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## Greenways planning in Italy: the Lambro River Valley Greenways System

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### Abstract

The greenways movement in Europe developed differently to its counterpart in the USA, influenced by geographical, economic and cultural differences as well as differences in social and urban development.

Europe has seen a discontinuous and fragmented process, diversified in the various countries. The explosion of the greenway concept in Europe is a very recent phenomenon: the European Greenways Association and the Italian Greenways Association both date back only as far as 1998. Clearly, before this date the European countries did see a degree of activity both cultural and operational, but it is equally clear that there was a lack of commonality. Specifically, greenway planning in Italy while on the one hand work has been underway on green trails for many years, on the other there is a clear lack of methodology that allows for the planning of a broader network.

This paper has two objectives; firstly to define a methodology useful for greenways planning in Italy at regional level, and secondly, to demonstrate the application of this methodology to a case study.

The methodology adopted derives from an approach to planning inspired principally by the work of Ian McHarg and Julius Fabos and already applied by the authors to protected areas in Italy. The methodology is structured in four phases: analysis of the landscape resources, the existing green trail and historical route networks; assessment of each element; composite assessment; and definition of the Greenways Plan.

A case study for the Lambro River Valley Park is used to illustrate the methodology proposed. The park comprises the municipalities situated along the Lambro River to the north of Milan. This is densely inhabited land and features multiple human activities located within a context conserving residual elements of naturalistic, landscape and historical–cultural interest. The application of the methodology to the Lambro River Valley Park allowed the development of a greenways network incorporating the existing network of green trails: 80% of the network is, in fact, already in place. The methodology also proved to be useful in the definition of a network dedicated to non-motorized traffic capable of connecting the numerous urban centres with the many resources present in the area.

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Keywords: Greenway planning; Methodology; Italy

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## 1. Introduction

The greenways international movement (Fabos and Ahern, 1996) is now spreading through Italy and the rest of Europe, as well as the United States. However, differences remain with regard to the American and European interpretations of the concept (Senes, 2004), a fact that needs to be borne in mind for a better understanding of the Italian situation.

In agreement with Fabos, greenways can be divided into three major categories: ecological greenways, recreational greenways and greenways with historical/cultural value (Fabos, 2004). Some greenways include trails while others do not (Erickson, 2004; Smith and Hellmund, 1993).

Many planners and scientists (Fabos, 2004; Little, 1990) consider the American landscape architect Frederick Law Olmsted (late 19th century) as the founder of the greenways movement. The Olmsted parkways were inspired by the European boulevards (Pettena, 1996; European Greenways Association, 2000), especially by the French examples such as those realized by Baron Haussman in the mid-nineteenth century in Paris (Senes, 2004; Pezzagno, 2002). The Englishman, Ebenezer Howard, the creator of the greenbelt concept (Howard, 1902), also made a significant contribution.

Despite shared roots, the greenways movement in Europe developed differently to its counterpart in the USA, influenced by geographical, economic and cultural differences as well as differences in social and urban development. Europe has seen a discontinuous and fragmented process, diversified in the various countries. This process, that started out from the French boulevards, and developed by way of the British greenbelts, has in recent years required the direct influence of the United States in order for it to be revived and acquire greater awareness of its cultural roots (Senes, 2004).

The explosion of the greenway concept in Europe (or rather its return to the limelight) is, in fact, a very recent phenomenon. The European Greenways Association and the Italian Greenways Association<sup>1</sup> both date back only as far as 1998. Clearly, before this date the European countries did see a degree of activity both cultural and operational (composed of one-off initiatives and projects), but it is equally clear that there was a lack of commonality; that is to say, an awareness of being part of a larger international movement (both European and global).

Hence expressions such as vías verdes, percorsi verdi, voies vertes, voies lentes, voies douces, green axes, green corridors, and so on, are some of the many terms which, throughout Europe, are used to describe transport routes dedicated to light non-motorised traffic (European Greenways Association, 2000).

In contrast with the situation in the USA, in Europe the accent has been placed on the individual infrastructure, which, in order to be defined as a "greenway", has to present modest gradients, be physically separated from the ordinary road network and be accessible to the greatest number of potential users.

Greenways are "communication routes reserved exclusively for non-motorised journeys (by foot, bike, horse, and so on) developed in an integrated manner which enhances both the environment and quality of life of the surrounding area. These routes should meet satisfactory standards of width, gradient, and surface condition to ensure that they are both user-friendly and low-risk for users of all abilities (Lille Declaration, 2000). For the Italian Greenways Association greenways are "system of routes, good from the environmental point of view and dedicated to a nonmotorized traffic, connecting people with landscape resources (natural, historical, cultural, etc.) and the 'centers of life' (e.g. public offices, sport and recreational facilities, etc.), both in the urban areas and in the countryside" (Associazione Italiana Greenways, 1999).

Greenways are developed along past or disused communication routes like abandoned railways, towpaths, and so on, and can be integrated with minor rural roads, quite roads, and so on.

In this sense, another key to the success of the greenways is that, in general, they involve the salvaging of existing structures rather than the construction of something new.

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 concerned with education, preserving historical and

<sup>&</sup>lt;sup>1</sup> The Italian Greenways Association was founded in the wake of a Conference organized at the University of Milan's Faculty of Agriculture and moderated by Professor Julius Fabos of the University of Massachusetts.

cultural heritage, public health and so on. European countries are developing greenways according to their geographic, urban, economic and cultural peculiarities. It is only very recently that the concept of a transnational greenway network (REVER/AMNO, 1999, www.aevv-egwa.org/english/rever/rever.htm; REVER/MED, 2004, www.revermed.com) has begun to catch the imagination of the public authorities: "... allow us to look forward to a real greenway network throughout Europe" (Margot Wallström—European Commissioner for Environment, 2000).

During the Lille meeting (France, 2000), more than 200 experts and greenway managers and representatives from throughout Europe declared to wish to see the development of a European Greenway Network reserved for non-motorised users, comprising for the most part, greenways and, to a lesser extent, lightly trafficked, low-speed roads. This network would provide continuous long distance itineraries as well as local networks for local journeys and leisure activities, and would offer a combination of services ensuring their reliability, continuity and attractiveness (Lille Declaration, 2000).

This paper has two objectives; firstly to define a methodology useful for greenways planning in Italy at regional level and, secondly, to demonstrate the application of this methodology to the planning of a greenway network along the Lambro River Valley.

#### 2. Methodology

Greenway planning in Italy while on the one hand work has been underway on green trails for many years (Turner, 1998), on the other there is a clear lack of methodology that allows for the planning of a broader network. In Italy too the time is now ripe to adopt a systemic approach (Flink and Searns, 1993). The very concept of greenways is closely bound up with that of connection: it is a generic term to indicate a variety of linear open spaces that provide connections (Schwarz, 1993). The linkage is the key (Whyte, 1970): between people and the land, between public parks, natural areas, historic sites and other open spaces (McMahon, 1993). The goal is to create a green network (Lille Declaration, 2000) or green web (Turner, 1998).

The methodology adopted derives from an approach to planning inspired principally by the work of McHarg

(1969) and Fabos et al. (1978) and already applied by the authors to protected areas in Italy (Senes and Toccolini, 1998). The methodology (Fig. 1) is structured in four phases:

- Phase 1: analysis of the landscape resources, the existing green trail and historical route networks;
- Phase 2: assessment of each element;
- Phase 3: composite assessment;
- Phase 4: definition of the Greenways Plan.

# 2.1. The analysis of the landscape resources, the existing green trail and historical route networks

It is useful in that it identifies both the resources to be connected and the existing system of routes. Throughout much of Italy, in fact, there already exists a widespread system of trails and rural roads and the definition of a system of greenways inevitably involves the valorisation of the existing, the use of primary axes such as the routes along canals, rivers and so on (Turner). The information to be collected may vary in relation to the characteristics of the study area.

## 2.1.1. Landscape resources

The elements of interest present in a certain area may represent the destinations for those using a greenway, as well as charactering and qualifying the route itself. Those using the network of greenways may therefore learn of the riches of landscape by following the greenways or use the greenways to reach these elements.

#### 2.1.2. Residential and working areas

Greenways may be used for utilitarian as well as recreational purposes (e.g. to reach places of work or study).

In order to guarantee adequate connections with such places, during the analysis phase it is important to map:

- the principal residential and working zones within the study area (both those that are already existing and those that are provided for in the planning documents);
- the system of connections with other means of transport (car parks, public transport stops in proximity to the greenways).



Fig. 1. Diagram of the methodology used.

### 2.1.3. Centres of life

These also represent destination that may be reached via the greenways; they include sports and recreational centres and tourist information points, etc.

## 2.1.4. Greenways

Once the elements of interest (that is to say, the areas to be connected) have been identified and mapped, we need to identify and map the network of routes that allows us to connect them. These routes, must present characteristics that allow them to be used by a broad cross-section of the population (excluding, for example, steep mountain footpaths). The network of greenways may therefore be composed of trails, cycle paths and pedestrian zones, minor rural roads, canal towpaths and river banks, old military roads, abandoned railways and so on. Alongside these routes, from which motorized traffic is excluded, in order to complete the network we may take into consideration the so-called "quiet lanes" (Countryside Agency, www.greenways.gov.uk), roads with low traffic densities and low design speeds (such as forestry roads and country lanes and the secondary streets in old town centres, etc.) that allow for a coexistence of pedestrians, cyclists and motorists.

#### 2.1.5. Historical route network

The greenways analysis phase may be usefully completed with an analysis of the historical network. The network of routes that through to the post-war period permitted the population to move between the various urban centers and within the rural territory, has, in certain cases, been interrupted by the expansion of the urban areas and the new transport infrastructures (especially roads), while in other cases it had been deprived of the necessary maintenance and thus progressively abandoned. For this reason, the historical network is frequently no longer legible in the field. Nonetheless, an awareness of it may prove to be fundamental, both for a better understanding and knowledge of the area's heritage of roads and secondary routes and in order to define the construction of the present day network on the basis of those fragments that still exist.

#### 2.2. The assessment phase

The existing green network is classified, on the basis of the different characteristics observed, in relation to a series of parameters such as type (footpath, cycle path, pedestrian route, towpath and so on), the type of surface, the dangerous section, the state of maintenance, its practicability by pedestrians and cyclists, the accessibility of the route to different user groups, the types of environment it passes through and so on.

All these characteristics must be related to the specific homogeneous section and not indicated as average characteristics of the trail; only in this way will it be possible to indicate within the ambit of the plan those sections to which modifications need to be made to improve the quality.

### 2.3. The composite assessment phase

The relating of the network of trails with the elements of interest represented by both the territorial resources and the points of origin and destinations of the movements allows, first and foremost, the classification of the existing greenway in relation to their importance to the constitution of the network. The classification of the network may lead to the identification of one or more principal greenways crossing the study area, possibly following a watercourse or a disused railway, a north–south or east–west axe in relation to the general configuration of the area of study. On the basis of these principal axes, the remaining greenways surveyed may be divided into greenways of primary or secondary importance.

The classification of the network is therefore a process of essentially qualitative evaluation based on a thorough knowledge of the study area deriving from the hands-on survey conducted during the previous phase.

## 2.4. The definition of the Greenways Plan

The current system of greenways is the end result of the analysis phase and represents the point of departure for the definition of the Greenways Plan, that should indicate:

- the interventions necessary for the completion of the network and the connection amongst themselves of the elements of greatest interest;
- the existing sections that require improvement.

The definition of the missing section can only derive from a comparison of the surveyed routes and the elements of interest identified on the current state map. In this phase of the study the sections identified as priorities for the connection of the elements of greatest interest excluded from the network must be indicated, taking into account the feasibility of their realisation. Linking sections should therefore be planned for:

- the constitution of the system axe (main greenway);
- the connection of the main greenway with the primary network;
- the connection of the various sections of the primary network;
- the connections between the primary network and the areas of greatest interest.

Among the various possible links, the shortest routes should be privileged and among these, the ones that permit the areas of greatest interest to be crossed; that is to say, the areas with the greatest concentration of historical, architectural and natural resources.

Lastly, with reference to the necessary improvements to the existing network, the interventions may be classified in relation to their type and may include both improvements to the constructive characteristics and the junctions, and the replacement of any sections on roads with limited traffic densities with routes from which motorized traffic is excluded. Indications regarding the necessary interventions may be derived from the database assembled during the analysis phase, thus defining priorities.

It is appropriate to emphasise that, as with the identification of the missing sections, in this second aspect of the planning proposal those interventions considered to have priority must be indicated; in other words, the aim of the plan is not the definition of all the interventions required for the constitution of a network of routes accessible at every point to every user group, but the identification of those points where intervention may improve particularly dangerous or difficult sections so as to render the characteristics of each route homogeneous.

It is also important to underline that the involvement of the local people and the sharing of the project with the communities affected are fundamental in order both to achieve consensus with regards to the plan and to obtain information that only those who actually live in the local area are able to provide (both with regards to territorial knowledge and indications regarding the real needs of the future users of the greenways). Meetings should therefore be organized during the various phases of the plan that may be reserved for associations or residents' committees or open to the general public. The successive phases may see the organization of meetings targeting the discussion of and proposal of solutions for specific problems, field trips and outings (Fumagalli, 2004).

## 3. Application: the Lambro River Valley Park Greenways Plan

The methodology shown above has been applied in order to define the greenways plan of the Lambro River



Fig. 2. Case study area.

Valley Park. The Park is a river park instituted by the Lombardy Region in 1983 with the aim of preserving the residual natural areas present along the course of the river Lambro and conserving the numerous elements of historical interest (villas, gardens, rural buildings, etc.) testifying to the development of the area over the centuries. The park, with a surface area of around 82 km<sup>2</sup>, comprises the municipalities situated along the Lambro River to the north of Milan. This is densely inhabited land (the inhabitants of the park municipalities number 350,000, with a density of over 400 persons per km<sup>2</sup>) and features multiple human activities located within a context conserving residual elements of naturalistic, landscape and historical–cultural interest.

In 1998, the Lambro River Valley Park authority commissioned the authors to conduct a study with the aim of identifying and, at least in part, implementing a network of green trails within the park so as to connect the people with the landscape resources and to allow them to complete their daily journeys (home-work, home-school and so on) without using their cars. The study concerned not only the park territory, but rather the entire area of the park municipalities for a total of  $235 \text{ km}^2$  (Fig. 2).

The study was structured around the following intermediate objectives:

- the analysis and assessment of the green trails and the elements of interest present in the case study area;
- the definition and classification of the existing green trails network;

• the definition of the greenways plan, with the identification of the missing links and the work needed to improve the existing network.

The study was organized in four phases.

## 3.1. Phase 1: analysis

The analysis phase involved collecting information regarding the diverse aspects (landscape resources, existing trails, points of origin and destinations of the trails) and collating it within a GIS. As the park lacked its own GIS, this project actually gave rise to the Lambro River Valley Park GIS in which not only the information strictly relating to the definition of the greenways system was inserted, but also a series of basic thematic layers of use in gaining a thorough knowledge of the territory and necessary for the successive phase of assessment.

The following points indicate the themes that, together with the basic layers (hydrography, altimetry, administrative boundaries and so on), were taken into consideration.

*Historical and cultural resources*: comprising historic gardens and the green areas in general that are of historical interest, the villas, the monuments, the rural buildings and so on. As well as through the direct survey, the data relating to the historic gardens and green areas were derived from a preceding study of the Park.

*Natural resources*: comprising the areas (wooded land, water courses, wetlands, etc.) and the points

Table 1

(specimen trees, springs, irrigation ditches, etc.) of naturalistic interest. As well as through the direct survey, information was also derived from the Park Management Plan.

*Visual resources*: comprising the panoramic view-points and the panoramic stretches of the trails.

*Existing green trails network*: comprising the existing trails classified according to homogeneous features on the basis of their physical characteristics (type of surface, width, legibility and state of maintenance), their suitability for pedestrian and/or cycle use and their accessibility (administrative classification and potential for access). The choice of trails to be taken into consideration was made on the basis of their linking function and their passage through different areas of the park.

*Catering facilities*: including bars, restaurants and picnic area located within the vicinity of the trails. This data was collected via a direct survey in the field.

*Points of access to the greenways system*: comprising the car parks, the stations and the bus stops located within the vicinity of the trails. Data collected via a direct survey in the field.

*Main transport network*: comprising the roads (classified on the basis of their importance) and the railways. Information taken from the 1:10,000 scale land use map.

*Urban centers*: comprising those urbanized areas greater than 1 ha. Information taken from the 1:10,000 scale land use map.

*Recreational areas*: comprising the sports facilities, the open spaces and the public green areas. Information taken from the 1:10,000 scale land use map.

## 3.2. Phase 2: assessment

The assessment of all these elements was conducted in two stages:

- during the survey a decision was taken with the aim of defining which elements should be included and which ignored, with the characteristics of each element being recorded;
- following the insertion of the data in the GIS, the radii of influence of the various elements were defined.

In particular, the 421 km of trails were subdivided on the basis of homogeneous features for each of

Greenways network classification	
Physical characteristics (%)	
Surface	
Paved	18.5
Unpaved	81.5
Width	
<1 m	19.6
1–2 m	22.7
2 m	57.7
Legibility	
Legible	90.3
Barely legible	9.7
Status	
Good	54
Reasonable	32.7
Poor	13.3
Dangerous section	
For pedestrians	2.8
For cyclists	6.4
Accessibility (%)	
Access	
Free	80.9
Restricted	17.1
Prohibited	2
Practicability (%)	
Pedestrian	
For all	30.5
Easy	60.8
Demanding	8.7
Cycle	
For all	35.4
Easy	45.1
Demanding	19.5

Moreover, 6% of the routes, that is, a little over 26 km, was classified as panoramic.

the following characteristics (Table 1) and mapped (Fig. 3).

## 3.3. Phase 3: composite assessment

The composite assessment was structured as follows.

### 3.3.1. Combination of the individual assessments

The insertion of the data into the GIS allowed the different themes to be overlaid so as to delineate a sufficiently precise overview of the characteristics of the area, in particular the themes that were the object of the direct survey in the field. Overall, the analysis phase revealed the extremely fragmentary nature of the existing trails, due above all to the overlaying of the historic network by a dense and frequently haphazard urbanization. The existing network does appear to be capable of linking the numerous elements of interest present in the area, especially once the necessary improvements and integrations have been made.

# *3.3.2. Definition of the procedure of composite assessment*

The possibility to put in relation the network of trails with the elements of interest (landscape resources and points of origin and destination of the movements) permitted the classification of the existing trails in relation to their importance to the constitution of the network. Departing from the tracing of the main greenway traversing the park in a direction along the course of the Lambro River, the remaining network of trails surveyed was subdivided between principal trails, other trails and hiking trails.

Trails indicated as principal trails or green trails of primary importance include:

- the trails linking the urban areas with the main greenway;
- the trails that in departing from the main greenway allow areas of greater interest to be reached;
- the trails linking the urban areas to one another;
- the trails linking the urban areas and the rural areas of greatest interest.

Working with a systemic approach, particular importance was attached to linkages and thus the creation of possible circuits both around the urban centers and out from the main greenway.

*Hiking trails* were defined as those mountain footpaths that, due to their steepness and therefore their practicability, are not suitable for gentle strolling but rather sporting activities and strenuous exploration.

The remaining sections were indicated as *secondary green trails*. Naturally, this does not mean that they should not be conserved, maintained and improved. With the network defined at a park level, these trails may represent the necessary complement at a municipal level. Moreover, the secondary trails also include those trails that may be considered as alternatives with respects to the primary ones; trails useful for linking

Table 2	
Classification of the existing green network	

Main	Principal	Other	Hiking	Total
greenway	trails	trails	trails	
24 km	219 km	136 km	42 km	421 km
5.7%	52.0%	32.3%	10.0%	100%

the same points. In this case, the distinction between primary and secondary was made by also taking into account the physical characteristics and the accessibility of the various trails, those judged as having the superior characteristics naturally being preferred.

This was thus a process of qualitative evaluation that was felt to be more appropriate given both the highly fragmentary nature and complexity of the network and the high level of direct knowledge of the Lambro River Valley Park territory.

## *3.3.3. Drawing up of the composite assessment map*

The result of this process of assessment is recorded on the Table 2 and mapped in Fig. 4.

## 3.4. Phase 4: definition of the Greenways Plan

The objective of this phase was the definition of the Greenways Plan in which were indicated, using the result of the previous phase as the point of departure:

- the sections required to complete the network,
- the works necessary for the improvement of existing trails.

The sections required to complete the network were specified to:

- (I) complete the main greenway;
- (II) connect the main greenway to the primary network;
- (III) connect the diverse sections of the primary network;
- (IV) connect the primary network with the urban areas.

The shortest routes and those crossing areas of greatest interest (with the most historical, architectural and naturalistic resources) were chosen. As with the preceding phase, this choice was made by combining a qualitative evaluation of the various alternatives, case by case, with the use of the GIS that allowed the diverse themes to be overlaid and the distances and height differences of the proposed routes to be calculated.

We thus identified 17 km to complete main greenway and 73 km of green trails required to complete the primary network (Fig. 5) for which different interventions are required: for the sections traversing the historic urban centers and those taking advantage of rural roads the placing of appropriate signing and adequate protection at crossings with motorized traffic is sufficient. For those sections using roads with heavier traffic the creation of separate paths is required.

The identification of the works necessary for the improvement of the existing network was instead based on the database assembled during the analysis phase, defining the intervention priorities on 59 km of the existing network:

- (I) Twenty-four kilometres of green trails destined to constitute the main greenway, the object of the initial planning and design project already in progress;
- (II) Five kilometres of green trails with prohibited access forming part of the primary network for which the intervention of the park authorities is required to permit access;
- (III) Thirty kilometres of the primary network in poor condition where maintenance work is required.

## 4. Discussion and conclusions

The application of the methodology to the Lambro River Valley Park allowed the development of a greenways network incorporating the existing network of green trails: 80% of the network is, in fact, already in place. This permits savings to be made on the creation of the network and allows the old historic routes to be rediscovered. The methodology also proved to be useful in the definition of a network dedicated to nonmotorized traffic capable of connecting the numerous urban centres with the many resources present in the area.

In Italy, the cost of realising similar green trails is, in general, borne by the local municipalities. The greenways network defined in this case is subdivided amongst no less than 35 municipalities, making each liable on an average of 12 km of the routes (Table 3).

Table 3		
Kilometres of trails per 35 municipalities of Lambro	River	Valley
Park		

Albavilla       17069         Albiate       5486         Alserio       1192         Anzano del Parco       5654         Arcore       9741         Arosio       3141         Besana in Brianza       27594         Biassono       8675         Bosisio Parini       18498         Briosco       12330         Carate Brianza       10471         Casatenovo       42359         Cesana Brianza       5650         Correzzana       9615         Costa Masnaga       17048         Erba       28768         Eupilio       10305         Giussano       6549         Inverigo       4160         Lesmo       6549         Inverigo       4160         Lesmo       6549         Inverigo       10762         Macherio       1719         Merone       4216         Monguzzo       17685         Monza       21608         Nibionno       3760         Pusiano       5521         Rogeno       8475         Sovico       7229         Triuggio       36298 <th>Municipality</th> <th>Trails (m)</th>	Municipality	Trails (m)
Albiate       5486         Alserio       1192         Anzano del Parco       5654         Arcore       9741         Arosio       3141         Besana in Brianza       27594         Biassono       8675         Bosisio Parini       18498         Briosco       12330         Carate Brianza       10471         Casatenovo       42359         Cesana Brianza       5650         Correzzana       9615         Costa Masnaga       17048         Erba       28768         Eupilio       10305         Giussano       6549         Inverigo       14026         Lambrugo       4160         Lesmo       6157         Lurago D'Erba       10762         Monza       21608         Nibionno       3760         Pusiano       5521         Rogeno       8475         Sovico       7229         Triuggio       36298         Vedano al Lambro       4876         Veduggio con Colzano       4704         Verano Brianza       2313         Villasanta       6776 <td>Albavilla</td> <td>17069</td>	Albavilla	17069
Alserio       1192         Anzano del Parco       5654         Arcore       9741         Arosio       3141         Besana in Brianza       27594         Biassono       8675         Bosisio Parini       18498         Briosco       12330         Carate Brianza       10471         Casatenovo       42359         Cesana Brianza       5650         Correzzana       9615         Costa Masnaga       17048         Erba       28768         Eupilio       10305         Giussano       6549         Inverigo       14026         Lambrugo       4160         Lesmo       6157         Lurago D'Erba       10762         Macherio       1719         Merone       4216         Monza       21608         Nibionno       3760         Pusiano       5521         Rogeno       8475         Sovico       7229         Triuggio       36298         Vedano al Lambro       4876         Veduo gio con Colzano       4704         Verano Brianza       2313 <t< td=""><td>Albiate</td><td>5486</td></t<>	Albiate	5486
Anzano del Parco       5654         Arcore       9741         Arosio       3141         Besana in Brianza       27594         Biassono       8675         Bosisio Parini       18498         Briosco       12330         Carate Brianza       10471         Casatenovo       42359         Cesana Brianza       5650         Correzzana       9615         Costa Masnaga       17048         Erba       28768         Eupilio       10305         Giussano       6549         Inverigo       14026         Lambrugo       4160         Lesmo       6157         Lurago D'Erba       10762         Macherio       1719         Merone       4216         Monza       21608         Nibionno       3760         Pusiano       5521         Rogeno       8475         Sovico       7229         Triuggio       36298         Vedano al Lambro       4876         Veduo al Lambro       4876         Verano Brianza       2313         Villasanta       6776         T	Alserio	1192
Arcore         9741           Arosio         3141           Besana in Brianza         27594           Biassono         8675           Bosisio Parini         18498           Briosco         12330           Carate Brianza         10471           Casatenovo         42359           Cesana Brianza         5650           Correzzana         9615           Costa Masnaga         17048           Erba         28768           Eupilio         10305           Giussano         6549           Inverigo         14026           Lambrugo         4160           Lesmo         6157           Lurago D'Erba         10762           Macherio         1719           Merone         4216           Monguzzo         17685           Monza         21608           Nibionno         3760           Pusiano         5521           Rogeno         4876           Vedano al Lambro         4876           Vedano al Lambro         4876           Vedano al Lambro         4876           Verano Brianza         2313           Villasanta	Anzano del Parco	5654
Arosio         3141           Besana in Brianza         27594           Biassono         8675           Bosisio Parini         18498           Briosco         12330           Carate Brianza         10471           Casatenovo         42359           Cesana Brianza         5650           Correzzana         9615           Costa Masnaga         17048           Erba         28768           Eupilio         10305           Giussano         6549           Inverigo         14026           Lambrugo         4160           Lesmo         6157           Lurago D'Erba         10762           Macherio         1719           Merone         4216           Monguzzo         17685           Monza         21608           Nibionno         3760           Pusiano         5521           Rogeno         8475           Sovico         7229           Triuggio         36298           Vedano al Lambro         4876           Veduo gio con Colzano         4704           Verano Brianza         2313           Villasanta	Arcore	9741
Besana in Brianza         27594           Biassono         8675           Bosisio Parini         18498           Briosco         12330           Carate Brianza         10471           Casatenovo         42359           Cesana Brianza         5650           Correzzana         9615           Costa Masnaga         17048           Erba         28768           Eupilio         10305           Giussano         6549           Inverigo         14026           Lambrugo         4160           Lesmo         6157           Lurago D'Erba         10762           Macherio         1719           Merone         4216           Monguzzo         17685           Monza         21608           Nibionno         3760           Pusiano         5521           Rogeno         8475           Sovico         7229           Triuggio         36298           Vedano al Lambro         4876           Veduo Brianza         2313           Villasanta         6776           Total         421874	Arosio	3141
Biassono         8675           Bosisio Parini         18498           Briosco         12330           Carate Brianza         10471           Casatenovo         42359           Cesana Brianza         5650           Correzzana         9615           Costa Masnaga         17048           Erba         28768           Eupilio         10305           Giussano         6549           Inverigo         14026           Lambrugo         4160           Lesmo         6157           Lurago D'Erba         10762           Macherio         1719           Merone         4216           Monguzzo         17685           Monza         21608           Nibionno         3760           Pusiano         5521           Rogeno         8475           Sovico         7229           Triuggio         36298           Vedano al Lambro         4876           Veduo Brianza         2313           Villasanta         6776           Total         421874	Besana in Brianza	27594
Bosisio Parini         18498           Briosco         12330           Carate Brianza         10471           Casatenovo         42359           Cesana Brianza         5650           Correzzana         9615           Costa Masnaga         17048           Erba         28768           Eupilio         10305           Giussano         6549           Inverigo         14026           Lambrugo         4160           Lesmo         6157           Lurago D'Erba         10762           Macherio         17119           Merone         4216           Monguzzo         17685           Monza         21608           Nibionno         3760           Pusiano         5521           Rogeno         8475           Sovico         7229           Triuggio         36298           Vedano al Lambro         4876           Veduo gio con Colzano         4704           Verano Brianza         2313           Villasanta         6776           Total         421874	Biassono	8675
Briosco         12330           Carate Brianza         10471           Casatenovo         42359           Cesana Brianza         5650           Correzzana         9615           Costa Masnaga         17048           Erba         28768           Eupilio         10305           Giussano         6549           Inverigo         14026           Lambrugo         4160           Lesmo         6157           Lurago D'Erba         10762           Macherio         1719           Merone         4216           Monguzzo         17685           Nibionno         3760           Pusiano         5521           Rogeno         8475           Sovico         7229           Triuggio         36298           Vedano al Lambro         4876           Veduggio con Colzano         4704           Verano Brianza         2313           Villasanta         6776           Total         421874	Bosisio Parini	18498
Carate Brianza         10471           Casatenovo         42359           Cesana Brianza         5650           Correzzana         9615           Costa Masnaga         17048           Erba         28768           Eupilio         10305           Giussano         6549           Inverigo         14026           Lambrugo         4160           Lesmo         6157           Lurago D'Erba         10762           Macherio         1719           Merone         4216           Monguzzo         17685           Monza         21608           Nibionno         3760           Pusiano         5521           Rogeno         8475           Sovico         7229           Triuggio         36298           Vedano al Lambro         4876           Veduggio con Colzano         4704           Verano Brianza         2313           Villasanta         6776           Total         421874	Briosco	12330
Casatenovo         42359           Cesana Brianza         5650           Correzzana         9615           Costa Masnaga         17048           Erba         28768           Eupilio         10305           Giussano         6549           Inverigo         14026           Lambrugo         4160           Lesmo         6157           Lurago D'Erba         10762           Macherio         1719           Merone         4216           Monguzzo         17685           Nibionno         3760           Pusiano         5521           Rogeno         8475           Sovico         7229           Triuggio         36298           Vedano al Lambro         4876           Veduggio con Colzano         4704           Verano Brianza         2313           Villasanta         6776           Total         421874	Carate Brianza	10471
Cesana Brianza         5650           Correzzana         9615           Costa Masnaga         17048           Erba         28768           Eupilio         10305           Giussano         6549           Inverigo         14026           Lambrugo         4160           Lesmo         6157           Lurago D'Erba         10762           Macherio         1719           Merone         4216           Monguzzo         17685           Monza         21608           Nibionno         3760           Pusiano         5521           Rogeno         8475           Sovico         7229           Triuggio         36298           Vedano al Lambro         4876           Veduggio con Colzano         4704           Verano Brianza         2313           Villasanta         6776           Total         421874	Casatenovo	42359
Correzzana         9615           Costa Masnaga         17048           Erba         28768           Eupilio         10305           Giussano         6549           Inverigo         14026           Lambrugo         4160           Lesmo         6157           Lurago D'Erba         10762           Macherio         1719           Merone         4216           Monguzzo         17685           Nibionno         3760           Pusiano         5521           Rogeno         8475           Sovico         7229           Triuggio         36298           Vedano al Lambro         4704           Verano Brianza         2313           Villasanta         6776           Total         421874	Cesana Brianza	5650
Costa Masnaga         17048           Erba         28768           Eupilio         10305           Giussano         6549           Inverigo         14026           Lambrugo         4160           Lesmo         6157           Lurago D'Erba         10762           Macherio         1719           Merone         4216           Monguzzo         17685           Nibionno         3760           Pusiano         5521           Rogeno         8475           Sovico         7229           Triuggio         36298           Vedano al Lambro         4704           Verano Brianza         2313           Villasanta         6776           Total         421874	Correzzana	9615
Erba         28768           Eupilio         10305           Giussano         6549           Inverigo         14026           Lambrugo         4160           Lesmo         6157           Lurago D'Erba         10762           Macherio         1719           Merone         4216           Monguzzo         17685           Monza         21608           Nibionno         3760           Pusiano         5521           Rogeno         8475           Sovico         7229           Triuggio         36298           Vedano al Lambro         4764           Verano Brianza         2313           Villasanta         6776           Total         421874	Costa Masnaga	17048
Eupilio         10305           Giussano         6549           Inverigo         14026           Lambrugo         4160           Lesmo         6157           Lurago D'Erba         10762           Macherio         1719           Merone         4216           Monguzzo         17685           Monza         21608           Nibionno         3760           Pusiano         5521           Rogeno         8475           Sovico         7229           Triuggio         36298           Vedano al Lambro         4876           Vedugo con Colzano         4704           Verano Brianza         2313           Villasanta         6776           Total         421874	Erba	28768
Giussano         6549           Inverigo         14026           Lambrugo         4160           Lesmo         6157           Lurago D'Erba         10762           Macherio         1719           Merone         4216           Monguzzo         17685           Monza         21608           Nibionno         3760           Pusiano         5521           Rogeno         8475           Sovico         7229           Triuggio         36298           Vedano al Lambro         4704           Verano Brianza         2313           Villasanta         6776           Total         421874	Eupilio	10305
Inverigo         14026           Lambrugo         4160           Lesmo         6157           Lurago D'Erba         10762           Macherio         1719           Merone         4216           Monguzzo         17685           Monza         21608           Nibionno         3760           Pusiano         5521           Rogeno         8475           Sovico         7229           Triuggio         36298           Vedano al Lambro         4876           Veduggio con Colzano         4704           Villasanta         6776           Total         421874	Giussano	6549
Lambrugo         4160           Lesmo         6157           Lurago D'Erba         10762           Macherio         1719           Merone         4216           Monguzzo         17685           Monza         21608           Nibionno         3760           Pusiano         5521           Rogeno         8475           Sovico         7229           Triuggio         36298           Vedano al Lambro         4876           Veduggio con Colzano         4704           Villasanta         6776           Total         421874	Inverigo	14026
Lesmo         6157           Lurago D'Erba         10762           Macherio         1719           Merone         4216           Monguzzo         17685           Monza         21608           Nibionno         3760           Pusiano         5521           Rogeno         8475           Sovico         7229           Triuggio         36298           Vedano al Lambro         4876           Veduo gio con Colzano         4704           Verano Brianza         2313           Villasanta         6776           Total         421874	Lambrugo	4160
Lurago D'Erba         10762           Macherio         1719           Merone         4216           Monguzzo         17685           Monza         21608           Nibionno         3760           Pusiano         5521           Rogeno         8475           Sovico         7229           Triuggio         36298           Vedano al Lambro         4876           Veduggio con Colzano         4704           Villasanta         6776           Total         421874	Lesmo	6157
Macherio         1719           Merone         4216           Monguzzo         17685           Monza         21608           Nibionno         3760           Pusiano         5521           Rogeno         8475           Sovico         7229           Triuggio         36298           Vedano al Lambro         4876           Veduggio con Colzano         4704           Verano Brianza         2313           Villasanta         6776           Total         421874	Lurago D'Erba	10762
Merone         4216           Monguzzo         17685           Monza         21608           Nibionno         3760           Pusiano         5521           Rogeno         8475           Sovico         7229           Triuggio         36298           Vedano al Lambro         4876           Veduggio con Colzano         4704           Verano Brianza         2313           Villasanta         6776           Total         421874	Macherio	1719
Monguzzo         17685           Monza         21608           Nibionno         3760           Pusiano         5521           Rogeno         8475           Sovico         7229           Triuggio         36298           Vedano al Lambro         4876           Veduggio con Colzano         4704           Verano Brianza         2313           Villasanta         6776           Total         421874	Merone	4216
Monza         21608           Nibionno         3760           Pusiano         5521           Rogeno         8475           Sovico         7229           Triuggio         36298           Vedano al Lambro         4876           Veduggio con Colzano         4704           Verano Brianza         2313           Villasanta         6776           Total         421874	Monguzzo	17685
Nibionno3760Pusiano5521Rogeno8475Sovico7229Triuggio36298Vedano al Lambro4876Veduggio con Colzano4704Verano Brianza2313Villasanta6776Total421874	Monza	21608
Pusiano5521Rogeno8475Sovico7229Triuggio36298Vedano al Lambro4876Veduggio con Colzano4704Verano Brianza2313Villasanta6776Total421874	Nibionno	3760
Rogeno8475Sovico7229Triuggio36298Vedano al Lambro4876Veduggio con Colzano4704Verano Brianza2313Villasanta6776Total421874	Pusiano	5521
Sovico7229Triuggio36298Vedano al Lambro4876Veduggio con Colzano4704Verano Brianza2313Villasanta6776Total421874	Rogeno	8475
Triuggio36298Vedano al Lambro4876Veduggio con Colzano4704Verano Brianza2313Villasanta6776Total421874	Sovico	7229
Vedano al Lambro4876Veduggio con Colzano4704Verano Brianza2313Villasanta6776Total421874	Triuggio	36298
Veduggio con Colzano4704Verano Brianza2313Villasanta6776Total421874	Vedano al Lambro	4876
Verano Brianza2313Villasanta6776Total421874	Veduggio con Colzano	4704
Villasanta         6776           Total         421874	Verano Brianza	2313
Total 421874	Villasanta	6776
	Total	421874

The greenways network is nevertheless sufficiently dense to allow it to be used by the greatest number of people: almost 1.5 m/resident of routes with a principal network density of around  $1.25 \text{ km/km}^2$  and a little over  $2 \text{ km/km}^2$  in total.

During the development of the plan numerous public meetings were held. This permitted the definition of a plan that:

• is agreeable to the local administrators and is therefore more likely to be realized; • takes into account the needs of the local people who during its development had the opportunity to indicate certain priorities.

The plan is currently being put into effect:

- the Regional Authority is finalizing the realization of the main greenway,
- the various local administrations are, gradually, undertaking the interventions of local interest.

This project represents the first example in Italy of planning a greenway network. Starting from the late 1970s, there are several examples of converting unused linear infrastructure into greenway trails (e.g. the trail conversion of the abandoned railway line from Cortina to Dobbiaco). In all these cases the objective was to create a single greenway trail, rather than to develop a "greenways system", a system of connected green trails. In contrast, the Lambro River Valley Park project aims to plan a greenway network for connections: between people and the land, between public parks, natural areas, historic sites and other open spaces (McMahon, 1993). This is the lesson learned from the first and second "Trails and Greenways International Conference" organized by the Rail To Trail Conservancy in the USA, entitled "Making the Connection".

This project demonstrates the central role of reuse in promoting greenways in Italy: the country is rich with historical linear infrastructure (e.g., historical routes, towpaths, cattle trails, old rural roads, abandoned railways, etc.) that can be adequately reused to create a greenway network—saving money and providing a new function for old infrastructure. The type of greenway trail and the landscape, which it crosses helps to inform the specific function to each greenway: ecological, historical, recreational.

This project reflects a widespread European approach to greenways planning: projects from Spain, Portugal, France, Belgium, England, and Ireland are emphasizing the creation of greenway networks for recreation. Obviously there are also other approaches (e.g., in The Netherlands and in Germany) that emphasize ecological function. The growing attention in Europe to the construction of recreational greenway networks is also demonstrated by two recent European Projects (REVER/AMNO and REVER/MED) that aim to develop a European Greenway Network reserved for non-motorised users, that provide continuous long distance itineraries as well as local networks for local journeys and leisure activities.

The methodology used in this project has been applied in a number of other Italian cases, providing consistently valid results and represents a point of reference within the national context of landscape planning. (This methodology is reported to various degrees in the only three books on the subject to have been published in Italy: Toccolini, 2002; Toccolini et al., 2003, 2004.) Future implementation of this greenway planning approach to other regions in Italy, as well as other adjacent countries will help to build a national and European scale greenway network.

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