

# Proceedings of the Fábos Conference on Landscape and Greenway Planning

Volume 3

Issue 1 *Proceedings of the Fabos Conference on Landscape and Greenway Planning 2010*

Article 76

2010

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### Recommended Citation

Arslan, Mukerrem; Baris, Emin; Erdogan, Elmas; and Dilaver, Zuhal (2010) "GREENWAYS AND THE URBAN FORM: CITY OF ANKARA, TURKEY," *Proceedings of the Fábos Conference on Landscape and Greenway Planning*: Vol. 3 : Iss. 1 , Article 76.

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## GREENWAYS AND THE URBAN FORM: CITY OF ANKARA, TURKEY

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### Introduction

A greenway is a linear open space established along either a natural corridor, such as a riverfront, stream valley, or ridgeline, or overland along a railroad right-of-way converted to recreational use, a canal, scenic road, or other route. It is any natural or landscaped course for pedestrian or bicycle passage. An open-space connector linking parks, nature reserves, cultural features, or historic sites with each other and with populated areas (Little, 1995; Miller et al., 1998; Viles and Rosier, 2001).

A greenway is a connector; a pattern of protected lands linking other protected lands such as natural features or historic sites into a greater whole. According to Fabos and Ahern (1996), greenways are urban riversides, recreational paths and trails, ecologically significant natural corridors, scenic and historic roads and comprehensive regional green infrastructures incorporating elements from all the previous four. The system can be defined as a connected and integrated system of mostly linear, rear-natural and cultural areas which remained as almost undeveloped corridors passing through the human-altered landscape.

In the 1980's, increased interest in open-space conservation converged with the growing popularity of outdoor recreation, resulting in many new greenway projects along with vigorous support across the country (Little, 1995). As the loss of open space has become increasingly apparent on the national level and particularly striking in many urban areas, interest in all types of land conservation has risen to an unprecedented level. At the same time, the cost of land in many places especially in metropolitan areas has continued to rise while federal funding for land conservation has plummeted. Land protection has thus become increasingly difficult in many parts of country.

Greenways are a partial solution to this problem because they often require less than traditional, non linear parks, especially when recreation is the primary focus. One estimate put the number of greenways existing in the United States at 1989 at over 250. The actual number of greenways may be much higher, since many protected linear open spaces that lack organized management, administration, or publicity often go unrecognized. The term greenway can usually be applied to many linear open spaces that have, not traditionally been so named.

Dozens of greenway projects are now under way across the country in urban, suburban and rural settings. Notable efforts with a strong recreational focus, but which also involve land protection, are taking place in San Francisco, where the Bay

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Trail and The Bay Area Ridge Trail trace concentric rings around San Francisco Bay; along the Chattanooga River in Chattanooga, Tennessee; from New York City to Albany and beyond along the Hudson River, and in Boston, where the Bay Circuit Trail encircles the metropolitan area much as Frederic Law Olmsted's Emerald Necklace encircled the inner city over a century ago. Several coordinated urban greenway networks are now under way that stresses both recreation and conservation in cities like Boulder, Colorado; Davis, California; and North Carolina. The state of Maryland has launched a statewide greenways program that seeks to combine water resource and habitat protection. In Texas, the U.S. Fish and Wildlife Service is working to secure a major wildlife corridor along 250 miles of the lower Rio Grande (Smith and Helmund, 1993).

### **Materials and Method**

Ankara urban area and its near environs formed the main material of the research. Ankara urban settlement area, the cultural values in the urban development area, open green spaces, green belts, the highway route, urban natural thresholds, natural corridors, natural formations and water surfaces were evaluated in the frame of the research.

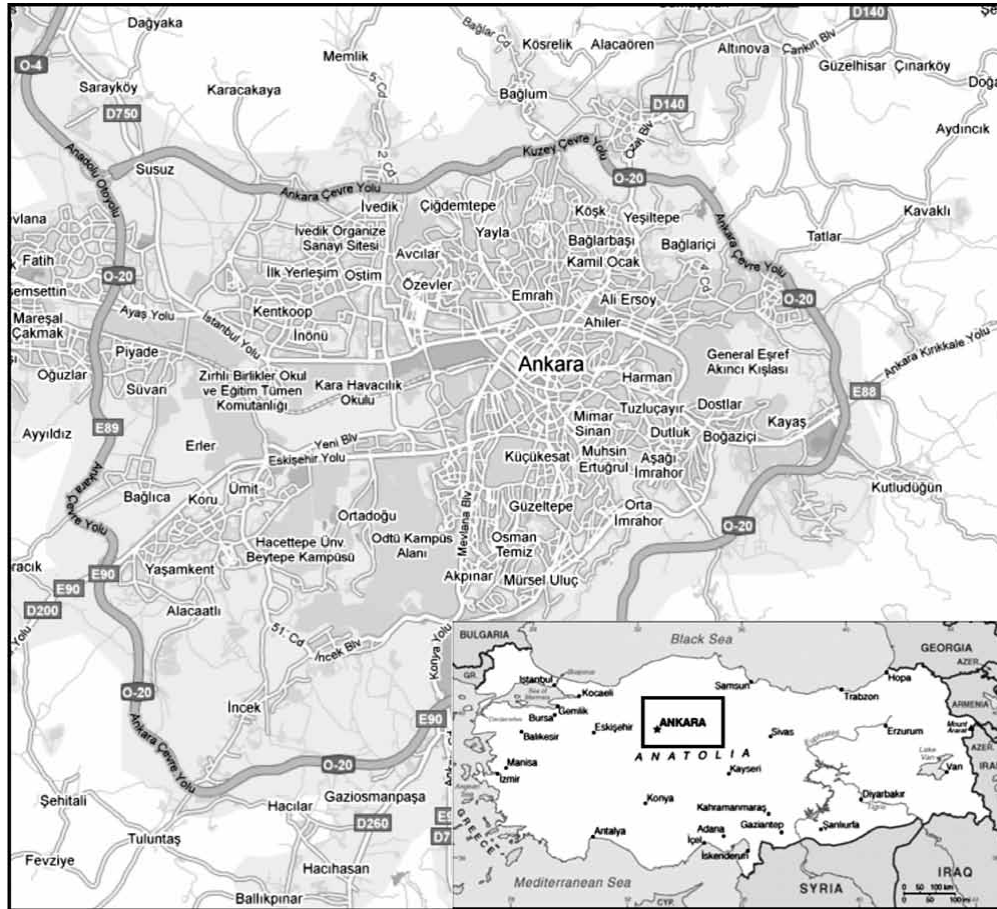
Satellite images, topographic and geomorphologic maps and the data subject to Ankara transportation system and related maps were also the basic materials of the study. Besides, the data that would form the base of the Ankara greenway proposal was gathered from the literature study derived from greenway theoretical studies and international greenway planning applications.

The study was formed of three phases. A literature study was made to establish a theoretical base for the study. Then, Ankara city and its near environs were analyzed. The open and green area system and its development through history and the master plan of Ankara city; the development of the planning phase, the geography, topography, geomorphology, climate, water resources, flora and the social structure of the city were analyzed. Site analysis maps, three dimensional model of Ankara city were prepared and evaluated in computer media. Finally after a detailed analysis and comparative study, a greenway system was proposed for Ankara city. Secondary greenways linked to the main route were also proposed.

### **Results**

Ankara which is located at central Anatolia Region is one of the oldest settlements of Turkey (Figure 1). According to the archeological data obtained from excavations, the history and formation of the settlement is dating back to 4000 B.C. The most important civilizations in the history of the settlement are the Hittites, Phrygians, Romans, Byzantines and the Ottomans. However, Ankara carries the traces of Republic period as the capital of Turkey and the city gained its present character during the Republic period with its main axes, historic buildings and open-

green spaces. The settlement has an interesting geomorphology and topography resulting with the creation of different micro climatic regions and various geographic and natural formations combined with cultural values belonging to different periods as the reflections of civilizations.



**Fig. 1. Location of Ankara**

The unplanned urbanization process of Ankara and the mass housing areas that increased rapidly has caused a highly dense urban tissue without green open spaces and buffer zones. Continuously increasing density and development of the city did not give way to the protection of existing green areas and restricted the urban growth. However, greenways have played significant roles in the development of urban areas while connecting the built environment as a whole.

Ankara; the capital of Turkey was one of the most planned cities until the declaration of Republic in 1923. The city is an urban formation having numerous planning and growth problems because of unplanned and fragmentally planned urban development. The first development plan of the city was prepared in 1929 by

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the German architect Herman Jansen that was selected by an international competition.

It is possible to observe the balanced distribution of urban open green spaces either in the urban development or its nearby surroundings. Besides, there is an ordered balance between the urban green spaces and the built environment as well as the proper land use as far as topography, morphology and microclimatic conditions are concerned. Jansen plan for Ankara has also given importance to urban aesthetics and carry the criteria for greenway planning.

Potential corridors identified through resource analysis for Ankara city were selected as greenways. Analysis was made due to visual qualities, biological characteristics, physical characteristics and environmental conditions of the whole city. Then, some axes were determined which have three functions namely movement, use and vision-experience so that these greenbelt axes became dominant landscape features providing linkage of key features or destination points.

The recreational use of İncesu Valley, Bend Deresi and the greenway planning of the naturally and culturally rich areas of the urban development are all reflecting the integrated and comprehensive land use planning of Ankara.

On the other hand, front garden necessity which is 10 m. in length for the constructions taking place on the 50 m. width main boulevard of Yenışehir, villa type of housing proposals with huge gardens and the various urban park and green areas were integrated in the whole city as the continuity of green area system of the urban development (Tankut, 1990).

The population of Ankara city has enlarged 100 times greater since 1920 and the settlement has grown from 250 ha. to 80.000 ha. physically so that, the spatial organization and land use of the urban area has transformed due to the social and physical changes in the city. As the result of these changes, 1920's old Ankara has become a vicinity neighborhood in the whole Ankara city pattern. Ankara; the capital of Republic that was created between 1930 and 1950 was reconstructed and suburb areas have covered the old Ankara on every side of the settlement. The city growth shows a steady development till 1970's. Than the city began to grow on both sides of the highway connections during 1980's and began to spread on a large area in those directions (Bademli, 1990).

City and Regional Planning Department of METU has made a study namely: Ankara from 1985 to 2015 proposing a structural plan for Ankara searching the macro form of the metropolitan area. In this project, the new settlement development is concentrated outside the existing settlement pattern shaped due to the topographic variations. The highly dense accumulation of structural development will be prevented by the decentralization of the urban development in the 35-40 km. surrounding zone around the city borders. The proposed greenway – greenbelt system for Ankara was the effective use of valleys as green corridors lying through

the city center. These corridors were thought as 8-10 km. in width continuing one another as a chain following the valleys circulating the whole urban tissue of Ankara city in order to clean up the air / climate of the urban area by the help of air movements created by the temperature differences between the urban fabric and the green corridors (Tekeli et al., 1986).

### **Discussion and Conclusion**

Rapid urbanization and technological developments in industry has brought environmental problems due to the varying natural and economic qualities of the countries. In Turkey the settlements confronting with environmental problems are mainly suffering from rapid and uncontrolled urbanization originating from migration from rural areas to industrial cities. As seen in Ankara, it results with the growth of squatter settlements and the decay in some parts of the urban tissue disregarding urban ecology by changing the natural character of the urban environment.

One of the most important solutions for improving the life and environmental quality of an urban area can be supplied by the preservation of ecological balance in that settlement. This can be supported by protecting natural and green areas and establishing green area systems and greenways that are planned both for recreation and nature protection purposes offering alternative recreational and cultural uses by preserving the natural value and formations. Actually, the greenbelt plantation areas in Ankara have taken into consideration as three main greenbelts. The greenbelt approach for Ankara was mainly based on the valley formations passing through the city center and the water surfaces situated outside the borders of the urban development. **Çubuk**, **Hatip** and **İmrahor** brook basins were proposed as greenways for Ankara city. Besides, open areas and green areas were also connected to the proposed Ankara greenway system for alternative uses.

The first greenbelt has started from the south of Ankara beginning from Atatürk Forest continues through Eymir and Mogan Lakes and water reservoir basins, İmrahor region passing through Hüseyin Gazi Mountain, Çubuk Dam Lake, Bağlum, İvedik, some parts of Macunköy and ended with Atatürk Forest Farm area. İmrahor Valley, Eymir and Mogan Lakes were connected to the urban green areas such as 50 Yıl Park, Kurtuluş Park, Abdi İpekçi Park and Atatürk Culture Complex, Atatürk Forest Farm area, Hippodrome and Gençlik Park forms a huge and continuous open area corridor combined with the compact settlement pattern limited by the topography in northeast to south axes of the city offers a linear macro form and city silhouette.

Especially, a comprehensive green way pattern by supplying the continuity of the first belt consisting İmrahor, Eymir, Mogan Lakes and water reservoir basins Hüseyin Gazi slopes and Çubuk Valley rural settlement areas was proposed.

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The second belt consists of Bayındır Dam Lake, Nenek, Tatlar, Mahmudiye and some parts of Susuz Village, than continues with Sincan, Osmaniye, Elvan, Bağlıca and Alacaatli.

Finally, the third greenbelt compromises Elmadağ, Hasanoğlan, Kırıkkale, Kurtboğazi Dam Lake and it's near environs, the slopes of Kızılcahamam Village facing to central Anatolian region and some sections of Haymana Village (Figure 2).

Another greenway corridor proposed for Ankara city is the Cultural Greenway consisting archeological and historic buildings of Ankara till Paleolithic period mainly situated at the old city center of Ankara. Ankara Castle, old Ottoman commercial buildings, mosques, Augustus Temple, theater building, Julian Obelisk, Roman Bath and Namazgah Hill were some of these focal points linked to the proposed Ankara greenway system as an interlinked culture way.

One of the most important focal point in the proposed greenway system is the Atatürk Culture Center Complex area located at the intersection point of green belts in the urban center forming the social, cultural and art activities of the city. Plantation works are continuing on the public treasure lands of the government. The establishment of greenways has to be formed not only by using the treasury lands, but also using the public and private lands in an organized, interrelated approach.

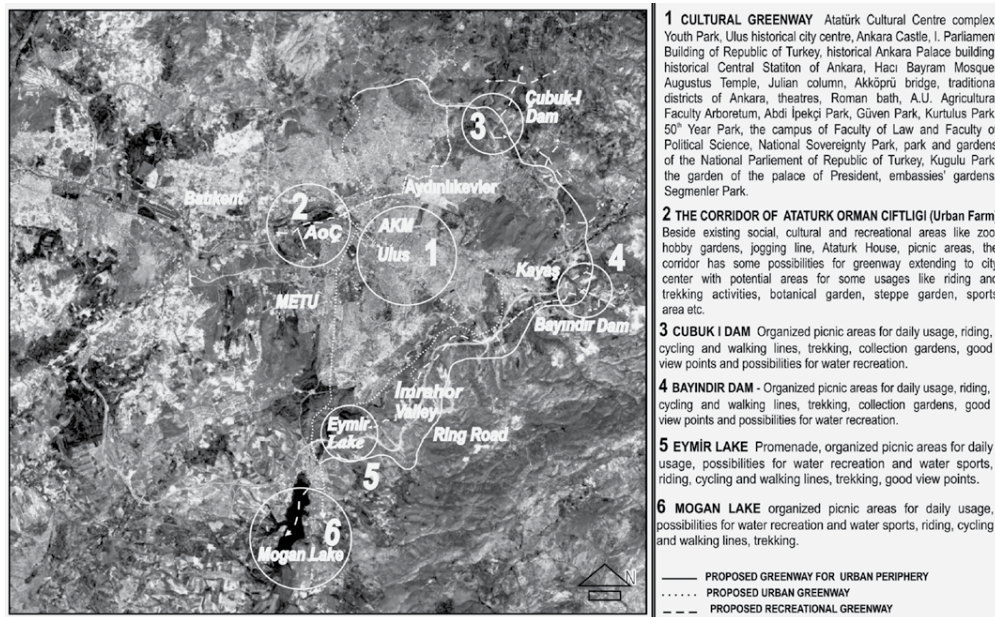


Fig. 2. Proposed greenway plan for Ankara

For that reason, a comprehensive greenway law has to be declared as in European countries in order to determine the exact uses and functions of greenways without disturbing the qualities of the green areas belonging to public and private sectors.

It is also possible to increase the recreational activities, biological conservation and the preservation of water basins by evaluating the ecological, aesthetical, economical and social criteria determining the urban pattern in an integrated comprehensive planning approach. Particularly, Mogan, Eymir and İmrahor Valley trio have great potential for such an ecological planning for greenway applications protect the ecosystem supply the regeneration of the lost ecological balance and the creation of open area corridors for various recreational uses.

Mogan and Eymir Lake basins have very fragile and balanced ecologic systems with their water sources, geomorphology, soil character, climatic properties, flora and fauna. İmrahor Valley following the valleys of the lakes and Elmadağ Valley systems has also the quality of being air corridors besides their water regime qualities. So, these continuing valley systems have the ability of air cleaning and act as climate regulators and air cleaners for Ankara city (Aydoğuş, 1995).

İmrahor settlement located in İmrahor Valley and the rural character of Mühye Village can be protected with its original form by giving some basic functions to the area. The abandoned brick kilns, artificial lakes can be integrated to the nature of the valley landscape. It is appropriate to use the valley as a green corridor recreation valley by forming focal points, terraces, picnic areas, collection gardens and walking trails. Eymir Lake and it's near environs was declared as a natural site and an open air museum for traditional Anatolian houses was proposed by METU combined with the recreational uses of Eymir Lake to supply the maintenance of the area.

İmrahor Valley, Eymir and Mogan Lakes related with 50. Yıl Park, Kurtuluş Park, Abdi İpekçi Park, Atatürk Culture Center Complex, Atatürk Forest Farm corridor can be an appropriate solution for greenway planning used for recreational purpose that extended / prolonged to the center of the city. Beynam forest, Kirmir River Valley, Karagöl, Kızılırmak River Basin, Kurtboğazi Dam Lake, the river basin passing through Kızılcahamam and Soğuksu National Parks, lake shores, valleys heights, natural corridors taking place in the outer belt of Ankara all have important potential for such greenway applications for the city of Ankara.

The main aim of Ankara greenway planning is to preserve the natural areas which were lost day by day, isolated or cut into parts patched at metropolitan scale for their continuity, to create recreational facilities for public use, to integrate natural, cultural and structural environment of the city formation. In addition to habitat protection and water quality, greenways are pursuing other objectives, including historic preservation using greenways to highlight the culture and the heritage of the Ankara city.

In conclusion, the development of urban greenways in Ankara has evolved, from a greenbelt approach to a more holistic greenway approach including ecologically based planning of natural systems having an aesthetic counter balance to urbanization.



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The greenway movement has to be evolved in every urban environment according to its own properties to organize and contribute the ecologically green area system of the settlements which can also be used multi-purposely for zoning and recreational purposes in urban environments as well as its nature protection and ecological resource qualities. Greenways are areas differentiated from the remainder of the landscape by an unusual potential for providing benefits to society without drastic alteration of their natural character. They are areas of environmental concern that shape regional and urban environments and perform natural system functions.

The original greenbelt idea shaping today's vision of greenways as expressed in Ebenezer Howard's London plan, describes a wide strip of rural lands, 5 miles or more deep, that defines the limits of the urban area and serves a protective role 'guarding' the rural hinterlands, delineating both city and country. However, although greenbelts are like greenways, they are not the same. Greenbelts primarily buffer and separate. Greenways are always linear and in addition to buffering, urban greenways invite people to travel and recreate along them (Fabos and Ahern, 1996).

Besides, they are offering a sense of place, protect ecologically sensitive or endangered corridors and bring economic benefits to an urban area which means bringing nature into the city. They break down the monotony of strip development and tie the neighborhoods together and act as a hedge against species extinction from global climate change which may also be a new frontier in outdoor recreation and ecology.

We need to create open spaces for people in urban areas in stead of expecting them to find it. That's where greenways are contributing.

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