SUSTAINABLE URBAN MOBILITY AND COMMUTING IN PRACTICE (SUMBA+)

IMPLEMENTATION OF COMMUTING MASTER PLANS

SUMBA

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Contents

Chapter 1 – Introduction

In many European cities and regions, the daily commute is still mostly done with the own car. The reasons for this are manifold, one of them being insufficient coordination between different administrative entities when it comes to urban, regional and transport planning. Different responsibilities and competencies require harmonization in the planning of e.g. public transport offered, infrastructure, ticketing, parking management, traffic flow. Due to administrative borders and institutional “silos” many urban areas face challenges related to changes in travel demand that cannot be solved within a single municipality or by a single public authority. To address this problem, the INTERREG Baltic Sea Region funded project SUMBA developed different tools for public authorities. One of these tools was the “Commuting Master Plan” (CMP). The “Commuting Master Plan” focusses on planning for multi-modal and sustainable regional mobility and is one way to tackle these challenges. The purposes of a commuting master plan are:

- to support the functioning of the urban functional area and everyday lives of citizens,
- to secure the sustainability of the urban region, in terms of environment, liveability, public health and economic viability,
- to make the best use of existing infrastructure, transport services, available natural and fiscal resources,
- to encourage sustainable travel behaviour preferably by active modes of transport such as walking and cycling, public transport, mobility services and multimodal transport offers to minimise the car dependency and transport poverty,
- to facilitate the take-up of relevant new mobility services and technologies
- to facilitate cooperation between different administrative institutions, stakeholders and mobility service providers

During the SUMBA project a short guideline document was developed how such commuting master plans can be developed and what they should contain. The result is a policy document that guides the development of daily mobility in an urban region - the whole functional area regardless of administrative or other organisational borders. Based on the guideline, the participating cities or regions of the SUMBA project developed their own CMPs.

This report summarizes the key statements of the commuting master plans and analyses general tendencies across all partner regions and reflects the current status after roughly one year of implementation. In the end we derive a few key recommendations for stakeholders that wish to follow this process. This report is based on the CMPs that were developed during the SUMBA mainstage project. In addition, a questionnaire consisting of 11 questions were sent to each city or region that developed a CMP. The questionnaire can be found in the annex of this report

Chapter 2 – Overview on CMPs

2.1 Introduction

The commuting master plans were developed in the following 9 functional urban areas. The pilot areas marked with an asterisk have been part of the follow-up project SUMBA+ which prepared the ground for the implementation of the commuting master plans and which were subject to evaluation of the CMP implementation. These regions/cities are also the only ones included in this report, since they committed themselves to start with the CMP implementation or the preparation of measures in the SUMBA+ project. They had project time and resources to contribute to this report.

- Gdynia, Poland
- Hamburg-Altona, Germany *
- Olsztyn, Poland
- Riga, Latvia *
- Siauliai, Lithuania
- Tallinn & Harju, Estonia *
- Tartu, Estonia *
- Växjö, Sweden *
- Warsaw suburbs

The definition of “functional urban area” was up to the stakeholders in the respective pilot regions. There are different approaches to define a functional urban area based on statistical, administrative, political or economic criteria. The primary recommendation for the SUMBA partners was to define the functional urban area as those administrative units that include most of the commuting traffic between the central city and its hinterland.

The commuting masterplans were developed during a course of roughly two years. The starting point for these plans was a SWOT analysis (strengths, weaknesses, opportunities and threads) that was carried out in each region. Based on the SWOT reports, the pilot regions developed goals and scenarios how intermodal transport should look like in the functional urban area in the future. These results helped to develop the final CMP document in which goals and measures to support the transition of the commuting transport system towards a more climate-friendly, less car-centred system. The CMP guidelines recommended to develop a core document and a separate action plan. This suggestion was not always followed and in some cases the action plan was integrated into the CMP directly, which, however, does not make a practical difference.

2.2 Assessment of the CMPs

2.2.1. Assessment approach

In this report we briefly describe the structure of all developed commuting master plans. We describe the goals that were defined, how stakeholders were involved, how the CMPs were adopted and if and how responsibilities regarding the implementation and monitoring were assigned. A special attention is given to the measures defined in the CMPs and accompanying action plans. These form the core part of the CMPs and will be the yardstick for measuring the implementation progress later on.

The measures are listed in a table, and they are classified according to which transport mode they address, if they are push/pull/neutral measures, which dimension they belong to and what type of measure they are.

The transport modes are grouped according to low-capacity PT (busses), mid-capacity PT (trams, lightrail), high-capacity PT (metro, trains), on-demand and sharing services, cycling, waking, micro-mobility (e.g. e-scooters) and individual transport. If several transport modes are addressed, we describe the measure as multimodal if it addresses several transport modes in parallel and as intermodal if it primarily addresses the combination of several transport modes in one trip. Push measures are measures that are meant to increase the barriers for people to use this mode of transport, a classical example being parking fees or city taxes. Pull measures are measures that incentivize or facilitate the use of certain means of transport, e.g. new separated cycling lanes. Neutral measures are measures that either include both push and pull measures or that don't have a clear focus on incentives or barriers.

The dimension and type of measures has been done according to a typology which is explained in the following section. The goal of classifying measures is to see if there are any tendencies e.g. which measures are chosen more often than others.

During the evaluation period in the SUMBA+ extension stage project, the project partners that were involved in the development of the CMPs were asked to assess the progress of implementation. According to their assessment the measures were colour-coded in the tables, ranging from not started, being planned, being implemented and realised. Few measures are not colour-coded either because no information was provided or because the measure is not in the competency of the city/region.

2.2.2 Typology of measures

In order to assess the different measures described in the commuting master plans, we use five dimensions to broadly classify them. These five dimensions are:

- Policy and administration
- Transport services
- Infrastructure
- Ticketing and tariff
- Marketing / Image

Each of these five dimensions includes a number of different types of measures that will further allow to classify measures into different groups. We will briefly introduce these types of measures that have also been applied already in the SUMBA main project, e.g. when stocktaking current transport policies in the SWOT analysis.

Policy and administration

- Definition of policy goals
- Implementation of policy goals
- Law
- Taxation schemes and congestions charges
- Funding
- Demographic changes
- Geographical constraints
- SUMP
- Cross-border collaboration
- Expertise
- Upcoming projects
- Sectoral strategies
- Parking management/restrictions

- Transport data & models

Transport services

- Network
- Reliability
- Frequency
- Speed
- Accessibility
- Sharing schemes
- On-demand services

Infrastructure

- Transport hubs, interchanges and stops. This includes layout of stops, available equipment, park & ride or bike & ride facilities, design of interchanges, accessibility, or charging infrastructure for electric vehicles
- Information and communication technology. This includes passenger information systems, traffic control and other management systems
- Public transport vehicles and infrastructure. This includes vehicle capacity, accessibility, customer needs, prioritisation of public transport and maintenance measures
- Built infrastructure for alternative transport modes, e.g. cycling infrastructure
- Re-allocation of public space

Ticketing and tariffs

- Tariff schemes
- Price
- Payment options and models

Marketing and image

- Corporate Identity
- Image
- Marketing
- Mobility management schemes
- Channels

In some cases, measures do not fit into one dimension or type only. In this case, they are assigned to several dimensions and/or types. For the comparative analysis of measures proposed in the pilot regions, this means that some measures are counted double.

2.3 Assessment of individual CMPs

2.3.1 CMP Hamburg Altona, Germany

The commuting master plan of Hamburg Altona was developed by the district administration and being supported by a mobility consultant. The CMP focusses on the commuting axis Hamburg Altona – Pinneberg county which is the only neighbouring county to the district and can be considered as the functional urban area in the sense of this CMP.

Structure of the CMP: The CMP consists of 2 parts. The first part describes the current situation, the problems and needed developments to achieve a more sustainable transport system that better accommodates the needs of commuters. Part 2 of the CMP outlines 22 measures that

should not be understood as a checklist of measures to be implemented but rather as a list of possible measures that are bundled into five different future scenarios, depending on which development and policy is

Part 1

- Baseline assessment
  - commuter structure,
  - transport offer
  - administrative framework
- Link of the CMP to other political documents, processes and strategies
- Results of the commuter survey
- Summary and results of the stakeholder involvement
- SWOT analysis
- Summary of part 1

Part 2

- List of measures
- Detailed description of the measures: description, results and effects, success indicators, obstacles/conflicts, embedding
- Presentation of future scenarios and allocation of measures into the different scenarios
- Development of so-called “profiles” that describe selected measures in detail.

Stakeholder involvement: The development of the CMP of Hamburg Altona involved stakeholders in two ways. Commuters were directly approached in the commuter survey where commuter from Pinneberg county were surveyed on their daily travel behaviour. In addition, a number of stakeholder talks were carried out that included representatives of the county of Pinneberg, the District Office of Altona, various municipalities, the public transport roof organisation HVV and several public transport operators such as VHH, Hochbahn, and DB.

Goals: Clear goals in terms of emission reduction or change of modal share have not been defined in the CMP of Altona. Instead, the CMP refers to the vision of Hamburg of achieving climate neutrality in 2050. However, no quantitative or qualitative targets have been developed that refer directly to the CMP.

Measures: The CMP of Hamburg lists 22 measures that have a recommendatory character and are assigned to one or more scenarios. Each measure is further described in terms of its results and effects, possible success indicators, obstacles and conflicts of objectives as well as where the respective measure could be anchored. The success indicators have not been quantified but suggest rather a possible metric for verifying the success. A time horizon for the implementation of measures has been indicated but is very coarse (Short term = until 2025, Medium term = 2025-2030, Long term = after 2030).

Measure defined	**Transport mode addressed**	**Push/ Pull/ Neutral**	**Dimension**	**Type of measure**
Optimisation of intermodal transport hubs	Intermodal	Pull	Infrastructure	Transport hubs
Strengthening interfaces for flexible modes of transport	On-demand and sharing services	Pull	Transport services	On-demand services
Incentive projects (e.g. Tern Bike)	Intermodal	Pull	Transport services	Sharing schemes
Network extension of regional rail	High-capacity PT	Pull	Infrastructure	Frequency

Double-track extension Wedel-Blankenese + additional stop Wedel Ost	High-capacity PT	Pull	Infrastructure	Frequency
Automated connections	Intermodal	Pull	Infrastructure	Information and communication technology
High-quality transfer facilities	Intermodal	Pull	Infrastructure	Transport hubs, interchanges and stops
Increasing service frequency	Low-capacity PT, High-capacity PT	Pull	Infrastructure	Frequency
Increasing the reliability of public transport	Intermodal	Pull	Infrastructure	Information and communication technology
Effective bus service acceleration	Low-capacity PT	Pull	Infrastructure	Public transport vehicles and infrastructure
Dynamic street space	Low-capacity PT, individual transport	Neutral	Infrastructure	Public transport vehicles and infrastructure, Re-allocation of public space
Communication & marketing strategy	Multimodal	Pull	Marketing and image	Marketing
Connect bike freeways to the municipal cycling network	Cycling	Pull	Infrastructure	Built infrastructure for alternative transport modes
Create secure cycle parking facilities at key commuter locations	Cycling	Pull	Infrastructure	Built infrastructure for alternative transport modes, Transport hubs, interchanges and stops
Pedelec rental system (bicycle library)	Cycling	Pull	Transport services	Sharing schemes
Expand StadtRad in the periphery	Cycling	Pull	Transport services	Sharing schemes
Corporate mobility management	Multimodal	Pull	Marketing and image	Mobility management schemes
New citizen management	Intermodal	Pull	Marketing and image	Marketing
Dynamic Traffic Management (ITS)	Individual transport	Pull	Infrastructure	Information and communication technology
Parking management	Individual transport	Push	Policy and administration	Parking management/ restrictions
Through-traffic restriction, city toll	Individual transport	Push	Policy and administration	Taxation schemes and congestions charges
Low-traffic to car-free neighbourhoods	Individual transport	Push	Policy and administration	Re-allocation of public space

Legend

	Not started		In planning stage		Being implemented		Finalised

Assigned responsibilities: The competencies for transport policy and planning are distributed across different governance levels in Hamburg and the adjoining federal state of Schleswig Holstein to which the county of Pinneberg belongs. Since the CMP was developed under the lead of Altona, only some of the measures fall under the competency of the district.

Publication/Adoption of the CMP: The CMP was anchored within the Borough of Altona and here within the Sections of Transport, Traffic & Mobility. The section “Mobility” is responsible for CMP implementation and development. It is planned that the CMP becomes an integral part of the climate protection concept of the borough. Currently it is not foreseen to monitor the CMP separately, mostly because many things are still in planning the partner reported.

Reflection on the CMP process: Apart from the fact that COVID19 had a massive impact especially towards (negative) developments on PT, the implementation is much slower than expected and instead of following the CMP ideas, the partner reported that new aspects came up due to Covid 19 e.g. a change of mobility behaviour itself plus order behaviour (“Amazon super shoppers”). The implementation of measures is described as difficult due to the pandemic, that includes the definition of precise timelines. Nevertheless good progress was made in the discussions on public transport development. Here, several case studies were practically tested and are either done or still on-going. Furthermore, while the pandemic caused a massive decline of PT passengers, it had a positive influence on cycling at the same time. The discussions around the climate crisis and the parallel definition of measures for active mobility in the action plan were furthermore named as supportive factors for the CMP development. As a challenging factor for the CMP development, the lack of human resources in administration and the lack of resources and/of companies on the market was identified.

2.3.2 CMP Växjö, Sweden

The CMP of Växjö has been developed by the city administration and has been written in parallel with updating the municipality’s transport plan for 2020-2025. The CMP includes the city and Växjö municipality which is the municipality surrounding Växjö.

Structure of the CMP: The CMP first describes the current situation regarding the transport network, planned developments and the travel behaviour across different modes of transport. It goes on to list goals, scenarios, and priority areas. In the second half of the CMP is the action plan which lists detailed measures responding to the defined priority areas.

Stakeholder involvement: Due to COVID19, most of the stakeholder involvement in Växjö consisted of surveys on traffic safety to better understand how people view and experience their work and school commuting. A survey on street design was conducted and gave insights on which type of street design contributed to improved traffic safety. In addition, school children were asked how they experienced their trip to and from school and marked out areas they felt were unsafe using a digital mapping tool.

Goals: The CMP of Växjö defines four goals, which are not further quantified, however they either are absolute goals (#1 and #4: no net GHG emissions, zero deaths) or indicate a change (#2 and #3) which can measured in comparison to the status quo.

1. Växjö should be a fossil fuel free municipality by 2030

2. Access to sustainable transportation should be increased for all users, with different levels of physical capability.
3. The portion of travel using sustainable modes (cycling, walking and public transport) should be increased compared to travel by private car.
4. Växjö should meet national Vision Zero goal of no serious injuries nor death in traffic and increase the sense of safety for all traffic users, especially pedestrians and cyclists.

The CMP goes on by outlining three scenarios which are based on different modal shares. The business-as-usual scenario assumes high accessibility of the private car also in the future while scenario 2 (Växjö as a cycling city) and scenario 3 (Active and public transport in Växjö municipality) put increasing emphasis on alternative modes of transport.

The CMP of Växjö includes seven priority areas: sustainable motor vehicles, public transport, cycling and small vehicles, walking and road space, mobility management, and sustainable commuting planning. The measures are evaluated according to effect on modal share and reduction of carbon emissions based on a given implementation cost on a scale. Almost all measures do not refer to specific locations, so the implementation would require a specification and localisation of measures.

Measures: The measures described in the CMP of Växjö are classified according to the seven priority areas that were defined.

Measure defined	**Transport mode addressed**	**Push/ Pull/ Neutral**	**Dimension**	**Type of measure**
Compact city	Multimodal	Neutral	Policy and administration	Definition of policy goals
Mobility hub / house	Intermodal	Pull	Infrastructure	Transport hubs, interchanges and stops
Stop of measures that increase car capacity	Individual transport	Push	Policy and administration	Implementation of policy goals
General mobility management measures	Multimodal	Neutral	Marketing and image	Mobility management
Concept for sustainable commuting	Cycling	Pull	Policy and administration	Sectoral strategies
Improving maintenance of walking infrastructure	Walking	Pull	Infrastructure	Built infrastructure for alternative transport modes
Improve priority walking routes	Walking	Pull	Infrastructure	Built infrastructure for alternative transport modes
Remove obstacles	Walking	Pull	Infrastructure	Built infrastructure for alternative transport modes
Safe school routes	Intermodal	Pull	Infrastructure	Built infrastructure for alternative transport modes
Continuous cycling network	Cycling	Pull	Infrastructure	Built infrastructure for alternative transport modes
New cycling routes	Cycling	Pull	Infrastructure	Built infrastructure for alternative transport modes
Remove obstacles for cyclists	Cycling	Pull	Infrastructure	Built infrastructure for alternative transport modes

Widen / separation of priority cycling paths	Cycling	Pull	Infrastructure	Re-allocation of public space
Bicycle priority streets	Cycling	Pull	Infrastructure	Re-allocation of public space
Improved maintenance of cycling network	Cycling	Pull	Infrastructure	Built infrastructure for alternative transport modes
Intermodal journeys and transfer points	Intermodal	Pull	Infrastructure	Transport hubs, interchanges and stops
Transfer points	Intermodal	Pull	Infrastructure	Transport hubs, interchanges and stops
Bus lanes / bus roads	Public transport	Pull	Infrastructure	Public transport vehicles and infrastructure
Coordinated public transit	Public transport	Pull	Policy and administration	Sectoral strategies
Updated bus stops	Public transport	Pull	Infrastructure	Transport hubs, interchanges and stops
Updated cycling and walking infrastructure to bus stops	Multimodal	Pull	Infrastructure	Built infrastructure for alternative transport modes
Circulation plan	Individual transport	Push	Policy and administration	Sectoral strategies
Increased access to electric charging and fossil free fuels (not competency of Växjö)	Individual transport	Pull	Infrastructure	Other
Create fossil free zones (“Miljözon klass 3”)	Individual transport	Push	Policy and administration	Taxation schemes and congestion charges

Legend

	Not started		In planning stage		Being implemented		Finalised

No colour means that the measure was either not classified by the partner or is not within his responsibility.

Assigned responsibilities: The traffic department will be responsible for the transport plan’s implementation.

Publication/Adoption of the CMP: The CMP in Växjö functioned as an internal working document for the technical department. A shorter version of the CMP was incorporated into the municipality’s transport plan which was approved by city council in November 2021. The transport plan does not include concrete measures, but these instead are included in a department-level document

Reflection on the CMP process: The transport plan was approved in November 2021. Many measures are already integrated into the regular work of the traffic department and some measures have already started with, for example, improvements for snow clearing of cycle paths. Regarding more progressive measures such as circulation plan and mobility hubs, the situation is more complicated and depends on updated implementation process (“combined plan”) that is currently being developed at start of 2022 with the merging of several departments to form a large, “community development” department. The partner reported that a supporting factor was that the transport plan was a document approved by city council and timed well with the SUMBA project so that elements from the CMP could be integrated in an official planning document.

In the meantime, pre-studies are being done as part of SUMBA+, examining measures such as circulation plan for Växjö city and mobility hubs in the municipality that better link smaller villages and rural areas to the city. These studies (during 2021-22) will hopefully help to provide the necessary groundwork to implement these measures starting in 2023/24. The transport plan is valid until 2025 when it is expected to be updated with, for example, new priority areas.

As a hindering factor, the partner explained that the CMP, per se, was not an official document approved by city council so elements such as measures were not approved by city council at this stage. 2022 is an election year so there may come difficulties in more "progressive" measures that negatively impact car travel.

2.3.3 CMP Tallinn/Harju, Estonia

The CMP - in the document called "commuting roadmap" - of Tallinn and the surrounding area of the Union of Harju Municipalities offers a vision and measures for the development of sustainable commuting in the Tallinn-Harju region. The roadmap supports the compact and human-scale development of the Tallinn-Harju region and the overall increase in the share of sustainable modes of travel. As a general vision, the roadmap is based on the goal of making the region's transport system (including commuting) sustainable without reducing the accessibility of jobs and services. This requires comprehensive changes in both land use and mobility planning. The use of the private car should be reduced many times over, while walking and cycling should become the main modes of travel for everyday journeys, and longer journeys should be combined with a fast and convenient public transport service.

Structure of the CMP: The CMP consists of two parts. The first one provides background information on commuting and mobility in Tallinn-Harju in general. The second part describes a vision for the development of sustainable commuting followed by three different future scenarios. In the end nine priority areas, including measures to reach the goals of the vision, are listed.

Stakeholder involvement: Stakeholders have been involved in the process, but it was difficult due to the pandemic. Several meetings could not take place as planned in the latter stages of the process. However, measures that are included in the CMP have been defined during meetings and dialogues with project partners and stakeholders, so they have been a collaborative effort.

Goals: The CMP of the Tallin region sets six "vision goals" (p. 26).

1. By 2025, a maximum of 50% of the daily trips will be done by car, by 2035 it will be 30%.
2. GHG emissions from transport in the Tallinn region will decrease by 40% compared to 2007, i.e., the CO2 emissions of the city of Tallinn will be a maximum of 550,000 tonnes in 2025 and 390,000 tonnes in 2030. The combined CO2 emissions of Tallinn and Harju County in 2035 will amount to a maximum of 930,000 tonnes.
3. In Tallinn shall exist an excellent public transport network. Among other things this means a single regional ticketing system and integrated route network, as well as a network of convenient mobility hubs.
4. Networks of pavements and cycle paths with good coverage have been built both within the city and across municipal boundaries.
5. Pavements, public transport stops, and the main bicycle network are accessible to everyone (elderly and disabled) throughout the year, and 90% of schoolchildren can make their daily movements independently.

6. Convenient mobility services have been developed and are widely used in the Tallinn region, simplifying the combination of different modes of transport on a single route. The most popular of these are the bicycle sharing service covering the entire region and the multimodal travel planner.

In addition to that, more concrete goals linked to the priority areas are listed. For example are “New light rail connections between commuting destinations” a goal of the first priority area (Infrastructure).

Measures defined: The CMP lists measures for nine different priority areas: Infrastructure (Infr.), Organisation of sustainable cross-border mobility (Org. c-b. m.), Intermodality (Interm.), Mobility services (M.s.), Collection and analysis of mobility data (C+a m.d.), Alternative fuels (Alt. fuels), Integration of land use and mobility planning (Intergr.), Reduction of car use (Reduct.) and Communication (Comm.).

Measure defined	Transport mode addressed	Push/ Pull/ Neutral	Dimension	Type of measure
Preparation of a roadmap for the implementation of the light rail (Infr.)	Mid-capacity PT	Pull	Policy and administration	Sectoral strategies
Spatial analysis of the routes proposed in the light rail transport study. (Infr.)	Mid-capacity PT	Pull	Policy and administration	Sectoral strategies
Implementation of the stages presented in the light rail transport study. (Infr .)	Mid-capacity PT	Pull	Infrastructure	Public transport vehicles and infrastructure
Increasing train traffic between the Baltic Station and Vesse. (Infr .)	High-capacity PT	Pull	Infrastructure	Public transport vehicles and infrastructure
Increasing the average speed of trams (Infr.)	Mid-capacity PT	Pull	Infrastructure	Public transport vehicles and infrastructure
Construction of the planned Old City Harbour tram line. (Infr.)	Mid-capacity PT	Pull	Infrastructure	Public transport vehicles and infrastructure
Wider use of priority public transport systems at traffic junctions. (Infr.)	Multimodal	Neutral	Infrastructure	Public transport vehicles and infrastructure
Procurement of trams with double doors (Infr.)	Mid-capacity PT	Pull	Infrastructure	Public transport vehicles and infrastructure
Increasing the physical speed of trams on new routes. (Infr.)	Mid-capacity PT	Pull	Transport services	Speed
Tram track gauge analysis (Infr.)	Mid-capacity PT	Pull	Policy and administration	Expertise
Initiation of a special plan for the Tallinn ring railway. (Infr.)	High-capacity PT	Pull	Policy and administration	Expertise
Map all the PT stops (Infr.)	Multimodal	Pull	Policy and administration	Expertise
Creating a modular stop design (Infr.)	Multimodal	Pull	Infrastructure	Transport hubs, interchanges and stops
Development of the concept for additional services for stops (Infr.)	Multimodal	Pull	Policy and administration	Sectoral strategies
Upgrading of public transport stops. (Infr.)	Multimodal	Pull	Infrastructure	Transport hubs, interchanges and stops
Ensuring accessibility for cyclists and pedestrians at stops (Infr.)	Intermodal	Pull	Infrastructure	Built infrastructure for alternative transport modes
Construction of the main network of cycle tracks in. (Infr.)	Cycling	Pull	Infrastructure	Built infrastructure for alternative transport modes
Construction of cycle tracks between Tallinn and nearby settlements. (Infr.)	Cycling	Pull	Infrastructure	Built infrastructure for alternative transport modes
Establishment of a network of cycle paths in the region. (Infr.)	Cycling	Pull	Infrastructure	Built infrastructure for alternative transport modes
Ensuring the accessibility and usability of cycle paths for everyone (young/ols/disabled). (Infr.)	Cycling	Pull	Infrastructure	Built infrastructure for alternative transport modes
Improvement of winter maintenance standards for cycle tracks. (Infr.)	Cycling	Pull	Infrastructure	Built infrastructure for alternative transport modes

Preparation of infrastructure needs analysis for innovative micro-mobile vehicles. (Infr.)	Micro-mobility	Pull	Policy and administration	Sectoral strategies
Construction of pavements in suburban settlements. (Infr.)	Walking	Pull	Infrastructure	Built infrastructure for alternative transport modes
Introduce requirement to build service and commercial premises on the first floor more extensively. (Infr.)	Walking	Pull	Policy and administration	Law
Ensuring walking accessibility for users of all ages and abilities. (Infr.)	Walking	Pull	Policy and administration	Definition of policy goal
All year-round maintenance of pavements (Infr.)	Walking	Pull	Infrastructure	Built infrastructure for alternative transport modes
Development and implementation of a regional cooperation model (Cross-b. mob.)	Multimodal	Pull	Policy and administration	Cross-border collaboration
Conduction of the analysis of the regional route network (Cross-b. mob.)	Multimodal	Pull	Policy and administration	Cross-border collaboration
Adaptation of different line networks (Cross-b. mob.)	Multimodal	Pull	Transport services	Network
Construction of public transport hubs at key nodes (Cross-b. mob.)	Intermodal	Pull	Infrastructure	Transport hubs, interchanges and stops
Extension of the Tallinn public transport card system to regional commercial bus lines. (Cross-b. mob.)	Low-capacity PT	Pull	Ticketing and tariffs	Tariff schemes
A single ticketing system for all modes of public transport (Cross-b. mob.)	Intermodal	Pull	Ticketing and tariffs	Tariff schemes
Analysis of the optimal location of mobility hubs and ‘park and ride’ points (Interm.)	Intermodal	Pull	Policy and administration	Sectoral strategies
Gradual construction of the network of mobility hubs (Interm.)	Intermodal	Pull	Infrastructure	Transport hubs, interchanges and stops
Establishment of the ‘park and ride’ points (Interm.)	Intermodal	Pull	Infrastructure	Transport hubs, interchanges and stops
Bicycle parking and bicycle rental points at all ‘park and ride’ points. (Interm.)	Intermodal	Pull	Infrastructure	Transport hubs, interchanges and stops
Abolition of time restrictions on the transport of bicycles by train (Interm.)	Intermodal	Pull	Transport services	Accessibility
Establishment of bicycle transport capacity on regional bus routes (Interm.)	Intermodal	Pull	Transport services	Accessibility
Establishment of good long-term bicycle parking facilities at public transport stops (Interm.)	Intermodal	Pull	Infrastructure	Transport hubs, interchanges and stops
Establishment of a city-wide bike share scheme. (M.s.)	Sharing services	Pull	Transport services	Sharing schemes

Extension of the bicycle sharing scheme to larger settlements closer to the city limits. (M.s.)	Sharing services	Pull	Transport services	Sharing schemes
Establish a single ticketing and reservation system for all existing share schemes. (M.s.)	Sharing services	Pull	Transport services	Sharing schemes
Creating a travel planner that can combine all existing share schemes and public transport (M.s.)	Intermodal	Pull	Infrastructure	Information and communication technology
Defining the basic principles for regulating mobility services (M.s.)	Sharing services	Neutral	Policy and administration	Law
Collection of additional data on bicycle use and walking. (C+a m.d.)	Cycling, Walking	Neutral	Policy and administration	Transport data & models
Conducting a periodic, high-quality mobility survey (C+a m.d.)	Intermodal, Multimodal	Neutral	Policy and administration	Transport data & models
Introduction of a modern traffic model (C+a m.d.)	Multimodal	Neutral	Policy and administration	Transport data & models
Integration of cycling and walking into the traffic model (C+a m.d.)	Cycling, Walking	Neutral	Policy and administration	Transport data & models
Periodic measurement and modelling of accessibility of jobs and services across the region (C+a m.d.)	Multimodal	Neutral	Policy and administration	Transport data & models
Analysis the suitability of different fuel technologies for PT (Alt. fuels)	Multimodal	Neutral	Policy and administration	Expertise
Priority development of light rail transport (Alt. fuels)	Mid-capacity PT	Pull	Policy and administration	Implementation of policy goals
Strengthening of cooperation across municipal reg. land use and mobility planning. (land use)	Multimodal	Neutral	Policy and administration	Cross-border collaboration
Considerations reg. a urbanisation model of a unified area of the Tallinn region. (land use)	Multimodal	Neutral	Policy and administration	Cross-border collaboration
Restrictions on new developments reg their location (land use)	Multimodal	Push	Policy and administration	Geographical constraints
Requirement for mixed use on the ground floors of buildings in new developments (land use)	Walking	Neutral	Policy and administration	Geographical constraints
Encouraging small grocery stores (land use)	Multimodal	Pull	Policy and administration	Geographical constraints
Mandatory mobility concepts for new developments and high-traffic objects (land use)	Multimodal	Push	Marketing and image	Mobility management schemes
Establishment of new developments only in the immediate vicinity of the	Multimodal	Push	Policy and administration	Geographical constraints

existing public transport (land use)				
Acquisition of land for priority public transport investments (land use)	Multimodal	Neutral	Policy and administration	Geographical constraints
Calming of car traffic (Reduct.)	Individual transport	Push	Policy and administration	Other
Fair redistribution of Tallinn street space. (Reduct.)	Multimodal	Neutral	Infrastructure	Re-allocation of public space
Establishment of an Active Mobility Area (AMA) (Reduct.)	Multimodal	Neutral	Policy and administration	Other
Establishment of a peak hour fee for car use in the city of Tallinn. (Reduct.)	Individual transport	Push	Policy and administration	Taxation schemes and congestions charges
Introduction of a national car tax (Reduct.)	Individual transport	Push	Policy and administration	Taxation schemes and congestions charges
National or regional car mileage tax. (Reduct.)	Individual transport	Push	Policy and administration	Taxation schemes and congestions charges
Expansion of the paid parking area in the City of Tallinn (Reduct.)	Individual transport	Push	Policy and administration	Parking management/restrictions
Development of a communication plan for sustainable mobility in the region. (Comm.)	Multimodal	Neutral	Marketing and image	Marketing; Image
Development of a unified public transport brand in the region (Comm.)	Multimodal	Neutral	Marketing and image	Corporate Identity
Strategically targeted dissemination of information on sustainable mobility opportunities. (Comm.)	Multimodal	Neutral	Marketing and image	Marketing
Organisation of campaigns to promote sustainable modes of mobility. (Comm.)	Multimodal	Pull	Marketing and image	Marketing
Provision of cyclist view training courses for bus drivers. (Comm.)	Cycling	Neutral	Other	Other
Addition of a mandatory bicycle module to driving instruction in cooperation with the state. (Comm.)	Cycling	Neutral	Other	Other
Carrying out bicycle traffic training courses in schools (Comm.)	Cycling	Neutral	Other	Other
Providing bicycle traffic training courses for adults. (Comm.)	Cycling	Neutral	Other	Other

Legend

	Not started		In planning stage		Being implemented		Finalised

Assigned responsibilities: Most measures fall under the responsibility of either the Tallinn Transport Department or the Union of Harju County municipalities. It will also be the Union of Harju County municipalities, that will monitor the CMP again while planning the Harju County urban settlement action plan.

Publication/Adoption of the CMP: The CMP will not be adopted as a separate strategy. It is rather a collection of measures meant as an input to other strategies or policy documents being prepared in the future. In particular, activities laid down in the CMP action plan are/will be addressed in other strategy documents such as the Tallinn-Harju SUMP or the Functional Urban Area Development Plan. The CMP is published on the Union of Harju County Municipalities (HOL) webpage.

Reflection of the CMP process: It was helpful to the development of the CMP that several parallel activities were dealing with similar issues and challenges (Estonian National Strategy 2035, Estonian transport and mobility master plan, Tallinn & Harju SUMP, Tallinn mobility plan 2035 etc). Furthermore, it was a supportive factor that the Tallinn FUA mobility council was implemented. However, despite these on-going activities, the main hindering factor for the CMP that was identified was that the acceptance on a political level is not sufficient and urgency for actions is not recognized. As a conclusion, the partners from the Tallinn/Harju region suggest involving political decision makers early on.

2.3.4 CMP Tartu, Estonia

The commuting master plan of Tartu was developed by the city administration under the SUMBA project, but including findings generated in the project OptiTrans and Cities.Multimodal. The CMP specifies the transport section of the sustainable energy and climate action plan Tartu (Energia 2030+) which was adopted by the city council in 2021.

Structure of the CMP: Tartus CMP consists, besides an outlining of the objective of itself, a definition of the target area, a short view over different future scenarios for Tartus mobility, etc., mainly of one part summarizing the current traffic situation in Tartu and the mobility plan with measures itself.

Stakeholder involvement: Stakeholders were involved in several workshops. The mobility measures foreseen in the CMP were developed in these workshops and are based on the objectives of the climate plan.

Goals: The CMP's objective is to "ensure available, convenient, safe, and sustainable mobility options to people and companies". It should be mentioned, that the CMP is not the only document that aims improving mobility. There are other mobility plans supporting the CMP and having their own objectives. For example, the Active Physical Movement plan is going to improve active mobility options within the city by improving mobility safety and road quality.

All measures listed in different plans for improving the sustainability of mobility in Tallinn/Harju help to achieve the goal of the "Tartu Energia 2030+" action plan. The objective of this plan is to increase the share of sustainable transport, i.e. non-motorised transport, to 70% of all mobility.

Measures defined: The measures defined are laid down in an action plan. The following table provides an overview.

Measure defined	Transport mode addressed	Push/ Pull/ Neutral	Dimension	Type of measure
Mobility points	Intermodal	Pull	Infrastructure	Transport hubs, interchanges and stops
Interconnected Public Transport Services	Intermodal	Pull	Transport services; Marketing and image	Accessibility, Corporate Identity
Rapid Public Transport Services	Low-capacity PT	Pull	Transport services	Speed
Public Transport Monitoring System	Low-capacity PT	Neutral	Policy and administration	Transport data & models
Extended City Public Transport Services	Multimodal	Pull	Transport services; Infrastructure	Accessibility; Transport hubs, interchanges and stops
Linked transport hubs	Intermodal	Pull	Infrastructure	Transport hubs, interchanges and stops
Route ticket	Multimodal	Pull	Ticketing and tariffs	Tariff schemes
Park-and-go solutions	Intermodal	Pull	Infrastructure	Transport hubs, interchanges and stops
Extended City bike-sharing Network	Cycling	Pull	Transport services	Sharing schemes
Rapid Cycling Network	Cycling	Pull	Infrastructure	Built infrastructure for alternative transport modes
Bicycle library	Cycling	Pull	Transport services	Sharing schemes

Legend

	Not started		In planning stage		Being implemented		Finalised

Assigned responsibilities: The CMP specifies the activities of the transport part of the SECAP. The implementation of the Tartu City Energy and Climate Action Plan is the responsibility of the Spatial Development Department. This department also employs a climate specialist and a mobility specialist for the city of Tartu, whose direct job is to implement the climate plan and its annexes.

Publication/Adoption of the CMP: The CMP is included in the Tartu City Energy and Climate Action Plan (Tartu energia 2030+, SECAP), which was approved by the City Council in April 2021. The CMP is an official document annexed to this document. Right after its adoption, the implementation of the SECAP (meaning also the CMP) was started in the summer of 2021. First measures for implementation included the bicycle path network and mobility points. Thanks to its inclusion in the SECAP, the plan is reviewed annually, and the values of indicators required for monitoring are calculated. If necessary, additions will be made to the plan.

Reflection of the CMP process: The main problem that needed to be solved was the growth of private vehicles in urban traffic due to urban sprawl. This has been seen as a supportive factor for the development of the CMP as more and more people are actually disturbed by this. The main question in the process was whether or not to significantly restrict the number of cars in the city. In conclusion, it was considered sensible to develop alternative modes of transport (public transport, cycling, walking) and to encourage people to use more sustainable transport solutions. During the preparation of the CMP, various future scenarios were analyzed and the most favoured option was selected. A wider voice was achieved as several stakeholders were involved in the CMP process. It is, in a sense, a social agreement. Thanks to this work, it has been easier to define measures in the city of Tartu's energy and climate plan and also in the new Master plan of the city of Tartu. Other helpful factors that were mentioned were the pandemic as well as the European Union environment and transport policy. Tartu identified also a few hindering factors, mainly the general inertia and car-centric worldview that is hard to overcome. Furthermore it was concluded that public involvement in the implementation phase is not sufficient.

2.3.5 CMP Riga, Latvia

The CMPs aim is to improve the sustainable mobility options in commuting process between Riga, Pieriga (Greater Riga) and adjacent municipalities. The CMP is developed according to the strategic aims and long-term development priorities by the Riga Planning Region Sustainable Development Strategy 2014-2030. This CMP complements the Action Plan for Riga Metropolitan Area development, where the focus is on diversification and adaptation of different transport modes up to the scale and purpose of use.

Structure of the CMP: First, the functional area the CMP covers is defined. Then institutions involved in the development of CMP are presented. After the current situation and mobility trends in the CMP area are analyzed, the strategic aims and vision are summarized. After that, you get an insight over different development scenarios and the priority areas and key objectives within them are listed. The detailed Action plan follows. Then an overview over the integration of CMP in existing strategies and policies as well as the CMP implementation monitoring and update and an overview on stakeholder involvement and main related outputs is given.

Stakeholder involvement: The setting of the objectives of the CMP took place in cooperation with the parties involved, so they are involved in the implementation of the plan for activities developing through sustainable transport. Some of these activities are also identified in their own planning documents, so there is a strong relation. These are certainly Riga and Riga Regional municipalities (Pierīga municipalities), Riga Planning Region, Ministry of Transport. Several workshops have been organised during the elaboration of the CMP document in which the stakeholders' opinion and suggestions were gathered and feedback was collected.

Goals: The CMP of Riga lists the following goals:

- To reduce utilization share of private cars in daily commuting by setting up of efficient mobility hubs,
- To promote wider use of public transport by introducing joint ticketing system,
- To increase flexibility to solutions for daily commuting by applying efficient data management,
- To foster collaboration of stakeholders for creation of integrated mobility system.

Riga's development vision and long-term development goals are defined in the Riga Sustainable Development Strategy until 2030.

Measures defined: The defined measures were sorted by activities that refer to Riga city (the first eight in the table below) and those that refer to Riga Planning region. The defined measures often include several sub-measures which were difficult to separate. Therefore, the table below could not be filled-in completely.

Measure defined	Transport mode addressed	Push/ Pull/ Neutral	Dimension	Type of measure
General PT management and planning 2) Modernization of rolling stock and capacity provision 3) Development of passenger water transport 4) Alternative types of PT	Public transport	Pull	Infrastructure; Marketing & image	Public transport vehicles and infrastructure; mobility management schemes
Establishment of mobility hubs near railway stations in Riga	Intermodal	Pull	Infrastructure	Transport hubs, interchanges and stops
3.1. Traffic management system 3.2. Improve traffic management tools 3.3. Traffic navigation (routing) 3.4. Traffic management in the city center 3.5. Awareness of pedestrians and cyclists improvement 3.6. Traffic information system	Multimodal	Pull	Policy & administration; Marketing and image	Transport data & models; mobility management schemes
Continuous data monitoring	Multimodal	Pull	Policy & administration	Transport data & models
Cooperation with Pieriga municipalities	Multimodal	Pull	Policy & administration	Cross-border collaboration
Mobility management in Riga	Multimodal	Pull	Policy & administration	Expertise
8.1. Traffic calming measures 8.2. Introduction of the red carpet principle - pedestrian and bicycle infrastructure continuity and priority 8.3. Improvements at intersections	Multimodal	Neutral	Infrastructure	Re-allocation of public space; Built infrastructure for alternative transport modes
Development of regional mobility points in Riga and Pieriga - network of 50 mobility points (RRF)	Intermodal	Pull	Infrastructure	Transport hubs, interchanges and stops
Maximum use of the route of the North Baltic-Baltic Transport Corridor project "Rail Baltica" (regional stops)	High-capacity	Pull	Infrastructure	Transport hubs, interchanges and stops.
Measures promoting "green" mobility, coordination of support infrastructure development	Multimodal	Pull	Policy & administration	Expertise

Establishment of a unified PT network and system in the Riga metropolitan area	Multimodal	Pull	Ticketing and tariffs; Marketing and image	Corporate identity; payment schemes
Improving mobility infrastructure by making rail (rail, tram) the backbone of public transport	High-capacity, mid-capacity	Pull	Infrastructure	Public transport vehicles and infrastructure
Development of railway transport in Pieriga and expansion of bus route network	Multimodal	Pull	Infrastructure	Public transport vehicles and infrastructure
Planning and integration of regional cycling routes and connections into existing cycling routes	Cycling	Pull	Infrastructure	Built infrastructure for alternative transport modes
Development of transit corridors and connections to them	Intermodal	Pull	Infrastructure	Not defined
Development of water transport	Low-capacity	Pull	Infrastructure	Not defined

Legend

	Not started		In planning stage		Being implemented		Finalised

Assigned responsibilities: Riga Planning region will be responsible for the plan the exercise of their competence, and in terms of capacity, care will be taken of activities to attract investment implementing the objectives. The Riga Planning Region Development programme 2022-2027 will be finalized in May 2022.

Publication/Adoption of the CMP: The objectives of the CMP will be integrated into the Development of the Riga Planning Region Programme 2021-2027 Strategic Part and Action Plan. The CMP includes procedures for supervision of implementation and monitoring. The monitoring report on implementation of the CMP will be prepared in every three years – in the year 2024 and 2027. The report will reflect about completed activities or the activity progress during the reporting period. The Final report (in 2027) will contain information whether the CMP will be updated also in the upcoming period.

Reflection of the CMP process: The partners conclude that the CMP process came at the right time. There is a big spotlight on mobility issues right now. In addition, a number of parallel mobility projects and national reforms as well as the interest of municipalities were helpful to the CMP development. Finally, Covid recovery funding for development projects was prepared for the principles of SUMBA to be included in project applications and infrastructure planning. On the downside, the Covid19 pandemic made it necessary to have some meetings online which was seen as a hindering factor. The partners stated that the outcome might have been better if the plan's consultation meetings had been held on face-to-face rather than remotely. Furthermore, the administrative territorial reform of municipalities caused delays in the project. The reform was accompanied by municipal elections and redeployment of new seats in June 2021. Part of the project time was lost due to the change in staff. The local partners conclude however, that the SUMBA project has produced valuable results, and approaches have been developed within the framework of this project and studies have certainly contributed to achieving the objectives set out in the CMP.

Chapter 3 – Findings and conclusions

Looking at the various CMPs that were developed in the SUMBA project, one can see that they differ significantly. Although all CMPs were developed based on the guidelines that were developed during the SUMBA project, the flexibility of these guidelines allowed to develop CMPs that respond to the needs of the participating cities or regions. Comparing the various CMPs it is most noticeable that the definition of measures varies. Some cities defined few measures while others have developed a rather long list of measures or defined quite complex measures. Some of the measures have long-term character that are in an idea-stage rather than being in a concrete planning stage. This leads to the fact that some CMPs have the "flavour" of a work programme while others rather seem to have a conceptual orientation.

One of the goals of SUMBA was to support intermodal commuting instead of single car trips. Many of the measures defined in the CMPs aim at public transport, cycling, intermodal transport, or a combination of these (classified as multimodal transport). The vast majority of measures are pull measures, i.e. giving incentives or strengthening the supply side. The implicit assumption is that people will follow if only the PT offer or infrastructure of cycling etc. is good enough. Consequently, push measures, that are usually politically unpopular because they would limit the private car, are few. If this philosophy will lead to the expected outcome and push mobility transition towards a more climate friendly transport system remains to be seen.

Looking further which dimension is mostly addressed, we can see that there is still a focus on infrastructure, with the CMP of Tallinn/Harju being the exception. This could be interpreted as that there is still a lack of adequate infrastructure in most regions that would allow the desired modal shift.

Recommendations

After completing several CMPs, reflecting the elaboration process and following the first implementation steps in the SUMBA+ extension stage project, we recommend taking into account the following key aspects when developing a CMP or implementing it.

- Early stakeholder participation is necessary as is the involvement of the political level or the decision makers respectively. This will increase the backstopping for the entire CMP process. Similarly, the question of how to anchor the CMP in local strategies or how to adopt the plan should be addressed early on.
- The objectives of the CMP process can be reached in a SUMP process as well. Although a SUMP requires a more rigid structure, we recommend integrating the CMP approach into a SUMP if a SUMP is planned since it is covering more aspects than a CMP. Most aspects that the CMPs address are meanwhile also covered by the revised SUMP guidelines.
- The number of measures defined in the CMPs should be manageable to be able to monitor the implementation progress. A helpful guidance could be the SMART-approach, i.e. measures should be specific, measurable, attainable, reasonable and time-bound.
- Planning sufficient time and resources to develop a transport strategy is important. In the surveys about the CMPs, two cities mentioned that if they would start over again they would have liked to learn from other cities prior to the development of the CMP in one case and to have had a travel habit survey in the other case. Both cities mentioned that this could have facilitated the development process in hindsight.

Annex: Questonnaire sent to SUMBA partners

Dear SUMBA partner,

we are currently evaluating the commuting masterplans as part of the SUMBA+ project. The goal of the evaluation is to give an overview on all developed CMPs in the SUMBA project, their development, their main objectives and activities included and to analyse the current progress with regard to the anchoring of the CMP document in city policies and the implementation of individual measures.

This evaluation questionnaire consists of three parts. The first section includes question about the development of the CMP, the second section asks for measures and their implementation status, the third section is about the outlook and any other information that project partners might want to share.

Section 1 - Drafting process of the CMPs

1.1 Please describe briefly how the CMPs were anchored in your city's/FUA's policy. Please describe also who is responsible for CMP implementation.

1.2 How have you defined your measures that are included in your CMPs? Please briefly describe the process and indicate easy/controversial issues that came up during the process.

1.3 Please indicate if and how the commuting master plan helped you identify and contribute towards tackling transport-related challenges in your city/FUA.

1.4 What would you do differently if you could start over again?

Section 2 – Progress of CMP implementation

2.1 Please describe the current status of CMP implementation in general, this means adoption/anchoring of the CMP, implementation status of measures, stakeholder involvement etc. Please differentiate if the status is different for different parts of the CMP. Include timelines and actors if relevant.

2.2 Please name and describe supporting and hindering factors of CMP implementation

Supporting factors	Hindering factors

2.3 Please find below a list of measures we extracted from your CMPs. Please indicate for each measure the status of implementation and planned year of finalisation. In the comment section you may add comments that you find relevant.

For the status of implementation please select from the following four alternatives: not-started; in planning stage; being implemented; finalised

Measure defined	**Status of implementation**	**Year of finalisation**	**Comment**

Section 3 – Outlook

3.1 How do you estimate/assess the implementation of the CMPs in the future (degree of implementation, timeline, political support/opposition)? Please state reasons for your answer.

3.2 Are stakeholders still involved in the CMP implementation process? If so, please list who (name/function) and how.

3.3 Is an evaluation/update/revision of the CMP foreseen? Please describe your approach/plans.

3.4 If you have any general comments regarding the CMP development or implementation that you would like to share, please feel free to write them below.

Thank you.

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