: "The Bicycle and the Environment: A programme for aiding the Environment through advancing cycle transport" This suggested that:

"In its specific area of use (to 10km) the bicycle can be seen as the most ecologically and economically sensible method of transport".¹¹

In 1979 the Federal Government, through the agency of the Interior Ministry, promoted a bike friendly town project. This was to act as a pilot and provide inspiration and experience for other interested towns. The results, which showed a partial success, were published in 1987¹².

A German innovation, Traffic calming (*verkehrsberuhigung*) has also significantly improved the cycling climate on back streets. It is an attempt to flatten hierarchies of speed involving the spatial reorientation of street architecture and strict 30kmh speed limits. This was originally embarked upon under the auspices of the Ministry for Planning in 1979, who published the "Traffic Calming : a Contribution to Urban Renewal" report in 1986¹³.

Although little use was made of the Federal Government's limited influence before the late 1970's, since then it has tried to quantify, conceptualise, innovate, analyse and implement schemes through its agencies. This process continues.

The role of planners in transport matters has been important in Germany. This has been the result of Federal Government's seeming reluctance to get involved, and the devolution of planning decisions to the local level. Although in the early years war damage was a greater factor than elsewhere, psychological reconstruction and the creation of a better world after the sacrifice of the war was obviously less important than in Britain. Physical and moral defeat and division meant that there was more of an imperative to rebuild the old, the lost and the destroyed, and that there was little financial capacity to allow embarking on grand new projects.

Indeed, continuity rather than a fresh start has been emphasised, not least by Horn, who suggests:

"It is now known that in considering planning history, neither town planning nor traffic planning can be characterised by a "stunde null" after the war. Roadbuilding in the reconstruction period also utilised planning which had been conceived before 1945".¹⁴

It appears clear from this that one needs to look back beyond 1945 to identify ideas for interpretations of later German outcomes. Horn picks up on three areas of importance. Firstly, he stresses the role of luminary personalities in Cycle Planning, and draws special attention to the role of H.J. Schacht who was pre-eminent in this field from 1930-1955. Secondly, he emphasises the segregation of traffic type in planners' minds. Thirdly, he focuses on the profound influence of the romance of the modernistic elements of motorisation on planners. This manifested itself in planning for motorisation well in advance of necessity, and a belief in subsidiarity

which is well shown in the following quote relating to Schacht's last published work

"It is quite alarming how the details of his (Schacht's) plans for the routing of cyclepaths.. gave the needs of the car driver the highest priority".¹⁵

Under the dual influence of municipal responsibility and planners, cycle paths after 1945 were characterised by patchy and local provision. An exception were those built on Federal Roads. Segregation was the name of the game, with cyclists being collected together with pedestrians on shared paths, whilst the main carriageway was reserved for faster moving traffic. Segregation and motorisation remained the navigating points on the planners horizons'. Planners in common with other groups in society were obsessed with Western/American models of development which emphasised motorisation even more, and restricted traffic planning to traffic management. As motorisation got under way from 1949 onwards less credence was placed on cycling. By the 1960s:

"It was no longer a matter of planning for bicycle transport in town planning and a transport-political context, but the introduction of traffic-technical functions and systems necessary to combat a disruptive element and to secure the flow of motorised transport..., it would have been best if it (cycling) no longer existed".¹⁶

In its most influential years planning first worked against cycling by prioritising motoring, and later ignored it. This was however turned around partly from 1975.

Reconstruction and the "economic miracle" have resulted in almost consistently rising living standards in Germany, with wealth levels today at the upper end of the developed world's spectrum. In parallel with this, the option of the choice of investment in motorised personal transport has widened from virtually nil in 1945 to a large minority in 1987, with ownership rates of over 420 per 1,000 inhabitants. The repercussions of this on cycling and public transport have been immense.

The industrial complex, dominated by the transport industry which accounts for over 15% of all jobs¹⁷ has been very important in Germany. The fortunes of the Goliath's of industry, Daimler-Benz, BMW, Volkswagen and Adam Opel have been taken as synonymous with the fortunes of the economy and hence country at large. With high export levels bringing in overseas earnings, the effect of the industrial complex shaping the preconditions for planning and development cannot be underestimated, especially to 1980. They have thus acted as a reinforcing factor in planners early bias towards a motorised future.

The car in particular, and the industrial complex's exporting prowess in general have been associated with a legitimisation exercise in Germany. Although it may seem too crude to suggest that the denial of access to other forms of national self expression has led to an overdeveloped sense of material worth, a nuanced version of this seems convincing. Defeat in the war meant a westward realignment in thinking, emphasising American motorised modernity as victorious in work and leisure. Whilst "American Romance" has also influenced other countries, it seems to

have been especially potent in Germany. Coupled with this was the forty-five year struggle for legitimacy with the DDR, with West German systemic primacy based on material values. as the car is often the largest material purchase that people make (especially as the rented sector in housing predominates). Car ownership became a potent symbol both nationally, and individually, offering choice of vehicle and individualisation of transit destiny. From the gloom and poverty of defeat:

"The characteristics of motorised individual transport, such as confidence in progress, economic freedom, product decay and its role as a technically-coagulating symbol of the industrial dynamic, produce an extremely convenient dream-child for the industrial and capitalist economy and consumer society".¹⁸

The other side of this has been the stigmatisation of cycling as a poor-mans means of transport, associated with defeat and austerity. In recent years the problems of prosperity including pollution and congestion have been influential in questioning the material grounding of society. Hence the legitimacy factor has waned.

The questioning of material legitimacy has been a strong feature of some of the Citizens' Initiatives (Burger Initiativen) growing out of the counter culture movements of the late 1960s and early 1970s. Due to a coalescing of factors in the post-war and post reconstruction period, the counter culture has perhaps had a deeper and more enduring effect on political thought in Germany than in Britain. The early peril-filled years of the Republic saw little civil opposition. However this was more than made up for from the late 1960s, where the Republic was questioned by many groups of the APO¹⁹. This late 1960s flowering of opposition bore fruit in the 1980s and 1990s with the election of "Green" Bundestag and Landstag Members. In cycling terms, this helped with the gestation of two influential organisations, the "Grüne Radler"(Green Wheelers) and the Allgemeine Deutsche Radfahrer Club (German Cyclists Club), both of which saw the light of day as organisations 1979 although with roots back to local groups. Of the two, the ADFC has had the greater impact nationally, assuming a co-ordinating role as lobby for cyclist in much the same way as the CTC in Britain and the DCF in Denmark. It's membership today is approximately 40,000.

A major feature of German Cycling since the war has been the way in which it's popularity in different cities has varied tremendously. In spite of the national picture of decline from the fifties to the seventies, and a subsequent rebirth since, this general tendency has occurred within a broad spectrum. this has served to emphasise differences so that in some towns today cycling remains popular. According to Bracher:

"Top levels (of use) with nearly 30% cycle use are the towns of Dessau (popn.130,000, Erlangen (50,000), Munster (270,000), Rosenheim (50,000)and Landshut (55,000). In the big cities of Hamburg, Munich, Cologne and Frankfurt the bicycle has a share of about 10%".²⁰

Major factors influencing this seem to include the level of provision (within a fragmentary system as we have seen), and tradition. Cities performing well have generally had both, with provision remaining strong to date.

In conclusion, the story of cycling in Germany since the war has been one of dramatic decline until the early 1970s followed by a renaissance afterwards. Cycling is still nationally significant, but its use is contained in a spectrum from over 30 percent in small and medium sized towns to less than 5 percent in the metropolis of Berlin. Attitudes seem to have played an important role first in decline, and then in cycling's readoption. Cycling provision remains patchy, although with a generally higher level than in Britain. The compulsory use of cycle paths is still an issue, a by-product of perceptions of inadequate design and provision of facilities. The success of the Greens in elections over the last fifteen years and their subsequent influence on power through coalitions means that environmental issues, such as cycling are demanding sincere attention. Contemporary ideas for urban renewal, such as the tempo-30 zones and walking speed zones have made a real and favourable impact on cycling safety and comfort.

1. From B.Horn, "Vom Niedergang eines Massenverkehrsmittels -zur Geschichte der Staedtischen Radverkehrsplanung", 1990, Gesamthochschule Kassel. P.29. ("Fuer vier... Jahrzente war das fahrrad das zahlenmassig dominierende individualverkehrsmittel").

2. Noergaard emphasizes German precursors in the development of Denmarks first paths in 1905.

3. Along the A4 from bristol to Bath for example.

4. T. Bracher, "Germany", in H. McClintock (ed) "The Bicycle and City Traffic", 1992, Belhaven, London.

5. This seem also to have been the case in the period to 1930.
(B.Horn, "Vom Niedergang..." p.61.)

6. R. Monheim, "Policy issues in promoting the green modes", in R. Tolley (ed), "The greening of urban transport", 1990, Belhaven, London.

7. R. Monheim, "Policy issues...", in R.Tolley (ed), "The Greening..." P. 138.

8. Carried out by the Munich Social data Institute, and published by the Federal Transport Ministry in 1981.

9. R.Monheim, *ibid*, 134-5.

10. ~~Published by Staedtbauliche Forschung, 03,066 Bonn 1978.~~

11. "Das Fahrrad kann in seinem spezifischen Einsatzbereich (Nahverkehr Entfernungsbereich bis zehn kilometer) als oekologisch und oekonomisch sinnvollstes verkehrsmittel angesehen werden", "Fahrrad und Umwelt: Programme zur Umweltentlastung durch foerderung das Fahrradverkehrs", Umweltbrief 26, 1983, Bonn.

12. Umweltbundesamt 1987, "Wegweiser zur Fahrradfreundlichen stadt: erkenntnisse und erfahrungen...", Reihe BETRIFFT, Environment Ministry, Berlin.

13. "Verkehrsberuhigung: ein Beitrag zur Stadterneuerung", Schriftenreihe "Staedtbauliche Forschung", 03,071, Bonn.
14. "Es ist mittlerweile anerkannt, dass es Planungsgeschichtlich betrachtet weder im staedtbau noch in der verkehrsplanung nach Ende des Zweite Weltkriegs eine "stunde null" gab. Auch im Strassenbau wurden im Wiederaufbau planungen eingesetzt, die vor 1945 konzipiert worden waren". B. Horn, "Vom Niedergang..." p.89.
15. "Doch ist es... erschreckend wie er selbst in der detail;s seiner vorschlaege zur Radweggefuehrung...die Beduerfnisse der Autofahrer an die oberste stelle setzt." Horn, "Vom Niedergang..." P.129.
16. "Es geht nicht mehr um Planung fuer den Radverkehr im Staedtbaulichen und Verkehrspolitischen zusammenhang, sondern um die Verkehrstechnische gestaltung fuer notwendig erachteter Verkehrsanlagen eines Stoerfaktors, zur sicherung des Verkehrsflusses im Autoverkehr..., am besten waere es, wenn er gar nicht existierte". Horn, "Vom Niedergang...", P.149
17. T.Bracher, "Konzepte fuer den Radverkehr", 1987, Bielefelder Verlagsanstalt, Bielefeld., p. 32.
18. U. Otto, "The pedestrian town as an environmentally tolerable alternative to motorised travel", in R. Tolley, "The greening..." p.100.
19. APO or Extra Parliamentary Opposition, formed in response to material legitimacy and the incorporation of the main political parties in the Grand coalition of 1966-69.
20. T. Bracher, "Konzepte..." P. 61

Chapter 5

CONCLUSION.

In the previous chapters we have seen how the fortunes of cycling have unfolded in Britain, Denmark and Germany since the war. Attention has been focused on cycling's decline and rebirth as a form of everyday transport. The stories of each of the countries cycling history share many common features. These include a roughly simultaneous chronology and a reduction in the importance of cycling in 1995 when compared with the late 1940s. Major reasons lying behind this were increasing wealth and motorisation working together with more dispersed land use to establish and reinforce greater distances between home, work and services. These trends are well known and documented. However they do not explain reason why cycling is more popular today in some countries than in others, especially given the popularity of cycling in all countries in the late 1940s.

Cycling's share of transport today differs tremendously between countries. Around one percent of all transport kilometres are accounted for by cycling in Britain. In Germany this figure is three percent. In Denmark it is eight percent. Cycling may have been more popular on the Continent than in Britain in the 1940s, but the difference in the figures today can hardly be explained by relatively insignificant differences fifty years ago. It is therefore legitimate to ask why there are such wide divergence's in cycling use today, and why these differences have come about over the last twenty years. This dissertation contends that answers are to be found in four main areas. Firstly within Government policy. Secondly by social factors. Thirdly in the overall importance of the industrial complex. Fourthly in importance and effect of national cycling groups.

Government policy, both locally, and more importantly centrally has been the central shaping agent of transport use in all three countries since the war. The most important of the many inputs that government has had on transport has been in shaping of land use patterns, both directly by legislation, and indirectly by providing an enabling environment. Although there is a fiction that planning is scientific, technical, and free of politics, planning is in fact politically loaded. Government's policies towards land use reflect their political agendas. Government's role in promoting greater wealth, and the perception of greater wealth has involved land use choices based on motorisation and a consequential increase of commuting distance.

For the first thirty years of the Post-War period governments in all three countries followed policies based on growth and modernism. Dislocation and destruction in the war years made this the only real option to satisfy electorates fed on the virtues of economic progress. Political legitimacy and security were based on increasing production and trade to cement identity and destiny together in Europe. The requirement of growth as a legitimising factor carried with it implications for land use. The manifestations of modernity and progress came to be seen on the outskirts

of cities, where new industrial areas and comfortable suburban residential developments were located within separate quarters, knitted together with a car based infrastructure.

Governments throughout Europe responded in varying degrees to these new challenges. The three included in this work started looking at new initiatives in the mid 1970s, challenging the presumption that the car would remain supreme. Denmark followed this line most rigorously, investing heavily in public transport and cycling infrastructure. The success of this strategy is shown by static levels of car ownership in the period 1975-1995. Germany also pursued this line earnestly, especially during the 1980s when pollution concerns became uppermost. In stark contrast, Britain opted increasingly for motorisation. From 1979 government implemented policies which radically strengthened the domination of the car axis on planning and land use, of which the most important would include softer planning controls. These were barely tempered by patchy, localised and often ineffectual attempts to promote cycling by inexpensive profile raising.

Government policy before the start of the period was important. In the 1930s all three countries had begun to build qualitatively good cycle-paths alongside new national trunk roads as a consequence of government reacting to notions of modernity. This work was most advanced in Denmark, where local provision knitting together areas by cycle path augmented the work. In Germany national provision was enhanced locally only in a few towns, with many areas remaining resistant to the cycle and its facilities. In Britain the work was least advanced, with limited facilities in some of the new suburbs. There was thus an important differential in inherited provision in 1945.

Infrastructure existing in 1945 and Governments policies towards transport directly and through planning after 1945 combined to give significant national differences in cycle provision. Preconditions for harnessing renewed interest in cycle transport were very different in each of the countries covered by this study. Importance in cycling infrastructure cannot be too highly emphasised, as properly developed it helps satisfy cyclists criteria of safety, convenience and directness. This seems to be confirmed by the great differences in cycle usage during the great cycling revival of the last twenty years. In Britain cycling has at best stabilised its one percent share of the modal split. In Germany significant gains have been made, especially regionally. In Denmark, where inherited provision and government action has been highest cycling has regained popularity locally and nationally.

Social factors have also played a role. Traditions of cycle use have been self-reinforcing. We can confirm this by noting the examples of countries which have always valued cycling, such as Denmark, or looking at cities where high cycle use through the years has reproduced itself in successive generations, such as Cambridge in England and Muenster in Germany. Conversely, countries such as Britain, and cities such as London and Berlin exemplify the existence of anti-cycling forces within populations, where cycling by adults is seen at best as an act of poverty or lunacy, and at worst as subversive. Changing a culture of cycle hostility

seems inordinately difficult. This is typified by the lack of any enduring success in the high profile attempts on the part of the GLC in 1981-86 to increase cycle usage.

The influence of the ideas of counter-culture played a role. Attitudes have evolved and changed in compact with social change since the late 1960s. In part the enduring shift in attitudes was influenced by growing affluence and leisure time which allowed people the economic freedom to be able to question assumptions which had previously been taken as given. For reasons including political culture based on the adherence to politics of consensus forced by proportional representation the articulation of these ideas and the impact they have had has been proportionally higher on the Continent than in Britain. These ideas have helped to counterbalance the motorising influence of the industrial complex and government in tandem.

Changes within societies as a whole have probably also been important in explaining people's transport choices. Many of these have already been referred to in this text, and are in any case common to all three countries. Possibly a major factor influencing transport mode in the last twenty years is the change in the way people live. More people now live alone, a trend which is most pronounced in urban areas¹, and studies have shown that one person households have a low ratio of car ownership. In a German context 68 per cent of one-person households did not own a car in 1985. The corresponding figure amongst multiple-person households was 32 per cent². Expense and necessity are probably both working together here. Thus a consequence of the fragmentation of households may be a greater reliance on public and human powered transport. This development is most pronounced in urban areas, and possibly least hindered in countries least discriminatory towards non-family households, such as Denmark. This apparent link deserves more work.

There have been sharp differences in the importance and influences of industrial complexes both over time, and between the countries. Industrial complexes have been important engines of motorisation and have often managed to transmit their interests onto national agendas. This influence may be waning, with industry less important today in employment terms than it was in the 1950s and 1960s in all three countries. This may also be true of their reliance on transport through the automotive and allied industries, but it still remains weighty. Most dominant has been the industrial complex and lobby in Germany which has derived much export wealth from cars, and also bears the highest degree of motorisation. Its prominence has also been high in Britain, and regarded with very little criticism. The automotive complex has had least significance in Denmark, with no domestic car production.

Denmark's lack of an industrial-automotive lobby may well help to explain the ease with which a bicycle and public transport friendly policy has developed there. It cannot explain differences between Germany and Britain. The industrial lobby is more powerful and important in Germany than in Britain, and more successful too with much higher levels of motorisation. Yet cycling is three times less significant

in Britain as compared to Germany, in spite of lower motorisation. Opposing suggestions come to mind here. Either the industrial lobby has been more successful at influencing policy and traffic outcomes in Britain than elsewhere, which sounds plausible given a lesser degree of social moderation. Alternatively the industrial-automotive complex could be a less significant and successful determinant of transport choice than may be supposed. Subscribing to this view would require a gigantic leap of faith given the resources at its disposal.

National cycling organisations have at times been extremely effective at influencing the course of cycling history through promoting the views of their memberships. In Britain, the CTC has been the pre-eminent consumer group partner of government in formulating policies directed at cycling both at the national and local levels. The CTC's social origins in its first seventy-five years skewed its agenda towards cycling as recreation and away from cycling as daily transport. This explains the CTC's resistance to segregation. In the early part of the period when cycle paths were being seriously considered by government and planners alike, the CTC's opposition to segregation could have been important. The CTC remains suspicious of segregation to date.

Opposition to cycle paths by user groups was insignificant on the continent during the early years. In Denmark high standards of paths and the introduction of compulsion in the 1930s meant that later developments were welcomed by the DCF as important additions. The DCF remains favourably disposed towards cycle paths. In Germany however, the absence of effective user groups before the late 1970s meant that resistance to the compulsory use of paths on a national scale was absent. This was in spite of the fact that provision was often unsatisfactory. Today the ADFC and the "Grüne Radler" are both opposed to cycle path compulsion. The substantial difference between Britain, Germany and Denmark within this field was the ability of the CTC to mount effective opposition towards segregation when it mattered. In Denmark it was a non-issue, and in Germany there was no national organisation to articulate opposition.

In retrospect it seems that opposition to segregation and compulsory separate provision of cycle paths in the 1940s and 1950s represented a watershed between different levels of popularity of cycling later in the period. Segregation was to occur anyway. Instead of grasping a formal reserved portion of road-rights by separate cycle paths when they were on offer, rights of use were slowly whittled away informally under the weight of the onslaught from car-traffic and the reordering of the roadscape. When the onslaught caught its breath during the brief respite of the 1970s it was too late, and transport had become synonymous with the car. Thus later attempts to graft cycling facilities onto the roads had to occur on the cars premises.

In 1995 it can be ascertained that fully-fledged segregation, as exists in Denmark is accompanied by the highest levels of cycling for transport found in this work. Germany, with patchy yet still significant segregation sits in the middle. Britain, which resisted segregation most successfully and vehemently, exhibits extremely low levels of cycle usage.

It is necessary to examine two further factors which have been ascribed influence as explanatory factors in explaining the role of cycling. These are topography and the relative size of urban areas.

It is certainly true that there are differences in the topographies of the three countries which may influence cycling's popularity. However, these differences are generally overestimated, especially with relation to Britain's poor showing. Whilst hilly terrain represents one of the trinity of cyclists' pet "hates", it should be pointed out that much of Britain's population is concentrated in the topographically relatively undramatic south-eastern quarter of the country. Further, most urban areas are for historic reasons located in river valleys and on low terrain. For the average inner-urban commute hills can be overemphasised. At the same time it should be pointed out that most of lowland Britain's terrain is similar to that of North-Central Germany, which exhibits much higher rates of cycle use.

Of the other two cyclists' "hates", rain and wind, it is useful to mention that rainfall in all three countries is roughly equal. Wind, on the other hand, is a marked feature of cycling in flat lands like Denmark.

That there is an inverse proportionality between size of urban area and cycle use seems to be a matter of fact. Smaller free-standing towns seem to exhibit the highest levels of cycle use, where access to most functions is by virtue of distance easy. Larger towns seem to present disadvantages for cyclists based on distance. However it is important not to forget that the availability of services in larger towns tend to be aided by the fragmentation of the city into free-standing neighbourhoods. In any case there is such a large spectrum of cycle use between similar sized towns to render this a subsidiary factor.

In spite of commonalties there are major divergences in cycling transport between Germany and Denmark on the one hand, and Britain on the other. These occurred firstly in the immediate post-war period, and secondly in the 1970s. Whilst Germany and Denmark continued to plan and build cycle facilities until the late 1950s, separate provision in Britain was isolated and marginalised. In the 1970s a cycling renaissance occurred. In Britain this created renewed interest in cycling which was channelled into leisure cycling, but not enduringly into cycling as transport. In Denmark and Germany cycling as transport increased markedly, and did leisure cycling. In Denmark especially already good cycling infrastructure was upgraded and expanded to provide integrated networks. In Britain provision remained patchy and inadequate, unable to sustain the confidence of would-be cyclists enough to alter the modal split. Cycle-paths and cycling's popularity seem to go hand in hand.

¹ See Statistisches Bundesamt, *Statistisches Jahrbuch 1994 fuer die Bundesrepublik Deutschland*, 1994, Metzler Poeschel, p71. Household size in Germany fell from 2.99 in 1950 to 2.26 in 1993. See

also Danmarks Statistik, Statistisk Aarbog 1995, 1995, DS., p74. Average size of one person households rising from 16 per cent in 1960 to 34.8 per cent in 1993.

² Monheim, R, Policy Issues... in Tolley, R. The Greening p137.

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