

4.3 ECOCITY Győr

4.3.1 General information

Győr is one of the five traditional regional centres in Hungary outside Budapest. The number of inhabitants is 130,000 in the city, totalling 200,000 together with the agglomerated villages. The city is one which has gained from the political and economic transition of the country. Due to its location in the corridor between Vienna and Budapest, its favourable surroundings, diversified economic structure and rich cultural heritage, it was the first city to recover from the depression of the economic and structural changes. These changes had important consequences for the city structure: the service functions of the central area have been growing; the conflicts between traffic demand and the protected city structure have become more severe; new shopping centres have been built, partly outside the built-up area; and new industrial developments have been located outside the city, while the hundred-year-old traditional industries have created increasing environmental problems.

The concept for the ECOCITY is a long-term development proposal for the re-use of a 100-hectare industrial area along the Moson-Danube River which borders the historic city centre. The concept provides the possibility of extending the centre, helping it to keep functioning and at the same time preserving the central area with a number of protected historical monuments. This re-use of the industrial areas in the city is a means to preserve the equilibrium of the city structure. As early as 1994, an idea for the development of a Water City emerged. Due to the strategic decision of the site's owner (Rába plc) in 2000 to gradually cease industrial activities here and to re-use the area, the planning process has recently speeded up.

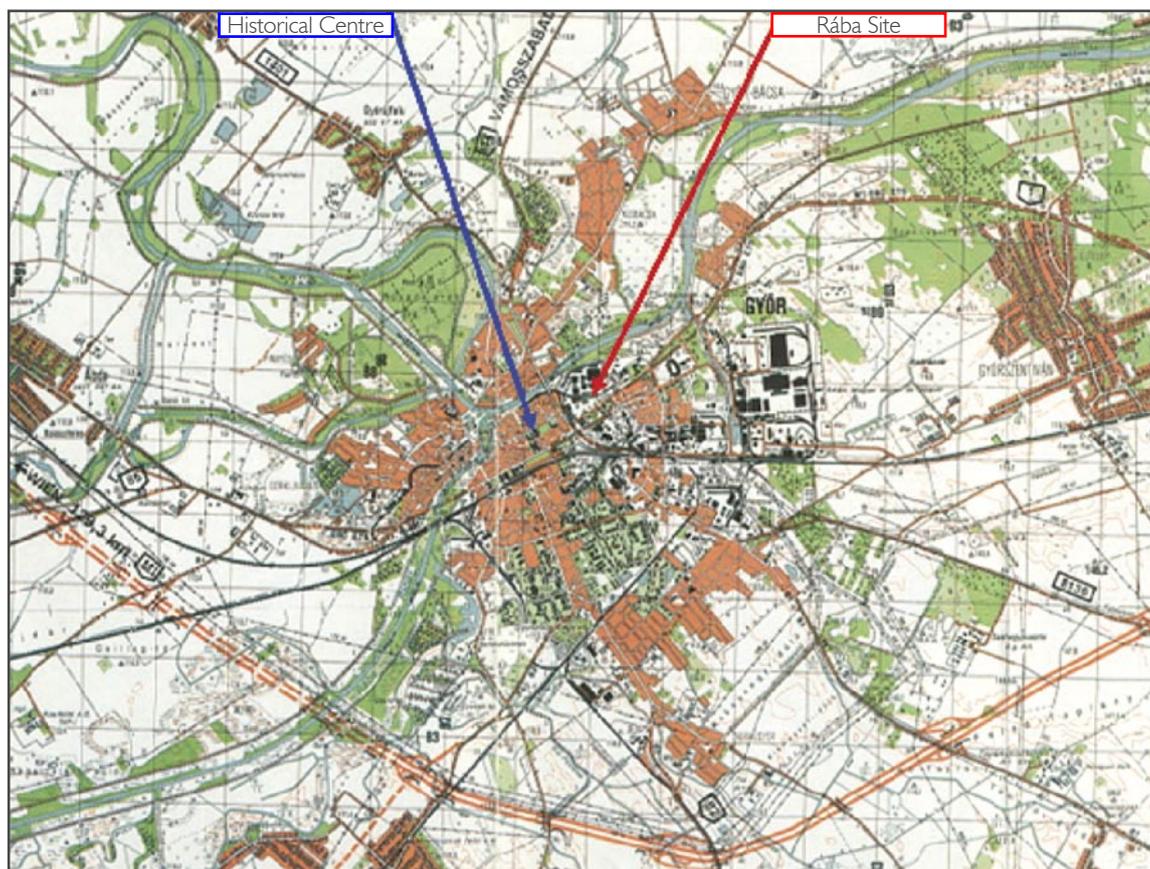


Figure 4.3.1
Location of the
historical centre
and the planning
site

4.3.2 Project description

Urban structure

The urban structure of the area covered by the plan responds to the following aspects of the location:

- Its proximity to the green belt of the Danube
- The existing internal infrastructure due to former industrial activities
- Its location very close to the city centre
- The development of a shopping centre on its south-western border

Two investors have emerged so far. One will build the shopping centre on the south-west corner of the site. The preparation of the investment is in an advanced phase – detailed plans have been made and former office buildings as well as some warehouses have already been demolished. The other investor intends to develop a high density residential area with some 6,000 flats in 4-9-storey blocks, resulting in around 11,000 inhabitants. The plans also include facilities for about 5,000 jobs.

The location of the site is very favourable in terms of accessibility not only to the historical centre, but to the region as well. However, a main road runs between the site and the inner city. The site extends along the River Danube where, between the river and the residential area, a park is planned for recreational purposes. Some existing industrial buildings will be converted to other functions (e.g. canteen → library; power plant → museum; air-raid bunker → energy storage or museum). Some symbolic structures such as the water tower and the school will also be preserved.

At the quarter level, which is the whole newly built-up area, the neighbourhoods are organised around four or five city squares which will all be connected to the surrounding landscape and the water system by the planned 'green fingers'. On these main squares the college, the library and an administrative centre will be located. Each square has its own identity and the two squares on the city side will have wider public functions. Between the squares, an urban connection formed by the main system of avenues and boulevards fulfils the 'city of moving and meeting' function. This is where buses, bicycles and cars circulate, as pedestrians meet, move and walk along.

This basic urban structure provides cooling in summer, as the main winds pass along the 'green fingers' when they blow into the area. The 'fingers' constitute the connection running south to north to the water and give the area its character as a location for ecological housing. The residential sites are connected with each other via these green fingers which meander through the area. Pedestrians and cyclists can walk and ride along these green corridors and can reach the roads on the banks of the river easily.

Transport

A complete pedestrian, cycle and bus network has been developed. Multi-storey car parks for each block have been planned to accommodate 200-250 cars. On street parking will not be allowed except for visitors and short-term parking for services.

Footpaths and cycle paths provide the main transport network at the quarter level, providing the shortest routes to the main destinations. For example, people are likely to walk or cycle to the primary school, as it is nearby and safe to walk to. The neighbourhood layout with central courtyards, crescents and squares focuses on pedestrians and cyclists. As the pedestrian and cycling routes lead from houses to other functions and services, the structure will result in more walking and significantly more cycling than a standard layout designed for cars. The paths run both between and through the building blocks and the resulting openings provide good bioclimatic conditions at the same time. There are several main axes planned for cyclists. These routes are integrated into the cycle network of the city. Of the three possible main cycle lanes on the existing roads to the city centre, the shortest one will be fully developed. The profile will be (re)designed in such a way so that cyclists are prioritised and car speeds are reduced. Along the Danube, a cycle path will provide connections to the green spaces, the sports grounds and the city centre.



Local Ecocity Masterplan U P 2

Ecocity Győr Contact number: EVK4-CT-2001-00056 Date: 2004. 05. Designers: Dr. Iván Németh -Dr. Péter Tóth - Zoltán Pozsgai -Attila Takács

Figure 4.3.2:
Masterplan Győr

The population density is high enough for efficient and cost-effective public transport provision. A city bus route will operate to connect the historical city with the shopping centre in the south-west corner of the site. A new bus route (at first one and later two routes) will form an integral part of the public transport network. One of the routes will run to the west on the main arterial road, passing by the city centre and railway station and thus connecting the site with other residential districts. The other will go to the south-eastern industrial districts. Distances to public transport stops do not exceed 300m from anywhere within the area.

The main access to other parts of the city for cars is provided by a main avenue which serves as a collector road and which has a capacity of about 20,000 vehicles per day. By designing this and other urban roads in such a way that car traffic is urban-friendly, the road system will support sustainable mobility. The redesign will be undertaken in accordance with the principles of the 'drive slow – go faster' method. The characteristics of the avenues are: low driving speeds (about 40 km/h); narrow lanes with nevertheless high capacity due to special junction design; continuous flow of traffic due to absence of traffic lights; and mixed use of lanes where possible. Traffic safety in the area is not based on traffic lights but is achieved first and foremost through street design, which controls speeds and makes clear who has priority. The main collector road has a special layout with separated narrow lanes and a wide central reservation where there is enough space for a footpath or cycle path and even kiosks.

Other streets are designed so that driving speeds will not exceed 20 km/h. As speed is slow due to the narrow lanes, pedestrians and cyclists will have 'natural' priority, whereas cars are guests. Drivers and pedestrians will have eye contact. Thus the quarter is a safe place to cycle and walk and children can play in the streets.

Energy and material flows

During the design of the new quarter within the framework of the ECOCITY project the principal aim in relation to energy and material flows is the passive utilisation of solar energy.

Plans for the passive utilisation of solar energy at city quarter level include:

- Encouraging the utilisation of solar energy through different building methods
- Creating a road and pathway network which is designed so that the orientation and width of streets and paths and the planting structures implemented ensure that prevailing winds are interrupted to reduce the air-blast effect without blocking adequate ventilation of the quarter

Most of the time winds in the area blow from the north-west and somewhat less frequently from the south-east. This gives a unique opportunity to combine the cooling effect of the wind with the basic ecological structure. 'Green fingers' planted with trees running north-eastwards lead directly to the green banks of the Danube and stretch deep into the planning area.

Plans for the passive utilisation of solar energy at building level involve orientation of façades and glass surfaces, heat storage capacity and control of energy flows in the buildings.

Two options for heating and hot water supply are being considered:

- Alteration of the existing boiler house operated by the current site owner, Rába plc, to house two biomass furnaces (wood chips or pellets) with 7MW performance complemented by one gas heating plant with 3MW performance and a solar energy collector field with a 6,000m² surface area
- Use of waste heat from the nearby distillery

The 'green fingers' are used as rainwater collectors and they will serve as main conduits for the rainwater drainage system. The rainwater will soak the edges of the 'green fingers' and trees and other plants will grow there. At times of heavy rainfall the water will flow into the Danube and at times of high water a stop-valve prevents the Danube water from flowing into the area.

Socio-economy

The ECOCITY project also means designing a city or neighbourhood of which the human network is an implicit part. As Rába plc is one of the most important factories in the city – not just economically but also emotionally – notable elements of the Rába Museum will be preserved and displayed in the old bunker. A new city library will also be established. Furthermore, valuable monuments of the site (e.g. statues) will also be preserved.

The new quarter consists of about 10 urban neighbourhoods, each comprising a little under 500 dwellings. The neighbourhood is the smallest spatial and liveable unit in which public spaces and functions can be organised. Conditions should be such that the people will give their own meaning to the quarter and neighbourhoods, thus shaping their identity. Each neighbourhood is organised around a central courtyard or square in a unique way. Here, people will be attracted by service functions such as a nursery school, a mobility centre, a primary school, a bicycle shop, a neighbourhood medical centre or a social meeting space. Sheltered living for the disabled and other social provisions might also be grouped around the central square. In the quarter several forms of housing are available (in terms of physical and social features and types of ownership). It is a plural world for owner occupiers and tenants, single people and families, young first-time buyers and older ‘empty nesters’ and offers affordability for many purses.

4.3.3 Project outcomes – key elements

| Key element 1 | Key element 2 | Key element 3 |
|---|--|--|
|  <p data-bbox="140 1346 486 1368">Urban renewal on a brownfield site</p> |  <p data-bbox="598 1346 794 1368">Sustainable mobility</p> |  <p data-bbox="981 1346 1182 1368">Natural environment</p> |
| <p data-bbox="129 1400 491 1601">Through the re-use of the industrial area along the Moson-Danube River, the plan provides the possibility of extending the neighbouring city centre, helping to maintain its central functions and to preserve a number of historical monuments.</p> <p data-bbox="129 1632 491 1720">The site is located very close to the city centre providing favourable conditions for accessibility.</p> <p data-bbox="129 1751 491 1892">The intention is to develop a residential area of qualified density with around 6,000 flats in 4-9-storey buildings. In offices, commercial facilities, etc. a total of 5,000 jobs will also be created.</p> | <p data-bbox="507 1400 874 1630">A dense network for pedestrians and cyclists will be constructed; as pedestrian and cycling routes lead from dwellings to other functions and services, this structure will result in more walking and significantly more cycling than a standard layout designed for cars.</p> <p data-bbox="507 1662 874 1832">Urban boulevards which are characterised by low driving speeds, narrow lanes with high capacity due to special junction design, continuous flow of traffic due to absence of traffic lights and mixed use of lanes where possible.</p> | <p data-bbox="895 1400 1257 1512">‘Green fingers’ planted with trees running north-eastwards lead directly to the green banks of the Danube and stretch deep into the planning area</p> <p data-bbox="895 1547 1257 1659">The site extends along the River Danube where, between the river and the residential area, a park for recreational purposes is planned..</p> <p data-bbox="895 1695 1257 1865">Most of the time winds in the area blow from the north-west. This gives a unique opportunity to combine the cooling effect of the winds with the basic ecological structure of ‘green fingers’.</p> |