SMART BUDAPEST



THE SMART CITY VISION OF BUDAPEST | Summary



SMART BUDAPEST

The Smart City Vision of Budapest

Summary

Commissioned by: Municipality of Budapest

Mayor's Office, Department of Urban Planning H-1052 Budapest, Városház utca 9-11. www.budapest.hu

Author: Budapest 2024 Nonprofit Ltd. H-1027 Budapest, Ganz utca 16. www.budapest2024.org

Sándor Finta, director of architecture and urban planning Zsombor Barta MRICS, head of sustainability and legacy Samu Márton Balogh, junior assistant Viktória Siklósi, translator

January 2017

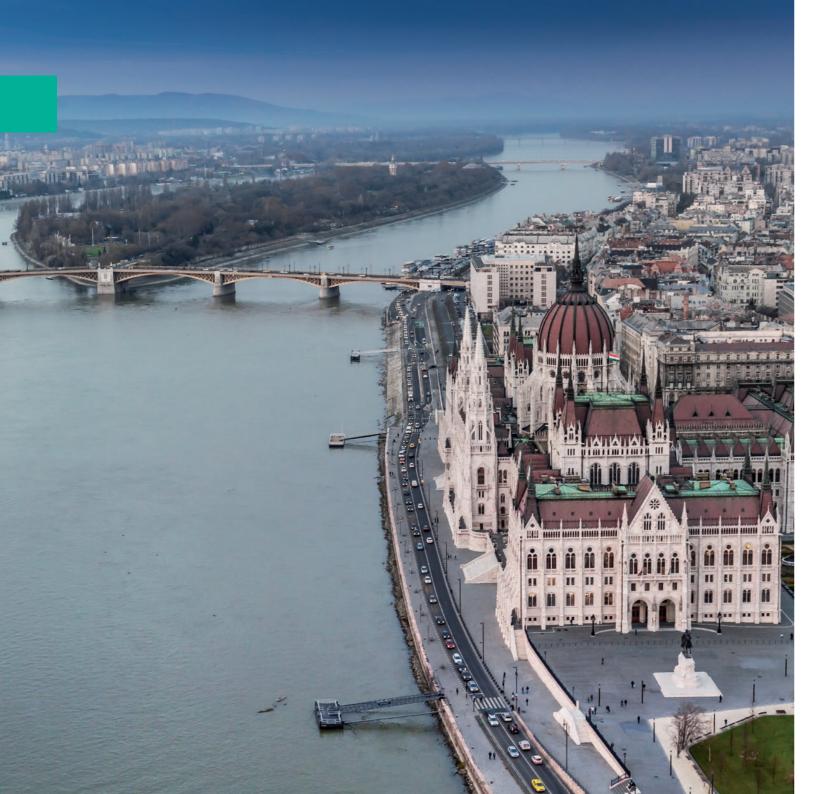






CONTENT

ntroduction	5
Context	6
Dbjectives	8
Iorizontal Objectives	10
NOWLEDGE HUB	12
nnovative city	13
Regional brain drain	14
SUSTAINABLE RESOURCES	16
Sustainable energy	17
Smart waste menegement	19
MOBILITY	20
Sustainable mobility	21
Proactive transport management	23
JRBAN ENVIRONMENT	24
iveable urban spaces	25
Resilient city	27
SOCIAL PARTNERSHIP	28
Open urban governance	29
Conscious society	30
MART ECONOMY	32
Sustainable economy	33
Competitive local economy	34



INTRODUCTION

Implementing the smart city vision as a horizontal objective has played an important role regarding documents and projects on the development of the city so far. It is demonstrated by the fact that in the Best Cities ranking of the Economist – involving those 70 cities which were surveyed in 2012 – Budapest moved forward 7 ranks and reached the 17th rank in 2015, which is a great achievement in the regional comparison. The Economist Best Cities ranking is based on such urban features – highly determining from the smart city aspect – as the proportion of green spaces, level of air pollution and the accessibility of culture and nature.

The Municipality of Budapest is committed to place particular emphasis on the smart city approach in the development of Budapest, therefore the preparation of a dedicated programme for such urban measures and developments was initiated. The first step of this process is to develop the Smart Budapest Vision which serves as the framework for the smart city objectives.

The Vision demonstrates the principles and values of the smart city approach, which will drive the future smart city developments. The Smart Budapest Vision is only the first step of establishing a city management practice which is capable of responding to and coping with opportunities as well as challenges. The implementation of the smart city vision does not entail the successful delivery of a single plan but the successful urban development practice based on continous adaptation and effective use of attributes and possibilities.

In previous years several projects and development programmes have been delivered in Budapest applying energy efficient smart solutions of advanced technology with special attention to environmental aspects. This document demonstrates some good practices of these as illustrations of the main topics.

This publication is a summary of the *Smart Budapest* – *The Smart City Vision of Budapest* adopted by the General Assembly under decision number 12/2017. (I. 25.). The summary describing the key objectives of the complete document. The complete document, in addition to the detailed description of thematic areas, provides an overview of the smart city developments completed in the previous years and outlines the next steps necessary for the implementation of the vision.

CONTEXT

Concerning the operation and development processes in particular compliance with EU directives is a key aspect for both Hungary and Budapest. In addition to EU and professional materials local context are also important. In the previous years several urban development concepts and programmes have been created, some of them are in the stage of implementation, updating currently (see the figure). The primary means of achieving the smart city vision is the implementation of these strategic documents.

Smart Budapest Vision is in line with these documents offering a new approach in determining urban development directions. However, due to the complex approach of the smart city - similarly to the Long-term Urban Development Concept – the smart city vision and programme do not focus on a single, independent subject area but on the entire city. In this respect Smart Budapest Vision is an integrative development concept combining and providing a context for smart objectives and tools of development documents in other specialised areas. Consequently, smart city is not a goal but a tool for integrated urban development.

Compared to the original smart city approach Smart Budapest Vision shows an exciting duality: it is based on modernity, digital technology and automatization as tools for improving the quality of life, while returning to the close to nature condition for sustainability is also an important factor. The third element of the vision is enhancing social responsibility since a city can make best use of its assets only if it utilizes its human resources in addition to natural and economic ones.

Budapest has great development potential and if the city's resources exploited in a conscious manner, the quality of life could be improved significantly in everyday life.

The Smart Budapest is a **sustainable** city from environmental, social and economic aspects, that proves to be a liveable place for city dwellers by making use of modern technology and taking increased **social responsibility**.

BALÁZS MÓR-PLAN, BUDAPEST TRANS- PORT DEVELOPMENT STRATEGY 2014-2030	DEVELOPMENT OF BROWNFIELD AREAS THEMATIC DEVELOP- MENT PROGRAM
BUDAPEST LIGHTING MASTERPLAN	DEVELOPMENT OF DANUBE RIVERSIDE THEMATIC DEVELOP- MENT PROGRAM
SOCIAL URBAN REGENERATION THEMATIC DEVELOP- MENT PROGRAM	BUDAPEST INTEGRATED ENERGY STRATEGY AND ACTION PLAN (ongoing)
BUDAPEST YOUTH STRATEGY (ongoing)	BUDAPEST TOURISTIC STRATEGY (ongoing)

BUDAPEST 2020 INTEGRATED URBAN DEVELOPMENT STRATEGY

BUDAPEST 2030 LONG-TERM URBAN DEVELOPMENT CONCEPT

PROGRAMME (SEAP)

BUDAPEST ECONOMIC DEVELOPMENT AND **IOB CREATION** STRATEGY 2015-2021

BUDAPEST EOUAL OPPORTUNITIES

BUDAPEST CLIMATE

BUDAPEST GREEN MENT CONCEPT AND

CONCEPT

POTENTIAL TOPICS PREPARED LATER



OBJECTIVES

The General Assembly adopted the Budapest 2030 Long-term Urban Development Concept in 2013 which defines Budapest's development priorities linked to four global objectives: Budapest shall become a strong member of the European **region**; a harmonious, diverse urban **environment** shall be created; **so***ciety* shall become the scene of improving living quality and harmonious coexistence, also, the value and knowledge based sustainable **economy** shall be strengthened. Smart Budapest Vision in intended to serve the implementation of Budapest 2030 global objectives by using broadly defined smart practices.

A group of Budapest 2030 complex objectives focusing on the smart city approach constitute the six

strategic areas of Smart Budapest Vision. The Vision establishes twelve areas of action as the means of the strategic objectives: these are the hotspots where Smart Budapest can be implemented.

According to the Long-term Urban Development Concept the interval of Smart Budapest Vision lasts until 2030. Some measures could be implemented within a short period of time by changing the approach, whereas other measures require bigger investments and more time, as well. The point of smart city approach, however, is not the implementation of a project list, but the development of an approach based on continuous adaptation capable of responding to challenges properly as soon as possible.

The aims of the vision's strategic areas:

- Budapest shall become a centre of international innovation thus a target for knowledge transfer;
- Budapest shall protect its environment by the sustainable utilization of resources and waste generated;
- Budapest shall establish a sustainable mobility system enhancing the liveability of the city;
- Budapest shall become capable of responding to the environmental and technologic changes of the 21th century;
- people in Budapest shall live in an open and cooperative society;
- Budapest shall continue to progress based on the development of sustainable and local economy.

ECONOMY



SMART ECONOMY

SMART BUDAPEST STRATEGIC OBJECTIVES

SUSTAINABLE ECONOMY

COMPETITIVE LOCAL ECONOMY

SMART BUDAPEST AREAS OF ACTION

HORIZONTAL OBJECTIVES

Conceptual premises constitute the cornerstones of the vision's network of objectives. These are the horizontal objectives which shall be implemented consistently when developing instruments and measures set out in the thematic areas of action as well as when performing them.



AWARENESS-RAISING

Raising public awareness is a key objective since active participation by the society is necessary for responding to challenges and seizing opportunities. Necessary institutional or infrastructural elements will be established in vain in case of population does not use them. Thus through awareness-raising the population shall be prepared for using modern technologies and shall be educated about the basic principles of sustainability and the environmentally conscious lifestyle.

CITY OF SERVICES

The basic requirement for the smart city is the stable and consistent operation of the city providing high quality, efficient public services equally accessible for all. The increase of service and supply security shall cover all areas of city operation from public utilities through transport services to general information access and coverage. The quality of service shall be unified throughout Budapest regardless of the geographical and social features of the particular area.

Parallel to facility development the technical and IT capabilities of background organizations responsible for the management and operation of the newly established infrastructure shall also be improved since such organizations ensure jointly the high level of reliability, availability of urban services and facilities as well as the long term sustainability and usage of the developments.

ADAPTIVE CITY

A major objective of Smart Budapest is to strengthen the adaptation capability of the city. If only a single challenge is in focus at a time in the course of smart planning the preparation for complex challenges affecting the entire city will be failed. With regard to a city, adaptation means flexibility, reflection and response to challenges and the capabilities necessary for such measures. The aim is to ensure that Budapest becomes prepared to continued adaptation including rapid responses to challenges and enhanced use of opportunities, alike.

INTEGRATED CITY

Integrated urban management is a fundamental element of efficient resource management. Integration shall be achieved not only horizontally, among different specialized areas but vertically, too, among various actors of the multilevel public administration.

Integrated operation assumes providing a unified IT background required for planning developments and the reliable management of public services. As a fundamental instrument an urban management database among related data flow and management strategy shall be implemented, which will enhance the optimization of the use of city resources and the utilization of existing synergies.

In addition, it is important to strengthen the powers of public utility companies in Budapest when planning developments so that the unified, cost effective and sustainable implementation of the smart city principle can be ensured all over Budapest.

KNOWLEDGE HUB

Budapest aims at becoming a strong member of the European region – the innovation capability of the city could play a decisive role in achieving it. In the 21st century the focus is shifted from the traditional branches of economy to research and development based knowledge industry hence smart cities in the frontline of innovation achieve greatest success. Budapest can become a leading city in innovation if the city manages to gain international significance in education and research, in other words, if it becomes a knowledge hub. As a knowledge hub urban development may gain new momentum: the test and use of the latest generation smart solutions would become possible.

INNOVATIVE CITY

One of the objectives of Budapest Economic Development and Job Creation Strategy is to turn Budapest into the city of ideas, which attracts creative and innovative minds thanks to its liveability and dynamism. To achieve this goal, the establishment of institutional frameworks is required, which serve the integrated cooperation of different actors and areas efficiently. Urban development not only requires applying smart city solutions but provides an opportunity to prove the efficiency of such solutions.

ESTABLISHMENT OF THE SMART CITY CENTRE

The aim is to establish a permanent centre which is capable of integrating various actors influencing the development of Budapest and the knowledge entailed in the field of urban development and management.

By establishing the Smart City Centre the operation of Budapest, its districts and the central governance could become institutionalized, city policy initiating quality developments would gain dynamism. The involvment of urban management companies would create an opportunity for such collaborations which is suitable for testing innovative ideas of the business and the civil sector. A related municipal knowledge base could ensure the centralized collection and efficient usage of research results.

١

BE SMART CONTESTS

Be Smart contests organized by Budapest Enterprise Agency are based on international cooperations. Winning teams get a chance to present their ideas in renowned professional forums on international platforms. Such foreign presentations allow start-ups to appear in international markets with the help of investors.

SUPPORT FOR INNOVATIVE COMPANIES

The aim is to increase the number of companies dealing with research, development and innovation in Budapest by ensuring the necessary conditions for development and by creating an inspirational atmosphere.

It is important to support innovative start-ups in defining demands and testing products as well as embracing incubation programmes for efficient operation. The implementation of such developments in a campus-like areas helps boost knowledge economy and creative industries. By organizing international conferences, workshops, creative ideas may be imported to Budapest, at the same time local start-ups may enter foreign markets. For achieving goals set out in Hungary's Digital Start-up Strategy cooperation with the government is essential.

REGIONAL BRAIN DRAIN

By improving its innovative capabilities Budapest may take a more active role in international research and development projects. By increased participation in international research Budapest may increases its regional competitiveness and it may become more appealing for companies and institutions looking for locations open for innovation. By ensuring the necessary conditions and establishing an attractive environment this effect could be enhanced thus Budapest could become the scene of knowledge transfer.

INCREASING PARTICIPATION IN INTERNATIONAL RESEARCH

Through international research programmes Budapest aims at becoming a widely known research hub considered as a leading regional reference point in European urban development.

This goal requires expanding and deepening collaboration in international research programmes, taking up a pioneer role in developments. In order to take up a central role in the information flow it is essential to monitor regional competitors continuously, to establish a strategic research network with the involvement of developed and emerging cities, alike.

PROMOTING REGIONAL KNOWLEDGE TRANSFER

In order to achieve that the proportion of foreign taxpayers increase to 8-10% in line with Budapest 2030 targets Budapest aims at attracting creative minds and companies on the verge of intense developments by its openness to innovation and growing economy.

By improving tourism, especially conference tourism and by utilizing regional and twin city networks Budapest could become the targeting hub of international knowledge transfer. It is important to make the development results of Budapest visible and achieved internationally by means of city marketing. For the exchange of experience and sharing of knowledge it is necessary to increase the cooperation between higher education institutions as well as between high education and R+D industry.



GRAPHISOFT PARK

The research and development centre was established in the territory of the former Óbuda Gas Works as a result of the cooperation between private developers and the Municipality of Budapest. Graphisoft Park houses several national and international technological companies. The main profile of companies located in the park is IT and biotechnology. Today a university campus is operating in this 18-acre area, as well. Innovation centres like this are considered ideal for directing the flow of knowledge to Budapest.

SUSTAINABLE RESOURCES

A fundamental element of operating smart cities is the conscious management of available resources. A primary goal for this is to increase the efficiency of use, to increase the proportion of renewables and to reduce greenhouse gas emission. In addition, it is important to decrease energy loss occurring the usage and transfer of resources as well as to reduce energy demand. As a smart city Budapest shall achieve long term sustainability of energy use intended for the development of the city.



SUSTAINABLE ENERGETICS

The principle of environmentally friendly energy use shall be implemented in global and local level, alike, for the general public, in the business and public sector, also. In addition to its own scope of operation Budapest can enhance a more sustainable energy use by awareness raising, demonstrating good practices and by regulatory means, too.

INCREASING ENERGY EFFICIENCY

In accordance with Budapest 2030 target both per capita and overall primary energy consumption shall be reduced by 30% by 2030 compared to the figures of 2005.

Creating an energy generation, usage and exploitation plan for the integrated management of directions and schedule of development is a primary task. Although the Municipality has indirect influence in the energetic renewal of buildings only, energetic assessment of the building stock and enhancing its energy-conscious renewal through creating guidelines and incentive regulations are important tasks. In addition to the energy-efficient modernization of public and decorative lighting it is necessary to install smart technology compatible lighting fixtures. The feasibility to introduce an intelligent of an intelligent continuous and automatic measuring system of public utility consumption is also worth considering.

REDUCING EMISSIONS

In accordance with Budapest 2030 target CO_2 emission shall be reduced by 30% by 2030 compared to the figures of 2005, while maintaining good air quality.

The primary task on this field is the comprehensive assessment of emission reduction potential and priorization of tasks. For achieving this goal the Municipality possesses such direct means as applying and optimizing the operation of alternative fuel vehicles in the scope of urban management, as well as the development of district heating services, expansion of the service area and the establishment of district cooling where economical.

INCREASING THE USE OF ALTERNATIVE ENERGY

Based on the Europe 2020 strategy and the Climate and Energy Policy framework by 2030 the target is to expand the usage of alternative energy sources, to raise the proportion of renewable energy usage to 20% by 2020 and then to 27% by 2030.

The first step is to create a map of renewable energy potential in Budapest separately for each type of energy sources. It is important to connect smallscale power plants to the grid and to examine the the possibility of establishing an intelligent grid. By utilizing by-products and end-products as alternative resources generated in various areas of urban management the energy demand of the city may be reduced.

CNG FLEET AND LOGISTIC CENTRE

The Municipal Public Services Company put 63 CNG-fuel vehicles into circulation in 2015, thus reducing the emission by the company's vehicles. These vehicles will soon be operated in the streets of Budapest along computer optimized routes. The efficiency of waste shipment will continue to increase by opening the new logistic centre: after pressing waste will be transported in bigger units to the landfill without the unnecessary use of small-capacity conventional vehicles.

DOOR-TO-DOOR SELECTIVE WASTE COLLECTION SYSTEM IN BUDAPEST

The main goal was to establish an integrated waste management system that allows for the selective collection of paper, plastic and metal waste by households without much effort. In the course of the programme more than 400 000 waste containers were placed. The selective waste collection service is provided free of charge to the citizens.



SMART WASTE MANAGEMENT

The basic principle of smart waste management is to follow waste hierarchy. Higher levels of hierarchy focus on reducing the generation of waste (prevention and re-use), while other levels aim at using inevitably generated waste as raw material and resource (recycling and energetic recovery). The lowest level of hierarchy is landfilling, which shall be minimized in the long term.

REDUCING THE QUANTITY OF GENERATED WASTE

By public awareness raising and providing necessary organizational and infrastructural frames the aim is to reduce the quantity of generated waste and to spread and promote re-use of objects (of any remaining value).

By expanding awareness raising and educational programmes the proper waste management practice could be taught from kindergarten age and shall be incorporated in the curriculum of schools, too. Similarly, the education and encouragement of adult population is also necessary. By providing a new, generally available service for the regulated exchange and re-use of second hand belongings and furniture could help facilitate the population's habit of re-using. Existing and operating awareness raising and re-use centres of Municipal Public Services Company serve such objectives.

INCREASING THE PROPORTION OF WASTE RECOVERY

In accordance with the EU's circular economy package the aim is to reduce the proportion of landfilling to 10% by 2030 parallel to increasing the proportion of recycled municipal waste to 65%. In addition, the proportion of energetic recycling of remaining waste shall also be increased.

For increasing the efficiency of selective waste collection it is necessary to raise public awareness and to apply waste sorting processes in an economical manner. Besides this, there is additional potential in collecting selectively and recovering biodegradable components of municipal waste. By improving the energy efficiency and expanding the capacity of the existing waste recovery plant Budapest may become capable of increased energy recovery of waste which cannot be materially recycled, and through this procedure heat and electricity can be generated. Parallel to this it is required to maximize the energy which can be generated in landfills.

MOBILITY

Mobility plays a key role in creating a liveable city since by choosing environmentally friendly modes of transport we can do a lot to improve our environment not only globally but locally, also. Such culture of mobility shall be developed in which the different modes of transport complement and enhance each other since in the chain of transport anyone might become a pedestrian, car, bicycle or public transport user depending on which the most efficient alternative is. By improving the transport system it shall be ensured that the most suitable mode of transport is available for everyone and that the transport of Budapest is overally as environmentally friendly as possible.



SUSTAINABLE MOBILITY

From the aspect of motorization walking and cycling are environmentally friendly forms of mobility and can become particularly healthy practices by providing the proper infrastructure and environment. By public transport the effective use of resources are ensured, reducing environmental impacts. By the spread of alternative vehicles and car sharing systems for public use the sustainability of car usage is increasing.

PEDESTRIAN-FRIENDLY BUDAPEST

In accordance with Balázs Mór plan the aim is to raise the current rate of pedestrians from 18% to 20% by 2030 by establishing a safe, accessible and non-hazardous environment.

In the course of continuing commenced complex The development of a coherent bike network and public space renovation projects it is important to interconnected road network shall be continued. implement pedestrian and bicycle-friendly aspects. Following the success of early years it is necessary By redistributing public spaces wide and safe peto expand and improve MOL Bubi public bicycle destrian surfaces can be designated, also, by estabsystem. The issue of applying such transport vehiclishing accessible crossings the conditions of barriles and travel rules that allow the transportation of er-free transport can be improved. By establishing a bicycles shall be addressed. In addition, education unified, multilingual information system throughout and awareness raising programmes for participants the whole city, both locals and visitors of Budapest of public transport – especially kids' education – is can easily get informed. particularly important.

TRAM NETWORK OF BUDAPEST

In a global context the tram network of Budapest is extraordinary: regarding network length it is ranked 6th, daily passenger numbers it is ranked 2nd and relative passenger numbers/network length Budapest is the world leader. In recent years beside the renewal of the vehicle fleet new sections (considered as key sections in the network) were constructed and these improvements will be continued: the tram network of Budapest is about to undergo significant improvement and development.

INTERCONNECTED CITY FOR CYCLISTS

In the course of continuing recent impressive developments the aim is to raise the proportion of cycling from the current 2% to 10% by 2030 in accordance with Balázs Mór plan.

ATTRACTIVE PUBLIC TRANSPORT

In accordance with Balázs Mór plan and Budapest 2030 targets the aim is to achieve that by a 5 percent point growth in public transport half of all city traveling shall be covered by public transport by 2030, regarding traveling beyond the border of the city this ratio shall also achieve 50%.

By continuing recent procurement of transport vehicles the aim is to further reduce the average age of vehicles and to achieve full accessibility. After the first steps of the integration of the regional transport it is necessary to strengthen cooperation and expand unified transport services.

In accordance with the Sustainable Resources strategic area's objectives by 2030 all vehicles shall be fully accessible and transport services shall be provided with zero or low emission. Parallel to implementing time-based charge payment and e-ticketing the establishment of a joint fare system in the suburban region as well as the integration of regional services to FUTÁR system are recommended. Based on the developed technologic features of FUTÁR system the dynamic, demand-based organization of public transport is advised. Another important task is to develop competitive urban and suburban shipping with other sections of transport.

ENVIRONMENTALLY SOUND CAR TRANSPORT

In accordance with Balázs Mór plan the aim is to achieve that the proportion of car transport shall decrease from 35% to 20% by 2030 in line with reducing transport land use affecting the city negatively and halving the number of gas and diesel powered vehicles conforming to the EU White Paper on transport.

In order to reduce environmental burden it is required to facilitate the spreading of electric cars by establishing a charging network and by implementing incentive regulations (e.g. parking, entry). Due to its positive effect on the entire transport system car sharing system integrated in public transport shall be developed, but market-based services might be facilitated by administrative measures, also.

FUTÁR

The system called FUTÁR (derived from the Hungarian expression of traffic management and passenger information system) launched in the autumn of 2014 is not only a real-time passenger information platform but a centralized and digitalized, GPS tracking-based traffic management tool, also. FUTÁR allows for the continuous tracking of the traffic, immediate response to disorders, and in junctions with traffic lights it allows for giving priority to the means of public transport.

PROACTIVE TRANSPORT MANAGEMENT

Transport is an indispensable element of the operation of the city having a direct effect on the lives of city dwellers. The entire city could benefit from proactive transport management. The liveability of the city could be improved by the integration of transport systems, by enhancing their security and by reducing the interference with city life.

INTELLIGENT MOBILITY

By systemic and integrated transport development the aim is to establish a flexible culture of mobility combining various modes of transport efficiently in Budapest.

This can be guaranteed by establishing a dynamic, demand-based traffic management system, expanding the public road information system and implementing a unified parking management system. Providing fast and convenient mode altering options; providing services at intermodal hubs, improving their quality; establishing high capacity P+R parking facilities along fixed track suburban routes are essential.

ENHANCED TRANSPORT SECURITY, TRAFFIC CALMING

In accordance with the EU White Paper by reducing traffic and enhancing transport security the aim is to reduce the number of road accidents by 50% by 2020 parallel to improving the liveability of the city both in the downtown and district sub-centres. It is important to relieve the downtown road traffic by establishing the missing elements of infrastructure and by introducing administrational tools. In addition, it is important to ensure the unified protection of residential areas by designating limited speed zones.

EFFICIENT CITY LOGISTICS

In line with the White Paper objectives the goal is to ensure that by 2030 city logistics shall be performed in an environmentally sound manner, by the lowest possible disruption to the transport of the city and city centre areas shall be restricted to zero emission logistics vehicles.

Designation of dedicated loading spots for carriage of goods in the downtown is necessary. The unified regulation of tourist buses, the reduction of number of entries to the downtown, and in accordance therewith the designation of dedicated waiting areas with different waiting period limits are important tasks, also. In the long run the use of zero emission vehicles shall be enforced in the downtown regarding city logistics.



Urban environment is the combination of built and natural environment, in the case of Budapest it is a particularly exciting and harmonic system. It is a key question to what extent an essentially slowly changing urban fabric is capable of adapting to the steadily and rapidly



I IVFABLE URBAN SPACES

A major task of smart urban planning is the efficient use of available potential and facilities. In the course of this natural environment can often be expanded only through creative use of public spaces, however, built environment provides so many creative options which can raise the extent of liveability of urban spaces.

INCREASING GREEN SPACES BY ALTERNATIVE SOLUTIONS

The aim is to increase the area of green spaces by 2030 to 6 m² per capita, at the same time green spaces shall be made available in those areas, too, where the features of building-up make it difficult.

The basis of developing and sustaining green spaces the Danube into a more attractive spot offering variis the establishment of a single cadastre in Budaes and high quality recreational opportunities. pest, adequate legal framework determining required green area ratio and the protection of trees It shall be achieved through improving pedestrian accessibility of the riverbank, expanding and diffeand alleys in a regulatory environment. Revenues rentiating spatially porting capacities, and finally by generated in green areas shall be reinvested in the development and maintenance of these areas. Urincreasing the number of cultural, entertainment ban green network may be expanded by alternative and catering units. In addition to the expansion of recreational opportunities the improvement of flood solutions, by green and recreational arrangement of vacant lots, by periodic utilization of brownfield protection, comprehensive protection of residential sites and by establishing green roofs, green facades. areas is another important task.

RENEWAL OF DOWNTOWN RIVERBANKS

The objective of the Municipality of Budapest is the complex renewal of the downtown sections of the riverbank in several phases. Based on the RAK-PARK design contest the first phase covers the most popular section of the riverbank in Pest, connected on the northern side by the second phase covering the section leading to Dagály Aquarena hosting the 2017 aquatic world championships. The renewal of Buda side's riverbanks could be delivered in the third phase of the project.

Through campaigns inhabitants concerned and maybe even external sponsors may be involved in establishing and maintaining green areas.

THE CITY COEXISTING WITH THE DANUBE

In accordance with Budapest 2030 objectives and contemporary trends the aim is to turn the bank of

SMART TECHNICAL ENVIRONMENT

The aim is to ensure that smart facilities serving the comfort and safety of those in the city appear in the urban spaces of Budapest.

Primarily, it requires the establishment of a smart city enabler network enabling fast and simple installation of smart devices. For maintaining urban spaces several smart technologies could be applied, for instance in the field of waste collection, green area maintenance, public lighting or traffic safety. By providing electric outlets and internet access such digital environment could be achieved which allows for the diverse use of urban spaces. It is recommended to apply smart technologies for developing public safety, also.

TEN THOUSAND NEW TREES FOR BUDAPEST! PROGRAMME

In the course of a three-year-programme launched by Municipality of Budapest in 2016 new trees will be planted in 8 thousand vacant tree spots by 2019. The Metropolitan Horticultural Company planted 1700 trees in the first months of launching the programme selecting 18 tree species which are resistant to urban conditions. Plantations of the first phase concerned 62 streets of 20 districts, sites were selected based on direct requests by the inhabitants.



RESILIENT CITY

Already notable direct effects of the climate change cannot be changed solely by local devices hence adaptation to changed circumstances is required. One way of this is to redirect urban environment to natural processes by relying on them when eliminating emergency situations.

SUSTAINABLE RAINWATER MANAGEMENT

By renewing water management practices the objective is to ensure that Budapest is capable of responding to changing weather challenges as a consequence of the climate change.

The first step in this process is the deposition and re-use of rainwater in properties, the implementation of an incentive and support scheme for those applying water deposition systems and the development of a heavy rainstorm action plan for responding to extreme weather conditions. The development of rainwater drainage infrastructure requires significant investments – however, due to capacity limits the focus is on slowing down drainage and on applying alternative solutions (e.g. permeable pavements, public space reservoirs, revitalization of watercourses). By connecting watercourses to rainwater management systems more intensively small ponds (capable of reserving) and valuable waterfront areas may be created.

MITIGATION OF THE URBAN HEAT ISLAND EFFECT

By the transformation of built environment the aim is to reduce the temperature difference between green areas and densely built-up areas to 5 °C in accordance with the Budapest 2030 target.

For the mitigation of the urban heat island effect it is important to apply climate conscious architectural and urban planning, to deliver looser building in development projects/rehabilitation for better air circulation and the preservation of wind tunnels. A priority target is to increase the ratio of active green areas, to construct green roofs, facades and tree lines especially in densely built-up city areas. In addition to green area development it is important to create new water bodies by reducing the ratio of paved surfaces and by applying cooler types of lining.

SOCIAL PARTNERSHIP

Enhanced life quality and harmonious coexistence is based on social cooperation between the different inhabitant groups, as well as the governance and the inhabitants of the city. In order to achieve this such approach is required where urban governance and inhabitants take up a mutually supportive and enhancing role. Proactive attitude by the governance allows for the activity of inhabitants thus city dwellers can have a direct effect on the development of Budapest. Parallel to this social activity shall be encouraged so that the population could seize available opportunities.



OPEN URBAN GOVERNANCE

Urban governance plays a decisive role in facilitating social engagement since due to its decision making scope city administration is responsible for opening up to social initiatives. Urban governance shall operate as the initiative actor creating the frames of social partnership and shall conduct its operation in a transparent system serving the needs of city dwellers.

OPEN DATA USAGE

The aim is to ensure that Budapest could use extensive statistical data generated in the course of its operation efficiently for the benefit of the population and the urban management.

It is based on establishing and ensuring the publicity of a single municipal database and on stimulating the exploitation of potential inherent in gathered data. In line with this a unified online platform shall also be created to enable the provision of information and administration related to municipal services and public issues.



BUDAPEST CITY IDENTITY NONPROFIT LTD. (BVA)

In addition to creating a successful city brand BVA is also responsible for creating connection – open on both sides – between city dwellers and the Municipality. Beside embracing minor but useful initiatives BVA also aims at encouraging social dialogue, a good example of which is the operation of Budapest Project Gallery.

INITIATIVE URBAN DEVELOPMENT

By involving the public in the decision making process the aim is to enhance public activity and the social support for urban management.

In order to achieve this it is important to provide inhabitants with opportunities to formulate their opinion effectively in current urban development issues, also to support development projects delivered by participatory planning. The renovation of City Hall with the City Hall's Park and opening the City Hall for dwellers could be a symbol of open urban governance.

CONSCIOUS SOCIETY

The basis of operation for an active, open, value-based city is an actively engaged, inclusive, cooperative population. Urban governance efforts to enhance social engagement pay off effectively if governance measures result in creating an active society capable of seizing available opportunities.

ACTIVE SOCIETY

The aim is to represent potential inherent in the population in urban development and to facilitate that community units actively participate in development projects.

Public awareness shall be raised and attention shall be drawn to available opportunities and the youth shall be encouraged to engage in urban development. For effective public initiatives professional support shall be provided for active civil communities.

EQUAL OPPORTUNITIES

The aim is to transform the population of Budapest into an open and inclusive community where all social groups are considered equal members of society regardless of gender, age, sexual orientation, disabilities, minority or religious affiliation, etc.

A primary task is to enhance the inclusivity of city services and facilities, and to achieve full physical and info communication accessibility. In addition to publicly available facilities it is important to provide sensitive services to address issues targeted to and directly affecting disadvantaged people. Raising awareness and social sensitivity promotes the inclusion of disadvantaged groups.

PRESERVING THE DIVERSE AND LIVELY NATURE OF BUDAPEST

By the active cooperation of the Municipality the aim is to stop the depopulation of certain parts of the city and to prevent disadvantaged social groups from being forced out.

In order to achieve this it is necessary to foster the development of a more flexible housing stock which for one thing increases social mobility, and for another thing it enhances the preservation of diverse residential communities. Conscious residential community actions may serve as a useful means of protecting residential communities.



BARRIER-FREE MEANS OF TRANSPORT

Thanks to procurement projects of recent years by today 80% of buses, 60% of trolleys and 30% of trams are comprised of lowfloor vehicles. 97% of bus routes and 100% of trolley routes are barrier-free, furthermore, by the efficient organization of vehicles all bus and trolley routes are operated with lowfloor vehicles at weekends. By the purchase of CAF trams in addition to Nagykörút the routes of tram 1 and 3 as well as the interconnected tram network of Buda will become fully accessible. By operating Combino trams in addition to trams 4 and 6 now tram 1 will also become fully accessible at weekends. Achievements in helping people with disabilities are demonstrated by the special award of "Access City 2015" granted for Budapest by the European Commission.

SMART ECONOMY

Cities play a significant role in enhancing the sustainability of economy since by reducing pollution, delivery and travel distances thus the ecological footprint as well as by the spread of online corporate culture globalized activities are partly redelegated to city level. Therefore it operated in line with the conscious utilization of the resources of its region, in a sustainable

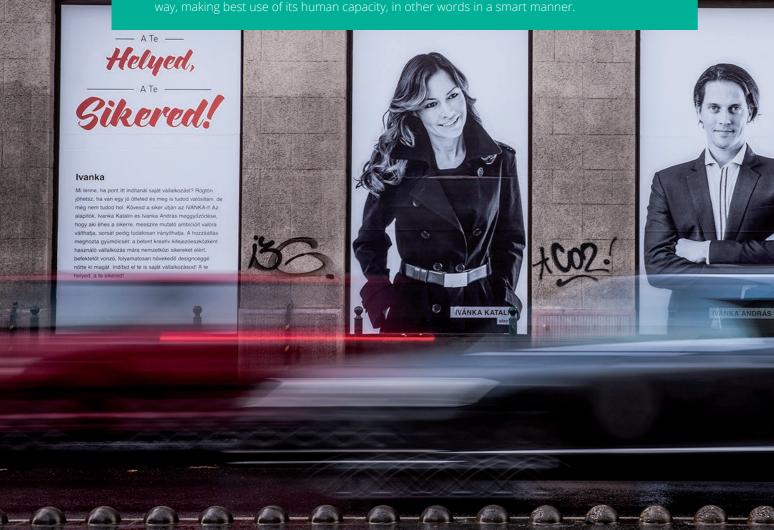


Helyed, Sikered!

- A Te -----

lvanka

Mi lenne, ha pont itt inditanál salát vállalkozást? Bögtön v ió ötleted és meg is tudod valósítani, d nőtte ki magát. Indítsd el te is saját vállalkozásod! A te



SUSTAINABLE FCONOMY

Responsible management of our limited resources requires cities to pursue a sustainable economic operation. An advantage of high population characteristic of cities is the enhanced ability of bigger communities to act (in contrast with smaller settlements), enabling a more efficient use of assets. Beside utilizing potential entailed in community economy another facilitator of sustainability could be the establishment and boosting of local food production, supplying high quality food for the city while reducing the ecological footprint of production.

COMMUNITY ECONOMY

The aim of the Municipality is to support common approach based economic forms by exploiting potential in synergies.

In order to achieve this community based utilization of unused business premises shall be fostered, which is beneficial not only for SMEs but contributes to the renewal of the urban environment and may also facilitate the strengthening of subcentres of districts. Rögtön jövök! (Be right back!) and Lakatlan (Uninhabited) programs were implemented with this aim by the support of the Municipality of Budapest in recent years. Asset utilization based on community use might play a significant role in community economy.

BROWNFIELD REGISTER

Commissioned by the Municipality of Budapest the Brownfield Register assessing brownfields in Budapest identified and gathered unused and under-utilized areas in Budapest by presenting the attributes and development frameworks of them. The online database provides interactive support for investors to find premises suitable to their goals by combined research and filtering options. Such database enhances conscious and efficient management of the city's reserves.

SUSTAINABLE FOOD SUPPLY

By the renewal of the tradition of cooperation between the capital city and the countryside the aim is to ensure sustainable foundations for the food supply of Budapest in order to cover the increasing demand of Budapest directly from its region.

Through markets and market halls managed by the municipalities the sale of local food products shall be fostered. Engaging available areas on the outskirts of the city in production may contribute to preventing the coalescence of settlements and may also enhance awareness-raising.

COMPETITIVE LOCAL ECONOMY

The performance of local economies largely determines the development and welfare of wider communities, countries. The key therefore is to be found in the development of local economy: if it works competitively, wider communities prosper, also. Recognizing the national economic role of Budapest the Municipality aims at supporting local businesses enabling Budapest to act as a strong economic area.

BUDAPEST, AS A STRONG ECONOMIC AREA

SUPPORTING LOCAL BUSINESSES

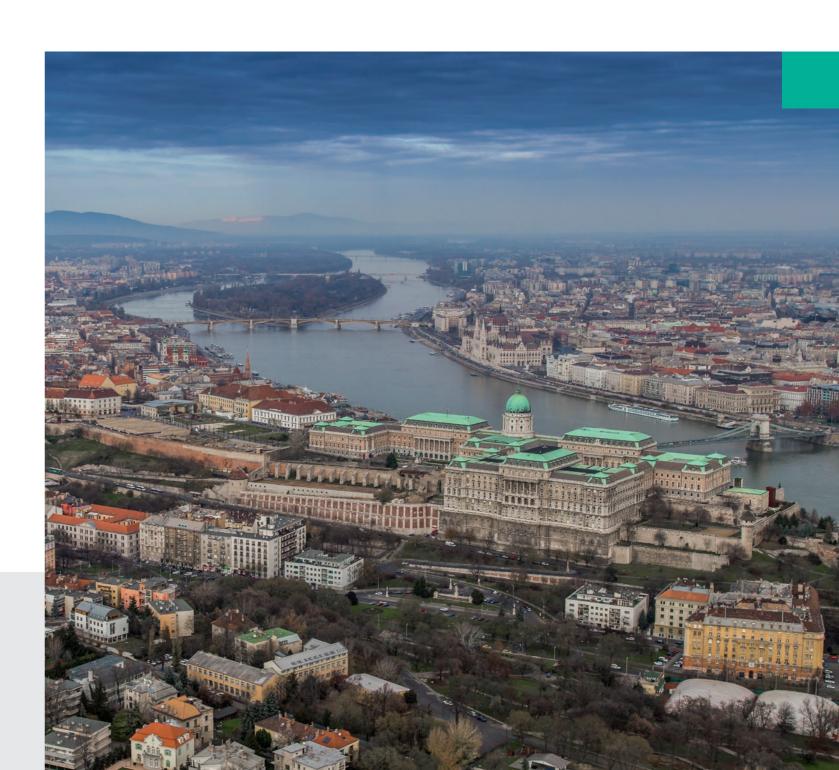
In accordance with Budapest 2030 objectives the goal is to establish a single and strong regional economic area by which Budapest may become capable of raising its per capita GDP to 1.25 times the EU average.

In order to achieve this, first of all it is necessary to develop efficient partnership with the Government, relevant municipalities, as well as market, professional and civil actors for the harmonized development of the economic space of Budapest. Besides, it is important to unify and promote Budapest brand on online platforms and intense city marketing is required for encouraging investments The aim is to achieve that Budapest gains new momentum and becomes a more ideal site for businesses by supporting SMEs considered as the engine of the economy of Budapest and by creating a supportive business environment.

This may be achieved through organizing professional mentoring programmes, incubation programmes, workshops and consultation for start-ups and SMEs. Parallel to this, districts shall be involved in supporting businesses, incubation capacity of district municipalities shall be improved.

BUDAPEST MICRO LOAN PROGRAMME

The Budapest Enterprise Agency provides preferential loans for Budapest-based micro businesses employing less than 10 people. It is possible to apply for this loan to develop the company or to finance costs incurred in contracts concluded previously. The Agency provides professional assistance, mentoring in creating business plans for applicants.



PHOTOS

- p. 1 Budapest 2024 Nonprofit Ltd.
- p. 2: Áron Süveg, Budapest City Identity Nonprofit Ltd.
- p. 4: Budapest 2024 Nonprofit Ltd.
- p. 11: Áron Süveg, Budapest City Identity Nonprofit Ltd.
- p. 12: FŐTÁV Budapest District Heating Works Ltd.
- p. 15: Áron Süveg, Budapest 2030
- p. 16: Budapest 2024 Nonprofit Ltd.
- p. 18: FKF Municipal Public Services Company Nonprofit Ltd.
- p. 20: Áron Süveg, Budapest City Identity Nonprofit Ltd.
- p. 24: Áron Süveg, Budapest City Identity Nonprofit Ltd.
- p. 26: Budapest 2024 Nonprofit Ltd.
- p. 28: Júlia Lily Hegyi, Budapest City Identity Nonprofit Ltd.
- p. 31: BKK Centre for Budapest Transport
- p. 32: Milán Tóth, Design Terminál
- p. 35: Budapest 2024 Nonprofit Ltd.