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MUNICIPAL CYCLING GOVERNANCE DEVELOPMENTS IN LATVIA: TOWARDS SECTORIAL PLANNING AND GOVERNANCE SYSTEM REQUIREMENT

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Abstract. Nowadays considering that cycling as a widely increasing daily transport mode is becoming more popular and also more publicly required among all kinds of interest groups of our society, municipal policies and practical activities for local cycling developments are already steadily growing and will be a substantial part of municipal statutory development planning in Latvia, too, and that needs modern adaptive governance application and must be properly integrated within necessary sustainable municipal mobility approach. The study starts with an overview of the municipal cycling governance developments in Latvia as the aim of this research is to study the municipal cycling governance building frame, via the complementary set of cycling governance instruments application in terms of their development, implementation and impact evaluation – political and legal, institutional, planning, economic, infrastructure and also communication instruments. As the model's case study area, Valmiera township municipality (case of medium and small size town municipalities in Latvia) was chosen, where our sustainable mobility studies have been step-wise continuing from 2016, particularly participatory documenting the cycling mobility development and its governance as sub-system of municipal mobility/transportation governance.

The research methodologies applied included both research-and-development framework, being realized in active collaboration with municipal administration, and, case study research, allowing to provide integrative contextual analysis of the case phenomenon, including document studies, infrastructure observations with photo documentation, followed by semi-structured in-depth interviews with whole set of the main stakeholders. The study highlights direct necessity of the particular cycling mobility governance system approach understanding and adaptive application, based on three governance dimensions (governance content, stakeholders and instruments). Besides social-ecological system as governance content dimension approach and stakeholders' participation as governance stakeholders' dimension approach, also and particularly, not only to use usually emphasized infrastructure planning, but further design and complementary use of all groups of traditional governance instruments, also additionally developing adaptive governance based disciplinary/sectorial cycling mobility instruments, esp. whole set of cycling communication instruments (information, education/training, participation, pro-cycling friendly behaviour). This triple governance dimensions' model and principle as well as action policy recommendations elaborated may be used by the other local municipalities starting to expand cycling mobility.

Keywords: mobility, cycling, governance, governance instruments, infrastructure, communication.
JEL code: O18, O21, Q56

1. Introduction

A sustainable transportation system is one of the most important components of a modern urban environment combining the city's communal living space with energy-efficient and convenient mobility. Reduction of motorized vehicles, improving the conditions for pedestrians, cyclists, and other traffic participants using micro-mobility as their mode of transportation, and creating a convenient transport system are among the key challenges for achieving sustainability in transportation. Pedestrian safety is ensured by separating them from the traffic flow and by organizing street crossings. Cyclists are largely seen as using the same infrastructure solutions as pedestrians. Infrastructure adaptations are needed to facilitate the use of cycling as a sustainable daily mode of transportation (Dufour, 2010). It is also important to create an urban environment of a quality that makes it attractive for both walking and cycling (Kielgast, 2016). Cities Climate Leadership Group (2019) wright, that is also important to create an urban

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environment of a quality that makes it attractive for both walking and cycling. Cities must focus on safety, convenience, culture, and comfort for any user of micro-mobility solutions. This can be politically challenging due to opposition from groups that can be negatively impacted. There are four principal strategies, found by Wilson A. et al. (2020) used to secure political support: 1) piggybacking on public projects, 2) using external grants and funding, 3) pre-emptively re-routing cycling infrastructure, and 4) finding support from a political champion. And there are five main parameters that can be used to analyse the success of good performing bicycle city: planning, usage of land, policy, infrastructure, and culture (Gunn A., 2018). The number of people using bicycles as transportation grows every year, as indicated by data after research done by the Ministry of Transport – in 2019 the proportion of **people who used a bicycle was 35% of the total population in Latvia**. There is a growing interest in active mobility policies, which affect national, regional, and local authorities, and active mobility in this context refers to mobility that includes physical activities such as cycling and walking (Scotini et al., 2017).

There is the concept of governability that covers all three main analytical aspects of **systems governance:** the system that will be governed, its governing system, and governance interactions between them. In order to see the whole picture of governability in general, all those three aspects of it must be understood and analysed as separate processes at the beginning (Kooiman, 2008). But in order to change the thinking of society to be more environmentally friendly the institutional and cultural norms must be changed and there must be educational events and trainings that would increase the effectiveness of environmental management (Virapongse, 2016). Collaboration of vertical and horizontal functions are necessary to increase our comprehension and capability to respond to the complex social-ecological systems (Armitage, 2009). As it is recommended in the Handbook of cycling infrastructure and promotion, it is important to have an integrated transport policy, that includes- a future vision of the city transport system, goals, which must be reached, and different measures that must be implemented, but in order to reach the goals, the focus must be oriented to infrastructure development, communication, politics and legislation etc. (Defner, 2014). Continuing this, we can speak of institutional circumstances and framework in which cycling policy is created (orgware) and also on the material provision of infrastructure (hardware) and immaterial measures such as education, communication, and information (software), as well as, there are a number of relevant socio-spatial context aspects that may influence the outcomes of cycling policies (Harms, 2016).

These models mentioned are related to those designed and actually applied in the current studies. First of all, the model of **governance instrumental dimension:** planning, economic-financial, administrative-institutional, infrastructure and technological, communication, and policy-legislative instruments that were successfully used for municipal environmental etc. governance studies (Ernsteins, 2017). But this governance instrumental dimension is to be seen in complementary interrelation with **governance content dimension**, based on a socio-ecological systems (SES) approach, and, **governance segments dimension,** the groupings of all main stakeholder groups being mandatory recognized and aiming towards their participation and collaboration - all dimensions coming together as **triple governance dimensions' model** and, actually, governance principle (Ernsteins, 2017).

The study area of the research was the **local municipality of Valmiera** (around 25 000 inhabitants), particularly, chosen pilot territory as a relevant case for a European micro-city (since national administrative reform in mid-2021 there was established Valmiera county municipality as city was joined by 7 rural municipalities around it). There is no unified concept for bicycle traffic development, it is performed in a step-wise development, but during the last decade, according to former studies, there has

been a progress in the development of bicycle traffic in Valmiera, while at the same time there are also known infrastructure and other instrumental shortcomings.

Current Valmiera municipality studies initially were developed within the framework of the SUSTINNO national research program project and included the main aspects of environmental conduct. This **research-and-development project's** overall aim was to study the implementation and development preconditions of municipal bicycle transport governance (2016 - 2017) and to develop proposals for Valmiera city action-policy. Further, follow-up studies (2018 – 2021) have a more specified **focus on systems governance** – aiming at the study of the cycling governance system, via the complementary set of cycling governance instruments in terms of their development, implementation, and impact evaluation. Particular tasks are related to: (1) overview and evaluation of main planning frame instruments from the national level to local one, especially, of disciplinary sector planning documents; (2) assessment of infrastructure instruments as the main precondition for cycling development and governance; (3) overview-evaluation of policy/legislative, economic/financial, institutional/administrative and communication/collaboration governance instruments, as well as (4) study of socio-ecological system approach for cycling governance and stakeholder group involvement.

2. Methodology for research-and-development framing: case study research

The research-and-development project in Valmiera City Municipality took place from 2016 to 2021 and consisted of three main research stages.

1. Initially in 2016 - 2017, the assessment of the bicycle transport governance situation using the following data collection methods, was combined into case study research methodology frame: document analysis, household and population surveys, in-depth interviews with all major stakeholder groups, as well as bicycle transport infrastructure research and observations using photo documentation method, which all was done within the framework of the SUSTINNO national research project. Action policy proposals and practical recommendations to Valmiera municipality have been elaborated and delivered – the current, complex and detailed, study stage is used as a reference for the next stages. Results of this study stage have been published (Krukle, Pugulis, Biezina, Ernsteins, 2018), as well as submitted and discussed with Valmiera municipality, and, subsequently, this paper is concentrated on the second and third studies stage.

2. **Observatory participation** (participatory action research frame) in 2018-2019 in the development of the transport-related municipal voluntary planning in Valmiera – thematic plan: "Valmiera City Transport Infrastructure Development Concept" (2018 - 2019) - including active participation at the statutory public hearing of the planning document and submission of assessments and recommendations to the municipality to contribute to the proposed Concept.

3. Case study research methodology frame renewed application again in 2020 in order to assess the changes in the cycling governance practice during the last three years, including compliance with Valmiera city transport infrastructure development concept approved in 2019 - infrastructure assessment was performed both individually by the researcher team and together with Valmiera eco-school students, interviews performed with all administrative levels' city council officials, participation in municipal management meetings, as well as, subsequent document studies.

In order to fulfil the tasks of this **research-and-development frame**-based study, the set of both research methods was used during the second and third study stage according to the case study research methodology. Initially it should be mentioned that during the second study stage, the research group made a review and prepared an analysis, which was sent to the municipality for improvement of the "Valmiera

City Transport Infrastructure Development Concept", and also participated and presented critical results and various suggestions at the statutory public hearing of the mentioned planning document. Afterwards, Valmiera city council decided on necessary recommended improvements for the Concept and made decision to have repeated public hearing.

Afterwards, the renewed **document studies** across all administrative levels in Latvia were performed**,** particularly considering new developments with planning instruments**. Cycling infrastructure observations** in real life **-** in order to properly evaluate the changes in the existing cycling infrastructure of Valmiera city, the research team member (a professional sports-cyclist) was repeating the route (additionally using the photo documentation method) in 2020 (August) as it was done also in 2017, during the first study stage. The task of the research was to drive the existing Valmiera bicycle routes in order to evaluate: bicycle lane quality and compliance, bicycle lane connections, directness of bicycle routes, crossings, driveways and curbs, and safety when riding a bicycle, bicycle signs, and their visibility, bicycle parking etc. Subsequently, semi-structured **stakeholder interviews** were done, in total 12 interviews during the third study stage, when 2-3 representatives of each of four municipal administration level institutions (persons from municipal council, municipal administration, subordinated organizations, and municipal capital companies) were in-depth interviewed in order to understand and analyse the current situation of cycling governance instruments development in Valmiera city municipality.

Semi-structured in-depth interviews were managed with the interviewees selected within the four different municipal governance levels, to see all the vertical mobility integration practice. The first, upper level, **municipal council** itself includes committees and Commissions - cycling and transport issues are decided by the Committee on Economic and Transport Affairs, also by related Committee on Education, Culture and Sports, as well as, by the Road Safety Commission. The next level - **municipal administration and structural** units' level - consisted of Urban Planning unit, which deals with project coordination and planning, and the Real Estate department, particularly a road construction engineer who coordinates practical matters. Third, **municipal institutions and organizations**, such as the Tourist Information centre, which plans cycling routes for tourists, the education sector, where eco-schools are already involved in various mobility development events. Finally, related **municipal capital companies:** Valmiera Transport company, Valmiera Housing and Territory Management company, also Olympic sports centre. Also, there was interviewed main organization outside municipal administration - cycling NGO, named Ezi, which is also very active in organizing various cycling events in town.

3. Case study research application: Valmiera municipal cycling governance developments

The studies described in this paper has been carried out in Valmiera municipality in the period from 2018 to 2021, as the second and third research stages, when the governance development of bicycle transport has been closely followed and impacted. Particularly, the status and application practice of all six governance instrument groups were studied, as well as overview done cycling related stakeholder situation and participation, and, related/involved governance sectors. Subsequently, the selection of methods for the Valmiera cycling governance case study research methodology included those of document and planning process studies, with participatory observation and interaction, infrastructure observation, semi-structured stakeholder interviews.

3.1. Cycling planning framework: from the EU up to municipal level practice in Latvia

Currently one of the main goals in Europe until 2050 is to reduce the carbon footprint made by transport by 90%. It can be achieved by integrating sustainable mobility where cycling plays a big role (European

Commission, 2020). That is why the European Cyclists' Federation in their Europe's Cycling Strategy (2017) suggests the following set of **cycling management proposals for Europe**: the bicycle registration policy and interdepartmental officials should make sure that cycling is included in each new policy document that is published; in order to successfully coordinate and implement a cycling strategy within the EU, a cycling contact point must be created; all target audiences must be included; the cycling centre must systematically compile and carry out an examination; the EU institutions must communicate and provide circumstances that are beneficial for cycling which would then encourage employees to use the bicycle in order to reach their workplaces (European Cyclists' Federation, 2017). In turn, the European Sustainable and Smart Mobility Strategy (2020) states that a multi-modal, environmentally and climate-friendly approach must be provided within a sustainable transport system, including creating a positive and sustainable means of travel within and between cities. For example, to improve and evolve the cycling infrastructure during the next 10 years. The development of cycling plays a key role in the European Green Deal, which aims to reduce transport emissions by 90 percent before 2050, aiming at sustainable and smart mobility.

In the strategic national development planning framework for Latvia – **Sustainable Development Strategy of Latvia until 2030** – there are written goals, linked to the cycling infrastructure as well, as it is intended to create a safe, tidy environment and improve tourism capabilities, and to encourage an environmentally friendly way of life. The aspect of a creation of a pilot project is also emphasized, as well as the creation of a designated pedestrian street, cycling lane and creation of green corridors in regards to limiting road transport movement and access to specific areas of the city.

These goals are further developed and integrated into **National Development Plan of Latvia for 2021 - 2027** (NDP2027), which is the main national medium-term development planning document. This document does not provide specific chapters for cycling and its development, but generally is aiming. The main course of action in regard to transportation and technology is as follows: to develop a multi-modal network of public transportation; to improve the transportation system in order to increase the amount of cycling and other environmentally friendly transport use, as well as more usage of renewable energy; to create appropriate infrastructure and to promote the replacement of car parks, and at the same time create availability for different social groups; Effectively create new green zones, pedestrian streets, and cycling lanes inside the city and between settlements, which will increase the quality of the environment and promote physical activity among the inhabitants, especially families with children and seniors (Cross-Sectoral Coordination Centre, Latvia, 2020).

Following mentioned common general statutory development planning documents in Latvia, the sectoral-transport and bicycle traffic documents are considered. **Transport development guidelines 2021 – 2027**, which is a medium-term policy planning document and is developed for the next seven years, is aimed at the aforementioned goal of the EU to reduce the carbon footprint of motorized transport. In the next years, Latvia must move towards methods of transport that are less harmful and create a smaller carbon footprint and has to promote the use of alternative fuels and the use of public transportation, as well as promote the development of micro-mobility, where cycling plays a significant role. In the project of the document, the five main development directions are outlined: Multi-modal development with railways; Safety and sustainability in the development of transportation systems; Strengthening the competitiveness of logistic services; International connectivity; Research and innovation. Cycling in this context has been integrated into the safe and sustainable transportation system development (Ministry of Transport, 2020).

In order to integrate cycling into the main transportation system and promote environmentally friendly use of transport, in 2018 the **Bicycle traffic development plan (2018 - 2020)** was created and confirmed. The result of the policy to be achieved is a significant increase of bicycle transportation use, so in 2020 already 30% of Latvia inhabitants' cycle at least one day per week. Accordingly, two lines of action have been identified: 1. Bicycle infrastructure, its planning and control; 2. Popularization and education (Ministry of Transport, 2018). Therefore, based on the objectives of the plan, the main lines of action of the plan formally focus mainly on two instruments of successful management: infrastructure and communication. The plan contains a very extensive analysis of infrastructure, taking into account experience and good examples from other countries. However, the communication itself is not analysed in the work, the overview of the existing bicycle transport communication and the analysis of the return does not appear anywhere. At the end of the plan, the planned communication measures appear, which is not enough for such a national plan. The plan also describes the planning tools in detail. At the same time, it is not clear how the measures will be administered and managed. Economic and financial aspects are also not considered and described in the work. Thus, only two of the six governance instruments are fully addressed in the plan - **infrastructure and planning** as this is the case also for most of other any planning level documents. The other four instruments are either barely mentioned or not yet discussed.

The next level of planning and administration in Latvia is the **planning regions and local municipalities.** According to the information provided by local governments in Latvia, there are in total 701.75 km of bicycle paths, cycling lanes, and combined pedestrian and bicycle paths in Latvia. More than a third or 43 of all municipalities (out of 119 as before 2021 administrative reform) indicated that they did not have such infrastructure, 41 municipalities had a total length of bicycle paths, cycling lanes, combined pedestrian and bicycle paths is up to five km, in 28 municipalities the total infrastructure length is 5-20 km, while in seven municipalities it exceeded 20 km (Ltd. "Enviroprojekts", 2019). In the cities of Latvia and their adjacent territories, there are suitable conditions for the development of high-quality bicycle traffic infrastructure. It is currently fragmented, so for safety and convenience, cyclists have to choose longer but safer routes or other modes of transportation. The connection with public transport has been envisaged for both the possibility for cyclists to combine cycling with public transport by placing bicycles in dedicated storage areas or parking lots in public transport hubs, as well as the possibility to carry the bicycle in public transport vehicles, what all in reality needs to be further upgraded.

In the context of the pilot territory case of Valmiera city municipality, we can briefly describe the view of Vidzeme region planning in the context of bicycle traffic - **the Vidzeme region's Sustainable Development Strategy until 2030** emphasizes the importance of bicycle mobility and aims to provide the development of bicycle lanes along major roads, increasing access, availability and appeal. Continuing the review and evaluation of the main planning documents of the levels of government, it must be admitted that currently there are only four local governments in the country that have developed cycling (transport) development concepts, thus cycling as a plan for industry within their local governments.

1- **Riga Bicycle Traffic Development Concept (2015 - 2030)** has been developed in Riga, capital city of Latvia, it is based on the three main development directions - cycling infrastructure, planning, and management, as well as the promotion and education of cycling. Thus, it focuses mainly on almost all the main instruments considered in this work on the governance framework, but the concept does not address cycling policy or financial-economic issues. The statesmen of the Riga Micro Mobility Safety Commission agreed on necessary updating of the Riga Bicycle Traffic Development Concept, but the process is continuing.

2- Jekabpils city municipality has developed and in 2019 approved the **Jekabpils Bicycle Traffic Development Concept**, which is more relevant and purposefully developed, at least in terms of bicycle infrastructure. Detailed and transparent infrastructure and communication section. At a level of a bare minimum, the concept also considers legislative, institutional, planning, and financial instruments. No political or administrative issues have been considered. Assessing the concept as a whole in reality it examines only two of the management tools - fully encapsulates information about the infrastructure and gives some insight into communication (Jekabpils city municipality, 2019).

3- Jurmala city has a thematic plan called the **Jurmala Cycling Traffic Development Concept** (2016), as well as the Jurmala City Tourism Development Action Plan (2018-2020), which emphasizes the important role of cycling in tourism development and outlines concept plans for the development of various bicycling sections. The Jurmala cycling development concept examines in detail the 3 instruments we have defined: planning, infrastructure, and communication, the economic and financial issue is also considered at a minimum level (Jurmala city council, 2016).

4- In Valmiera (the main location of the research), the thematic plan **Valmiera City Transport Infrastructure Development Concept** (2019) has been developed and approved. Analysing the approved concept, it can be concluded that the concept as a whole is of a recommendatory nature with general suggestions. This concept document mainly focuses on the analysis and development of overall transport infrastructure, also looks at the existing binding legal documents and their place and role in the development of cycling planning and communication. In particular, cycling is viewed only from the point of view of infrastructure development and, to a lesser extent, communication instruments, and other governance instruments for cycling are not considered (more in 3.3.).

3.2. Statutory and voluntary planning instruments in Valmiera municipality

Looking at Valmiera's mandatory general development planning documents, it is possible to conclude that the initial basic aspects of bicycle traffic development can be found here and the construction of bicycle lanes and bicycle traffic equipment and safety are marked. The spatial framework of Valmiera city traffic infrastructure consists of a hierarchically arranged network of streets (**Valmiera City Sustainable Development Strategy** 2015 - 2030; 2014). But when planning and developing traffic infrastructure, it should be considered that it is closely related to the peculiarities of the city territory and its buildings - spatial development of traffic infrastructure is generally related to the development of residential and public service areas, ensuring their connection with other parts of the city and main street network and traffic infrastructure. The strategy also emphasizes that the streets of residential areas, as well as the green areas of the city, should be gradually turned into a space where pedestrians, cyclists, and motorists can move equally safely, as well as that it is necessary to place outdoor exercise equipment and organize different types of competitions and activities for athletes/amateurs.

The vision of the **Valmiera City Development Program** for 2015-2020 emphasizes the following main keywords, which would also be binding for the development of bicycle transport - to create Valmiera as a green, industrial, environmentally friendly city with balancing entrepreneurship and a high-quality, attractive urban environment, with an **active, healthy and environmentally friendly lifestyle.** In order to implement it, development directions have been developed in the fields of education, cultural environment, environmental awareness, tourism, urban development, administration, and other sectors, including a separate development direction for the development of transport - development of the urban transport system. It is also pointed out that the bicycle infrastructure needs to be developed and in cooperation with the surrounding counties several bicycle routes of different lengths and complexity must

be created and marked (Valmiera City Sustainable Development Strategy 2015 - 2030; 2014). The direction of development of the bicycle transport infrastructure (P-4-2) was also indicated as one of the development directions of the transport system. Unfortunately, when planning for Development program by drawing up an appropriate annual final report, the monitoring program does not contain many indicators of evaluations of the settings mentioned in the vision, as well as performance indicators, including mobility in general or specific cycle/traffic indicators, only the achievement of medium-term priorities is being monitored. In addition to the basic framework of the development program, an Action Plan is being developed, which, with regards to the development of bicycle transport from 2015-2020 the development of two specific lines of action was planned for – the development of bicycle lanes or basic infrastructure, including a convenient and functional network of bicycle lanes, as well as aspects of bicycle traffic provision as safe, urban-friendly bicycle stands, markings and various measures for safe bicycle traffic. Development Programs Investment Plan 2015 - 2020 considered the construction of several pedestrian and three bicycle lane sections (a total of about 1800m) were planned for, but by 2020 the construction of all of them has not been fully completed yet.

The topic of bicycle traffic is considered in more detail and in a more diverse way in the **Spatial Plan of Valmiera City,** including emphasizing the improvement of the spatial structure of a polycentric city, developing the main areas of necessary public services in the vicinity of the city, incl. shopping, public services etc., as well as recreational and leisure activities that would encourage public choice in favour of walking and cycling. In turn, the city street network is designed as a hierarchically subordinate system and, depending on the function and significance of the street, the streets are classified into categories, but in addition bicycle lanes and their routes are indicated, as well as public parking lots and garage areas. The development of traffic infrastructure has also been addressed in the Spatial Plan, but the regulations for the use and construction of the Territory indicate specific requirements for streets and sidewalks, as well as bicycle lanes and their embankments. The plan also includes as an objective the installation of specially equipped bicycle parking lots at trade and service facilities, public administration, cultural, educational, medical institutions, sports and recreation facilities. The required number of bicycle parking lots and their location is determined in accordance with the functional use of the object and it is justified in the local plan, detailed plan or construction project (Valmiera City Spatial Plan from 2017).

Special mention should be made of the City Council's political decision in the context of environmental management development - **Valmiera Environmental Declaration** (2015), which in its one-page standard declaration type document orienting society to balance economic, social, cultural, and natural development of a friendly lifestyle, thus visualising Valmiera as a green city. In other few municipal voluntary planning documents - Valmiera City Education Sector Development Strategy (2016-2020), Valmiera Industrial Territories Development Concept until 2040; Cultural Development Strategy (2018-2028) - cycling issues are not addressed but are indirectly mentioned, of course. For example, the cultural development strategy mentions a positive example where the municipality is ready to support the bicycle/film festival "Kino Pedalis" ("Bike-cinema festival"), which combines tourism, sports, and culture, offering a cycling route through the city, thus getting to know the culture environment of the city and its surroundings from a different point of view.

3.3. Thematic-sectorial planning instrument: Valmiera City Transport Infrastructure Development Concept

Thematic plan "Valmiera City Transport Infrastructure Development Concept" was developed and approved in Valmiera municipal city (2019) to study the actual challenges in traffic infrastructure

development, including cycling infrastructure, and to design main work structure and directions. After public hearings of the second edition of the document, it was approved by Valmiera municipality and, it is officially recognized as a voluntary thematic planning document. Today the cycling infrastructure is being step-by-step developed further within the Valmiera municipality, even not always directly related to mentioned voluntary planning document as being mainly used for staff consultancy and general process guiding, but, subsequently, as such still being valued as positive development step for transport sector improvement.

Institutional instrumentation and administration of this Concept is shared as there was no assigned any particular department in the municipality, directly responsible for the Concept implementation and monitoring, but the responsibilities were divided by many departments - Branding and Public Relations Unit was responsible for the information flow and educational activities, Real Estate Management Department covered the infrastructure and engineering activities, Urban Planning Unit was responsible for all the planning and coordination process, what, subsequently, is not an easy inter-departmental issue to manage. Following mentioned above, the most important next issue is to come – recommended and theoretically required integration of this, eventually already upgraded, Concept document and its implementation practice, into the next seven-year period statutory municipal Development Plan for 2022-2028. Also, next municipal planning updates will be necessary, since the national planning approaches are being further developed – the Ministry of Transport intends to create a Micro Mobility Plan instead of the existing Cycling Traffic Development Plan.

As mentioned above, that as part of the second study stage, the research group made a review and prepared an analysis for improvement of the "Valmiera City Transport Infrastructure Development Concept" before ist approval, and, also participated and presented results and critical suggestions, also in written format, at the **statutory public hearing** of the planning document preparation process. The main highlighted issues were as follows: lacking qualitative environmental assessments (noises, air quality, emissions etc.), no clear concept of sector governance and monitoring, no analyses of sustainable mobility, cycling governance instruments, stakeholders and thematic sectors were underrepresented, missing link between cycling and public transport etc., the concept in general had more recommendatory character than usable practical plan. Afterwards, Valmiera City council decided on those recommended necessary improvements for the Concept and made decision to have a repeated public hearing. During the second process of public hearing the consultation company, responsible for the Concept document, presented corrected version of the Concept, were part of the recommendations given were considered, but another part was not included, as some environmental and cycling development related tasks were not assigned initially at the given tasks list for consultation company before starting the work.

3.4. Cycling management change observation - infrastructure instruments

During the professional test drive observations along the bicycle routes of Valmiera city, it was concluded that the overall quality of the bicycle route is good, but does not yet fully correspond to current and future trends, where the development of sustainable micro mobility must be considered nowadays. In addition, the created bicycle lanes do not fully comply with the developed Latvian state standards for bicycle traffic, for example, the width of a bicycle lane is half of the specified standard, as well as their widths differ in several places – issue of different building projects/companies involved. Significant improvements have been made to the construction and quality of the new bicycle lanes. Continuing the reconstruction and creating new main streets in the city, high-quality bicycling sections have been extended. As a positive example, it is definitely worth highlighting the built bicycle parking lots near educational institutions-schools, which was one of the priorities of Valmiera City Municipality during these years. Another important

aspect that is not yet fully considered when managing the bicycle infrastructure and developing it is the adaptation to the season and weather conditions. The responsible employees of infrastructure development in Valmiera municipal city currently see 3 main issues, that they have to deal with: 1. lack of continuity of the cycling path networks; 2. the cycling infrastructure in the city centre particularly; 3. too many different approaches regarding cycling paths developments are used, therefore currently there are to be used only one approach that is to be implemented by all commissioned building projects/companies and necessary convenient for all traffic users.

It should also be mentioned that municipality was included into the national document of Bicycle Traffic Development Plan 2018-2020 and there was planned for Valmiera municipality to construct: 1) BMX track (implementation time until 2019); 2) closed and covered bicycle parking lots (until 2020); 3) bicycle routes and/or bicycle lanes by implementing street reconstruction projects; 4) bicycle training park (with road signs, traffic lights, pedestrian crossings, etc.) in order to learn basic cycling skills (2018-2020) (Ministry of Transport, 2018). Process is ongoing and of these four points, two have been implemented: the BMX track has been completed and new bicycles routes have been built, and the task of creating a training park has been implemented, but other activities has been postponed for the time being.

3.5. Cycling governance change – developments of to be complementary instruments

The collected information by complementary research methods were gathered around the model of the six governance instrument groups, the instrumental governance dimension: political and legislative, planning, economic and financial, administrative and institutional, infrastructure and also communication.

Political and legislative. The Valmiera Environmental Declaration expresses a general affirmation of political goodwill purposeful developing the environment of Valmiera city as friendly and sustainable, including also cycling development as one of the directions. Necessity to develop cycling infrastructure is fixed in the Sustainable development strategy of the Valmiera city. There was the Thematic planning - Valmiera city transport infrastructure development concept, and in the municipal binding regulation No.356, there was confirmed that municipal co-financing will be provided for the construction of cycling parking spaces at apartment buildings. So, there was political will and also important development that purposefully moves cycling infrastructure development in Valmiera.

Planning. In all main documents the related questions of cycling were mentioned. Of course, cycling part could be described and planned more concrete as separate section. Therefore, currently, there are not specifically designed for this area characteristic indicators of progress. Also, as it was confirmed by a representative of Valmiera municipality development governance, in all meetings, discussions, projects, and commissions, which relate to the infrastructure development, the cycling development as a part of the project is always discussed. However, not all road projects include cycling infrastructure development, the necessity of it is discussed in special working groups.

Economic and Financial. There is no cycling development as separate section in common budget. The finances for cycling infrastructure development, bicycle parking lots and constructions, cycling lanes on the streets, and other projects related to cycling are provided by common budget.

Administrative and institutional. There is no concrete person, who is responsible for the cycling development in Valmiera municipal city. However, the real estate management board ensures practical development. Currently, the urban planning department in cooperation with the NIP road construction engineers are planning and developing these cycling infrastructure developments.

Infrastructure. During the interviews, it was clarified that the Thematic-sectorial planning - Valmiera City Transport Infrastructure Development Concept really supports development of the transport

infrastructure in Valmiera, but difficulty is how the results are and should be monitored. Also, it was admitted that conception could be more completed/upgraded in the future with more concrete cycling, particularly infrastructure, promoting guidelines. However, there is developed and confirmed cycling map, which is used within all new road reconstruction projects, which includes cycling paths developments as well. The main problem is that as cycling paths are developed together with main road projects, it's difficult to provide smooth continuity of the cycling path networks. So, today the main aim which faces cycling infrastructure is to provide this continuity of the cycling path networks, especially in the strategically important stages. In general, there is a clear picture of how it should be developed, now it depends on the planning, financing and project governance of how and when the complete cycling path network will be executed. Furthermore, there is a lack of cycling infrastructure right in the city centre and, in general, lack of space to develop a solution that would be convenient for all traffic participants.

Communication, incl. information and education/training, participation and pro-cycling friendly behaviour. There are used various of communication channel mix for cycling communication like: municipal web page, PR releases, social platforms, informative newsletters etc. At the same time the representatives of communication unit admit, that the communication and campaigns related to cycling could be even wider, louder and more target group-oriented. Depending on the project and campaign the municipality of Valmiera involves co-operation partners like cycling mobility development-oriented NGO Ezi and others.

3.6. Cycling governance change – integration into the governance sectors and segments

Research methods chosen permitted also general assessment of the situation with cycling mobility issue/sector integration into the other municipal governance sectors and segments. And first of all, currently there is not yet satisfactory **cycling sector integration within other transport sectors**, even having mentioned above Valmiera Transport Infrastructure Development Concept (2019) document. Particularly, it's problematic to interconnect cycling with public transport, especially speaking of city and intercity buses. There are no special holders or place particularly for bicycles and there are no regulations or researches done which journeys have more intense bus users with bicycles and ability to transfer the bicycle only in one or two times per day would not give a convenient solution for all involved groups. Furthermore, there also haven't been yet any discussions or open questions about intercity cycling route connections, where buses would also play an important role to have the possibility to combine the route (for instance, half cycling, half by bus).

Walking and cycling in Valmiera are defined as the priority modes of mobility in Valmiera. It requests the change of general everyday mobility and transportation practice and habits as the current trend is a growing yearly number of registered cars in Valmiera. Thus, the challenge is to increase the use of bikes by limiting the use of number of cars instead. In order to face and solve this challenge, Valmiera municipality has developed and adopted a thematic plan "Valmiera transport infrastructure development conception". The performed actions are threefold: 1) the "hard measures" - creation and improvement of Valmiera cycling infrastructure; 2) the "soft measures" - promotion of cycling by events and communication; and 3) governance measures – creation of the thematic plan "Valmiera transport infrastructure development conception" and its implementation etc. governance activities.

Furthermore, there is general description of the **integration of cycling and cycling infrastructure** into other horizontal development sectors of Valmiera municipality - the following horizontal governance sectors and activities can be particularly outlined.

- Education sector and promotional activities: Information is published also in municipal information channels and in local media – portal www.valmieraszinas.lv, newspaper "Liesma"; Schools, municipality, Valmiera municipal police and State police Vidzeme office every year are organizing lessons at schools about safe cycling, cycling requirements, traffic rules and other related topics. In cooperation with Eco-Schools, municipality is organizing a yearly flash-mob "A bike unites" doing a bike ride through the city and doing additional promotional activities in order to promote the use and importance of bikes in everyday mobility and traffic. This event and different other activities (bike tours, awarding of everyday bike riders, the "Car-free day", awarding of bike friendly employers, citizen surveys and other school-flashmobs) are a part of the yearly European Mobility Weeks' activities.

- Tourism sector - To promote physical activities municipality Tourism Information centre uses to offer special cycling tours, cycling routes and city games with cycling elements.

- Sports sector – Valmiera municipality has built an international sports standard corresponding BMX Track, where European Championship took part in 2019. In autumn 2021, Valmiera opened also a newly built an outdoors free-style cycling park promoting cycling as sports and leisure activity. It is a territory called "Mezs" (The Forest), where just asphalted area was regenerated according to the principles of the new European Bauhaus.

- Culture sector and NGO segment - A local tradition is the annual event "Bike-cinema festival". It is an event organized by the local NGO Ezi in cooperation with Valmiera municipality where a whole weekend is devoted to the promotion of cycling as a means of mobility and a source of joy. Bike routes with unusual places for cycling related cinema shows are offered and combined with cycling games, cycling parades and activities for all ages.

- Corporate segment - For two years' municipality has been awarding the most "Cycling friendly enterprises". The awarding was based on public voting. This was also part of the European Mobility week activities.

- Inhabitants segment – Valmiera inhabitants use various channels as means for communication with municipality - messaging via homepage, mobile application, e-mails, phone calls and meetings). Municipality once in half a year receives also e-mails related to the needs for improving infrastructure. During the meeting with inhabitants in 2021, the municipality received a wish for promotion of day-to-day cycling practices. In order to find out the needs and wishes of Valmiera cyclists, the municipality performed a survey during the European Mobility Week in 2019 and a discussion with cyclists from Valmiera Eco-schools during the flash-mob "A bike unites".

4. Discussion and conclusions

Based on the complementary stages of the studies performed, starting with national municipal cycling planning overview and Valmiera township case study research, there are the following general outcomes, also for discussion, and main conclusions to be brought now.

1. For all existent and just several municipal transport and cycling disciplinary concepts/plans in Latvia (4 out of 119 municipalities):

- mostly or only the **infrastructure instruments are considered and planned**, also some of the simplest information/communication instruments are sketched/mentioned. Except for the capital city Riga Cycling Plan, **no emphasis is placed on all other governance instruments** - policy and legislative instruments, cycling sector development administration, and, moreover, governance, as well as the potential diversity of economic and financial instruments, to ensure the effective and successful planning and implementation of all these governance instruments.

- also, the full thematic field view of the **basic sectors of cycling governance is not yet systematically developed** and evaluated, nor there are well developed the interaction aspects of those sectors, particularly, when looking towards next planning stage – cycling governance to be necessarily integrated into mandatory and other thematic/voluntary municipal planning documents. Interesting, that for this more difficult integration stage practice there are quite several good examples found (e.g. cycling-and-cinema festival) as for cycling sectorial planning and practice.

- unfortunately, also **not all the main target groups are always considered**, nor is seen their regular involvement into planning and decision-making, nor in the following implementation stage taking place.

Concluding this municipal cycling developments overview in Latvia, as looking for planning and governance systems availability and development, there is to be recognized, that all three initially proposed for this study and in practice documented governance dimensions – **governance content, stakeholders and instruments** – are yet still in the general governance systems **understanding raising and practice management building process** for the cycling mobility governance.

2. The city of Valmiera has excellent geographical and also Green City Declaration based political conditions for the creation and development of high-quality bicycle transport traditions and infrastructure for everyday life and business - business trips to work or educational institutions, attending public events or shopping and leisure/recreation. Also, there is a high potential for cycling tourism not only at a local/regional level, but even for international developments. Unfortunately, **due to limited municipal administrative-institutional and financial capacities,** from one side, and, **clear planning and management priorities,** from other side**,** there is not now yet efficient, mutually unified cycling governance system to be seen, and Valmiera municipality has not used all the potential of already existent number of the governance instruments in relation to the development of the whole bicycling field. The main problems could be seen in the efficient use of general and specific planning, financial and administrative-institutional instruments. Moreover, the current development stage related to the cycling infrastructure is also dependent on the developments of the instruments mentioned above.

3. The study highlights the **necessity for the disciplinary** (separate sector-type) **approach** to the **municipal cycling planning** and further on, the governance system, to be taking place and in parallel to the whole transportation sector governance further restructuring and development in the municipalities in Latvia. Particularly, for sustainable municipal mobility developments, there cannot be used now and then step-wise separate cycling mobility elements building approach as instead cycling mobility **adaptive governance system approach understanding** is to be built and **cycling mobility governance system** application, and, the frame for this system could be based on:

- complementary design and use of **all groups of traditional governance instruments** – both integrative use of general municipal instruments and especially additionally developing of the disciplinary cycling mobility instruments, including political and legal, institutional-administrative, planning, economic and financial, infrastructure and technological, and especially also communication instruments (information, education/training, involvement/participation and up to pro-cycling friendly behavior).

- **socio-ecological system approach,** covering all related governance sectors, and

- main stakeholders' involvement-participation approach.

So, these mentioned requirements coming together are completing the **triple governance dimensions' approach and principle** application perspective. Studies' results and recommendations may be used to the other local municipalities starting to expand towards sustainable cycling mobility.

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