

PREHealth

# Designing health into urban green and blue infrastructures – The need for action in planning, policies, and research

National Report Hungary



Erasmus+



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## Terms of References

The national report has been prepared in the frame of the project „Promoting education and jobs to enhance the use of urban blue and green infrastructure for health and fitness” (PREHealth). The primary objective is to give an overview of the Hungarian national literature, examining health development and public space use, as well as to introduce the policy issues concerning the city of Győr.

## Project Partners

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## Abstract

The health condition of the Hungarian population, and the features of the physical activity (and inactivity) justify, how necessary it is to create measures, which can offer possibilities to increase the physical activity and active recreation. The following report will give a national overview. The health condition of the Hungarian population and the features of the physical activity will be shortly introduced. The national literature review also includes the presentation of those measures, which are able to encourage the physical activity in an urban environment; furthermore it reveals the connection between public spaces and health development. A chapter of the report will review the policy and practice documents of Győr, where the definition of public spaces, public parks and green areas will be also determined. Regarding the city, the importance of the health issues is presented, as well as those methods and tools which aim to improve it. At the end of the report we will highlight the most important findings and give a basis for further discussion.

## Acknowledgements

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# 1. Introduction and challenges

Based on demographic and public health data it is to be established, that the Hungarian society possesses one of the worst indicators among the OECD countries, whether we take into account the life expectancy, or the number of years spent in health (Neulinger 2007). It is important to emphasize, that the physical inactivity of the adult population has caused nearly 300 billion HUF damage for Hungary in 2010 (Csizmadia 2016a). It can be stated, that the national health problems are mostly related to the health behaviour. The critical social groups in Hungary regarding the health behaviour are: seniors, Roma people, undereducated, residents of smaller settlements and socially excluded groups (like those living in extreme poverty, or disabled people). At the same time, health literacy of the seniors is one the biggest challenge.

By looking at the national health conditions and physical inactivity, it might not be surprising, that there is a growing demand also in Hungary to create more healthy cities. More and more positive examples can be seen (increasing market of healthier food, appearance of conscious, health related physical activities). The WHO Healthy Cities Project (since 1987) is a good example, which aims to encourage perspective targets from the side of urban policy makers in the field of health and sustainable development, and to contribute to the physical, mental and social well-being of urban people. The cities involved in the programs have elaborated and implemented various strategies: city health profiles, health development strategies, and healthy environment models. Hungary has joined the program in 1987. At the moment, the initiative has 18 members, including also the pilot city of the research Győr (Laki 2016). Besides the different programs, campaigns and infrastructural investments, public spaces and urban green areas can play a leading role in health development. The question is, whether there is enough attention and devotion from the side of the decision makers as well as the urban residents to recognize and take advantage of this potential.

## 2. Approach

National literature review was the primary methodology that has been used for this report. It is important to mention, that so far only very little research has been made regarding the topic examining health development and public space use in Hungary. Only a few studies have been found, in which both the role of the public spaces as well as their positive health benefits was mentioned. Furthermore, these literatures are only justifying the fact of the positive relationship, rather than its scope. Those empirical researches are currently missing, which could reveal to what extent the public spaces and green areas can have an effect on the population's health conditions.

In the case of Győr, those development policies and strategies have been examined, which are either connected to the local population's health development, or to the improvement and roles of public spaces. Similarly to the national policy documents and literature, it can be emphasized in the case of Győr, that the strategies are dealing separately with the issue of health development and the improvement of public spaces. The link is missing, which could connect these two development areas. Furthermore, an expert interview has also been conducted, with the Chief Architect of the city, and with the Urban Development Department of Győr. In the interview, the following topics were highlighted: the tasks of the department regarding the public spaces, the process of designating new open spaces and green areas across the city, how they plan to regenerate or network the existing open spaces, and what strategies exist to encourage people to use the open spaces for active recreation and active travel. The experiences of the expert interviews have also been integrated in the policy and practice chapter of the report.

## 3. Main findings

### 3.1 Health profile of Hungary

The life expectancy has been constantly rising throughout the twentieth century in Hungary, similarly to other countries of Europe (Figure 1). Among the EU countries, Spain had the highest life expectancy with 83 years in 2015. The Union average is also above 80 years since 2011, although Hungary is below this rate. The life expectancy in the country exceeded 70 years shortly before the transition in 1990, however since then it has increased to a lesser extent, and reached 75,7 years in 2015. Only Romania, Bulgaria, Latvia and Lithuania possessed a lower value than that from the EU countries.

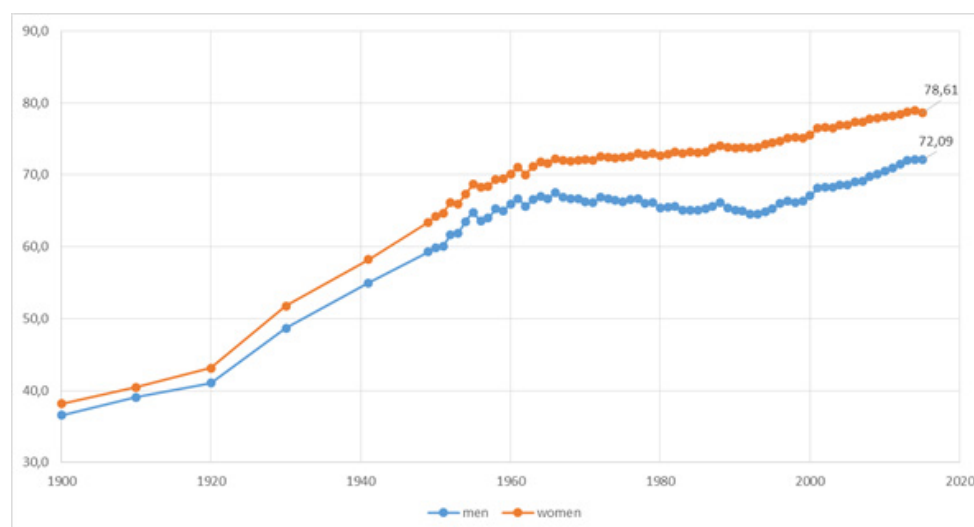


Figure 1: Alteration of life expectancy in Hungary 1900-2015. Source: own edition based on the data of Central Statistical Office.

Unfortunately, the average health condition of the Hungarian society can be considered as unsatisfactory. It has happened that the country had the worst mortality rate in Europe, and even today only a few other countries (for example Ukraine, Russia, or the Baltics) have worse prospects. A survey from 2014 shows, that 89% of the adult Hungarian population considers its health as satisfactory, while almost two thirds think that it is good (KSH 2015). However, a significant part of the population is struggling with some kind of diseases. The most common chronic illnesses are high blood pressure (31%), waist and spine pain (21%), and cardiovascular diseases. Frequently diagnosed diseases are allergy (12%), as well as diabetes affecting 8% of the population (Egészségjelentés 2015).

More than half of the adult population is overweight, and only every sixth is doing exercises corresponding to the WHO recommendations. The alcohol consumption is very high, in every twentieth case it is damaging health, and every third person is smoking. (Egészségjelentés 2015). Although diseases do not necessarily mean limitations in everyday life, still 9,2% of the population consider themselves heavily, while 20% moderately disabled. In the case of seniors (older than 65 years) already the self-sufficiency causes frequent problems. Half of the adults have problems with their seeing, 7-8% with their hearing, and 18-20% feel that they are restricted in their mobility. Furthermore, it is also a fact, that the lower income, the social and economic lags result in worse health conditions (KSH 2015). Most of the chronic diseases are obviously in connection with the unhealthy and sedentary lifestyle.

Four-fifths of the Hungarian population believe, that the key to health preservation is, that individuals

do consciously for their own health. There is a significant difference regarding the judgement of healthy lifestyle in terms of educational attainment: with a higher education degree much larger proportion thinks that the health conscious lifestyle is important, than with a lower education (Egészségjelentés 2015). One feature of the health conscious lifestyle is the presence of physical activity, which will be examined in the followings in two categories: the leisure activities and sport, and the active travel (like the pedestrian and bicycle traffic).

## 3.2 Physical activity in Hungary

### Leisure activities and sport

Hungarian people like to refer to Hungary as a sports nation, claiming this based on the number of medals won in Olympics, and on the illustrious position on the Olympic medal table. Meanwhile, 70% of the Hungarian population do not participate in any sport activities (Gáldi 2004). Regarding the leisure activities it can be stated, that in the last three decades, the rate of the passive, motionless free time activities (like watching TV or using the computer) have significantly increased in the time use of Hungarians.

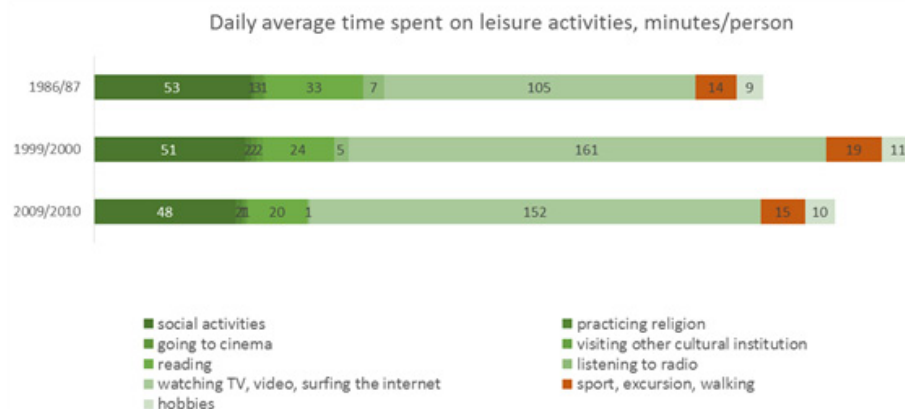


Figure 2: Change in the time used for sports and other free time activities in Hungary, 1986-2010 (minute/person).  
Source: own editing based on KSH 2012.

As it is visible on Figure 2, Hungarians spend more than half of their free time passively, by watching television, or surfing on the internet. By comparison, the significance of the dynamic activities is at a low level. The time used for walking, excursions or sports has not changed significantly in the last decades: Hungarians spend less than 20 minutes daily with such activities. If we examine the sport activities according to different socio-demographic factors, the followings can be stated regarding the Hungarian population (Table 1). Two and half times more men do sports or physical training than women. The average time spent on sports or physical training is not influenced significantly by the residence, however, the rate of those, who do dynamic activities is higher in bigger cities, than in other, smaller settlements. The average time spent on physical training is decreasing significantly with the passing of age. The youngsters (age 10-19) spend 2-3 times more time on sports and dynamic activities, than other age groups. It is also true, however, that this rate is significantly influenced by the obligatory physical education classes since 2012 in the public education.

	average daily time use minute/ person		proportion of those doing activities %	
	walking, excursion, sport, physical training	from this sport and physical training	walking, excursion, sport, physical training	from this sport and physical training
<b>Men</b>	19	9	18,1	9,7
<b>Women</b>	15	3	12,8	4
<b>Budapest</b>	21	7	19,9	8,3
<b>County seat</b>	17	7	18,2	8,3
<b>Other cities</b>	17	6	17,1	7,1
<b>Other settlements</b>	14	7	14,4	7,2
<b>age 10-14</b>	47	26	37	25,6
<b>age 15-19</b>	31	18	31,8	18,9
<b>age 20-29</b>	17	9	18,2	12,3
<b>age 30-39</b>	13	5	12,3	6,5
<b>age 40-49</b>	12	5	12	6,1
<b>age 50-59</b>	12	2	12,3	4,2
<b>age 60-74</b>	14	3	16,2	3,5
<b>age 75-84</b>	14	1	20,3	1,8
<b>Employed</b>	12	6	12,7	7,3
<b>Pensioner</b>	15	2	17,2	2,8
<b>Maternity leave or fulfilling domestic tasks</b>	9	1	10,5	1,1
<b>Student</b>	34	19	31,1	19,7
<b>Unemployed</b>	19	6	15,8	6
<b>Primary school and under</b>	20	9	19,3	9
<b>Vocational training</b>	13	4	12,8	4,7
<b>Secondary school</b>	15	6	16,3	7
<b>College, university</b>	19	8	20,3	10,3

Table 1: Rate and time spent on walking, excursion, sport and physical training in different socio-demographic groups (2010).  
Source: own editing based on KSH 2012.

Whether someone is more likely to do physical activities is also influenced by the employment background. It is clearly visible, that the students show in all respects higher activity, than other groups. Although groups with more free time (like pensioners or unemployed people) can spend more time on dynamic activities, sport and physical training does not have much importance among the members of these groups. It can be highlighted, that persons on maternity leave (for example mothers with small children) spend the least time on any kind of physical activities. The reason for this can be that they have no time for it, but also that there is currently not much support and possibility in Hungary for the

sport activities of mothers with small children. The examination of the educational background also shows interesting correlations. The higher education also goes together with a higher rate of physical activities, but the rate of physical activities is similarly high among those with the lowest education level. According to a national survey in 2015, the most popular sport is cycling. It is followed by swimming, handball, basketball, body building and football (Kovács et al 2015).

### Active travel

Besides the leisure activities and sport the everyday physical activities also include the transport related movements (like getting to the workplace or school). It is a fact, that the motorization and the daily commuting has significantly changed the society's traffic habits in the last decades, which resulted in the growth of public transport, and most of all the private car use in Hungary. It is clearly visible in Table 2 that the pedestrian traffic is presented by and large to the same extent everywhere. The average time spent on walking is around 20 minutes daily.

	average daily time use, minute/person		proportion of those doing the activities %	
	pedestrian traffic	bicycle traffic	pedestrian traffic	bicycle traffic
<b>Men</b>	19	6	41,7	13,4
<b>Women</b>	22	5	48	11,7
<b>Budapest</b>	21	1	45,2	1,3
<b>County seat</b>	22	4	48,3	7,9
<b>Other city</b>	21	8	43,9	18
<b>Other settlement</b>	20	6	44,3	15,3
<b>Total</b>	21	6	45	12,5

Table 2: Rate and time spent on pedestrian and bicycle traffic in Hungary (2010).  
Source: own editing based on KSH 2012.

In the case of cycling, there are far larger differences. Only 12,5% of the respondents stated, that they are cycling (although in this case the office purposes were in focus, and not the leisure time bicycle use). The responds vary regarding the different settlement types. The smaller a settlement is, it is more likely to have bicycle-users among the local population. While in the capital city only 1,3% have stated, that they use bicycle, this rate is 18% in smaller cities and 15,3% in other settlements. Although, it is natural, that in bigger cities the private cars and the public transport use come into greater view because of the longer distances.

The different sports and other leisure activities drain the body in diverse ways. It is not all the same, whether the burden is long and durable, or it only takes a little time. Furthermore, it also makes a difference, how big effort someone has to make during the activities. According to a Eurobarometer survey in 2014, it can be stated, that more than half of the Hungarians do not make big or medium efforts (i.e. sport or dynamic physical activities), however, this rate (52%) is better than the EU average. Presumably, the reason behind this is that most of these activities are related to working activities, and not to health related behaviour. (European Commission 2014)

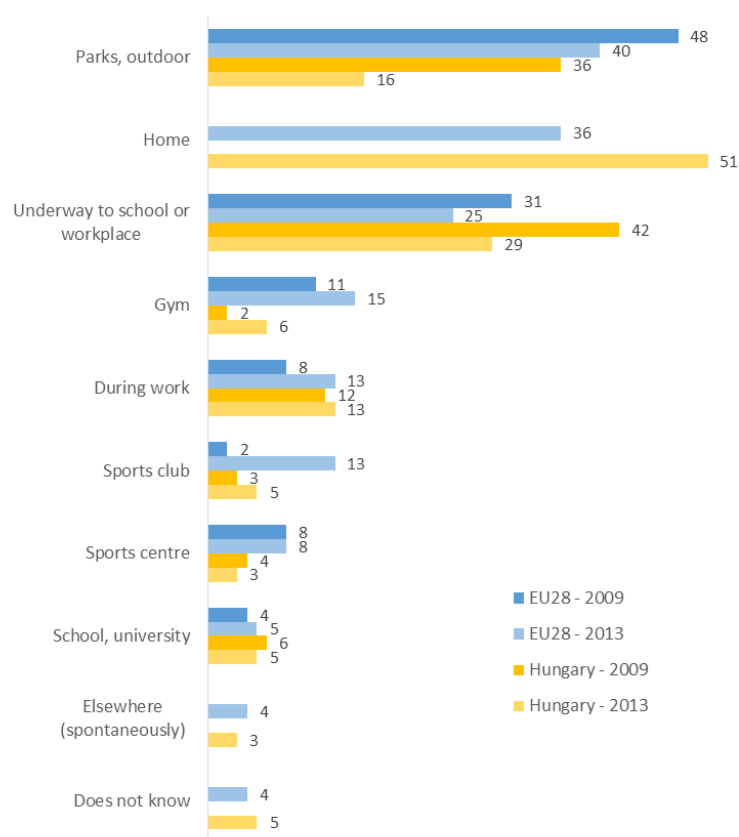


Figure 3: Frequency of mentioning different locations to do sport and other physical activities, 2009-2013 (%).  
Source: own editing based on European Commission (2014).

The latter statement is also confirmed by the data, which presents the location of the physical activities. While in Finland more than three quarters of these activities are done outdoors (in parks for example), this rate is only 16% in Hungary (with the smallest answering rate among the participating countries in the survey). Since 2009, the rate of outdoor physical activities has declined everywhere in Europe, but it has decreased to the greatest extent in Hungary, where this proportion was 20% higher in the previous years (Figure 3). By contrast, more than half (51%) of the Hungarian respondents have stated, that they rather do their sport and other physical activities at home. This shows high similarity with the answers of other Eastern European countries (European Commission 2014:38). It can be stated furthermore, that the physical activities done underway to the school or the workplace have declined during the last few years; however, it is still above the EU average.

Concerning the motivating factors of doing sports, it is to be established, that examining the total Hungarian population, the strongest motivation factor is keeping good strength, followed by relaxation and entertainment, and the love of sports. However, in different demographic groups these motivation factors appear with an altered emphasis. For women, opposed to men, sport is rather a tool for achieving a target, rather than the purpose itself. For them, the biggest motivation factor is weight control, overtaking recreation and entertainment. In turn, for men sport also goes together with company and friends, thus for them, sporting activities can also be understood as community involvement. According to the Hungarian population the disadvantages of sports and physical activities are that they are time consuming and tiring, furthermore they are boring and expensive (Neulinger 2007).

## 3.3 Supporting environment and policies for a healthy lifestyle in Hungary

Several researches prove that the built environment has an indirect effect on health, by influencing the health behaviour. The effect of the built environment is reflected in the motivation, or on the contrary, in the restriction of physical activities. Different examinations also show that urban rehabilitation processes can improve the subjective health condition of the affected population already in the short term (Csizmadia 2016a). This means, that the positive changes of the built environment can have an effect on life quality, which occur mainly in the reduction of cardiovascular, cancer and respiratory diseases, as well as mental disorders. The proper settlement planning and the growing green areas are able to contribute to the health development and well-being (Csizmadia-Szűcs 2016). The formation of the city has an effect on health, through the physical, built and social environment and through the access to services. According to the strategy of the WHO („Physical activity strategy for the WHO European Region 2016–2025“), the mission is to ensure a supporting environment, which motivates physical activities, by offering an attractive and safe environment, accessible community spaces and appropriate tools (Csizmadia 2016b).

Intervention area (urban development)	Measure	Expected impact
Parks, green areas, recreation spaces	Building safe and clearly visible cycling and pedestrian routes in parks and public spaces	Increase in the use of alternative modes of transport
Parks, green areas, recreation spaces	The green areas are in 10 minutes walking distance from the residence areas	Increase in the number of green area users
Parks, green areas, recreation spaces	The parks have walking trails, running tracks, sports courts and drinking fountains	Functional expansion of the public spaces, increase in the number of public space users
Parks, green areas, recreation spaces	When developing a park or a green area, the cultural needs and the age groups of the local population are taken into account	Developing land use mix areas
Playgrounds	On the playgrounds it is also possible to do sport activities	Developing land use mix areas
Community spaces, streets	Lighting installation on those areas, which are suitable for physical activity	Incitement of physical activities
Playgrounds	Ensuring playful ways of physical activities for children and youngsters	Incitement of physical activities of youngsters
Community spaces, streets	The community spaces are developed along popular pedestrian zones and public transport stops, and they are also easily accessible by bicycle	Increase in the number of public space users
Programs to make the street view attractive	Organizing programs focusing on pedestrians (charity walking, road closures from car traffic)	Awareness raising, involving the local community
Cycling paths	Developing alternative cycling pathways leading through green areas (for example parks)	Increase in the use of alternative modes of transport, increase in the number of green area users

Table 3: Possible measures for developing positive relation between built environment and health development. Source: own editing based on Csizmadia-Szűcs (2016).

Recognizing this, the National Health Development Institute in Hungary has elaborated an overview list, which can help to tackle the present-day public health challenges. The aim of the list is to support active lifestyle, and the development of a healthier built environment. The list is focusing on two main areas: the settlement development and the measures supporting physical activities. Regarding the settlement development the list contains such elements, which facilitate the active lifestyle and the preservation of health. Table 3 presents those built environment measures, which are focusing on the connection between health development and the improvement of public spaces, community places.

The term of active design and land use mix can also be connected to the topic of health development in urban built environment. The term of active design can be interpreted, as different planning policies and measures, which are directed to develop a physical exercise supporting environment. This includes stair use in buildings, or the use of community travelling modes, as well as other incentives for active leisure time spending. The active design also promotes the expansion of green areas in urban environment. Namely, public parks have a great role in fighting stress and exhaustion. They also improve social interaction and cohesion, furthermore by decreasing the air pollution, they also contribute to a better health and well-being.

An increased physical activity level can also be facilitated in the urban development with the land use mix. It means in the practice, that not only residence areas, offices, schools and shops are placed in a single urban area, but also cultural and community spaces, and recreational areas. For example placing schools near residence areas can encourage the youngsters to walk to school, this way supporting the daily physical activities among schoolchildren. The land use mix can also have a positive effect on the physical activity of seniors. The aim is to have a recreational area about 10 minutes walking distance in

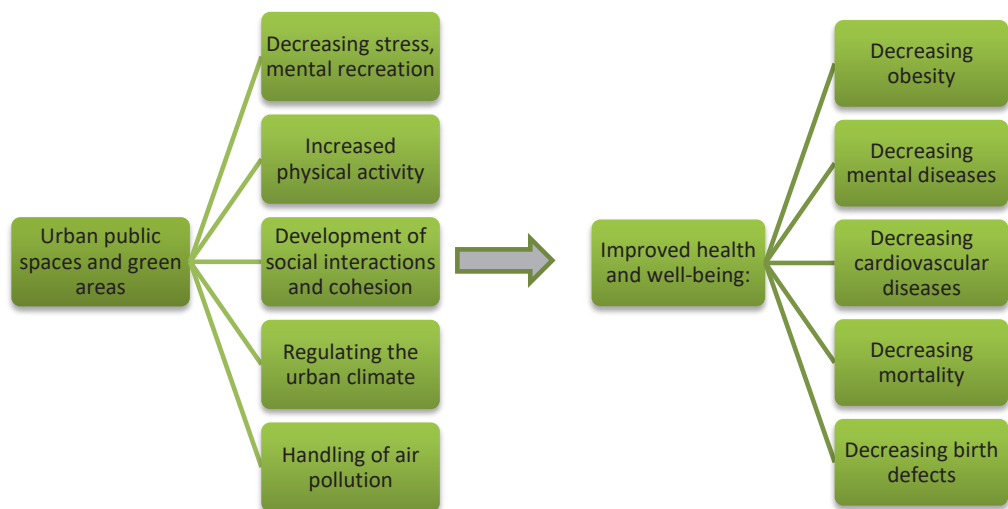


Figure 4: Effect of urban public spaces and green areas on health. Source: Csizmadia (2016b).

every district (Csizmadia 2016a).

Urban public spaces and green areas can have several positive effects on the improvement of health condition (Figure 4) on one hand through the enhancement of physical activities, on the other hand through the recreational and social impacts (Csizmadia 2016b). Further advantage of using public spaces is, that physical activities and recreation will be possible for the local population at a very little (or zero) financial expenditures, which can have a stimulating effect. From the side of the decision makers it can be mentioned as an advantage that by relative low investments costs (like building running tracks, drinking fountains, installing lighting), positive health related changes can be achieved. Public spaces are not only suitable to enhance physical activity, but they can also function as community spaces. This way, they are also effective against stress and depression, they improve mental health. Furthermore, the green areas within the public spaces have a positive effect not only on the health, but also on the environment: they can improve the air pollution and the urban climate.

According to the COM-B model (Figure 5), the capability (C), the opportunities (O) and the motivation (M) jointly influence the behaviour (B). If we apply this method to health related behaviours, it can be stated, that only the individual aspects (like motivation or capability) are not enough for the change. The social and physical environment also has a great influence. This is why comprehensive programs, policies and interventions are needed, which are able to guide the social norms and habits in a positive direction, and which facilitates the health friendly environment (Egészségjelentés 2015).

In the last 5 years there have been several concrete measures also in Hungary in order to compensate health loss. Good example is the support of healthy nutrition through different regulations (like making the canteen meals healthier, restricting soft drinks in school buffets, or impose tax upon food containing trans-fat), or the restriction of smoking in public places, and the limitation of access to tobacco products. Health-related measures, which are in connection with the need to increase physical activities, have also taken place. According to the National Mental Health Development Strategy, the most effective policy measures which are able to encourage the physically active lifestyle are the followings:

- Warning for the use of stairs.
- Creating available places and possibilities that are suitable for physical activity.
- Physical education classes at schools, with well-educated PE teachers.
- Increase the time spent on physical activities among students.
- Complex employment approach, which includes training, the support of employer and employees, and the necessary tools for physical training (Matson-Koffman et al 2005).

The National Mental Health Development Strategy indicates the “community places” as suitable locations to encourage physical activities. The strategy recommended the elaboration of an evaluation system, which would grade the public parks and open spaces regarding different features, which are essential for physical activities. Furthermore, the strategy also suggested planning future interventions, which are able to develop the public spaces suitable for physical activities (Mental Health Development Strategy, 2007). However, there is no further information about, whether these suggestions were realized in practice.

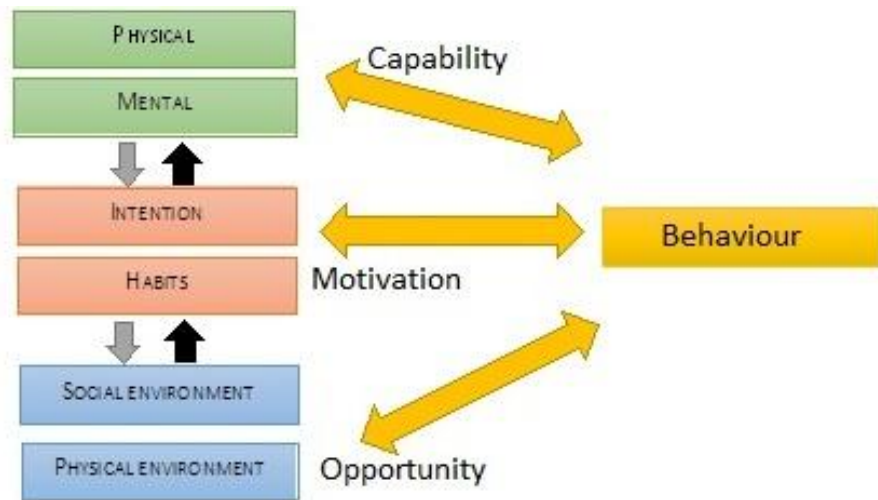


Figure 5: COM-B model: system of the behavioural change.  
Source: Mental Health Development Strategy (2007).

Concrete practical implementation was the introduction of everyday PE classes at schools since 2012. The 1st, 5th and 9th classes (both primary and secondary education) were involved at first, in an ascending system. Another health related intervention was the installation of 62 health development offices throughout the country, which was supported by 900 million HUF governance subsidization in 2015. The main purpose of these offices is to give support in health education, giving guidance on exercises or healthy nutrition, organising lifestyle changing programs, and raising awareness for health screening. In October 2014, the EU network dealing with health-enhancing physical activity (HEPA focal point network) has been established. The main task of the network is to assure the availability of national data concerning physical activities. In the frame of this network, the Hungarian State Secretariat for Sport, together with other sectors and professionals has established an intersectoral HEPA working group, which held its first meeting in May 2015.

Besides the regulatory measures and networks, a further example from Hungary for promoting healthy lifestyle and physical activity, is the Health Sport Park Program, which gave support for local municipalities to build different (40, 70, 90 or 150 square meters) sport parks. The application was possible until August 2016. In the frame of the program the municipalities do not get financial grant, but the requested facility/sport park will be built by the National Sports Centre. In 2016 1,5 billion HUF was available, in 2017 this sum will be 5 billion HUF. Out of the 3200 Hungarian municipalities 2300 has submitted an application, most of the proposals are still under evaluation. However, some of them have already been established, such as the Óbudai Sport Park in Budapest.

## 3.4 Policy and practice in Győr

### Open spaces and green areas

Regarding the existing definitions, it is important to mention, that although the idea of "green infrastructure" is known in Hungary, the concept is not used in the urban or regional development policies. The term of "blue infrastructure" is not used in Hungary; it has no available translation in Hungarian. Presumably the reason for this is that the green infrastructure in national context also integrates the natural values of the water habitats, therefore there is no real entitlement for the application of the phrase "blue".

According to the national regulation (LXXVIII Act (1997) on forming and protecting the built environment), public spaces are municipality or state owned lands, which serves the public use, and which can be used by anyone according to its purpose. Since this determination is very wide, it might be better to take a look at the definition of the territorial units called public parks in Hungary. As the government regulation about national spatial planning and building requirements (OTÉK) declares, the public park is a public green area (at least 1 hectare large) serving multiple functions, its smallest side is bigger than 80 meters, and which can be used freely by anyone. The purpose of the public parks is to ensure outdoor leisure pursuits, opportunity for sports, relaxation, playing or other physical activities. The optimal pedestrian approaching distance of public parks is a 1,5 km radius circle, while by public transport 3-4 km, which means about 20-25 minutes accessing time. However, public parks do not only have to make the most diverse leisure activities possible. They only operate properly, if they also offer attractive, unique and multilevel services (Tóth, Hübner 2007).

It is important to put a special emphasis on green areas. According to the national definition, green areas are public spaces, which are constantly covered with vegetation, and which serve the preservation and improvement of the settlement's climate and ecological system, as well as the recreation and physical training of the population. The total green areas of Hungarian settlements was 167 km<sup>2</sup> in 2015, which is almost as big as the total area of Győr (174,62 km<sup>2</sup>). The extent of green areas have declined from 169 km<sup>2</sup> between 2010 and 2013, however it started to grow again slowly in 2014 (Figure 6).

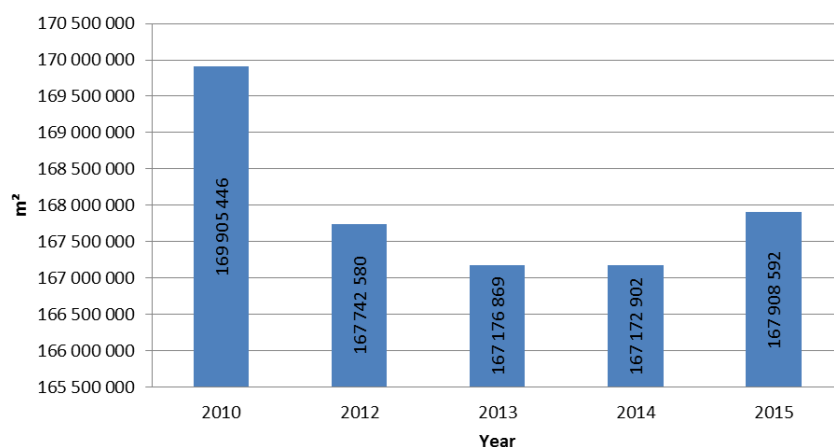


Figure 6: Total green areas of Hungarian settlements.  
Source: KSH-TelR.

According to the OTÉK, the municipalities have to take care of the formation of an integrated and connected green space system (consisting of vegetation covered sites, green areas and forests) through local building regulations, in order to protect and preserve the climate and the built environment. Therefore, green areas are part of public spaces, they are not intended to build in, they are covered with vegetation, and they serve the improvement of the settlement's climate, as well as the physical training and recreation of the local population. However, green areas are not to be confused with green surfaces. While the territory of public parks are considered as green areas, green surfaces include for example the trees along the street, the orchard or plants in the gardens of family houses, the green roofs, so in general all the small scale spaces covered with vegetation, without any independent function (Tóth, Hübner 2007).

As for Győr itself, almost 75% (around 13.000 hectare) of the total administrative area of the city counts as green surface according to the CORINNE land cover examination (2006). However, the territory of green areas (public parks, public gardens, playgrounds) are only counting for 1,2% (2.020 hectare). Between 2007 and 2015 the size of the green areas has been volatile: after some increase in the intermediate years, the ratio has declined under the 2007 level, thus the size of the green areas in the city has declined under 2,016 square km by 2015. (Figure 7)

Based on these data, the size of the green area per inhabitant is 16 square meters in the city. With this rate Győr is on the fourth place among the six big cities in Hungary, only Debrecen and Nyiregyháza can present worse indicators, i.e. less green areas per capita. Within Győr, there are considerable differences regarding the size and accessibility of green areas among the single city districts. The indicators of the Inner City and other, traditional inner residential areas are unfavourable; the average size of the green area per capita in these areas is quite low.

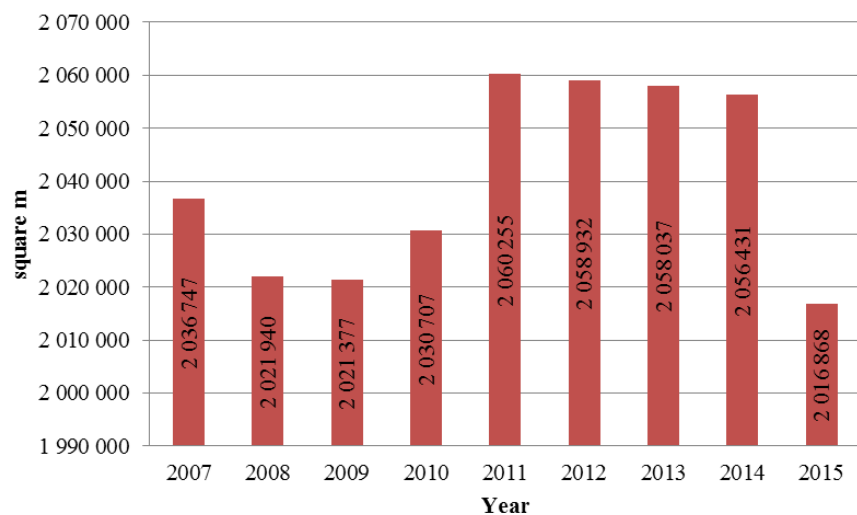


Figure 7: Alteration of the territory of total green areas in Győr, 2007-2015.  
Source: KSH-TelR.

In the previous years, a particularly important role had been given to the quality improvement of green areas, and as a result many green areas had been renewed, and its functions had been expanded (parks, playgrounds, tree-planting programmes). This tendency is also demonstrated by the fact, that the total territory of playgrounds, outdoor gyms, recreation areas has not changed in the last 10 years (107 thousand square meters), however their total numbers have declined (from 205 to 197), which means, that the extension of the single units have become larger, and they have been modernised, primarily through the improvement or renovation of equipments. Currently there are 13 public spaces and a 44 km length riverbanks in Győr, which are suitable for sport and recreation (Figure 8). For connecting the green areas and open spaces in a network a good example is the renovation of the river banks, as well as the development of areas around the reservoir lakes for sporting purposes. By reinforcing the embankments, new leisure cycling paths and footpaths have been created. A more detailed description about these areas can be found in the appendix.

As for the management, the municipality of Győr does not dispose of a separate planning team, which means, that practically, no architectural, road or transportation plans are done in-house. The coordination of different development and regulatory plans is the task of the Urban Development Department. There are no separate plans dealing with public spaces; the development issues concerning the open spaces are primarily connected to other (more complex) development strategies. The maintenance of the open spaces is done by the Győr-Szol Ltd, and the road management organization of the city. The previously mentioned Urban Development Department on the other hand is dealing with the supervision of the maintenance activities regarding the open spaces.

The city is stimulating the formation of playgrounds and sport parks by encouraging the investors and developers of new real estates to construct one open space of this kind. The city itself also developed and renovated different open spaces previously, which now are suitable for sport and physical activity (like the Barátság park, the Bercsényi grove or the riverbank called Aranypart). However, the city does not have a concrete plan at the moment, to make further developments at one of the open spaces or green areas for sporting purposes. Furthermore, they also do not possess a plan currently, which would connect the open spaces in a network.

From the 17 thousand hectare total territory of Győr, only 5 thousand is considered as land for installation, this means, that less than 10% is built in. Therefore, increasing the green areas is not a strategic priority for the city. However, during the new constructions, the trees and alleys on public spaces are often cut out, and their replacement is rarely done. It would be very useful, if Győr had a city-wide regulation plan for afforestation. A further problem is the high and rapidly growing plot ratio of the suburb areas in the city, which is happening to the detriment of the green areas. The city plans to stop this tendency (it will be included in the new city guidelines, which is under preparation), primarily by reclassifying the currently residential areas that had not been built upon yet, to green areas. This way the further shrinkage of the green areas can be hindered.

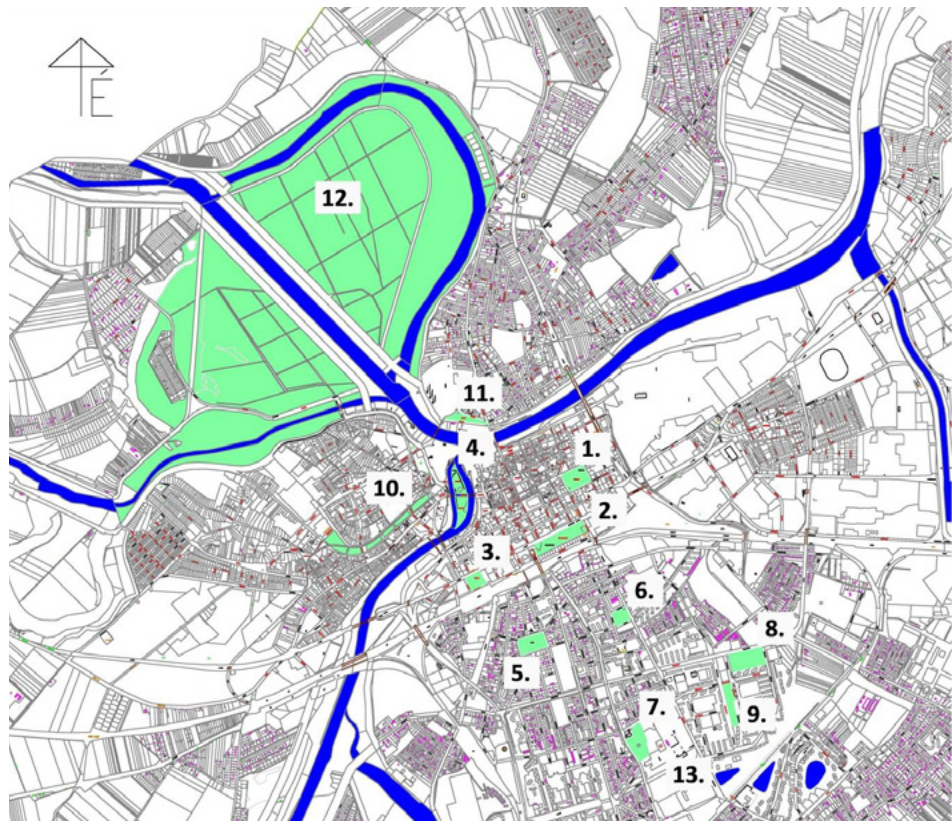


Figure 8: The 13 most important open spaces and riverbanks in Győr.  
Source: own editing.

### Health profile of Győr

A considerably recent survey from 2014 reveals that the health condition of the city inhabitants is better than the national average, which also supports the proposition, that the population of developed regions have more adequate state of health. According to a representative population survey conducted by the WHO Healthy Cities Office in Győr (2013), the majority of the adult population is satisfied with its health condition (60%), or at least considers it as adequate (33%). However, the satisfaction rate diminishes with age: between 60-69 years 10%, while above 70 years 20% consider their health condition rather poor. In spite of the more favourable health profile, the most common causes of mortality are equivalent with the national causes. In the region, every fourth person dies on account of cancer diseases. The examination of the population above 50 years shows that 12% of women and 28% of men smoke regularly, while 12% of women and 32% of men consume alcohol on a daily basis. The high blood pressure affects more than 50%, while the rheumatic problems affect around 45% of the senior inhabitants in the city, according to self-declaration data. These diseases might also mean some limitations in everyday life.

The city concept dealing with the improvement of senior's life quality (2017) mentions the importance of representing the interests, which is realized mainly through the "Senior Board", giving support mainly for the lifelong learning, but it also has role in shaping the public and community spaces. The concept sets out the formation of meeting points within the open spaces, by placing benches in a circle, which are suitable for sitting around. These street furnitures provide opportunity for community life, and for

resolving isolation. Although the concept does not include, but the health condition and the health awareness of older age groups can be improved by "senior playgrounds", with different equipments serving the physical activity. At the moment, there are 7 such playgrounds in Győr, which are quite popular among the senior age groups, although there is no concrete empirical evidence at the moment to support this.

The other specially treated group on the fields of health education and sport is the youth. There are fundamental differences in youth policies among the European countries, which make the comparison difficult. The youth concept of Győr considers the 0-29 age group as youth, further divided in three subgroups: 0-12 years as children, 13-22 years as adolescents, and 23-29 years as young adults. Within the population of Győr (circa 130.000) each of the 0-12 years old and the 13-22 years old category represents nearly 12,5 %, while the rate of pupils aged 23-29 is around 11%.

It is also true in the case of youth that their health status is better than the national average; however, compared to more developed European countries it is still not adequate. The rate of youngsters living with scoliosis is quite high (9,6% at primary school students, 15,6% at secondary school students), while 80% of the secondary school students do not possess intact teeth. The rate of high blood pressure among young people and overweight children is increasing, and the number of youngsters who regularly consume alcohol is high. Unfortunately the drug usage also grows, continuously threatening this age group. The public parks and open spaces used for recreation and sport (like the Eötvös park and Barátság park) are at the same time unfortunately also scenes of drug consumption. The Youth Policy Concept of the city emphasizes the importance of communication between the child and youth institutions and the healthcare, social institutions, in order to duly protect the mental and physical health of the youngsters.

The health survey shows, that with the structural change of leisure time spending, the rate of recreational and physical activities is declining, very similarly to the national tendencies. The latter one is increasingly replaced by sedentary free time activities (like computer and internet use or TV watching). Majority of the population realizes the importance and prevention impacts of physical activity, although the possession of information is not equal to the implementation. 44% of the inhabitants in Győr do intense physical activity at least once per week. Regarding the weekly PA, men are in a significantly better position, however, with the increase of the age, the physical activity declines linearly. According to the education level, the graduates of secondary school are the most active, and those with primary education are the least active. On a single occasion, people spend averagely 45 minutes with physical activity, although this time is barely 30 minutes in the case of women, and almost 1 hour in the case of men. According to the sample, 18% of the population do not do any kind of sport activities.

Besides the physical health, mental health also has a great effect on life quality. According to the survey, almost half (49%) of the seniors (above 50 years) struggle with mild depression, 5,9% with moderate depression, and 1,9% with severe depression. It is known, that one of the most successful way to fight depression is doing sports, especially outdoor physical activities, like walking, hiking, or cycling.

The policy makers of the city aim to preserve and improve the mental and physical health of the

inhabitants. In order to reach the target, the priority tasks are the organisation of different programs and sport events, as well as the building and renovation of open spaces that are suitable for sport and active leisure time spending.

### Role of the sport in the policy of Győr

Győr has always put a great emphasis on sport in its development concepts and strategies. Sport has long traditions in the city, since many gold and silver medallist Olympians have been members of sport associations in Győr. The most outstanding results are recorded in kayak, canoe, pentathlon, gymnastics and football. The current mayor of the city has won Olympic gold medal in gymnastics in 1988, Seoul. He has been mayor since 2006, and his mentality as well as his commitment for sports is also reflected in the city development policies.

The Sport Concept of the city (2008-2014) states, that the main aim besides the sport city status of Győr (in 2010 it was awarded as "the most sporty city"), it will also become a "sporting city". In order to reach this, the document emphasizes the need to activate the inhabitants, thus increasing their quality of life and health. This target is also supported by the budget of the city, by spending 1% of the total budget yearly on supporting competitive and mass sports since 2011. Accentual task is the sporty lifestyle education in order to handle the mental and physical problems of the younger generation. Sport can contribute to the integration of disadvantaged groups and individuals, therefore the concept also states that sport is a tool for ensuring equality, social cohesion and health preservation. This July Győr will host the European Youth Olympic Festival (23rd July – 29th July). For the successful implementation, the city has built several new sport facilities, which are also compatible to organize different international sport competitions in the future.

Besides the competitive sports, a great emphasis is also put on the mass sports in the city. The "Health and Sports Days" are organized twice a year (in spring and in autumn) in the Barátság park. These events are attended by nearly two thousand inhabitants, and besides actively exercising, there is also an opportunity for health screening tests. The "Days of 4 Balls" event is organised at the Aranypart (riverbank of Mosoni Danube), and attracts around 250 people, who play beach-handball, beach-volleyball, street basketball and foot tennis. The open water swimming event on the backwater of the Mosoni Danube is connected to the "Day of Hungarian Swimming". The program series of "Sport of Seniors" is organized at seven locations in the city, well separated in the single districts. Twice a week, mostly in the education institutions of the district, qualified PE teachers lead physical activities for about 250-300 seniors.

The natural geography of the city (flat area) also contributes to the popularity of cycling. The city's cycling development concept has been prepared in 2015, with the main target to develop and expand the necessary infrastructure, as well as to encourage the local population in order to become a "cycling city". In 2011, 40 km of bike paths were available, however its length is continuously expanded. The civil organizations of the city are also playing an important role in this process. The local municipality has supported the establishment of the "Civil Roundtable". Most of the civil organisations in Győr (altogether 260) are related to sports activity, while 57 civil organisations are dealing with health preservation issues. The KERET Association can also be mentioned, as the cycling association of Győr, committed both to health and sport. The bicycle sharing system (GyőrBike) has started its operation two years ago. It is important to emphasize, that the Eurovelo6, the cycling path along the European rivers also overpasses the city, which positively affects the cycling tourism.

## Discussion

Based on the above examinations and main findings, the following points can be emphasized regarding the main topics of the report.

### Unfavourable health indicators

The Hungarian society possesses unfavourable health indicators, which can be related to the fact that more than two thirds of the Hungarians do not participate in any sport activity. By examining the sporting habits it can be stated, that the population is more likely to do their physical activities at home, or on their way to the workplace/school, and they do not really utilize the possibilities offered by the urban environment (like public spaces or green areas). Naturally in order to increase the rate of sports/physical activity among the Hungarian population, the awareness raising and the appropriate education is highly necessary. However, often creating the opportunity can also be a good incentive. It is important, especially in an urban environment, to develop places where people are able to spend their free time, and which can increase the time spent on sports and active recreation.

### Need for supporting environment

There is a need for interventions both on individual and on community level, and a supporting environment assisting the healthy lifestyle needs to be established. People living an inactive lifestyle are more often unable to carry out their work, and spend more time on sick leave. This is why it is also the responsibility of political decision makers to implement tools and methods that are consciously support the physical activity of the society. By decreasing the physical inactivity, the health condition of the population can be demonstrably improved, which can increase the productivity and decline the social expenditures in connection with health condition (Ács et al 2011).

It is important to emphasize, that despite the unfavourable health indicators, and the relative low proportion of sport and physical activities, there is a growing need from the side of the Hungarian population to create a healthier lifestyle. Especially in urban environments has the demand for healthier cities appeared, and there is a growing need for the elaboration of different public places and open spaces that can be used for sports and active recreation. Also in Hungary several good examples exist, where the city motivates the local population to do physical activity.

Furthermore, it is highly necessary to take measures in favour of older people, which are able to decrease the risk of diseases and can stabilize their health condition. This has to be in connection with the increase of their physical activities, and with building their social relations (Taller et al 2015).

### Decreasing green areas and public spaces

The primary aim is to introduce physical activity and sport into everyday life by shaping the built environment. However, in Hungary the size of high value green areas and public spaces is low and decreasing. According to the National Sport Strategy (2007) 38% of the currently inactive population would like to take up a sport or physical activity in the future. This means at least 900 thousand potential crowd, that can be mobilized, and who are currently waiting for reinforcement and possibilities. In order to achieve the target, the available areas have to be expanded and improved, the opportunities need to be promoted, and a greater emphasize has to be put on awareness raising and education (Salamin 2015). One study examining the urban areas and the recreational spaces pointed out, that the Hungarian population prefers those recreational places,

where they can carry out dynamic activities by little material expenses (Hegedüs 2007). In this regard, those public spaces and green areas, where sporting and physical activities are possible, obviously come into view.

### Missing empirical evidences

It also occurs as a problem that so far only very little research has been done on the positive connection between public health and the use of open spaces in Hungary. For example, there is no available examination, to what extent the public spaces are able to influence the health of the urban population, to what extent physical activity will be increased due to developing a public space or a public park suitable for exercises. Accordingly, the city planning and the decision makers do not handle this issue as a priority, although the need to improve health condition appears more and more frequent from the side of the city administration as well, in the form of urban health strategies and health surveys among the local population.

### High potential in Győr

Several development plans and events of the local municipality support health education in the city of Győr. Such improvement is for example the continuous expansion of the bicycle path network, the development of cycle services, the green area improvement, the building and renovation of play grounds, road traffic tracks for children, the establishment and renovation of recreation parks and new sports facilities. While preparing the "Health Development Plan" the city also organized residential forums, where the inhabitants had the opportunity to give feedbacks about the implemented and planned developments, also regarding the connection between the built and natural environment. Unanimous opinion of the forums was, that Győr is in a very lucky situation, since the natural environment surrounding the city offers a wide range of possibilities for free time and sport activities; it can offer a lot to maintain the physical and mental health.

However, increasing the green areas is not a strategic priority for the city. Problem also occurs at the suburb areas of Győr, where the highly intensive construction in residential areas are endangering the green areas of these districts. Although the city plans to stop this tendency, the growing need for new houses and residential areas undoubtedly risk this initiative.

## Conclusion

The national report had the aim to collect and present the health profile of Hungary, the characteristics of physical activity, as well as to examine the city of Győr regarding the opportunities and measures it offers to the residents to encourage healthy lifestyle. In national terms, there are several factors that endanger the health of the Hungarians. One of these factors is the low amount of physical activity. In the last three decades the rate of the passive, motionless activities have significantly increased in the time use of Hungarians.

Several researches prove that the built environment has an indirect effect on health, by influencing the health behaviour. This means, that the positive changes of the built environment can have an effect on life quality. Although, the proper settlement planning and the growing green areas are able to contribute to the health development and well-being of urban residents, currently the urban strategies and plans are dealing separately with the issue of health development and the improvement of public spaces. As it is also visible from the case study of Győr, the link is missing, which could connect these two development areas.

Although during the last decade, the decision makers of Győr have taken conscious steps to connect health awareness and sports activities, it would be worthy to put more attention on public spaces and their effects on health-related behaviour. By building and renovating the green areas and riverbanks, the urban designers can encourage the local population to the more frequent use of open spaces. Nevertheless, it can be stated that the facilities of Győr (primarily the abounding green areas and water habitats) absolutely make the city capable to develop a healthy urban environment.

# Appendix 1

In the followings, those public spaces will be presented in Győr, which are most suitable for local people to actively spend free time and do sports, and which count for a total territory of 220 thousand square meters.

## 1. Batthyány square

The Batthyány square lays in the inner city of Győr, with a territory of 20 thousand square meters. Several different sport and recreation possibilities can be found here. On the eastern side there is a playground, a football court and a road traffic track for children. The square has been renovated in 2014, the gravel roads have been transformed to suit jogging, and 4 pieces of outdoor sports equipment have been placed as well.

## 2. Bisinger József promenade

The Bisinger promenade also belongs to the inner city, located north of the railway station, with a total territory of 28 thousand square meters. The square is bounded by considerably busy main roads and a tunnel from north and east, and a bridge from the west side. The promenade was created at the end of the 19th century, and has undergone plenty of changes in the last decades. In the 1950s, benches and candelabras have been placed in the park, while the rare and special plants have been signed. In 1975, a sculpture with a fountain has been placed in the middle of the promenade, while at the eastern end a playground has been developed. During the renovation in 1993, the sports ground next to the playground have been privatised, and at the moment it operates as a tennis court. West to the playground two street ball courts can be found. The children playground have been renovated and modernised in 2007, while in 2013 a so called "water playground" have been evolved in the middle of the promenade, which is the biggest playground of its kind in Hungary.

## 3. Eötvös square

In the heart of the inner city in Győr, west to the city hall is the Eötvös square located, which was established in the beginning of the 20th century, on the territory of the former market place. The total area of the square is more than 10 thousand square meters. On the north-eastern side of the park several sport grounds can be found. From the northern direction, a Székely gate serves as an entrance, which was renovated in 1994. Several sculptures and historical monuments can be found here, and in the 1960s numerous plan rarities have been planted on its territory. The square has been renovated in 2008, and as a result several benches have been placed, and a senior playground has also been developed, which is unique in Hungary, but also a curiosity in Europe.



#### 4. Radó island

The island is located in the heart of the city, which is surrounded by the two branches of the Rába River. The island was used as a part of the former fortress as an external protection system in the 18th century. The island today is divided by the Rába double bridge and its connecting roadways. The total territory of the island is around 23 thousand square meters, a green area, which is a popular meeting and walking place of the inhabitants. In the southern part of the island, a World War I memorial, a music pavilion and a heritage boathouse from the 19th century can be found. The music pavilion hosts concerts on Sunday forenoons. This area also gives place to the so called "Győrköc" festival, which offers diverse programs for little children during a whole weekend in every summer.

#### 5. Bem square

The Bem square is located in the district of Nádorváros, south of the inner city, with a territory of 19 thousand square meters. The square is green area, rich in plants, with fenced football court, well-equipped modern playground and several memorials. In 2016 the sporting opportunities of the public space were broaden with a 380 meters long, all-weather running track.

#### 6. Malom park

The Malom Park is located south of the inner city, in the district of Nádorváros, which is bounded by busy roads both from east and south. The park has been established after the World War II, with a total territory of around 9400 square meters. In the south of the park, a fenced sport ground and a modern playground can be found. The traffic of the road on the east side of the park is considerably high, thus in the nearby bus stop a significant number of local and long-distance travellers show up.

#### 7. Erzsébet park

The Erzsébet Park is located south of the historical inner city, in the district of Nádorváros, with a territory of around 23 thousand square meters. The park has been established in the second half of the 20th century. It is bounded by high traffic main roads from the north and west, and it is next to the building complex of the county hospital. In the north western corner we can find a catholic church, while in the south eastern corner there is a water tower. For the children there is a road traffic track, a modern playground, as well as a cinder sports court. The park needs to be renovated.

#### 8. Barátság park

The Barátság Park is located south west of the historical inner city of Győr, in the district of Adyváros, densely surrounded by blocks of panel buildings. The park was established in the 1960s, however it was only renovated in 2009, in the spirit of the sport concept of Győr. The renovated park is suitable for every generation to do sport and to actively spend free time. The



territory of the park is nearly 29 thousand square meters, and it includes three modern football courts covered by simulating grass, a street basketball court, an outdoor gym, a modern playground, a senior park and a 600 meter-long running track. The open space is equipped with modern lighting, and a 420 square meter service facility is also to be found, with changing rooms, offices, terrace and a canteen.

#### 9. Kuopio park

The Kuopio park is located in the district of Adyváros, south east of the inner city, among panel blocks of houses. The territory of the park is around 14 square meters. On the northern part a fountain can be found, while in the middle of the park there is a modern playground. In 2013, besides the renovation of the fountain, new benches were also placed; in 2014 several trees have been planted in the open space.

#### 10. Bercsényi grove

The Bercsényi grove is located west to the historical city centre, separating the districts Újváros and Sziget. This area is actually the dry river basin of the river Rábca, evolved after the river regulation in 1908. The grassland remained unbuilt for a long time. The first serious improvement was in 2013, when a football court was designed on its territory. Shortly after, a 6.000 square meter large playground and recreation park has also been formulated. The green area has been completely renewed, deciduous trees and evergreens have been planted. Several play courts and a road traffic court for children has been built, where the new equipment offer opportunities to different age groups and handicapped children, while offering a comfortable environment for parents as well. In the future, the city is willing to continue the improvement of the green area, and plans to revitalise the remaining 20 thousand square meters area. The community-used territory of the grove is 13 thousand square meters, although its total territory is above 35 thousand.

#### 11. Kálóczy square

The Kálóczy square is located north west to the inner city of Győr, in the district of Révfalu, close to the Széchenyi István University. On the northern part, the square is bordered by a health institution and retirement homes, on the south it is bordered by the bank of the Mosoni Danube River, only allowed for pedestrian and bicycle traffic. The total territory of the square is around 9 thousand square meters. A few years ago, the total territory of the park has been renovated, and new pedestrian paths have been designated. The square is popular resting place of the inhabitants of the retirement homes, although it is neglected by the university students, since beside the recreation, currently there is no other function of the open space.

#### 12. Püspök Forest

The Püspök Forest only accounts partly as a green area, it can rather be considered as a green surface, located north west to the inner city of Győr, in the neighbourhood of the Széchenyi István University. This is the largest consecutive green area and floodplain forestry of the city, with the total territory of around 250 hectares, this is why it is also called "the lungs of Győr". The forest offers possibilities to



excursions, while the backwater of the Mosoni Danube River is suitable for canoeing. The areas close to the university building blocks can be considered as real community spaces, since there are two playgrounds, playing equipment, space for ball games, as well as open fireplaces. Beside these you can also find here forest gym, nature trails, 9 km long walking path with tables and benches. In the direct neighbourhood of a clearing, an adventure park was opened in 2013.

### 13. Lakes of Adyváros

Three lakes can be found southwest of the inner city, surrounded by blocks of houses, in the district of Adyváros. The lakes have been primarily used for rainwater drainage, and this is why they have been neglected for quite a long time, the reeds completely overgrown the water. The reconstruction of the lakes and the surrounding areas has started in 2013. The old street furniture has been replaced, the flora of the lakes has been renovated, the mud has been removed, and new trees have been planted. The surrounding footpaths have been fixed and new pathways have been placed. Furthermore, the old fountain in the middle of the lake has also been reactivated. Today, the area contains a recreation park (with an interactive message board), camera system for the safety, and a playground as well. New street furniture and a drinking fountain have also been placed. The lakes of Adyváros have become very popular among the local residents, and the city also plans to further develop the area.



#### 14. Riverbanks of the city

Győr is often called as "the city of rivers", since four rivers (Mosoni Danube, Rába, Rábca and Marcal) are running together in the territory of the settlement. The riverbanks are altogether 44 km long, and are already offering possibilities for those who want to do sports or spend their free time outdoors, however, it still has a huge unused potential for further improvement in the future.

The riverbanks have been completely renovated between 2012 and 2014 in the frame of a major water management project. The primary aim was the improvement of the water quality and quantity, as well as the enlargement of the ecological potential, the reconstruction of water habitats, and the preservation of flood-security. However, the project also targeted social purposes, like the improvement of urban landscape, or boosting water and ecotourism, as well as building walking paths along the river. The water-related sports have enormous tradition in the city, especially the paddling, canoe, kayaking and the fishing. Swimming is present as a recreational and free time activity. There is also a recent and growing demand for the engine driven small crafts. Sailing is also growing sector, with huge untapped potentials in the city. Győr is located just at the meeting point of two major water tour lines. The riverbanks are popular among the local population, and since the riverbank-renovation, they increasingly become suitable not only for water related activities, but also for taking long walks and jogging.



## Appendix 2

List of the relevant policy and practice documents in Győr that have been used for the compilation of the report:

- Győr Megyei Jogú Város Egészségképe (2014) ("Health Profile of the City of Győr")
- Győr Megyei Jogú Város Sportkonceptiója (2008-2014) ("Sport concept of the City of Győr")
- Győr Megyei Jogú Város Belvárosi Előakcióterületi Terve (2008) („Action Plan for the Inncity of Győr")
- Győr Megyei Jogú Város Kerékpáros Fejlesztési Konceptió Terv (2015) ("Strategy and concept of bicycle development in the City of Győr")
- Győr Megyei Jogú Város Integrált Településfejlesztési Stratégia (2014-2020) ("Integrated urban development strategy of the City of Győr")
- Konceptió az idősek életminőségének javítására Győr városában (2007-2012) ("Concept for the development of senior's life quality in the City of Győr")
- Győr Megyei Jogú Város középtávú gyermek és ifjúságpolitikai konceptiója (2008-2014) ("Medium-term child and youth policy concept of the City of Győr")
- Győr Megyei Jogú Város városrendezési terve ("Urban settlement plan of the City of Győr")

## References

- Ács Pongrác et al (2011): A fittség mértéke. A fizikai inaktivitás nemzetgazdasági terhei Magyarországon. *Közgazdasági Szemle*, 58. évfolyam. pp 689-708.
- Csizmadia Péter - Szűcs Erzsébet (2016): Szempontok az egészséges életmódot támogató épített környezet kialakításához. *Egészségfejlesztés*, 57. évfolyam, 4. szám, pp 38-46.
- Csizmadia Péter (2016): Az épített környezet hatása az egészségmagatartásra workshop. *Egészségfejlesztés*, 57. évfolyam, 2. szám, pp 85-88.
- Csizmadia Péter (2016b): Egészségfejlesztés és az épített környezet. Egészségmagatartás és épített környezet c. workshop előadás, Nemzeti Egészségfejlesztési Intézet, Budapest.
- European Commission, Directorate-General for Education and Culture and TNS Opinion & Social (2014) Sport and physical activity report. Brussels: European Commission. Available at: <http://bookshop.europa.eu/uri?target=EUB:NOTICE:NC0214406:EN:HTML> (Accessed: 29 April 2017).
- Gáldi, G. (2004) Szabadidőstruktúra és fizikai rekreáció Magyarországon 1963-2000 között, életmód-időmérleg vizsgálatok tükrében. PhD értekezés. Semmelweis Egyetem Testnevelési és Sporttudományi Kar Neveléstudományi (Sporttudományi) Doktori Iskola. Available at: [http://phd.semmelweis.hu/mwp/phd\\_live/vedes/export/galdigabor-d.pdf](http://phd.semmelweis.hu/mwp/phd_live/vedes/export/galdigabor-d.pdf) (Accessed: 29 April 2017).
- Harcsa, I. (2013) 'Helyzetkép a főbb társadalmi folyamatokról', *Statisztikai Szemle*, 91. évf.(1. sz.), pp. 5-30.
- Health Consumer Powerhouse (2017) Euro health consumer index 2016. Health Consumer Powerhouse. Available at: [http://www.healthpowerhouse.com/files/EHCI\\_2016/EHCI\\_2016\\_report.pdf](http://www.healthpowerhouse.com/files/EHCI_2016/EHCI_2016_report.pdf) (Accessed: 20 April 2017).
- Hegedüs Veronika (2007): A hazai urbánus térségek és a rekreációs terek összefüggései. *Tájökológiai Lapok*, 5. évfolyam, 2. száma, pp 225-237.
- Kovács, A. et, al. (2015) A magyar háztartások sportfogyasztási szokásainak felmérése. Pécs: Pécsi Tudományegyetem Egészségtudományi Kar Fizioterápiás- és Sporttudományi Intézet.
- KSH (2012) Időmérleg, 2009/2010: összefoglaló adattár. Budapest: Központi Statisztikai Hivatal.
- KSH (2015) Európai lakossági egészségfelmérés 2014. 2015/29. Budapest: KSH, p. 9. Available at: <http://www.ksh.hu/docs/hun/xftp/stattukor/elef14.pdf> (Accessed: 26 April 2017).
- Laki Ildikó (2016): Élhető városok – Idősbarát városok. Nyugdíjasok Akadémiája előadás, Zsigmond Király Főiskola, Budapest.
- Nemzeti Egészségfejlesztési Intézet (2015): Egészségjelentés 2015 – Információk a hazai egészségvesztések csökkentéséhez. Budapest.
- Neulinger Ágnes (2007): Társas környezet és sportfogyasztás – A folyamatos megerősítést igénylő tanult fogyasztás. BCE Gazdálkodástani Doktori Iskola, p 221.
- Országos Egészségfejlesztési Intézet (2007): Mentális egészségfejlesztési stratégia – pozitív egészségfejlesztés és primer prevenció. Budapest.
- Salamín Géza (2015): A Mozgás Szabad Terei. 47. Savaria Urbanisztikai Nyári Egyetem, előadás, Szombathely.
- Taller et al (2015): Az egészségműveltség értelmezése és fő kihívásai a mai magyar társadalomban. *Egészségfejlesztés*, 56. évfolyam, 3. szám.
- Tóth Zoltán, Hübner Mátyás (2007): Településtervezés II. A településtervezés gyakorlati kérdései a területrendezéstől a településszerkezeti tervig. Pécsi Tudományegyetem Ponte Press Kiadó, Pécs. p 284.

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