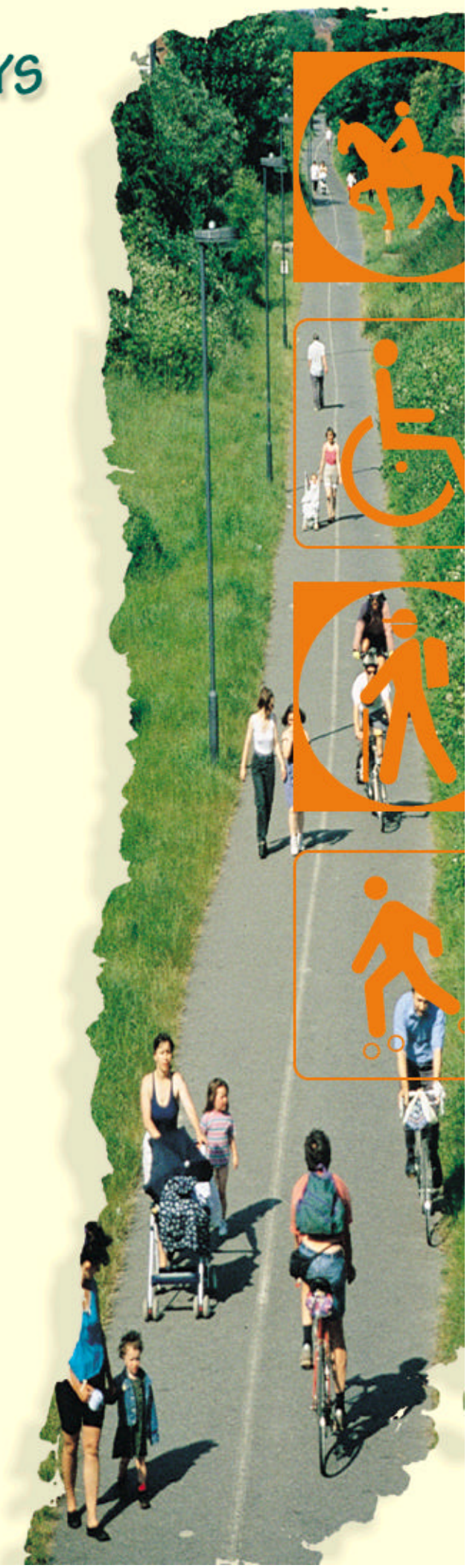
THE EUROPEAN GREENWAYS GOOD PRACTICE GUIDE:

Examples of Actions Undertaken in Cities and the Periphery



ASSOCIATION EUROPÉENNE DES VOIES VERTES
EUROPEAN GREENWAYS ASSOCIATION
ASOCIACIÓN EUROPEA DE VÍAS VERDES

EUROPEAN COMMISSION

DG Environment

12

Practical Tips for the Local Decision-Makers

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2. Inventory of Greenways and Mapping of all collected data.
3. Definition of the ownership status of the infrastructures.
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Greenways are routes dedicated to non-motorised traffic: pedestrians, cyclists, people with limited mobility, horse-riders, roller-skaters,... These routes make use of linear infrastructures partially or completely out of service, such as disused railway lines and canal-towpaths, linked by riverside paths, forest tracks, sections of quiet lanes and traffic calmed roads, and other routes like the great historic itineraries and pilgrims' routes, the old drove ways, etc. These routes will often become the basis around which a wider network is developed.

Since it was established in January 1998 the European Greenways Association has set itself the goal of promoting the creation of these routes, and encouraging exchange of knowledge and experience in this area.

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EXAMPLES OF ACTIONS UNDERTAKEN IN CITIES AND THE PERIPHERY

ASSOCIATION EUROPÉENNE DES VOIES VERTES
EUROPEAN GREENWAYS ASSOCIATION
ASOCIACIÓN EUROPEA DE VÍAS VERDES

With the support of

EUROPEAN COMMISSION

DG Environment

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Roberto Gabriele (City of Rome), Olivier Guillitte, Raphaël Murat and Philippe Coupy (AF 3V), Gilbert Perrin (Chemins du Rail), Martine Piret (City of Charleroi), Sustrans.

Printing: *Ibergráficas S.A.* (Madrid)

Legal Depot: M-21703-2000

Printed in Spain

PRINTED ON CHLORINE-FREE PAPER

Index

THANKS

The European Greenways Association would like to express its thanks to those people who have willingly cooperated in producing this Greenways Good Practice Guide. The presentation of the various examples of Greenways has been made possible thanks to the financial assistance, information and documents kindly made available by the project's associates:

EUROPEAN COMMISSION

DG Environment

- The Ministry of the Walloon region, General Directorate for Land Use Planning, Housing and Real Estate (D.G.A.T.L.P.), Land and Town Planning Division (D.A.U.) (B)
- The Walloon Ministry for Equipments and Transport (M.E.T.) (B)
- The French Ministry for Land Planning and Environment (F)
- The French Ministry for Youth and Sport (F)
- The Spanish National Railway (E)
- The Spanish Railway Foundation (E)
- Chemins du Rail Association (B)
- Nature Reserves Association RNOB (B)
- French Association of Cycling Routes and Greenways, AF 3V (F)
- The Italian Greenways Association (I)
- Sustrans (UK)

The European Greenways Association would like to extend special thanks to the representatives from the councils, institutions and associations who took an active part in the research.

Germany: Mr. *Hans Dieter Collinet*, architect, Head of Department, Ministry for Labour, Social Affairs, Town Planning, Culture and Sport, North Rhein-Westfalia.

Belgium: Mr. *Gobin* and Mr. *Vanderbiest* from Toerisme Vlaanderen, Mr. *Yves de Baets* from the Ghent Mobility Service, Mr. *Koen Van den Heuvel*, mayor of Puurs, Mr. *Marc Van Opstal*, land valuer-topographer in Puurs, and Mr. *Jo Verwimp*. We would also like to thank Ms. *Martine Piret* in the Charleroi Land Planning Service, Mr. *Joël Merlin* from I.B.G.E. in Brussels, Mr. *Patrick Frenay* and Mr. *Pierre Lorent* from the AGORA consultancy in Brussels.

Spain: Mr. *Carlos Zapico* from the Gijón Town Council, Mr. *Vicente Dómine* from the Regional Government of Valencia, Mr. *Xavier Corominas* from the Carrilet Greenways Consortium and Ms. *Elena Gómez* from the Diputación Foral de Álava.

France: Ms. *Charmet*, Conseil Général de Seine-Saint-Denis; Mr. *Lopez*, Mouvement de Défense de la Bicyclette, Ms. *Champlon* and Mr. *Gilbert*, President of the Club des Villes Cyclables, Paris; Mr. *Ellion*, Municipal Councillor for Traffic and Parking, and Mr. *Farge*, Mission déplacement, City of Nantes; Mr. *Flamand*, Place au Vélo, Nantes; Mr. *Diény*, General Director for Environment and Town Planning and Mr. *Petit*, Head of Studies and Works Service, Savoie Regional Government; Mr. *Lortet*, Cycling Consultant and Mr. *Mercat*, Altermodal, ville de Chambéry; Mr. *Noir*, Roads network, city of Chalon-sur-Saône; Mr. *Gentien*, General Councellor, and Mr. *Lebreton*, Communication Service, Conseil Général de Saône et Loire.

Italy: Mr. *Gianni Stefanati*, responsible for cycling policy in the city of Ferrara, Mr. *Roberto Gabriele*, City of Rome architect, Ms. *Carminati*, Urbanism and Planning Service, as well as Mr. *Scalia*, Roads Service, city of Milano.

In the European Cyclists' Federation (ECF), Ms. *Marie-Caroline Coppieters*.

Mr. *Michel Van der Meerschen* assisted us in the translation of documents in Italian, Mr. *Jan Schamp* in documents in Dutch and and Ms. *Carmen Navajas* and Ms. *Elisa Briz* in translating Spanish texts.

Mr. *David Burwell*, President of Rails-to-Trails Conservancy, and Mr. *Hugh Morris*, Head of Research (U.S.A.), assisted in bibliographic research.

In summary we would like to thank everyone who contributed to making this Guide a reality.

Prologue

*As those responsible at local level, you have to carry out, in the best possible way, the demands arising from national and European legislation on air quality, while at the same time encouraging your town's social, economic and cultural development. For that reason, "**The European Greenways Good Practice Guide**" is aimed directly at you.*

This Guide, an initiative undertaken by the European Greenways Association, approaches the mobility problem from an innovative point of view. The well-documented examples explained in this Guide might serve, as we hope they will, as an inspiration for actions which should be taken for the successful launch and development of Greenway projects.

80% of Europeans live either in urban areas or in their periphery and are faced with problems of mobility on a daily basis. The preparation of Greenways, whether complete networks or one-off measures, obviously in conjunction with other initiatives can undoubtedly add to the attraction of your town or city. Large cities such as Rome or Paris, or smaller ones such as Charleroi, Chambery or Gijon have been able to get the best out of the infrastructure at their disposal. Some cities such as Bristol embarked on a similar experience some years ago, while others such as Ferrara or Ghent have just started to take the first measures within the framework of a wider mobility plan. One thing they all have in common is that they are willing to share their experiences and knowledge.

I hope that this second guide to non-motorised transport is as successful as our recent manual on the use of bicycles in the city "Cycling the way ahead for towns and cities" which allows us to make the best of the experience acquired, develop further actions already started and perhaps, allow us to look forward to a real greenway network throughout Europe.

Europeans' quality of life will be clearly improved.

MARGOT WALLSTRÖM

European Commissioner for Environment

Why do we need a European Greenways Good Practice Guide?

The European Greenways Association, established in January 1998, has set itself the tasks of recording, informing and promoting anything to do with the creation of greenways , slow ways or light ways dedicated to non-motorised traffic on self-contained routes such as disused railway lines, and towpaths running along navigable waterways[1].

Over these last few years, greenways have taken on a very significant role in transport matters, both in various European countries as well as in the USA and Canada. The greenways allow citizens to come closer to nature and to become more aware of their immediate surroundings. These routes encourage the development of open-air activities and active tourism, and promote the creation of new jobs, principally in rural areas.

By supporting the recovery of former transport corridors (and especially former railway lines) to build car-free, accessible and safe routes, the European Greenways Association encourages the use of non-motorised means of transport, such as cycling and walking, not forgetting about people with diminished mobility. This is in line therefore with the general guidelines issued by the European Commission regarding air protection in urban areas and the periphery and with its fight against climatic change.

This study is the result of a joint effort which brings together the experiences of various members of our Association. Its members either promote or develop greenway projects and are established as expert spokesmen/women for choosing the most significant activities in their respective countries. The Guide describes actions undertaken in member countries of the European Greenways Association. These countries possess a genuine desire to satisfy the increasing demand for non-motorised transport, whether solely leisure-related or related to day-to-day journeys for reasons of work, education or shopping. This reinforces the truly international scope of the movement.

This Guide has been drawn up as an instrument for increasing awareness of a new transport concept. Its aim is to increase awareness among public authorities, and other social groups which may be concerned about this problem. It should therefore allow European cities to take advantage of the experience gained by others, to encourage initiatives already under way and create an atmosphere for a new way of looking at the best use of redundant transport corridors.

By giving the most significant examples, the Guide describes the measures taken at local regional or national level to encourage this type of action in varying geographic, cultural and economic contexts.

It also serves to show that many European cities are equipped with the necessary infrastructure to allow the promotion of non-motorised journeys and therefore comply with the demands placed on them by national and European directives relating to air quality.

While bringing greenways into proper working condition will not by itself solve air pollution or traffic congestion in cities, it nevertheless represents a first step.This, we hope, will make people consider new ideas and help change people's way of thinking in favour of using non-motorised means of transport which show more respect for our environment.

JOAQUÍN JIMÉNEZ

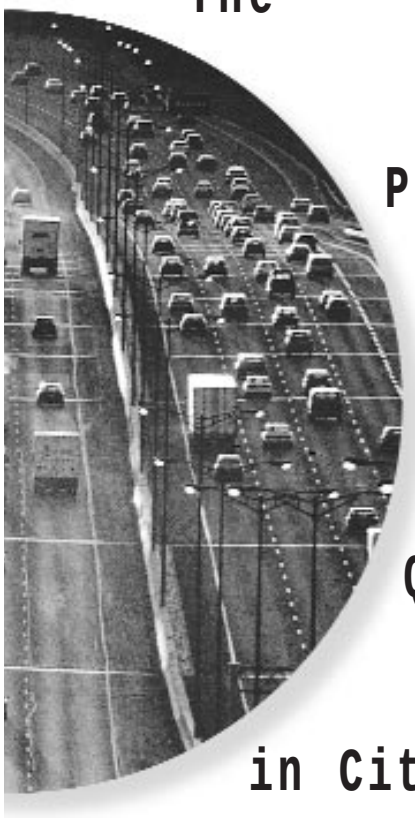
President of the European Association of Greenways and

Director of Studies and Programmes at the Spanish Railway Foundation

1. *cfr statutes of European Greenways Association, art. 1*

PART I:

The Problem of Air Quality in Cities



1.1. European measures

According to "Eurobarometre" data from 1999, the declining state of the environment is a concern for one out of every two Europeans. The reasons behind this concern are exactly the same as those voiced in 1995. The principal concern relates to the density of motorised traffic and the second to air pollution; they are two factors which are closely related to each other and which become more critical in the major urban centres.

The problem of air pollution is complex and takes no account of national borders. The increase in the number of vehicles in circulation, and the extremely high levels of air pollution recorded in European cities over the last few years make us forget, at times, the efforts which have been made to date, the improvements achieved (fall in the level of sulphur and lead emissions) as well as national and European initiatives and legislation relating to air quality protection.

Traffic Congestion:	51 %
Air pollution:	41 %
Negative impact on the countryside:	39 %
Waste and rubbish:	35 %
Noise:	31 %
Lack of Green Spaces:	29 %
Quality of Drinking Water:	29 %

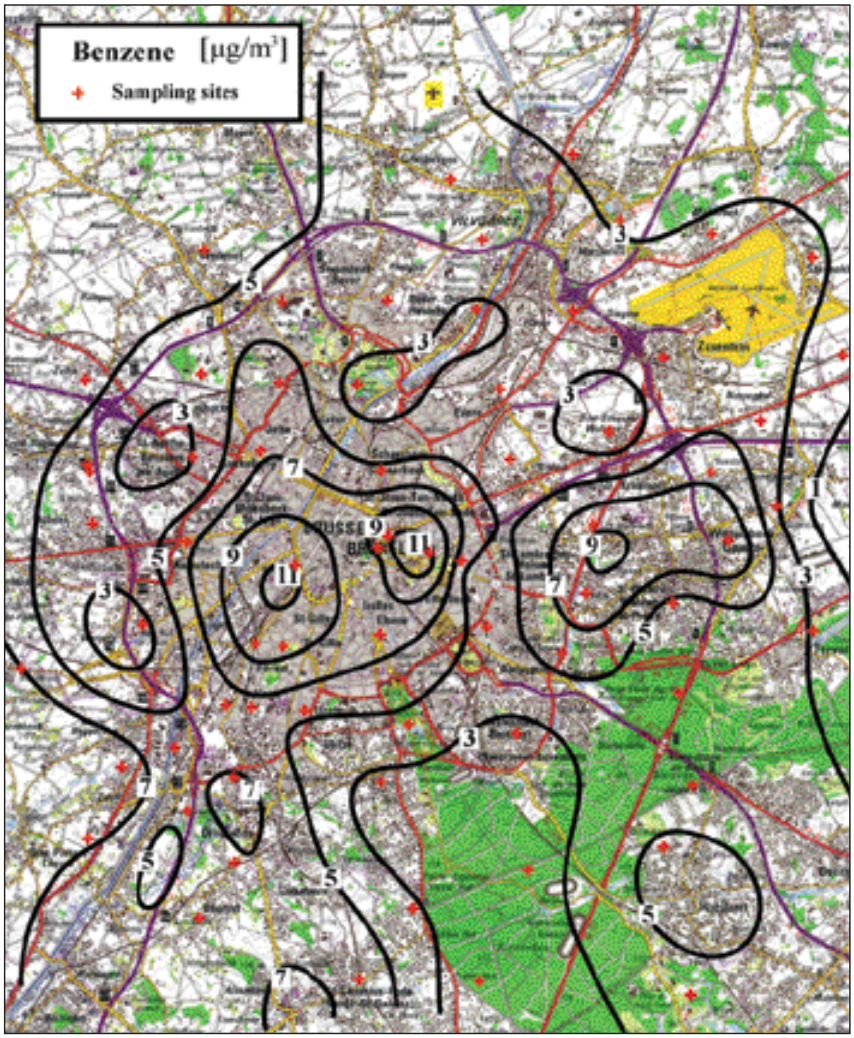
Europeans' complaints regarding their immediate environment (source: Eurobarometre, 1995).

Right at the beginning of the eighties, the European Commission established a series of measures aimed at reducing gas and particle emissions into the atmosphere. The first of these was aimed at defining a legal framework regarding laws for air quality. More recently, the European framework-directive[2] on air quality and its improvement, paved the way for a new approach in policy formation, and allows, notably, comparison between data from various different countries.

Each member State has the obligation to guarantee control over its air quality according to the European Union directive. Cities with more than 250,000 inhabitants are obliged to inform their citizens when permitted levels[3] are exceeded by a significant margin and to put measures in place, principally relating to transport, to ensure that air quality is restored.

The framework-directive also envisages the publication by the Commission of the annual report listing the cities in which air

2. *Reference 96/62/CE, DO L 296 dated 21/11/96. The framework-directive on air quality was adopted on Sept. 27th 1996.*
3. *The ozone concentration index above which the population should be informed has been set at 180 microgrammes/m^3.The level of alarm above which the national governments must take corrective measures is 360 microgrammes/m^3.*



The Framework-directive envisages the publication by the Commission of the annual report listing the cities in which air quality is considered as insufficient.
Air pollution monitoring campaign.
Brussels 22/01/94 - 05/03/94.

quality is considered as insufficient. Publication of this list is important to potential investors, insofar as it may influence their choice of location. As a result, cities are encouraged to develop sustainable transport policies, taking due consideration of those using non-motorised transport, and to take due note of the potential offered by greenways.

The European Union directive dated 27th September 1996 on improving air quality represents an important instrument that can help in the development or expansion of greenway networks in urban centres and the periphery of cities.

It can be seen that the established legislation in most European countries is aimed at achieving better management of air quality. However, if these measures are only implemented in part, they run the risk of not achieving the desired result. ***The preparation of greenways can contribute to the establishment of a long-term strategy to combat air pollution***. This type of policy should prove to be more effective than short–term shock tactics, such as those concerning the ozone concentration peaks for example.

Noise also represents a considerable negative factor, with vehicles as the prime culprit. Around 80 million people in the European Union are currently subject to noise levels of more than 65 decibels[4]; this is the limit considered dangerous by the World Health Organisation.

The European Commission, extremely concerned by this problem, is currently examining the way in which to bring in framework legislation relating to noise levels.

The car, victim of its own success, to-day represents an obstacle to mobility in urban centres.

4. BOCHU C., SLOW TRAFFIC AND THE EUROPEAN UNION, *First European meetings on slow traffic, 1998, p. 143.*

1.2. Other initiatives

There are, in addition to the legal measures, other initiatives which are intended to provide an answer to Europeans' concerns, stirring the parties concerned into action. Cities have organised themselves into networks, via which they can exchange experiences and support policies of sustainable development. Their main objectives consist of reducing air pollution, energy consumption, and the traffic problems in major urban centres, primarily by encouraging the use of more environmentally friendly modes of transport. Most of these networks work in co-operation with interested parties in the transport field as well as with the European Commission.

The city networks are organised into forums for the exchange of ideas and experiences to promote urban mobility in harmony with its surroundings.

We could cite, as an example, ***Car Free Cities*** launched in 1994 which currently attracts representatives from some 70 European cities.

One of the areas in which *Car Free Cities* is working concerns research into practical alternatives to the private car, and encouraging the concept of car-free cities. The network organises conferences to share knowledge and exchange experiences, and offers technical assistance to city representatives. It is interesting to emphasize that several of the examples of greenways described in this Guide have been put forward by members of this network: Charleroi (B), Brussels (B), Ghent (B), Nantes (F) and Ferrara (I). *Car Free Cities* is also general secretary to the *Mobility Management* network whose actions have a more direct affect on professional travel.

Energie Cités is an initiative similar to that undertaken by *Car Free Cities* and which is concerned with environmental protection in towns and cities and with rational energy use. This network is conceived as a think tank in the sphere of energy control, while at the same time playing a role as intermediary and catalyst between European cities and institutions. *Energie Cités* actions extend to over 150 cities, both European and non-EU. The cities of Ferrara (I), Brussels (B) and Nantes (F) which form part of this network have provided examples of greenways included in this guide.

It is also worth mentioning ***Cities for Cyclists*** – a network of cities adapted for cyclists, created in Milan in 1991 and which is currently made up of some thirty local authorities in 14 countries. This network permits the exchange of ideas between cities with differing degrees of knowledge and experience in the use of the bicycle.

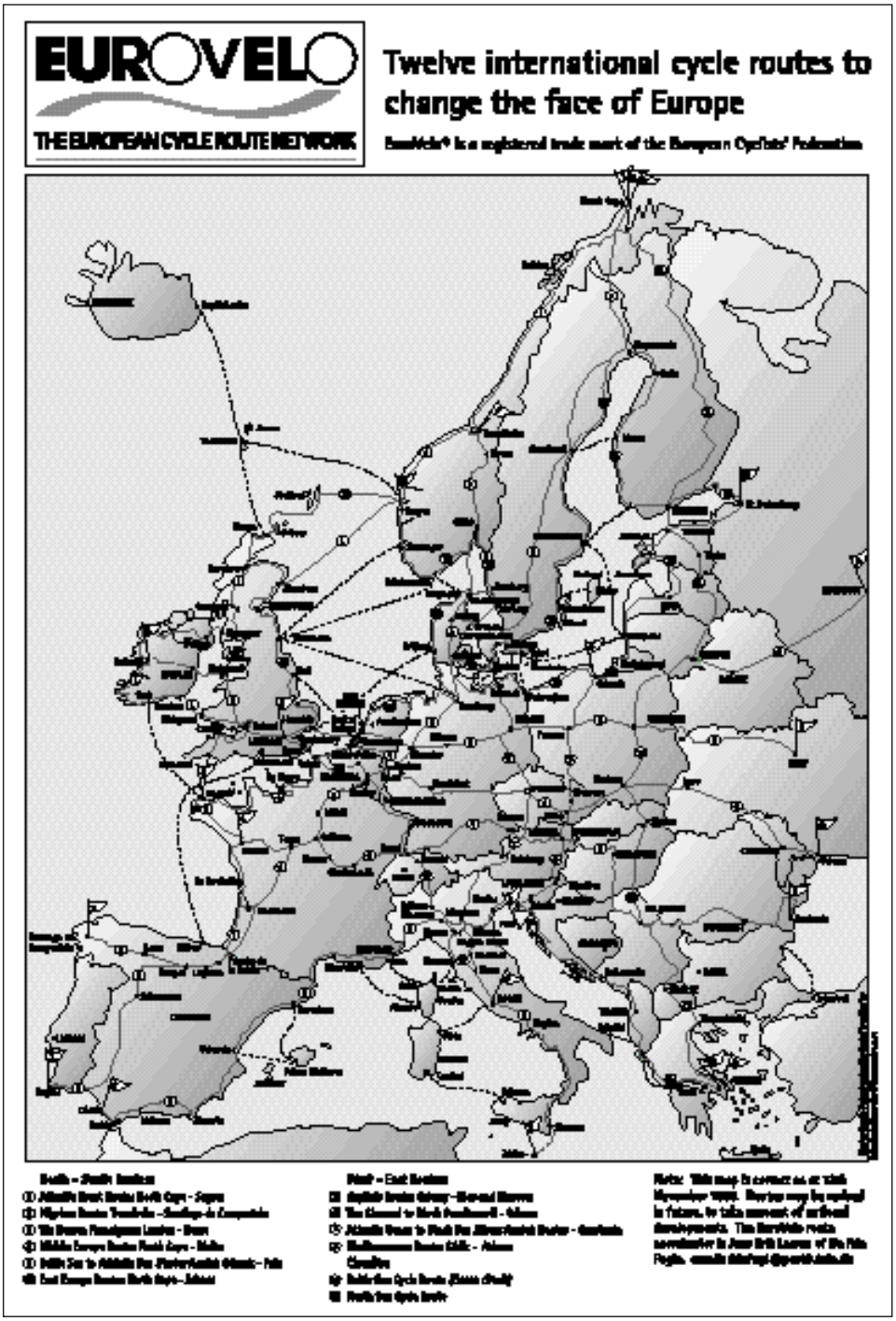
Another network, the European Charter for Sustainable Cities aims to promote the development of *Agenda 21*[5] at local level. This initiative which is shared by almost 620 cities, among them York (UK), Gijón (E), Girona (E), Madrid (E), Sevilla (E), Valencia (E), Vitoria (E), Chambéry (F), Roma (I), Brussels (B) and Charleroi (B), and which has developed several interesting greenway projects is supported by the European Commission.

These type of formulae for transnational co-operation should undoubtedly encourage greater involvement on the part of the actors involved, and perhaps achieve faster turnaround times for specific projects.

Furthermore, the creation of tourist routes derived from everyday or leisure-based transport corridors can have a positive economic impact on the regions through which these routes run, as well as encouraging the gradual substitution of the private car by the bicycle or walking. This is true of the ***EuroVelo*** project which proposes the preparation of 12 major cycle routes right across Europe.

This is a project put into motion by the European Cyclists' Federation (E.C.F.) and supported by the European Union. Its aim is to promote long-distance tourism by bicycle, increase the presence of bicycles in cities and thus provide a boost for the day-to-day use of this means of transport. The *EuroVelo* programme is thus complementary to the Greenway initiative.

5. *Signed by European cities in favour of sustainability.*



The EuroVelo project promotes long distance cycle routes across Europe.

By proposing the preparation of a communication network for non-motorised traffic, the European Greenways Association promotes the idea behind these different initiatives.

Numerous projects of this type have emerged in many countries; the ***Vías Verdes*** in Spain, the ***National Cycle Network*** in the United Kingdom, the ***RAVeL*** programme in the Walloon region in Belgium, the ***Schéma National de Véloroutes et de Voies vertes*** recently announced in France or even the ***Réseau national cyclable*** in Luxembourg.

In order to continue with this movement, it will be necessary to draw up an inventory of these experiences and a summary of the most efficient practices. In spite of the fact that the idea of self-contained routes reserved for non-motorised traffic is starting to become known in certain circles in some member countries, the concept of greenways and the numerous advantages which they offer, are still relatively unknown to the public in general, and often to many institutions.

PART II:

The Greenway Concept

2.1. What do we understand by the term Greenway?

Definition

Greenways, *vías verdes, voies vertes, voies lentes, voies douces*, green axes, green corridors,..., are all some of the many terms which, throughout Europe and the rest of the world, are used to describe transport routes dedicated to light non-motorised traffic. However, what is there really behind these terms and what are the origins of this movement which is now international in scope?

Greenways can take on numerous different forms. There is therefore no one simple definition of the concept, since it is intimately related to the history and culture of the regions concerned.

In general terms, 'Greenway' is used to define a communication route which has been developed for recreational purposes and/or for undertaking necessary daily trips (getting to work, place of study, shopping etc.) which we will call utility trips, using infrastructure closed to motorised traffic.

The definition proposed by the European Greenway Association takes into account the peculiarities of the various initiatives undertaken in Europe.

In the context of this study, ***Greenways refer to former transport routes in a specific location, partly or completely decommissioned, and which once properly restored, are made available to users of non-motorised transport such as pedestrians, cyclists, people with limited mobility, roller skaters, cross-country skiers***[6] , ***horse riders, etc ...***

Elements

The actions taken to put greenways into operation are based primarily on the use of disused railway lines, towpaths either currently or formerly navigable (canals, rivers ..). They also use forest paths, and frequently follow great historic routes, such as pilgrimage routes.

6. *Those practicing cross-country skiing.*

They are therefore existing routes, which are no longer used for their original purpose, and which are adapted to society's new needs relating to slow or light non-motorised traffic.

Characteristics

In order to be considered as a Greenway, these routes must comply with a series of common physical characteristics, which permit easy access and use by the maximum possible number of users, i.e.

- Gentle inclines (maximum 3%) or none at all,
- Set apart from the road network,
- Limited number of crossing points with roads. In the case of canals these are virtually non-existent,
- Route continuity through the maintenance of their public ownership and the selection of connecting routes in sections where this continuity has been lost.

They are routes which are practically uninterrupted, safe, easy and pleasant to travel over, whose general direction is easy to recognise by their physical characteristics and the way in which they blend into the landscape. Greenways are characterised by certain distinguishing elements which remind us of their original purpose: stations, lock houses, signs or other defining marks which may find new related uses. A legacy of the history of these routes, it is this that gives them their own personality differentiating them from other types of route.

Furthermore, in many cases, sections of the routes cross urban areas and join up different areas of activity (shops, services, public buildings, etc.), residential areas, green spaces etc. as well as connecting with public transport networks.

Greenways not only constitute ideal communication routes for non-motorised transport, whether for utility trips or leisure activities, but also represent a resource for physical well-being and a highly valued means of relaxation. The increase in time available for leisure pursuits and the need for rest as a result of the current conditions of urban life have simply strengthened the attractiveness of these linear spaces and encouraged urban dwellers to seek out and make use of them.

© Sustrans

2.2. The Actors

Users

Greenways are set aside for certain types of users of non-motorised transport, which we could also terms as *slow* or *light*. These are essentially pedestrians, cyclists and people with limited mobility. Depending on the surrounding areas and conditions permitting, other types of users such as roller skaters, horse riders, cross-country skiers, etc. may be allowed.

Many people are therefore, for different reasons, better off as a direct result of greenways, since they can use them for utility trips, whether on a daily or ad hoc basis, or for trips undertaken as (part of) leisure activities or tourism. Among the various types of greenway user, the following are worth mentioning:

- People who use greenways on a daily basis to walk or cycle to work or to travel to a public transport pick-up point (station, bus stop),
- Pupils and students who use them to travel to school,
- People who use them to travel to shopping areas, sports centres and other leisure activity centres,
- People termed as "vulnerable" (elderly people and the disabled as well as people with children and those carrying shopping or other parcels..) and who are aware of the safety offered by these routes, physically separated from the road network,
- Walkers, for whom greenways are places of leisure and rest,
- Children who use greenways as play areas or for learning to ride a bicycle or roller-skate,
- Users who use greenways to keep fit,
- or tourists who can use them as an alternative way of getting to know the town and countryside.

The variety of greenway users should not in any event let us forget that peaceful co-existence and politeness are "musts" in this type of route. The Good Behaviour Codes which each country has put forward defend, as a priority, the rights of slower users.

Among the different types of users, it seems that women show much more interest in these self-sufficient routes than men[7]. On the one hand women tend to show more tolerance to other users and generally avoid imposing their own will – even less so when they are cycling; what they are really looking for in the trips they make is convenience and safety. On the other hand, there are more of them making short trips, which they often make with children. Greenways offer them a particularly beneficial type of infrastructure.

Movers and Managers

Various different types of public authorities and institutions are involved in getting these routes into operating condition. They are primarily:

- Owners and private and public sector infrastructure authorities responsible for areas earmarked as future greenways (public and private rail companies, canal and navigable river authorities etc.).
- Local authorities of the towns and cities through which the greenways pass, who would like to conserve them and integrate them into a wider urban transport plan.
- Regional and national governments, with decision-making responsibility in town and country planning, environment, heritage, tourism, sport and leisure activities ..., as well as finance. These are the organisations which are ultimately responsible for launching greenway network projects.

7. *Ursula Lehner-Lierz, Australian Cyclist, LETTER FROM GERMANY, December 1998 - January 1999*

- The European Commission (General Directorates for Environment, Transport and Energy, Regional Policy, ..) which support this type of project, mostly by publicising the concept and by promoting the undertaking of transnational projects (Interreg), and the European Environment Agency.
- Development Agencies and Tourist offices who recognise the significant tourism potential of greenways. Tourism can help contribute to the conservation and development of greenway networks and guarantee that they are widely promoted.
- Associations (users, wildlife groups, ..) who have detailed knowledge of their regions and who must be consulted before developing a route. The associations also guarantee efficient communications between the authorities and the population.
- Last but not least the general population who will reap the direct benefit from greenways. However, in some cases they may be opposed to such projects, especially when the route in question has been abandoned for some time and has been occupied by local land- owners. The NIMBY phenomenon *(Not In My Back Yard)* is a common enough response to such proposals.

2.3. The movement´s origins

The basis for the greenways movement first appeared at the end of the 19th century as a result of the work undertaken by landscape and city architects such as Frederick Law OLMSTED[8] in the United States or Ebenezer HOWARD in the United Kingdom[9]. Though its origins can largely be traced back to Europe, especially linked to the *hygiene and progress*, movements which emerged in France and the development of the *Garden Cities* in the United Kingdom, France and Belgium, its principal development took place in USA, as a reaction to the phenomenon of runaway urbanisation. US literature on this subject is especially prolific.

Various factors have contributed to the emergence of this movement in Europe and United States: e.g.

- The Oil crises in the 70's and 80's made public authorities much more aware of the limits of our energy reserves,
- The environmental and anti-car movements which emerged at about the same time,
- The appearance of initiatives for car sharing, company transport, and the creation of cycle lanes, etc,
- The notable growth in open air leisure activities as well as rural and active tourism linked to the technological evolution of certain modes of transport, e.g. mountain bikes and in-line roller skates,
- A growing awareness among the population and the authorities of the importance of linking their heritage to communication routes.

8. *Inspired by the grand European Boulevards, Olmsted conceived a system of linear parks -parkways- interconnected by green corridors; his wish was to create special bucolic surroundings, by placing the visitor in conditions which would enable him/her to fully appreciate the peace and the aesthetic qualities of urban parks.*
9. *Ebenezer Howard was responsible for the creation of the greenbelt concept applied principally to the outskirts of London (1938). Howard designed a wide band of agricultural land about 5 miles wide, defining the city limits and preserving the integrity of the countryside (E. Howard: "Garden cities of tomorrow").*

- Increasing interest in the conservation of the quality of the environment and the development of sustainable policies.
- The development of associations such as (*Rails-to-Trails* in USA, *Chemins du Rail* in Belgium, *Sustrans* in United Kingdom, cyclist associations in France...) as well as processes involving participation and agreements between the public authorities and the general public.

Based on the coming together of these different elements, greenways have been created and have found themselves in an environment that favours their development.

Nowadays, the greenway phenomenon exists under various guises. Beyond their aesthetic and leisure functions, greenways have various different aims related not just to protecting the environment but also with education, preserving historical and cultural heritage, health etc. It is worth noting that these networks are expanding in Europe, North America and Oceania.

European countries have developed the greenway concept according to their geographic, urban, economic and cultural peculiarities...., although it is only very recently that the concept of a transnational greenway network has begun imprint itself in the imagination of the public authorities.

Some countries and regions have been working on the greenway concept for some 30 years; others have just started their programme. Within Europe, therefore, the greenway concept is the subject of varying degrees of attention and reality. This means that those countries who have just recently embraced the concept can benefit from the past experience of those countries who were pioneers in this area.

2.4. Greenway development strategy

2.4.1. European institutions

The establishment of a sustainable development policy is a challenge to which European countries must quickly rise if they are to maintain the quality of life of their inhabitants. Together with legal measures, European institutions have the potential to contribute to greenway development. For example, the European Union's Interreg programme has financed 50% of the cost of redeveloping the former railway line running between the cities of Tilburg in Holland and Turnhout in Belgium. The European Union's financial support has, in this case provided important support in convincing local authorities to participate in the project. As another example, the French State Authorities have, together with the Burgundy regional authorities, and the EU Chambers of Commerce and Industry financed the greenway linking Givry and Cluny. In Spain, the part played by European Funds (FEDER[10], Cohesion) has allowed many more greenways to be opened.

The Interreg IIC programme launched by the European Commission, supports transnational co-operative projects within the framework of strategic land-use planning. This programme mainly affects the metropolitan areas in the North-West (AMNO) which consists of Belgium, Luxembourg, UK, Ireland, part of Germany, France and Holland. In this respect, the European Greenways Association has proposed a "leader plan" for the undertaking of a greenway network within the AMNO area. The project, titled REVER (*REseau Vert EuRopéen*-European Greenway Network) is based on actions undertaken to date at national level and on the development of transnational routes. This project is intended to provoke common thinking, an exchange of ideas, the undertaking of pilot schemes and the creation of a database covering all greenways in the area concerned.

10. European Regional Development Fund.

The Givry/Cluny Greenway in Burgundy.

2.4.2. Public authorities

The majority of national and/or regional authorities have adopted various measures to encourage the population to opt for low or non-polluting modes of transport. By making available self-sufficient, continuous, safe and accessible communication routes to a majority of users of non-motorised transport, greenways undoubtedly constitute one of the best possible methods of achieving these aims

Within the framework of this study, two different types of development can be defined. The first is primarily concerned with preserving former communication routes, making them available to non-motorised traffic, whatever the type of user. These are networks made up primarily of greenways.

The second initiative supports the creation of long-distance routes set aside for specific types of user (cyclists, roller skaters ...) using different types of infrastructure (cycle lanes, roads with light traffic, lanes..) These are mixed networks in which greenways can represent an important component.

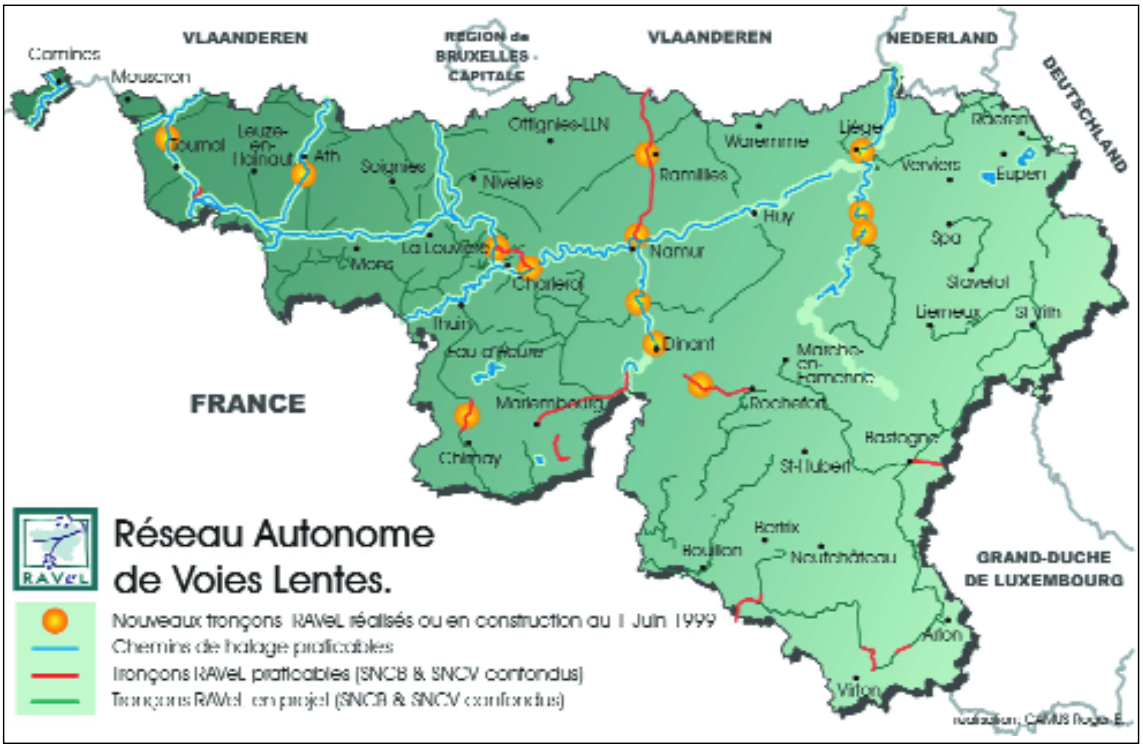
GREENWAY PROGRAMMES

The RAVel Programme in the Walloon Region

Belgium's Walloon region, from the seventies onward, played with the idea of creating a network of greenways based on decommissioned railway lines, with the slant towards their use by tourists. Round about that time the first oil crisis made authorities think again about the development of the road network and motorised transport in general. Ten years later the second oil crisis forced the government to review its transport policy. However we would have to wait until the middle of the nineties for this idea to see the light of day, with an agreement between the Belgian National Railway Company (SNCB), owner of the infrastructure, and the Walloon Region, which would allow the project to start.

RAVeL (Rèseau Autonome de Voies Lentes or Autonomous slow ways network) was officially presented in November 1995 by the Walloon Minister responsible for Land Planning, Equipments and Transport. The network, which is based on

RAVeL will provide 2,000 km of greenways throughout the Walloon region (Source: Cellule RAVeL).



Navigable waterway service roads represent the RAVeL backbone to which the former railway lines connect.

decommissioned railway lines – either normal gauge (trains) or narrow gauge (trams) - as well as the service roads used for navigable waterways (both in and out of use) will finally reach an overall length of 2,000 km in the Walloon region. These may furthermore connect with other greenways emerging from similar initiatives in neighbouring countries, namely France, Germany, Holland and Luxembourg.

At the present time, RAVeL provides close on 900 kms of greenways open to users of non-motorised transport: pedestrians, cyclists of all types, skaters, people with limited mobility, and horse riders (conditions permitting), being used for daily utility and leisure journeys.

RAVeL (August 99)	Sections in service (km)	Sections yet to be prepared (km)	TOTAL (km)
Towpaths (of which 46 km are roads sorrounding dams)	702	Not yet decided	Not yet decided
Decommissioned normal gauge railway line (SNCB)	129	1,009	1,138
Decommissioned narrow gauge railway lines (SNCV)	38	349	387
TOTAL	869	1,358	1,525

Summary of RAVeL Greenways in kilometres, August 1999. (Source: Cellule RAVeL).

A Walloon Government Decree from 1992, modified in 1997, redefined the road infrastructure hierarchy into three categories, including RAVeL, namely;

- The high-capacity network (*Réseau à Grand Gabarit*, RGG: motorways, dual carriageways)
- The interurban network (RESI)
- The Autonomous Slow Way network (RAVeL) reserved for users of non-motorised transport.

An annual budget of 4,958,000 euros has been set aside for putting RAVeL greenways into service in the Walloon Region. The cost of the work varies between 74,000 and 90,000 euros per kilometre, depending on whether it is in a rural or an urban area. This budget is complemented by European co-finance for putting the trans-border sections into service. This mainly concerns Hinault, a region included in Objective 1 Zone.

The Ministry for Equipment and Transport (M.E.T.) assumed responsibility for preparing the first RAVeL sections for service. From 1998 onwards, at the request of the General Directorate for Land Use Planning, Housing and Real Estate (D.G.A.T.L.P.),

RAVeL provides an extensive transport network for users of non-motorised transport.

some private consultancy firms have undertaken viability studies known as *esquisses urbanistiques*. Their aim is to study the rehabilitation of these sections within the context of their urban, landscape, ecological and heritage characteristics. The designs include participation by, and consultation with, the local population, councils and associations concerned. This first phase of study allows data necessary to the project to be collected, but above all, to explain what RAVeL is all about, draw attention to its potential for increased mobility and make the population more aware of the preservation of their transport heritage.

Thus, RAVeL is the result of firm political will,drawing togerher the responsibilities of the Land Planning Authorities in co-ordinating the development of the network, with those of the Ministry for Equipments and Transport for construction and management. In spite of the fact that such co-operation is not always easy, it is nevertheless essential to the success of the project.

Additionally, the General Directorate for Land Planning has asked its civil servants to be especially careful when granting construction permits relating to the redevelopment work of disused stations, whether they be for public or private use.

The RAVeL programme is a particularly interesting one, since it is a regional concept supported by the Walloon government, as well as an official transport network with a status similar to that of the road network, and finally because the disused railway property has been acquired via a process hitherto unknown in this area. In fact, though the Walloon region manages the navigable waterways, the railway lines, even when disused and/or dismantled, are still the property of the SNCB. This situation threatened, at one time, to derail the RAVeL project, since the disused network was crucial to it's success.

Following four years of negotiations, on 10th July 1977, a long-term rental framework-agreement was drawn up, through which the Walloon Region would be granted the right to the use of 80 former railway lines for a period of 99 years. The framework-agreement covers the majority of the decommissioned lines while each line involved is subject to a special agreement that will end in 2002.

During the period of the rental agreement, the SNCB preserves the right to maintain, install, fit or move ducts, channels, cables and overhead installations, as long as these respect the landscape and functional integrity of RAVeL.

The rental fee per metre of these decommissioned lines varies depending on the length of the line, the date when it was decommissioned, and the number of engineering works in progress.

In this way, the acquisition of the rights to use all the land occupied by the former railway lines allows the Walloon Region to embark on an ambitious project and to maintain control over work on, and the management of, the greenways once they are in service.

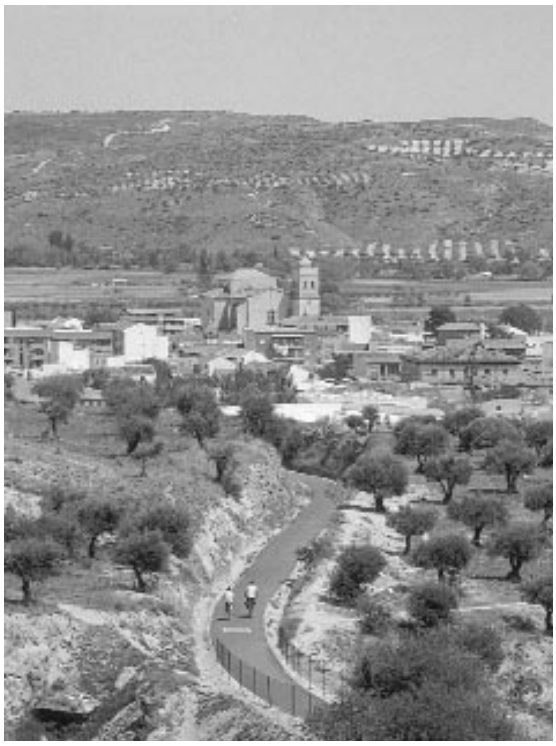
Vías Verdes in Spain

A Greenway programme was launched in Spain in 1993, drawing together all the existing initiatives to develop routes for non-motorised transport using decommissioned railway lines. By supporting rural development and the establishment of new relations between town and countryside, this programme promotes a respectful approach and appreciation of the countryside. Since it started, the *Vías Verdes* programme has been the fruit of close co-operation between the various public sector bodies, including the rail companies as well as various citizen's groups and associations. It can be concluded that the high level of consensus and participation shown by these various parties has been exemplary[11].

At the end of 1992, the former Minister for Public Works, Transport and Environment (MOPTMA), together with the two State Rail companies – The National Network of Spanish Railways (RENFE)[12] and the Spanish narrow-gauge Railways (FEVE)[13] commissioned the Spanish Railway Foundation (F.F.E.)[14]

the task of drawing up a national inventory of decommissioned railway lines[15]. The work was undertaken by a multi-disciplinary team of professionals who collected data not just on the rail infrastructure, but also on their natural and cultural surroundings. This research also permitted preliminary contact to be made with some 1,000 local authorities which had been asked to provide information on the state of repair of railway property in the area under their jurisdiction.

The national inventory finished at the end of 1993, with an overall budget amounting to 60,000 euros, having allowed 98 railway lines, managed by the three public authorities who commissioned the inventory to be identified and analysed in detail. These railway lines represented a total of 5,764 kilometres, including 954 stations and platforms, 501 tunnels and 1,070 tunnels and viaducts. In addition, this inventory collected basic information on 89 former mining and industrial railway lines which did not fall under the competence of any of these public authorities and which amounted to 1,920 kilometres.



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The Tajuña Greenway will be linked to the city of Madrid through the Metro.

11. *It is worth remembering that in terms of territory and administration Spain is organised into 17 autonomous regions, which in turn are made up of one or more provinces. At local level, the councils are frequently grouped into larger Communities (Mancomunidades) or have otherwise formed consortia in order to to secure more efficient service procurement.*
12. *RENFE: Red Nacional de los Ferrocarriles Españoles.*
13. *FEVE: Ferrocarriles Españoles de Vía Estrecha.*
14. *F.F.E.: Fundación de los Ferrocarriles Españoles is a non profitable organization that relies upon the public railway companies existing in Spain (national, regional and Metro railways).*
15. *"Inventario de líneas ferroviarias en desuso", Fundación de los Ferrocarriles Españoles, Madrid, 1993, 5 vols, summary edited by MOPTMA, Madrid, 1995.*

At the same time, the F.F.E. organised the first international conference on redevelopment of abandoned railways lines (Gijon, June 1993), sponsored by MOPTMA and by the two rail companies, who once again indicated their interest in finding new uses for this valuable railway heritage. Presentations focussed upon actions which had been undertaken at local level, still modest in scale and in isolation, while specialists from overseas were invited to share their experiences.

Later, a rapid process of adapting the experiences undertaken to date in other countries to the circumstances in Spain – especially *Rails-to-Trails* in USA and *Sustrans* in United Kingdom - was set in motion. It is at this point that the *Vias Verdes* programme can really be considered to have been launched. This was the result of co-operation between MOPTMA, which committed itself to setting aside a sum of 6 million euros for greenway construction (incorporating the Vias Verdes programme into its Infrastructure Directive Plan – PDI, approved by parliament), RENFE and FEVE who contributed with their abandoned lines. Further to this, F.F.E. was given responsibility for promoting, coordinating and publicising the programme nationwide.

Six years after its launch, the outcome of the programme has on balance been very positive. More than 29 million euros have been invested in converting some 800 kilometres of disused railway line into greenways. From 1995 onwards, the programme has been financed by the new Ministry for the Environment (MIMAM), together with various regional and local authorities. In addition to this investment, there is the cost of restoring buildings to be used for the installation of equipment and complementary services.

The Central authorities had, in principle, assumed responsibility for drawing up the construction plans, but it rapidly became clear to them that this function was best carried out at local level. The current procedure is as follows: the local and/or regional authorities concerned draw up a Greenway viability Plan, with the co-operation (if requested) of the F.F.E.: the ownership status of the land is analysed and a design for the redevelopment of the railway into a greenway is drawn up in agreement with local authorities and organisations. At this stage, a commitment for the management and maintenance of the greenway is laid down, either via the local councils, or their communities (Mancomunidades), provincial or regional governments, or through consortia, companies or foundations set up for this specific purpose.

Once the viability study has been completed, the measures agreed are incorporated into the construction plan, whose undertaking may be financed in one of three different ways. This may be entirely from MIMAM budgets, co-financed through MIMAM and other regional or local authorities (a formula which is gaining ground), or via a specific finance project adapted to the regional or local conditions.

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An inventory of over 7,600 kilometres of railway lines in disuse has been drawn up in Spain. (Source: Fundación de los Ferrocarriles Españoles).

GREENWAYS AS COMPONENT OF MIXED NETWORKS

The second type of intervention relating to the rehabilitation of routes for non-motorised traffic consists of the development of networks in which greenways are integrated as one of their principal components.

An example of this is The Grand Duchy of Luxembourg, where the Tourism, Agriculture and Public Works Ministries have, since 1977, and primarily with tourism in mind, developed a network of cycle lanes and tracks based on former railway lines. The Ministry of Public Works presented in 1990 draft legislation which would give this network formal recognition, but it was not until 1999 when the *Réseau National Cyclable* was launched.

Some 400 kilometres of routes have already been created of the 900 km planned, of which 50% are greenways. The policy followed by the government has centred on keeping clear of urban centres considered to be too dangerous. There has however, been a re-think on this approach, and at the present time, cycle lanes running through city centres are being created to complement the greenways located in the peripheral rural areas.

The UK Government, in 1996 launched the first *National Cycling Strategy*, aimed at reducing the number of journeys by car and encouraging other modes of transport such as the bicycle and walking. In fact, 75% of journeys undertaken in Great Britain are of less than 8 km, and as such suited to the bicycle. The aim of the established policy is to increase fourfold the number of journeys undertaken by bicycle over 12 years. However, associations such as *Sustrans* did not wait for the government's initiative to draw up and put into operation its own car-free projects. Since 1994, Sustrans has been planning a national network of cycling routes, the so-called *National Cycle Network*, of which 33% is made up of former railway lines, former canal towpaths and other off-road routes.

Sustrans was successful in applying for funds from the Millennium Commission, and the National Cycle Network is supported by a subsidy amounting to 66 million euros, on a total project cost of 275 million euros. By the year 2,000, some 8,000 km of routes will have been built, and a further 8,000 km by 2005.

The *National Cycle Network* has been designed principally for utility trips (to work and school, etc), and aims to link into town and city centres. Indeed, the more important construction projects have been undertaken in towns and cities. The project plays an important role in the promotion of pro-cycling policies in the United Kingdom.

In France, sport and open-air leisure activities have boomed over the last few years. These activities also underpin important local and tourist development. At the same time the authorities' concern for better air quality have been translated into

Luxembourg is a pioneer with regard to rehabilitating disused railway lines for light traffic.

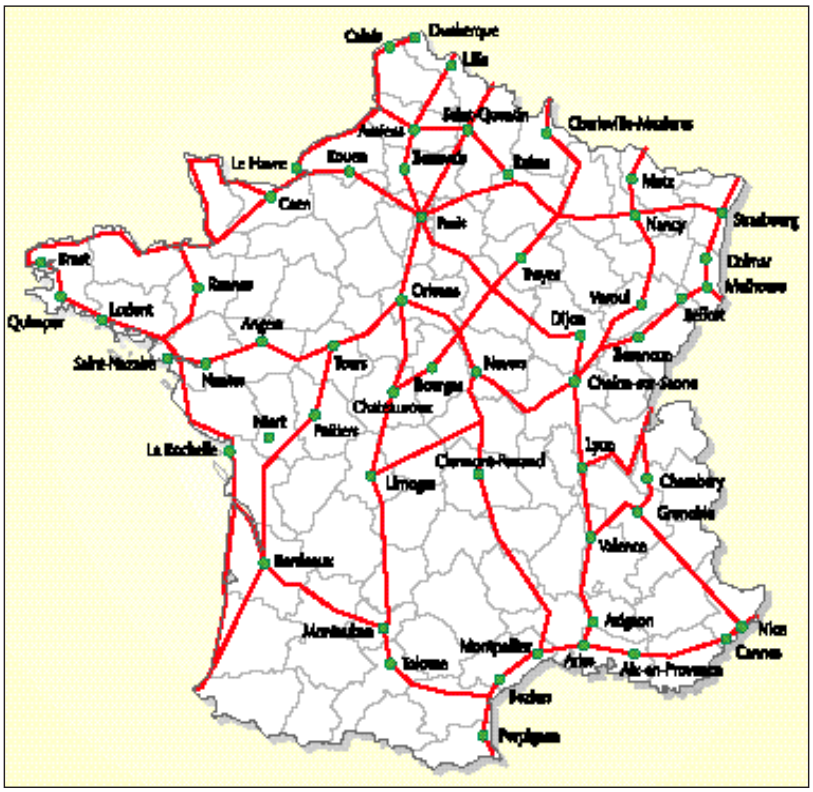
© Sustrans

The British network is aimed primarily at utility trips, though it is also highly valued for leisure pursuits.

legislative reality (air quality law[16]) and the development of urban transport plans which encourage the use of public transport, walking and cycling.

Thus, responding to the wishes of the public, the Interministerial Committee for Monitoring Pro-Bicycle Policies was established in 1994. Primarily an initiative by the Ministry for Land Planning and Environment and the Ministry for Equipments, Transport and Housing (Tourism) they were joined by the Ministry for Youth and Sport in 1997. In addition to these three ministries, the Interministerial Committee includes representatives from the *Centre d'Études Techniques de l'Équipement* CETE (Center for Technical Studies for Equipment), the *Centre d'études sur les réseaux, les transports et l'urbanisme CERTU* (Center for Studies on Networks, Transport and Town-planning), and many regional interest groups (*Club des Villes Cyclables* and *Association des Départements Cyclables ADV*), users' associations: *Fédération Française de cycloturisme FFCT* (Cycle-tourism French Federation), *Association Française des Véloroutes et Voies Vertes AF 3V* (French Association of Cycle routes and Greenways), the *Fédération des Usagers de la Bicyclette FUbicy* (Bicycle Users' Federation) the *Fédération Nationale des Associations d'usagers des Transports FNAUT* (National Transport Users' Federation); public transport companies: *Société Nationale des Chemins de Fer Français SNCF* (French National Rail Company), the *Régie Autonome des Transports Parisiens (RATP)*, the *Voies Navigables de France VNF* (Navigable waterways of France); the *Agence de l´Environnement et de la Maîtrise de l´Energie ADEME* (Agency for the Environment and Energy Control), the *Agence Française de l´Ingénierie Touristique AFIT* (French Agency for Tourist Engineering); *Conseil National des Fabricants du Cycle CNFC* (National Council of Bicycle Manufacturers), *Institut de l'Aménagement et d'Urbanisme de la Région Île-de-France IAURIF* (Land and Urban Planning Institute), *Délegation Interministèrielle à la Ville*, and other individual and institutional partners.

The Committee's work has borne fruit in the form of a (*Schéma national des Véloroutes et Voies Vertes* (National Plan for Cycle Routes and Greenways) which was approved by the Land Planning Interministerial Committee (CIADT) on 15th December 1998. The objective of the plan is to develop close on 8,000 km of safe and continuous long-distance routes. The network will connect with the long-distance European routes as well as with others at *departement*, regional or local level, either existing or planned.



The French National Plan consists primarily of self-contained long-distance routes. (Source: French Ministries for Land Planning and Environment; Equipments, Transport and Housing; Youth and Sport)

16. Law no. 196-1236 dated 30th December 1996 on air quality and rational energy use

The former railway line nº 160 is now an outstanding leisure and sport venue for those living in Brussels.

The plan is to be carried out primarily on existing land set aside for this purpose, (former railway lines, towpaths etc), but also on rural and neighbourhood lanes or minor roads with light traffic...

The plan is aimed at people using non-motorised transport and should contribute, once it is finished, to bringing about a change in French people's approach to getting around. By the same token it should help to gain recognition for light transport with Greenways playing a substantial role.

The *Schéma national Véloroute et Voies Vertes* is contained within the framework of the XII Plan (2000-2006). At the present time, tender documents and technical specifications are being drawn up for those who will be managing the construction work (technical characteristics, signposting, rest areas for cyclists, services etc.). This Plan therefore, drawn up as a backbone structure will become, once finished, a fine network of routes covering the whole country. According to the first studies, the implementation of the Plan should bring in significant economic benefits, with the creation of jobs and a significant contribution through the development of cycle tourism.

In addition to the dynamic atmosphere generated so far, pro-cycling initiatives have also been developed by the *Club des Villes Cyclables* (literally, Club of cities adapted to the bicycle or "cyclable cities") created a decade ago, of which over 300 French towns and cities are members.; the *Club des Départments Cyclables*, founded in June 1999, brings together those *departements* which have pro-cycling policies and all other public and private bodies with an interest.

In Italy Greenways are integrated into the redevelopment of local non-motorised routes. In this way they benefit from both national[17] and regional[18] legislation which encourages the incorporation of the bicycle into urban centres. The Greenway concept as such is not well known in Italy, but there are plans in existence, worthy of mention relating to the use of dismantled railway lines or the refurbishing of dykes and tow-paths for other uses (Bologna, Ferrera, Milan and Rome). It is regrettable that the few Greenway projects which have been carried out are not more heavily promoted among the local population or visitors, since much greater use could be made of them.

In Belgium, the Flemish region has, for some time now been developing cycle-specific installations among which are Greenways. Most of these installations are used for open-air leisure pursuits in rural areas. The rehabilitation of Greenways in Flanders has normally been as a result of an initiative arising from the councils or provinces, with their promotion being guaranteed thanks to the Flemish Tourist Federation (Toerisme Vlaanderen). To date they are mosty one-off initiatives, which for the time being are not interconnected as a network.

Still in Belgium, the Brussels capital city region is currently working on the development of its green network, and in refurbishing its waterways creating a "blue network". This is a programme aimed both at creating, and making more attractive, public areas in Brussels[19] . The former Brussels-Tervuren railway line and some sections of the Charleroi-Brussels canal are important elements in this study. In addition, the route followed by the former railway line has been incorporated into a regional green route.

In Spain, the Valencian Regional Government Ministry for Public Works, Urban Planning and Transport (COPUT) has implemented a policy for the development of alternative and public modes of transport. Thus, the 1995 Regional Road Plan recommended the construction of more than 600 km of cycle lanes in order to encourage greater use of the bicycle. In 1999 the COPUT drew up a regional plan to create a network of 7 long-distance routes for non-motorised traffic of which greenways would form the fundamental basis. This will amount to a total of 1,160 kilometres distributed as follows:

Main Roads	43,5 Km
Secondary Roads	200,2 Km
Cycle Lanes	15,5 Km
Greenways and Disused Railway Lines	391,5 Km
Canal Paths	154 Km
Forest Paths	355,3 Km

This network already exists in part and will be completed by the year 2005. Between 2000 and 2001, COPUT is to build the Ojos Negros greenway (70 km of route built on a former mining railway), which will be connected to the city of Valencia by a 40 km long cycle lane. The Valencia Regional Ministry for the Environment on the other hand, is to finalise a 480 km route for non-motorised traffic at the beginning of the year 2000 – the so-called *Via Augusta*. This road follows a historic route dating from Roman times, which led to Rome, and which to-day forms part of the *EuroVelo* project (Mediterranean arc).

17. Leggi nationali, L.28 giugno 1991, n°208, "Interventi per la realissasione di itinerari ciclabili e pedanoli nelle aree urbane".

18. Leegi regionali, L. R. 27 novembre 1999, n° 65, "Interventi regionali per favorire lo sviluppo del transporto cicistico".

19. SCHOONBROODT B., Roads to Brussels, extract from League of Friends of Kauwberg, n131, p.15.*

PART III:

What are the Benefits for the Towns and their Inhabitants?: Some Good Examples

By favouring the use of non motorized transport in town centres and outskirts, greenways provide part of the answer to Europeans' worries regarding the environment. They also provides the necessary means for responding to demands deriving from European and national policies relating to air quality improvement. It is important, therefore, that such infrastructure is conserved and its importance is stressed, especially through urban mobility projects.

The creation of greenways offers numerous benefits in different areas. The member nations of the EGWA (European Greenways Association) have presented significant examples of urban and outer urban greenways in Europe to illustrate the main subjects: mobility and town planning, the social impact of green routes, the conservation and reuse of natural and industrial heritage and the promotion of leisure activities and environmentally respectful tourism.

3.1. Town planning and Mobility

The reuse of these communication routes offers non-motorized town-dwellers safe, easy, accessible and continuous transport infrastructure which links commercial areas to one another and to residential areas. By stimulating the areas they cross, greenways can facilitate urban renewal programmes.

Public mobility is globally improved by the creation of greenways. On the one hand, because, although a slight accident risk remains -especially at junctions with roads -, they offer safe, ideal infrastructure for non-motorized transport. On the other hand, they positively influence the autonomy of children, the elderly and the disabled. Studies carried out show that the majority of journeys in the town scarcely exceed 5 kilometres. The bicycle is, therefore, the means of transport best adapted to urban transport. By promoting the use of the bicycle for leisure and by children, the greenways indirectly stimulate daily use of the bicycle in urban zones, which is where pollution problems are most serious.

Greenways present a way of conserving the integrity of public property. The linear and continuous character of this infrastructure, and particularly of former railway lines and canals, could be used to install fibre optic networks, gas pipes or electricity cables. The idea of re-employing railway lines currently in disuse should not be underestimated either. Preservation of railway infrastructure can therefore be seen as a vital element in preserving our heritage.

3.1.1. The Sauvegarde/Puurs/Baasrode greenway: an example of coexistence between an active railway line and a greenway (B)

The municipality of Puurs, in the province of Anvers, is situated at the junction of two railway lines, one connecting Malines with St Nicholas (L54) and the other between Antwerp and Termonde (L52). In the 1970s this last line was temporarily closed by the SNCB, the Belgian National Railway Company. Since then the Eastern section, between Puurs and Termonde, some 15 Km, has been utilised by the Belgian Friends of the Steam Engine *(Belgische Vrienden van de Stoomlokomotief)*. The association began operating steam or diesel powered tourist trains and organises twice daily Sunday trips in the summer months.

The municipality of Puurs, for its part, decided in 1992 to build a greenway within its municipal boundary accessible to pedestrians and cyclists along the Eastern section of the L.52. The initiative was taken by the mayor of the time who wanted to foster coexistence between the different municipalities with infrastructure of this type, also facilitating access to school installations. The municipality contacted the SNCB, who were very interested in the project, and agreements were reached ceding use of the land to the municipality. Shortly after, these interim agreements were regrouped into a single lease agreement for a period of 27 years. The rent paid by the municipality has risen to 2,479 euros/year. Private land affected by the project was expropriated as being of public utility. The first phase of the project was designed by a private consultant, whilst the following phases were carried out by the municipality's own services.

The greenway crosses approximately 6,5 km of section 18 and continues eastwards towards Bassrode, along the afore-mentioned tourist railway line. This last section was built within the framework of a rural land consolidation operation. The

The prime objective of the Puurs greenway is to link different municipalities by facilitating inhabitants' regular journeys.

The Puurs project is a good example of coexistence between an active railway line and a greenway.

Puurs greenway is essentially destined for utilitarian journeys and, to a lesser extent, for leisure purposes.

In 1997 the SNCB decided to reopen the Eastern section of the L.52 (Puurs-Antwerp) with two trains an hour on working days. After establishing certain security measures (dividing barrier, adequate water drainage, good indicating signal visibility at level crossings), parallel operation of the greenway and the reopened railway line was accepted. Between Sauvegarde and Puurs the SNCB requested the installation of a simple wire fence to separate the two types of track, whilst on the Puurs/Baasrode section the two tracks are not physically separated. The separating distance is about 2.80 m. The route was initially built with concrete and earth/dolomite depending on the section, but users quickly asked for the dolomite to be replaced by an asphalt surface which was more comfortable for cyclists. A signalling system for the greenway is currently being studied.

Within the framework of the mobility plans requested by the Flemish Region, the municipalities of Puurs and Saint-Amand are planning to extend the existing greenway to the

centre of Saint-Amand. This link, some 6 km, is especially interesting since the municipality is situated along the river Escalda, with routes accessible to non-motorized traffic. The Puurs greenway would thus be equipped with an extension towards Antwerp and the Netherlands in the North, and towards Tournai and France in the South. The mobility plan will be approved in the year 2000 and work should begin then.

The Puurs municipality also wishes to exploit water drainage work planned along the active Mechelen-St Nicholas line to establish a new greenway linking Willebroek with Bornem and passing through Puurs station. The confluence of both green routes would be at the eastern entrance to the municipality. The project could begin in 2001.

Within a few years, Puurs could thus find itself at the confluence of two greenways, both linked to an active railway line.

The former signal box at Puurs has been turned into a tourist information centre.

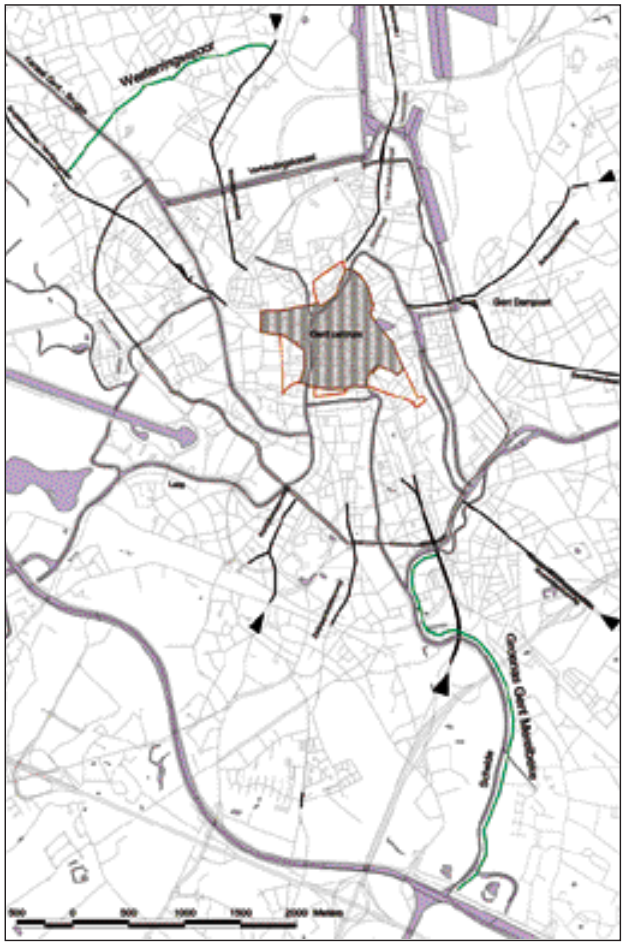
3.1.2. The "Axe vert" (green axe) from Westerringspoor to Ghent (B)

At the beginning of the century, Ghent was an industrial city whose prosperity was mainly based on the presence of spinning mills and the textile industry. This industry was associated with the development of an important communications network comprising canals (Ghent-Bruges, Ghent-Terneuzen), rivers (the Escalda and the Lys) and railway lines. The economic importance of the textile industry today is insignificant.

In 1925 a circular railway line was built around Ghent, the western section being closed and dismantled in 1950. Although interrupted by communications networks and rivers, the former *Westerringspoor* extends into green and recreation zones located

The Westerringspoor axe links some densely populated areas and green zones.

to the south-east of the city (Blaarmeersen, Bourgoyen and the Lys region), towards the residential areas of Mariakerke and Wondelgem and more densely populated areas lacking green zones like Brugse Poort, Bloemekeswij and Muide. This is the reason why the city of Ghent wanted to establish the old



Greenways in the cycling plan for the city of Ghent. (Source: Dienst Mobiliteit, Ghent).

Westerringspoor as a real communications hub which could also be used as a cycle path and pedestrian route.

Once continuity of the former *Westerringspoor* section has been totally re-established, this 'green axe' will provide a safe and continuous link to different areas of activity.

The use of this former railway line has been an integral part of the *Plan de politique cyclable* ("Cyclable" policy plan) approved by the city of Ghent in 1993. This plan is not only aimed at "active" cyclists, but also at people who don't use a bicycle very frequently, with the aim of encouraging them to cycle on a regular basis. The Ghent cycling plan forms part of a general transport policy which confronts transport and safety problems through segregation of different types of user.

In the area plan the *Westerringspoor* is being set up as a green zone (a wood combined with open areas). It includes some small recreation areas for children in addition to paths and cycle tracks. The section of about one hundred metres between Brugse and Staakensstraat has been opened. In the second half of 1999, including a pedestrian and cycle bridge across the Brugse Vaart.

This work, carried out in 1999 by the Flemish waterways administration, provides access to the East-West cycling route. The route extends from Mariakerke, east of Ghent, to Sint-Amandsberg in the East. Its development has been carried out by the city of Ghent and forms part of a cycling network which should link outer municipalities with the city centre.

The delivery of the Ghent Cycling Plan has, moreover, resulted in co-operation between the Ghent municipality and the Flemish waterways administration. This co-operation has led to a re-evaluation of city centre waterways and outer urban zone towpaths. The installation of a cycle path along the Escaut river, between Ledeberg and Merelbeke, has, for example, provided an alternative to the *Hundelgemsesteenweg*, a particularly dangerous provincial road used by many cyclists.

3.1.3. The establishment of greenways in a historic city, Ferrara (I)

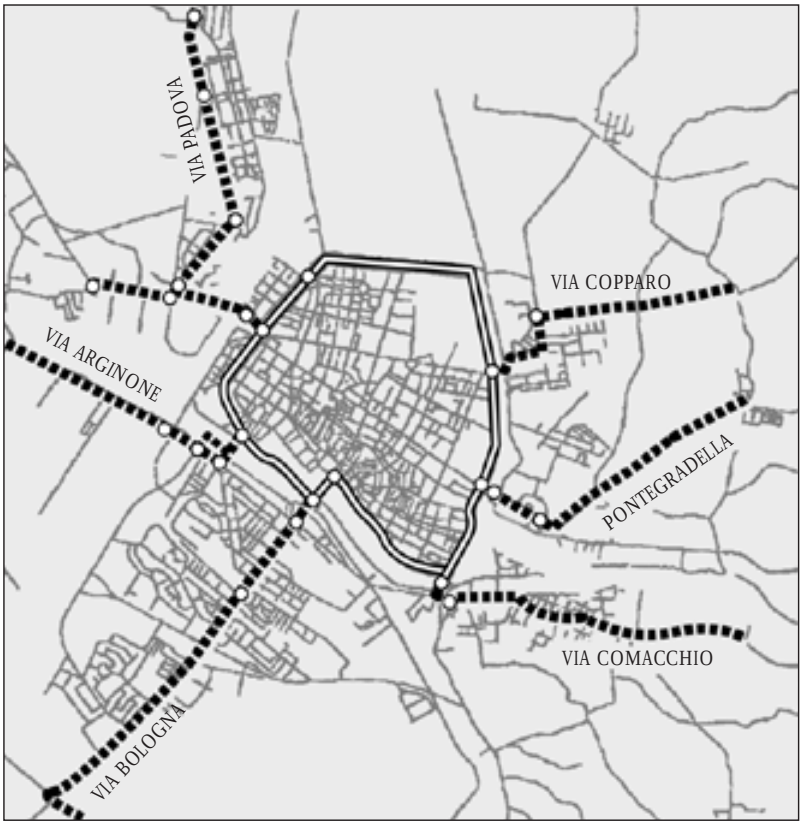
Ferrara is ideal for pedestrians and cyclists. The city, with approximately 140,000 inhabitants and 100,000 bicycles took the decision some time ago to conserve its Renaissance style urban structure and its monuments, and to ensure a high quality of life for its inhabitants. To this end, it has given priority to non-motorized transport means: 30% of journeys are made by bicycle and 20% on foot. Ferrara was the first Italian city to exclude cars from its city centre. The topography of the city, situated in the Po valley, is especially well suited to travelling by bike. The city cycling plan was included in the framework for a general transport plan, financed in equal parts by the city, the region and the State.

Ferrara's town walls route is a popular walking area

Ferrara was declared a World Heritage Site by Unesco in 1995 and is one of the founding members of the *Cities for Cyclists*[20] network. Although it does not suffer serious atmospheric pollution problems, it is interesting to point out that, as part of its cycling policy, this city has been able to exploit its historical resources to create greenways in the city centre and the outskirts.

A second circuit outside the city follows the route of the city walls.

20. *In Europe there are four national clubs of cyclists cities: in France, Italy, Belgium and Finland, grouped in an international association. CITIES FOR CYCLISTS is an initiative closely linked to the EUROPEAN CYCLISTS FEDERATION, which is more specifically interested in the users.*



The Ferrara network consists of 2 concentric rings from which 7 radial routes spread out.
(Source: Municipality of Ferrara, Settore Lavori pubblici).

The walls around the city have become especially well used by inhabitants for walking, jogging, cycling, or for going to work or school. It is also a good place from which to uncover the city's history and its fortifications. The city walls have always been used by the inhabitants, having remained undamaged since the Renaissance.

Public benches have been sited here and lighting enables it to be used at night. Continuity of the route is assured by bridges across roads entering the city.

The city walls greenway is a very special example which has been completed with a second concentric route, this time outside the city walls. Work began in 1989 coinciding with the walls' restoration. This route, approximately 10 km long, is mainly designed for cyclists. It is a 2 metre wide path with a crushed dust surface. The circuit is indirectly lit at night by the lights illuminating the walls. Intersections with entry roads to the city are being improved and pedestrians and cyclist's will soon have safe crossings at junctions.

Intersections made between the inner and outer city have encouraged the development of peripheral routes. In this way, construction of a footbridge and the establishment of a protected crossing with traffic lights have been sufficient to provide access to the city park created to the north of the city at the beginning of the 90s. Improvement work on the outer circuit continues.

The city thus possesses two concentric greenways, one following the walls and one outside, from which seven radial routes will allow access to the periphery. Two of these radial routes have already been built and another three have funding guaranteed.

The first radial route to be constructed joins the north of the city with the Po river, via an urban park the real green heart of the city- and linked by means of small rural roads. The second has been finished recently and connects East Ferrara with the municipality of Pontegradella, by using the route of one of the numerous irrigation canals which cross the region to the Adriatic Sea.

Although relatively short (some 3 km.), the Pontegradella link is a good example of a outer urban greenway, since it is used daily by Pontegradella inhabitants who come to Ferrara to work or study. The path, 2,5 metres wide, has been asphalted and is lit by street lamps situated at 15 metre intervals. Two design footbridges cross the canal to link the road and adjoining residential area. The greenway is separated from the canal by a 2,5 m strip of land which is used by maintenance vehicles.

Whilst the greenway leads to the centre of Pontegradella, the connection with the centre of Ferrara is effected via a cycle route which joins up with the city's outer green circuit. It is important to mention that the link between the greenway and the cycle route is made possible by means of a pedestrian and cycle crossing built under a roundabout.

The greenway currently stops at Pontegradella, at the Ferrara municipal boundary. The line continues further and the greenway could be extended too, provided that neighbouring municipalities can see their inhabitants benefiting from it.

Finally, a mention should be given to the improvements carried out on the old railway line between Ferrara and Copparo (a 20 km greenway), financed by the municipalities involved. A connection via secondary roads with the town of Ro is being considered, as this would join up with the Po river and return to Ferrara, making a complete circuit. This connection would be financed by the Objective II programme.

The Pontegradella-Ferrara axe uses a section of the irrigation channel.

The scheme designed by Ferrara within the framework of its mobility plan, with two concentric circuits completed by 7 radial routes, is particularly interesting and enables the green routes to act as complementary axes to the existing cycle routes.

3.1.4. The "Naviglio Martesana", a greenway in the heart of Milano (I)

Milano has a population of approximately 1,5 million and like most European cities suffers from traffic congestion problems and air pollution. To counteract this, the city launched an initial mobility plan in 1980 which among other measures promoted the use of the bicycle as an alternative means of transport. This plan did not come to fruition and it was not until 1995 that it was updated. The city is now planning the construction of 360 km of cycle routes for the period 2005-2010. 10% was completed in 1999, including 8,5 km of greenways already set up. It should be mentioned that route No. 1 proposed by *EuroVelo* passes through Ticino park, south of Milano.

Unlike the situation in the 1980s, there is currently the political will to develop sustainable mobility. Responding to the demands of the Italian government, regions were asked to prepare “cycle-mobility” master plans throughout 1999[21], with government funds made available.

Milano possesses interesting greenway potential, mainly consisting of the linear parks located around the city and the old irrigation canals which cross it - The Great Canal and The Pavese Canal in the south and the Martesana Canal in the north-east. These green axes are being reconsidered by the historical route[22] projects carried out by the Lombardy region, as well as the cycling plans studied by the Province and the city planning projects. In the medium term, the aim of the city is to connect urban parks by means of greenways designed for pedestrians and cyclists.

At the moment only one greenway has been set up in Milano. This is the towpath of the historic *Naviglio Martesana* (The Martesana Canal), which joins the North of the city with the River Lambro.

The creation of the *Naviglio Martesana* goes back to the 15th century (1457/1460). The canal was mainly designed for agricultural irrigation and supplied power to the mills. Some sections were navigable. From the second half of the 17th Century the Martesana, like the other canals in Milano, became a promenade and recreation area for the Milanese. Wealthy Milano families subsequently built holiday homes along the canal. Thus, apart from its economic function, the Martesana is of great historical and cultural value.

The first mobility plan mapped out by the city of Milano included the Martesana greenway project. It covers 4 km of the city before reaching the River Lambro, but it covers a further 22 km along the River Adda as far as the national park of the same

The greenways are one of the links in the mobility scheme set up by the city of Milano.

21. *Bill 19 October 1998, n.336, "Norma per il finanziamento della mobilita ciclista".*

22. *The aim is to identify the potential landscape itineraries to protect landscapes no matter who the users are.*

name. The greenway thus constitutes a very interesting link between the city and the country and provides a communication route for many residential and commercial areas. This guide has considered the urban part of this green route.

The actual canal is owned by the *Consorzio di Bonifica Villoresi*, which is also responsible for its management. The canal banks belong to the *Consorzio*, the State and also to private individuals, even if there is a right-of-way guaranteeing access to the canal for maintenance. Before improvement works began, the Martesana route had been partially destroyed and the sections that still existed were used by cars. The city of Milan has been able to recover, without too much difficulty, the land necessary for the creation of the greenway, and thus restore the route's urban continuity along the 4 km which separate the E. route in Marchi, near the central station, from the River Lambro.

Work on the following section, which joins the River Lambro with the Adda Norte National Park, has been carried out by the province, who have also built a metal footbridge over the river for pedestrians and cyclists. There still remains another 200 m section between the river and the motorway - Tangenziale est -, anticipated to be open by July 2000. The cost of the section, including the footbridge, is estimated at 200 million lira (approximately 103,000 euros).

Numerous cyclists and pedestrians frequent the urban Martesana section, whether for obligatory, daily journeys or for recreational activities. The Martesana is a perfect place for inhabitants to relax, especially during hot spells and, due to the presence of street lamps, it is possible to use even at night. This greenway is also connected to the city centre cycling network, thereby allowing cyclists access to the Central Station, on the one hand, and to the Sempione park on the other-, an intersecting point for several cycle routes. Despite being an important part of the mobility plan, the Martesana is not well known for by the Milanese. The absence of signposts and greenway advertising has undoubtedly contributed to this.

The Martesana links different areas of north-east Milano to one another and to the Adda National Park.

The irrigation canal route has been adapted for non-motorized transport in the heart of the city.

The city of Milano has also commenced work on a greenway along the course of the Great Canal, which would soon mean a connection between the South of the city and the Lombardo Park in the Ticino valley.

The Martesana is an important part of the cycle network developed by the city of Milan. By attaching importance to this historic canal, the greenway constitutes a valuable instrument for preserving areas adjacent to former communication routes and for improving the quality of life in outlying districts.

3.1.5. The "Avenue verte" in Chambéry (F)

The *Avenue Verte* - which links the town of Chambéry and its outskirts with Lake Bourget in the North, and with the Isère Valley in the South - is one of the first of its kind in France (together with the Givry-Cluny greenway in Burgundy) based on the greenway concept. This is the result of a process combining quality with political determination.

Adopting the North American greenways concept, the local *Roue-Libre* user association promoted the project. Their aim was to construct high quality public infrastructure, their first project being a dedicated two way cycle path called *Avenue Verte* (Green Avenue) which was created to compensate for the construction of a fast road where cycle access was totally prohibited.

The Green Avenue thus became a route almost completely composed of new build cycle path. It is continuously being improved, with the provision of ever more facilities.

One aspect of particular concern has been the quality of the asphalt or concrete surface (conditions for roller skaters,

The Greenway is reserved for non-motorized traffic and allows harmonious co-existence between different users

durability), so as to respond to the needs of skaters who currently make up a half of all leisure users (user breakdown counts are envisaged). A complementary greenway programme is also being investigated, looking at accessibility, and recreation and education areas. These will be make reference to the natural surroundings (information about water treatment, since the treatment centre is next to the route), service areas (picnic spots, drinking fountains etc.) and artwork to serve as milestones.

The establishment of the Chambéry Green Avenue has been possible thanks to effective co-ordination between Savoie General Council, who directed the work, the DUCC (*District Urbain de la Cluse Chambérienne*) who manage the master plan for cycling in the Chambéry conurbation, and the enthusiasm generated by the *Roue Libre* association (5000 signatures collected to support the public survey).

This common will, on two different territorial levels (and coming from different political colours), has been consolidated with the establishment of a joint investment programme in favour of the bicycle and with shared financing.

This political will has been necessary as two surveys have been required to allow the Green Avenue to be extended northwards. The first of these in 1994 had to be cancelled due to hydrological problems relating to the route (it passed over a dyke exposed to flooding) and opposition from farmers.

These problems have been dealt with relatively quickly, taking into account the report's complexity:

- 1995: A new project study connected to repair of dykes in the Leysse.
- 1996: Declaration of public interest, enabling land to be acquired and an intermediate track to be constructed linking up with Bourget Lake.
- 1997/98: Land acquired and factory works built adjacent to the actual cycle track.
- 1999: AInauguration, on June the 6th of the Northern Green Avenue, marked by the opening of a 4 km connecting section between Villarcher and Le Bourget du Lac.

Although the *Avenue Verte* uses various routes in crossing Chambéry (tracks and bike lanes, city parks, pedestrian areas, bus-bike lane, etc.), the will to turn this greenway into the backbone of the metropolitan area bicycle network seems clear, with adapted horizontal and vertical signposts. But the interest in this greenway lies especially in its extension southwards, creating a real non-motorized hub, capable of giving rise in the short term to a change in travelling habits. Widespread use of the Green Avenue means its utility for obligatory journeys can be measured.

This kind of route helps to regenerate the areas it passes through, with greenway development in particular introducing a sliver of countryside into run down parts of towns and cities.

It must be pointed out that the General Council of Savoie, creator of this route improvement and founding member of the recently formed Association of "*Cyclable*" Departments has also made plans for its connection to the departmental cycle route network, which is mainly designed for cycle tourism and leisure cycling. This network includes other routes (Tarentaise, Isére)

The Chambéry greenway represents a connecting link between networks used by experienced cyclists and those used in urban areas

The greenway is used for family leisure and free time activities.

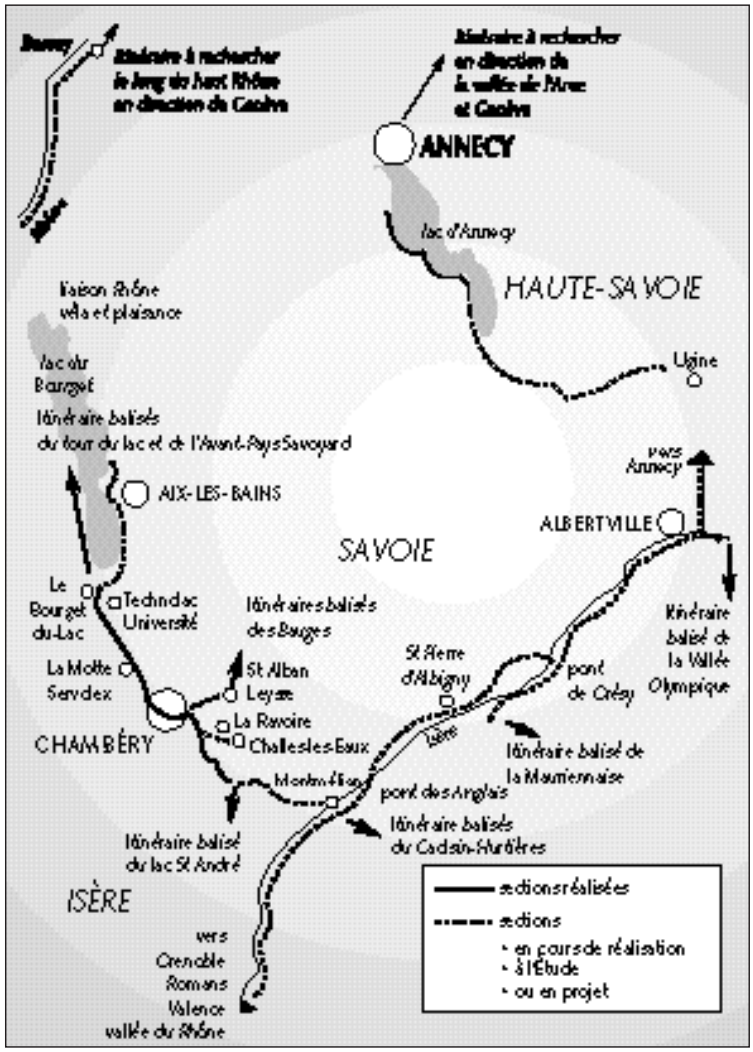
whose ultimate objective is to be joined to the *National Scheme for Cycle Routes and Greenways* (Schema National des Véloroutes et Voies Vertes), currently being formulated.

3.1.6. Chalon-sur-Saône: global treatment on a town scale (F)

The town of Chalon, with nearly 100,000 inhabitants, is the second most populated town in Burgundy, after Dijon. Demographic changes in Chalon have led to the recent, gradual transformation of outer urban areas from agriculturally based communities to largely residential ones.

This urban area also has the peculiarity of being located in the centre of a region at the mercy of the Saône's whims and prone to flooding. Thanks to the impossibility of building development, numerous green areas have been preserved, surrounded by dykes.

The Chalon green corridor.



The Central Canal, which links the Loire River with the Saône, was built two centuries ago by Emiland Gauthey, joining the Saône to the north-east of Chalon. Before a four lane highway blocked it off 30 years ago, the canal crossed the heart of the city. An open, isolated section still remains to the north of the city.

Due to their continuity, the canal and river towpaths, the disused railway lines and the dykes are ideal for transformation into greenways. In this respect Chalon-sur-Saône has considerable potential. The Saône has a usable path on both banks, thereby offering four potential greenways from the centre of Chalon, two southwards and two eastwards. One of the latter is already in existence.

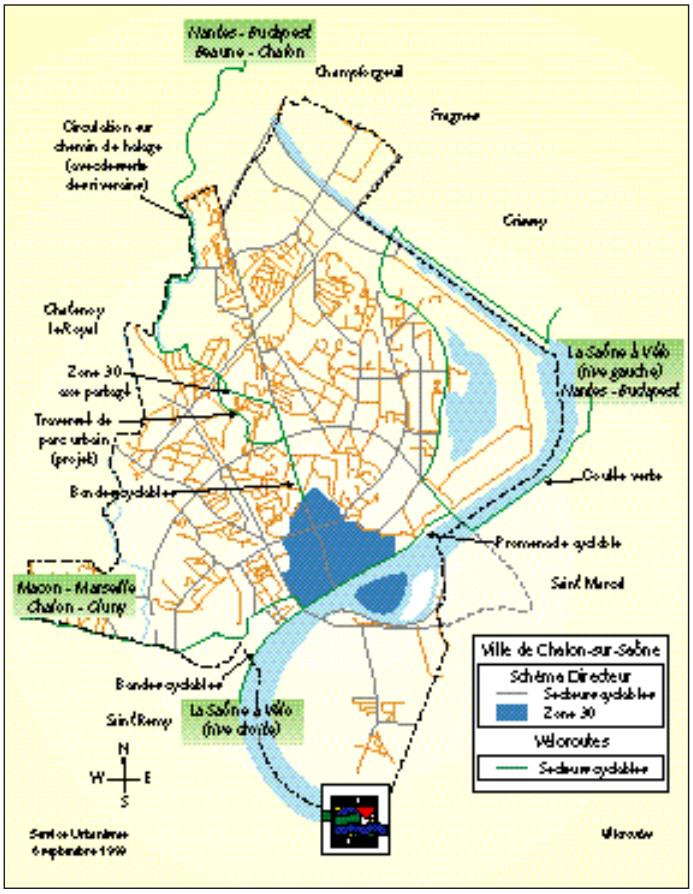
The Central Canal forms an intersection at the town's northern limit, and provides two routes, one to the north and one to the north-east. The network of dykes built to the south-east of the town, in the district of St Marcel, also offers the possibility of creating a mesh of greenways to the south-east of the town. Finally, the Chalon-Cluny railway line, partially disused, is directed solely to the East. Chalon thus possesses several pieces of land for potential greenways that converge on the centre from four points of the compass.

Having realised the importance of this urban greenway network, Chalon-sur-Saône and the outlying municipalities have shown a real desire to fulfill this potential. Three municipalities are carrying out greenway programmes, some of which are almost completed, while others are programmed to start soon, or being studied.

The town of Chalon-sur-Saône has planned a 50 kilometre cycle network, part of which has already been built. Apart from being the first town in Burgundy to join the Cyclable Towns Club, it has also been one of the first French towns to integrate the concept of the European Cycle Route into its urban development policy (Nantes-Budapest in 1996).

Chalon-sur-Saône has also produced a "cyclable" Charter, the main aims of which are to reduce car speed, to change the "car use mindset" particularly for journeys of 3 kilometres or less, and to promote non-motorized transport, for leisure and utility trips.

The St Marcel municipality project has been included in the Chalon's town contract objectives. The aim in this case is to avoid anarchic urban development in the municipality, reinforcing the attractiveness of the town and participating in its reorganisation and development by re-evaluating natural inner areas. The work planned is a green corridor between the Prairie St Nicholas and Chalon Airport, a leisure zone developed in an area safe from the risk of flooding. It will involve a path for cyclists, pedestrians and horse-riders and a farm-hostel, in addition to educational information throughout the area about work in the countryside.



Map outlining Chalon conurbation plan.
(Sources: Urban development Service for Chalon-sur-Saône, September 1999)

In Crissy a local development scheme is being carried out, whose aims are, as in St Marcel, to use the flood-free area as a green zone, between the departmental road, the central canal and the Saône. The corresponding towpaths will be improved by linking up different zones, as well as the town centre. It should be mentioned that the project has both social aims (non-motorized transport and improved quality of life for inhabitants) as well as economic ones (tourist attractions).

Greenway on the Saône riverside.

The utility of a greenway network affects Chalon on three levels:

The development of non-motorized transport on a town level in Chalon, the development of nearby leisure activities - in particular a link between the urban area of Chalon and the neighbouring green areas- and ensuring that the conurbation is a strategic intersection in the future national network of cycle paths and greenways.

With the aim of grouping together different municipality initiatives, it would be desirable to integrate the project into a conurbation or country's contract objectives. The greenway network benefits from an initiative of this type,

and future contracts require participants to present a series of similar projects.

Finally, the network would have a dynamic effect on nearby leisure activities, benefiting the whole population with respect to social cohesion and public health.

A quality urban and outer urban network, developed in this way, will fully assume its role as an intersection for regional, national and European *Véloroutes*.

In conclusion, greenways should be developed simultaneously at a local, regional and national level, with the aim of ensuring the best possible route coherence and continuity. The dynamic role played in this respect by the Nantes-Budapest cycle route project should also emphasised.

In an urban environment, separation between different types of users can be recommended (Bristol/Bath).

3.2. Socials Impacts

We are conscious nowadays that certain people who are not car-owners may be socially excluded through not being able to cover short, medium and long distances in a short period of time. This situation could represent an obstacle to finding work or more simply to going to the cinema in the evening or reaching a supermarket on the outskirts of town. Greenways can help the non-motorized population by reducing isolation, offering the possibility of improving social interaction and improving access to services.

Creating local jobs, stimulating districts lacking leisure amenities, and to revitalising economically depressed areas, greenways can have a considerable social and economic effect. On a very local scale, numerous studies show that the close presence of greenways raises property values.

3.2.1. Integration of persons with reduced mobility in the United Kingdom

A third of the routes of the *National Cycle Network*, a project carried out by Sustrans in the United Kingdom, are greenways such as former railway lines and towpaths. Pedestrians and cyclists share these routes with wheelchair users. The establishment of greenways thus contributes to social integration offering personal mobility in a safe, pleasant and comfortable environment, removed from motorized traffic. For some disabled people greenways represent the only means of getting exercise, or going to work, study or the shops by themselves.

Of the approximately 16,000 km which will make up the *National Cycle Network* by 2005, 2,500 km already permit co-existence between different types of user. Disabled persons represent an important share of network users and should be taken very much into account when setting up routes. Although the risk of accidents is low, most problems of shared-use can be anticipated and avoided through prior consultation with local residents and user groups.

Access controls are usually located at entry points onto the greenways. These may take various forms, but all are intended to restrict illegitimate use of the path. Unfortunately, they often act to restrict disabled people, tandem or tricycle riders, elderly cyclists or family groups with trailers.

Sustrans try to discourage access barriers, but in many cases it is only through agreeing to install them to appease the concerns of local residents, that a path may be built. Very often, bollards restricting entry for cars are sufficient. The most effective method of preventing anti-social behaviour on traffic

The quality of the feedback generated takes into account the expectations of vulnerable users.

free routes, is for them to be well used. This kind of casual surveillance is more effective than physical barriers to access.

National Cycle Network maps include location of access control devices. They provide information indicating the type of path and the difficulties that users may encounter and in this way they enable a route to be chosen based on full knowledge of the network.

Surface quality of most greenways, route continuity and separation from motorized traffic allows persons with impaired vision to use this network. Coexistence with cyclists may sometimes be problematic, but education and tolerance serve to encourage respect for other users.

In an urban environment, where the greenway's level of use may be particularly high and vulnerable users more numerous (elderly people, the physically disabled, persons with impaired vision, etc.), separation may be recommended and may be carried out in different ways:

- By a white line on the ground indicating the separation between the strip reserved for cyclists and that for pedestrians.
- By a difference in level (50 millimetres) or by a small separating kerb (20 millimetres high) situated between the two paths.
- Or even by the using materials of different textures (tactile surfaces) to indicate access points and locate paths for cyclists and pedestrians (with materials used at pedestrian crossing points, these being indicated to guide persons with impaired vision).

The width of lanes separated in this way varies according to the amount the route is used and the local context. When flows of pedestrians and cyclists are similar, the capacity of a path separated by a white line is approximately 180 users/hour/metre of width[23].

This physical separation proves very useful in metropolitan areas but could be problematic in rural districts. Each case should be examined according to the context and the particular needs of users.

Tactile information panels, highlighted marks designed to indicate the location of benches and sculptures have also been installed along the greenways to allow persons with impaired vision to maintain their bearings and make maximum use of the surroundings offered to them.

Physical improvements should, however, be fully backed-up by educational measures. For this reason *Sustrans* has produced a good conduct code aimed at cyclists. Courtesy must prevail on the greenways. Users should share the route and take account of more vulnerable persons. Small details can favour this co-existence. For example, by ringing bells cyclists can indicate their presence. This gesture may seem insignificant but it can reassure pedestrians and serve as a greeting.

Numerous works have been published in the United Kingdom on the subject of shared use with the physically disabled, mainly by *Sustrans*, the *Institution of Highways and Transportation* and the *Department of Environment, Transport and the Regions* (DETR). There is also information available in the records of *Velo-City* congress discussions.

3.2.2. The Bristol&Bath Railway Path (UK)

Between 1979 and 1986 the former Midland Railway line was transformed into a greenway, the initiative being undertaken by members of a local organisation, Cyclebag[24], who, fed up with the authorities' failure to create pedestrian and cycle infrastructure, decided to use the old railway line route to build a greenway. This was the beginning of what became, in time, a national greenway and cycle route development programme co-ordinated by *Sustrans*.

© Sustrans

Each year 1,500,000 journeys are clocked up on the Bristol&Bath Railway Path.

23. "The National Cycle Network. Guidelines and practical details", Issue 2, Sustrans-Ove Arup & Partners, March 1997, chapter 8, p. 129.

24. Cyclebag shall become Sustrans, whose name is an acronym from "Sustainable transport".

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The existence of a greenway in a urban environment is a good investment for inhabitants in terms of quality of life.

The route, which originally linked Bath with Bitton, is currently integrated in the *National Cycle Network* and forms part of route no. 4 linking Wales with London. The route figures in the *Severn & Thames* and the *West Country Way* National Cycle Network maps.

The path, accessible to cyclists, pedestrians and people in wheelchairs, extends for 20 km across rural areas and currently joins the historic cities of Bath and Bristol.

The pilot project, co-ordinated by *Cyclebag*, involved a group of volunteers in construction of the first section, substantially reducing the cost of the work. In the Bristol-Bath case, the old railway route was acquired through an agreement with British Rail. The initiative benefited from local knowledge from the volunteers, who also contributed to the route's integration and acceptance within the community.

Later on, the *Manpower Services Commission*, a government body that at the time was helping young people to find work became involved in the scheme, co-ordinated throughout by members of *Cyclebag*.

The links created in this way lead to positive effects well after work finished and it is no surprise that volunteers still help out on the path which they built. The combination of the experience of engineers assigned to set up the route and the enthusiasm of volunteers enables work to be performed at a lower cost and consequently offers transport infrastructure on a 'human scale' to communities in economically depressed regions.

Today, a similar project would cost nearly £100,000 a kilometre, nearly 152,000 euros.

The success of the Bristol-Bath hub has been such that more than 1,500,000 journeys are recorded each year, of which a great many are pedestrians and people in wheelchairs. The greenway does indeed offer safe and direct access to the city centre, being used both for utility trips, as a link with places of work, schools, shops etc. and for leisure or by tourists. It also permits easy access to the country from the city centre.

The network is used all year round, with peak periods in summer. Above all, many users who use the route for journeys between home and work travel all year round by foot or bicycle. Such heavy use offers security to users. Despite this, lighting has been installed in the urban part in Bristol, thus allowing a more pleasant journey after nightfall.

This variety of uses shapes an interest in greenways. Their development contributes to an improvement in residents' quality of life, enabling them to use continuous routes from near to home and leave urban centres without using cars.

The existence of a greenway in an urban environment and, thus, close to centres of activity and inhabited areas is a good investment for the city. Potential users can, in this way, reach the actual way without using the car. Synergy with collective transport networks also represents a strategy to follow if an alternative to private car use is to be coherently developed.

It is interesting to point out that the construction of a greenway like the Bristol-Bath one can positively influence the value of housing situated nearby[25]. Living close to a greenway, therefore, has positive repercussions, not only for citizens' mobility, but also for their financial situation, since the greenway causes property values to increase in the areas through which they pass.

25. "Cycle Routes: Their impact on Neighbours, Information Sheet FF2, Sustrans.

3.2.3. Line 119 in Charleroi, a pilot project co-ordinated with residents(B)

At the beginning of the century, Charleroi was an industrial city whose wealth was based, principally, on coal mining, iron, steel and glass. This economic activity was linked to the development of an important communications network consisting of waterways (the Sambre, the Charleroi-Brussels Canal) and railway lines. The region then underwent a significant economic decline, causing industries to close and the disappearance of numerous jobs. Parallel to this, kilometres of abandoned railway lines were removed.

The municipal authorities have initiated an holistic approach to improving quality of life and in particular urban mobility. This initiative has led, above all, to the creation of a working group, *Axe Vert* (Green Hub) designed to develop routes for pedestrians, cyclists and horseriders within the city. In this context, the *Réseau Autonome de Voies Lentes* (RAVeL) programme launched by the Walloon region is a valuable aid to this policy (see RAVel in the section on "The greenways programme").

The old railway infrastructure in Charleroi today represents an important resource that can be developed for non-motorized traffic. The old line no. 119, re-christened *La Houillére*, goes round the north-east part of the city and is in effect a 14 kilometre long green belt between the municipalities of Châtelet, Gilly, Jumet and Roux.

This railway line, abandoned since 1992, has recently been the object of work designed to make it accessible to pedestrians, cyclists and, in part, to horse-riders. This represents the first urban section set up in the framework of the RAVel. Its completion is a result of the municipal authorities desire to promote non-motorized transport within the city and thus give it a new image based on heritage preservation and quality of life.

La Houillère is very interesting as it links the Sambre to the Charleroi-Brussels Canal on the one hand, and Roux and Chatelôt stations, on the other, thereby making it possible to anticipate, at least in the short term, a synergy between the train and the bicycle. It also offers the possibility of linking up with the Upper and Lower Sambre, as well as with other RAVel routes. When it is finished, *la Houillére* will become a particularly important junction, a real intersection at the heart of the regional network.

The L.119 route represents a green corridor enabling non-motorized persons to cross the city via a continuous and convenient route, and one which has preserved numerous elements of its railway heritage (signals, beacons, waymarks, etc.). Urban development in Charleroi has always been undertaken with great care to preserve elements of the ecological web which the green corridor and its surrounding area represent.

The line study prior to the work, featured in an urban study, took into account the dynamics of consultation with the different groups involved. This co-ordination and information process is, undoubtedly, the project's strong point. Similarly, a multidisciplinary team was created, grouping together Walloon ministerial representatives and the Territorial Development General Management, the appropriate Charleroi services (urban development and tourism) and the municipalities involved, as well as the ASBL[26] *Chemins du Rail*. The working group established an effective communication policy with the population and, in particular, with proprietors and leaseholders of the old railway line's sections. This management, an innovation in the RAVel programme framework, managed to avoid potential conflicts.

The L.119 represents a real green corridor in the centre of Charleroi.

26. ASBL: Association Sans But Lucratif, Non-profit Association.

The new footbridge constitutes one of the L.119's strong points.

The work itself began in May 1998, being completed in November of the same year.

The work involved cleaning, grubbing, clearing of ditches, drainage of the old railway line and repair of existing bridges (parapets). The route was cleared to a width of 6.5 metres, including a 2.5 metre asphalt track and where possible a strip of land for horse-riders, walkers and mountain bike users.

There were three phases in this process:

1. meetings with local associations, neighbourhood committees and union representatives of businesses,
2. the organisation of three meetings aimed at the 42 leaseholders along the former line. Each meeting took place in the area involved, assembling between 10 and 15 leaseholders. Litigations arising from these meetings were resolved case by case,
3. finally, a general information meeting was announced by means of notices and press announcements which assembled the population and the community authorities. From then on, the RAVel project was able to be launched without any opposition.

The method used in Charleroi proved very effective and enabled certain potential conflicts to be resolved beforehand.

The co-ordination process was spread out over three months, at a rate of 22 hours preparation for a meeting every two weeks.

Work unfortunately destroyed some years ago to facilitate the installation of a drain has fortunately been replaced by a light metal and wooden footbridge, spanning some 38 metres. The cost of the work, including the footbridge is calculated at just under 1,490,000 euros, whilst the footbridge cost 149,000 euros.

In the short term, the municipal administration plans to conclude the current phase, mainly through improvements to residual spaces and by increasing existing vegetation in the appropriate areas. Another three loops, currently being studied by the same multidisciplinary team, will add to *La Houillére* and, thus, complete the network.

The connection of the greenway to the city centre cycle network, currently being developed, will change Charleroi's image, and, finally, lead to a change from car transport to other more environmentally benign means. This urban greenway, based on utility trips (home/school, home/work, home/shops etc) has permitted, moreover, an urban restructuring of certain districts (Jumet-Station for example) and a re-establishment of pedestrian connections that had been interrupted by large scale roadworks (motorways).

The economic impact of the line will have to be evaluated over the next few years; nevertheless, prospects do seem bright, especially for the small businesses located near the greenway.

Socially, the positive influence of the scheme is already appreciable. The old Gilly-Sart-Allet station, which houses an ASBL, is being renovated thanks to the arrival of the *Réseau Autonome de Voies Lentes RAVeL*.

Construction projects are important elements in preserving greenway continuity.

Rehabilitation of the old no. 119 line as a greenway has enabled persons with difficulties to become involved in the project. The process has created some jobs and also meant that these people become aware of the value of these old communication routes value, from both a historical and heritage angle as well as an economic one.

Daily maintenance of the greenway has allowed the municipal administration to contract five "eco-navvies". These young people, mostly unemployed, are trained to manage the ecological resources of the old railway line and to restore a small part of railway heritage.

The involvement of a disadvantaged section of the population in the project has facilitated its success. Appropriation of the infrastructure by the population has permitted a means of social control to be established and limiting, in this way, acts of vandalism.

3.2.4. The importance of connections with public transport: Paisley & Greenock Path (UK)

Setting up greenways can have an important social impact upon a region, both by creating new meeting points, and by providing communication infrastructure in regions where collective transport networks are deficient and where many families do not possess a car. The *Paisley-Greenock Path* is a good example of what a greenway can contribute in an economically depressed region. Good quality infrastructure, accessible to non-motorized persons, can promote both mobility and the quality of life.

© Sustrans

The greenway is directly connected to Paisley station.

This greenway mostly follows the route of the old *Glasgow and South Western Railway* line along approximately 24 kilometres. This path forms part of the route established between Gourock and Glasgow, integrated in turn in the 16,000 kilometre *National Cycle Network*. Use of the old railway track enables easy crossing of hilly countryside. These routes actually have gentle gradients, around 2%, thus making them accessible to most users, even less active and disabled people.

The greenway was built by the *Manpower Services Commission*. It forms an important link between towns of very different socio-economic profiles. Port Glasgow, Johnstone and Paisley are relatively poor, whilst Kilmacolm is a prosperous town. The population in this region now has the possibility to travel easily along a safe, pleasant route and arrive directly in nearby countryside.

It is clear that the greenway has contributed to better relations between people from very different social backgrounds and has favoured local transport. Indeed, the proximity of inhabited areas enables many users, either pedestrians, cyclists or the disabled, to get directly to a greenway without having to use the car.

The greenway-public transport connection also constitutes an important element which could help to reduce social exclusion factors. In the case of Paisley, negotiations with the relevant authorities have enabled the greenway to be linked up to the station. The route ends at the platform itself, from where trains to Glasgow can be caught. This is a prime example of total inter-modality which has just been repeated at Dalgety Bay Station, north of Forth Bridge, another Scottish town.

3.2.5. The cycle track along the Canal de l'Ourcq in Paris, a green hub backbone in a post-industrial urban setting (F)

By having its own, continuous links, the bike lane network in Paris, along with the rural areas of the *Île-de-France* (leisure areas, woods), is today the most used and well known greenway for users from Paris and the north-east of the city (District 19 of Paris, the departments of *Seine-St-Denis* and *Seine et Marne*). This route is also included in the Île-de-France Region Urban Transport Plan.

This greenway, created between 1978 and 1982, crosses a very densely populated zone, the department of Seine-St Denis (93), whose industrial re-conversion and development pose numerous social and economic problems: urban wastelands, large conurbations, high levels of employment. This urban re-evaluation involves large areas and, primarily, the areas situated near the *Grand Stade de France*.

The Canal de l'Ourcq and the Villette lake.

Several important traffic routes (the peripheral A1 motorway) cross this department, linking the capital with the North and Eastern Europe.

In this oppressive climate, the cycle track established on the old Canal de l'Ourcq towpath is a real green heart, its role being important for several reasons:

- it links several urban parks and numerous leisure spaces, especially the Parque de Villette, much visited all year round,
- it offers a non-motorized alternative in the outer urban area where car use predominates.
- it performs a connecting function between municipalities adjoining the canal and is a factor in social peace and re-evaluation of the quality of life.

The route's presence has thus become a very important factor when it comes to choosing a house, something which reflects on property prices. The benefits of immediate proximity to the canal and the greenway have been exploited by local communities to attract a young, active population.

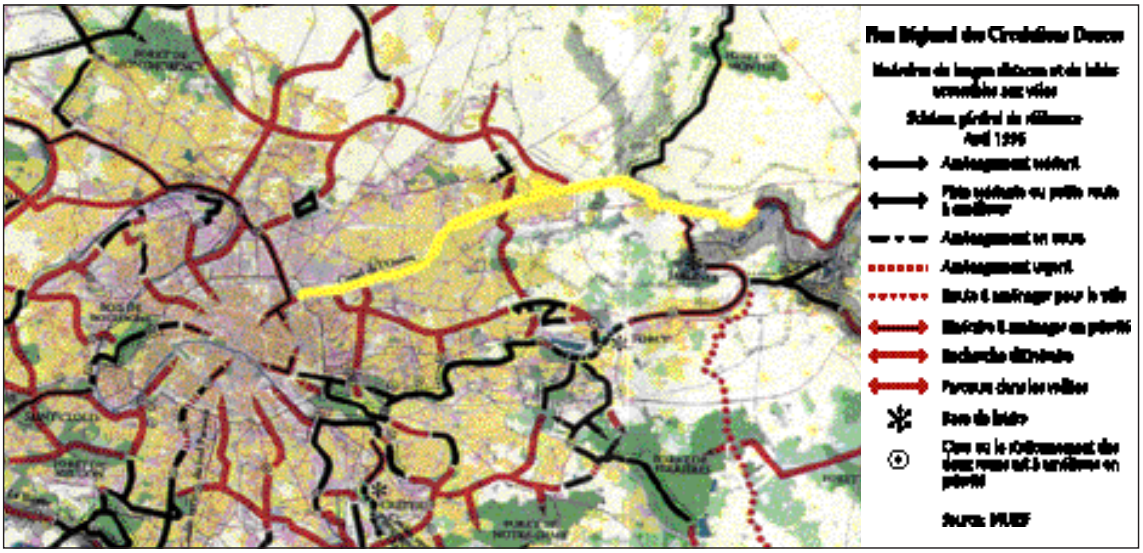
Another benefit from the canal track is the continuous, asphalt link it forms between the capital and the outskirts wich results in:

- Very frequent use for local recreational and tourist pursuits by nearly two million Parisians, in addition to the population of north-east of Paris.
- More and more frequent use of the greenway for utility trips by an ever growing number of new users (for example, the Bondy- centre of Paris journey takes 1h. 30 mins. by car, whereas a cyclist takes between 25 and 45 minutes). The Canal de l'Ourcq track is sometimes victim of its own success with very heavy use at weekends, sometimes creating problems for users,
- An important link for national and European cycle routes.

Frequency of use is liable to increase since it has great potential. This route will be the connection to Paris, not only for the two routes in the *National Cycle Route and Greenway Scheme* approved by the Land Planning Interministerial Committee on 1998, but also Route no. 3 (Trondheim-Santiago de Compostela) in the *EuroVelo* project, which is superimposed to the North of Paris with the Paris-Moscow route proposed by the *Cyclo-Trans Europe* association.

Consequently, a potentially large number of cycle-tourists from the Benelux countries could find a safe form of access to Paris, located on dedicated routes and connected in turn to the Parisian bike-lane network.

The greenway uses the canal towpath (Pavillon sous Bois).



3.3. Industrial, Natural and cultural heritage

Aside from the fact that the greenways constitute transport infrastructure for non-polluting traffic, they also form green corridors where special eco-systems can be introduced and maintained. These ecological corridors not only contribute to preserving bio-diversity and cleaning the air, but also to the preservation of a visually attractive environment. Favouring the use of non-polluting and silent means of transport, in synergy with public transport networks, greenways have positive consequences for the environment, helping to reduce congestion and pollution in cities and actively contributing to sustainable development policies.

The greenways are also ideal places for organising classes on ecological subjects for children, opening up natural zones to them and fulfilling, therefore, an educational function.

This infrastructure, furthermore, bears witness to a region's history and development. Reuse of these routes enables the continuity of these communications networks to be preserved, as well as the buildings and small-scale heritage which correspond to them: stations, lock houses, signals, beacons, waymarks, etc., in addition to stimulating knowledge of cultural, natural and human heritage.

A greenway in the heart of Brussels: Line 160 (B)

Prompted by King Leopold II, the State created, in 1882, line no. 160 between Brussels and Tervuren. Its original route was diverted to lead directly to the site of the Universal Exposition which was held in Tervuren Park in 1897. It was subsequently ceded to a private company, and in 1931 it was electrified and became the first electric, wide gauge line in Belgium. The passenger service ceased in 1958, while goods traffic continued until 1971, when the line was abandoned completely. After being removed, the line's route was partly occupied by the Brussels-Namur motorway and the metro, whilst the Brussels Green Zone Service transformed the section between the municipalities of Auderghem and Wolluwé-St Lambert, some 5.5 kilometres, into a green corridor. The track, laid with crushed dust, is accessible for both pedestrians and cyclists.

It should be pointed out that the old Brussels-Tervuren route falls under the jurisdiction of two different regions[27]. To the south the greenway is managed by the Brussels-Capital Region, to the North the Flemish Region has opted for partially recovering the land so that the no. 39 line train can run. After the Van Eik terminal, the original railway line reappears and heads towards Tervuren and the Central African Museum, passing by the former goods shed. The building was restored and currently houses a café-restaurant. No important work has been carried out on this last 1.5 km. long section. On request from the *Chemins du Rail*, the STIB[28] signed the route, indicating the direction to take to go to Tervuren and to the terminal for train line no. 44.

The southern part, already established, is that which figures in this manual.

The urban section of the L.160 has many attractive features: proximity to the university campuses of the Free University of Brussels and the *Vrije Universiteit Brussel*, to the European

27. *Belgium is a Federal State made up by three Regions: Flanders in the North, Brussels-capital in the Centre and Valonie in the South, and three Communities: the Flemish-speaking, the French-speaking and the German-speaking communities.*
28. *Brussels Inter-Communities Transport Company / Société des Transports Intercommunaux Bruxellois*

Commission offices, to important shopping centres, to schools, restaurants, sports centres, to the Brussels Museum of Urban Transport, to densely populated areas and near to transport interchanges.

The diversity of functions and the dense population of the areas connected through the L.160, make this network, situated in the heart of the city, of maximum interest. However, one possible defect is that the route is not lit, which is a problem for a path with a utilitarian purpose. Another is that there is no direct connection to major transport interchanges. The L.160 does indeed begin close to the Delta metro station, a genuine centre of urban development, to which it is not unfortunately connected.

An overhead crossing still exists today on the L.160 and recalls the railway origin of this route.

Establishing a link with the Metro will reinforce the greenway's attractiveness and turn it into a major network for non-motorized transport. Studying the connection will require a revision of work to networks entering the city and reduce the area devoted to motorized traffic. This complex study is not currently a priority for the Brussels Region.

As regards Tervuren in the Flemish region, it should be stressed that the former rail route terminates close to the 44 train terminal, which permits access to the centre of Brussels.

The greenway passes through a green corridor at the rear of private gardens and along the lake in Woluwé park. It constitutes a much treasured promenade for the people of Brussels and an essential element in reconstructing the urban green web which benefits from the natural vegetation that has grown on the slopes.

To quote certain figures, establishment of the line between the Watermael roadway and the Tervueren Avenue has cost the Brussels-Capital region some 620,000 euros, to which 124,000 euros for the acquisition of the land should be added. The cost of its annual maintenance amounts to 37,000 and is met by the Brussels Green Space Service.

The L.160 has been integrated into the green web plan for the Brussels Capital Region.

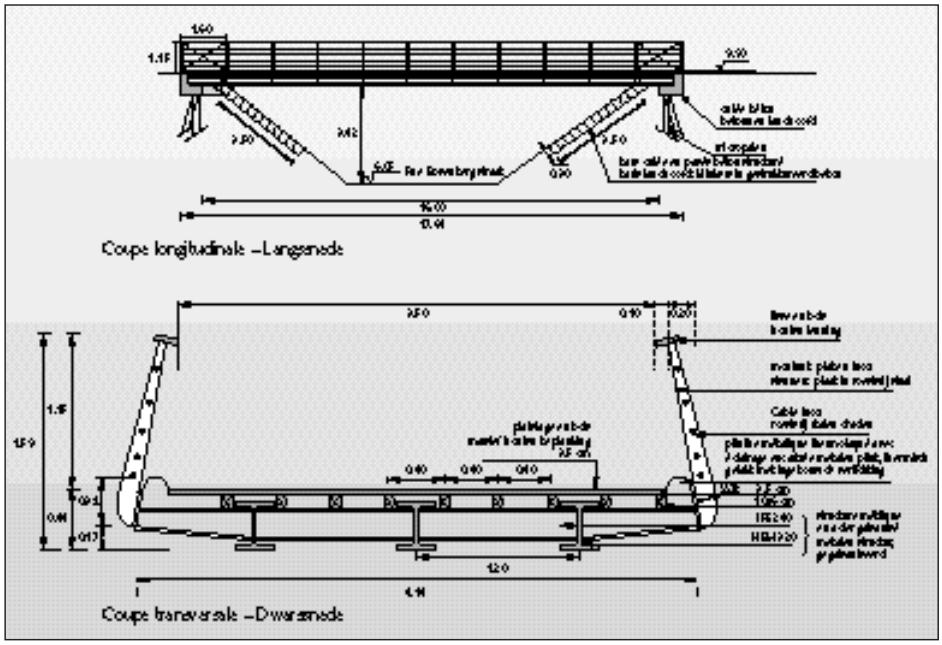
The attraction of greenways as communication hubs with the city centre for non-motorized journeys is undeniable, but the disappearance of four projects, one of which is the bridge that crosses over an important route into the city centre (Tervuren Avenue), affects the continuity and safety of the route. These interruptions will shortly be corrected since the Environment Minister for the Brussels-Capital Region has commissioned building consultants to draw up a project and specifications for three of the four footbridges that remain to be built. Urban development licenses have just been granted and the work should be carried out at the beginning of 2000.

The three footbridges planned will be galvanised steel structures with wooden walkways. Lighting has been discreetly incorporated under stainless steel handrails. The linear architecture and the materials used are reminiscent of the old railway bridges. The crossing, 3.5 metres wide, is comfortable for pedestrians and cyclists. Every detail has been carefully studied and the footbridges will be integrated into Brussels' urban environment without obstructing existing traffic.

The cost of the three projects and of rehabilitating the surroundings (vegetation on slopes and their stabilization) is estimated at 190,000 euros for the first footbridge with a span of 34 metres, some 177,000 for the second one with a span of 30 metres and 88,000 euros for the third one with a span of 17.5 metres.

The fourth footbridge, the most important from a technical point of view, will have to cross eight traffic lanes, a tram line and a bus route, but it is also the most symbolic and has recently been put out to tender. The chosen project proposes a light wood and metal structure. To cross the 60 metres between the two slopes it has been necessary to design a construction on two levels. A link between the lower parts of the avenue is assured by an arch that supports a direct crossing of the green way.

The Brussels Region will finance construction at an estimated cost of 420,000 euros. Work will be carried out in 2000.



The construction of 4 new footbridges will assure the continuity of the route and provide greater safety for users.

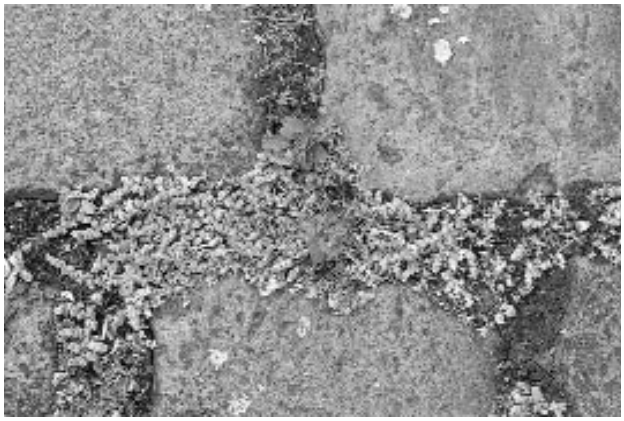
This greenway, even though it is still the only one of its kind in Brussels, is an undeniably valuable element in the development of non-motorized mobility in the Belgian capital. Once the footbridges have been recovered, continuity will be recovered and the route's convenience and access will be improved. The L.160 will thus become a privileged hub for pedestrians and cyclists, both for daily journeys (home/work, home/school) as well as for leisure. Nevertheless, the work on the L.160 will not resolve all traffic problems. In particular, better connections near the Delta station with the metro, the universities and the European Commission offices are vital to achieve real development of this hub on a regional scale.

3.3.2. The environmental impact study as an aid to the design of greenways: the example of former line no. 142 between Eghezée and Namur (B)

The characteristics of former railway lines give them an especially interesting status from an ecological point of view and make them true biological reserves. The drainage capacity of their foundations (ballast stones) certainly attracts very characteristic vegetation. As well as the richness of its flora one must also mention the fauna. Amphibians, reptiles, insects, small mammals and birds are able to take refuge in the vegetation along railway lines. This protective role is complemented with a linking function between different surroundings (forests, agricultural land, wetland areas, etc.). The former railway lines are thereby converted into real connecting corridors[29] in the ecological web and represent reference points for migratory birds. It is also apparent that over zealous or badly adapted work can harm this biological richness. To preserve these areas, carefully managed measures should be taken according to each specific context and in collaboration with naturalists and local authorities.

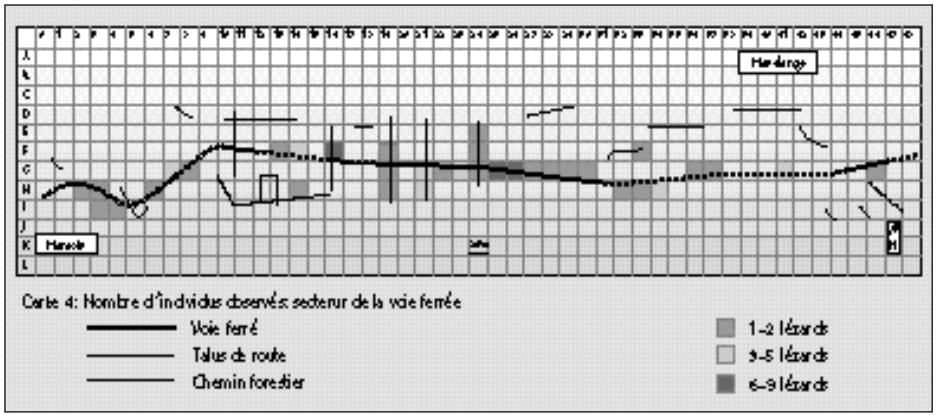
To assess the importance of infrastructure improvements on the Autonomous Slow Ways Network (RAVeL) brought about in the last few years in the Walloon region, it was necessary to carry out an ecological study of future green ways and their surroundings. A pilot study was carried out initially, on the L. 142 section between Eghezée and Namur. The land Use, Housing and Real Estate Directorate General (D.G.A.T.L.P.) took the decision to extend this type of study to the whole RAVeL scheme, integrating it into future greenways projects.

More than a simple inventory of animal and plant species, it tries to evaluate current and potential ecological functions according to different parameters: diversity and abundance of plant species, substratum continuity, line direction in relation to



Locating of a typical plant (Herniaria glabra) on the freight platforms formerly used for cattle. During improvement work it would be advisable to keep the paving and crossing that exist here.

29. According to Sanders and Hobbs (1991) an ecological corridor is defined as a linear element in the countryside whose vegetation is different from its surroundings.



Compared with waterways and other linearl routes, former railway lines prove highly attractive to lizards (rare and protected species protected by Belgian law) (Source: report by Eric Graitson, 1999

migratory centres, diversity and quantity of nests on the route and in the surrounding area, etc.

The study helps to locate real and potential environmental threats hanging over fauna and flora, as well as for future greenways users: waterways, pollution, subsidence risks, classification of urticant (promoting itching or a similar allergic reaction) or poisonous plants, etc.

Information collected enables us to define the best way for the path to be developed in relation to its surroundings, and in this way prioritise work so as fully to respect the biological particularities of the future greenway.

Improvement work to be carried out depends totally on ecological study. The width of the track, its location, gradient, the nature and consistency of the surface, frequency of use, etc, are analysed to minimise the impact on the environment. Alternative solutions can be developed to preserve the biological interest of the route. On the most fragile sections that are of important biological interest, it could be possible, for example, to preserve the rails and to ban access or reduce it to certain types of users such as pedestrians. But in this case, if the greenway is to play an important role with regards to mobility, it is then necessary to find adequate alternative routes.

Ecological study will influence green way improvements and define categories of users authorised to use them.

Ecological study involves proposals related to the definitive elimination of invading plants, even dangerous ones, pruning undergrowth, planting local species, making ditches and ecological nests for certain species. The former railway tunnels are, for example, much appreciated by bats as refuges. The presence of these animals could lead to the construction of a false roof or even cause access to be blocked at certain times of the year.

Another aim of the study is to evaluate the line as an educational tool directed at the general public, in addition to proposing specific improvements to stress the ecological elements which are characteristic of the line and its immediate surroundings.

The work is carried out in accordance with indications given by the head of the ecological study. By marking with pickets, in collaboration with the works manager, elements which should be protected and preserved can be identified during work. Apart from precautionary measures taken, the study gives a series of instructions about important operations, grubbing, levelling and about periods during which work should be carried out.

Finally, it is necessary to ensure greenway management is followed up in the best possible conditions. Contracts are planned between the Walloon region, the infrastructure proprietor, and the municipalities through which RAVeL passes, in such a way that the latter are entrusted with daily maintenance of the routes, whilst the most important work would be undertaken by the Region. Ecological management of the greenway undertaken by private or public partners specialising in this field is, furthermore, an opportunity to create new jobs (eco-navvies).

Ecological studies tend to preserve the biological interest of the line and its surroundings, but as we have just seen, these studies do influence selection of greenway projects and, thus, the aesthetic quality of the work. The ecological factor is naturally analysed in consultation with those in charge of studying affairs related to town and country planning on the greenway. Far from being an obligation, the ecological study

allows harmonious integration of the greenway with its surroundings and maximum use to be made of its biological specifications.

3.3.3. The participation of artists in greenway projects: York-Selby (UK)

The route linking the towns of York and Selby represents a stage in the development of greenways in the United Kingdom. It was, indeed, in this period that Sustrans recognised the importance of including works of art in the design of routes.

The York-Selby route represents a section of some 16 kilometres which follows the path of the old railway line. The route is practically flat and easily accessible, therefore, for even the least athletic of cyclists.

The first improvement work to the old line commenced in 1985, thanks to the financial aid from various sources (*North Yorkshire County Council, York City Council, Charitable Trust, Selby District Council, CTC, Ramblers Association, York National Environment Trust, Rawcliffe Parish Council, Ryedale District Council, Countryside Commission, Norman Collinson Charitable Trust*) and with the technical support of *Sustrans*. It is interesting to note that ballast recovered was sold to the Ministry of Transport and used for construction of the *York Ring Road*. Income received in this way was added to subsidies given by the *Countryside Commission*, which permitted the purchase of materials necessary for greenway improvement work.

The route was officially opened on November the 28th, 1987 and other projects were quickly started with the aim of establishing a direct link with York. This connection was completed in 1990 by means of a route along the river, near the city centre, thereby permitting connection with a secondary road network to the north.

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The installation of public works of art along the greenways forms an integral part of projects in Great Britain

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Public works of art enliven the greenway path.

It was in 1985 when the idea of installing works of art along the greenways was first put into practise. At the time, these were *mileposts* made from discarded railway materials. Since then, public pieces of art form an integral part of projects in the United Kingdom[30]. Furthermore, from the very first studies, expenditure for the collaboration of artists was anticipated.

Sustrans, as project co-ordinator, favours local initiatives particularly through the participation of art schools. Some pieces are chosen in competitions. Most of the time, works are produced with recovered materials: chairs made from railway sleepers, etc., thereby achieving lower production costs. By using materials from local industries, the pieces represent reference points in the history and daily life of the region the route passes through.

Artists sometimes work in collaboration with the local population or with local companies who provide the necessary materials; this type of association has the advantage of arousing future greenway user interest in pieces of art and making them actively participate in their creation. The local population feels involved and takes responsibility for managing the areas a sense of adoption is encouraged. The project, once well-accepted, allows a form of unofficial local control to be established and discourages vandalism.

Results obtained are often interesting and at times surprising. Works of all sizes and types can thus be found: benches, fountains and milestones located along the paths offer resting areas and attractive meeting points. These include *Sleeper Seat*, by Jim Partridge, or *Drinking Stone*, by Michael Fairfax on the Bristol-Bath greenway; and also access control devices (barriers) produced by artists: *Big Blue Pipe*, by George Cutts (Foss Islands, York) or *Polegate Access*, by Hamish Black on the Cuckoo Trail.

Footbridge handrails (*Cleator Moor Bridge*, by Alan Dawson, in Whitehaven & Ennerdale greenway, and also *Forth Bridge*, *Hurns Gutter* by Andy Hazell in York) and bridge structures

30. *Sustrans has carried out programmes in England, Wales, Scotland and Northern Ireland*

© Sustrans

Public works of art catch the attention of path users and represent a popular stopping point along the path.

(*Quercus Robur*, by Aaron Davis and Andrew Revell on the Cuckoo Trail) are fine examples of practical artwork.

In other places, attention has been given to the actual line, thereby giving it form and enlivening the route: *Kyo Undercurrents*, by Richard Harris, on the Consett & Sunderland greenway, or *Workington Earthworks*, by Mark Meter, along the *Sea to Sea* (C2C) route, are all proof of this.

Creations are integrated into the countryside or, on the contrary, stand out by themselves. This is the case of the enormous sculptures by Tony Cragg, *Terris Novalis*, which represent measuring instruments (theodolites) used in railway construction.

Some routes are treated as true open air art galleries. There are numerous surprising examples which enliven the route for users in the British network.

Millennium Mileposts have been developed to waymark sections of the *National Cycle Network* and act as reference points indicating distance to certain points. Thanks to a support from the *Royal Bank of Scotland*, 1,000 of these sculptures celebrating the arrival of the new Millennium have been distributed free to local authorities involved in the development of the *National Cycle Network*.

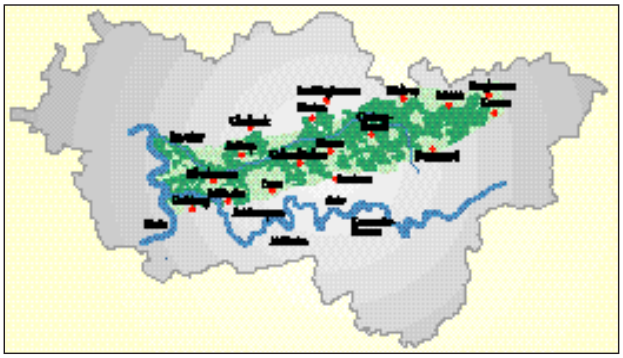
The perception of the greenway by artists, harnessed to the more technical vision of those who participate in project design, is one of the attractive points contributing to the quality of the work produced. The aim is not simply to beautify but to accurately signpost and identify the presence of greenways for the public; the quality of visual surroundings being as important as the actual path. It is necessary to make the most of the route's natural features in order to create what *Sustrans* has called the *travelling landscape*, fundamental when the user is providing their own propulsion.

This initiative was rewarded in 1992 with a prize awarded by The *Arts Council/British Gas* which promotes the integration of works of art into public areas. Public works of art mark out the routes, giving them their own identity and making them more attractive to users. They also capture the imagination of the local population, by making them participate in their conception. This co-existence should stimulate the local population to show more respect for these areas and to encourage potential users onto greenways.

3.3.4. The International Construction and Architecture Exhibition at Emscher Valley Park in Germany (D)

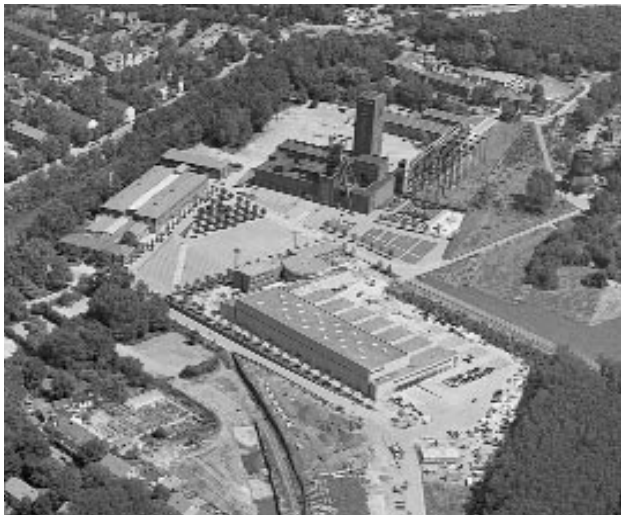
The limits between the city and nature are getting more and more confused. Very often, nature can be reduced to a residual space, fitted between road infrastructure and inhabited areas. This situation is even more critical in a region like the Ruhr with a very high population density of around 2,000 inhabitants per square kilometre.

The *Emscher International Construction and Architecture Exhibition* (IBA), launched in the north of the Ruhr region, is not an exhibition in the normal meaning of the word but rather a



IBA Emscher Park Map and the Ruhr region.

Residential area "Schüngelberg" built on the city of Geselkirchen.



Nordstern landscape and business park in Geselkirchen.

Landscape park in Duisburg.

futuristic programme. Created in 1989 and with an anticipated duration of 10 years, the IBA's aim is to reactivate the Emscher region - considered of great importance, with 2 million inhabitants and a surface area of 88 km^2 - on the basis of new concepts and projects.

The IBA's objective is to use urban development and social, cultural and ecological policies to promote the economic transformation of a traditionally industrial region.

In ten years some 120 projects have been carried out, distributed into six areas of intervention. The most ambitious of these is the *Emscher Landscape Park*. This is a gigantic free space planning project involving a surface area of 300 square kilometres.

The *Emscher Valley Landscape Park* was conceived as a central Master Project, linking different exhibition projects on a theme basis. It was designed as the centre of a new regional infrastructure development looking to the future.

From a birds-eye view it would seem that the Emscher region does not lack green spaces, but the truth is that industrial land, roads and drainage work have all perforated, cut through and devastated the landscape. Connecting hitherto isolated spaces and reconstituting the landscape through a re-evaluation of ecological and aesthetic factors could increase the environmental attractiveness of residential and work zones and promote a sustainable transformation of the area.

The structure of the *Emscher Landscape Park* consists of green sections with a north-south section connected to a east-west section. The park is thus related to the *regional green schemes* created in the 20s by the *Ruhrkohlenbezirk Housing Office*[31]. On creating a coherent system of parks on a European scale the landscape park will soon become a new green heart.

The range of projects included on the park's perimeter take in both development of extensive industrial sites as well as small experimental operations, such as the development of bio-types and the planting of trees, and even the establishment of a pedestrian footpath and a 130 kilometres long bicycle track which crosses the park between Duisburg and Kaman.

Diverse open air pieces of art have also been installed, the *Landmarcs*, which add an aesthetic touch to this old industrial region. Art thus becomes a way of revaluing nature.

Remnants of the region's industrial past-buildings and uncultivated land- are also conserved and rehabilitated by creating new green spaces.

The IBA exhibition is also relevant in other fields:

1. Improvements to the hydrographic network in Emscher, such as 350 km of open air drainage infrastructure with a view to creating a green web (linear parks).
2. *Working in the park*, restoring uncultivated areas in 19 former locations.
3. Housing and urban planning, with rehabilitation of town gardens and traditional working class towns in the region.
4. Conservation of industrial heritage and rehabilitation of industrial buildings (former mines) for housing, working areas or recreational and cultural zones.

After 10 years of activity, the *IBA Emscher Park* was finished in 1999. This date is, at the same time, one where destiny and declaration coincide, since it witnesses the end of the industrial age of great ideologies and utopias, as well as an age of immoderate use of nature.

The IBA did not just want to present a great deal of projects in 1999, but it has also wished to transmit an idea of sustainable and integrated development, to share planning management and to give a new impulse to the new century.

31. According to the article by M.RENARD, IBA Emscher Park, Le Canard Déchaîné du Kauwberg, no. 33, autumn 1999

3.4. Economic impacts: leisure and tourism

By facilitating accessible routes for those who want to walk, for nature lovers, children and those seeking exercise, the greenways have a recreational function and promote open air activities.

Their characteristics offer persons with reduced mobility (the disabled, the elderly, children, etc.) the chance to practise a physical activity away from traffic.

The establishment of greenways also represents a very important tourist attraction. These paths favour the creation of businesses, the introduction of different types of accommodation services (hotels, bed and breakfasts, rural accommodation, camp sites, etc.) and services based on leisure activities (bike hire, skating, horse-riding gear). They thus have a positive effect on creating jobs. By promoting local tourism, the greenways are very beneficial for rural area development. Finally, greenways have a special importance in the development of a diffuse, high quality tourism which regenerates the areas they pass through. They collaborate in this way in a better distribution of tourist flows, avoiding tourist concentration in highly congested areas. Countries like France and Spain have been able to take advantage of this new resource to promote an active tourism which respects the environment.

3.4.1. The greenways and active tourism (E)

The greenways constitute a novel and attractive resource for active tourism in Europe. Ecological and responsible tourism has become the most appropriate complement and alternative for the traditional *beach and sun* offer. Spain has managed to optimise this potential, with greenways allowing access to the rich scenic and cultural diversity of the regions they cross, whilst also guaranteeing sustainable and environmentally friendly tourism.

In such a rugged landscape as Spain's, the greenways acquire additional qualities, since they permit journeys to be undertaken safely and comfortably, thanks to the spectacular works of the former railways. More than 500 tunnels and 1100 disused viaducts and railway bridges assure continuity and universal accessibility.

Some greenways have already had a favourable effect on the redistribution of mass tourism. This has happened with the *Carrilet Greenway* (54 kilometres between Girona and Olot), which crosses a previously volcanic region in the foothills of the Pyrenees and which in 1998 already received more than 90,000 visitors. The success of this route has been such, that it has

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Tourists find the greenways a very attractive resource for discovering the country.

encouraged local business people and hotel and restaurant owners to request authorisation to place advertisements for their establishments along the path.

Up to 500 visitors a day have been counted on this path, half of whom come from other regions, particularly the Barcelona metropolitan area. This confirms that the greenway contributes to the development of connections between the urban metropolis and peripheral areas. But it has also witnessed a progressive increase in foreign visitors who take advantage of their proximity to nearby holiday bases on the *Costa Brava*. The amount of tourists visiting the Costa Brava will be even greater at the end of 2000, when improvement work is finished to the extension of the greenway along the former railway line from Girona to the coastal town of Sant Feliu de Guixols (40 km).

Furthermore, the positive effect of the greenways on the areas they pass through is not limited to the tourist sector, but produces other very different dynamic effects on the local population and economy right from the beginning of construction. These effects are more significant if depressed rural areas are considered, as in the case of the *Sierra Greenway* (32 km already constructed, another 3 km. underway which will be completed in 2000). Here, thanks to the *School-Workshop* and *Trade Houses* training and employment programmes, groups of unemployed young people from local areas have been employed to restore four former stations along the greenway and to install tourist facilities in these. A group of 60 apprentices have worked on each station for two years. Structural renovation of these buildings alone - without including interior installations - has meant considerable public investment. The cost of the

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The Carrilet Greenway connects the town of Girona, close to the Costa Brava, with the interior.

© FFE

One of the Sierra Greenway stations, located in a nature reserve, has been equipped with an observatory for birds of prey.

work on the Olvera Station, for example, has reached 164,000 euros, whilst on the Puerto Serrano Station it has risen to 306,000 euros.

The *Sierra Greenway*, immersed in a landscape of typically Mediterranean mountains and dotted with 17 tunnels and 5 viaducts, offers enormous potential as a tourist resource of the highest order for all the surrounding region. It is located at the heart of a triangle formed by three important provinces for tourism, Sevilla, Cádiz and Málaga, which receive a great many tourists every year; (exceeding 2 million, 2.6 million and 5.3 million respectively in 1997). This greenway could then offer ecological alternatives to help reduce the tourist pressure on the Sevilla metropolitan area, the *Costa del Sol* (Sun Coast) and the Cádiz coast.

3.4.2. The Givry-Cluny greenway in Burgundy (F): nearby leisure and tourism

In August 1997 the greenway between Givry and Cluny was opened. Following its removal from railway service, carried out by the SNCF, the Saône-et-Loire General Council acquired the Mâcon-Chalon via Cluny railway line, deciding to equip it for the use of non-motorized persons. This was how the *Côte Chalonnaise-Cluny Greenway* (44 km) was born.

This greenway is mostly used by cyclists (60%)[32], but also by walkers (10%) and by skaters (30%), who especially appreciate its asphalt surface. Average use, excluding the summer months, is around 4,500 people a week, with weekend peaks in high season which are calculated at 7,000 people a week.

The green way is used above all by the local population for leisure activities, but its installation was the starting point for many other initiatives. The municipalities affected, invested more than a million euros in development connected to the greenway (camp sites, bike-hire points, etc.) Added to this amount was private investment related, for example, to the installation of bike parking areas in hotels.

The General Council acquired the former railway buildings and land attached to the line to later transfer them to municipalities wishing to develop projects connected to the greenway.

13 tourist routes have also been created, in the form of loops dividing off from the greenway and through which users are invited to discover 52 nearby municipalities.

Former railway installations are today the site for activities open to the public. The former station at Buxy, for example, houses a public library and tourist office; a camp site will soon be installed on the railway site at Cormatin, a fitness centre has been installed in the former station at Saint-Gengoux-le-National, etc. Other railway buildings have been rescued by private groups, former SNCF workers among others.

13 tourist routes have also been created, in the form of loops dividing off from the greenway and through which users are invited to discover 52 nearby municipalities.

Since its creation in 1998, the greenway had very important economic consequences for surrounding towns and villages. Greenway users have, for example, been the cause of a 20%

The former station of Buxy on the greenway has been established as an information point and library.

32. 1999 evaluation

Installation of barriers to prevent entry of motor vehicles.

Skaters represent 30% of Green Waygreenway users.

increase in some restaurants' volume of business and 19% in the case of bikes hired. At the same time, longer stays in hotels have been recorded.

The success of the greenway is such that the Saône-et-Loire General Council has been encouraged to begin construction of extensions. On the one hand, to the south, between Cluny and Màcon (20 Km) and, on the other, to the north, along the Central Canal between Chalon-sur-Saône and Santenay (25 km). Other greenway projects are similarly planned through the initiative of the Saône-et-Loire General Council.

All these projects are included in the context of a global greenway network at department level and for the region of Burgundy, with the prospect of a national and European green web.

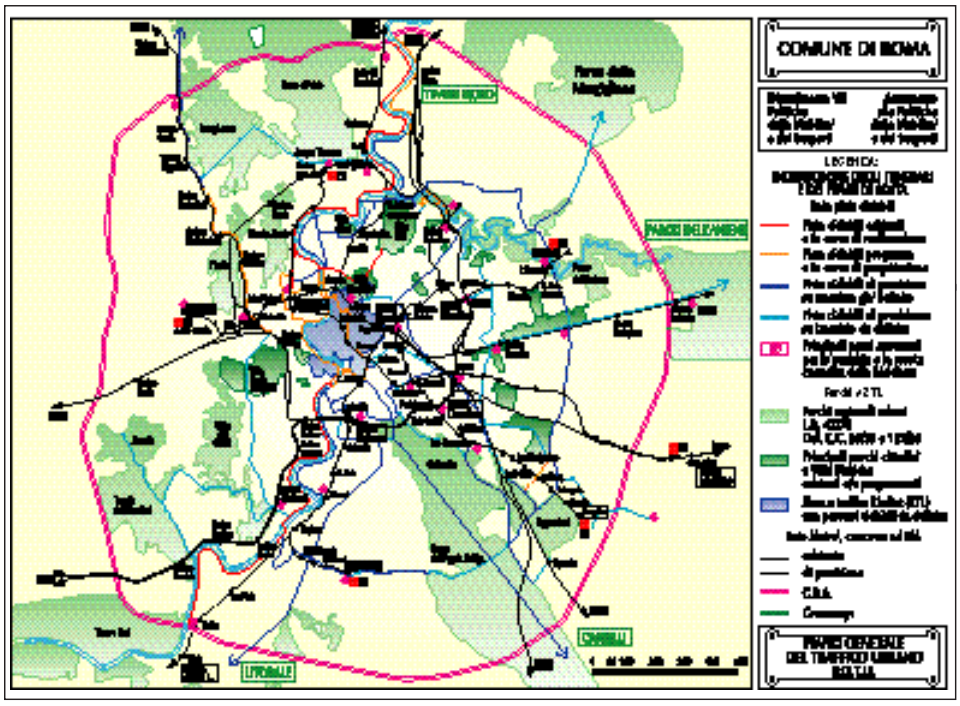
The Givry-Cluny greenway today constitutes an important tourist focal point in an area with rich architectural and natural attractions. This path has led to the development of open air leisure activities as a complement to the well established cultural tourism of the region.

3.4.3. Regeneration of the banks of the Tiber in Rome (I)

In the framework of National Law no.1208[33], related to the *establishment of routes for cyclists and pedestrians*, the city of Rome passed a *construction, development and restructuring programme* in 1991.

Its contents are based on the physical and geographical potential of the river and the coastline and the parks which are a feature of Rome. Dykes, docks and towpaths, as well as roads

33. *National Law no. 208, June 28th, 1991: "Interventi per la realizzazione di itinerari cicclabili e pedonali nelle aree urbane"*



The General Urban Traffic Plan in Rome.

(Source: City of Rome. Departamento VII-Polítiche della Mobilita e dei Trasporti)

The banks of the Tiber have been reclaimed in the framework of the General Urban Traffic Plan, whose objective is to improve urban accessibility by favouring bicycle use.

serving the railway lines and their actual routes (cf. the former San Pietro-La Storta railway line), considered up to now as second class areas with few qualities, have now become fundamental elements in the policy of urban revitalisation.

The programme developed by the city also takes into account the general lines established by the General Urban Traffic Plan (P.G.T.U.), whose aim is to develop urban mobility by favouring the use of the bicycle, both for utilitary journeys and for recreational activities. The P.G.T.U. plans to develop a complete route network, not only in the centre of the city but also on the outskirts. Routes have been classified into categories: routes of an environmental character and urban routes, designed mainly for day to day transport and connected to the main modal exchange points existing in the project. The Municipal Council finally approved the P.G.T.U. in July 1999.

At the end of 1993, Rome possessed 16 kilometres of pedestrian and cycle ways, of which 15 kilometres were greenways along the Tiber (northern route: Castel Giubileo-Ponte Risorgimento). Since then, the city has built 18 supplementary kilometres which include 15 kilometres of autonomous paths, also along the Tiber (southern route: Ponte Sublicio-Ponte di Mezzocammino-G.R.A.[34] and another 36 kilometres are already programmed. The complete network should amount to 69 kilometres, more than a third of which will be greenways.

In 1990, to coincide with the Football World Cup, Rome built 15 kilometres of greenway between Castel Giubileo, in the North, and the Risorgimento bridge. This was the first development in the framework of the Tiber rehabilitation project, which came into being in the 80s, through the initiative of Rome's *Ufficio Speciale Tevere e Litorale*.

34. Motorway bypass around Rome

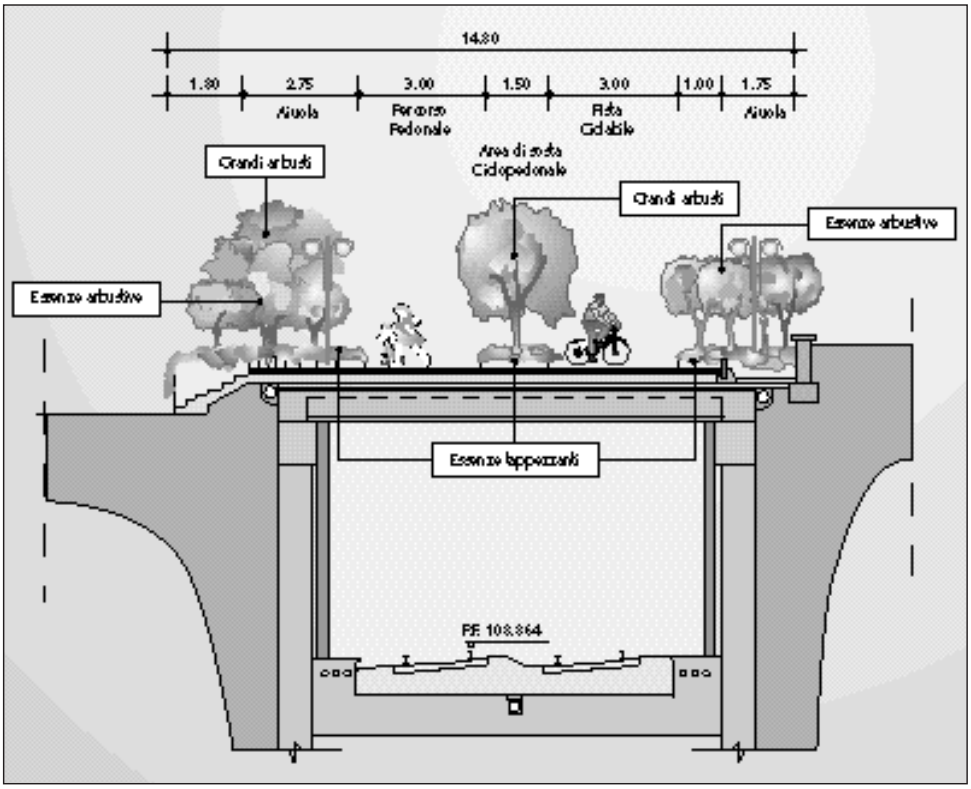
The greenway goes along the former dyke situated on the right-hand bank of the Tiber. To acquire the necessary land for construction, Rome paid a fee to the State Heritage service, the owner of the area. The first 12 kilometres are in an outlying urban zone and pass through semi-natural surroundings of open countryside, the final 3 kilometres, between the Milvio and Risorgimento bridges, cross the city proper. At this point, the greenway is connected to the Viale Angelico bike lane, also developed in 1990, to the Vatican, to the area around St Paul's Basilica; and to the *Archeobici*, a route crossing the historic centre and which joins up again with southern part of the Tiber greenway.

Although this route is regularly used for utility journeys, it is fundamentally designed for leisure (bikes, walking, skating, etc.) and tourist activities. The greenway basically offers the possibility of using the numerous sporting installations located along the Tiber (swimming pools, golf clubs, horse-riding clubs, tennis courts, etc.). By connecting the city with its green periphery the Tiber route also tries to favour alternative mobility and public transport inter-connections. .

The greenway has been laid out in a very sombre style: black asphalt, painted red in places with a width of between 2.5 and 4 metres. Due to its intended use for leisure, no lighting has been anticipated. The path, situated on an embankment, is particularly exposed to the sun and to deal with this situation, metal structures covered with vegetation have been placed on the route to give a little shade. These constitute the only specially provided rest areas, where information panels have been placed which include a map of the route.

The only problems that the city has encountered are related to greenway management: surface maintenance and vegetation, signposting, etc. The city currently plans to hand management of the paths over to local associations.

Vegetation hanging from metal structures are used as shelter from the sun.



A pedestrian/cycle axe will be established on the covering over the railway line (Source: City of Rome).

Greenway installation costs have been about 400 million lira per kilometre, some 206,000 euros/km.

New work south of Rome, along the Tiber between Pont Sublicio, the Ponte della Magliana and the motorway bypass completes this first section of greenway. Construction, which began in 1998, has now finished. This is a greenway that goes along the dyke and the road serving the Tiber and whose features are similar to the northern route. Half way along the path passes from the right-hand bank to the left-hand bank by means of a road bridge (Ponte della Magliana) on which a two way bike lane has been set up.

Extensions to the "cyclable" network have already been planned. *Roma Natura*, the regional office in charge of managing Rome's natural zones, is currently studying a green belt project between urban and outlying parks in the city. The city's parks and the village of Adda are already connected by a pedestrian/cycle path. In this respect the greenways established along the River Tiber (north-south) and the River Aniene (east-west) are particularly interesting links.

It is important to mention the forthcoming greenway project over an active railway line. In 1994, the city signed an agreement with the Italian railway company F.S. (Ferrovie de lo Stato) in order to restructure the existing railway network; adapt existing railway infrastructure for urban services (the metro) and the creation of new links. This work is accompanied by urban regeneration projects which involve the creation of linear parks designed for cyclists and pedestrians. A section of the urban San Pietro-La Storta railway line linking the Vatican City with the north of the city (Monte-Mario and Valle Aurelia) is currently being constructed. The railway line has been covered and straightened at the point where it passes an old factory; the future greenway will be laid over this cover and the old factory site. The tracks were finally buried in 1999, the opening of the greenway being planned for the Jubilee in 2000.

This is therefore an extraordinary project, and as far as we know, almost unique in Europe. We could also mention the Green corridor *(Pasillo Verde)* in Madrid, the Green Belt *(Cinturón Verde)* in Oviedo or, even, the *Coulée Verte* in Paris in the first few kilometres of the TGV Paris-Le Mans line which are more or less similar projects. In these cases the idea was to reconstitute urban surroundings in a green corridor and not to create a greenway proper.

3.4.4. Bike path along the Loire in Nantes: a continuous green corridor established over water pipes (F)

The bike path along the Loire in Nantes is a mixed track for pedestrians and cyclists which links the historic centre of Nantes with the outskirts via a continuous track which follows the northern bank of the Loire.

This route has been set up in two phases. At the end of the 1980s, the Municipal Water authority installed underground piping along the Loire to extract drinking water 15 kilometres upstream from Nantes, constructing an access track along the pipes. This structure, originally for technical use, was soon used for leisure purposes and as a path for walkers and cyclists, since

Controlling access: a route/walk intersection.

it is located in truly natural countryside and allows entry or exit from the city along a continuous, unbroken route.

This use of greenways for pedestrians and cyclists has been officially recognised through its integration into the *Schéma Directeur des Continuités Piétonnes et Vélo-Promenade* (Pedestrian and Cycle Continuity Master Plan) which was adopted by the district in 1991. In 1992 the municipalities set up the Nantes to Mauves path with the support of the District. This work is also connected at various points with the inter-municipal continuous bicycle route network, mainly by improvements to the Sarrebruck Boulevard-reducing the number of lanes (2x2 to 2x1) and creating extensive lanes for bicycles-, which permits the greenway to be used as a home-work route.

This route does nevertheless have surfacing problems, in spite of regular maintenance by the municipal services. Deterioration of the surface is due to residual motorized traffic passing over a section of the path.

This example shows the great potential for developing greenways at low cost by exploiting the construction of underground networks, water supplies, communications cables, etc.

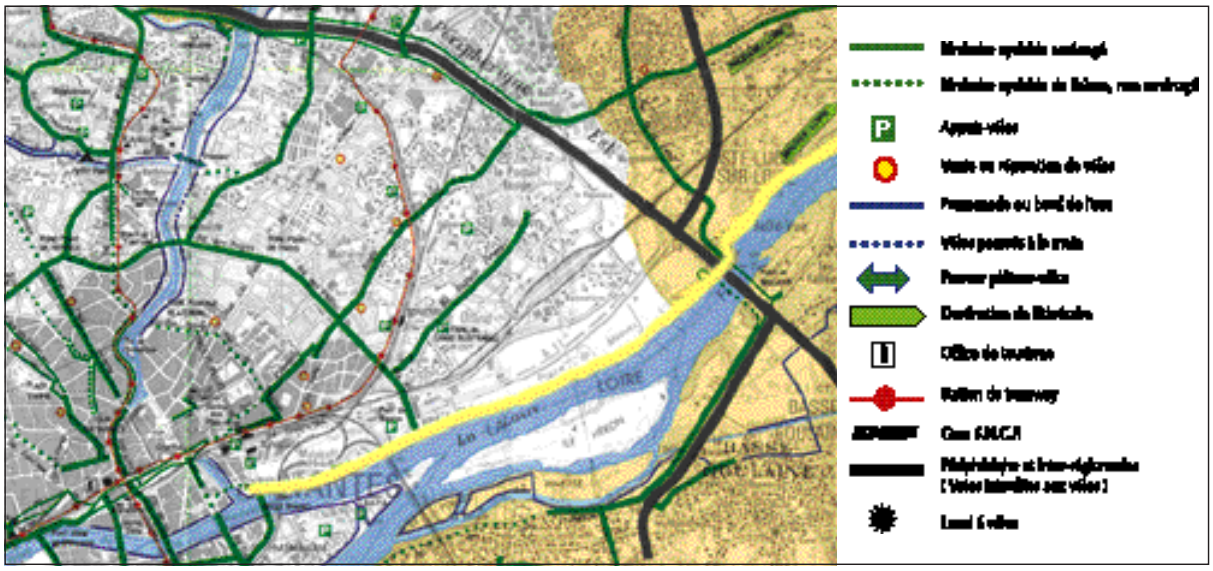
This example of an urban greenway is also interesting for its continuous, established infrastructure in a town the size of Nantes (some 600,000 inhabitants) and for the great tourist potential associated with its location on the banks of the Loire.

This path is in fact currently integrated with the routes of the two most important long distance cycle track projects:

- The *Loire à Vélo (Loire by bike)* is a projected inter-regional and national route for bicycles which follows the banks of the Loire on a safe, signposted track and which will finally link Nantes with Nevers, with 40% on its own land. This project is integrated into the framework of the future priority work of the *Schéma National des Véloroutes et Voies Vertes* (National Plan for Cycle Routes and Greenways).
- Route no. 6 *Nantes-Budapest-The Black Sea*, incorporated in the *EuroVelo* project, a European cycle-tourist network which supports national routes and seeks to co-ordinate its interconnections and the quality of work undertaken. Route no. 6, initially proposed in 1994 by the *Association de Dévelopement des Véloroutes (ADV)*, will thus follow the *Loire by Bike* route. That means that this natural access to Nantes implies a strong potential for sustained tourist use, especially if the link with the Danube cycle-tourist track is carried out in the right conditions.

This influx of foreign tourists is already a reality, even without specific improvements, something which is underlined by the AFIT study in 1995 which registered foreign cycle-tourists

Extract of Nantes by bicycle. Source: city of Nantes, Auran district.



along the Loire at 50%. Finally, the *Loire by Bike* project should contribute to help the Nantes conurbation District to fully rehabilitate this access to the city.

3.5. Promotional activities

Among the significant examples of greenway projects in Europe, the importance of signpost for directions and tourist should also be remembered, as it is something which greatly helps users to follow routes.

Apart from this informative function, if the greenways are intended to stimulate the use of non-motorized means of transport, it is clear that changes in mentality in this area will only be achieved if infrastructure schemes are accompanied by training and information. There remains much to be done in this field, yet it is encouraging to see that initiatives on a national, regional and local level are multiplying. One should also emphasise the importance of organising popular demonstrations which assure greenway promotion and also therefore non-motorized transport.

Two examples of promotional activities which could spread to other European countries originate from Spain.

3.5.1. A homogenous image denoting quality(E)

One of the characteristics which defines the Spanish Greenways, and which gives them a special quality, is the existence of a national Programme which provide homogenous signs of identity to each and every greenway. From their origins in 1993, the Greenways Programme in Spain has had its own identifying logo and a common title for all non-motorized routes developed over former railway lines: *Vías Verdes* (or Greenways).

The Greenway concept has become synonymous with accessibility, safety, comfort and also with places of great beauty. This homogenous image throughout the territory is one of the programme's greatest triumphs and contributes without any doubt to its promotion. A vital aspect, in this respect, has been the publication of a *Greenway Guide* in 1997 by the Spanish Railways Foundation, in which more than 1000 km. of routes are described. The choice of a major publisher has been fundamental in assuring perfect distribution nationally: 13,000 copies of the first volume have been produced, and a second volume with another 800 kilometres of new routes was launched in 1999.

The design of the *Greenways* logo depicts some railway sleepers, recalling in this way the programme's origins. The

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Old railway sleepers used for signposting recall the route's original use.

existence of this common logo helps to preserve the historic past of these routes and to identify them as a new, quality resource in the environmental and tourist sector. The Spanish Greenways Programme did in fact obtain a *Henry Ford European Conservation Award* in 1999 for this work and has been pre-selected for the *United Nations Habitat Good Practise Awards*.

In addition to this standard of identity, it is very important that each greenway develops its own specific, distinguishing


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Quality and safety are two essential objectives in designing a greenway.

denominationcharacter, with a name taken from geographic, cultural or historical references of the zones it passes through (*Vía Verde de Ojos Negros, Vía Verde de los Molinos de Agua*/ Water Mills Greenway, etc.). It is recommendable that each green way has its own logo and some representative element as a mascot, so as to be included on signposts together with the general logo. They are also very useful resources to be incorporated into promotional objects like T-shirts, brochures, caps, etc.

Signposting was specifically and uniformly designed for use on the different Greenways. Old wooden railway sleepers have been used as signposts supports and as kilometre markers. They are also used as obstacles to prevent motorized traffic following the greenway, and particularly at road junctions. Motor vehicles are strictly prohibited, and it has been necessary to totally seal off access. In rural areas, however, it is necessary to reserve right of way for owners of adjacent land who must regularly travel along certain greenway sections to reach their land. The existence of a greenway should not be to the detriment of anybody's rights.

3.5.2. National Greenways Day (E)

After six years work, Spain is now equipped with more than 800 kilometres of specially adapted Greenways. It is now necessary to publicise the existence of these routes, to promote their use and to encourage progressive work on new ones. With this aim, on Sunday May 9th, 1999, a *Día de las Vías Verde*s (Greenways Day) was organised for the first time and on a national level. Organised by the *Spanish Railway Foundation (FFE)*, in collaboration with different organising bodies of the various greenways, celebration marches were organised. Members of the public, especially children, the elderly and the disabled were encouraged to travel along the greenways by bike or on foot, and to join in with the popular activities programmed.

A total of 10 greenways, distributed throughout the whole country, joined in and organised different festive activities. On the *Camocha Greenway* (Gijón), for example, the council put on a crafts market and helium balloons to amuse children. Around 600 people, including the mayor and other authorities covered the route. This greenway in particular, represents one of the main elements of political support for the policy of sustainable development introduced by the city of Gijón (270,000 inhabitants) to achieve better quality air. The event was widely publicised in the media.

On the *Vía Verde de los Molinos de Agua* (Huelva), 300 schoolchildren enjoyed outdoor activities, while on the *Vía Verde Xurra* (Valencia) cyclists benefited from free travel on regional trains and the metro to facilitate access to the activity zone. Posters and 4,000 commemorative pennants, T-shirts, information brochures, caps etc. were also distributed to participants.

The Greenways Day was widely covered in the media: in newspapers, television channels, on both national and local radio and even on the *Euronews* channel. The result was very satisfactory for organisers, since the aims were achieved and some unexpected benefits were also obtained. Of the latter, mention should be made of the great interest shown by some cycling-enthusiast politicians who offered their support for Greenway projects at a political level. Groups of professional cyclists, well-known popular personalities, also offered to participate in this type of initiative.

This event will continue to be held over the next few years, on the second Sunday of May. Why shouldn't other countries who participate in the same objective also be encouraged to organise a *European Greenway Day?*

More than 600 people from Gijón attended the Camocha Greenway on the 1999 National Greenways Day.

PART IV:

12 Practical Tips for Political Decision Makers

4.1. What should be done?

As the examples show, the development of greenways depends largely on your will; that's why this guide is being directed mainly at yourselves, political decision makers, and at the competent technical services and the heads of associations and socio-professional organisations.

To help you promote your own *greenways* policy we invite you, first of all, to read this guide carefully, and then to make contact either with the European Greenways Association and its national members, who could help to direct your efforts, or directly with those responsible for the projects presented. To aid your search, necessary details of the main project characteristics are given in an annex. You will also find a list of contact addresses and internet sites with information on this subject.

The main actions to be taken can be summed up in twelve major stages:

1 - Contact

The European Greenways Association can serve as a platform for the swapping of information and experiences; its national members can help you with all the arrangements mentioned below; both the association itself and its individual members will help you in a search for reference material in the development of greenways and put you into contact with potential partners. In exchange, your own greenways project will help to enrich the association's database in its web site ***http://www.aevv-egwa.org.***

We hereby invite you to contact the association when you have decided to set up your project.

2 - Inventory

The aim is to draw up an inventory of greenways and to map all data received. Once a railway line or similar structure has been abandoned, it should be immediately included in the inventory to prevent it from simply disappearing without trace. The cataloguing of routes already set up and identification of potential infrastructures is the first step to be taken in the interests of drawing up a network of greenways. Once the infrastructures have been listed, it will be easier to preserve them and integrate them into an overall project. Greenways, in effect, represent important land-ownership reserves, which can be turned to good account in later, large-scale actions.

3 - Ownership Status

A determination will then have to be made of the ownership status of the infrastructures, i.e. an identification of the owners: Are they private or public bodies? Are there ownership or rental deeds?

A check should also be made of the legal status of the existing structures on the future greenway, as well as their current use (access to private gardens, garages, farm fields, etc.).

This identification and the appropriate responses will help to avoid future conflict and delays in the work.

4 - Parties

As political decision makers, you are directly involved in the project, but we should never lose sight of the other parties possibly affected by or interested in the project, whether inside or outside the municipality. These of course include the owners of the aforementioned infrastructures but also the residents, users' associations (walkers and pedestrians, handicapped people, horseriders, cyclists...), environmental protection associations, etc.

These groups of interested parties should be consulted from the word go; their opinion should be taken on board to guarantee the smooth development of the project and its acceptance by the public at large.

5 - Partners

A key part of these projects is financing, through the search for various partners to help foot the bill. These partners may belong to the private sector: manufacturers or retailers of sports gear, tourism groups, catering groups, etc., companies with specific interests who may wish, for example, to bury pipelines under the route, chambers of commerce, tourism federations, etc. State aid is another option: state programme-contracts – French regions, regional authorities, etc.; railway or waterway companies: RENFE, SNCB, SNCF[35], RFF[36], *Voies Navigables* of France, *British Waterways*, etc., all of which may take over the infrastructures or propose management collaborations. European funds may also be turned to: ERDF, community initiatives URBAN, LEADER, etc.

Finally, it is worth pointing out that in United Kingdom the national lottery contributes financial aid through, among others, the *Heritage Lottery Fund*, while in the United States part of the petrol tax goes towards these projects, thanks to the *Intermodal Surface Transportation Efficiency Act (ISTEA)*.

6 - Legal Instruments and Regulations

There are various legal instruments and regulations at municipal, regional, national or European level that can serve as an aid for developing greenway projects. Examples are the French Urban Travel Plans, or even European clean-air legislation. The integration of a greenway into a non-motorised mobility network, whether pure (like *RAVeL* in Belgium) or mixed (*Sustrans* in the United Kingdom, the *Schéma National de Véloroutes et Voies Vertes* in France,...) facilitates smoother communication within the municipality and a connection with other similar networks. Use of these instruments can only lead to the greater efficiency of the scheme.

7 - Feasibility Study

The project feasibility study, to be conducted before the drawing up the specifications and construction, will allow the future greenway to be integrated into its town-planing, environmental, scenic and human context and will also enable it to be linked up to other public transport networks (train, bus, tram, underground...). Studies should include an environmental and heritage chapter, and an account should be given of the arrangements made to involve the local population; they should also lay down the basic guidelines to be followed when work gets underway.

8 - Project and Specifications

Reference is made here to drawing up the specifications for the companies who are going to carry out the development work on the path itself (surfacing, water drainage...) and on its surroundings (plantlife, fixtures, heritage, information and services for users...). The project specifications will also include all aspects to do with signage, route marking, recommended safety measures and information for junctions.

9 - Construction Work

The specialists who have taken part in the feasibility study, with reference to heritage and environmental factors (impact study), will keep in contact during the construction phase to make sure the work is carried out properly. Special attention will be paid to interchanges between the greenway and other communication networks, to ensure that suitable safety and signage arrangements are made.

10 - Management and Maintenance

It is important that the project contains suitable indications on the management and upkeep of the path once built: signposting, marking, protection of the flora and information and services for users. The path promoter will have to ensure the established management plan is followed, by a contract or signed agreement.

11 - Opening

The opening of a new greenway should always be an official ceremony combined with a popular celebration (such as *Le Beau Vélo de RAVeL* in Walloon Belgium, the *Día de las Vías Verdes* in Spain,...). This type of event has the advantage of drawing in local people to the celebration, thus cutting down future risk of vandalism, favouring responsible use of the path and setting up a sense among local people that it belongs to them.

12 - Promotion

Promotion of the greenway and broadcasting of the experience further afield can also be achieved through the

35. SNCF : Société Nationale des Chemins de Fer Français.

36. RFF : Réseau Ferré de France.

European Greenways Association. All information furnished to the association (technical data, bibliographical references, contract addresses...) will be included in the web site and will thus be made available for a great number of users.

As a complement, existing initiatives on a regional or national scale could be increased in scope; thus, in the future a *European Greenways Day* might be held.

4.2. Towards a change in outlook

As already mentioned in this guide greenways will not solve cities' pollution and congestion problems single-handedly, but their integration into a more general policy of sustainable development could certainly be a big step in the right direction. Greenways should be knitted into a whole mosaic of measures dealing with mobility, transport, energy, etc.

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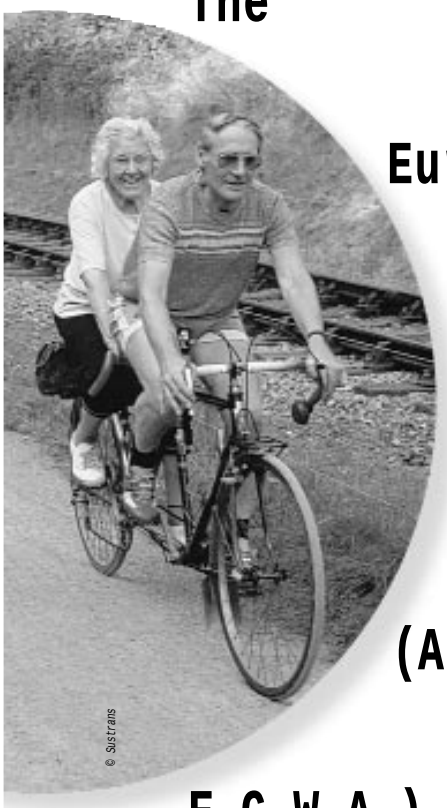
The success of greenways is guaranteed if they go hand in hand with a change in behaviour by the public at large, and political representatives. The former insofar as they swap use of the private car for low- or non-contaminating public transport; the latter insofar as they favour this change by developing suitable infrastructures for non-motorised transport: greenways, cycle routes, walking paths, etc., all within the wider context of mobility policies.

Greenways are part and parcel of a widespread social movement in favour of the right to choose the mode of transport and the return to a better quality of life in cities. These routes are currently riding a wave of favourable public opinion, as the drawbacks of motor traffic become more and more obvious. Greenways, however, should not be regarded as an anti-car measure but rather as an alternative to be combined with other transport networks. Furthermore, these routes represent a new concept of public space, which takes into account the ever increasing public concern for sustainable mobility and conservation of the environment.

It is really encouraging to see how initiatives are blossoming nowadays at a local, regional and national level: witness the examples given in this guide. These routes already exist, their workmanship is top quality and there is a real demand for them among the public at large. The time is therefore ripe for developing greenways and it behoves all concerned – politicians, civil servants, associations and the public and private partners involved in the project – to back this movement and contribute towards preserving the accessibility of European cities and improve the standard of living of their inhabitants.

PART V:

The European Greenways Association (A.E.V.V / E.G.W.A.)



5.1. A new approach to international cooperation

The *European Greenways Association* was set up after the *First European Conference on Soft Traffic and Railways Paths (Premières Rencontres européennes du trafic lent et des chemins du rail)*, held in Val-Dieu (Begium) in May 1997. This conference proved there was a genuine will to develop networks for non-motorised soft traffic as alternatives to the car, both for daily journeys to and from work, school, etc, and for leisure journeys. The possibility was mooted of creating a *new product* with very different characteristics: accessibility, ease of passage, safety, continuity, separation of motorised and non-motorised users; a product based on old infrastructure such as disused railway lines and canal towpaths.

In the closing session the participants unanimously recognised the importance of greenways and manifested their interest in creating an association at a European level as a true platform for swapping experiences and information on the matter.

Under the chairmanship of Joaquín Jiménez, Director of Studies and Programmes of the Spanish Railway Foundation *(Fundación de los Ferrocarriles Españoles)*, and with the support of David Burwell, chairman of Rails-to-Trails Conservancy (USA), a working group was set up to promote a future European association. This was finally created in Namur (Belgium) on 8 th January 1998, with the support of the Environment Directorate General of the European Commission. A statute and annexed resolution (known as the Logroño Resolution) were signed by fifteen associations or institutions, including the European Cyclist's Federation (ECF) and the national and regional governments that had supported the idea from the outset.

ASSOCIATION EUROPÉENNE DES VOIES VERTES
EUROPEAN GREENWAYS ASSOCIATION
ASOCIACIÓN EUROPEA DE VÍAS VERDES

The *European Greenways Association* is based on initiatives already tried and tested in Europe and other parts of the world. These include *Rails-to-Trails Conservancy* in the United States, *Vías Verdes* in Spain, *Sustrans* in the United Kingdom, *RAVeL* in the Walloon Region of Belgium, the *Schéma National de Véloroutes et Voies Vertes* in France, etc.

The association pays special attention to certain aspects such as[37]:

37. *See article 1, point 3, section 2 of the Statute of the European Greenways Association.*

- Accessibility of the infrastructures to the general public, including impaired-mobility persons,
- Ease of passage, continuity and safety of the routes,
- Respect for the natural, cultural, historical and human environment of the areas crossed,
- Informing and educating users, particularly youngsters.

The association has grown ever since its creation. It currently boasts 25 members grouped into four categories: full members, associate members, honorary members and observers. All these are representatives of different associations, institutions or ministries from 7 European countries and are actively involved in the creation and/or promotion of greenways.

The *European Greenways Association* has taken on two important research projects, under the aegis of the European Commission:

- This publication,
- and the *REVER* project *(REseau Vert EuRopéenne)* as part and parcel of the programme called *Interreg IIC, Aire Métropolitaine Nord-Ouest* (AMNO).

This community initiative was set up in 1996 *with a view to promoting trans-national co-operation in the strategic organisation of territory*. The *European Greenways Association* has proposed the setting up of a network of *REVER* greenways on a Europe-wide scale. The two-year project has been accepted by the Commission's Programming Committee and officially began at the start of 2000 with the signing in Namur (Belgium) of the Partnership Charter (Charte du Partenariat) by the partners involved, from France, Ireland, Luxembourg, the Walloon and Brussels-Capital regions, and the United Kingdom.

This ambitious project will lead towards one of the association's main objectives: the setting up of a greenways network at a European level.

At the same time the association is also working on a database of European greenways, which will comprise an inventory of greenways, whether already existing, under construction or in the pipeline.

The actions carried out by the European Greenways Association show a real will by the partners to set up greenway co-operation on a European scale.

5.2. The partners of the project

This guide has been written thanks to the collaboration of diverse members of the *European Greenways Association*. The study involved the participation of several French and Belgian ministries, the Fundación de los Ferrocarriles Españoles, the Red Nacional de los Ferrocarriles Españoles (RENFE), plus associations like Sustrans, Associazione Italiana Greenways, Chemins du Rail, AF 3V and RNOB.

Belgium

- **MINISTRY OF THE WALLOON REGION, DIRECTORATE GENERAL OF LAND USE PLANNING, HOUSING AND REAL ESTATE (D.G.A.T.L.P.), LAND AND TOWN-PLANNING DIVISION (D.A.U.) AND**
- **WALLOON MINISTRY FOR EQUIPMENTS AND TRANSPORT (M.E.T.)**

The D.G.A.T.L.P. conducted the preliminary studies before drawing up the Autonomous Slow Ways Network or RAVeL. The M.E.T. takes care of the technical side and extraordinary work such as engineering structures and roadbeds, and the upkeep of the network.

The network is essentially based on service paths of navigable (or once navigable) waterways, disused railway lines of UIC gauge and the old local railway lines (*chemins de fer vicinaux or tramways*) of metric gauge.

- **RNOB NATURE RESERVES ASSOCIATION**

Founded in 1951, the RNOB (Bird and Nature Reserves of Belgium) is a private nature-conservation association, responsible for the maintenance of bio-diversity within the general framework of sustainable development. Greenways are fragile environmental corridors that have to be preserved with their public use in mind.

From this viewpoint RNOB sees to the protection and development of greenways, particularly the old railway lines.

RNOB is a member of the World Association of Nature Conservation, and Bird Life International.

- **CHEMINS DU RAIL**

The Chemins du Rail association (CdR) was founded in 1996, at a time when rehabilitation of disused railway lines in the Walloon region was subject to a legal dispute between the region and SNCB as owner of the lines.

The aims of the association are to promote and safeguard old railway lines, making them available for the so-called slow users (walkers, cyclists, horseriders, impaired-mobility persons, skaters...). In collaboration with the Walloon Region and RAVeL the association organised the *First European Conference on Soft Traffic and Railway Paths*, the forerunner of the European Greenways Association itself.

Spain

- **RED NACIONAL DE LOS FERROCARRILES ESPAÑOLES (RENFE)**

RENFE is the public company that runs the Spanish wide-gauge railway network (12,303 km, with passenger and goods

services). It is the owner of 1,500 km of disused railway lines and collaborates actively in their reuse as greenways by making over the land to the council in question. RENFE is honorary member of the E.G.W.A. and chairs the board of the Fundación de los Ferrocarriles Españoles (Spanish Railways Foundation).

- **FUNDACIÓN DE LOS FERROCARRILES ESPAÑOLES FFE**

The Fundación de los Ferrocarriles Españoles (F.F.E.) is a non-profit-making body that depends essentially on the Spanish public railway companies.

The foundation is responsible for the promotion, co-ordination and dissemination at a national level of the greenway programme run by the Environment Ministry, in collaboration with the railway companies RENFE and FEVE, the regional authorities and city councils.

The foundation has published a 2-volume guide including 62 greenways totalling over 1,800 km of route throughout the whole of Spain.

France

- **THE FRENCH MINISTRY FOR LAND PLANNING AND THE ENVIRONMENT**

As well as its contribution towards the creation of the Interministerial Committee for monitoring the pro-bicycle policy, the Ministry for Land Planning and the Environment runs various schemes and events to promote non-motorised soft travel in France: the National Scheme of *Véloroutes et Voies Vertes*, arranging the *Car-free day in the city*, the *Bicycle Festival*, the *Golden Bicycle Prize*...

The ministry forms part of the secretariat of the strategic research committee of PREDIT (National Programme for Research and Innovation in Land Transport) for the promotion of non-motorised transport.

The Ministry for Land Planning and the Environment runs the REVER project in France, under the aegis of the E.G.W.A.

- **FRENCH MINISTRY FOR YOUTH AND SPORT**

For some years now the Ministry for Youth and Sport has been monitoring sports practices and open-air recreation in France. The government's involvement in these activities takes the form of setting up fixtures, sites, long-distance routes and services to the benefit of the various users. To satisfy this demand the Ministry for Youth and Sport, a member of the Interministerial Committee for Monitoring Pro-Bicycle Policies, is involved above all in the recently set up National Scheme of *Véloroutes et Voies Vertes*. The ministry thus proposes the setting up of rest areas for cyclists (with support services for cyclists and other users along the routes included in the scheme).

It also supports the various French associations, such as the French federations for cycling, hiking, horse-riding, skating and other bodies interested in open-air activities. As a member of the E.G.W.A. the Ministry for Youth and Sport participates in the REVER project together with the various French and European partners.

- **ASSOCIATION FRANÇAISE DES VÉLOROUTES ET VOIES VERTES, AF 3V**

Set up on 20 December 1997, the AF 3V aims to participate actively in the sustainable organisation of the country by setting up an ambitious and consistently high quality network of *Véloroutes et Voies Vertes* in France. Only this ambition and consistency can guarantee the upgrading of rural areas and the positive development of non-motorised soft travelling in the city.

The AF 3V and its associates participate in the *Schéma National des Véloroutes et Voies Vertes* and collaborates with the *Club des Villes Cyclables* in the inventory of greenways in French cities.

Italy

- **ASSOCIAZIONE ITALIANA GREENWAYS**

The Associazione Italiana Greenways (AIG) was set up on 20 July 1998 by researchers and professors of the State University and Polytechnic Faculty of Milano. The idea was a spin-off from a symposium held in April 1998 in Milano on the subject of greenways. The participants unanimously underlined the importance of creating a greenways movement in Italy. The country has a number of disused railway lines, canals, droveways, etc .. set in a very rich historical, cultural and scenic environment. This context is ideal for developing the concept of greenways.

United Kingdom

- **SUSTRANS**

Set up in 1983, Sustrans is a non-profit-making body for promoting non-motorised traffic in United Kingdom. To this end it designs and constructs traffic-free routes. With the financial support of the National Lottery, Sustrans has launched an ambitious project, the *National Cycle Network*, which will add up to a total of 16,000 kilometres by 2005.

The *National Cycle Network* is made up of quiet rural roads, traffic calmed urban roads, and greenways, such as canal towpaths, disused railway lines and forestry paths.

The European Greenways Association was finally created in Namur (Belgium) on 8th January 1998. A statute and the annexed resolution (known as the Logroño Resolution) were signed by fifteen associations or institutions, including the European Cyclist's Federation (ECF) and the national and regional governments that had supported the idea from the outset.

5.3. The European Greenways Association' Members

Full members:

- L´Association Française des Véloroutes et Voies Vertes, AF 3V (F)
- British Waterways (UK)
- Chemins du Rail (B)
- Consorci Ruta del Carrilet Olot–Girona (E)
- Consorcio Vía Verde Coripe, Montellano (E)
- Fundación de los Ferrocarriles Españoles (E)
- Generalitat Valenciana (E)
- Ministère de l'Équipement et des Transports de la Région wallonne (B)
- Ministère de la Région wallonne, Direction Générale de l'Aménagement du Territoire, du Patrimoine et du Logement de la Région wallonne (B)
- Ministère français de l'Aménagement du Territoire et de l'Environnement (F)
- Ministère français de la Jeunesse et des Sports (F)
- Sustrans (UK)
- Ministère du Tourisme du Grand–Duché de Luxembourg (Lux)

Associate members:

- Associazione Italiana Greenways (I)
- Consorcio Vía Verde del Tarazonica (E)
- Consorcio Vía Verde del Litoral (E)
- Diputación de Córdoba (E)
- Fédération Européenne des Cyclistes ECF
- Hertforshire County Council (UK)
- Réserves Naturelles RNOB (B)
- Sicilia Turismo (I)

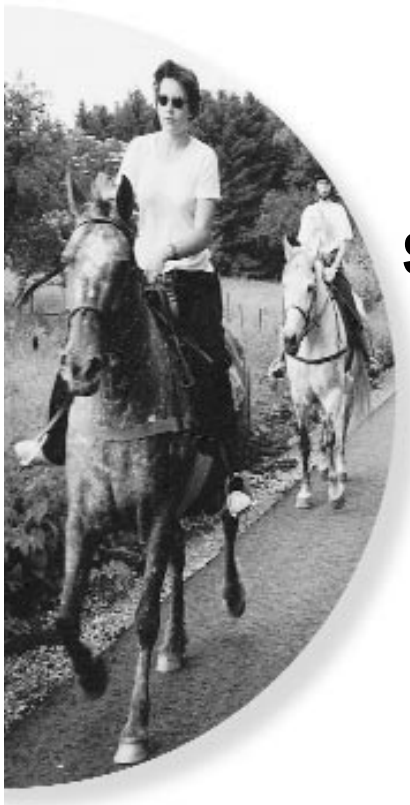
Honorary members:

- Ministère de l'Équipement et des Transports de la Région wallonne (B)
- Ministère de la Région wallonne, Direction Générale de l'Aménagement du Territoire, du Patrimoine et du Logement de la Région wallonne (B)
- Ministerio de Medio Ambiente (E)
- Rails–to–Trails Conservancy (U.S.A.)
- Red Nacional de los Ferrocarriles Españoles, RENFE (E)
- Société Nationale des Chemins de Fer Belges, SNCB (B)

Observers:

- Oziveni (Cz)
- Westvlaamse Vereniging voor de Vrije Tijd (B)

PART VI:



Synthesis Files

In Belgium:

In Spain:

In France:

In Italy:

In United Kingdom:

BELGIUM WALLOON REGION

NAME	***L.119, LA HOUILLÈRE***
TYPE	Disused railway line integrated into RAVeL
DATE OF CREATION	Opened in 1998
LOCATION	Northwest edge of Charleroi Province of Hainaut
POPULATION	Town of Charleroi : 343,568
START AND FINISH POINTS	From Châtelet to Roux
LENGTH	14 kilometres rehabilitated
PHYSICAL CHARACTERISTICS	6.5 metres total width comprising an asphalt strip of 2.5 metres with an uncompacted side strip for horse riding
SETTING	Urban and suburban
USERS	Walkers, cyclists, disabled people and horseriders
INTERESTS	Everyday journeys to and from work, school, etc Leisure activities
WEAK POINT	Danger that some stretches of the track might disappear in urban zones (Jumet)
PARTICULAR FEATURES	Creation of a multidisciplinary working group Public consultation and agreement process Construction of a new footbridge Social impact : recovery of the old station of Gilly-Sart-Allet as part of RAVeL and revival of the district Job creation (route upkeep) Creation of a green corridor in an urban environment
PROJECTS	Project of 3-circuit loop based on the L.119 Connection with the working stations of Roux and Châtelet
PROMOTING BODIES	Ministère de l'Équipement et des Transports de la región wallonne (M.E.T.) (Ministry of Equipment and Transport of the Walloon Region) Direction Générale de l'Aménagement du Territoire, du Logement et du Patrimoine (D.G.A.T.L.P), cellule RAVeL (Directorate General of Land Use Planning, Housing and Real Estate, RAVeL cell) City of Charleroi, departments of urban equipments and tourism
MANAGEMENT BODIES	City of Charleroi for normal maintenance Walloon Region (M.E.T.) for exceptional jobs
COST OF CREATION	c.1,640,000 euros of which c.149,000 euros were spent on the footbridge
MAINTENANCE COST	Yet to be estimated
CONTACTS	• Ministère de l'Équipement et des Transports (M.E.T.) Boulevard du Nord, 8 B-5000 Namur – BELGIQUE tel.: 32 (0)81 72 28 66; fax: 32 (0)81 77 36 66 • Martine Piret, département Aménagement urbain, Maison communale, Place Destrée B-6060 Gilly – BELGIQUE tel.: 32 (0)71 86 39 71

BELGIUM WALLOON REGION

NAME	***L.142, LA CROIX DE HESBAYE***
TYPE	Disused railway line integrated into RAVeL 2
DATE OF CREATION	Opened in March 1998
LOCATION	Provinces of Namur and Walloon Brabante in the Walloon Region Province of Flemish Brabante in the Flemish region
POPULATION	Namur : 105,369
START AND FINISH POINT	From Namur (WR) to Hoegaarden (FR)
LENGTH	42.3 kilometres
PHYSICAL CHARACTERISTICS	Asphalt strip 2 to 2.75 metres wide with 1-metre side strip for horse riding
SETTING	Urban, suburban and rural
USERS	Walkers, cyclists and some parts for horseriders
INTERESTS	Tourism Leisure activities Everyday journeys to and from work, school, etc in the outskirts of the towns
WEAK POINTS	Absence of agreements with citizens and user groups that existed before the route development work of RAVeL Absence of connection to the north of Eghezée One stretch runs along the road in Longchamp
PARTICULAR FEATURES	First ecological study of a RAVeL line between Eghezée and Namur Inventory of small railway heritage Edition of a RAVeL 2 pamphlet Re-use of disused stations : six stations transformed into private dwellings, a crèche in Leuze, a supermarket in Ramillies, a municipal library and a music academy in Eghezée
PROJECTS	Connection with the station of Namur (TGV station) Connection with the towpath of Sambre in Namur Preparation of road surface near the sugar refinery of Lonchamp
PROMOTING BODIES	Ministère wallonne Walloon Ministry Ministère de l'Équipement et des Transports de la región wallonne (M.E.T.) (Ministry of Equipment and Transport of the Walloon Region)
MANAGEMENT BODIES	Municipalities for habitual maintenance Walloon Region for exceptional jobs
CONTACT	• Ministère de l'Équipement et des Transports (M.E.T.) Boulevard du Nord, 8 B-5000 Namur – BELGIQUE tel.: 32 (0)81 72 28 66, fax: 32 (0)81 77 36 66

BELGIUM BRUSSELS CAPITAL REGION

NOM	***REGIONAL GREEN PATH BRUXELLES–TERVUREN RAILWAY PATH OR SNCB PATH (OLD LINE 160)***
TYPE	Old railway line
DATE OF CREATION	Avenue de Tervuren-Stockel stretch made in (c.) 1985 Watermael road - Av. de Tervuren opened on 5 October 1991 Construction of footbridges scheduled for 2000
LOCATION	Brussels-Capital region Non-rehabilitated prolongation towards Tervuren in the Flemish Region
POPULATION	954,460
START / FINISH POINTS	From Watermael road (Auderghem) to Avenue de Hinnisdael (Woluwé-St-Pierre) Prolongation to Tervuren
LENGTH	5.5 kilometres surfaced 1.5 km unsurfaced
PHYSICAL CHARACTERISTICS	Crushed dust path about 3 m wide on average, though varying from section to section Public fixtures: benches, paper bins, children's play areas, dog areas Signage with information on flora and fauna The bed running from Woluwé to Tervuren has been partly rehabilitated for tram use. From the tram terminal a path leads off to the Central Africa Museum of Tervuren
SETTING	Urban
INTERESTS	Everyday journeys to and from work, school, etc; a route joining up many different activity points: schools, shopping centres, local businesses, sports centres, offices, bus stops, residential areas, connection with regional cycling route n° 15 Leisure and tourism activities: forms part of the *Vélodécouverte* of Brussels Ecological corridor due to the semi-natural plantlife typical of railway embankments Important element of the regional green network: part of the itinerary connecting up the semi-natural areas of the second urban ring; connection with the recently designed green ring routes. Landscaping, to form a plantlife barrier shielding neighbouring buildings and acting as a soundproofing screen.
WEAK POINTS	The disappearance of the footbridges, a drawback soon to be remedied The absence of any connection with the Delta hub of activities and transport The absence of any prolongation towards Tervuren
PARTICULAR FEATURES	Reconstruction of non-existent footbridges and inviting of bids for reconstruction of the most important footbridge (a symbolic and functional element at the same time) Link of the green connection of the Brussels-Capital Region
USERS	Walkers and cyclists
PROJECTS	Construction project for four footbridges, one about 75 metres long spanning Avenue de Tervuren Renovation of existent bridges Renovation of play areas Different connections to improve links with activity and recreation zones
OWNERS	One stretch belongs to the Brussels-Capital Region (Watermael road in Auderghem / Station Street in Woluwé-St-Pierre) Another stretch (Woluwé-St-Lambert and a small part in Woluwé-St-Pierre) still belongs to the SNCB, which has rented it out to the Institut Bruxellois de Gestion de l'Environnement (I.B.G.E.) (Brussels Institute for Environmental Management)
PROMOTING BODIES	The first part was developed by the Natural Resources and Environment Administration The second part was effected developed by an office of town planning and territorial organisation
MANAGEMENT BODY	Green Belt Section of I.B.G.E. (mowing, pruning, emptying of paper bins, routes and accesses, fixtures)
COST OF CREATION	123,947 euros for acquisition of the site 619,734 for preparing the greenway Three footbridges (estimate not including VAT): c. 203,273 euros (34 m span), 178,483 euros (30 metres) and 86,763 euros (18 metres) 114,000 euros for preparing the footbridge accesses Footbridge Avenue de Tervuren (estimate excluding VAT) : 421,418 euros
MAINTENANCE COST	c. 37,184 euros for annual maintenance
CONTACTS	• Management institution: I.B.G.E., Division Espaces Verts, Guledelle, 100 B-1200 Bruxelles – BELGIQUE tel.: 32 (0)2 775 75 11 • Green Belt Management : S. Kempeneers tel.: 32 (0)2 775 76 77; fax: 32 (0)2 775 77 21

BELGIUM FLEMISH REGION

NAME	***WESTERRINGSPOOR***
TYPE	Disused railway line integrated into the cycle network of Ghent
DATE OF CREATION	September 1999
LOCATION	Northwest ringroad of Ghent, province of eastern Flanders
POPULATION	220,000
START AND FINISH POINT	Bourgoyen to Mariakerke/Wondelgem
PHYSICAL CHARACTERISTICS	2.5 m wide asphalt track
SETTING	Urban and suburban
USERS	Walkers, cyclists
INTEREST	Everyday journeys to and from work, school, etc Leisure-time activities
WEAK POINT	Some level crossings with side roads
PARTICULAR FEATURES	Construction of a bridge for walkers and cyclists to link up with the east-west cycle route and the shopping centre of Mariakerke. Green corridor in urban setting
PROMOTING BODY	City of Ghent, Département de l'Aménagement urbain (Town Planning)
MANAGEMENT BODY	City of Ghent for habitual upkeep
CONTACTS	• Département de l'Aménagement urbain Woodrow Wilsonplein, 1 B-9000 Gent – BELGIQUE tel.: (09)266 77 62 ; fax: (09)266 77 79 e–mail: mobiliteit@gent.be • Service Mobilité Woodrow Wilsonplein, 1 B-9000 Gent – BELGIQUE tel.: 32 (0)9 266 77 62; fax: 32 (0)9 266 77 79 e–mail: mobiliteit@gent.be

BELGIUM FLEMISH REGION

NAME	***MOERLIJNPAD***
TIPE	Greenway running alongside an active railway line
DATE OF CREATION	From 1991 to 1998
LOCATION	Southwest of Antwerp, province of Antwerp
POPULATION	16,000
START AND FINISH POINT	Runs from Sauvegarde, Puurs (municipality of Puurs) and Oppuurs (municipality of Saint-Amand)
LENGTH	4.640 kilometres through the municipality of Puurs
PHYSICAL CHARACTERISTICS	Width of bed : from 2 to 2.5 m depending on space available Concrete section : 1.295 km (1991) Asphalt section: 3.075 km (1998) Concrete cobblestone section: 270 m Sauvegarde/Puurs section: Track with concrete and asphalt stretches separated from the railway track by a barrier comprising metal posts set up every 4 metres linked up by 3 cables Puurs/Oppuurs section: Concrete track with no separation barrier. The greenway passes from one side to another of the railway track. Level crossings are protected either by barriers and traffic lights or Nadar type barriers Distance between edge of rail and separation barrier: c. 2.80m
SETTING	Suburban
USERS	Walkers, cyclists and impaired-mobility persons
PROJECTS	Prolongation of the existing greenway as far as the centre of St-Amand Construction of a new greenway along the active railway line running from Willebroek (A12) to Bornem, scheduled for 2001
INTEREST	Mainly everyday journeys to and from school during the week and recreational at weekends
WEAK POINTS	Level crossings
PARTICULAR FEATURES	Sauvegarde/Puurs section: Coexistence of an active railway line (2 trains/hour) and a greenway. Puurs/Oppuurs section: Coexistence of an active railway line (tourism trains running in summer) and a greenway. Collaboration with the Société Nationale des Chemins de Fer Belges SNCB (National Company of Belgian Railways)
OWNER	The municipality of Puurs acquired the land necessary for carrying out the project, partly by a long-term rental, lasting for 27 years, signed with SNCB; partly by expropriation of private land declared to be of public utility
PROMOTING BODY	The first part of the study was carried out with the collaboration of a private consultancy. The municipal services have seen to the other phases Consultations have been made with the SNCB infrastructure service in Ghent
MANAGEMENT BODY	Management of the greenway (rubbish collection, upkeep ...) is insured by the municipality of Puurs
RENTAL COST	The annual hiring fee paid to SNCB is 2,479 euros
COST OF CREATION	c. 50,562 euros / km
MAINTENANCE COST	Negligible
CONTACTS	• Marc Van Opstal, real estate surveyor, Gemeente Puurs, 29, Hoogstraat B-2870 Puurs – BELGIQUE tel.: 32 (0)3 890 76 61; fax: 32 (0)3 890 76 91

SPAIN ASTURIAS

NAME	***VÍA VERDE DE LA CAMOCHA***
TYPE	Disused railway line
DATE OF CREATION	Opened in June 1998
LOCATION	Set in the southwest of the city of Gijón
POPULATION	Gijón: 269,644
START AND FINISH POINT	Gijón–Mina de La Camocha
LENGTH	8 kilometres surfaced and fitted out
PHYSICAL CHARACTERISTICS	4 m wide bed, 2.5 m asphalted and the remaining 1.5 m as compacted aggregate
SETTING	Urban and suburban
USERS	Cyclists, walkers, disabled people and horseriders
USES	Leisure in a natural environment
WEAK POINTS	None
PARTICULAR FEATURES	Greenway Project carried out by a mixed working group made up by the Technical Services of the City Council of Gijón and the Spanish Railway Foundation (Fundación de los Ferrocarriles Españoles) Environmental rehabilitation of the surroundings The Greenway forms part of Gijón council's clean-air policy Construction of new footbridge Industrial archaeological heritage in the Mine of La Camocha, still working
PROJECTS	There is a project to extend the greenway in the sections running from Roces to Veriña (2.5 km) and La Camocha to Baldornón (15 km)
PROMOTING BODY	Ayuntamiento (City Council) of Gijón and Fundación de los Ferrocarriles Españoles
MANAGEMENT BODY	City Council of Gijón
COST OF CREATION	474,800 euros
CONTACT	• Concejalía de Medio Ambiente Ayuntamiento de Gijón Plaza Mayor, 1 33201 Gijón (Principado de Asturias) – SPAIN tel.: 34 985 18 11 43; fax: 34 985 18 11 17

SPAIN CATALUÑA

NAME	***VÍA VERDE DEL CARRILET***
TYPE	Disused railway line
DATE OF CREATION	Phase I work finished in 1995 Phase II work finished in 1997
LOCATION	Near the Pyrenees, starting in the city of Girona (Catalunya, Spain)
POPULATION	Girona : 72,333
START AND FINISH POINT	From Girona to Olot
LENGTH	54 kilometres surfaced and fitted out
PHYSICAL CHARACTERISTICS	4 metre wide bed of compacted aggregate along most of the route
SETTING	Urban, suburban and rural
USERS	Cyclists and walkers
USES	Leisure in a natural setting Non-motorised journeys between the two localities
WEAK POINTS	Some ill-defined urban stretches and a dangerous part running alongside the road in Anglés
PARTICULAR FEATURES	Crosses the Paraje Natural de la Zona Volcánica (Natural Volcanic Site) of Garrotxa The greenway forms part of Girona's clean-air policy Construction of footbridges and fitting out of a metal bridge originally forming part of the old railway line Rehabilitation of stations for catering services, bike hire centres and environmental information Links up with urban cycle paths in Salt and Girona
PROMOTING BODIES	Ministerio de Medio Ambiente (Environment Ministry) and City Councils
MANAGEMENT BODY	Consorcio (consortium) of the Vía Verde del Carrilet, made up by the City Councils through which it runs
PROJECTS	Work is underway on a new 40-kilometre greenway extending the route from Girona to Sant Feliu de Guixols (Costa Brava)
COST OF CREATION	1,890,779 euros
MAINTENANCE COST	c. 18,030 euros a year
CONTACT	• Consorcio del Carrilet Ayuntamiento de Salt Plaza Lluis Companys, 1 17190 Salt (Girona) – SPAIN tel.: 34 972 23 15 27; fax: 34 972 40 13 39

SPAIN COMUNIDAD VALENCIANA

NAME	***VÍA VERDE XURRA***
TYPE	Disused railway line
DATE OF CREATION	Phase I work finished in 1996 Phase II work finished in 1998
LOCATION	North of the city of Valencia (Comunidad Valenciana, Spain)
POPULATION	Valencia: 746,683
START AND FINISH POINT	From Valencia to Puçol
LENGTH	15 kilometres
PHYSICAL CHARACTERISTICS	9 kilometres have been surfaced and prepared: the first 5 have a width of 3 metres and the remaining 4 vary from 1 to 2.5 metres There are a further 6 kilometres without surfacing work, with a natural earth bed and ballast remains
SETTING	Urban, suburban and rural
USERS	Cyclists, walkers, disabled people (only for the first 5 surfaced kilometres)
USES	Daily journeys roundabout the university campus of the City of Valencia Leisure in a natural setting
WEAK POINTS	Crossing points with roads
PARTICULAR FEATURES	The Vía Verde Xurra forms part of the network of greenways for non-motorised journeys in the Comunidad Valenciana Connection with urban cycle lanes of the city of Valencia and tram line The Greenway starts in the University of Valencia Construction of footbridge
PROJECTS	Surfacing and preparation of the remaining 6 kilometres This Greenway is going to be connected up to the Vía Verde de Ojos Negros (70 Kms) by means of a cycle lane
PROMOTING BODY	Consejería de Obras Públicas, Urbanismo y Transportes (Dept. of Public Works, Town Planning and Transport) of the Comunidad Valenciana
MANAGEMENT BODY	Consejería de Obras Públicas, Urbanismo y Transportes de la Comunidad Valenciana
COST OF CREATION	571,563 euros
CONTACT	• Dirección General de Obras Públicas y Transportes Consejería de Obras Públicas, Urbanismo y Transportes de la Comunidad Valenciana Avda. Blasco Ibáñez, 50 46010 Valencia – SPAIN tel.: 34 96 386 64 40; fax: 34 96 386 64 08

SPAIN PAÍS VASCO

NAME	***VÍA VERDE DEL ZADORRA***
TYPE	Disused railway line
DATE OF CREATION	Phase I work finished in 1996 (4 km) Phase II work finished in 1997 (10 km)
LOCATION	North of the City of Vitoria (Basque Country, Spain)
POPULATION	Vitoria: 214,148
START AND FINISH POINT	Vitoria–Puerto de Arlabán
LENGTH	14 kilometres surfaced and prepared
PHYSICAL CHARACTERISTICS	4 metre wide asphalt bed in the first 4 kilometres, the remaining 10 having a surface of compacted soil
SETTING	Urban, suburban and rural
USERS	Cyclists, walkers and disabled people
USES	Leisure in a natural setting
WEAK POINTS	Insufficient signposting
PARTICULAR FEATURES	Fitting out of original railway bridges Connection with urban cycle lanes of the City of Vitoria and with a new Greenway finished in 1998, which strikes out from the City of Vitoria and finishes in the Santuario de Estíbaliz
PROJECTS	A new 30-kilometre stretch is currently being designed to prolong this greenway from Puerto de Arlabán (Álava) to Mondragón (Guipúzcoa)
PROMOTING BODY	Diputación Foral (Provincial Council) of Álava
MANAGEMENT BODY	Diputación Foral de Álava
COST OF CREATION	327,628 euros
CONTACT	• Servicio de Medio Ambiente Departamento de Agricultura y Medio Ambiente Diputación Foral de Álava Pza. de la Provincia s/n. 10001 Vitoria (Álava) – SPAIN tel.: 34 945 18 18 18; fax: 34 945 18 17 54

SPAIN ANDALUCÍA

NAME	***VÍA VERDE DEL ACEITE (OIL GREENWAY)***
TYPE	Disused railway line
DATE OF CREATION	Work underway on section I, scheduled to finish in 2000
LOCATION	Strikes out southwest from the City of Jaén towards the province of Córdoba (Andalucía, Spain)
POPULATION	Jaén: 112,772
START AND FINISH POINT	From Jaén to Río Guadajoz (bordering on the Province of Córdoba)
LENGTH	55 kilometres are being surfaced and fitted out (Section I)
PHYSICAL CHARACTERISTICS	4 metre wide bed, of which 2.5 metres are asphalted while the remaining 1.5 metres are compacted aggregate
SETTING	Urban, suburban and rural
USERS	Cyclists, walkers, impaired-mobility persons and horseriders
USES	Leisure in a natural setting Non-motorised journeys between the localities
PARTICULAR FEATURES	This greenway will link up to various nearby lakes that are protected nature reserves Fitting out of eye-catching metal bridges that formed part of the original railway, catalogued as works of cultural interest (C19th) Several stations are being developed for tourism and environmental services The Greenway will be converted into the province's main rural tourism resource
PROJECTS	There are two projects for extending the line within the province of Córdoba (5 km and 60 km respectively), work on which is due to start in 2001.
PROMOTING BODIES	Ministerio de Medio Ambiente (Environment Ministry), Diputación de Jaén (Provincial Council), Fundación de los Ferrocarriles Españoles
MANAGEMENT BODIES	Diputación de Jaén and other City Councils
COST OF CREATION	1,846,910 euros (Section I)
CONTACT	• Diputación Provincial de Jaén Plaza de San Francisco, 1 23071 Jaén – SPAIN tel.: 34 953 24 80 00 (ext. 1029); fax: 34 953 24 80 23

SPAIN COMUNIDAD DE MADRID

NAME	***VÍA VERDE DEL TAJUÑA***
TYPE	Disused railway line
DATE OF CREATION	Opened in May 1999
LOCATION	c. 30 km east of the City of Madrid (Comunidad de Madrid, Spain)
POPULATION	Madrid: 3,041,101
START AND FINISH POINT	Morata de Tajuña–Carabaña
LENGTH	22 kilometres surfaced and fitted out
PHYSICAL CHARACTERISTICS	Red asphalt bed 3 metres wide
SETTING	Suburban and rural
USERS	Cyclists, walkers and mobility-impaired persons
USES	Leisure in a natural setting Non-motorised journeys between the localities
WEAK POINTS	Crossing points with roads It runs for several kilometres over an old rural path, not over the old railway route
PARTICULAR FEATURES	To be connected up with the City of Madrid by a new Metro line (future project). The cost of surfacing and fitting out the greenway has been included in the budget for building the Metro line (private)
PROJECTS	There is a possibility of extending the greenway (70 km) as far as Mondejar and the Entrepeñas Dam in the Province of Guadalajara (Castilla-La Mancha Region) and also to Arganda del Rey (10 km)
PROMOTING BODY	Comunidad Autónoma de Madrid (Regional Government of Madrid)
MANAGEMENT BODY	Comunidad de Madrid
CONTACT	• Dirección General de Carreteras Consejería de Obras Públicas, Urbanismo y Transportes Comunidad de Madrid C/ Orense, 60 28020 Madrid – SPAIN tel.: 34 91 580 27 90; fax: 34 91 580 27 91

FRANCE LOIRE-ATLANTIQUE

NAME	**CYCLE PATH (*VÉLO–PROMENADE)* ON THE BANKS OF THE LOIRA RIVER, FROM NANTES TO MAUVES**
TYPE	River dyke
DATE OF CREATION	Towpath (1) and water pipeline (2) in 1988 Greenway in 1992
LOCATION	Nantes
POPULATION	510,111
LENGTH	23 kilometres in the metropolitan area, 7.5 km in the municipality of Nantes
PHYSICAL CHARACTERISTICS	Double-layer surface of coated macadam (Nantes), traffic-calmed zone and stabilised path (municipalities of the metropolitan area) Width c. 3 metres Barriers to prevent motorised vehicle access, benches Route marking and signage at points of interest (heritage, fauna, flora)
SETTING	Urban (canal St-Félix - boulevard of Seattle) Rural (pastureland of water meadows)
USERS	Walkers (priority), cyclists, disabled people and skaters
INTEREST	Originally a water pipeline service road For daily journeys to and from school, work, etc: continual thoroughfare for non-motorised traffic from the northwest of the metropolitan area (three schools, a stadium, a gymnasium) For recreation and leisure Tourism : close to the historic centre of the city Ecological / scenic: landscape quality in the urban environment (marshland, bird reserve) and landscape on the banks of the Loire (lakes, water-meadows, islets)
PARTICULAR FEATURES	Use of the path for upkeep of the water pipeline Links with various forms of transport: communication with the SNCF station of Nantes, 1 tramline, route with high cycling potential Route integrated into the cycle network of the metropolitan area of Nantes Route integrated into the inter-regional project *Loire on the bike* and the itinerary EuroVelo n° 4 Nantes-Budapest-Black Sea
WEAK POINTS	The route is in need of resurfacing, especially the part in the municipality of Nantes (with a residual traffic problem) Coexistence of users : clashes between walkers and cyclists on the days of heaviest use (Sunday)
PROMOTING BODY	Régie de l'Eau of the city of Nantes, District (Water Company)
MANAGEMENT BODY	Municipal Green Spaces Service (rubbish collection, upkeep of road surface)
CONTACTS	• Marc Elion, Conseiller municipal chargé de la circulation, Hôtel de ville, BP1013, F-44036 Nantes Cédex - FRANCE tel.:33 (0)2 40 41 92 56; fax: 33 (0)2 40 41 90 84 • Gilles Farge, Ingénieur Mission PDU – la Manu, 11bd Stalingrad, F-44000 Nantes – FRANCE tel.: 33 (0)2 40 41 59 97; fax: 33 (0)2 40 41 98 22 • Olivier Flamand, Pdt Association Place au Vélo 21 rue Ville en Pierre F–44000 Nantes – FRANCE e–mail: flamand@cstb.fr

FRANCE ÎLE DE FRANCE

NAME	***OURQ CANAL CYCLE TRACK***
TYPE	Towpath
DATE OF CREATION	1978 - 1982
LOCATION	Northeast of l'Île de France
POPULATION	c. 3.5 million including the city of Paris and the department of Seine-Saint-Denis
START AND FINISH POINTS	Between Paris and its northeast periphery
LENGTH	25 kilometres
PHYSICAL CHARACTERISTICS	Two-way asphalt track 3 metres wide with some narrower sections for technical reasons (under bridges) or wider (5 to 6m) Some sections are still cobblestones Pedestrian area generally running parallel, pavements, towpath when track used as canal service road
SETTING	Urban (Paris), Suburban (department 93), Rural (department 77)
USERS	Cyclists, walkers, skaters
INTEREST	Recreational and leisure use Daily journeys to and from work, school, etc, connection between Paris and its northeast periphery Long-distance cycle route
WEAK POINTS	Possible clashes between users on days of heaviest use Some sections of the route are cobblestoned and some bends have poor visibility
PARTICULAR FEATURES	Management agreement between the canals service of the city of Paris, owner of the bed, and the General Council of the Department of Seine-Saint-Denis, promoter of the work Railway connection (RER B5)
PROJECTS	Updating of the management agreement between the city of Paris and the General Council of Seine-Saint-Denis Planning of progressive surfacing and fitting out of the track Signage in accordance with the national rules Véloroutes soon to be authorised Forecast traffic counts for spring 2000
PROMOTING BODY	Initiative of the Direction Départementale de l'Équipement of Seine-Saint-Denis Department (DDE 93) (Departamental Directorate for the Equipments, Department of Seine-Saint-Denis) Owned by : Conseil Général de Seine-Saint-Denis (General Council of Seine-Saint-Denis)
DESIGN	Direction Départementale de l'Équipement of Seine-Saint-Denis Department
COST OF CREATION	53,400 euros/km (1977) financed by the regional authority (67.5%), the Department of Seine-Saint Denis (22·5%), interministerial funds for nature and the environment
MAINTENANCE COST	14,300 euros/km/year by the department of Seine-Saint-Denis
CONTACTS	• Didier Couval, Chargé de mission Région Île-de-France, Direction de l'environnement et du cadre de vie 35 boulevard des Invalides, F-75007 Paris – FRANCE tel.: 33 (0)1 53 85 56 46; fax: 33 (0)1 53 85 56 29 • Magali Charmet, Conseil Général de Seine-Saint-Denis – Direction Voirie et Infrastructures – BP 193 F-93003 Bobigny cedex – FRANCE tel.: 33 (0)1 43 93 95 06; fax: +33 (0)1 93 95 50 • M. Seeberger, service des Canaux de la Ville de Paris, quai de la Seine, F-75019 Paris - FRANCE tel.: 33 (0)1 44 89 85 15 11 • Christian Jacob, Institut d'Aménagement et d'Urbanisme de la Région Île de France (IAURIF) 13/15, rue Falguière, F-75740 Paris Cedex 15 – FRANCE tel.: 33 (0)1 53 85 77 89; fax: 33 (0)1 53 85 76 02 • Laurent Lopez, Vice-Président du Mouvement de Défense de la Bicyclette (MDB) rue Pierre l'Ermite, F-75018 Paris – FRANCE tel.: 33 (0)1 42 64 06 47

FRANCE SAVOIE

NAME	**GREEN AVENUE (*AVENUE VERTE*)**
TYPE	Mixed : partly running over a dyke, pedestrian area, urban park...
DATE OF CREATION	1st section 1990-1993, 2nd section 1994-1999 Official opening of the greenway on 6 June 1999
LOCATION	Chambéry
POPULATION	107,269
START AND FINISH POINT	Connects the town of Chambery with the lake of Bourget (in the north) and the valley of Yser (in the south)
LENGTH	10 kilometres for the northern part
PHYSICAL CHARACTERISTICS	Type of pavement : bitumen spray - continuous reinforced concrete Treatment of intersections : traffic islands, level crossings with projection, underpasses or footbridge Treatment of access points : access controls, chicanes Construction of engineering structures: footbridge over expressway, flood-control underpass under the RN 504
SETTING	Urban, suburban and rural
USERS	All non-motorised users except for horseriders
DEMAND	According to the use statistics for the north green avenue: 1400 bicycles a day in August 1998 2500 users (cyclists, skaters, walkers) estimated in August 1999 Increasing commuting use
INTEREST	Tourism and recreational: links Lake Bourget and Lake St-André Utilitarian: communicates Technolac Park (university and business site) Ecological / Scenic: upgrading of a suburban corridor
PARTICULAR FEATURES	Common project drawn up by the Conseil Général (General Council) and Urban District of la Cluse Chambérienne and agreement reached with local population (survey) Change in building status of areas crossed Use of recycled material for surfacing work: iron slag from incineration used for a banked section
WEAK POINTS	Problem with tree roots, new treatment work necessary on sections of the north green avenue Some vandalism problems (signposting)
PROJECT	Prolongation southwards New fixtures and equipment (teaching areas, artistic work, etc.)
PROMOTING BODIES	Owner of the construction: Conseil Général de Savoie Urban District of Cluse Chambérienne (DUCC) as management body of the guideline scheme "two wheels" of the metropolitan area of Chambery Financing : Conseil Général de Savoie (at least 50%) and territorial groups (50 % for DUCC, variable percentage for municipalities)
MANAGEMENT BODIES	Equipment subdivision, DDE (upkeep of grass, rubbish collection)
COST OF CREATION	3.45 million euros for 25 km, at a ratio of 0.14 million euros / km North green avenue (10kms): 381,332 euros, of which 45,735 euros were spent on engineering structures and 30,490 euros for land acquisition
UPKEEP COST	Cost per year: 510 euros/km/year (not including replacement of signs)
CONTACTS	• Michel Grunberger, Maire-Adjoint de ChambéryPlace de l'Hôtel de Ville, F-73000 Chambéry - FRANCE tel.: 33 (0)4 79 60 20 20 • Patrick Diény Directeur Général à l'Environnement et à l'Aménagement Conseil Général de Savoie Hôtel du Département BP 1802 F-73018 Chambéry Cedex – FRANCE tel.: 33 (0)4 79 96 73 61; fax: 33 (0)4 79 96 75 09 • Pierre Lortet, consultant Vélo 256, allée des Cimes F–73000 Chambéry – FRANCE tel./fax: 33.(0)4 79 62 55 94 e–mail: plortet@icor.fr

FRANCE BOURGOGNE

NAME	***GREENWAY OF LA CÔTE CHALONNAISE IN CLUNY***
TYPE	Old railway line
DATE OF CREATION	Opened in August 1997
LOCATION	Southwest of Chalon-sur-Saône
POPULATION	Givry : c. 20,000
START AND FINISH POINTS	From Givry to Cluny
LENGTH	44 kilometres
PHYSICAL CHARACTERISTICS	3 metre wide asphalt track, sometimes with a 2.5 m side track for horses Rehabilitation of 6 engineering structures
SETTING	Rural, vineyards
USERS	Cyclists (60%), skaters (30%) and walkers (10%)
DEMAND	c. 7,000 persons a week in July and August and 4,500 persons a week for the rest of the year
INTEREST	Leisure and tourism
PARTICULAR FEATURES	Economic impact (tourism) of the greenway Development of related activities based on active, open-air tourism Creation of 6 jobs for youngsters: 2 hostesses in charge of promoting the greenway and 4 labourers for normal upkeep of the path Reuse of old stations
PROJECTS	Southwards prolongation between Cluny and Mâcon and northwards between Chalon and Santenay, along the central canal
PROMOTING BODY	General Council of Saône-et-Loire, inter-municipal unions
DESIGN	Comité Départemental d'Habitat et d'Aménagement Rural (CDHAR) (Departmental Committee for Habitat and Rural Organisation) Carried out by Directorate of Roads and Infrastructures (General Council of Saône-et-Loire)
COST OF CREATION	c. 45.000 euros/km, 838,000 euros of which came from external grants: ERDF, Objectives 5b and 2, State (FNADT), General Council of Burgundy, Chambers of Commerce and Industry of Saône-et-Loire and 1,143.000 euros from the General Council of Saône-et-Loire
CONTACTS	• André Gentien, Conseiller général de Saône-et-Loire, *"Monsieur Voies Vertes"* Mairie de Buxy – FRANCE tel.: 33 (0)3 85 94 18 30 • Marc Foret, directeur de l'environnement et des projets structurants Conseil général de Saône-et-Loire – FRANCE tel.: 33 (0)3 85 21 98 31 • Comité départemental du Tourisme de Saône-et-Loire, Maison de la Saône-et-Loire 389, avenue Lattre de Tassigny F-71000 Mâcon – FRANCE tel.: 33 (0)3 85 21 02 20 • Céline Beaufils et Laëtitia Girardon, animatrices Voie Verte, Conseil Général de Saône-et-Loire subdivision du Mâconnais F-71250 Cluny – FRANCE tel.: 33 (0)3 85 59 15 55; fax: 33 (0)3 85 59 02 67

FRANCE BOURGOGNE

NAME	***1- GREEN CORRIDOR (COULÉE VERTE)*** ***2- CHALON-SANTENAY GREENWAY***
TYPE	Towpaths of waterways (River Saôna and Central Canal)
DATE OF CREATION	1- 1990 2- 1999
LOCATION	1- City centre and banks of the River Saôna 2-Northwest of the city
START AND FINISH POINTS	1- Chalon - Prairie St-Nicolas (leisure area) 2- Chalon - Fragnes
LENGTH	1- 6 kilometres 2- 6 kilometres
PHYSICAL CHARACTERISTICS	1- Sand surface 3 m wide 2- Asphalt surface 3 m wide
SETTING	Urban and suburban
USERS	1- Runners and mountain-bike riders 2- Cyclists and skaters
INTERESTS	1- Leisure 2- Commuting, leisure and tourism
WEAK POINTS	1- Maintenance difficulties (rises in water level) 2- There is as yet no connection to the city centre. A project is currently being studied for 2001 (passing along quiet streets of the centre)
PARTICULAR FEATURES	Very well accepted by locals City cycling routes combined with cycle tourism and long-distance greenways Network of paths integrated into a grid of cycling routes and European greenways (Luxembourg-Mediterranean and Nantes-Budapest)
PROJECTS	Three municipal projects developed in coordination and complementing the National Scheme of Cycling Routes and Greenways: - cycling scheme of the city of Chalon, - greenways in flood control zone of the city of Saint-Marcel (contract with the city), - local municipal organisation scheme of Crissey (greenways and prepared routes for cyclists and walkers)
PROMOTING BODIES	The three aforementioned municipalities, the department of Saône-et-Loire, the Chamber of Commerce and industry of Chalon-sur-Saône, the regional authority of Burgundy, the state and the European Union (Interreg IIIc)
CONTACTS	• Gérard Noir, Service Voirie, Mairie de Chalon-sur-Saône, BP 92, F-71321 Chalon-sur-Saône cedex - FRANCE tel: 33 (0)3 85 90 50 80; fax: 33 (0)3 85 90 50 86 • Jean Paul Le Petit, Président AF3V 47, Grande rue, F-71350 St Loup de Salle - FRANCE tel/fax: 33 (0)3 85 49 42 36 • Édith Metzger, Correspondant Vélo du Centre d'Études Techniques de l'Équipement de Lyon avenue François Mitterand, 25, case n°1 F-69674 Bron-Cédex - FRANCE tel.: 33 (0)4 72 14 31 61; fax: 33 (0)4 72 14 31 80

NAME	***WALLS OF FERRARA (MURA DI FERRARA)***
TYPE	Old patrol route round the city walls (internal itinerary) New path outside the walls
LOCATION	Around the city of Ferrara
POPULATION	132,222
START AND FINISH POINTS	Ferrare
LENGTH	Internal circuit : c. 9 kilometres External circuit : c. 10 kilometres
PHYSICAL CHARACTERISTICS	Section S. Giovanni / ex Fortezza: 2-metre wide track, in parts up to 2.3 and 2.5 m Base composed of a geotextile sheet with a cement-mix layer Path edged by concrete kerb
SETTING	Urban
USERS	Internal path : walkers, cyclists External path : essentially for cyclists
DEMAND	Throughout the whole day but above all at the end of the day and during the weekend
INTEREST	Leisure activities Daily journeys to and from work, school, etc
WEAK POINTS	Path interruptions
PARTICULAR FEATURES	Use of city's old patrol route
PROMOTING BODIES	City of Ferrara, Emilia-Romagna Region, Ministry of Culture, directorate of architecture and archaeology Project : Private consulting firm in collaboration with the municipality's technical office
MANAGEMENT BODY	City of Ferrara
CONSTRUCTION COST	Section S. Giovanni / ex Fortezza : 33,600 euros/km
CONTACT	• Commune di Ferrara, Assessorato all'Ambiente, Ufficio Biciclette, via Oroboni 42 I-44100 Ferrara – ITALY Gianni Stefanati (Ufficio biciclette), Marco Lorenzetti (Verde e Parco Urbano), Angela Ghiglione (Lavori pubblici) tel.: 39 0532 56767; fax: 39 0532 55035 e–mail: storari.ambiente@comune.fe.it http://www.comune.fe.it/protciv/progetto.htm

ITALY EMILIA-ROMAGNA

NAME	***FERRARE-PONTEGRADELLA***
TYPE	Service path of an irrigation canal
DATE OF CREATION	Early 1999
LOCATION	West of Ferrara
POPULATION	Ferrare : 132,222
START AND FINISH POINT	Runs from Ferrara to the municipality of Pontegradella
LENGTH	c. 3 kilometres
PHYSICAL CHARACTERISTICS	Asphalt path about 2.5 m wide Lighting about every 15 metres Two new footbridges have been built over the irrigation canal
SETTING	Urban and suburban
USERS	Cyclists, walkers
DEMAND	No data as yet
INTEREST	Daily journeys to and from work, school, etc
WEAK POINTS	Signposting
PARTICULAR FEATURES	Access to the greenway strictly speaking is gained through a roundabout underpass A service path about 2.5 m wide has been conserved between the canal and the greenway to allow passage for canal-maintenance tractors
PROMOTING BODY	City of Ferrara
MANAGEMENT BODY	City of Ferrara
CONTACT	• Commune di Ferrara, Assessorato all'Ambiente, Ufficio Biciclette, via Oroboni 42 I-44100 Ferrara – ITALIE Gianni Stefanati (Ufficio biciclette), Marco Lorenzetti (Verde e Parco Urbano), Angela Ghiglione (Lavori pubblici) tel.: 39 0532 56767; fax: 39 0532 55035 e–mail: storari.ambiente@comune.fe.it http://www.comune.fe.it/protciv/progetto.htm

ITALY LAZIO

NAME	***NORTH & SOUTH ROUTES OF THE RIVER TIBER (TEVERE NORD - TEVERE SUD)***
TYPE	Dyke running along the river Tiber
DATE OF CREATION	1990-1998
LOCATION	Upriver and downriver along the Tiber in Rome
POPULATION	Rome: c. 3 millions
START AND FINISH POINTS	Rome
PHYSICAL CHARACTERISTICS	Path about 3 to 3.5 metres wide Asphalt path sometimes coloured red
SETTING	Urban, suburban and rural
USERS	Walkers, cyclists
INTEREST	Leisure activities
PARTICULAR FEATURES	Rehabilitation of the old dike of the River Tiber
WEAK POINTS	Few shaded areas No fountains
PROMOTING BODY	City of Rome
MANAGEMENT BODY	City of Rome
CONTACT	• Architetto Roberto Gabriele, Comune di Roma, Ufficio Studi Programmazione e Coordinamento, Circoscrizione XVII, via del Falco, 6 I-00193 Rome - ITALY tel.: 39 06 696 17 619, 39 06 696 17 308, 39 06 688 01 617 GSM: 39 0347 27 27 953 fax: 39 06 57 40 033, 39 06 696 17 618 E-mail: CIRC1702@COMUNE.ROMA.IT E–mail: DIPVII@COMUNE.ROMA.IT Site Internet: www.comune.roma.it/COMUNE/dip.VII

ITALY LOMBARDIA

NAME	***MARTESANA CANAL (NAVIGLIO MARTESANA)***
TYPE	Canal towpath
DATE OF CREATION	Canal built in 1457 Greenway built as from 1980
LOCATION	East of Milano along the Martesana canal
POPULATION	Milano : c. 1.5 million
START AND FINISH POINTS	From Milano to the River Lambro with a prolongation to the Park of Adda Norte along the River Adda
LENGTH	Urban section : c. 4 kilometres Rural section : c. 35 kilometres
PHYSICAL CHARACTERISTICS	Asphalt path with a width varying from about 2.5 to 4 metres Street lighting Handrail along the canal
SETTING	Urban, suburban
USERS	Walkers, cyclists, skaters
DEMAND	During the whole day but above all at the end of the day and weekends
INTEREST	Daily journeys to and from work, school, etc Leisure journeys Children's play area
WEAK POINTS	No signposting Passage of mopeds Some sections are accessible to residents' cars
PARTICULAR FEATURES	Direct access from the city centre to the regional nature park of Adda Norte Change in building status of the areas through which it passes
PROMOTING BODY	City of Milano
MANAGEMENT BODY	City of Milano
CONSTRUCTION COST	103,291 euros for constructing the bridge over the River Lambro and the 200 metres that separate it from the motorway
CONTACTS	• Arch. Scalia – Settore Viabilità – Milano – ITALY tel.: 39 02 62086556 • Arch. Carminati – Settore Urbanistica e Pianificazione Urbana, Sez. Mobilità Milano – ITALY tel.: 39 02 62086584; fax: 39 02 6571807

UNITED KINGDOM SOUTH-WEST

NAME	***BRISTOL & BATH RAILWAY PATH***
TYPE	Disused railway line Use of main roads in the centres of Bath and Bristol but traffic-calmed in the city centre
CONSTRUCTION DATES	Between 1979 and 1986
LOCATION	Southwest England Greenway forming part of the *Severn & Thames Cycle Route* from Gloucester to Newbury, integrated in route 4: Wales /London of the *National Cycle Network*
POPULATION	Bristol : between 100,000 and 500,000 Bath : between 50,000 and 100,000
START AND FINISH POINTS	Between Bristol and Bath
LENGTH	c. 20 kilometres
PHYSICAL CHARACTERISTICS	3m-wide track mainly of asphalt. Practically flat except for a stretch of about 4 km Public fixtures: benches made from the old wooden railway sleepers Street lighting in the built-up part of Bristol
SETTING	Urban, suburban
USERS	Cyclists, walkers, impaired-mobility persons
DEMAND	Traffic estimated at 1.5 million journeys a year
INTERESTS	Tourism, leisure activities Daily commuting : home /work, home/school
WEAK POINTS	At times there are clashes of interest between the users but the cyclists' good conduct code laid down by Sustrans is generally observed
PARTICULAR FEATURES	Surfacing and fitting-out work carried out by volunteers Artists' work along the path (sculptures) Element of the ecological network Route map available Positive effect on the value of housing along the greenway
PROMOTING BODY	Sustrans
MANAGEMENT BODIES	Local authorities crossed by the greenway : Bath & North East Somerset Council, South Gloucestershire Council, Bristol City Council.
CONSTRUCTION COST PER KILOMETRE	This type of construction currently has an estimated cost of c. 152,000 euros/km
CONTACT	• Dick Hodgson, Bristol City Council – UNITED KINGDOM tel.: 44 (0) 117 903 6842

UNITED KINGDOM YORKSHIRE

NAME	***YORK / SELBY RAILWAY PATH***
TYPE	Disused railway line Side roads Path along the River Ouse
CONSTRUCTION DATES	1st phase of work carried out from June 1985 to November 1987. Opened in November 1987 1989: connection with the centre of Selby via a path along the River Ouse November 1987 / May 1989, second construction phase: connection with York, route along the River Ouse 1990: northwards prolongation (Overton Lane, Beninborough) along side roads
LOCATION	Northwest England The path forms part of the *White Rose Cycle* route communicating Hull with Middlesbrough
POPULATION	York : between 100,000 and 500,000 Selby : between 10,000 and 50,000
START AND FINISH POINTS	York to Selby
LENGTH	c. 16 kilometres
PHYSICAL CHARACTERISTICS	Gradient-free route
SETTING	Urban and suburban
USERS	Walkers, cyclists and persons in wheelchairs Horseriding in the Moor Lane-Ricall section
INTERESTS	Tourism Daily journeys to and from school, work, etc
PARTICULAR FEATURES	First experiment in incorporating open-air works of art and milestones along the route (1985). Works carried out with old railway material. Brochure with route map published In York path-side dwellings have been proven to have increased 10% in value
PROMOTING AND CONSTRUCTION BODY	Sustrans
COST OF CREATION PER KM	c. 152,000 euros/km, covered in part by grants from the Countryside Commission and partly by the sale of ballast
CONTACT	• James Hanson, York City Council - UNITED KINGDOM tel.: 44 (0)1904 613161

NAME	***PAISLEY & GREENOCK PATH***
TYPE	Disused railway line Side roads and a section of main road in the south of Paisley
LOCATION	Southwest Scotland The route forms part of the *Gourock to Glasgow Route*, the latter in turn included in the *National Cycle Network*
POPULATION	Paisley and Greenock : between 50,000 and 100,000
START AND FINISH POINTS	Paisley to Greenock
LENGTH	c. 24 kilometres
PHYSICAL CHARACTERISTICS	Some parts asphalt, others crushed dust Steep slope between Greenock and Kilmalcolm (c. 100 m in 8 kilometres) Practically flat terrain from Weir Bridge to Paisley
SETTING	Urban and rural
USERS	Walkers, cyclists and persons in wheelchairs
INTEREST	Tourism Leisure activities
PARTICULAR FEATURES	Direct connection with the railway station Social impact Positive effect on the value of houses close to the greenway Artists' work along the path (sculptures)
PROMOTING BODY	Sustrans
MANAGEMENT BODIES	Local authorities
CREATION COST PER KM	c. 167,500 euros/km
CONTACT	• Glasgow City Council – UNITED KINGDOM tel.: 44 (0) 141 287 9171

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- **CORDIS (Community Research and Development Information)**

  Projets de recherche
  Site : http://www.cordis.lu

- **ELTIS - The European Local Transport Information Service**

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