



Future cities are cycling cities!

Response to the Communication from the European Commission on

**‘A sustainable future for transport:
Towards an integrated, technology-led and user friendly system’**

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Founded in 1983, the **European Cyclists’ Federation** (ECF) is the umbrella federation of the national cyclists’ associations in Europe, reinforced by similar organisations from other parts of the world. Altogether we have 60 member groups in some 36 countries. On behalf of around 500,000 individual cyclists, we are pledged to ensure that bicycle use achieves its fullest potential so as to bring about sustainable mobility and public well-being. To achieve these aims, the ECF seeks to change attitudes, policies and budget allocations at the European level. The ECF stimulates and organises the exchange of information and expertise on bicycle related transport policies and strategies as well as the work of the cyclists’ movement.

ECF website: www.ecf.com

Introduction

“No sector is developing in such an unsustainable way as the transport sector. From 1970 to 1995, motor traffic in the European Union doubled, while the share of walking, cycling and public transport fell drastically. This trend is predicted to continue and gain further strength if business continues as usual.”ⁱ

For far too long the design of urban traffic systems focused predominantly on car-users and has been “unfriendly” to cyclists. Non-motorised transports such as walking and cycling have often been marginalized within transport planning and where it is provided for, is often done so on a retrospective basis, adding to the existing infrastructure whilst trying to cause minimum disruption to vehicle traffic.

The results of this car-centred approach in many European cities have been proven extremely negative:

- Cities got car clogged, causing congestions “worth” 100 billion Euros/ annually (or 1 % of EU GDP) of the European economy;ⁱⁱ
- Air and noise pollution is “getting worse year by year”. Urban traffic is responsible for 40% of CO₂ emissions and 70% of emissions of other pollutants arising from road transport;ⁱⁱⁱ
- The number of road traffic accidents in towns and cities is also growing each year: one in three fatal accidents now happen in urban areas, and it is the most vulnerable people, namely pedestrians and cyclists, who are the main victims^{iv};
- CO₂ emissions from the transport sector grew by almost 30 % since 1990;
- Half the adult population in developed countries is sedentary or does minimal physical activity;^v obesity is growing in Western countries and this is mostly due to these sedentary lifestyles;^{vi}
- Because of bad urban living quality, citizens have moved out to the suburbs, contributing to urban sprawl and creating ever more transport.

Environmental and health effects of transport



Source: WHO

To this list could be added many other items. It illustrates that transport in Europe is clearly still on an unsustainable path, in ecological, social and economic terms. The external costs of transport are tremendous, studies suggest as much as 8 % of the European GDP. This would outpace the figure of 7 % the transport sector is contributing to the EU GDP, according to figures stated by the European Commission in its Communication on a Sustainable Future of Transport.

Much needs to be done. The ECF therefore welcomes the Communication from the Commission on “A Sustainable future for transport: Towards an integrated, technology-led and user friendly system”. We believe that the bicycle as *the* sustainable mode of transport par excellence must be one of the cornerstones of any serious discussion on sustainable transport.

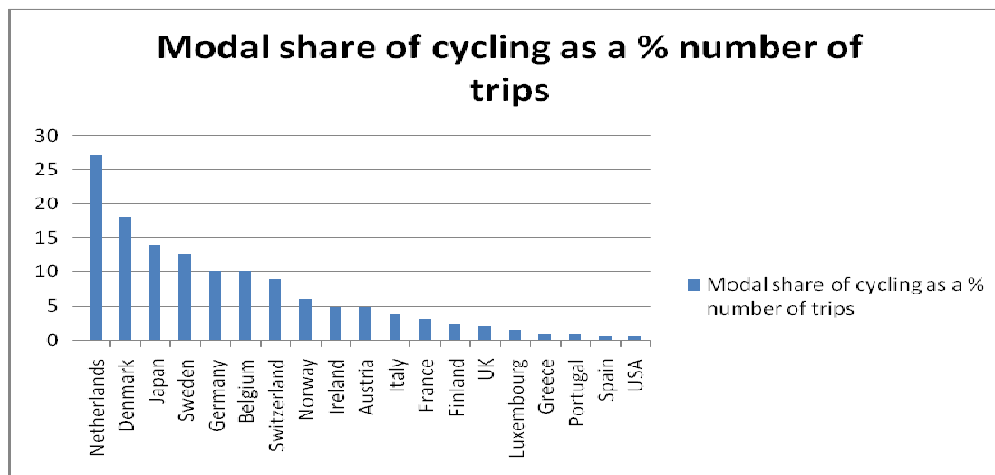
In our contribution we will focus mainly on urban transport, for two reasons:

- The process of urbanization is ongoing and will increase to 84 % in 2050, according to projections mentioned in the EU Commission Communication on a Sustainable Future of Transport (§ 31ff.);
- Cycling is mainly an urban mode of transportation. Being quick, flexible and extremely time-reliable, it has here a huge potential: 30 % of car trips in Europe are under 3km and 50% are under 5km^{vii};

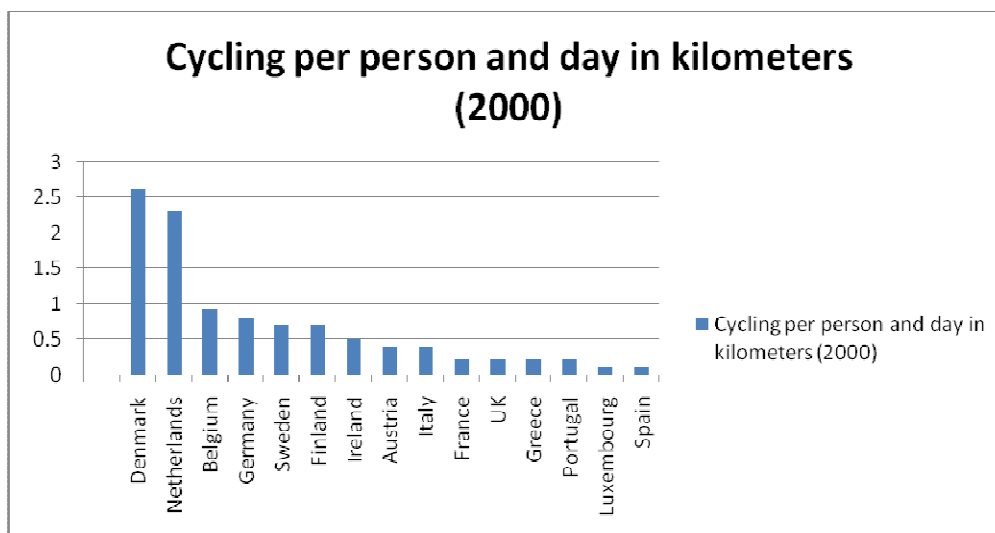
- many of such trips could be replaced by the bicycle (For longer journeys the bicycle can be combined with public transport).

This potential for cycling is also illustrated by these two following graphs:

Graph 1: While on European average around 5 % of all trips are made by bicycle, this is as much as 27 % in the Netherlands and as low as 1 % in several Southern European countries like Greece, Portugal and Spain. On a city level, several cities in the Netherlands boost a cycling modal share of 35 to 40 %, such as Groningen or Zwolle.



The second graph illustrates the number of kms cycled per day per person in a specific country. Denmark is taking the lead with 2.6 km/ day, cycling 10 times more than citizens in France, the UK, Luxembourg, Greece, Portugal and Spain.



What is sustainable transport?

Sustainable transport systems make a positive contribution to the environmental, social and economic sustainability of the communities they serve. ECF is convinced that cycling delivers benefits to all three streams of sustainability, to be explained here more in detail.

Environmental

Cycling has significant environmental benefits: it has a benign environmental impact since it creates no atmospheric and noise pollution, consumes no finite resources and does not cause congestion. Therefore, every kilometer travelled by bicycle or foot will be a kilometer without environmentally damaging emissions.

On the other hand, the impact of motorized transport on the environment is still tremendous. Therefore, if motorized transport is the problem, cycling as an emission-free mode of transport can be part of the solution. The Charter of Brussels, signed during the Velo-city 2009 Conference by close to 40 cities, asks the European Union to set a target of 15 % for the share of cycling in the modal split. This would mean a tripling of cycling trips compared with today's level.

Save 5 % of CO₂ transport emissions by 2020

A new car sold in the EU in 2006 emitted on average 158 g CO₂/km. However, in urban areas cars are even less energy-efficient due to congested conditions, cold engines, and frequent acceleration and braking. This increases the CO₂ emissions in urban cycles by around 30% to 212 g CO₂/ km. A tripling of cycling, as anticipated by the Charter of Brussels, at the expense of individual motorized trips, would save 49.1 million tons of CO₂ or 5 % of CO₂ transport emissions.^{viii}

Decrease dependency on fossil fuels

At the same time, suggested increase in cycling would decrease the transport sector dependency on fossil fuels which today stands at a staggering 97 %. 15 % cycling modal share would equal the consumption of around 353.000 barrels of fossil fuels a day. This is 8 % of the oil used for the use of the private car (around 4.4. million barrels a day) and would save the European consumer around 8.37 billion \$ annually^{ix}.

Air pollution

Although the overall air quality has improved in many cities due to the application of stricter EURO emissions standards, too many hotspots in many cities across the continent still exist. NO_x and fine particles must be further reduced. Again, the bicycle as a non-polluting mode of transport can play a crucial role in obtaining reduced air pollution levels.

Noise pollution

Almost 67 million people (i.e. 55% of the population living in agglomerations with more than 250 000 inhabitants) are exposed to daily road levels exceeding 55 Lden (an EU benchmark for excessive noise), having a negative impact on peoples' health. Cycling as a virtually silent means of transport can be part of the solution.

Land Consumption

Cycling makes fewer demands on space unlike cars which are making increasing demand on road space, having controversial effects on the landscape by destroying habitats and dividing communities. In terms of numbers: You can park around 10 bikes in the space required for one car. One lane of typical road can accommodate 2,000 cars per hour – or 14,000 bikes.

Social

Accessibility and mobility

Citizens have the right to mobility and accessibility. Both are vital to a city's social and economic functioning and quality of life. Alayo et al. defines accessibility as “being able to get to something readily (i.e. all users, including pedestrians and cyclists, need safe access to and from people and places). The car is often seen as fulfilling the requirements for accessibility and mobility. However, it has been “the victim of its own success”^x. Too many cars has led to congestions and unsafe conditions for vulnerable road users, and resulted in a lower level of mobility and choice than expected. In particular young and elder people are victims of this development. Reduced car use will improve accessibility and mobility for many citizens.

According to the European Environmental Agency, the key to improving mobility and accessibility in cities is to ensure that everyday facilities and activities can be reached easily and safely through all modes of transport, for all sectors of society (including the young, elderly, disabled and those who do not wish to have a car). As the ageing of the population is one of the main trends and challenges identified by the Commission for the future, it is imperative to ensure mobility and accessibility for this growing part of the population.

Costs

Buying and maintaining a bicycle is relatively inexpensive compared to with a car. It therefore offers a relatively inexpensive means of improving the accessibility of poor people (World Bank, p. 30). Also running a bicycle infrastructure system is a lot cheaper compared with public transport.

Cycling promotes the equality of opportunity

The wealthiest 20% of people typically travel 4.5 times farther by car and rail than the poorest 20%. However when it comes to cycle use, this gap is more than halved^{xi}.

Economic

In its Communication, the Commission refers to the economic benefits of transport: the transport industry at large accounts for about 7 % of GDP and for over 5 % of total employment in the EU. Commissioner Tajani uses these figures time and again in his speeches.

However, transport also imposes high costs on individuals as well as on societies, both directly (e.g. road construction and maintenance) and indirectly (e.g. casualties, pollution, congestion, etc.). Decreased levels of individual motorized transport and increased cycling can decrease external costs of transport substantially.

External costs

The Commission estimates in its Communication the external costs of transport at 2.6 % of GDP. Other studies suggest as much as 4 % and 8 %.^{xii} The overwhelming majority of these external costs are caused by individual motorized transport. The European Environmental Agency estimated in 2007 these costs at 600 billion Euro for the EU-15 alone.^{xiii} These externalities are in particular high in urban areas due to congestions, and the high number of people exposed to exceeded air and noise pollution levels. However, rather than being borne by the individual transport user who caused them (= polluter pays principle), external costs are placed on society as a whole.

Increased urban efficiency and quality

Cycling can improve a city's quality of life and environmental quality and hence attract individuals/businesses, benefiting local economic performance. Several international rankings show that cycling-friendly cities are at the top in terms of quality of life.

Congested cities have made them unattractive and inaccessible, often forcing businesses and consumers away, damaging the economy. Moreover, despite common belief, it has been shown that shop turnover in inner city centres is not dependent on accessibility of the shop by car. A study of consumers in Utrecht showed that cyclists spend more in the city centre than motorists.^{xiv} Cyclists shop more frequently and may be more prone to "impulse purchases".

Congestions

Congestions are economically highly inefficient due to lost working hours, delays, inability to forecast travel time accurately, wasted fuel, stressed and frustrated motorists, etc. Traditional solutions included making the "pipe" large enough to accommodate the total demand for peak-hour vehicle travel (supply-side solution), either by widening roadways or increasing "flow-pressure" via automated highway systems. Down-side solutions aim at reducing traffic (demand) by means of parking restricting, reducing road capacity to force traffic onto other travel modes (examples are traffic calming and the shared space concept), road pricing (for example congestion charging), etc.

ECF in general is clearly favouring a demand-side approach, with the exception of walking and cycling facilities. Experience tells that supply-side solutions create more transport: highways create more individual motorized transport, bicycle paths create more bicycle transport.

Savings on infrastructure

Due to the severe financial and economic crisis, public budgets are tight for the years to come. Investing in the bicycle is very cost-effective. Investments into public transport would need to be much higher in order to achieve the same environmental results.

Reduced health costs at both individual and public level

Traffic has a detrimental impact on health. Air pollution is causing respiratory problems; around 65 % of people in the WHO European region are exposed to levels of noise leading to sleep disturbance, speech interference, annoyance, increases aggression, heart disease and hypertension.^{xv} Half the adult population in developed countries is sedentary or does minimal physical activity. This explains why obesity rates in Europe have taken off over the past years.

Physical activity is key for physical and mental health. The WHO therefore recommends 30 minutes of daily activity, which best can be integrated into daily routines. According to the WHO, 30 minutes of physical activity a day reduces by 50 % the risk of developing coronary heart diseases; by 50 % the risk of developing adult diabetes; by 50 % the risk of becoming obese; by 30 % the risk of developing hypertension; it relieves symptoms of depression and anxiety; it contributes to prevention of falls in the elderly.^{xvi}

Health risks are associated with cycling and walking, too, the most serious of which are accidents involving cars. Nevertheless, there is evidence that on balance the benefits to life expectancy of choosing to cycle are 20 times the injury risks incurred by that choice.^{xvii}

The World Health Organization has developed the **Health economic assessment tool for cycling (HEAT for cycling)** that ECF strongly recommends to all decision-makers and city planners when deciding on new road infrastructure. The HEAT tool can be applied in several cases, such as:

- When planning a piece of new cycle infrastructure;
- To value the mortality benefits from current levels of cycling;
- To provide input into more comprehensive cost-benefit analyses, or prospective health impact assessments.

Improved road safety

Road safety improves with responsible driver behavior, lower speeds, less individual motorized transport. The more people cycle, the higher is road safety: Accidents caused by cyclists are not as severe as car accidents due to lower speed and lower mass. They are rarely fatal.

Cycling as such gets safer the more cyclists there are (= “Safety in numbers” concept).^{xviii} Car drivers are used to the presence of cyclists and are more likely to be cyclists themselves. UK research has shown that a doubling in cycling makes cycling 34% less risky.

Solutions for a *Sustainable* Future of Transport

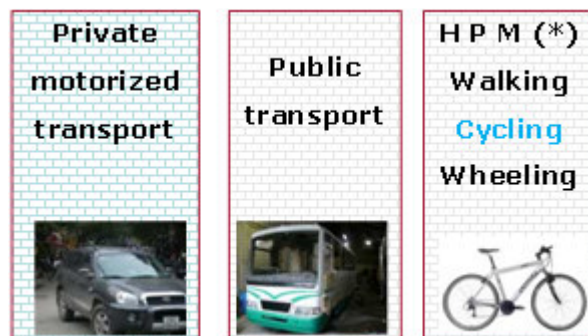
Cycling has many advantages, it is a key to bring transport on a sustainable path. The good message is: cycling transport can be produced as any other kind of transport. However, introducing coherent pro-cycling policies will need to go hand in hand with measures in order to curb individual motorized transport. From an ECF point of view, this can be achieved by a number of demand management measures as well as by a strict application of the “Polluter pays” principle.

- 1) Coherent pro-cycling policies (on equal footing (and financing!) with public transport and individual motorized transport and Intermodality)
- 2) Demand management measures
- 3) Polluter pays principle (Road pricing etc)

1) Coherent pro-cycling policies

Third pillar

Human-powered mobility, of which cycling is part of, has to become on equal footing with public transport and individual motorized transport: This implies the establishment of a third pillar in transport planning administrations at every political level: local, regional, national, European. A pillar in its own right means dedicated staff working on human-powered mobility solutions and having adequate financial means at its disposal to plan, finance, and maintain walking and cycling infrastructure, etc.



* HPM = Human Powerd Mobility

Translated to the European level: the European Commission should employ an European Bicycle Officer/ Bicycle Unit, responsible for the stimulation and coordination of cycling policies from different DGs. Currently, this does not take place.

Investments in cycling infrastructure

EU transport infrastructure money spent on cycling stands currently at 0.9 %. This is clearly insufficient and needs to increase considerably. A prerequisite for obtaining EU transport infrastructure money should be the inclusion of bicycle infrastructure facilities. For example, the construction or renovation of railway stations, co-financed with EU money, should be linked to the provision of adequate bicycle parking infrastructure; likewise, for urban or interurban roads, intersections, etc, co-financed with EU money, bicycle provisions should be made obligatory.

Sustainable Urban Transport Plans

Adopting SUTPs has been proven an useful tool for rendering a cities' transport system more sustainable. In France, agglomerations of more than 100,000 inhabitants are obliged to adopt SUTPs. The EU should encourage all Member States to carry out a similar policy. The EU could also link the provision of EU transport infrastructure funds to the presence of such SUTPs.

Safe drivers and vehicles

Cycling gets safer the more cycling there is, so encouraging cycling must be central to road safety policies at all political levels. Crucial is also the perception that cycling is a safe thing to do in an urban environment.

Measures to be taken include:

- Making 30 kph the speed limit on most urban streets;
- Lowering speed limits wherever possible elsewhere and tackling speed;
- Making 'Bikeability' cycle training available to everyone, especially children. Future mobility patterns are very much decided in the adolescent age;
- Strengthening road traffic law and, crucially, its enforcement;
- Addressing the disproportionate threat from lorries (dead spot); prevent large lorries from entering inner cities;
- Monitoring the perception of danger that prevents people from cycling, instead of simply recording casualties alone. Crucial is the perception of the child's mother: she decides whether her kid cycles to school or whether it is driven by car.

Awareness campaigns

In many countries, successful cycling awareness campaigns have been introduced. They include "Cycling to School", "Cycling to Work", "Cycling to Shop". The EU should give its support to these kind of campaigns.

Better provision for combining cycling and public transport use:

The integration of the bicycle with the public transport system is imperative and has advantages for both sides:

- a) Well integrated they constitute a viable alternative to the use of the private car, even for longer distances;
- b) Cyclists are important feeders for the public transport system, contributing to the economic efficiency of the latter.

We therefore need:

- Good access to, from, through and within stations and interchanges for cyclists;
- Safe and secure cycle parkings, storage and hire facilities at stations and interchanges;
- Provision of adequate space for carrying cycles on public transport.

Bicycle rental systems

These systems have been introduced in many different European cities over the past years, some are highly successful. Paris is home to the largest system of its kind in the world, called Vélib, a network of 20,000 specially designed bicycles distributed among 1450 stations throughout the city. Due to Vélib, 50 million trips were done by bicycle over the past two years; 46 % of users said that they would use less their private car, 96 % stated that Paris has become a more pleasant place to live.

Pedelecs

A new trend in the bicycle industry are so called pedelecs (Pedal Electric Cycle). ECF is in favour of these types of bicycles, as it has the potential to increase levels of cycling, in particular for covering longer distances, for elder people, for commuters who do not want to arrive sweaty at work, and in hilly topography. Pedelecs are still very expensive compared with normal bikes. ECF therefore welcomes financial schemes as for example set up by the Italian government to support the purchase of these bikes.

Intelligent Transport Systems (ITS)

ITS can contribute to solve urban transport problems in many ways and can alleviate cycling in an urban environment. However, increasing car road capacity by means of ITS is not the approach to be pursued as it will increase traffic volumes. This is not desirable.

In terms of cycling, ITS can contribute:

- *On the bicycle:* navigation systems, anti-theft chips, GSM-based rental system, GPS tracking, electric support when needed.
- *In bicycle parkings:* automatic (underground) parkings, access to parkings, counting of empty (available) places, bicycles lockers
- *In bicycle renting:* automatic systems, access to lockers
- *On the internet:* reservation of bicycles, bicycle routes, routeplanning for cycling (secure routes, green routes, safe routes, etc.)
- *In traffic management:* VMS for bicycles, traffic lights with faster green when raining, priority for cyclists
- *Linking cycling to other modes:* routeplanner with links to public transport, bicycle renting connected to public transport, park and bike systems.

Demand management solutions

Decision-makers have a number of demand-management measure at their disposal in order to curb individual motorized transport.

Parking restrictions

This is a very powerful tool to reduce individual motorized transport. It makes motor vehicle use less attractive by increasing the monetary and non-monetary costs of parking, introducing greater competition for limited city or road space. A good example is the City of Copenhagen that has reduced the number of parking spaces by 20 percent between 1995 and 2005 within the Inner City.

Congestion pricing

Another tool to curb congestions is to introduce congestion pricing. From a European perspective, the congestion charges in London, Stockholm and Milan are of particular interest. The systems in place have proven to be successful. Demanding a price for a particular service – using a road to enter the inner city centre at a specific time – has reduced traffic volumes by 10 to 30 % in these districts. At the same time, air

quality improved, the use of sustainable transport modes increased, hereby reducing the external costs of transport.

There are also schemes in smaller cities in place, such as in Durham/ UK. The British city introduced charges in October 2002, reducing vehicle traffic by 85 % after a year.

ECF therefore is clearly in favour of congestion pricing. However, in our view, we need to go beyond the existing schemes, heading towards a strict application of the “polluter pays” principle: every motorized journey is producing external costs which should not be borne by the society but by the user itself. Clearly, the extent of external costs depends on the type of vehicle, type of road being used at what time, etc.

Fake solutions

Electric cars

We are afraid that the European Commission will put all its attention on “technological” solutions in order to render the transport system more sustainable. One of these “solutions”, hyped up by the media, are electrical cars. A few points of concern:

- Electric cars will not be a mass phenomenon on European streets for the foreseeable future. The German government, for example, announced plans to subsidize the purchase of 1 million e-cars in Germany by 2020. This is a mere 2.5 percent of the current entire German car fleet and will not bring about the drastic CO2 emission cuts we need now.^{xix}
- The electric car can give a long-term response to the noise pollution problem, to the dependence on fossil fuels and the CO2 problematic (provided the electricity will be generated from renewable sources). However, the e-car does not pose a solution for the limited space in urban areas, the road safety issue and health problems linked to sedentary lifestyles. A transport system can only be truly sustainable if it stimulates active travel!
- Contrary to e-cars, e-bikes can be a solution. The product is there and it is already a mass phenomenon: In the Netherlands, 140,000 e-bikes were sold in 2008 alone^{xx}, in Germany 100,000 units in the same year!^{xxi} Business forecasts predict further growth across the EU.

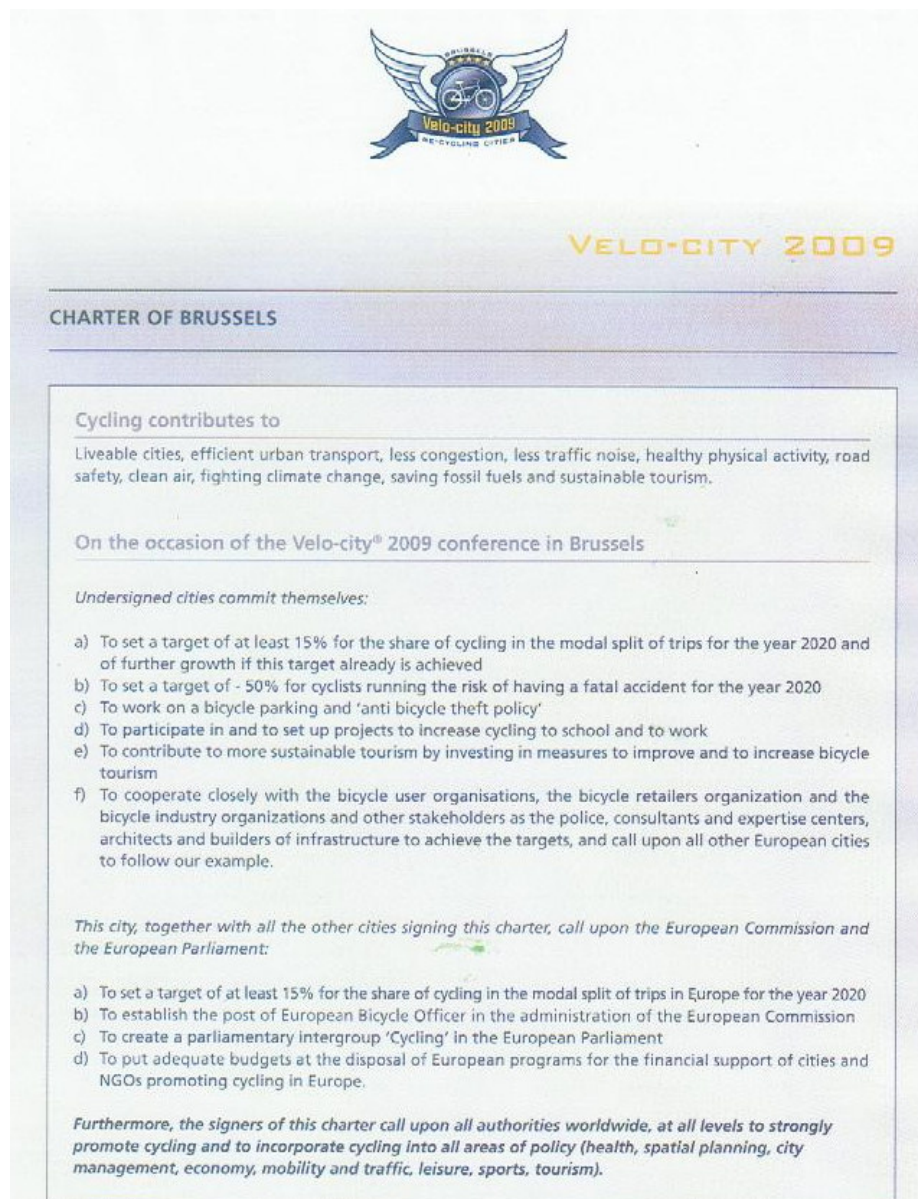
Gigaliners

Gigaliners belong to the category of “traditional” solutions, aiming at increasing the supply-side. However, the necessary adjustments in infrastructure are very expensive and by no means justified. They also pose a major threat to vulnerable road users, including cyclists. ECF is against Gigaliners.

Summary

Cycling is a fully-fledged means of transportation, flexible, inexpensive and environmentally friendly. For many and very obvious reasons, ECF makes a strong plea for a **modal shift**. The numerous advantages of the bicycle as described above speak for themselves. Cycling is the best means of ensuring environmental sustainability, quality of life and economic development. Numerous European cities that boost a high cycling modal share show the example.

The ECF, its 60 member organizations and numerous cities across Europe having signed the CHARTER of BRUSSELS therefore call upon the European decision-makers to set a target of 15 % of cycling by 2020 for the EU-27. This would mean a tripling of cycling levels compared with today. Ambitious, but attainable. It only needs political leadership!



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- ⁱ World Health Organization (WHO), 2000: *Transport, environment and health*, WHO Regional Publications, European Series, No. 89, p. 5.
- ⁱⁱ European Commission, 2007: *Green Paper 'Towards a new culture for urban mobility'*, p. 3.
- ⁱⁱⁱ European Commission, 2007: *Green Paper 'Towards a new culture for urban mobility'*, p. 3.
- ^{iv} European Commission, 2007: *Green Paper 'Towards a new culture for urban mobility'*, p. 3.
- ^v WHO, 2000, p. 6.
- ^{vi} WHO, 2000, p. 32.
- ^{vii} European Conference of Ministers of Transport (ECMT), 2004: *National Policies to Promote Cycling*, p. 24.
- ^{viii} ECF response to the public consultation on the Action Plan for Energy Efficiency, July 2007: http://www.ecf.com/3644_1
- ^{ix} ECF calculation based on the market price of 65 \$/ barrel (28 September 2009).
- ^x European Commission, 1999: *Cycling: the way ahead for towns and cities*.
- ^{xi} CTC's new vision for cycling, http://www.ctc.org.uk/resources/Campaigns/CTC_Safety_in_Numbers.pdf
- ^{xii} INFRAS, 2000: *External costs of transport (accidents, environmental and congestion costs) in western Europe*.
- ^{xiii} EEA Report 01/2007: *Transport and environment: on the way to a new common transport policy*, p. 28.
- ^{xiv} Interface for Cycling, 2000: *The economic significance of Cycling: A study to illustrate the costs and benefits of cycling policy*.
- ^{xv} WHO, 2000, p. 6 and pp. 9ff.
- ^{xvi} WHO, 2000, pp. 30 – 31.
- ^{xvii} *Ibd.*
- ^{xviii} CTC, Safety in numbers: http://www.ctc.org.uk/resources/Campaigns/CTC_Safety_in_Numbers.pdf
- ^{xix} Households in Germany had a total of 40 million passenger cars at the beginning of 2008:
http://www.destatis.de/jetspeed/portal/cms/Sites/destatis/Internet/EN/press/pr/2009/03/PE09__123__632.psmi
- ^{xx} Source: Bike Europe: <http://www.bike-eu.com/facts-figures/market-reports/3378/the-netherlands-2008-e-bikes-money-machine-for-bike-sector.html>
- ^{xxi} <http://www.bike-eu.com/facts-figures/market-reports/3445/germany-2008-sales-down-exports-up.html>