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## **Opportunities for the development of greenways in Hungary, based on the example of the *BudaVidék* Greenway**

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### **Introduction**

In spring 2007 the *BudaVidék* ('Buda region') Greenway programme was launched by the *BudaVidék* Greenway Alliance, which is a civil alliance formed through the coming together of associations involved in landscape, environmental protection and community development activities in the Zsámbék Basin. The main goal of the Alliance's work is the designation of a network of routes – also suitable for cyclists – linking the twelve settlements in the Zsámbék Basin. This civil collaboration has set itself the target of organising joint greenway tours, supporting educational initiatives in environmental matters related to the greenway, and encouraging locally produced goods and local service providers.

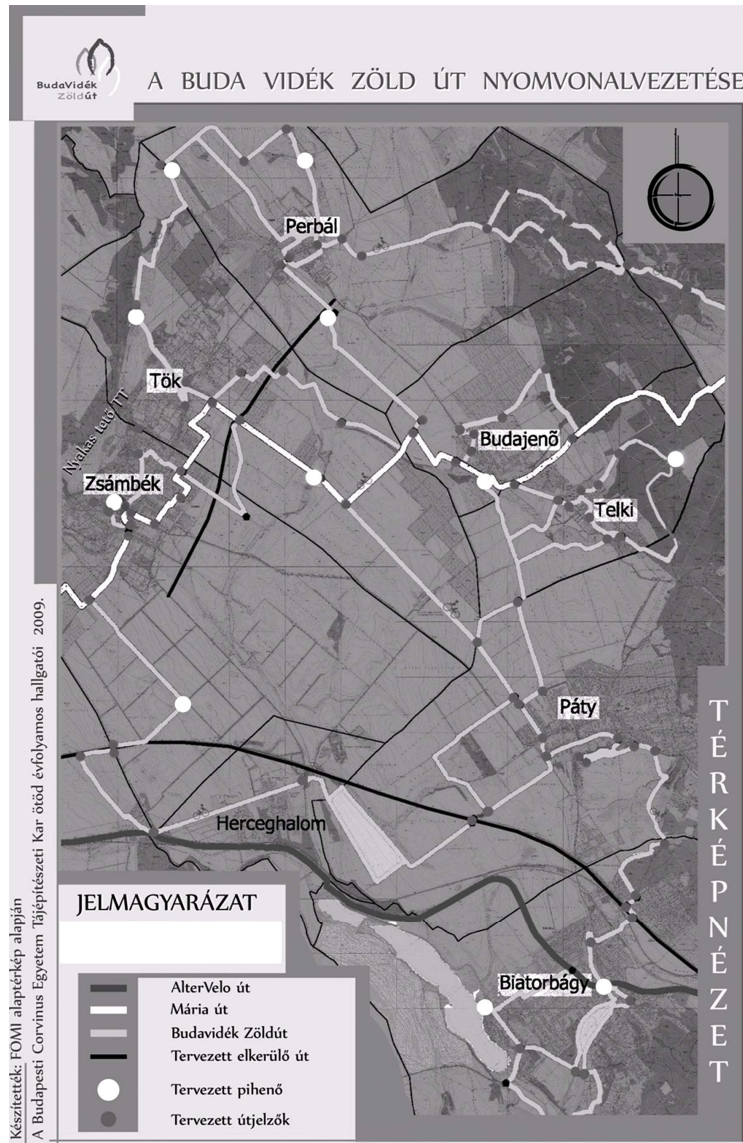
In order to provide specialist support for the programme, in autumn 2008 the *BudaVidék* Greenway Alliance entered into a collaborative undertaking with the Department of Landscape Planning and Regional Development at the Corvinus University of Budapest. The aim of the work carried out under the Department's direction was, with the aid of final-year students, to identify landscape design tasks linked to greenway development, then collaboratively to develop landscape design analysis, evaluation and proposals within the borders of seven settlements. The Department's work continued the following academic year, with the development of landscape design assignments for the remaining five settlements.

This productive specialist collaboration can provide the basis for establishing the landscape design of Hungarian greenways through further research assignments. For this it is equally necessary to carry out evaluation of currently designated greenways in Hungary and the analysis of case studies on greenways outside Hungary. It is essential for the continued existence of already designated greenways and the creation of new ones that greenways be incorporated into regional planning, and later that a legal and technical regulatory system for greenways be developed.

### **Background**

Currently the most widely used definition of the 'greenway' concept in the Hungarian language is linked to the work of the *Ökotárs Alapítvány* (The Hungarian Environmental Partnership Foundation). In 2005 the Foundation published an information pamphlet which sought to promote the spread of greenways in Hungary. The following definition appears in the pamphlet:

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**Figure 1.: The planned road system of BudaVidék Greenway**

‘Greenways are natural corridors and routes which can be used for sports, tourist, recreational and day-to-day transport purposes, while taking into account their ecological function. They are useful in protecting the environment and cultural heritage, and in the promotion of healthy lifestyles. They assist the development of local economies and strengthen local communities.’ ( Foltányi, 2005)

Prior to the above, and in the field of landscape design, there was an attempt at a Hungarian definition of the English 'greenway' concept in a 2000 study by the

Department of Landscape Planning and Regional Development at Szent István University entitled 'Greenway System, South Buda Region Green Belt Pilot Project'.

'The term 'greenway' refers to the sum total of green areas on land created alongside any kind of linear natural formation (water-course, ecological corridor, range of hills or mountains) or man-made infrastructure feature (road, railway line, canal), which links parks, green areas or nature conservancy areas, and which may also be used for recreational use.' (Csemez *et al*, 2000)

As can be seen from the theoretical and practical expressions of the 'greenway' concept, in Hungary at present from a planning point of view there is no useable definition of 'greenway' ; this is however an indispensable condition for the incorporation of greenways into spatial planning, and thus for the realistic possibility of their continued existence.

### Goals and objectives

One of the main motivations for the *BudaVidék* Greenway initiative in April 2007 was the fact that despite the ever growing popularity of cycling, no designs had been produced for a network of cycle routes in the Zsámbék Basin. Locals thought that the development of a network of new asphalt cycle routes was a hopeless cause, due to relatively high investment costs. The stated aim in the competition documentation for greenway development produced by the *Ökotárs Alapítvány* (Hungarian Environmental Partnership Foundation) – for 'the designation of routes for non-motorised transport' seemed realisable, however. In order to encourage participation in this competitive process, the *BudaVidék* Greenway Alliance was formed through the confederation of civil organisations active in the Zsámbék Basin. A planned *BudaVidék* Greenway is a network of routes suitable for cycling, separated from busy roads and linking the twelve settlements of the Zsámbék Basin. The backbone of the network is formed by a series of historic cart-tracks running between arable fields. Under the direction of the *BudaVidék* Greenway Alliance, the sections agreed with owners and operators have been marked with pillars reminiscent of old boundary marker stones. ( Budai, 2007)

The *BudaVidék* greenway network has arisen from the results of a decade of research work by local associations, the attempts of local people to establish cycle routes, and the experience of further joint investigations. The criteria for choosing the routes of these greenways were the following:

- formation of a continuous network – in part spontaneously brought into use – of agricultural dirt tracks, gravel forest paths, paths alongside water-courses, low traffic asphalt roads and former main roads separated from existing road traffic
- the linking of outstanding landscape features
- provision of access to landscape features and natural heritage assets reflecting traditional land-use patterns
- connection to centres of settlements, characterful aesthetic assets in settlements and unique cultural heritage features

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- the location of intersections between greenways and busy roads within the built-up areas of settlements
- the future acquisition of community buildings and hospitality facilities which can be incorporated as recreational areas and information points.

In the course of the designation of greenways several questions linked to landscape design arose:

- How can we guarantee harmony between traditional agricultural and forestry land uses and the planned greenways?
- What opportunities are there for an increase in green areas alongside greenways, and how can greenways be connected to the system of green areas in settlements?
- What design tasks are involved in the establishment of intersections between greenways and existing and planned public roads?
- How can land-use conflicts arising alongside greenways be resolved?
- What could the relationship be between landscape preservation and nature conservancy and the potential tourist development opportunities linked to greenways?

### **Methods**

Under the direction of the Department, in the 2009/ 2010 academic year landscape architecture students studying Co-ordinated Landscape Design outlined the landscape design tasks associated with the greenway routes around seven settlements, according to the following methodology :

- evaluation of the results of civil initiatives up to now
- problem identification
- determination of tasks awaiting solutions
- research work
- survey of terrain
- university departmental consultations
- consultations with local councils
- presentations for civil organisations, local councils and relevant authorities at the Buda Campus of the Corvinus University of Budapest
- submission of six-month assignment (examination and evaluation)
- development of landscape design recommendations
- preparation of summarising posters

The following subject areas needed to be worked on for development of the examination work phase:

- the concept of 'greenway '
- natural and societal characteristics,
- regional planning schedules
- landscape and nature conservancy areas
- articulation of recommended greenway routes (features of the terrain, road surface, accompanying green areas, landmarks, outstanding viewing points)

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- ecological systems and system elements worthy of protection
  - cultural heritage and unique landscape assets
  - land-use conflicts

In the first half of the 2008/ 2009 academic year, students formed groups of 2-3 people and, taking already familiar definitions as their base, developed examination work phases in the environs of Zsámbék, Tök, Perbál, Budajenő, Telki, Páty and Biatorbágy. The routes recommended by the Civil Alliance were depicted on 1:10000 scale base maps from FÖMI (Institute of Geodesy, Cartography and Remote Sensing), and split into sections according to their characteristics or condition based on investigations of the terrain. For some settlements recommendations were made for the formation of new sections of greenway route.

We paid special attention to the determination of elements of the ecological system worthy of protection. Those of outstanding interest are the surviving natural waterside confluences of the Zsámbék Basin's principle catchment area and the *Békás Brook*, the surroundings of springs, the environs of Lake *Biai* and Lake *Kozáromi*, the ecological corridor from the *Gyurgyal-Disznólápa-Sasfészek* lakes to *Disznólápa*, and the intersections formed on the dolomitic landscape of *Töki Nyakastető* and *Biatorbágyi Nyakaskő*. The forests of Telki, Nagykovácsi and Budakeszi are parts of the Duna–Ipoly National Park, and Natura 2000 areas.

Another task in addition to monuments found alongside or opening off greenway routes was the naming, cartographic depiction and evaluation of the condition of unique landscape assets. On the basis of surveys there was also a need to depict outstanding viewing points and panoramas.

Alongside recommended routes, several land-use conflicts are also observable:

- pot-holed, neglected road surfaces
- treeless agricultural areas (erosion)
- a scarcity of regenerating green areas (absence of avenues of trees)
- presence of stray dogs
- illegal tipping of refuse
- difficulty in following routes due to inadequate signage

After designation of routes, land-use conflicts could be caused by:

- the relationship between greenways and existing/ planned public roads
- varying features of terrain

On 25 November 2008, after completion of the examination work phase, a slide presentation was given on the Buda Campus of the Corvinus University of Budapest.

## Results

In the second half of the 2008/ 2009 academic year, in line with the task requirements, landscape design recommendations were to be developed in the following subject areas:

- resolution of land-use conflicts
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- development opportunities for sections of greenway route (road surface, landmarks)
- designation of recreational areas, draft plans
- recommendations for tree planting along roads (locations, suggested tree species)
- graphic elements (route signage, information signs)
- possibilities for the formation of road surfaces
- junctions between greenways and public roads
- planning of study trails

Students had to develop landscape design recommendations based on the tasks expressed in the examination work phase, and develop detailed plans for some areas. The following recommendations were put forward for the resolution of land-use conflicts:

- development of design possibilities for road surface formation for seven existing conditions
- establishment of windbreak strips of forest adjoining fields
- roadside tree planting
- acknowledgement of the greenway network in the course of design processes
- organisation of a ranger service
- marking of terrain features
- marking out of greenways on asphalt and with signs
- elimination of illegal refuse tipping

We recommended road surface upgrading opportunities primarily for the maintenance of agricultural and forestry roads. The most important task with regard to dirt tracks was solving the drainage of surface water through good landscaping and regular maintenance, in order to avoid these roads becoming impassable in rainy periods. On certain sections where an appropriately sized area was available, we have recommended the formation of independent greenways, divided from other areas by avenues of trees. For built-up areas in settlements we have recommended the planning of cycle routes and lanes.

In the recommendation work phase students compared the greenway network with approved and developing settlement structure plans, with the development study plan for a regional cycle route network (initiated in spring 2009), and with the Zsámbék Basin sections of the nationwide Mary Trail pilgrimage route. We have depicted on the maps tasks and locations where further design is needed (e.g. junctions between greenways and bypasses for settlements).

The students studying developments in Perbál developed detailed recommendations for planting possibilities using native species of tree. We stressed that tree planting alongside greenways can have a significant role in the formation of systems of green areas in settlements, connected to tree planting in settlements' inner and outer zones.

Recommendations for several study trails related to greenway routes have been made: students developed designs for study trails facilitating the presentation of

landscape history and agricultural cultures on the route of the one-time cart-road between Budajenő and Páty, the presentation of ancient Roman culture on the section between Tök and Páty (presumably used as a Roman military and trading route), and the presentation of water and waterside flora and fauna by the side of Lake *Biai*.

In areas further from built-up zones, the phenomena of illegal refuse tipping and of stray dogs are serious, nationwide problems, and in several places in the Zsámbék Basin these problems could be solved with the establishment and operation of a ranger service.

In the course of putting forward landscape development recommendations we have also touched on opportunities for tourist development of greenways. It must be stressed, however, that wider popularisation of such tourist functions is only advisable following resolution of land-use conflicts and the guarantee of routes with uniformly safe surfaces and route signage at appropriately frequent intervals across the entire area of the greenway network. In their existing state greenways are only suitable for meeting local, small-scale demand.

We ended the work of the second half of the academic year with an exhibition of posters designed by students for each settlement. The Civil Alliance presented the posters to all the settlements in a travelling exhibition.

In the academic year for 2009/ 2010 – and as a continuation of the work started in 2008/ 2009 – we developed further landscape development recommendations under the direction of the Department of Landscape Planning and Regional Development at the Corvinus University of Budapest. We used the method of the first year, involving landscape architecture students, focusing on the *BudaVidék* Greenway's remaining five settlements: Budakeszi, Nagykovácsi, Tinnye, Etyek and Herceghalom. ( dr. Sallay Á.; Kapovits J., 2009)

### **Discussion and conclusion**

Just as with the *BudaVidék* Greenway, it is essential for the continued existence of other Hungarian greenways that they at least appear on local structure plans, and that thus, for example, the junctions between greenways and bypasses relieving traffic pressure on the centre of settlements become a design task. The creation of new greenways can be assisted if after the research and identification of routes of historical significance in the landscape they can feature at the various levels of regional planning as valuable elements in the structure of the landscape – even as possible greenway routes.

A primary task in the design regulation of greenways is determination of a usable definition in the design of greenways in Hungary, and of the legal, technical, ecological and financial conditions for formation according to desired modes of use.



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As a first step I recommend determination of a usable concept of 'greenway' for the design of such features. A good foundation for the creation of a definition is provided by findings from the establishment of greenways both within and outside Hungary. As a next step one must group greenways according to existing and planned uses (pedestrian, cycling, horse-riding, waterborne, and mixed use), and in combination with various land uses (built-up areas, agricultural, meadow, forest, waterside).

Related to existing and potential greenways, there is a need for sample cross-sections representing minimal and optimal solutions, and examples of recreational areas on greenways, with special regard to potential development of green areas. Based on findings from further research, the formulation of technical guidelines for greenway design may become necessary.

Existing and potential greenway routes can be incorporated into regional planning at various levels (the National Town and Country Plan, regional plans, settlement structure plans) ( Kapovits J.; dr, Csemez A.; dr. Sallay, 2009)



**Figure 2: The most significant types of roads on the *BudaVidék* Greenway**

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