**Interreg Danube Transnational Programme**

**CHESTNUT project**

**DTP1-1-037-3.1**

*Work Package 3: Mobility scenarios*

*WP Leader: Pannon Business Network Association*

*Activity 3.2.: Elaboration of the transnational strategy (based on mobility scenarios)*

*Deliverable: 3.2.3.:*

***Mobility scenarios of 12 project partners' regions***

Test Mobility Scenarios of Sárvár Functional Urban Area

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| Project Number | DTP1-1-037-3.1 |
| Project Name | CompreHensive Elaboration of STrategic plaNs for sustainable Urban Transport |
| Project Acronym | CHESTNUT |
| Work package | WP3 – Mobility scenarios |
| Activity | Activity 3.2 – Elaboration of Transnational Strategy (based on mobility scenarios) |
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| WP responsible partner | Pannon Business Network - PP8 |
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| Author | Mihály Lados |
| Contributors |  |

**Document History**

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# 1.SCENARIO 1: MUST- BUSINESS AS USUAL

## 1.1. Information about this test scenario

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| FUA Name | Sárvár |
| Scenario Name | **“Must” - Business-as-usual** |
| Date | 01.12.2017 |
| Policy target year | 2030 |
| Contributor | Mihály Lados |

## 1.2. Describe this scenario

* Max. in 10 lines

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| * Current transport/mobility policy does not change in Sárvár FUA in next 20 years; * Current transport/mobility policies of the EU, Hungary and Vas county do not change in next 20 years. |

## 1.3. Assessment of consequences

*How will the demographic structure of your FUA and the core city in it be in your planning horizon around 2025 to 2030? (No of population, age structure, etc.)*

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| Decrease of the population number of Sárvár FUA will continue but with slight difference between core city and rest of FUA**. Sárvár loses 10% of** its actual population. In rest **of FUA** it will be higher. It may reach **20%**. Increasing **ageing population is the common feature** in the entire FUA.  At the same time, the growth of temporary inhabitants is the core city may continue because of the relatively easy daily access the Austrian job market.  The first demographic process increase the role of **public transport** between the core city and municipalities of Sárvár FUA, especially related to public health services.  The demographic process of temporary inhabitants increases the outflow of daily commuters from the city in the morning period and the inflow in the afternoon period. |

*Which types of transport technology will have been diffused or will disappear in your FUA in your planning horizon around 2025 to 2030?*

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| Without **intervention in existing transport policies and the continuation at the same level** as it happen now public transport will continue to decline. At the same time, increases the pressure on the **actual road system both in** the core city, and between core city and the rest of FUA and in each municipality of rest of FUA. |

*How will the share of transport mode change in your core city and FUA? Will there be higher share of journey with cars or less? Will it increase or decrease the share of public transport? Will there be more cyclists and walkers, or less?*

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| By the actual **trend of private car density, its level will increase** by 10% and will reach 400 cars per 1,000 inhabitants. Without interventions in road infrastructure (built and /or signed), **pedestrian and bicycle traffic cannot play higher role** in modal split of Sárvár FUA. |

*Which part of your future prediction is not in line with upper-level transport policy (of region, country and EU)?*

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| The actual national policy focuses on the improvement of motorway system to increase the access of the major regional centers. Over the last 5-10 years period it was completed related to Szombathely, the neighbor regional center of Sárvár FUA. In future, the link to the **Austrian motorways will continue in both side of the border.**  The betterment of the higher level road system will increase the use of private cars in Sárvár FUA. In summer period, the better of the city may also increase the number of visitors of spa and wellness in Sárvár commuting by private cars to Sárvár.  Without interventions in **public transport** (especially in the improvement of access by the cross-border railway lines) the daily outflow and inflow of **private cars will also cause a further increase** on the pressure on the road system of Sárvár FUA **and increase in CO2 emission**. This process **may effect the “Health Resort**” status of Sárvár. |

*Is the overall situation improving the living quality of your FUA?*

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| Based on the previous predictions on demographic, modal split and transport policy trends, **living quality of Sárvár FUA will sligthly decline**, which processes effect the core city stronger than the rest of FUA. |

*What are the effects on particular demographic groups, such as children, elderly, low-income group, foreigners and migrants, students, mobility-impaired people, etc.?*

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| Increasing number and share of **elderly people** needs better access **of the core city by public transport**. **Decreasing number and share of school age** population will lower the pressure on the local road system, at the same time **it decreases the demands for public transport**. In this respect, the strongest effect on mobility will be by the **working age population** because of daily **inflow and outflow** in Sárvár FUA commuting to workplaces, and visitors/tourist of spa and wellness in the core city, more frequently in the main tourism season between May and September. |

*How will the transport-related cost paid by each end user change? How will the transport-related cost paid by your municipalities or regional government change?*

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| At a moment, local **municipalities cannot effect transport related costs.** Pricing depending on energy distributors and the national governments. |

*Will the overall change will lead to increase or decrease of transport-related energy consumption in your FUA?*

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| By the current trends **transport related energy consumption will increase** because of the potential 10% increase in number and density of private cars in Sárvár FUA. |

*Will the overall change will lead to increase or decrease of transport-related CO2 emission in your FUA?*

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| Without change in transport and energy related policies on different level of **governance CO2 emissions will increase in Sárvár** FUA which may effect the “Health Resort” status of Sárvár. |

# 2. SCENARIO 2: „Fostering active transport modes (walking and cycling)”

## 2.1. Information about this test scenario

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| FUA Name | Sárvár FUA |
| Scenario Name | **“Fostering active transport modes (walking and cycling)” (GROUP 1)** |
| Date | 12.01.2017 |
| Policy target year | 2030 |
| Contributor | Mihály Lados |

## 2.2. Describe this scenario

* Max. in 10 lines

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| Optimizing the road network for motor vehicles and promoting "active" modes of transport, such as walking and cycling.   * Complete Sárvár Ring to reach Sárvár Industrial Park * More effective organization/management of public transport * Implementing new bicycle lanes within the core city and between Sárvár and rest of Sárvár FUA; * Implementing new walking paths and related infrastructure and facilities (small bridges, furbishment of walking paths) within the Health Resort Area and to make better and safer link to the Health Resort Area, including city center from the neighboring living districts of Sárvár (like Kertváros and Hegyközség) * Links to the national and the European bicycle lane network |

## 2.3. Assessment of consequences

How will the demographic structure of your FUA and the core city in it be in your planning horizon around 2025 to 2030? (No of population, age structure, etc.)

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| Decrease of the p**opulation number of Sárvár FUA will continue but with slight difference between core city and rest of FUA.** Sárvár loses 10% of its actual population. In rest of FUA it will be higher. It may reach 20%. **Increasing ageing population** is the common feature in the entire FUA.  At the same time, the growth of temporary inhabitants is the core city may continue because of the relatively easy daily access the Austrian job market.  **The first demographic process increase the role of public transport between the core city and municipalities of Sárvár FUA, especially related to public health services.**  The demographic process of temporary inhabitants increases the outflow of daily commuters from the city in the morning period and the inflow in the afternoon period. |

Which types of transport technology will have been diffused or will disappear in your FUA in your planning horizon around 2025 to 2030?

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| The increase of **motorized traffic will continue because of the raising trend of number and density of private cars in Sárvár FUA**. **A better organization and management of public transport (e.g. between transport modes like train and bus**) **may reduce the effect of the private cars and it would provide a better composition of transport technology in the FUA.** The e**xtended and completed bicycle and walking lanes establish** the network of these transport modes within and across Sárvár FUA, which encourages local inhabitants of FUA to commute within and into the core city by bike to work, to leisure, to study, to get public services. **Getting the part of the national and European bicycle lanes will attract more tourists arriving by bicycle to Sárvár Health Resort.** |

How will the share of transport mode change in your core city and FUA? Will there be higher share of journey with cars or less? Will it increase or decrease the share of public transport? Will there be more cyclists and walkers, or less?

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| Motorized transport modes will increase because of the growing number and dense of private cars, additionally the further development of the Health Resort and the Industrial Park of Sárvá**r. At the same time the newly establish network of bicycle lanes will increase the use of bikes significantly both within FUA and also getting the Health Resort from outside of FUA by tourists. The established network of walking lanes will also increase the share of pedestrians in the composition of local traffic**. |

Which part of your future prediction is not in line with upper-level transport policy (of region, country and EU)?

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| In the actual national policy on transport has more focus on **regional centers like Szombathely, the closest city with county right.** There is no major road development related to Sárvár FUA (like the third item of Sárvár Ring) and, also there is less focus on bicycle lanes network development. The only direct development related to Sárvár FUA is the development of Celldömölk-Szombathely railway lane, which passes Sárvár. |

Is the overall situation improving the living quality of your FUA?

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| Increasing share of **biking and walking, additionally more effective use of public transport**, will significantly **improve the quality of life in Sárvár FUA**. This situation contributes to maintain the Health Resort status of Sárvár. |

What are the effects on particular demographic groups, such as children, elderly, low-income group, foreigners and migrants, students, mobility-impaired people, etc.?

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| Beneficiaries of the more attractive development of **pedestrian and bicycle paths are the young generations (scholars) and elderly and low-income people**. These are the main age groups also related to the bike tourists. However, working age group also enjoy the benefit of the better access of workplaces by bike within the city and into the core city. The provision of better-organized and managed public transport also makes easier for these groups to carry out their traffic routes. |

How will the transport-related cost paid by each end user change? How will the transport-related cost paid by your municipalities or regional government change?

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| At the moment, local municipalities cannot effect transport related costs, except fee of parking. Pricing depending on energy distributors and the national governments. Municipality has a right to set parking fees. Actually, Sárvár does not employ parking fee. In the future, only in intermodal sections of the city (like at Sárvár railway station) would be acceptable free parking. |

Will the overall change will lead to increase or decrease of transport-related energy consumption in your FUA?

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| The actual trend of growing number and dense of private cars and increasing number of daily visitors in the Spa and guests night in hotels in Sárvár **will lead the increase of energy consumption**. The measure of this growth will depend on:   * the trend of average age of private cars (younger composition may lead lower average consumption of the private car stock) – this is an actual process in Sárvár FUA; * the trend of the change in types of engine of private cars, especially the diffusion of hibrid and electric engines – this is a longer process in Sárvár FUA * the increase of volume and share of biking and **walking after the improvement of bicycle and pedestrian paths in Sárvár FUA** – it is depending on the implemented actions on the actual patchwork of bicycle and walking paths towards completed network; * the increase of the volume and share of the better organizes and managed public transport – it is also depending on the actions implemented. |

Will the overall change lead to increase or decrease of transport-related CO2 emission in your FUA?

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| **Without** the proposed interventions related to **public transport**, walk and bike, an overall increase of energy consumption related CO2 emissions **would be much faster,** which would effect the “Health Resort” status of Sárvár, significantly. |

# 3: SCENARIO 3: “Very high cost of energy (fuel and electricity)”

## 3.1. Information about this test scenario

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| FUA Name | Sárvár FUA |
| Scenario Name | **“Very high cost of energy (fuel and electricity)” (Group 2)** |
| Date | 01.12.2017 |
| Policy target year | 2030 |
| Contributor | Mihály Lados |

## 3.2. Describe this scenario

* Max. in 10 lines

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| * Fuel **price is double in 2030 compared** to now; |

## 3.3. Assessment of consequences

How will the demographic structure of your FUA and the core city in it be in your planning horizon around 2025 to 2030? (No of population, age structure, etc.)

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| Decrease of **the population number of Sárvár FUA will continue** but with slight difference between core city and rest of FUA. Sárvár loses 10% of its actual population. In rest of FUA it will be higher. It may reach 20%. **Increasing ageing population is the common feature in the entire FUA.**  At the same time, the growth of temporary inhabitants in the core city may continue because of the relatively easy daily access the Austrian job market.  The first demographic process **increase the role of public transport b**etween the core city and municipalities of Sárvár FUA, especially related to public health services.  The demographic process of temporary inhabitants increases the outflow of daily commuters from the city in the morning period and the inflow in the afternoon period. |

Which types of transport technology will have been diffused or will disappear in your FUA in your planning horizon around 2025 to 2030?

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| Based on the improvement of public transport – railway system (infrastructure, services, facilities, inter-modality) and public buses at least within Sárvár FUA –, additionally the biking and walking path network there will be a **significant shift from private car use to the mobility by public transport, bike and foot.** |

How will the share of transport mode change in your core city and FUA? Will there be higher share of journey with cars or less? Will it increase or decrease the share of public transport? Will there be more cyclists and walkers, or less?

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| If the improvement of public transport **has been supported massively**, this share **will increase the use of foot and bike will increase significantly as well.** Instead of **private cars, a higher share of lower income people in Sárvár FUA will use public transport in their daily transport to** work. |

Which part of your future prediction is not in line with upper-level transport policy (of region, country and EU)?

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| The precondition for this scenario is that if the **National Transport Strategy** provides higher **importance for public transport and bike lanes development** (completing national network and making links to the European bike lanes axes). One of the good sign towards this scenario is the actually published **National Public Bus Program, which lower the average age of the Hungarian public buses over 14 years below 10 years**. |

Is the overall situation improving the living quality of your FUA?

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| **According to the “Health Resort” status of Sárvár this scenario provides the sustainability for Sárvár FUA by the significant decrease of CO2 emission.** **It makes more livable the FUA and accelerates further use of bikes and foot within the city.** Good quality of air also keeps the touristic attraction of the Spa and Health Resorts of Sárvár. |

What are the effects on particular demographic groups, such as children, elderly, low-income group, foreigners and migrants, students, mobility-impaired people, etc.?

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| This scenario has most significant effect on **lower income working age population of Sárvár FUA** both relation to inflow and outflow of employees. The improvement of the biking and walking path network makes more attractive this mode of transport for **scholars** within the core city and for special biking tourist groups from outside of Sárvár FUA (youngsters and eldelry groups). |

How will the transport-related cost paid by each end user change? How will the transport-related cost paid by your municipalities or regional government change?

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| The key element of this scenario is the **double costs of fuel.** Beside this element municipality has a right to set parking fees and design the **financial conditions of a bike-sharing (and car-sharing) system**. |

Will the overall change lead to increase or decrease of transport-related energy consumption in your FUA?

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| By the actions related to the improvements of different non-motorized transport modes, by the proposed scenario the **transport** **related energy consumption will decrease in Sárvár FUA. This condition ensures to sustain the “Health Resort” status of Sárvár.** |

Will the overall change will lead to increase or decrease of transport-related CO2 emission in your FUA?

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| This scenario will reduce **traffic-related CO2 emissions significantly**. |