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1. The GreenPATH project

GreenPATH will develop an innovative approach to commuting in Central European Functional Urban Areas (FUAs). It aims to co-design smart and green mobility solutions with public and private stakeholders, benefiting students and employees by promoting sustainable transport. The project addresses the challenge of decarbonizing urban mobility through tested solutions, strategies, and action plans. It involves 11 partners, including local administrations, mobility agencies, operators, universities, and research bodies from EU Regions where transport is a major contributor to greenhouse gas emissions.

GreenPATH focuses on sustainable mobility within FUAs and tackles commuting challenges through integrated governance of commuter flows and innovative mobility management solutions. The project will utilize new technologies and data-sharing platforms to enhance transport efficiency and improve the commuting experience with real-time information and personalized travel options. Transnational cooperation is key, bringing together expertise from Italy, Germany, Austria, Slovenia, Hungary, and Croatia. This cooperation contributes to overcoming national legislative barriers and creating applicable mobility management tools across the region. GreenPATH aims to deliver formal cooperation agreements, collaborative solutions for sustainable mobility, a comprehensive strategy, and action plans for each FUA. Decision-makers will adopt these outputs to ensure long-term implementation and cooperation beyond the project's completion, benefiting a wide range of users, including local authorities, service providers, and educational institutions.

Territorial needs and gaps analysis (TNGA) is a strategic tool in the territorial development process. It helps to understand the challenges and opportunities in FUAs in the context of transforming urban mobility, analysing home-to-work movements, and mapping relevant factors for sustainable mobility improvements.

Activity 1.1 has the objective to gather comprehensive data and insights to support the development of sustainable transport and mobility solutions, targeted to the needs of different categories of local commuters (students, employees, other businesses). By assessing the needs, gaps, and opportunities in FUAs, GreenPATH aims to enhance transportation efficiency, reduce travel time, and minimize the environmental impact of daily commutes. The Territorial Needs and Gaps Analysis gathers all FUA's contributions and overall conclusions for this activity.

2. Introduction

The Territorial Needs and Gaps Analysis (TNGA) is a key tool in the GreenPATH project, designed to identify a comprehensive and up-to-date picture of mobility management and home-to-work commuting in each Functional Urban Area (FUA). This will form a baseline of data and information useful to support all subsequent project activities; in particular, it will provide input for identifying KPIs to assess Mobility Management measures (Deliverable 2.3.1, “Methodology for the Pilots Implementation”).This document outlines the methodological principles that underpin the territorial needs and gap analysis for the GreenPATH Functional Urban Areas (FUAs) in which different GreenPATH pilot actions are developed. Conducting a comprehensive analysis of territorial needs and gaps is essential for producing reliable results and setting a realistic objective for improvement, which will serve as a strong foundation for strategic decision-making and advancing the GreenPATH project.

The primary objective of this report is to establish a common methodology assisting the project’s partners in identifying the key needs and gaps at the FUA level to be considered for the development of the seven GreenPATH pilot action locations:

- **Berlin**
- **Kecskemét**
- **Maribor**
- **Monza**
- **Osijek**
- **Ravenna**
- **Vienna**

These FUAs have been selected in the proposal phase for their:

- Critical Importance: Areas with a high concentration of users or where existing infrastructure presents significant safety or accessibility challenges.
- High-Impact Potential: Areas where interventions can yield significant benefits, such as extending bus routes closer to central locations or enhancing bike lanes to connect with city-wide networks.

In addition to the analyses implemented for the seven pilot area, CEI-ES will carry out a home-to-work analysis focused on the Trieste FUA and, more particularly, on the cross-border area IT-SI. This study, to be finalized by April 2025 (M12), could slightly differ from the structure of the standardized approach described in the following paragraphs due to the peculiarity of the analysed cross-border commuting flows and the particular data collection process.

Additionally, the report outlines the structure of the **Joint Transnational Review Workshops** (JTRW). The JTRW aims to share knowledge among the project partners and the Central Europe community on the key needs and results of the need and gaps analysis. It is an online event where all the project's partners are called to present the key results of the TNGA and the opportunities to develop better mobility management policies and measures at different territorial scales.

LP-ITL drafted this report with input from the University of Maribor, Redmint, Mobilissimus, TUB, BOKU, and CEI.

3. Work Package 1 (WP1). General overview and relation with the other WPs

As depicted in Figure 1, WP1 comprises two main activities:

- A.1.1. The development of the methodological framework and analysis of commuting behaviors and supply.
- A.1.2. User engagement for integrated strategy development and capacity building.

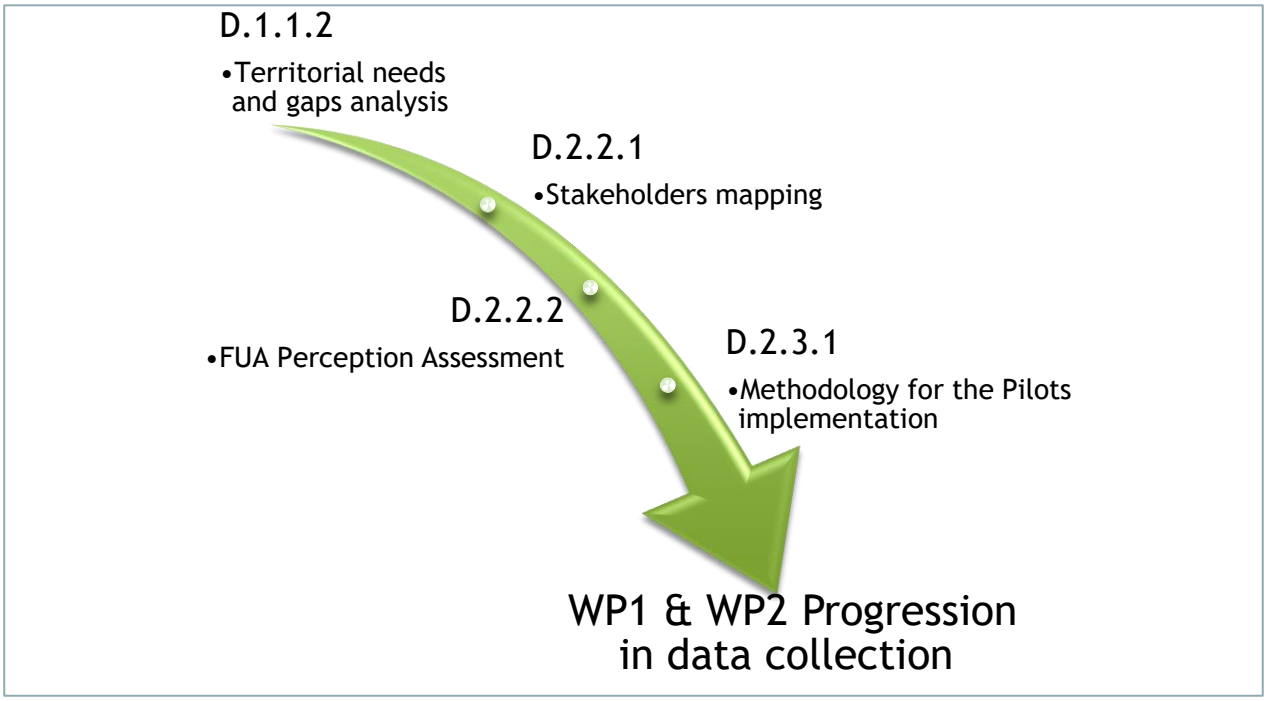
Each of these activities includes three specific deliverables.

Figure 1. The structure of WP1

A.1.1 Methodological framework, analysis of commuting behaviors and supply	•D.1.1.1 Detailed Methodology for Territorial Needs and Gaps & Joint Transnational Review Workshops Planning •D.1.1.2 Territorial needs and gaps carried out in all the GreenPATH FUAs •D.1.1.3 IT approaches to support MM: EU Project synergies for Sustainable Mobility Strategies in FUAs
A.1.2 Users engagement for integrated strategy development and capacity building	•D.1.2.1 Empowering stakeholders for a shared and sustainable mobility Public perception analysis on Mobility management •D.1.2.2 Coordination of training courses and jointly developed capacity building for CE FUAs policy makers •D.1.2.3 Promotional campaigns for a sustainable mobility management in FUAs

The methodology described in this report will guide the execution of D.1.1.2 "Territorial Needs and Gaps analysis across all GreenPATH FUAs". Nevertheless, as illustrated in Figure 2, this is only the first step of many different technical activities foreseen in WP1 and WP2 aimed to define better knowledge and institutional conditions for the 7 GreenPATH pilot actions development.

Figure 2. Selected analysis that will be conducted in GreenPATH



In summary, these are the key relations among the TNGA analysis and the WP1 and WP2 key deliverables:

- **D.1.1.3 IT approaches to support MM: EU Project synergies for Sustainable Mobility Strategies in FUAs**: Even if this deliverable is independent from the TNGA analysis, it provide value information regarding mobility management aspects, and IT approaches, which is complementary to the framework defined in TNGA report at FUA and pilot levels.

- **D.1.2.1 Empowering stakeholders for shared and sustainable mobility**: The TNGA analysis is a fundamental knowledge basis for the stakeholders' empowering activities foreseen in this deliverable.
- **D.1.2.2: Coordination of training courses and jointly developed capacity building for CE FUAs policy-makers:** The technical content that emerged from the TNGA analysis could also be valorized in the training courses to be developed in this specific activity.
- **D.1.2.3 Promotional campaigns for sustainable mobility management in FUAs**: Even if not directly related to TNGA analysis, the key results of this analysis can be used for structuring the promotional campaigns to be developed in the framework of the GreenPATH project.
- **D.2.2.1 Stakeholder mapping and clustering in each city and GreenPATH FUA's Governance analysis:** The stakeholder mapping will provide an overview of key stakeholders in each FUA and their likely involvement in pilots, and a framework of pertinent regulatory, business, and public entities in line with Sustainable Urban Mobility Plans.
- **D.2.2.2 FUAs Perception assessment:** The surveys to be conducted in this deliverable in each FUA, focusing on the societal, economic, and environmental aspects of sustainable mobility solutions to be developed in each GreenPATH FUA, will start from the analysis conducted on the TNGA. The involvement of the key stakeholders can provide additional elements in considering the state of the art of the FUAs and territories in which the GreenPATH pilot actions have to intervene.
- **D.2.3.1 Methodology for pilot implementation:** Although not directly related to TNGA analysis, ITL will use the key results of this activity as the base for the pilot implementation methodology foreseen in WP2.

From the achievements of the activities carried out in WP1 activities, Output 1.3 “GreenPATH MoU on a sustainable mobility management” will be accomplished. In particular thanks to D.1.1.2 “Territorial needs and gaps carried out in all the GreenPATH FUAs”, in which it is possible to identify the main threats and opportunities for the FUAs involved in GreenPATH. The development of this deliverable will involve collaboration among all participating countries in GreenPATH.

4. WP1 TNGA main objectives and key terms

The primary goal of the WP1 “Territorial Needs and Gaps (TNGs) analysis” is to identify and assess sustainable commuting territorial challenges within the 7 GreenPATH FUA in which the pilot actions will be developed. This methodology offers a comprehensive framework for analysing territorial needs and gaps related to sustainable commuting in each FUA.

It is strongly recommended that each PP consult distinct sources of existing data and strategic resources. This will ensure the comprehensive gathering of information needed to conduct a combined quantitative and qualitative research approach (e.g., surveys, interviews, focus groups, existing mobility data analyses, and insights from existing Sustainable Urban Mobility Plans).

By applying the proposed methodology, each project partner will be able to conduct a comprehensive analysis of the current sustainable commuting framework. This will serve as a baseline to identify pilot activities improvement and expected results.

A first step is to define common terminology, referring to scientific and EU sources. Below are the definitions of key concepts and terms used in GreenPATH TNGA analysis. These key terms are:

- **Commuting zone**: According to the European Commission and the Organisation for Economic Co-operation and Development (OECD) it can be identified based on commuting patterns using the following steps:
    - If 15 % of employed persons living in one city work in another city, these cities are treated as a single city.
    - All municipalities with at least 15 % of their employed residents working in a city are identified; this means that these cities will have a single shared commuting zone. To identify which municipalities should be included, the commuting to both cities will be added together.
    - Municipalities surrounded by a single functional area are included and non-contiguous municipalities are dropped

- **Employees**: individuals engaged in various forms of paid employment across different sectors, including businesses, public services, and industrial operations. These individuals regularly travel between their residences and their workplaces. Understanding the commuting patterns of workers is essential for evaluating mobility needs, as they use a range of transportation options, including public transit, personal vehicles, cycling, and walking

- **FUA (Functional Urban Area)**: the geographical area encompassing the urban core and its surrounding commuting areas that are socially and economically integrated with it, representing a unit. The FUA is typically characterized by a high degree of interconnectedness in terms of daily commuting patterns, economic activities, and services. A FUA differs from an agglomeration, which consists of a city and adjacent suburbs, because the functional urban area also encompasses smaller towns and rural areas in its commuting zone, especially in more developed countries with extensive road infrastructure[1].

- **Stakeholders:** individuals, groups, or organizations with an interest or role in the project. This includes public authorities, businesses, public transport bodies, community groups, and residents. Stakeholders may have a positive or negative attitude towards a specific action, can be very influential regarding to the implementation of a specific action (hindering or supporting the action) or can be utilised as multipliers to make an action more successful.

- **Students**: individuals who are enrolled in educational institutions such as schools, colleges or universities. These individuals typically travel regularly between their place of residence and their educational institution. The commuting patterns of students are significant for understanding mobility needs, as they often rely on a variety of transportation modes, including public transit, cycling, walking, and private vehicles. For the purposes of GreenPATH, we refer primarily to students enrolled in higher education programs, though not exclusively.

- **Pilot action/Pilot area:** a preliminary small-scale implementation used to test and refine the methodology before broader application. According to the Interreg CE programme manual (V4): Chapter I.3.3.3. a pilot action should:
    - Have an experimental or demonstration character, i.e. it should test, evaluate or demonstrate the feasibility and effectiveness of new procedures, instruments or tools. If a project foresees several pilot actions (either at transnational, local or regional level), these should differ from each other in order to maximise mutual learning among the partnership.
    - Be limited in its scope, i.e. in its location, duration, scale, etc. It should be unprecedented in a comparable environment.
    - Be jointly evaluated in terms of results as well as jointly exploited and transferred to other institutions and territories.

- **Pilot area leader:** For each GreenPath pilot area, a designated Green Path partner is identified to serve as the leader responsible for coordinating inputs and actions at the local level. This partner

[1] L. Dijkstra, A. J. Florczyk, S. Freire, T. Kemper, M. Melchiorri, M. Pesaresi, M. Schiavina (2021) "Applying the Degree of Urbanisation to the globe: A new harmonised definition reveals a different picture of global urbanisation", Journal of Urban Economics, Volume 125.

ensures seamless collaboration with the task leader for each relevant task, facilitating the necessary contributions from the pilot area and for the FUA.

Pilot	Pilot area leader
Pilot 1. Ravenna (IT)	PP1-ITL
Pilot 2. Maribor (SI)	PP7- University of Maribor (UM)
Pilot 3. Monza (IT)	PP2- Municipality of Monza (ComMB)
Pilot 4. Kecskemét (HU)	PP9- Kecskemét Transport Center Limited Liability Company (KEKO)
Pilot 5. Berlin (DE)	PP5-Technische Universität Berlin (TUB)
Pilot 6. Osijek (HR)	PP10- DYVOLVE d.o.o.(DYVOLVE)
Pilot 7. Vienna (AT)	PP6- University of Natural Resources and Life Sciences, Vienna (BOKU)

- **Territorial Gap:** can be defined as the discrepancies between FUAs current situation state and the desired future state. Identifying gaps is essential to point out areas where sustainable commuting can be improved, leading to greater efficiency and effectiveness.

- **Territorial Need:** a specific requirement or necessity for the FUA population or area to achieve a better commuting, therefore innovative mobility solutions to reduce travel time, enhance transport efficiency, and minimize the environmental impacts of daily communities.

- **Territorial opportunity:** a potential path for improvement or innovation within the FUA that can enhance the efficiency, effectiveness, and sustainability of transportation. The project places a strong emphasis on inclusivity and accessibility in gender and mobility, seeking to identify barriers and opportunities to ensure equal access to sustainable transportation options for all genders.

- **SWOT analysis**: the name of the method is an acronym of the first letters of the four components. These are strengths, weaknesses, opportunities, and threats. The classic approach is a proposal for a systematic and comprehensive assessment of external and internal factors determining the current condition and development potential. It's important to note that strengths and weaknesses are internal factors linked to the organization's resources and capabilities, while opportunities and threats are external factors found in the surrounding environment. All factors influencing the organization's current and future position can be categorized as either internal or external. Internal factors can positively or negatively impact the organization, while external factors are either opportunities or threats.

In Table 1, a clarification of the terminology currently in use with respect to synonyms or discontinued terms according to EU-OECD[2].

Table 1. Terminology related to functional urban areas

Preferred term	Synonym	Discontinued terms	Geographic level
Urban centre	High-density cluster (HDC)		Grid
City	Densely populated area	City core Urban core	Local unit
Commuting zone		Hinterland	Local unit
Functional urban area (FUA)		Larger urban zone (LUZ)	Local unit

[2] Dijkstra, L., H. Poelman and P. Veneri (2019), "The EU-OECD definition of a functional urban area", *OECD Regional Development Working Papers*, No. 2019/11, OECD Publishing, Paris, https://doi.org/10.1787/d58cb34d-en

Metropolitan area	FUA of at least 250 000 inhabitants		Local unit

Source: See Footnote

5. Defining the Territorial Needs and Gaps Analysis (TNGA)"

5.1. What is a functional area?

Building on the definition provided below, it is useful to further explore what constitutes a functional area?

> *"A functional area is defined by one or more territorial interdependencies related to economic, social, cultural, or geographical functions. The functional area is the area or region that functions as a unitary system from a political and / or social and / or economic point of view. In other words, the FA is defined by the internal system of interactions and relationships and covers, in whole or in part, the territory of several administrative-territorial units that cooperate and are linked / united by economic, communications, transport activities."* (Council of Europe Conference of Ministers Responsible for Spatial Planning - CEMAT).

Being composed of a city and its commuting zone, FUAs encompass the economic and functional extent of cities based on daily people's movements.

In particular, the GreenPATH's FUAs where pilot actions are implemented are listed below:

1. Maribor (Slovenia)
2. Ravenna (Italy)
3. Monza (Italy)
4. Vienna (Austria)
5. Kecskemét (Hungary)
6. Osijek (Croatia)
7. Berlin (Germany)

The objective of the GreenPATH project is to support the urban mobility transition in FUAs by jointly developing solutions and strategies with huge potential for improving commuters' experience of commuters, in line with the Urban Mobility Package. To achieve this objective, previous experiences will be capitalized and synergies with ongoing activities will be exploited.

5.2. The approach of the GreenPATH TNGA

TNGA is a comprehensive tool designed to evaluate the factors influencing an area's development and commuting patterns. By analyzing infrastructure, mobility services, economic conditions, and the transport environment, TNGA identifies areas requiring improvement to foster sustainable commuting.

TNGA also identifies gaps or deficiencies within an area, such as shortages in infrastructure, mobility services, Mobility management opportunities, or other socioeconomic factors that influence travel behaviours. The TNGA analysis aims to guide targeted interventions or investments to enhance the commuting experience by detecting these gaps. Regarding commuting, territorial gaps manifest in longer travel times, reduced access to employment and services, and a higher dependency on private vehicles, which can exacerbate traffic congestion and environmental impacts. The lack of sustainable transport options, such as well-connected bus routes, bike lanes, or safe walking paths, forces individuals to rely on less sustainable modes of transportation, increasing commuting costs and limiting access to opportunities.

The main result of TNGA is to provide essential information for informed decision-making on territorial development. It helps prioritize needs, allocate resources effectively, and plan activities that address community/worker needs and ensure sustainable commuting. A thorough territorial analysis is essential to

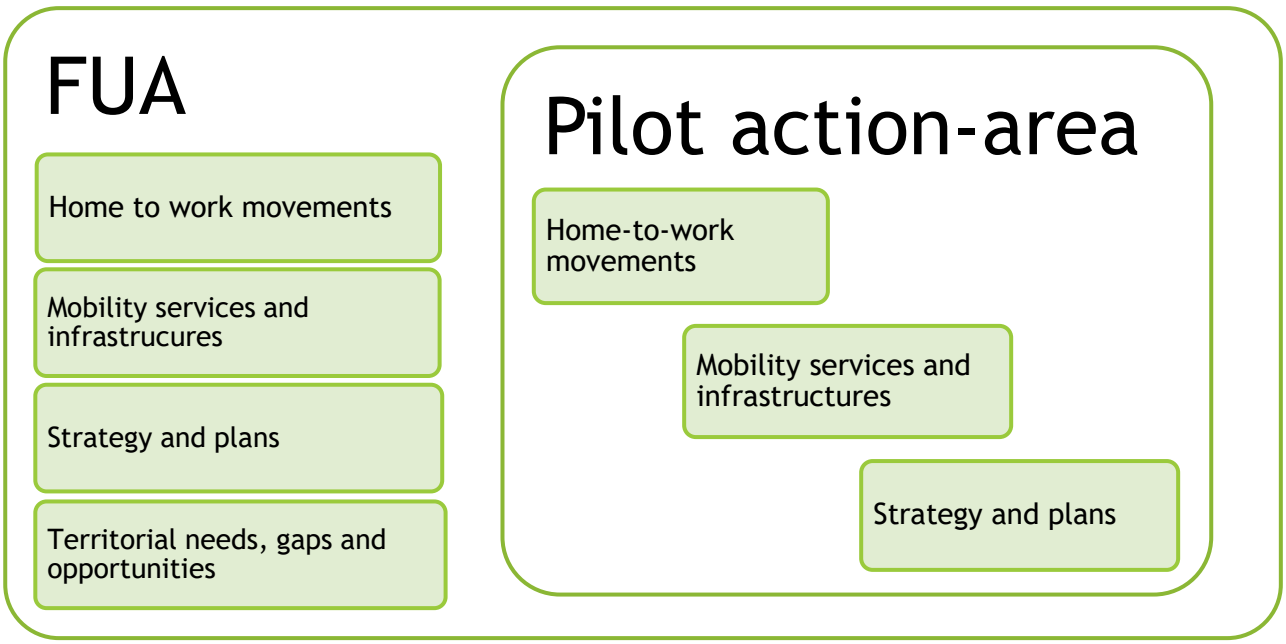
exploring and testing potential solutions at the pilot level, ensuring they are tailored to the unique characteristics of the selected area.

Within the GreenPATH project, the consortium will focus on co-designing solutions from a Functional Urban Area (FUA) perspective. These solutions will initially be tested through pilot actions at the local level, such as within a university campus, industrial or commercial area and one seaport, with the ultimate goal of scaling them up to the broader FUA. The various analyses conducted within GreenPATH will, therefore operate on two distinct levels:

- a macro level, which encompasses the entire FUA;
- a micro level, which focuses on the specific pilot areas.

This dual-level approach is illustrated in Figure 3.

Figure 3. Overview of the two levels of GreenPATH analysis



The Territorial Needs and Gap Analysis (TNGA) provides a comprehensive overview of the environment and landscape within the Functional Urban Area (FUA) where commuters travel. The TNGA will analyze home-to-work movements, mobility services and infrastructure, and strategies and plans. While the TNGA offers a broad perspective, and it will serve to develop the following FUAs related activities, as mentioned above, it's relevant to identify also detailed data at the pilot level, that will be needed for the pilot's methodology and implementations (A 2.3). By adding a subsection to each segment of the TNGA template, we can provide a more comprehensive view of both the broader perspective and the specific details, helping PPs to have a clearer overview.

It is essential to leverage various available data sources to conduct the analysis. This includes geospatial data on transport infrastructure, demographic data, data on mobility services and relevant information extracted from Sustainable Urban Mobility Plans (SUMPs). These diverse data sets will provide a comprehensive understanding of the current state of mobility within each FUA and the related pilot, enabling more accurate identification of gaps and opportunities for improvement in sustainable commuting options for the selected pilot areas.

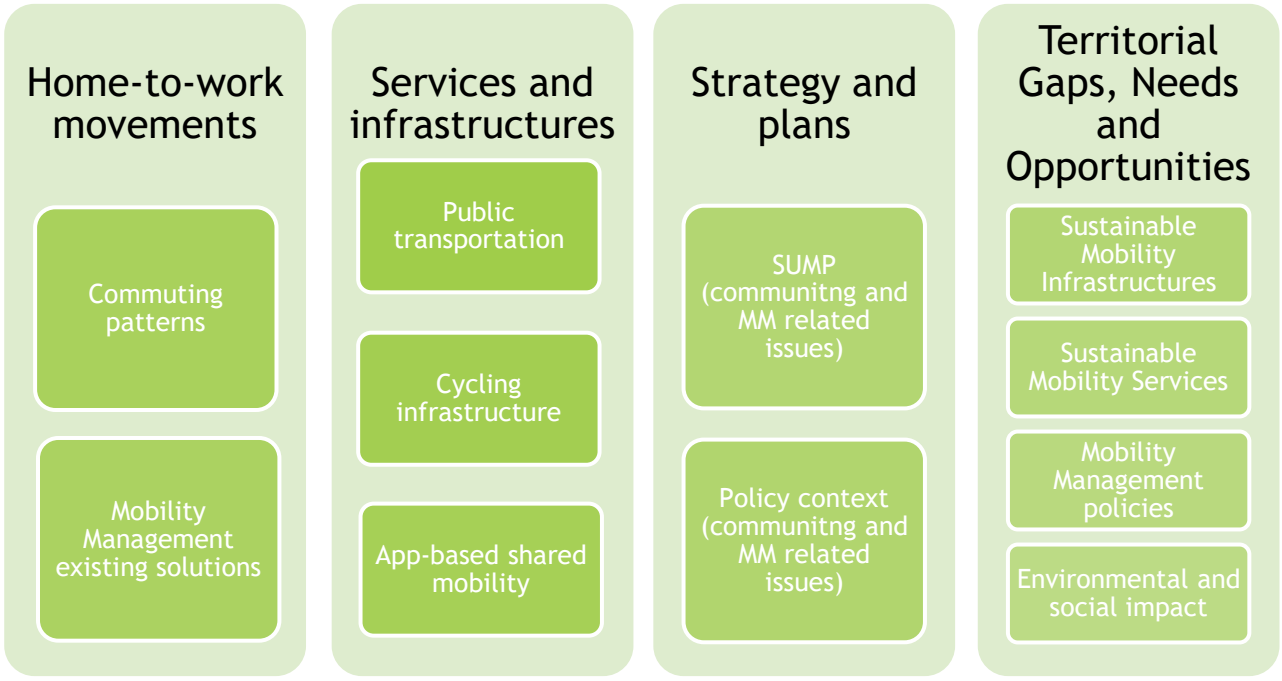
5.3. Methodology

A standardized approach will be applied across all 7 pilot areas/FUAs to conduct the analysis. This will facilitate the creation of a joint report that consolidates identified needs, challenges, and key topics for each FUA.

The main challenge of this analysis arises from the heterogeneity of the GreenPATH FUAs, which may result in inconsistencies in the available data. To address this and to support pilot leaders in data collection, it is possible to request meetings with the Task leader (PP8-Mobilissimus). These meetings can focus on coordinating efforts, discussing the progress of data collection, and identifying the most suitable and consistent data sources for each FUA, if needed.

The analysis is structured into four sections, preceded by an introduction. The introduction provides an overview of the FUA, including maps and relevant descriptive data. As shown in Figure 4, the first section covers the home-to-work movements, followed by sections on services and infrastructures, strategies and plans, finally gaps, needs and opportunities analysis is foreseen.

Figure 4. The 4 main sections of the GreenPATH TNGA for each FUA



This structure of the TNGA contributes to identifying the state-of-the-art of commuting patterns and provides information for later GreenPATH activities, which aim to explore highly successful and replicable solutions within the FUA.

The following section form 5.3.1. to 5.3.5 provide a guide for each Pilot area Leader on how to fill in the TNGA template provided in the file attached to this methodology (Template for Territorial Needs and Gaps Analysis).

5.3.1. Methodology for defining the FUA and its commuting zone

The following guidelines outline the analysis requirements to ensure consistency among Functional Urban Areas (FUAs).

The introduction addresses geographic location and demographic composition. These factors significantly influence the economic structure of the FUA, which, in turn, determines the predominant activities and industries in the region.

For the purposes of this analysis, a FUA is defined as the city and its associated commuting zone. More specifically:

- City Integration: Cities are considered part of the same commuting zone if at least 15% of employed residents from one city work in another city, effectively treating these cities as a single entity.
- Municipality Identification: Determine municipalities where at least 15% of employed residents commute to a city. These municipalities will form a unified commuting zone. Combine commuting data from all relevant cities to identify which municipalities should be included.
- Inclusion Criteria: Include municipalities that are surrounded by a single functional area and exclude non-contiguous municipalities

5.3.2. Methodology for describing home-to-work movements

This section requires a comprehensive analysis of home-to-work movements within the FUA. This should include:

- **Current commuting patterns**: Information on the flow volume, frequency, and duration of commuting trips within the FUA, including both intra-urban and inter-urban movements.
- **Modal splits:** A breakdown of the percentage of trips made by various modes of transportation, such as car, public transit, walking, cycling, and others.
- **Information about existing Mobility Management solutions**. Provide them if available, including their relative legislation or specifics on whether it is a spontaneous initiative (e.g., by local companies or universities).

5.3.3. Methodology for describing mobility services and infrastructure

Public transport services capillarity and infrastructure adequacy are essential for the efficient functioning of a territory. In regions where transport infrastructure is lacking, there may be a greater need for investment in active mobility infrastructures, public transport services, or related digital broadband internet.

The main subsections for this Section are: i) Public transportation; ii) Cycling infrastructure; iii) Pedestrian pathways; and iv) App-Based and Shared Mobility Services. A description providing data and info on the transport accessibility and the extent of the services is requested.

5.3.4. Methodology for describing strategies and plans

Effective governance structures are essential for addressing territorial needs and gaps. This includes developing policies that promote regional development and foster cooperation between different levels of government and stakeholders. In this section, a background about the Sustainable Urban Mobility Plan (SUMP), if available, and Policy context are requested.

5.3.5. Methodology for Territorial gaps, needs and opportunities

The Territorial Needs and Gaps Analysis (TNGA) is a systematic approach aimed at identifying the challenges related to mobility management and commuting from home to work within GreenPATH FUAs.

This analysis encompasses the evaluation of **mobility infrastructures and services** (public transport, shared mobility, and app-based services for commuters), **mobility management policies**, and **environmental impact** (issues generated by home-to-work movements, e.g., old fleets, higher dependency on private vehicles, and Co2 transport-related emissions).

The primary objective of the Needs analysis is to ascertain which areas require strategic improvements or targeted investments to address the needs of the local commuters, thereby promoting balanced regional development. In contrast, the territorial Gaps analysis focuses on detecting deficiencies and structural weaknesses within the investigated territory. These gaps may manifest as suboptimal infrastructure development, inadequate public transport services, or a lack of MM-supporting policies.

The gaps analysis aims to delineate intervention areas where innovative actions or investments are essential to enhance commuters' experience, developing and implementing sustainable mobility solutions specifically tailored to the needs of home-to-work commuters. These gaps must take in consideration in particular disproportionately affect vulnerable populations, including low-income communities, the elderly, people with disabilities, and those living in remote or underserved areas.

TNGA provides a robust framework and the analytical tools to inform decision-making processes in territorial development in transport commuting issues. It aids in identifying development priorities, ensures the efficient allocation of resources, and supports the strategic planning of interventions to meet community needs. The gap analysis further facilitates comparing the current conditions and the desired developmental outcomes, assessing performance to determine whether pre-defined objectives are being met.

Identification of gaps and territorial needs will be carried out using SWOT, a technique for the strategic analysis process, a proposal for a systematic and comprehensive assessment of internal and external factors determining the current condition and future development needs for healthy and sustainable commuting in the selected FUAs. It should be noted that the SWOT analysis is a commonly used tool in this type of analysis. The assumptions for using the SWOT analysis in the TNGA approach are described below.

The SWOT analysis is based on the classification of:

- Advantages (internal positive)
- Disadvantages (inner negative)
- Opportunities (external positive)
- Threats (external negative)

The list of factors will be developed based on the analysis of existing Sustainable Urban Mobility Plans (SUMPs) and other Regional/National Transport Plans, analysis of strategic documents, development strategies, policies, and investments related to sustainable transport, and environmental analysis related to transport emissions. A combination of qualitative research sources such as surveys, interviews, and focus groups is also recommended.

The factors identified in the SWOT analysis in the context of TNGA analysis are aimed at determining the current state of commuting, but also specific challenges and opportunities within FUAs.

In GreenPATH project the SWOT analysis (factors identification) should cover:

- **Sustainable Mobility infrastructures gap analysis**: evaluating the difference between FUAs current situation and its desired future state to identify areas for improvement safe and accessible infrastructure for alternative modes of commuting, such as cycling and walking paths,

which promote healthier and more environmentally friendly travel options. Evaluation of network adequate extension and access to sustainable transport options, such as public transit, cycling paths, and pedestrian infrastructures. This analysis highlights the difficulties in the FUAs where transportation infrastructure is limited or non-existent, leading to significant mobility challenges.

- **Sustainable Mobility Services gap analysis:** assessing the features, differences, pricing, and qualities of a public and shared mobility FUA service to identify gaps and prioritize improvements or innovations (public transport, shared mobility, and ICT based services for commuters). Consideration about access to public transportation services: ensuring that workers and students have reliable and convenient public transit options, such as buses, trains, and trams, to connect them with employment centres, educational institutions, and essential services. These gaps often disproportionately affect vulnerable populations, including low-income communities, the elderly, people with disabilities, and those living in remote or underserved areas.
- **Mobility management policies gap analysis:** assessing the diffusion of MM policies for universities and private companies compared to a wider diffusion of these policy solutions. Considerations on legislation and incentive systems to support the diffusion of mobility management actions in companies and universities.
- **Environmental and social gap analysis**: evaluate FUAs' environmental and social impact, identify gaps in sustainability commuting practices, and provide insights for implementing responsible and eco-friendly strategies. Consider barriers and opportunities, such as safe routes, well-lit areas, gender-specific services, and tailored services for vulnerable people.

6. The GreenPATH Joint Transnational Review Workshop

The aim of the Joint Transnational Review Workshop (JTRW) is to share knowledge among the project partners and the Central Europe community on the key results of the needs and gaps analysis. It is an online event where all the project's partners are called to present the key results of the needs and gaps analysis and the opportunities to develop better mobility management policies and measures at different territorial scales.

It is a joint event as it foresaw the participation of all the GreenPATH project partners, transnational as all the EU territories/FUAs presented in the project will participate and present their key Needs and gaps analysis key results, review as it will allow to jointly review the studies conducted in each FUA and a workshop as it is devoted not only to project's partners but to all the EU research and political community interested in developing better mobility management policies.

Considering all these aspects, the GreenPATH Joint Transnational Review Workshop will be an online event structured in the following way:

- Presentation of the key D1.1.2 results from the GreenPATH 7 FUAs areas;
- Presentation of the key elements from the Friuli Venezia Giulia analysis;
- Brief presentation of the 7 GreenPATH pilot actions and of their key objectives;
- Participation of 1/2 external experts in mobility management policies and measures development;
- Joint discussion session on the key lessons learned and mobility management challenges.

It is strongly recommended each project's partner invite relevant local stakeholders in order to provide to them a general overview of the GreenPATH challenges and ambitions. The workshop will be open to a wide range of mobility management experts involved in enhancing sustainable commuting, both from the

GreenPATH FUA and other FUAs with relevant experiences across the EU. A mailing campaign will be prepared to invite them to the workshops, to reach a wide audience.
The workshop will be conducted in English in order to guarantee the largest participation of all the EU-interested stakeholders. The workshop duration will be approximately 2 hours long. The workshop will be conducted by the end of the Activity 1.1 duration.
The workshop's results should be presented in the form of a brief report/minutes filled by ITL. The online registration will be uploaded on the GreenPATH website.

7. References

Interreg CE Programme Manual

GreenPATH Application Form