A.1 Template for scenario analysis

|  |  |
| --- | --- |
| Project Number | DTP1-1-037-3.1 |
| Project Name | CompreHensive Elaboration of STrategic plaNs for sustainable Urban Transport |
| Project Acronym | CHESTNUT |
| Work package | WP3 - Transnational strategy |
| Activity | Activity 3.2 – Elaboration of Transnational Strategy (based on mobility scenarios) |
| Title of Working Document | Analysis Methodology for Concequences |
| WP responsible partner | Pannon Business Network - PP8 |
| Dissemination Level | Public |
| Date of Preparation | 02.10.2017 |
| This document must be referred to as |  |
| Author | Nathalie Wagner |
| Contributors | Takeru Shibayama, Johann Rauer, Nathalie Wagner |

**Document History**

|  |  |  |
| --- | --- | --- |
| Version | Date | Note |
| Template | 02.10.2017 | Template by Takeru Shibayama (VUT) |
| 01 | 02.11.2017 | By Ing.-Büro Johann Rauer |
| **02** | 03.11.2017 | Wagner Nathalie |
|  |  |  |
|  |  |  |

# 1. Information about this test scenario

|  |  |
| --- | --- |
| FUA Name | Region Weiz |
| Scenario Name | **Business-as-usual** |
| Date | 02.11.2017 |
| Policy target year | 2030 |
| Contributor | Johann Rauer |

# 2. Describe this scenario

* Max. in 10 lines

|  |
| --- |
| This scenario describes the changes in traffic and mobility behavior that will affect our life at regional, national and EU level over the next 20 years without changes in transport and mobility policy. |

# 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.)

|  |
| --- |
| Regardless of the choice of transport / mobility policy over the next 20 years at regional, national and EU level, there will be a strong change in the age structure towards higher growth of the over-60s group. This means that more and more older people want to be mobile even in old age, but because of their age-related physical limitations, they will no longer be able to drive a vehicle themselves. In order to meet their mobility needs, they need the help of "third parties". |

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

|  |
| --- |
| Without intervention in existing transport policies and the continuation at the same level as it happen now public transport will continue to decline, especially in provincial areas. Partly there will be isolated areas where there will be no public transport at all. |

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?

|  |
| --- |
| By keeping the existing transport policy the high proportion of the use of motorized private transport (MIV) will continue. Public transport as well as pedestrian and bicycle traffic will continue to take a back seat and won’t grow. Maybe the only difference will be the kind of used mobility: the proportion of e- mobility would possible grow. |

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

|  |
| --- |
| The city has to take care what is going on in the region, in the country and in the EU, therefore we have to be in line, but the opinion of our external traffic expert is that the EU, national and regional governments will not change over the next 20 years. |

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

|  |
| --- |
| By the keeping the current transport and mobility policies there won`t be an improvement of the quality of life. More cars also need more roads, more parking places and that means we will lose more and more space. |

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

|  |
| --- |
| As more and more older people want to be mobile in their old age, they will not be able to drive a vehicle themselves because of their age-related physical limitations. In order to meet their mobility needs, they need the help of "third parties". If the public transport possibilities are going lower the low-income people, foreigners, migrants, mobility-impaired people will have problems to leave their cities, maybe they have to leave their home-city, this can also happen to students or pupils or working people. |

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?

|  |
| --- |
| There is also no change in transport costs for the end user. The increased use of the motorized individual vehicle generates higher costs for the end user. But also the country and the municipality have to make huge investments in the provision of transport infrastructure, such as roads and parking lots. |

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

|  |
| --- |
| There will be no changes as this scenario continues the current state. |

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

|  |
| --- |
| Maintaining existing transport and mobility policies and adhere to intensive car use will not lead to any change in energy consumption, but to an increase in the consumption of fossil fuels and increased CO2 emissions. The changeover to e-vehicles does not change this either, since e-cars also have an intensive energy consumption and very often the peak power can only be covered by nuclear power. |

# 1. Information about this test scenario

|  |  |
| --- | --- |
| FUA Name | Kleinregion Weiz |
| Scenario Name | **“Making public transport more attractive” and “Fostering active transport modes (walking and cycling)” (GROUP 1)** |
| Date | 02.11.2017 |
| Policy target year | 2030 |
| Contributor | Johann Rauer |

# 2. Describe this scenario

* Max. in 10 lines

|  |
| --- |
| Optimizing the road network for motor vehicles, increasing the attractiveness of public transport and promoting "active" modes of transport, such as walking and cycling. |

# 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.)

|  |
| --- |
| Regardless of the choice of transport / mobility policy over the next 20 years at regional, national and EU level, there will be a strong change in the age structure towards greater growth of the over-60s group. This means that more and more older people want to be mobile even in old age, but because of their age-related physical limitations, they will no longer be able to drive a vehicle themselves. In order to meet their mobility needs, they need the help of "third parties". On the other hand the number of inhabitants in the core city of Weiz is because of the good working situation constantly increasing (from 2010 to 2030 10% in the core city and up to 25% with the new rural parts of Weiz) and most of them are at the working age from 15 to 30 years. |

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

|  |
| --- |
| What we want is that the public transport covers 80% of the population of the FUA but if the work of the public transport systems is going on in the way as it is now a lot of bus lines and railways lines will disappear and the people will be more and more depending on private cars. |

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?

|  |
| --- |
| High service frequencies and longer service hours are possible.  The use of public transport will rise significant.  Implementation of 200 km of cycle paths over the next 5 years and introduction of shared space or pedestrian zones in all local centers within FUA - this significantly increases the number of footpaths and cycle paths.  Introduction of "superblock" neighborhood model as in Barcelona |

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

|  |
| --- |
| The municipality has to work in adjustment with the regional, national and EU policy and we will coordinate our work always with these requirements. |

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

|  |
| --- |
| All the activities and measures significantly improve the quality of life in the overall situation. Less vehicle traffic = less land use and fewer air pollution, healthier people. |

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

|  |
| --- |
| Especially for those groups who do not have their own vehicle today, such as children, low-income, foreigners and migrants, students and people with reduced mobility, but also older people benefit from these two scenarios. The provision of better public transport, but also the more attractive development of pedestrian and bicycle paths, makes it easier for these groups in particular 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?

|  |
| --- |
| Introduction of an integrated ticket system for all types of public transport (bus, tram, railway). Public transport is made affordable for everyone. The parking system must be changed: in the core city parking has to be most expensive and at the border of the city you can offer free parking, but the city has to establish there mobility hubs with the possibility of cheap use of alternative mobility offers.  Switching to this scenario will not increase transport and mobility costs for the municipality. The more people use public transport, the more economical it becomes. When sticking to the current situation, massive investments would have to be made in the expansion of roads and parking lots. |

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

|  |
| --- |
| By switching to these two scenarios, there will be no increased energy consumption for traffic and mobility for the municipality. The more people use public transport, the more economical it becomes. When sticking to the current situation, massive investments would have to be made in the transport related energy consumption. |

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

|  |
| --- |
| By switching to public transport, foot and bike, an overall reduction in energy consumption and CO2 emissions will take place. |

# 1. Information about this test scenario

|  |  |
| --- | --- |
| FUA Name | Kleinregion Weiz |
| Scenario Name | **“Very high cost of energy (fuel and electricity)” and “National road pricing on all roads” (GROUP 2)** |
| Date | 02.11.2017 |
| Policy target year | 2030 |
| Contributor | Johann Rauer |

# 2. Describe this scenario

* Max. in 10 lines

|  |
| --- |
| Raise energy costs (double) and introduce nationwide road user charges including all types of urban roads. |

# 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.)

|  |
| --- |
| The population of FUA is growing rapidly and will increase by 50% in 2050 compared to today. At the same time, the population of FUA is getting older, and the average age of citizens is increasing by 10 years until 2050. |

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

|  |
| --- |
| The private car use (MIV) is affordable only for the "rich", use of foot and bike and of public transport will massively increase. |

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?

|  |
| --- |
| The use of foot and bike will increase massively. If the expansion of public transport is massively promoted, this share will increase as well. |

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

|  |
| --- |
| The precondition for this scenario is that the EU decides to ban private car ownership by 2025, with a transitional period of 20 years. All types of cars may be owned by companies, but not by private individuals. |

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

|  |
| --- |
| Obviously, this would also improve the quality of the environment, but not necessarily improve the quality of life, as there will be a high concentration of population in large cities.  In addition to the positive effects on the environment and energy consumption, this scenario has the disadvantageous effect that individual mobility is only affordable for higher-income groups and that the population will migrate from the countryside to the city. |

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

|  |
| --- |
| The problem, which is given in this scenario, however, is that the MIV is affordable only for the "rich". This system is also problematic in sparsely populated areas where adequate infrastructure for public transport cannot be provided by economic means. This would lead to a "thinning out" of rural areas and a significant population decline. In the rural municipalities, only the "elderly" remain, the "young" are forced to move into the city. |

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?

|  |
| --- |
| The pricing is 2% of the average annual household income per vehicle. |

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

|  |
| --- |
| With the change of modes the transport related energy consumption will not raise.  Introduction of renewable energies could accelerate energy costs but if you are looking at the whole life period of cars and transport systems the energy consumption will not be more expensive than the old modes. |

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

|  |
| --- |
| This scenario will reduce traffic-related CO2 emissions to a minimum. |