

cycling: the way ahead for towns and cities



EUROPEAN
COMMISSION

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cycling: the way ahead for towns and cities



EUROPEAN COMMISSION

DG XI — Environment, Nuclear Safety
and Civil Protection



Foreword

Every day European cities demonstrate that a reduction in the use of private cars is not just desirable but feasible. Amsterdam, Barcelona, Bremen, Copenhagen, Edinburgh, Ferrara, Graz and Strasbourg apply incentives that favour public transport, car-sharing and bicycles, along with restrictive measures on the use of private cars in their town centres. These cities do not harm their economic growth or access to their shopping centres. In fact, they promote them because they understand that unbridled use of cars for individual journeys is no longer compatible with easy mobility for the majority of citizens.

Their approach is fully in line with the European Union's international commitments regarding the reduction of greenhouse gas emissions and European legislation on air quality. This provides that local plans to manage and improve urban air quality have to be implemented and citizens have to be informed in the event of significant pollution. This has been the case for several years for ozone. The way in which cities (and subsequently major companies) organise their transport systems will therefore be a central concern in the years ahead, especially as each year the Commission will publish a list of the areas where air does not meet an acceptable level of quality.

It is in this context that I have decided to take the unusual step of approaching you directly as elected decision-makers for towns and cities of the European Union. The handbook *Cycling: the way ahead for towns and cities* stems from the idea that the worst enemies of the bicycle in urban areas are not cars, but longheld prejudices. The handbook therefore corrects

some of the prejudices connected with the use of the bicycle as a regular mode of transport in the urban environment. It also suggests some simple, inexpensive and popular measures, which could be implemented immediately. Certainly, the task is ambitious, but the essential thing is to take the first step because, while use of the bicycle is a choice for the individual, it is essential to launch the process by which your city builds on the initiatives and habits of some of your fellow citizens for a healthier urban environment.

The European Commission, as an employer itself, is continuing its efforts to reduce the impact of its activities on the urban environment of Brussels. In 1998, the cycling associations of Brussels singled out the Commission as the institution in Brussels which has done most to encourage its employees to use bicycles.

I hope you enjoy this handbook, and that it will encourage you to implement without delay its principal recommendations, if that is still necessary in your city.

Ritt BJERREGAARD
European Commissioner with
responsibility for the environment



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It is very likely that the potential for stepping up cycling in your town is much greater than the predictions which you could make based on the current situation. While daily cycling may not yet have become one of the habits of your fellow citizens, it is nevertheless a mode of transport which promises to play a significant role in mobility management. Why is it that towns in a situation quite comparable with yours have nevertheless taken up this challenge? Does the bicycle have a role to play among your objectives for improving the quality of life in your town and the appeal of public transport?

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NEW ATTITUDES

2 Cycling, freedom, good health and a good mood are concepts which go well together. Everywhere the bicycle evokes the same images of freedom and high spirits and is welcomed in all the countries of the European Union. Is there really a change of attitude in favour of mobility policies which respect the urban environment?

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At a given moment in history, cycling was the mode of transport par excellence in a large part of all our countries. Wherever there was a road or path, the bicycle was king, from the north to the south of Europe. What about nowadays? Do people cycle anywhere other than in the Netherlands and Denmark? Do people only cycle in countries where the climate is mild and dry most of the time, far from the northern winds? Which are the towns where cycling is part of the new approach to mobility?

4 SAFETY: A RESPONSIBILITY

The risks of an accident are the only theoretical drawback to cycling. But what is the true situation? It has now been proved that, for certain age groups, cars represent a much more significant overall risk than cycling. What about the positive effects of cycling on health and the quality of life, which far outweigh the years of life lost in accidents. However that may be, any policy to promote cycling must minimise the risks to cyclists. By what means? Are cycle paths always a byword for safety? Experience in many towns and scientific research have shown that cyclists' safety can also be guaranteed on the roadway. How?

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When town centres have been remodelled for pedestrians, cyclists often find their place in them quite naturally. Wherever cars are no longer taking up all the space, bicycles pop up. But if decisions have to be taken between making room for car traffic and for cyclists, the choices made are sometimes draconian. How is one to choose between the demand for cycling facilities on the one hand and the 'requirements' of car traffic on the other? What limitations can we allow to be imposed on one mode of transport in order to give the other its chance?

WHAT NEEDS TO BE KNOWN

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The number of potential cyclists is high because almost everyone enjoys cycling when a minimum of favourable conditions are met. Since it is no longer a habit to think of cycling, people must be reminded that cycling can be an efficient and pleasant way of getting around on a daily basis. Pointers must be given for people to think about cycling. What is the relationship between cycling for pleasure and daily cycling? Apart from these two major components, what other elements constitute a pro-cycling policy? What would a policy favouring cycling cost? What needs to be known to take the first (right) steps.

7

TO HELP YOU

If a pro-cycling policy interests you, you are not alone. Networks of towns for cyclists exist in several countries. Almost every year, a congress or conference brings together people with experience or knowledge which could be of assistance to you. Closer to home, cyclists are ready to help you for their town to move with them. Where are the resources to be channelled and what is the best way of making use of synergies?

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If only one thing were needed to start, or to progress more rapidly, what would it be? The cycling officer or cycling coordinator. 'Mr' or 'Mrs Bicycle' should occupy this post full-time. What tasks should he or she be given? What kind of structure does he or she require? What budget? What are the first strings that need to be pulled?

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Introduction



NEW RESPONSIBILITIES

IN THE AREA OF THE URBAN ENVIRONMENT

As an elected representative, you are responsible for providing the inhabitants of your town with a healthy environment. You must also facilitate travelling to and from work to guarantee the right conditions for companies, services and businesses to develop. You must also provide good conditions for the mobility of all residents to ensure ready access to shops, schools, public services, community facilities and jobs.

Some motorists call for a 'right to mobility' which they often confuse with a 'right to use their car no matter what the conditions'. The image of the car that they wish to project is that of a 'perfect and irreplaceable' mode of transport.

In practice, however, a car does not fulfil all our needs. A fairly large number of urban households do not have a car and, even if they do, a significant number of members of the household may not have access to it, may not hold a driving licence or not be able to drive (such as children or adolescents).

When viewed from the collective standpoint, the problems engendered by the thoughtless use of private cars are very serious. Cars are partly responsible for the misuse of urban space, consume enormous resources and are a burden on the environment. Pollution constitutes not only a threat to our historic heritage but is also and above all a health

hazard through both atmospheric pollution and noise. The cost in human and economic terms of road accidents is going down but still remains exorbitant and is not readily acknowledged. The economic cost of traffic jams has now reached critical proportions.

In 1989, the Chairman/Managing Director of Volvo drew the right conclusion when he said that private cars were not a suitable mode of transport in town.

The car is the victim of its own success

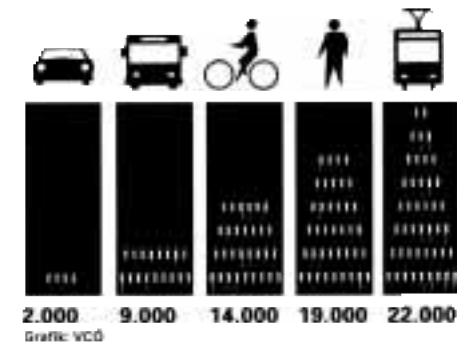
The intrinsic feature of towns is that they offer an unparalleled range of choices and possibilities through the accessibility only they can guarantee to a multiplicity of cultural, commercial, educational, service, social and political infrastructures and facilities. But such accessibility must be the best possible for all people, in a way which respects the common interest.

It was thought that the car would fulfil this requirement of accessibility both for the residents of towns and for the inhabitants of non-urban areas. But it has turned out that the car's success has had a boomerang effect. Millions of hours have now been wasted in traffic jams. The mobility that we associate with the private car has merged with

'THE MOBILITY THAT WE ASSOCIATE WITH THE PRIVATE CAR HAS MERGED WITH APOCALYPTIC IMAGES OF TOWNS THAT HAVE COME TO A COMPLETE STANDSTILL.'

Number of people crossing a 3.5 m-wide space in an urban environment during a 1-hour period

Private cars are by far less efficient than the other modes of transport in town, without taking into account the space they take up for parking.



Source: Botma & Papendrecht, Traffic operation of bicycle traffic, TU-Delft, 1991.



**'83 % OF EUROPEANS AGREE
THAT PUBLIC TRANSPORT
SHOULD RECEIVE
PREFERENTIAL TREATMENT
OVER PRIVATE CARS.'**

apocalyptic images of towns that have come to a complete standstill.

A reduction in car use has become necessary if mobility in cars is to be maintained. This is also a condition for maintaining accessibility to the major centres of interest and activity in our towns. The majority of people in all European countries recognise this fact. Already in 1991, a representative sample survey conducted by the IUPT (International Union of Public Transport) and carried out among 1 000 citizens in each member country of the European Union indicated that 83 % of Europeans on average agreed that public transport should receive preferential treatment over private cars. When similar surveys are carried out locally, as was recently the case in France, they confirm these findings.

**'30 % OF TRIPS IN THE CAR
COVER DISTANCES OF LESS
THAN 3 KM.'**

Towns and bicycles

Public transport is not the only alternative to the car.

In the United Kingdom, the Automobile Association is wholly in favour of persuading its members to step up their use of bicycles and has published a study on motorists who also cycle, entitled 'Cycling motorists'.

By combining measures to promote cycling and public transport, towns can succeed in lowering the car use rate. While the rate of car ownership remains roughly the same, the rate of private car use becomes lower than that of other towns.

Thus motorists can be persuaded to cycle regularly – while still keeping the family car – while people who used to be transported by car become autonomous by riding a bicycle.

This has been borne out by an operation called Bikebusters in Arhus (Denmark). Even in a country where alternatives to the car are already well developed, there is still the potential to change the habits of motorists in favour of modes of transport which are more respectful of the environment.

A recent study on trips of short distances, financed by the European Union, highlights the very high proportion of



journeys made in cars nowadays which could perfectly well be made using another mode of transport without any significant difference in the journey time door to door (Walcyng, Research project under the Fourth Framework Programme of the EU, DG VII, 1997).

Technical improvements have made modern bicycles efficient and convenient to use. There is no pollution from bicycles, they are silent, economical, discreet, accessible to all members of the family and, above all, a bike is faster than a car over short urban distances (5 km and even more in the case of traffic jams). More than 30 % of trips made in cars in Europe cover distances of less than 3 km and 50 % are less than 5 km! For such journeys alone, bicycles could easily replace cars, thus satisfying a large proportion of the demand and contributing directly to cutting down traffic jams. We cannot afford to ignore the potential of cycling, whether for daily trips to school or to the workplace (which account for 40 % of all journeys made) or for other reasons (60 % of journeys made are to do with shopping, services, leisure pursuits, social activities, etc.)

Even if the bicycle is not the only solution to traffic and environmental problems in towns, it represents a solution which fits perfectly into any general policy which seeks to re-enhance the urban environment and improve the



**'73 % OF EUROPEANS
THINK THAT BICYCLES SHOULD
BENEFIT FROM PREFERENTIAL
TREATMENT COMPARED
WITH CARS.'**



quality of a town and it mobilises comparatively few financial resources.

Europeans want something else

A totally unknown fact emerges from the abovementioned survey, namely that 73 % of Europeans believe that bicycles should benefit from preferential treatment compared with cars. Bicycles are therefore viewed as favourably as other private transport methods.

Once again local surveys corroborate these results. Better still, local surveys also prove that voters and their elected representatives, while they share the same opinion on the need to change their transport policy on mobility are not aware that there is such unanimity of viewpoint. The elected representatives believe that they will come up against massive opposition if they vigorously promote a mobility policy and voters believe that their representatives do not want to follow public opinion in favour of different mobility policy.

Why is this? Pressure groups in favour of cars, who nevertheless represent a minority, are well-organised and highly active. Towns which ignore their protests in fact quickly gain support from their population, including from their former opponents. The 'cars are only tolerated' policy

in the town of Fribourg (Germany) is now supported by shopkeepers who had previously been opposed to the centre being pedestrianised.

It must not of course be thought that 73 % of Europeans are ready to become cyclists on a daily basis. But we have evidence that choosing the bicycle as an alternative to the car can be influenced by a series of specific measures and that cycling can thus contribute to an overall mobility policy.

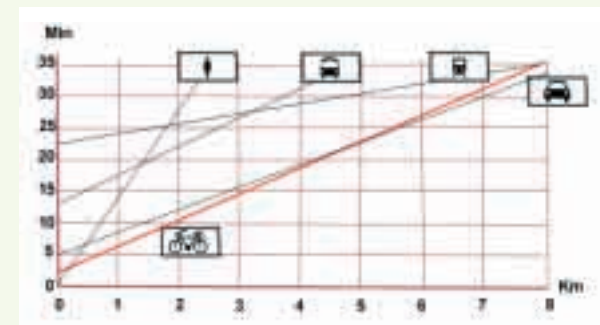
How would bicycles fare in your town?

Recent studies have shown that choosing a mode of transport such as cycling depends as much on subjective factors — image, social acceptability, feeling of insecurity, recognition of the bicycle as a means of transport for adults, etc. — as on objective factors such as speed, topographical features, climate, safety and practical aspects.

Among the objective factors which are a disincentive to cycling, only a large number of steep gradients (more than 6 to 8 % over several dozens of metres), strong winds, heavy rain or intense heat are in fact highly dissuasive. Objective conditions which are favourable to cycling are in fact met much more often than is usually imagined. Even in extreme cases, favourable conditions are encountered during certain seasons (in countries where it snows in the

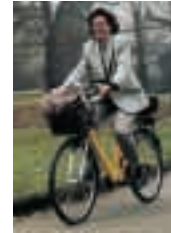
Comparative table of journey speeds in the urban environment

In town, cycling is often as fast a way of travelling as the car (time reckoned from door to door).



winter, for example, cycling is above all practised during the summer months).

Concerted action directed at the various factors which account for the low rate of bicycle use in your town could change the demand in a highly significant way: the relatively low cycling rate of 5 to 10 % is without doubt within the reach of most European towns. When geographical and climatic conditions are favourable, and if a total mobility policy is applied, a bicycle use rate of 20 to 25 % is quite



'BETWEEN 1990 AND 1997, CO₂ EMISSIONS (GREENHOUSE GASES) FELL IN ALL SECTORS WITH THE EXCEPTION OF TRANSPORT.'

'82 % OF EUROPEANS SAY THAT ENVIRONMENTAL QUESTIONS ARE A PRIORITY ISSUE.'

possible in towns with between 50 000 and 500 000 inhabitants. The most successful towns reach bicycle use rates in excess of 30 % (such as Groningen, Delft and Munster). Some towns already exceed these figures.

A Commission initiative

In a new Eurobarometer survey in 1995, 82 % of Europeans stated that environmental questions were a priority issue of an urgent nature and 72 % felt that economic development and environmental protection had to go hand in hand.

With regard to climate changes, the 'Summary of the five first years of Action 21 in the European Community' concluded that it will be necessary to double our efforts, given the increase in economic activity worldwide, the growth of pollution resulting from transport and the limited effects of energy-saving and energy consumption reduction programmes. Between 1990 and 1999, CO₂ emissions fell in all sectors with the exception of transport, where they increased by 15 % (mainly attributable to private cars). Car use is going up everywhere, except in towns which have mastered the problem of mobility.

The European Union is focusing on the labelling of private cars as regards the CO₂ they produce and a fiscal policy

which will favour a greater decrease of CO₂ in the future. Agreements have been reached between the European Union and motor manufacturers to reduce the number of vehicles sold in Europe. But even in the best scenarios, this would be equivalent to only 15 % of the CO₂ reduction agreed upon by the EU in the Kyoto Protocol, without taking account of the fact that traffic in urban areas and bottlenecks contribute to an increase in fuel consumption. Average consumption can be almost doubled in the urban environment. It is thus imperative to endeavour to reduce car use in all cases where equally efficient alternatives are a realistic proposition.

Where ambient air quality and health are concerned, the European Union has already adopted directives on the emissions of various pollutants, notably as a result of the Auto-Oil Research Programme carried out in cooperation with motor manufacturers and the oil industry.

The Union has also adopted a framework Directive (96/62/EC, OJ L 296, 21.11.1996) which obliges towns with more than 250 000 inhabitants (or any other area where pollution problems have been recorded) to inform the population about the ambient air quality and to adopt improvement plans concerning 13 pollutants. Towns are also empowered to take steps to suspend traffic should the authorised peaks be exceeded. Related directives which



Air quality measurement

An EU directive explicitly authorises towns to take steps to suspend traffic should authorised peaks be exceeded

specify admissible pollution rates are being adopted. An example is the proposal for a subsidiary directive concerning benzene which would limit the concentration of this pollutant to $5\mu\text{g}/\text{m}^3$ in the short term.

In this way, locally elected representatives are held directly responsible and the framework Directive invites the European Commission to publish regularly reports on the state of air pollution in towns.

A brochure entitled 'The framework Directive on ambient air quality – clean air for European towns' sets out the contents and the spirit behind this important Directive (ISBN 92-828-1600-1).

These measures were soon followed by commitments made at the United Nations. In November 1997, 35 countries attending the Regional Conference of the United Nations Economic Commission for Europe (UN-ECE) signed a Declaration on Transport and the Environment and an action programme in which cycling is cited as an alternative for short journeys. The regional office for Europe of the World Health Organisation is preparing a Charter on transport, the environment and health which will set quantitative objectives for transport and strategies for achieving those objectives.

A strengthening of the regulations on noise is also heralded. Car traffic is the major source of noise in town. Noise impairs both mental and physical health on account of the disturbance it causes to sleep.

In such a context, the adoption of measures which would promote a return to the bicycle as a mode of urban transport is becoming indispensable.

In France, the authors of the law adopted in 1996 were quite right: by affirming the right to quality air they have imposed the promotion of cycling as one component of the urban mobility plans.

Since 1 January 1998, any renovation or construction of urban thoroughfares must include provision for cyclists. In addition, all conglomerations in France with more than 100 000 inhabitants had to adopt an urban mobility plan (PDU), the purpose of which is to reduce pollution-producing town traffic by 1 January 1999. Monitoring of air quality and its impact on health will be carried out in the whole of France as from 1 January 2000. The first beneficiaries of this measure will be motorists themselves: the level of pollution inside a car is invariably higher than that of the ambient air (a motorist breathes in approximately twice as much CO as a cyclist, and approximately 50 % more nitrogen oxides).

'THE LEVEL OF POLLUTION INSIDE A CAR IS INVARIABLY HIGHER THAN THE AMBIENT AIR POLLUTION LEVEL.'

'NOISE IMPAIRS MENTAL AND PHYSICAL HEALTH.'



1

WHY

THE BICYCLE?

It is very likely that the potential for stepping up cycling in your town is much greater than the predictions which you could make based on the current situation. While daily cycling may not yet become one of the habits of your fellow citizens, it is nevertheless a mode of transport which promises to play a significant role in mobility management. Why is it that towns in a situation quite comparable with yours have nevertheless taken up this challenge? Does the bicycle have a role to play among your objectives for improving the quality of life in town and the appeal of public transport?

What are the benefits for the community?

The list of presumed or proven advantages to be gained from cycling has never been established exhaustively. They are of various kinds, including:

- economic benefits (such as a drop in the share of the household budget devoted to the car, reduction of working hours lost in traffic jams, reduction of health costs thanks to the effects of regular exercise);
- political advantages (such as a reduction in dependence on energy, saving non-renewable resources);
- social advances (such as the democratisation of mobility, greater autonomy and accessibility of all facilities to both young and elderly people);
- ecological impacts (with a distinction between local, short-term effects – notion of the environment – and non-localised long-term effects – notion of ecological balance).

The difficulty resides in quantifying the advantages for the community of cycling (in particular the economic and ecological benefits). The pertinent factors are both numerous and complex. For some of them, there is no reliable model for calculating the savings engendered by cycling.

Giving towns a chance. Cars (electric or not) and bicycles: with public transport, all partners in tomorrow's mobility.





Every trip taken with a bicycle rather than with a car generates considerable savings and advantages both for the individual and for the urban community, such as:

- ➔ total lack of impact on the quality of life in the town (neither noise nor pollution);
- ➔ preservation of monuments and planted areas;
- ➔ less space taken up on the ground, both for moving and for parking, and hence a more profitable use of the surface area;
- ➔ less deterioration to the road network and a reduction in the need for new road infrastructures;
- ➔ improvement to the attractiveness of town centres (shops, culture, recreational activities, social life);
- ➔ fewer traffic jams and the economic losses which they entail;
- ➔ increased fluidity of car circulation;
- ➔ increased appeal of public transport;
- ➔ greater accessibility to typically urban services for the entire population (including adolescents and young adults);
- ➔ parents freed from the chore of transporting their children gain time and money;
- ➔ cyclists gain considerable time over short and medium distances;
- ➔ possible disappearance of the need for a second car for a household (and hence an increase in the household budget available);
- ➔ etc.

Benefits for municipalities

As far as towns are concerned, the advantages of the bicycle for the community are mainly linked to the quality of life, the quality of the environment and to long-term savings made through the following:

- a direct reduction in traffic hold-ups through the falling number of cars in circulation (through commuter motorists choosing the bicycle as a mode of transport to go to work); an indirect reduction in traffic hold-ups through the increased appeal of public transport for commuters thanks to a combination of public transport and bicycle (and hence making investments in public transport profitable);
- better fluidity of traffic, which is indispensable, with a lower pollution level;
- space savings (on the road and in parking areas) and hence a reduction in investments in roadways and the possibility of making a different use of public space in order to increase the attractiveness of town centres (for accommodation and commerce, culture and leisure); reduction in investments and costs for companies (parking) and the public authorities (car parks, maintenance, new infrastructures, etc.);
- a general improvement to the quality of life in towns (air pollution, sound pollution, public places, children's safety), while accommodation, particularly for families, becomes more attractive;

- less severe deterioration of historical monuments and reduced maintenance costs (less frequent cleaning, for example).

Even if we stick strictly to the environmental viewpoint (pollution), without it being necessary to enter into details or to calculate the economic impact of the respective advantages and drawbacks of the various modes of transport, it is reasonable to accord cycling the attention and the funding which it deserves (see table 1.1). Any notion of compromising between the advantages and drawbacks of the various modes of transport can only proceed in this way.

An example of positive effects

In Graz (Austria) they calculated what the effects of a reduction in car traffic would be following a change in the modes of transport used for journeys (see table 1.2).

The table shows the positive impact which reducing the use of private cars by a third would have on various parameters. A reduction in the number of vehicles on the road cuts down on traffic jams, and a lowering of the speed limit (more fluid traffic) results in a highly significant reduction of atmospheric pollution.

It is very difficult to quantify the 'benefits' obtained but they could include such elements as less respiratory illness, fewer economic losses due to days off work for sickness, less expenditure on healthcare, less deterioration to



planted areas and buildings, increased attractiveness of the town centre because of improved urban life quality, reduction of energy used, and so on.

The very thorough and systematic policy was gradually introduced over a period lasting a few years in Graz. Apart from the fact that the various elements of the Graz mobility policy were progressively introduced to take account of the adaptation time needed for a gradual change in attitudes, these results do not reflect what the study would have given us cause to believe on account of 'peripheral' factors, such as the fact that the price of fuel dropped in real terms between 1984 and the present, and that Graz was acting as a pioneer with this policy.

In 1996 cycling had more than doubled compared with the lull experienced in the 1970s, when it had fallen to 7 %.

An economic impact assessment

Some of the favourable effects of cycling were evaluated in Groningen (Netherlands, 199 000 inhabitants; Source: Bicycles and environment in the city – a quantification of some environmental effects of a bicycle-oriented traffic policy in Groningen, in Radverkehrspolitik und Radverkehrsanlagen in Europa, ECF/DG VII, 1988) (see table 1.3).

For trips to and from home and work in the years 1987-88 in Groningen, the modes of transport used were broken down as follows: 50 % of trips were made by bicycle and 22 % by car. Taking the argument to an absurd extreme, the author

Table 1.1

Comparison of various transport modes from the ecological viewpoint with a private car for an identical journey with the same number of people/km.

Base = 100 (private car without catalytic converter)

Space consumption	100	100	10	8	1	6
Primary energy consumption	100	100	30	0	405	34
CO ₂	100	100	29	0	420	30
Nitrogen oxides	100	15	9	0	290	4
Hydrocarbons	100	15	8	0	140	2
CO	100	15	2	0	93	1
Total atmospheric pollution	100	15	9	0	250	3
Risk of accidents	100	100	9	2	12	3

* = Car plus catalytic converter It should be remembered that the catalytic converter is only effective when the engine has warmed up. For short distances undertaken in towns, there is no real anti-pollution benefit.

Source: UPI Report, Heidelberg, 1989, quoted by the German Ministry for Transport.

Table 1.2

Possible improvement compared with 1984 based on a study on the potential benefits to be derived from switching from private cars to other modes of transport

Estimation of the effects of the pro-bicycle policy in Graz (Austria, 252 000 inhabitants) (*).

Freeing streets of traffic jams	30 %	Reduction in nitrogen dioxide (NO ₂) emissions	56 %
Reduction in pollution from motor vehicles (all types)	25 %	Reduction in petrol consumption (cars only)	25 %
Reduction in carbon monoxide (CO) emissions	36 %	Reduction in the number of people suffering from noise pollution	9 %
Reduction in hydrocarbon emissions (CH, private cars only)	37 %	Reduction of the barrier effect of major highways	42 %

(*) These calculations were made on the basis of a one-third reduction in the number of trips made by car (1984: 44 % of trips).

Table 1.3

Calculation of savings which cycling permits in trips from home to work in Groningen

The author started from the hypothesis that the share of trips made by car from home to work would rise from 22 % to 37 % (imagining that one-third of cyclists would abandon their bicycle in order to take their cars to work). Most of the costs illustrated here would be borne by household budgets which would thus suffer a reduction in part of their available income.

Heading	Cost assessment basis	Annual costs (€)
Atmospheric pollution	Additional costs at cost of catalytic converters	220 000
	Additional costs of lead-free petrol	25 000
Noise	Tax on noise pollution levied on fuel	10 000
Infrastructures	Fees on space needed for parking	3 100 000
Energy consumption	Average consumption	400 000
Traffic jams	Additional consumption due to non-fluid traffic for 5 minutes per car on average	485 000
Immobilisation of resources	Resources required to produce 15 000 additional vehicles, broken down by year	160 000





'14 TO 17 % OF JOURNEYS BY BIKE IS REALISTIC.'

assessed the negative effects which would result from a situation whereby only 5 % of trips from home to work would be made by bicycle (under the assumption that 33 % of cyclists had become motorists, amounting to an overall increase of 10 % in all trips made by car in Groningen over the whole of an average day).

Only certain costs could be calculated:

- increase in noise (cost calculated on the basis of a tax on noise added to the price of each litre of fuel and aimed at subsidising constructive measures to combat noise);
- increase in energy consumption (cost of fuel to cover trips, cost of energy needed to produce some additional 15 000 vehicles, not including the cost of energy wasted in traffic jams);
- cost of partial de-pollution of exhaust gases by using three-way catalytic converters and lead-free petrol;
- cost of storing immobile cars: space needed for parking at home and near to the workplace (approximately 22 hectares in all). The cost of parking was based on the annual rent for a parking space asked for by the municipality, i.e. NLG 480 or EURO 240. The cost of any new road infrastructures or having to resurface the roadway more frequently is not included.

What benefits are there for individuals and for the private sector?

Basically healthy individual choices should not be discouraged

It would be only logical for our public authorities at least to undertake not to discriminate against one mode of transport in relation to another. It would be quite normal for bicycles to be allotted a place alongside cars and public transport in towns. The minimum, therefore, would be to make at least as much effort, comparatively, for bicycles as for the other modes, account being taken of the potential of each mode of transport and the cost of the equipment which it requires. In this way, a mode of transport which, if better taken into account, would have its supporters, would cease to be discouraged.

The 1991 Eurobarometer Survey, already referred to, is echoed in a survey carried out in French towns in 1996 among people who did not own bicycles. The results of this survey are highly encouraging. Among car users (54 % of the sample), only one in three feels that the car is the ideal mode of transport; this means that there is a very high potential willingness to give up the car if the conditions are right.

The General Secretary of the French National Council for the Bicycle Industry believes that an objective of 14 to 17 % of journeys by bike is realistic (given that the percentage of cycling in the modal breakdown of urban journeys is approximately 2 % on average in France).

Surveys of this type are still uncommon. But there are other indicators showing the favourable attitude to bicycles in Europe, such as the number of kilometres cycled every year in the various European countries and bicycle sales and stocks. These tables reveal that the bicycle is not such an outmoded form of transport as it may appear at first sight. These figures also indicate the potential, when European countries are compared with each other, and if one takes account of the large number of bicycles which are perhaps only waiting to be used more regularly.

Secondly, it must not be forgotten that bicycles can be an ally to public transport when attempts are made to minimise the impact of cars in town. Not only must the competitiveness of each of these two modes of transport be increased, but complementarity between cycling and public transport must be stepped up. Above all, this means being able to leave a bicycle safely at public transport stops and being able to take it on board public transport vehicles.



MILEAGE BY BICYCLE IN THE EUROPEAN UNION : 70 BILLION KM/YEAR

	Belgium	Denmark	Germany	Greece	Spain	France	Ireland	Italy	Luxembourg	Netherlands	Austria	Portugal	Finland	Sweden	United Kingdom
1996 Sales	425 000	415 000	4 600 000	240 000	610 000	2 257 000	120 000	1 550 000	20 000	1 358 000	630 000	380 000	230 000	420 000	2 100 000
Bicycle stocks	5 000 000	5 000 000	72 000 000	2 000 000	9 000 000	21 000 000	1 000 000	25 000 000	178 000	16 000 000	3 000 000	2 500 000	3 000 000	4 000 000	17 000 000
Cycles/1 000 inhab.	495	980	900	200	231	367	250	440	430	1010	381	253	596	463	294
Bicycle use according to the 1991 <i>Eurobarometer</i> (only people more than 15 years of age) — Austria, Finland, Sweden : non members in 1991															
Regular cyclists (at least once or twice a week)	28,9%	50,1%	33,2%	7,5%	4,4%	8,1%	17,2%	13,9%	4,1%	65,8%	—	2,6%	—	—	13,6%
Occasional cyclists (1-3 times per month)	7%	8%	10,9%	1,8%	3,9%	6,3%	4%	6,8%	9,7%	7,2%	—	2,8%	—	—	0,8%
Total number of cyclists cycling at least 1-3 times per month	2 947 000	2 489 000	29 585 000	779 000	2 613 000	6 584 000	553 000	9 900 000	44 000	9 031 000	—	430 000	—	—	6 727 000
Bicycle use expressed in km (1995, the entire population, including those aged less than 15)															
km per inhabitant and per year	327	958	300	91	24	87	228	168	40	1019	154	35	282	300	81



Source: Eurobarometer 1991 (UITP); Transport demand of modes not covered by international statistics, 1997, DG VII/UITP/ECF.



*= underground
or train station,
or bus/tram stop

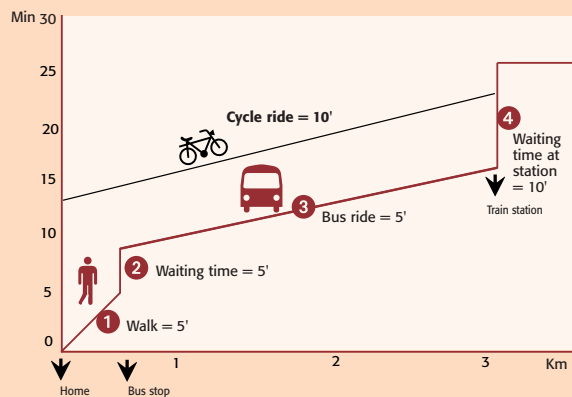
Table 1.4**Public transport catchment area**

Bicycles can contribute to making public transport more appealing by guaranteeing better accessibility. On the basis of an unaltered journey time of 10 minutes, if customers likely to carry out the first part of their trip by bike are taken into account, this increases the catchment area of a public transport busstop 15-fold.

	Average speed	Distance covered in 10 min.	catchment area
	5 km/h	0,8 km	2 km ²
	20 km/h	3,2 km	32 km ²

Appeal of public transport

Having to change bus/tram or train is a distinct disadvantage for public transport passengers (waste of time, discomfort of waiting). Bicycles are an effective answer to this problem. Cyclists may gain a quarter of an hour compared with a bus over the same distance to reach a rapid form of transport (railway station, underground station, etc.).

**Benefits for companies**

It is quite clear that companies suffer as a result of heavy traffic, as their accessibility both for their suppliers and for their visitors is impaired. Traffic jams also cost them very dearly of course for the time lost by their own deliverers and, above all, by their own employees. The Confederation of British Industry has calculated that congestion in the London area costs more than EURO 10 billion per year in production and time lost.

As cyclists are in better form physically and, above all, psychologically, companies whose staff cycle benefit from greater productivity. These are all positive points which any town trying to manage its mobility should try to emphasise by giving cyclists their rightful place.

The international company Ciba Geigy has been persuading its staff to come to work by bike for the past 20 years. The methods used reflect the benefits which the company derives from cycling. In 1989, the company offered a new bicycle to some 400 employees who gave up their right to a parking place in the company's car park. Every year the company organises cycling days with trips, information and bicycle repair workshops. Ciba Geigy is very well aware of what it gets in return: it saves on parking, cuts down traffic jams in the streets around the company, projects a better image with local people and the authorities, offers better mobility to its employees, has



employees in better health and cuts down the number of days lost through illness.

Bicycles and shopping

The equation 'vitality of commercial enterprises = access by car' is very far from being borne out in the facts. The contribution made by customers who arrive by public transport, bicycle and on foot is greatly underestimated, as is the negative impact for our towns and for the urban environment of the building of large supermarkets and thousands of parking places on the periphery.

A study carried out in Munster (Germany) reveals a number of unknown facts. The study concerned three supermarkets or self-service grocery stores (where the range of products available is sufficient for 'a big shopping' to be done once a week or every two weeks) and a department store which also sold other goods (clothes, boutique, luxury articles, etc.).

- Motorists are not better customers than cyclists, pedestrians or the users of public transport. In certain categories, cyclists are even the better customers. Because they buy smaller quantities each time they go, cyclists go to shops more regularly (11 times a month on average, as opposed to seven times a month for motorists) and are thus exposed more often to temptation.



As they buy smaller quantities on each visit, cyclists come more often to shop than motorists and thus expose themselves more often to temptation.

'MOTORISTS ARE NOT BETTER CUSTOMERS THAN CYCLISTS, PEDESTRIANS OR THE USERS OF PUBLIC TRANSPORT.'

Table 1.5

Ciba Geigy and bicycles

	1970	1995
Staff	12 400 (100 %)	10 400 (100 %)
Commuters on bicycles	500 (4 %)	2 755 (26 %)
Cyclists throughout the year	80 (1 %)	1 235 (12 %)
Occupational use of a bicycle	-	1 325 (13 %)
Number of company bicycles	360	1 600
Parking places for bicycles	400	3 500
Of which covered	350 (88 %)	3 350 (96 %)
Cycle tracks within company grounds (km)	-	3

Source: *Le vélo dans l'entreprise, IG Velo, Suisse.*

- Motorists are in the minority (25 to 40 % of customers, depending on whether it is a weekday or a Saturday) in shops in urban areas.
- Hardly 25 % of motorists leave a shop with two or more bags of goods (as opposed to 17 % of cyclists). Therefore, three-quarters of motorists have nothing to transport which would prevent them from using another mode of transport.
- Given the distances involved, the destinations which follow a visit to a shop, and the quantities purchased, the study concluded that a large number of motorists could often in fact do without their car when shopping.

It must again be stressed that the vitality of commercial enterprises is connected to the quality of the environment. In Berlin, more movements within districts were recorded after the general introduction of a 30 km/h speed limit apart from on major routes. The increased mobility sometimes reached 40 % for trips between home and the shops.

Similarly, a survey carried out in Strasbourg indicated that there was a more than 30 % increase of visits to the unchanged shopping area after pedestrianisation and closure to through traffic in the town centre.

A survey carried out among 1 200 consumers in Bern established as an annual average the ratio between the value of purchases made and the parking area used by each customer. The results showed that the ratio of profitability to

parking was highest in the case of cyclists: EURO 7 500 per square metre. Motorists came next with EURO 6 625 per square metre.

This is paradoxical when we consider that cyclists have no boot in which to put their purchases and are thus forced to limit the quantities they buy.





Expectations for the promotion of cycling in town

Cycling can only be stepped up if more people buy bicycles. A majority in the public would be willing to purchase a bicycle if their municipality gave them certain signs of encouragement to use one. Another survey reveals that cyclists themselves — and who are thus already bike users — are waiting for cycling facilities to be introduced (58 % state that they would cycle more often if the facilities were better).

Reasons which encourage people to purchase a bicycle or use it more often

- ➔ Cycling facilities, access facilities/shortcuts/diversions for cyclists **70 %**
- ➔ Restrictions to car traffic **28 %**
- ➔ Supervised bicycle parking areas ... **21 %**
- ➔ Promotion campaigns **11 %**
- ➔ Hire or lease of bicycles **8 %**

NEW

ATTITUDES

Cycling, freedom, good health and a good mood are concepts which go well together. Everywhere the bicycle evokes the same images of freedom and high spirits and is welcomed in all the countries of the European Union. Is there really a change in attitude in favour of mobility policies which respect the urban environment?

Why did cycling decline?

Monitoring of cycling habits in Brussels and the studies carried out in France as part of the urban journey mobility plans required by the legislation on air quality stress the expectations of potential cyclists and accordingly the reasons why not many people cycle nowadays.

The essential reason is the absence (or disappearance) of facilities for cyclists, which prevents any potential demand from expressing itself, but the sheer volume of car traffic, excess speed and the lack of consideration of cyclists by motorists are also similar objections. The fear that bicycles will be stolen is also a deterrent factor.

If action is taken regarding these three factors, it will be possible to encourage people who are thinking about cycling, but who do not dare choose this solution, to be persuaded to cycle again.

But more will be required to attract another potential group of cyclists which is just as great, namely the large number of people who have never envisaged cycling. Those kind of people will only be persuaded to cycle if encouraged to do so by active promotion methods based on information and on an improvement of the bicycle's image.

Public opinion is less in favour of cars

In all European countries, the majority — and sometimes the overwhelming majority — of the population believes that, when there is a conflict between the needs of cyclists and that of motorists, it is cyclists who should benefit from preferential treatment rather than motorists.

In reality, such a strict distinction is rarely required. Very often, measures which promote cycling will not in fact penalise private cars. A reduction in the maximum authorised speed, for example, affects the average speed only slightly; it even improves the fluidity of the traffic and reduces the hazards to which motorists themselves are exposed; similarly, opening one-way streets to cyclists not only presents no objective danger — except in some situations where the introduction of facilities will be necessary — but it also in no way obstructs the normal circulation of cars.



1 If there is a conflict between the needs of cyclists/pedestrians/public transport and those of motorists in traffic management, should clearly preferential or preferential treatment be granted to cyclists/pedestrians/public transport or cars?

Belgium	27.5	50.3	77.8	86.7	74.3
Denmark	27.4	58.6	86	87	78.6
Germany	25.2	46.9	72.1	81.1	85.1
Greece	20.2	51.3	71.5	85.4	85.7
Spain	27.3	39	66.3	88.9	90.5
France	23.1	46.1	69.2	81.2	75.8
Ireland	20.2	48.1	68.3	75.4	67
Italy	49.4	29	78.4	89.5	89.5
Luxembourg	30.2	40.9	71.1	82.1	84.8
Netherlands	23.3	63.3	86.6	85.5	84.9
Portugal	20.5	34.3	54.8	86.4	90.1
United Kingdom	23	52	75	86.8	82.6
Europe (12)	29	44.1	73.1	85.1	83.8

= Clear preferential treatment for cyclists = Preferential treatment for cyclists

= Favour cyclists (total) = Favour pedestrians (total) = Favour public transport (total)

2 The effects of car traffic in town centres are ...

			Total
	15.1	47.8	62.9
	11.7	15.3	27
	18	35.9	53.9
	43.6	29.5	73.1
	29	33.8	62.8
	17.5	33.8	51.3
	20.8	20.5	41.3
	46.1	37.9	84
	24.3	46	70.3
	17.9	39.9	57.8
	22.9	30.8	53.7
	22.5	26.3	48.8
	24.8	33.2	58

= ...unbearable

= ...hard to put up with

3 Deterioration of air quality in town centres is due....

			Total
	27.1	51	78.1
	21.3	37.7	59
	39.9	38.9	78.8
	25.5	38.8	64.3
	32.2	46.6	78.8
	25.4	47.1	72.5
	23.3	33.9	57.2
	51.4	44.1	95.5
	29.6	45	74.6
	19.7	50.3	70
	31.8	43	74.8
	30.4	44	74.4
	34.2	43.6	77.8

= essentially to car traffic

= in a large part to car traffic

There are times, however, when political decisions have to be taken to affirm the place which is to be assigned to modes of transport which respect the environment, and especially to cyclists.

Even if stormy reactions from the car lobby are feared, it may be more risky to ignore the silent majority, which does not express itself through pressure groups, but which states its expectations of a more balanced mobility policy in an uncompromising manner in surveys which represent the entire population.

Several surveys have specifically measured the acceptability of measures put forward to reduce car use. Politicians and technicians are more timorous than any other group of persons questioned, including motorists,

perhaps because they confuse their own mobility requirements with those of the average citizen. But the public is in fact ready for a change of attitude from the authorities and it is the latter who are lagging behind public opinion.

Even the British Automobile Association now sees the bicycle as an asset not to be neglected. Following a survey among its members ('Cycling motorists'), the AA declared that 'cycling is an environmentally friendly mode of transport (...) and constitutes an appropriate alternative to the car for some trips.'

Finally representatives of the economy are changing their views on the use of the private car because towns which master their mobility problems are in fact appealing both

to investors and to employees. For example, the Chairman of the Confederation of British Industry stated that 'the CBI approves the initiative of increasing the potential of cycling, to which the economy can contribute, in partnership with other players, by improving access to the workplace by bicycle.'

4 How do you judge the action of the authorities with regard to traffic management?

	satisfactory	too favourable to cars	too opposed to cars
B	21.5	53	25.5
DK	44.9	35.4	19.7
D	22.5	49.3	28.1
EL	21.9	54.3	23.8
E	28.4	50.6	21
F	32.5	47.1	17.7
IRL	36.2	48.3	15.5
I	16	56.7	27.3
L	33.2	48	18.8
NL	30.2	43.7	26.1
P	36.3	46.2	17.5
UK	29.7	49.4	20.9
EUR (12)	26.9	49.5	23.6

5 An efficient solution to reduce traffic would be...

...to severely restrict access to town centres	...to severely restrict parking in town centres	...to create more pedestrian areas in town centres
69.1	45.7	82.6
84.2	68.8	61.2
75	67.6	73.7
72.1	74.3	83
77.3	64.5	87.1
67.5	42	82
79.8	83.7	82.8
81.8	40.8	84.8
75.2	77.8	76.3
77	55.1	76.5
79.3	75.9	87.7
79.4	69.2	83.2
75.8	57.3	80.7

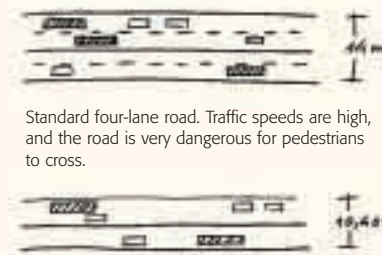


- ➔ An overwhelming majority of citizens are calling for changes to favour modes of transport which are more respectful of their environment.
- ➔ The car is overwhelmingly identified as a nuisance. In fact, motorists would be the first to benefit from a reduction in the pollution they cause because the air inside a car is much more polluted than ambient air.
- ➔ Already in 1991, public opinion was ready for a different mobility policy. This trend is getting stronger with the increase in car traffic and heavy media attention to and awareness of environmental and health questions.

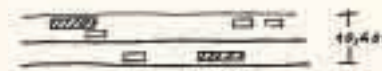
Source: Eurobarometer 1991 (1 000 people per country; Austria, Sweden, Finland not included)

Cycle facilities do not require a great deal of space

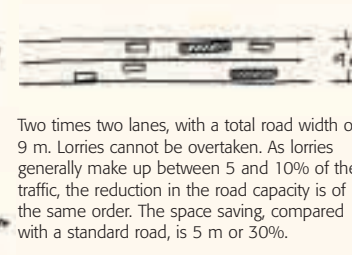
In urban areas it is reasonable to propose reducing the width of excessively wide roads which make it possible to drive at high speed and make it harder for pedestrians to cross. This can provide the space needed for cycle facilities without penalising motorised traffic.



Standard four-lane road. Traffic speeds are high, and the road is very dangerous for pedestrians to cross.



Two times two lanes, with a total road width of 10.40 m. Lorries can only overtake other lorries at slow speed. Space saving compared with a standard road: 3.6 m.



Two times two lanes, with a total road width of 9 m. Lorries cannot be overtaken. As lorries generally make up between 5 and 10% of the traffic, the reduction in the road capacity is of the same order. The space saving, compared with a standard road, is 5 m or 30%.



The experience of towns which apply 'contraflow systems' for cyclists in one-way streets proves the effectiveness of this measure in encouraging cycling and the benefits which it represents for safety. Only some crossroads required the introduction of facilities. An information campaign is essential to familiarise motorists with the new situation.



NEW EXAMPLES OF CYCLE-FRIENDLY CITIES

At a given moment in its history, bicycling was the mode of transport par excellence in a large part of all our countries. wherever there was a road or path, the bicycle was king, from the north to the south of Europe. What about nowadays? Do people cycle anywhere other than in the Netherlands and Denmark? Do people only cycle in countries where the climate is mild and dry most of the time, far from the northern winds? Which are the towns where cycling is part of the new approach to mobility?

*A way of getting around
in cold and flat countries?*



Is cycling practised only in flat countries?

Most of the time, cycling is associated with two countries and two cities: the Netherlands and Denmark, Amsterdam and Copenhagen.

It is obvious why: cycling demands a muscular effort and must therefore be practised in flat countries.

Bicycles are, however, used regularly almost everywhere in Europe. The reasons why cycling is not so common in the southern countries are mainly to do with the image of the bicycle, which is often regarded as an archaic mode of transport, a toy for children or as an item of sports equipment.

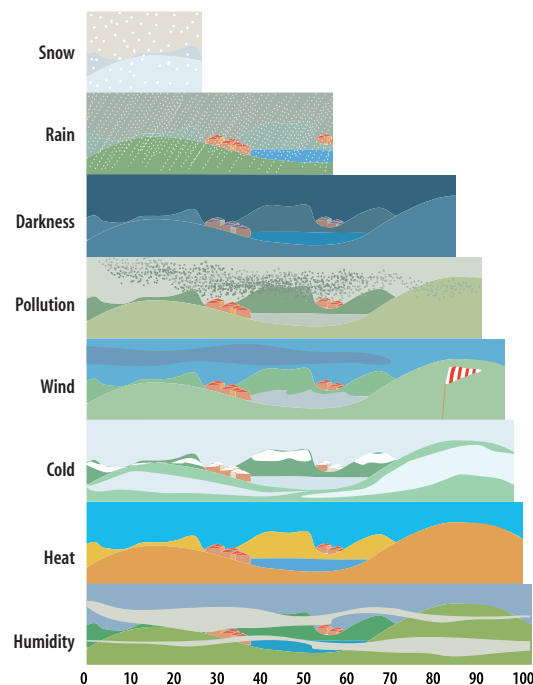
So, who would think that a southern town like Parma in Italy would have a cycling rate as high as that of Amsterdam? In Parma (176 000 inhabitants), 19 % of all journeys are made by bicycle, the figure for Amsterdam (with a little less than a million inhabitants) being 20 %. In Ferrera (160 000 inhabitants), as many as 31 % of trips between home and work are made by bike.

Sweden is a cold country. Nevertheless, 33 % of all journeys in Västerås (115 000 inhabitants) are made by bicycle. While intense heat may constitute an obstacle to cycling at certain periods in southern countries, on the other hand the mildness of the climate means that cycling can be practised for a long period during the year.

Switzerland is not a flat country, but 23 % of all journeys in Basle (230 000 inhabitants) are made by bike, this town being built on both banks of a curve in the Rhine, and 15 % of journeys in Bern, where a number of roads have a gradient of 7 %.

The United Kingdom is a wet country, but in Cambridge (100 000 inhabitants), 27 % of journeys are still made by bicycle.

Frequently, bikes are used intensively as soon as the weather allows (no rain or snow, see the example of Sweden). In reality, there are not many situations which preclude the use of a bicycle. The only climatic features

**Influence of atmospheric conditions on bicycle use by commuters:***Only rain and snow have a significantly dissuasive effect.*

which have a really dissuasive influence on cyclists are pouring rain or blistering heat. But the short distances of trips in town, appropriate clothing and a suitable infrastructure on arrival greatly reduce the negative impact of atmospheric conditions which are far less compatible with daily cycling than is imagined.

Hills are a not insignificant obstacle for somewhat untrained cyclists using old and unsuitable bicycles in towns where slopes with a more than 5 % gradient are long and numerous. Even under such circumstances, there is a potential for cycling, as can be seen from the following hilly towns: Trondheim (Norway), which welcomed the Velo Borealis Conference in 1998, has reached a cycling rate of 8 % and has equipped itself with the first bicycle lifts in the world.

As for the generally flat character of the Netherlands and Denmark, we would add that both these countries are often buffeted by strong winds, which may call for considerable energy on the part of the cyclists faced with this problem.

Ferrara

Ferrara has 140 000 inhabitants and 100 000 bicycles. More than 30 % of trips are made by bicycle.

Despite this, the town has not flagged in its efforts to maintain and even to increase cycling and to reduce car use.

The centre (5 ha) is pedestrianised, but accessible to cyclists. An additional 50 ha around this core are open to car traffic, but with multiple restrictions.

Ferrara is gradually increasing the cycling network onto the major traffic routes, is stepping up the number of residential streets where cyclists and pedestrians have priority over car traffic, has opened all one-way streets to cyclists travelling in both directions and is improving parking for bicycles (2 500 places free of charge, 330 supervised places and parking for 800 bicycles at the station).

To make cycling and walking more attractive propositions in the historic centre, the town was happy to replace old, uncomfortable paving stones with flat ones 80 cm wide!

Better still, some of the one-way streets in Ferrara were created not to facilitate car traffic or to make more space available for parking, but especially to regain space destined for cyclists when the aim was to create a cycle track in both directions. In other streets, through-traffic has been reduced to enable cyclists to circulate in car traffic, which has now become strictly local.

A boost has been given to tourism and leisure activities, as a 163 km route is available for cycling along the river Po and bicycle tours of Ferrara are organised.

As far as the local economy and small and medium-sized enterprises which employ technical labourers are



concerned, the popularity of cycling has made it possible for not less than 31 repair shops to co-exist.

Bilbao and Biscay

The province of Biscay in the Basque country comprises several large towns, including Bilbao. The province has just launched a project for a cycling network of 200 km which, when completed, will provide links between all the major urban centres of the province and also between small towns and villages.

The primary aim is to contribute to the quality of the environment (by reducing car use) and to the quality of life (by offering an infrastructure for a leisure activity), but the project will also entail economic benefits (tourism).

This network is based on a plan for the general structure of the territory of the province from which the links to be established have been drawn. In this way, nine itineraries have been conceived. In part these make use of disused railway lines (50 km), but they also make use of paths and asphalted routes (80 km), forest paths or similar (40 km). About 20 km of cycle/pedestrian paths will be created especially for the links which are missing. These routes have been designed for daily cyclists (because they link together close conglomerations and provide very many connections with the public transport network), but are also designed for leisure purposes (walking or cycling).



Dublin

Eleven per cent of people who go to work in Dublin state that the bicycle is their major mode of transport. Five per cent of all journeys are made by bike (corresponding to about one-fifth of the cycling rate in 1960). The statistics indicate that the use of the bicycle dropped between 1987 and 1991. But the opposite aim has been fixed, namely to double the use of the bike to attain a level of 10 % over a 10-year period.

A market study has indicated that 18 % of the inhabitants of Dublin said that they were ready to cycle regularly as long as there were facilities for cyclists. What is more, 16 % of Dubliners who already occasionally cycle indicated that they would use their bike more often if there were more cycling facilities. A total of 34 % of the population is expecting the administration to take measures to favour cycling.

To step up cycling, the department within the Ministry of Transport in Dublin responsible for studying a future policy for mobility within the city has surveyed a network of cycle routes. There has been political acceptance of the recommendation of an annual budget of EURO 3 million. The total budget for the period 1994-99 will be EURO 18 million, support from the European Union being provided under the cohesion policy.

The city has set up a unit to encourage cycling where members of the administration and cyclists meet regularly. There is a five-year plan to build 120 km of cycle routes. In



1996 and 1997, 50 km of roads suitable for cycling were constructed.

In addition, it is Dublin's intention that 15 % of the number of parking spaces for cars should be provided for cycle parking in public car parks.

What is more, Dublin can count on promoting cycling for tourists; every year, 10 000 tourists arrive at the airport with their bicycles and this number is constantly going up.

Cyprus

As part of the LIFE programme, the European Union is financing the study of a cycle network in four Cypriot cities: Nicosia, Larnaca, Limassol and Paphos.

The overall objective is to reduce pressure from car traffic and to improve the quality of journeys and the quality of life in these towns.

The project includes a programme to promote cycling among the general public and is spread over a three-year period (with conferences, debates, meetings with pressure groups, etc.). Two surveys on the way in which cycling is perceived are also planned.

The total budget for the project is EURO 330 000, while each town is contributing approximately EURO 18 000.

The project was launched with a cycling tour of Nicosia, in which the mayors of the towns concerned participated.



Freiburg

Freiburg (Black Forest, Germany) has gradually pedestrianised its town centre. Despite fierce opposition from shopkeepers at the start, as soon as the first pedestrian streets were opened there was a radical change of opinion and finally the shopkeepers themselves argued that pedestrianisation should be introduced more quickly. Strasbourg has taken similar measures. In both towns, the fact that the centre is accessible to cyclists has been a distinct incentive to cycle.

In Freiburg, the cycling policy adopted in 1976 (a 135 km cycle route network, investments totalling EURO 13 million, 30 km speed limit zones over a large section of the town) has benefited from pedestrianisation and the overall mobility policy. Cycling doubled between 1976 and 1992 and now accounts for more than 20 % of journeys.

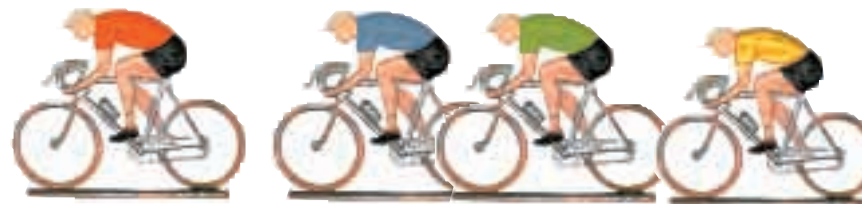
Strasbourg

In Strasbourg, which is promoting cycling at the same time as closing the centre to cars and reinstalling trams, the number of journeys by bicycle has risen from 8 % in 1988 to 12 % in 1994.

One result is that trips to shops in the centre have gone up by 33 % overall, although the commercial surface area has not changed. A recent survey conducted among motorists reveals that 63 % think that cars in towns are a thing of the past. Better still, 80 % believe that car use should be limited to improve traffic circulation in town.

Strasbourg has 77 km of cycle paths and tracks, 12 km of restricted one-way streets and 15 km of pavements on which cyclists are authorised to travel. Some bus lanes are also open to cyclists.

The overall plan for managing two-wheeled traffic and a cycling charter (including cycling facilities, an anti-theft campaign, communication, and service bicycles) have been adopted with the aim of reaching an ambitious target, namely 25 % of journeys to be made by bicycle.



Geneva

Geneva's network of 13 cycle routes, adopted in 1987, should cover 100 km and cost about EURO 4 million.

In 10 years, cycling's share of total journeys has gone up from 2 to 4 %. The annual growth rate of cycling is approximately 0.5 % per year. Proof of the usefulness of cycling amenities is that cycling's progress is not so great in those districts where the routes have not yet been constructed.

The town carried out a promotion campaign costing EURO 100 000 in 1995 and 1996. Each year it publishes a new version of the map of cycle routes.

The region of Wallonia

In Belgium, it is the North of the country which is the stronghold of cycling: of approximately 5 million Belgian bicycles, at least 4 million are to be found in Flanders.

Be that as it may, the region of Wallonia has just taken a somewhat unusual initiative by financing pilot studies of cycle route networks in four of its major towns (Liège, Charleroi, Namur and Mons) and in several rural municipalities.

The local authorities concerned have thus been endowed with a direction to follow for the next few years. On the basis of this project, it is up to them to actually produce the networks, with the aid of the regional authority, which will subsidise the works at local level and which is responsible for managing the regional roadways used or crossed by cycle routes.

The region of Wallonia is also making progress in setting up a network which will essentially make use of canal and river towpaths and disused railway lines. While it will be of some use for daily travelling, the 'RAVEL' (autonomous network of slow paths) is mainly directed towards leisure pursuits and will connect most of the large towns.





SAFETY:

A RESPONSIBILITY

The risks of an accident are the only theoretical drawback to cycling. But what is the true situation? It has now been proved that, for certain age groups, cars represent a much more significant overall risk than cycling. What about the positive effects of cycling on health and the quality of life, which far outweigh the years of life lost in accidents.

However that may be, any policy to promote cycling must minimise the risks to cyclists. By what means? Are cycle paths always a byword for safety? Experience in many towns and scientific research have shown that cyclists' safety can also be guaranteed on the roadway. How?



Cycle paths are one way of guaranteeing safety, among others.

Defending cycling is a rational choice

It is certainly true that there are too many accidents which involve cyclists. But a great many mistakes are made when comparing statistics and when taking measures which are supposed to improve cyclists' safety.

Danger is a relative concept

Safety is a real problem for cyclists, as it is for pedestrians. Riding among vehicles which are often travelling substantially faster, cyclists are at the mercy of car drivers.

However, statistics show that received opinion is not always correct. For example, if you calculate risk by age group and make reasonable statistical corrections, you find that for the 18-50 year age range cycling has a lower overall accident risk (see table 4.1).

There is no getting away from one fact: young cyclists (especially boys) are the most vulnerable if they have not mastered the rules properly, rules which are needed to keep adolescents' enthusiasm in check.

**Table 4.1****Risk of accident per million kilometres**

In this example drawn from Dutch statistics, the basic data have been rightfully corrected by two factors:

- *a factor whereby driving on motorways is excluded (one-third of the distances driven in a car), as the risk is ten times less than on the rest of the road network and there is no comparable factor for cyclists;*
- *a factor showing the hazards which motorists represent for pedestrians and cyclists (the hazard which a cyclist represents for others is almost nil).*

NB: The average total risk is biased against cyclists because two age groups which do not exist among motorists are taken into consideration, groups which, moreover, include cyclists who have neither the caution nor the experience of their elders.

Age group	Motorists (drivers)	Cyclists
12 - 14	-	16.8
15 - 17	-	18.2
18 - 24	33.5	7.7
25 - 29	17.0	8.2
30 - 39	9.7	7.0
40 - 49	9.7	9.2
50 - 59	5.9	17.2
60 - 64	10.4	32.1
> 64	39.9	79.1
Total	20.8	21.0



It is important to realise that the riders of mopeds and motorbikes run greater risks because they travel at even higher speeds without any more protection than cyclists (the helmet protects only the head, but imperfectly when travelling at high speed, and the rest of the body is exposed to fatal or disabling injuries whose seriousness increases the higher the speed of travelling).

It should be stressed that cyclists and the riders of mopeds and motorbikes are in no way comparable and should never be mixed together in a common statistical category of 'two-wheeled' vehicle operators.

Of all road users, motorists are of course the best protected. They are above all the most dangerous for pedestrians and cyclists. The threat which motorists represent for others increases in an exponential way with speed.

Integrating the notion of benefits for health

In a report which surveys all the forms of physical exercise which may be practised by anybody in a regular way as part of daily life (walking, jogging, swimming and cycling), the British Medical Association reproaches the authorities for not promoting cycling. The BMA claims that the government is putting the health of the country at risk through its inaction.

'THE BRITISH MEDICAL ASSOCIATION REPROACHES THE AUTHORITIES FOR NOT PROMOTING CYCLING.'

This report refutes the tired old excuse which is often trotted out by those in power, namely that cycling should be encouraged if it weren't so dangerous, because the advantages of cycling for public health (a healthy life through regular exercise) far outweigh its disadvantages (the risk of accidents). Indeed, for many people, the bicycle is the only way of regularly practising moderate exercise without having to drastically change one's habits. A risk of coronary heart disease for a person who takes no regular physical exercise is equal to that of a smoker smoking 20 cigarettes a day. While it is as beneficial as swimming, cycling is much easier to do on a daily basis as it does not require the setting aside of a particular hour and the public equipment needed (roads) already exists everywhere and only requires a few adaptations. Two trips of 15 minutes by bicycle a day are enough to guarantee a healthy heart. As for pollution, we now know that motorists suffer from it a great deal more than cyclists!

The BMA's report advocates stepping up cycle routes and parking areas for bicycles, cutting down traffic, reducing speed and promoting an awareness campaign aimed at making drivers more respectful of cyclists.

A study carried out in Washington on 600 men and women aged between 18 and 56 and cycling a distance of 16 km (round trip) or more at least four days a week showed that cyclists enjoy a better physical and psychological health than non-cyclists. The rate of cardiac problems recorded

**‘CYCLISTS ENJOY BETTER
PHYSICAL AND MENTAL HEALTH
THAN NON-CYCLISTS.’**

was only 42.7 per thousand as against 84.7 per thousand for non-cyclists. Cardiovascular diseases are one of the major causes of death in our countries. Equally remarkable reductions were noted in cyclists for high blood pressure, chronic bronchitis, asthma, orthopaedic problems, diseases of the sebaceous glands and varicose veins of the lower limbs. This study also shows that the likelihood of cyclists considering themselves ‘happy’ or ‘very happy’ is four times as high as for the controls.

An English study has reported an increasing number of children who do not take sufficient regular exercise because they are taken to school by car. The authors of the study stress that we are in danger of creating generations of obese people with fragile bones if the habit of physical exercise is not instilled in young people. (*The school run – Blessing or blight*, Child Health Monitoring Union, Child Health Institute).

Combining safety measures

Guaranteeing the safety of cyclists in your town is a necessary prerequisite for promoting cycling as a daily mode of transport. A large number of potential cyclists are already thinking about cycling today. But they are simply waiting for a sign from the public authorities before they get back on their bicycles along the lines of ‘it’s safe to ride a bike – your area authority is taking care of what needs to be done’.

Safety/speed ratio

In the majority of cases, cyclists must share the roadway with car traffic. Account must therefore be taken of cyclists as well as motorists in the area of traffic management.

Roads are multifunctional spaces which have to be shared fairly among all users. The idea of moderating traffic is a necessary consequence of adapting car traffic to other road users, with crossing areas for pedestrians, commercial areas (shops, cafés), social spaces (playgrounds for children, pavements for people to stand around and chat) and above all a living space.

A speed of 30 km/hour is compatible with all the many activities which have to coexist in a town. At this speed, trips in cars hardly take any longer than if they are made with occasional speed peaks. The sound level drops considerably. Motorists are better able to perceive their environment, can react more swiftly to unexpected events, traffic accidents are less serious and the traffic is altogether calmer.

Speed moderation has a very noticeable effect on the perception pedestrians and cyclists have of the urban space (slow traffic is less stressful than fast traffic).

It also has a marked impact on safety. Indeed, 65 % of accidents occur in conglomerations. There is a link, moreover, between speed on the one hand and the risk of an accident and its seriousness on the other: for the apparently insignificant speed difference between 30 km/h

**‘WE ARE IN DANGER OF CREATING GENERATIONS
OF OBESE PEOPLE WITH FRAGILE BONES
IF WE DO NOT INSTIL THE HABIT OF PHYSICAL
EXERCISE IN YOUNG PEOPLE.’**

Table 4.2

**Maximum averages of pollutant concentrations
breathed in by cyclists and motorists in one hour
on the same journey at the same time**

This study, like several others, reveals that motorists are subject to high pollution levels. Even when account is taken of effort (a cyclist breathes on average two to three times as much air as a motorist), the cyclist emerges as the victor of this comparison, especially as physical exercise strengthens the ability to resist the effects of pollution.

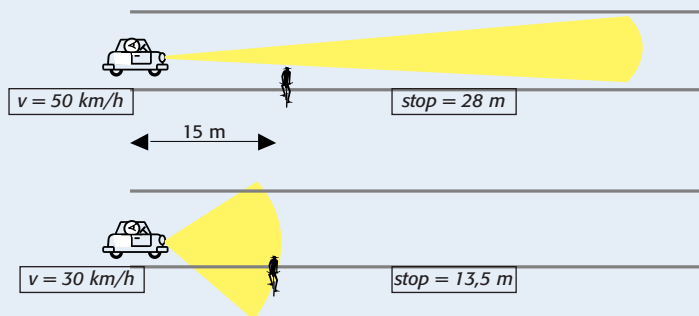
	Cyclists ($\mu\text{g}/\text{m}^3$)	Motorists ($\mu\text{g}/\text{m}^3$)
Carbon monoxide (CO)	2 670	6 730
Nitrogen dioxide (NO ₂)	156	277
Benzene	23	138
Toluene	72	373
Xylene	46	193

Source: The exposure of cyclists, car drivers and pedestrians to traffic-related air-pollutants, Van Wijnen/ Verhoeff/ Henk/ Van Bruggen, 1995 (Int. Arch. Occup. Environ. Health 67: 187-193).

**Graph 4.3****Fields of vision at 30 and 50 km/hour**

At 50 km/h, a motorist is obliged to concentrate on what is happening in front of him. His field of vision is narrow and any cyclist at the side of the road 15 metres away is 'invisible'.

At 30 km/h, the field of vision will be wider: the motorist will see the cyclist and have time to react.



On average, a trip which takes 15 minutes in a car in town with a maximum authorised speed of 50 km/hour is simply lengthened by one minute on average if the majority of streets are in 30 km/hour zones.

and 40 km/h, for instance, the braking distance rises from 13.5 m to 20 m.

When travelling in town, motorists are obliged to slow down frequently and opportunities for speed peaks are limited (traffic lights, priority from the right, parking manoeuvres by other motorists, pedestrian crossings, double parking by vehicles, buses leaving their stops, etc.). Circulating at a maximum of 30 km/h is hardly slower than at a maximum of 50 km/h (4 minutes are needed to travel 2 km at 30 km/h if there are no obstacles, as opposed to 3 minutes at 40 km/h and 2 and a half minutes at 50 km/h).

Safety training for cyclists and motorists

Cyclists are relatively slow, not very visible and somewhat vulnerable compared with other, heavier road users (cars, buses, lorries, trams). A cyclist's safety depends of course on the physical features of his route (good road surface, clear signs and signals, possible separation of different types of traffic). But it also depends to a great extent on his physical abilities, know-how and experience (ability to anticipate). It also depends on the behaviour of motorists.

Know-how consists both of a mastery of the bicycle (technique) and the knowledge of certain theoretical data, notably an awareness of the possible conflicts between bicycles and cars and of the nature of the dangers which may arise en route.

Motorists or the drivers of heavy vehicles should, when learning to drive, be taught how to take account of the specific problems and behaviour of cyclists.

The function of facilities

According to his or her physical aptitudes, balance, agility, rapidity of reflexes and clarity of perception, the adult cyclist will instinctively choose his or her routes (major or secondary roads, cycle path or track, direct changes of direction or crossings on foot). Cyclists must therefore be enabled to circulate everywhere, on both secondary roads and major routes.

Children are a different category. Less capable than adults of choosing their itinerary according to their skills, they need guidance and various facilities all along their route. Routes leading to schools merit particular attention, therefore (and parents and schoolchildren are, moreover, very good at advising on possible improvements).

In the town of Courtrai (Belgium), the town council is paying special attention to these routes and has not hesitated to take special measures during peak traffic times regarding school routes (some streets are closed to traffic in one direction, policemen are on duty at hazardous crossroads where there are no special facilities provided). As a result, 60 % of the journeys made by schoolchildren are by bicycle.



The role of the police: applying the rules

When introducing facilities for cyclists, it is preferable to plan whenever possible a configuration whereby motorists are unable to block such a facility through negligence (sometimes installing small poles in strategic places is enough).

But in situations where no protection against abuse is possible, the police have to intervene systematically to ensure that cycle tracks or lanes are respected, without which they become a loss-making investment. In cases where cycle tracks become unusable (through careless parking or through holes in the roadway), the loss may be heavy, both financially and in terms of image.

'ROUTES TO SCHOOLS MERIT PARTICULAR ATTENTION.'



The cycling school is for both adults and children and is an essential tool for increasing cyclists' safety.'



The police must intervene systematically to ensure that cycle tracks or lanes are respected, without which they become a loss-making investment.





5



DARING TO REDISTRIBUTE SPACE AND MEANS

When town centres have been remodelled for pedestrians, cyclists often find their place in them quite naturally. Wherever cars are no longer taking up all the space, bicycles pop up. But if decisions have to be taken between making room for car traffic and for cyclists, the choices made are sometimes draconian. How is one to choose between the demand for cycling facilities on the one hand and the 'requirements' of car traffic on the other? What limitations can we allow to be imposed on one mode of transport in order to give the other its chance?

The majority of the population is in favour of cycling facilities

Some towns are short of space, even on the major routes. Taking a political decision to reduce the space allotted to cars (whether for traffic or for parking) in order to create facilities for cyclists requires a certain amount of skill, entails explanations for the population and has to be implemented gradually.

Let us recall that the Eurobarometer survey quoted above shows that there is an overwhelming majority of people who approve of cycling in all countries of the European Union.



Making space for urban living.

More local surveys always come up with results with concur with this. In connection with the promulgation and application of the new law on air quality in France, it was reported that:

- more than six out of ten respondents in France feel that it is difficult to put up with car traffic in town
- more than seven out of ten respondents in France say that they favour closing town centres to traffic at least on some days
- more than nine out of ten respondents in France would like cycling facilities to be introduced.

It is important to emphasise that, even among motorists, there are few who believe that the car must remain a priority mode of transport in spite of everything. Very often motorists themselves are amenable to safety and quality of life arguments.

Investing in proper information for the public

A major factor in the success and acceptability of any innovatory policy concerning journeys in towns is the communication strategy used.



‘EVEN AMONG MOTORISTS, THERE ARE FEW WHO BELIEVE THAT THE CAR MUST REMAIN A PRIORITY MODE OF TRANSPORT IN SPITE OF EVERYTHING.’

If arguments in favour of a redistribution of space and in favour of certain restrictions are spelt out clearly to motorists, they are happy to support a reduction in traffic or in traffic speed and will not let themselves be influenced by any recalcitrant pro-car lobbyist.

Before introducing measures to reduce the speed in Graz (Austria), for example, the town conducted a publicity campaign which lasted several months.

Through this campaign, motorists became aware of the risks to which they were exposing others by driving at 50 km/h in local streets and also the small amount of time they would lose when 50 km/h would be authorised only on major routes. The introduction of the 30 km/h speed limit was implemented at a stroke when the school term recommenced in order to stress the safety aspects. The only measures taken were to install signs and to paint the ground with reminders of the maximum speed authorised in local streets. Supervision is required to remind motorists of the 30 km/h limit and a small number of motorists are charged with offences, but the vast majority of the population and motorists approve of and accept this speed moderation strategy.

Adopting a gradual approach and alternative solutions

The creation of infrastructures to encourage people to take up cycling again does not inevitably give rise to a mass of insoluble problems regarding the distribution of space.

Quite apart from the creation of signposted cycle routes on roads where through traffic is low or has been reduced, some physical installations carried out at key places can make a powerful contribution to improving cyclists' safety. These include:

- the quality of road surfaces (reducing the risks of falling or sudden turns so that cyclists can concentrate their attention on traffic),
- bright lighting at crossroads (leading to fewer conflicts),
- changes to the phasing of traffic lights (fewer conflicts),
- an increased use of small roundabouts (which should reduce conflicts and enable cyclists to waste less time),
- cycle lanes.

The best guarantees for finding intelligent solutions, which must very often be adapted to the specific situation in hand, include taking into account the experience of people who cycle on a daily basis and the imagination and subtlety of analysis of those in charge of the projects.

Only by studying a cycle route network, however, will it be possible to truly grasp the situation, to draw up a list of black spots and to act in a targeted and highly efficient fashion.

When defining cycle routes, there are certain imperatives: they must be simultaneously intelligently chosen, direct and pleasant and any installations made on these routes must be simultaneously safe and comfortable.

Depending on the size and layout of your particular town, it is quite possible that defining cycling routes will not give rise to any major problems regarding the redistribution of public space. Indeed, the cycle routes appreciated by beginners are preferably separated from the major car traffic flows (criterion of comfort) which can thus follow more local roads, as long as the trip remains direct, without pointless or excessive detours.

As long as the cycle routes are following local roadways, the main measures taken can be those of moderating speed and, as far as possible, cutting down the volume of traffic. In cases such as this, there are few restrictions placed on car traffic and any opposition from the car lobby can easily be defused by a good information campaign and by encouraging the participation of motorists.

The introduction of specific amenities which may require a reduction in the size of the road (including the occasional



elimination of parking places) becomes indispensable only when the cycling network is situated on a major route or when obstacles have to be circumvented (bridges, tunnels).

Often, reasonable traffic moderation measures aimed at ensuring that the maximum authorised speed is respected (generally 50 km/h) will make it possible to reduce the width of the traffic lanes and thus create the space needed for cyclists.

Taking account of motorists

When designing facilities for cyclists, account must be taken of the fact that motorists are not accustomed to sharing the road with such small vehicles and whose trajectory they are unable to predict with any accuracy. Facilities can also make a very powerful contribution to eliminating the element of surprise in encounters between cars and bicycles.

One of the defects of cycle tracks is precisely the fact that cyclists and motorists forget each others' existence until they reach the crossroads, where cyclists have to be integrated into mainstream traffic. In order for cyclists to be more visible to motorists and to avoid this kind of surprise, crossroads should be kept clear of obstacles for a length of at least 20 metres in each direction or space should be provided for cyclists on the roadway.

This argument, namely that the needs of both motorists and of cyclists must be taken jointly into account, must be stressed in any communication strategy.

The relationship between safety and amenities for cyclists

Cycle tracks (conceived as spaces reserved for cyclists, separate from the main roadway and generally provided on pavements alongside the roadway) require space. They cannot usually be introduced everywhere (it is impossible to construct an entire network of cycle tracks in an existing town). They must be therefore be planned carefully depending on the connections that have to be made and in accordance with the rules of the art:

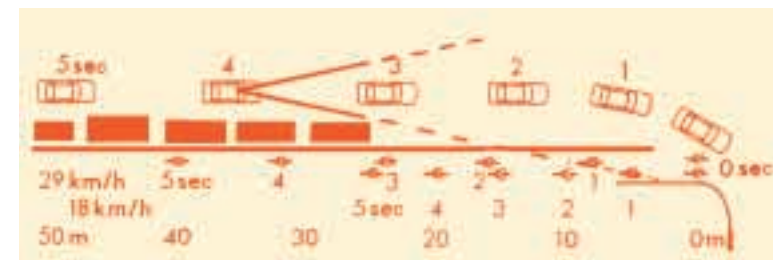
- ➡ If they are incorrectly conceived, cycle tracks induce a false sense of security in both motorists and cyclists (each believing himself to be 'on his territory' and with a right to force the other to conform. Nowadays we know that cycle tracks are only a realistic solution in some situations and that they only improve safety for cyclists under certain very strict conditions. Indeed, badly conceived cycle tracks increase the risks of accidents.

'ONLY BY STUDYING A CYCLE ROUTE NETWORK WILL IT BE POSSIBLE TO TRULY GRASP THE SITUATION.'

- ➡ Laying cycle tracks is only realistic if one has the resources for meticulous planning (because, if an error of choice is made, the tracks are not used and the space which has been set aside for them and any investment made will be wasted).

Keeping cycle tracks free at crossroads

To ensure that cyclists are safe and to guarantee them the benefit of their priority, it is necessary for all crossroads to be clear to maintain optimum visibility, including for cyclists travelling at a sustained cruising speed.



Source: KASSACK/OHRNBERGER



WHAT NEEDS TO BE KNOWN

The number of potential cyclists is high because almost everyone enjoys cycling when a minimum of favourable conditions are met. Since it is no longer a habit to think of cycling, people must be reminded that cycling can be an efficient and pleasant way of getting around on a daily basis.

Pointers must be given for people to think about cycling. What is the relationship between cycling for pleasure and daily cycling? Apart from these two major components, what other elements constitute a pro-cycling policy? What would a policy favouring cycling cost? What needs to be known to take the first (right) steps?



The components of a pro-cycling policy and their interactions

A return to cycling will be more successful if the overall transport policy aims at promoting a balanced mobility which is both environmentally friendly and at the same time favourable to shops, pedestrians, public transport, a relaxed urban atmosphere in a convivial urban context, and with cars being given their rightful place.

'Measures in favour of cycling' are generally imagined as confined to all the measures which contribute to facilitating

getting around on bicycles. The latter, however, concern only the physical aspects of the question, that is to say measures of a technical order (physical installations and ensuring complementarity between cycling and public transport).

But all the accompanying measures have also to be tackled, which are not just indispensable in themselves, but which substantially improve the impact of the technical measures taken. The installations made will have more impact and success if they are accompanied by campaigns to promote cycling organised by the public authorities.

In addition, since the bicycle is often perceived as an instrument of leisure, efforts must be made simultaneously to promote leisure routes and daily cycling routes. These two areas of activity complement each other and are of mutual benefit.

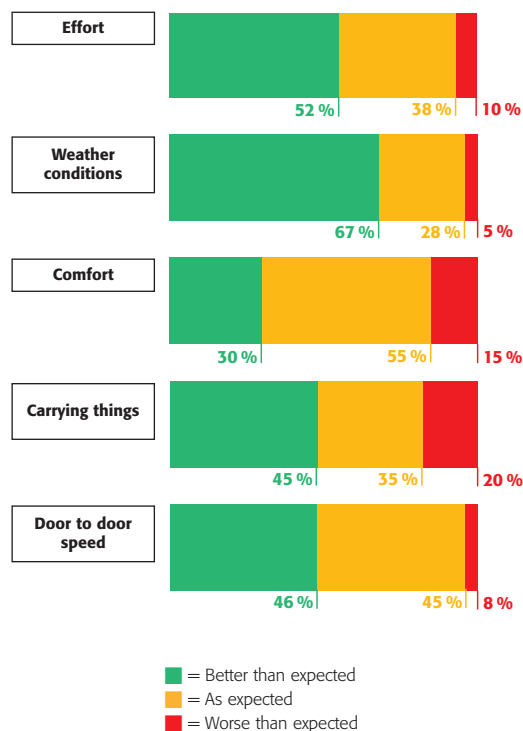
Market laws: you have to know in order to choose

Surveys carried out among non-cyclists indicate that the general public is poorly informed when it comes to cycling.



'MOTORISTS OBLIGED TO TAKE UP CYCLING WHILE THEIR CAR WAS BEING REPAIRED SAID THAT THEY WERE PLEASANTLY SURPRISED BY THE OBJECTIVE QUALITIES OF CYCLING.'

Reassessment of some prejudices towards the bike by motorists having to take up cycling because their car was immobilised. This graph shows to what extent prejudices due to a lack of practice can hinder cycling, while discovering cycling is generally a nice surprise. The 'guinea pigs' despite themselves' who found that cycling was worse than they expected are very much in the minority.



In a study carried out in the Netherlands, car drivers obliged to use a bicycle when their car was being repaired stated that they were pleasantly surprised by the objective qualities of the bike, of which they had obviously held a bad opinion before having actually tried it. Their negative opinion had been focused particularly on atmospheric conditions, the physical effort involved and the transporting of objects.

It is also true that the bicycle is still widely perceived as heavy, difficult to manoeuvre, inefficient and not having undergone any technical evolution.

In reality, however, modern bicycles have become lighter, modern gear changes are no longer difficult to manipulate, tyres and inner tubes withstand bursting much better and brakes and lighting systems have become more efficient.

It is also true that very few car owners are really aware of what their car costs them and of the considerable savings to be made by cycling.

One of the first obstacles which may be tackled in any information campaign is this lack of awareness of the objective qualities and advantages of cycling.

It is relatively easy to convey objective information (facts) likely to influence the choice of people who travel by car. Various practical solutions may be envisaged according to the possibilities available (documentation folder, information on the back of a cycling map, posters, flyers in

all mailboxes, information enclosed with tax notifications, leaflets distributed in companies, etc.).

A pragmatic approach

Instituting a pro-cycling policy, therefore, will involve the cooperation of several sectors of the administration (town planning and public works offices, public transport organisations, teachers, the police) and ideally the cooperation of the private sector (shopkeepers, companies and cyclists).

The ideal situation would be for the political authority to decide to introduce a policy in favour of cycling, to set aside a budget for this policy, to organise a team of staff to carry out practical measures and to ensure that selection criteria which promote cycling are applied at all levels of the administration.

Should it not be possible, however, to reach a political agreement, set aside a budget or set up an appropriate staff unit immediately, this still would not make it impossible to improve the taking into account of cyclists in traffic matters.

According to its specific features and its resources, each town will have to choose its priorities or specific actions to take. Reproducing apparently effective action taken elsewhere could have negative consequences if the concerted and coherent programme on which such actions have been based is not taken into account. On the



'APPEAL TO THE IMAGINATION, LOCAL RESOURCES AND CAUTIOUS EXPERIMENTATION'

contrary, it is preferable to draw inspiration from known examples with due caution and, bearing in mind some of the constant factors of a thoroughly understood cycling policy, have recourse to the imagination, local resources and cautious experimentation. Some leads are given in the following chapter.

What the cost will be

Calculating the cost of a special staff unit to promote cycling is relatively straightforward, since it consists above all in adding the cost of extra jobs (at least one part-time coordinator).

The cost of the investments to be made, however, may be highly variable. However that may be, works specifically carried out in favour of cycling will be much less expensive than those for other forms of transport. What is more, in a great many situations, the small excesses of expenditure for cycling will be reduced even further if thought is given to cyclists already at the stage when changes to the roadway are planned. Costly installations are rare (these are, above all, cycle tracks and special traffic lights). The cost of the other components of a cycling policy (mainly education and information) can also be highly variable according to the education and information techniques used.

For example, in the State of Oregon (USA) and in other States and towns, the law states that towns must devote a minimum of 1 % of subsidies received from the State for roadways to cycling purposes. This tiny proportion of expenditure already makes it possible to respond to a large number of requirements, given the extremely modest cost of most of the installations geared specifically to cyclists.

Another possible basis of calculation is supplied through analysing the real budgets allotted by several German towns: an order of magnitude for the overall budget needed may be calculated on the basis of EURO 5 per inhabitant per year for a period of five to seven years (according to the size of the town) in order to introduce an entire pro-cycling policy (network, information, promotion).

The value of a cycling coordinator

One of the tasks of a cycling coordinator must of course be to note all the possible sources of subsidisation by the public authorities.

Sometimes funding exists which opens up unexpected prospects for developing a pro-cycling policy. The first thought which comes to mind is, of course, funding for improvements to roads, but a number of sources of subsidies may be used for other aspects of an overall

cycling policy (education and information/incentives). For example, cycling programmes may be subsidised as part of national or regional policies regarding safety, education, youth, sports, health, leisure, tourism, the environment, urban renewal, safeguarding heritage, putting the unemployed to work (on research tasks, for instance) or job creation.



A piece of equipment with a double environmental effect.



Through road for cyclists, dead end for motorists.



Contraflow behind parked cars where car traffic is heavy.



'Cycles only street' with special access for busses.



Cyclists can ride on the pavement in order to save effort.



Contraflow with occasional markings in local streets.



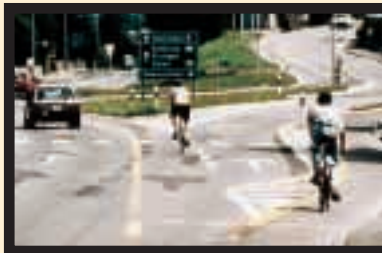
Cycle path ends smoothly where cyclists re-enter mixed traffic lanes.



Busses and cyclists share a wide contraflow lane.



A simple, efficient and inconspicuous cycle rack.



Cyclists going straight ahead are clearly separated from those turning right.

7

TO HELP YOU

If a pro-cycling policy interests you, you are not alone. networks of towns for cyclists exist in several countries. Almost every year, a congress or conference brings together people with experience or knowledge which could be of assistance to you. Closer to home, cyclists are ready to help you for their town to move with them. Where are the resources to be channelled and what is the best way of making use of synergies?

Documentation



The documentation available has proliferated considerably. The titles given below constitute only a very brief list of publications which are all the more useful as they exist in the most common vehicular languages and bring together in a single volume a wide range of information.

Internet sites created by the European Union or at the initiative of Directorates-General VII and XI of the European Union:

- Good European practices with regard to sustainable towns has been set up on the Internet at: <http://europa.eu.int/comm/urban>
- Local transport: <http://www.eltis.org>
- Research projects: CORDIS (Community Research and Development Information Service): <http://www.cordis.lu>

The **European Cyclist Federation** also has an Internet site: <http://www.dcf.dk/ecf/>

Magazines and publications

- The European Cyclist Federation (ECF) publishes an information sheet entitled '*European Cyclist*', *position papers* and abstracts of studies in the *Bicycle Research Report*. (See address below).
- The French cycling towns club publishes a quarterly bulletin.
- The Car Free Cities Network publishes a newsheet.
- National federations of cyclists generally publish a magazine or a newsletter (addresses will be supplied by the ECF).
- In the United Kingdom, Sustrans publishes '*Network News*' and '*Safe routes to school*', (Sustrans, 35 King Street, Bristol BS1 4DZ;

United Kingdom; Tel. (44-117) 926 88 93; Fax (44-117) 929 41 73).

Reference works

'Best practice to promote cycling and walking', 1998 (310 p)

Adonis (Analysis and development of new insight into substitution of short car trips by cycling and walking), research project under the EU RTD Transport Programme.

Danish Road Directorate,
PO Box 1569,
DK 1020 Copenhagen K.

Fax (45-33) 15 63 35;
E-mail. vd@vd.dk



'Sign up for the bike', 1993-1996 (320 pp.)

Manual for designing cycling facilities

CROW, PO Box 37, 6710 BA Ede, Netherlands.

Fax (31-318) 62 11 12;

E-mail: crow@pi.net

'National Cycling Strategy', 1996

Reasons for, and contents of a pro-cycling policy

Department of Transport, DITM Division, Zone 3/23, Great Minister House, 76 Marsham Street, London SW 1P 4DR, United Kingdom.

Tel. (44-171) 271 51 75.

'Cycle-friendly Infrastructure', 1996 (100 pp.)

Cyclists Touring Club, 69 Meadrow, Godalming, Surrey, GU7 3HS, United Kingdom.

Tel. (44-148) 341 72 17.

'The National Cycle Network, Guidelines and Practical Details', 1997 (180 pp.)

Sustrans, 35 King Street, Bristol BS1 4DZ, United Kingdom.

Fax (44-117) 929 41 73.

'Vade-mecum des aménagements cyclables', 1999 (150 pp.)

Ministry for the Region of Wallonia, Ministry for Transport and Equipment, Publications and documentation department, Namur (Belgium).

Tel. (32-81) 30 86 84.

'Conceptions pour l'intégration des deux-roues légers', 1988 (53 pp.)

Adaptation, use and organisation of surfaces for traffic use

Department for Bridges and Roadways in the Bern area,

Reiterstrasse 11,
CH-3011 Bern.

'Aménagement d'espaces réservés aux cyclistes et cyclomotoristes' (16 pp.)

(Federal Department for Justice and the Police),

Swiss Office for Accident Prevention,
Post Box 8236,
CH-3001 Bern.

'Empfehlungen für Radverkehrsanlagen', 1995 (90 pp.)

(German Federal Ministry for Transport),

FGSV Verlag,
Konrad-Adenauer-Strasse 13,
D-50996 Cologne.

Networks



Car-free cities

A network for the exchange of information, experiences, and good practices. Car-free cities has several areas of activity and regularly organises seminars. One of its areas of activity is cycling.

Car-free cities,
Square de Meeus 18,
B-1050 Brussels.

Tel. (32-2) 552 08 74

E-mail: cfc@eurocities.be

Campaign for sustainable towns

More than 400 European municipalities have joined the campaign for sustainable towns launched in 1994 in Aalborg. Five large networks of local communities assist the signatories to the Aalborg Charter in implementing Agenda 21 at local level (European towns for sustainability charter).

Office for the Campaign for Sustainable European Towns
Rue de Trèves 49-51,
B-1000 Brussels.

Tel. (32-2) 230 53 51.

E-mail: campaign.office@skynet.be

Cities for Cyclists

This international club of cycle-friendly cities has about 30 towns in its membership. The contact address is that of the Danish Cyclist Federation:

Cities for cyclists Secretariat
c/o Dansk Cyclist Forbund
Romersgade 7
DK-1362 Copenhagen K

Tel. (45) 33 32 31 21

Fax (45) 33 32 76 83

Internet: dcf@inet.uni2.dk

National clubs of cycle-friendly cities:

• France:

Club des villes cyclables
33, rue du Faubourg-Montmartre
F-75009 Paris

Tel. (33-1) 156 03 92 14;

Fax (33-1) 156 03 92 16.



• Italy

Associazione italiana delle città ciclabili, c/o ANCMA,
Via Mauro Macchi 32,
I-20124, Milan
Tel. (39-2) 66 98 18 18
Fax (39-2) 66 98 20 72.

• Belgium

Contact addresses:
Mr De Boeck, City of Brussels,
Tel.(32-2) 279 43 15.

CORAC is a Swiss club for coordinators of cycling facilities

Conference of coordinators responsible for cycling facilities c/o local police of Basle city

Mr A. Stäheli
Post Box
CH-4001 Basle.

The European Association of 'green' ways

Gare de Namur
Boîte 27,
B-5000 Namur
Tel. & Fax (32-81) 22 42 56
E-mail: aevv.egwa@gate71.be

European Cyclist Federation (ECF)

The ECF brings together 52 organisations from 31 countries and represents more than 400 000 members. Its free information bulletin *'European Cyclist'* contains a great deal of information in brief on publications, conferences, colloquia, studies, etc.

The ECF also publishes abstracts of scientific studies in French, English, German and Spanish (subscription: EURO 50 a year).

The ECF is coordinating a project for 12 European itineraries which link towns together, known as Euro Vélo, with the support of the European Union.

ECF,
Avenue de Broqueville,
B-1200 Brussels
Tel.(32-2) 771 87 69;
Fax (32-2) 762 30 03.

Conferences

The Velo City conferences take place every two years and are European in scale. They are organised by the ECF with the local authorities concerned. International conferences (Velo Mondiale) or those on a regional basis take place in other years.

The 10th and 11th Velo City conferences took place in Barcelona and Graz/Maribor (Austria and Slovenia).

The proceedings of the Barcelona conference may be obtained on CD-rom from the following address:

AproB: Fax (34-93) 431 53 79;
e-mail deritja@pangea.org

The organisation of these conferences is centralised at ECF level at the following contact address:

Velo City Secretariat
Mr Oliver Hatch,
31 Arodene Road,
London SW2 2BQ,
United Kingdom.
E-mail: oh@velo-city.org.

Various events



Regular events on a European or national scale are held, in which your town could take part. The brief list given below is indicative and not exhaustive. It is up to you and you alone to take initiatives in your town or area, as a number of towns have already done with annual events.

Examples of events organised around the theme of cycling:

- European cycling day (ECF)
- Days without cars (France)
- Cycling week (United Kingdom)
- An inter-school rally, the 'Vel'Usep' (in the French Ardennes).



Listening to individual cyclists' experiences

Consulting associations of urban cyclists may be a great help. Their knowledge of a town, their experience, problems, desiderata and assessment of measures taken on their behalf are all precious items of information which are relatively easy to collect. Contributions from groups of cyclists can lead to savings (with regard to surveys, headcounts, designing projects, opinions, checking in the field, knowledge of districts, documentation, information, etc.).



Making use of synergies

The ideal would be for your town to have a specific budget to promote cycling and to introduce cycling facilities.

Experience gained in several towns serves as a reference for estimating the general size of such a budget: one must reckon with about EURO 5/inhabitant/year for a seven-year period (five to ten years depending on the size of the town).

Some towns, however, have introduced a pro-cycling policy (or have at least initiated it) without having a specific budget. It is true that whatever is done in terms of amenities for cyclists can be incorporated into the plans for other roadworks and hence be covered by the general budget.

As soon as the network plan has been drawn up, some kind of checking mechanism is required to ensure that every time works are programmed they include the introduction of the amenities required for cyclists. An alphabetical list of the names of the streets having cycle routes can, for example, be distributed in all departments or, conversely, the cycling representative could be informed in advance of all

works planned and himself check that the facilities for cyclists have not been forgotten.

There are often other sources of special financing which may be used to introduce cycling facilities or 'bicycle-friendly' measures. These include budgets for making the approaches to schools safe and which can be used to lay cycle tracks on routes close to a school or to introduce contraflow systems for cyclists in one-way streets which give access to a particular school.

As illustrated in the case of Cyprus above, some European Union budgets also make it possible to finance studies concerning cycling. It might be possible for your town to benefit from this for a cycle route network.

It is also possible that national programmes of a similar type exist in your country.



Making use of cycling's popularity as a leisure pursuit

The bicycle is very often first perceived as an instrument of leisure. All this contributes to the image of cycling as an activity conducive to relaxation, good spirits and good health.

Some French surveys have proved just how popular cycling is: nearly 60 % of those asked associated cycling with leisure.

Encouraging cycling as a hobby is therefore a good way to relaunch its more general use. When drawing up a network of cycle routes, this should always be conceived in part as a way of joining together tourist routes (including, typically, canal towpaths, paths through woods, disused and refurbished railway lines).

Such routes will in any case attract Sunday cyclists as their first users. Once a bicycle has been purchased and once the experience of cycling has proved to be enjoyable, it is easier to venture forth on to the cycling network on a daily basis.



'THE 'GREEN' TOURIST OR SPORTS INDUSTRY IS REALLY TAKING OFF.'

In addition, by linking together the daily route network and the cycling-for-leisure network, economic benefits can be accrued from tourism. It has been calculated that, in the Netherlands, the network of long-distance cycling routes generates a revenue of at least EURO 7 million per year.

Such calculations explain why Switzerland, the United Kingdom and Spain have decided to step up their tourist route networks.

In the United Kingdom, the 'National Cycle Network' will be more than 10 000 km in length and should be finished by the year 2005. As a parallel measure, the United Kingdom has adopted a plan to double the use of the bicycle between 1996 and 2002.

In Switzerland, nine national cycle routes are being constructed with the aim of developing green tourism, which is less of a burden on the environment. Some 650 hotels welcoming cyclists have been selected on 3 300 km of specially-designated routes. At the present time, the company responsible for renting out bicycles at railway stations has more than 120 000 customers a year.

In Spain, there are already more than 30 marked-out itineraries, known as 'Vías Verdes' over a distance of 150 km. A further 50 routes are being prepared on an additional 250 km. There are still more than 6 500 km of disused railway lines which are just waiting to be refurbished for the benefit of the local population and a 'green' tourist or sports industry which is really taking off.

At European level, the European Cyclist Federation (ECF) is promoting, with the help of the European Union, a network of 12 trans-European cycle routes, called 'Euro Velo'. The majority of associations cooperating in this project are active at national level and can assist you if your town is concerned by this network.

Several sectors have already shown great interest in Euro Velo: 52 sponsors from 22 countries have provided financial support to get the project going.

At the same time, the European Green Ways Association (EGWA) is developing off road corridors dedicated to soft traffic.





Symbol of autonomy, cycling always finds adepts among young people.

Making use of cycling's popularity with schoolchildren

As many as 20 % of journeys in the rush hour period in town involve transporting children to school in cars.

Yet approximately 50 % of schoolchildren when asked said that their preferred method of transport to school would be by bike. Since the distance between home and school is generally less than 3 km (i.e. approximately 10 minutes on a bicycle), this healthy desire should be satisfied much more often. In this way, young people are expressing their wish to exercise a certain amount of independence and autonomy and children aged 13 to 14 are a highly suitable target group.

By targeting schools as the destinations for cycle routes or cycling facilities and by taking complementary measures such as ensuring the bicycle's safety at its destination, by informing parents and educating their children, one can be sure of making investments which will give immediate results in terms of use.

'ABOUT 50 % OF SCHOOLCHILDREN SAY THAT THEIR FAVOURITE WAY OF GETTING TO SCHOOL WOULD BE BY BIKE.'

The results may be spectacular. Although the average rate of bicycle use is very low in the United Kingdom (2 % of all journeys), a secondary school on the outskirts of Ipswich (130 000 inhabitants) with about 1 000 pupils has achieved a cycling rate to school of 61 %. While 45 % of pupils were already cycling to school, additional efforts have made it possible for this proportion to be increased to reach the score obtained by cycling in surveys conducted among the pupils. The number of pupils cycling to school in all age groups has risen, and even among the pupils aged 16 to 18, who are generally less enthusiastic about cycling than the younger ones, there are more than 50 % who cycle daily. A complete network of cycle tracks and cycling routes links the school with its surrounding catchment area. One of the neighbouring primary schools has also witnessed an increase in the cycling rate among its pupils.

Cycling is a good way to encourage young people to take exercise on a daily basis. Several studies have shown that taking part in physical activities is a habit which is formed essentially when one is at school. In the United States, where dependence on cars is extreme, one out of every five children suffers from obesity on account of a lack of physical exercise and 33 % of the total

population is obese (compared with 10 % in Europe).

A study carried out in the United Kingdom has proved that physical exercise increases bone density, which reduces the risk of fractures at adulthood. The fact that the number of fractures of the neck of the femur has doubled in the last 30 years is supposed to be due mainly to a severe drop in the number of physical activities being engaged in by most of the United Kingdom population.

To encourage parents to allow their children to cycle to school, some schools organise a collective 'pick up'; with the help of parents or teachers who are volunteers, routes are set up along which an adult will 'pick up' or collect a maximum of five to seven children. This system has been operating in Hasselt (Belgium) for a number of years.

The organisation of training courses for young children has the same objective, namely to ensure the safety of children and to reassure their parents. Such training must be carefully structured for the learning to be successful.

Getting help from economic players

The private sector may be involved in various ways.

Local firms should be approached and encouraged to promote cycling among their employees (information campaigns, installation of parking areas with showers and changing rooms, material benefits granted to employees who use a bicycle to come to work every day, thus making it possible to save on car parking spaces).

The bicycle industry and bicycle sellers and repairers may help finance a cycling map or an information folder by purchasing advertising space, for example.

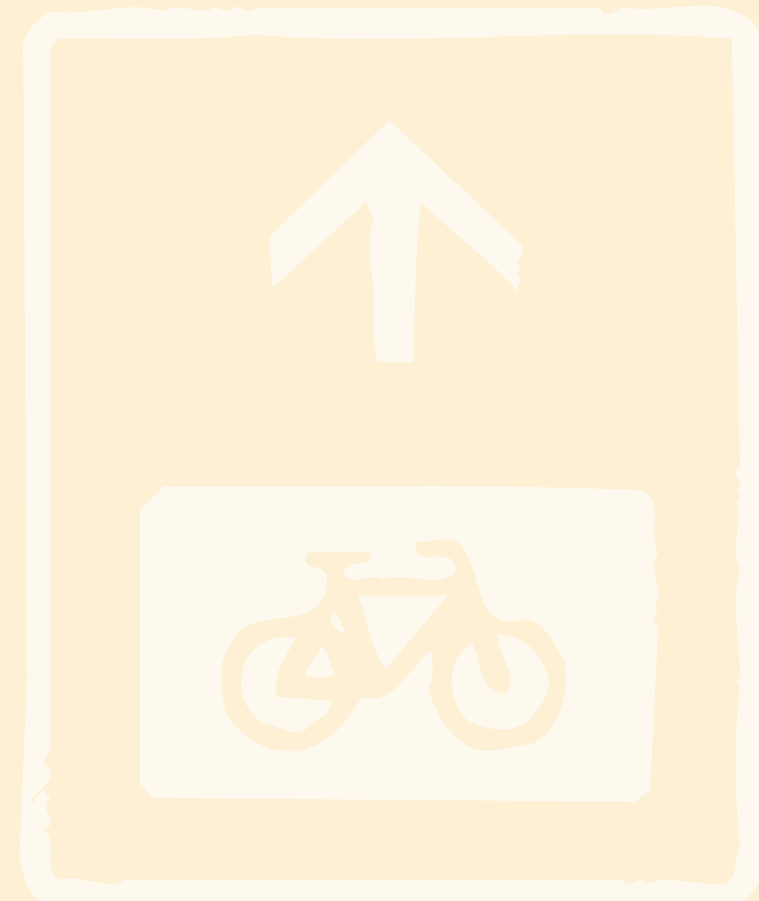
But there are many other opportunities to be seized, such as sponsoring road signs (informational or directional signs), getting insurance companies or banks to sponsor publications, getting a publisher or producer of educational materials to sponsor training in cycling at school, getting a publisher of road maps to sponsor a cycling map, bicycle stands

or bicycles for hire in front of shops and at public transport stops bearing advertising, etc.

Only a cycling coordinator or the members of a cycling unit can exploit all the possibilities which exist.

It is essential for there to be a network of cycle shops and repairers for cyclists to have access to an infrastructure of specialised dealers who can meet their requirements.

Where necessary, public authorities can be associated with the private sector (traders) to facilitate the introduction or maintenance of cycle shops (notably by buying bicycles for public services such as the police, administration, post office, schools, etc.).





HOW

TO START?

If only one thing were needed to start, or to progress more rapidly, what would it be? The most crucial omission is often that of a cycling representative or cycling coordinator. 'Mr' or 'Mrs' Bicycle should occupy this post full-time. What are the tasks he or she should be given? What kind of structure does he/she require? What budget? What are the first strings that need to be pulled?

The essential tools are a person or a unit responsible for the pro-cycling policy and a committee

On the organisational level, the setting up of a cycling unit is a prerequisite for the development of a realistic and effective pro-cycling policy.

The minimum component of a cycling unit consists in the appointment of a coordinator within an administration. It will be the task of this coordinator to remind everybody of the implications of cycling and to act as a resource person at all levels of the municipality (policy formulation, decision-making, execution and monitoring) and in all the departments which have more or less to do with the question of cyclists' mobility (town planning, environment, public works, finance, education and youth, police, transport, etc.).

The ideal would be for such a person to be a cyclist him or herself — or at least someone who would receive a high-quality bicycle as part of his job and which he could use in order to get to work.

From this minimum level of organisation, the size and importance of the cycling unit can be built up or consolidated in various ways according to the specific characteristics of the town and its possibilities. For example, all projects should be submitted as a matter of course to the coordinator, and his or her approval should be made compulsory for all projects in the areas of town planning, transport and public works. A secretariat may be attributed to him/her.

It is also possible to designate people in town planning and public works departments to cooperate with him/her on a permanent basis, whether part- or full-time, and to appoint members of other departments concerned and of the police to the cycling unit. All the individuals concerned should be in favour of cycling, or even better, daily cyclists themselves or at least cyclists in their free time.

At this stage, the unit's work may become extremely comprehensive (work agenda and meetings agenda, mandatory approval of all town planning and public works projects by the cycling unit, power of initiative, operational budget for the cycling unit itself for public relations, possibly its own investment budget or at least earmarking

The cycling coordinator is the lynchpin of any policy.





Table 8.1

How can cycling be taken into account when dealing with public space?

How to approach a cycling network?

The network can be introduced on the basis of an overall plan (preliminary plan). Ideally, such a plan ought to be based specifically on cycle routes that have been studied; it could also be based on the existing hierarchy of roadways and corrections introduced. If it is not possible to systematically remodel the entire network to better meet the needs of cyclists, specific action can be taken on each occasion that works need to be done. Most of the time, the additional expenditure needed to meet the requirements of cyclists is comparatively minimal.



Top-down approach

Voluntarist policy



Global approach

Study and introduce a planned network in the medium term (5-10 years)



- ➔ Analyse journeys — origin/destination (headcounts, statistics, interviews)
- ➔ Plan the network
- ➔ Implement the network on the basis of priority interventions and a timetable

Bottom-up approach

Adjustment policy



Micro-measures

improve specific situations



- ➔ Analyse situations (type of roadway, level of traffic, frequency of accidents, proximity of facilities, etc.)
- ➔ Include cyclists at the planning stage of redesigning facilities on the basis of the following criteria:
 - a. Local or municipal network:**
 - ➔ Freedom of movement should not be impaired (connections should be opened up, journeys should be continuous)
 - ➔ little or no separation of traffic
 - ➔ avoid physical constraints which are unfavourable to cyclists
 - ➔ reduce the speed of car traffic
 - ➔ facilitate bicycle parking
 - b. Urban network**
 - ➔ ensure the continuity of routes on major roads through micromasures (cycle lanes, advanced stop lines)
 - ➔ reduce the speed of car traffic
 - ➔ introduce major installations (cycle tracks) prudently, based on a plan for an interconnected network

of part of the budget for public works, mechanisms for consultation with groups of cyclists, etc.).

Alongside this administrative unit, the setting up of a cycling committee bringing together politically elected representatives, representatives of the administration, public transport and associations representing cyclists can only give a boost to any pro-cycling policy in your town.

The level of minimum functioning is a prudent course to follow

If there is no cycling representative or unit, there can be no question yet of a policy, strictly speaking. However, even in such a case, it is possible to encourage cycling.

For example, in the Table entitled 'Guide to general and specific measures for cycling' all the installation measures which call for little planning may be applied without major risk of error or loss. Most of the measures listed in boxes 1, 2 and 3 are inexpensive, simple to implement, easy to study and not strictly tied to the concept of a cycling network.

Given their low cost, the small amount of extra work which they entail and the possibilities of corrections in the case of error, such measures may be adopted automatically. Even if their impact is not massive, it will be real (improvement of cyclists' comfort, raising the awareness of motorists, encouraging the mass of non-cyclists who are most likely to take up cycling again).

'THERE ARE A NUMBER OF PLACES IN TOWNS WHERE PROHIBITIONS TO CYCLING COULD BE LIFTED.'

What is more, if a plan for a cycle network and a real policy to encourage cycling are adopted later, all these measures will constitute practical elements which contribute to multiplying a network's effectiveness once set up.

Studying the feasibility of a network is of a similar importance to setting up a cycling unit or appointing a cycling coordinator. However, if the study of a cycling plan is really impossible due to lack of resources, specific measures to facilitate cycling will have to be introduced on a purely pragmatic basis.

This approach may suffice when one lacks substantial resources to get started. But in order to guarantee a certain consistency of approach and to be able to ensure success – however qualified it may be – it must be possible to appoint a cycling coordinator, even if this amounts to naming a person who will always be consulted for all works projects as the reference person for cycling. An enormous amount of highly valid basic work can be achieved in this way, with no special budget, by integrating the cycling dimension into the planning of even small work projects on every occasion, including:

- treatment of roadways or crossroads where accidents have taken place;
- interventions near schools as part of measures to make the approach to schools safer;

Table 8.2

General measures and specific measures for cycling

1 General measures independent of any plan for cycling

(works necessary for all users)

				€	€€	€€€
reduction in the speed of car traffic	●			●		
improvement of road surfaces	●				●	
improvement of lighting		●				●
reducing the introduction of new one-way streets to the strictly necessary	●			●		

2 General measures which take cycling into account

(works which provide an opportunity to improve taking cyclists into account)

				€	€€	€€€
renewal of ground markings after resurfacing (widening of right-hand lane, cycle lane)	●			●		
placing or replacement of traffic lights (choice of phasing)	●			●		
placing or replacement of traffic lights (with special lights for cyclists, induction loop detector)		●				●
changes to the roadway (modelling of crossroads, choice of road surfaces, width of roads or traffic lanes)		●			●	
parking for cars taking account of cyclists (buffer zones between parked cars and cycle lanes, etc.)	●			●		
lanes shared by busses/bicycles		●		●		
study of one-way streets (allowing bicycles to avoid slopes and detours)	●			●		
creation of traffic loops in the centre with privileged access for bicycles	●			●		
pedestrian streets (allowing bikes through)	●			●		

3 Specific measures for cycling which do not require planning

(works carried out specifically to improve the situation for cyclists)

				€	€€	€€€
cycle parking (all-purpose racks: stations, public transport stops, schools, shopping streets or centres, cultural centres, etc.)	●					●
changes to existing ground markings (cycle lanes, widening of right-hand lanes)	●			●		
marking of approach lanes and widened lanes at busy crossroads	●			●		
re-opening of one-way streets to cyclists (local roads)	●			●		
changes to existing traffic lights	●				●	

4 Specific measures cycling for which planning is necessary

(works to be planned and aimed specifically at cyclists)

				€	€€	€€€
introduction of a network of cycle routes			●	●		
construction of cycle paths			●		●	
introduction of short cuts		●			●	
contraflow lane for cyclists in secondary major streets which are one-way (in combination with bus lane, for example)			●	●		
modification of hazardous crossroads (accidents)		●		●		

= planning required / difficult to implement or correct

= independent of planning / easy to implement or to correct

= according to the situation, planning necessary or not and implementation or corrections difficult or easy

€ = no extra cost for cycling, or very inexpensive and absorbed in the general cost

€€ = special budget needed, costly measure

€€€ = inexpensive to costly depending on the situation, excess cost absorbed in the overall or special budget according to the situation



'A MAP FOR CYCLISTS COMPRISES SEVERAL ADVANTAGES'

'A map for cyclists, to be published every year or every two years, illustrating 'smart' routes or signposted routes which already exist and to show the progress made on cycling facilities.'



- introduction of cycle lanes and advanced stop lines every time that major arteries have to have their ground markings repainted;
- taking cyclists into account when redesigning crossroads;
- systematic installation of parking areas in places of major confluence,
- contraflow for cyclists in one-way streets.

Thinking in terms of a 'network'

Ideally, one should start by studying a cycling network which, as a priority, is designed for beginners and hesitant cyclists ('tortoises'), but which must, if possible, also be able to satisfy the requirements of swift and experienced cyclists ('hares').

The results of a study of this kind go much further than a strictly pragmatic and ad hoc approach and the existence of a plan increases the effectiveness of each intervention made in favour of cycling by the mutual consolidation of the various measures taken or features installed.

Using a carefully drawn up plan as a basis, it should be possible to examine closing certain roads to car traffic, creating traffic loops or comparing various options to remove obstacles to cyclists' mobility. A total absence of hindrances and a bicycle's size make it easy for cyclists to 'go off the beaten track'. Itineraries in a cycling network

may therefore comfortably include shortcuts and even small detours which are inaccessible to heavy vehicles.

There are a number of places in towns where prohibitions to cycling could be lifted: foot bridges and pedestrian streets, alleyways, paths in parks, pontoons, parking areas and cul de sac roads, one-way streets, towpaths, small steps to be equipped with ramps, etc.

Information

Public relations

While it is not always possible to plan large-scale information campaigns and campaigns to improve the image of cyclists if the town concerned is small or medium-sized, it will in any case be necessary for the public to be kept informed of all measures and installations made in favour of travelling by bicycle.

The effect of announcing special cycling facilities or other technical measures is twofold: it increases the chances that such facilities will be used (consolidation of the use of installations and rendering the works undertaken profitable) and, by contributing supplementary proof that cyclists are taken into account by an authority, it will contribute to strengthening the positive image of cycling.

It is not however essential to have such facilities for cyclists to display. You can start by organising cycle trips across



'THE ECONOMIC INTEREST FOR CYCLING FOR FIRMS MUST BE STRESSED.'

town whose only objective is to give publicity to cycling and supply everyone with the opportunity of enjoying cycling in their town. In Montreal, an event of this kind known as the 'Tour de L'Île' brings out 45 000 cyclists every year! And a special tour for children brings together 10 000 young cyclists aged 6-12, with exceptional media impact. Both these tours are made on a closed circuit which is totally safe from car traffic, which is enough to encourage anybody, whether sportsman or simple wanderer, to get back in the saddle.

A prime information tool: a special map for cyclists

A great variety of methods can be used to inform the public according to the situation (regular publications in newspapers, articles in the local press and in publications aimed at target groups, radio or television programmes, documentation, leaflets, flyers, inaugural events, telephone lines, etc.).

A map for cyclists comprises several advantages:

- it is a tool whose practical interest is immediate;
- a map is very likely to be kept until the next edition appears;
- the back of a map can be used for other information and announcements;

- a map can serve as a teaching aid in schools;
- if it also contains information about the public transport network, it will have a dual purpose.

Right from the start, even if no particular measures have been introduced yet, publishing a specific map for cyclists can easily be justified. It will in any case be able to contain itineraries already used by cyclists. If these do not exist, it will in any case be able to indicate routes to be absolutely avoided or to be recommended (safer itineraries with few detours, shortcuts, more comfortable detours, bad road surfaces).

Information regarding gradients or the marking out of contour levels, which are usually not provided on most maps, is very useful for any cyclist wanting to plan a route. Dividing the map into squares in a way which makes it possible to calculate distances approximately is also useful. Insurmountable obstacles and the location of bicycle sellers and repairers must also feature on a map of this type. Care must also be taken to include the public transport network and taxi ranks (to encourage complementarity between cycling and public transport).

Such a map can always be updated later when new signposted itineraries, bicycle parking areas, cycling lanes and cycle tracks, etc. have been introduced.

If the cycling unit is still very small, the aid of groups of cyclists will be particularly appreciated (practical advice,

surveys, 'smart' routes, dangerous spots, addresses of bicycle shop and repairers, bad road surfaces, etc.).

Involving the private sector

The private sector itself can also contribute to a cycling policy. Compelling companies, for example, to provide a mobility plan for their employees is one way of inducing them to promote cycling among their staff. Some employers offer an entire panoply of incentives to encourage their employees who cycle (indemnification per kilometre, facilities for purchasing a bicycle, showers and changing rooms, free drinks, tombolas with special prizes for cyclists, etc.).

The economic interest of cycling for firms must be stressed, as the savings made on car parking are considerable (orders of magnitude are EURO 4 000 for an open air parking space, EURO 8 000 per place in a car park above ground and EURO 16 000 in an underground car park). The renting out of parking places which are no longer reserved for their staff to others can also be a source of income, and in any case a better welcome is guaranteed for customers. A reduction in absenteeism (better health and better psychological state of cyclists) also represents a significant gain.

There is a company in Brussels which offers public authorities free parking for bicycles. The equipment and its maintenance are paid for by income generated by cultural

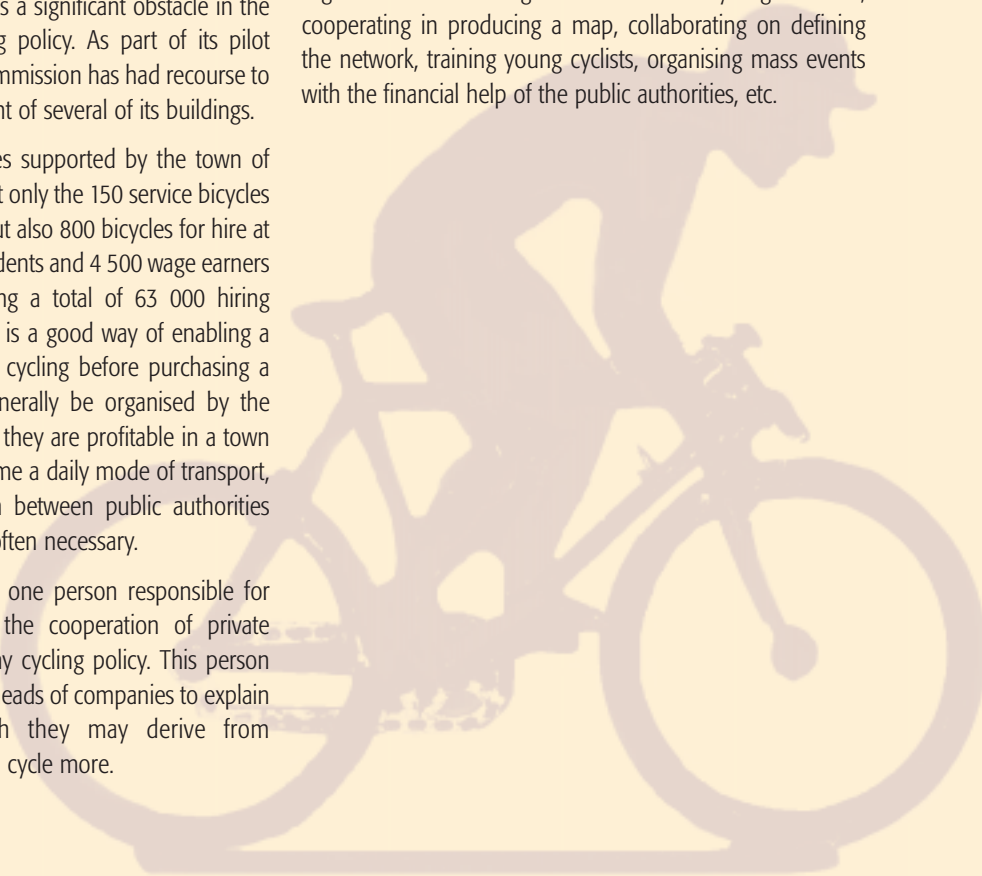
advertisements which are mounted on the cycle racks. Parking for bicycles is therefore easily identifiable by cyclists (through the presence of a cultural poster), but above all, the public authorities are not taking any risks and not incurring any expenditure, which removes a significant obstacle in the start-up phase of a pro-cycling policy. As part of its pilot mobility plan, the European Commission has had recourse to this type of infrastructure in front of several of its buildings.

Among the interesting initiatives supported by the town of Strasbourg, one should note not only the 150 service bicycles (an example for companies), but also 800 bicycles for hire at four places (in 1998, 31 500 students and 4 500 wage earners took out rental contracts, giving a total of 63 000 hiring operations). Hiring out bicycles is a good way of enabling a large number of people to try cycling before purchasing a bicycle. Such services may generally be organised by the private sector, but it is rare that they are profitable in a town where cycling has not yet become a daily mode of transport, which means that cooperation between public authorities and private companies is very often necessary.

It is necessary for there to be one person responsible for cycling coordination to elicit the cooperation of private companies with the aims of any cycling policy. This person must, in particular, contact the heads of companies to explain to them the benefits which they may derive from encouraging their employees to cycle more.

Involving associations

A great many examples of cooperation between public authorities and associations of cyclists exist. These include the organisation of collecting schoolchildren for cycling to school, cooperating in producing a map, collaborating on defining the network, training young cyclists, organising mass events with the financial help of the public authorities, etc.



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12

**initiatives to be taken in the next few moments
to start your pro-cycling policy or to give it a new
boost:**

- 1 Hunt out cyclists' associations (preferably local, if not at regional or national level) and organise an initial encounter with them.
- 2 Have information gathered on town networks, their activity programmes, their publications and conditions of access.
- 3 Have the basic documents ordered (reference works, subscription to magazines, subscription to the publications of the ECF).
- 4 Have someone find out how to apply to attend the next Vélo-City Conference.
- 5 Assign somebody to visit the Internet sites on this subject.
- 6 Have someone draw up a list of all those who could help out in the context of a policy to promote cycling (bicycle dealers, associations of cyclists, groups involved with green tourism, groups in charge of sport in schools, regional, national or international organisations).
- 7 Assign a person to find out who could be appointed as a part-time cycling delegate.
- 8 Assign a person to set up a meeting for the various departments concerned (public works, town planning, education, police, tourism and cultural events, public transport) for an initial contact and discussion on the subject.
- 9 Have someone find out how to purchase service bicycles for the public works and town planning departments.
- 10 Organise a meeting with the Chief of Police to discuss the possibility of a cycling section.
- 11 Assign somebody to draw up an initial broad outline report (10 to 15 pages) within three months.

and.....
- 12 **Have this brochure circulated....**



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