

CONTRIBUTION TO THE INSTITUTIONALIZATION OF URBAN MOBILITY PROCESSES IN THE EXAMPLE OF NORTH MACEDONIAN MUNICIPALITIES

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Summary: In the past three years, North Macedonia as well as several Southeast Europe (SEE) countries are strengthening the capacities of local self-governments for the implementation of sustainable urban mobility measures. The main activities address three levels. Knowledge transfer of good practices and experiences of EU countries in the implementation of SUMP takes place via the existing regional network CIVINET Croatia-Slovenia-SEE. At the national level, strengthening the capacities of associations of municipalities in order to be able to better advise municipalities on the development and implementation of SUMP. At the local level, supporting selected Municipalities in building organizational and technical capacities, which are a prerequisite for the successful implementation of SUMPs. This paper is based on the previous analysis and the general results from the process of validation of local capacities, technical and political conditions, and resources to manage the process, status, and existing condition of Macedonian municipalities in terms of sustainable urban mobility planning – SUMP implementation. Here general proposals in terms of walking, cycling, and traffic calming measures as contributions to urban mobility institutionalization are presented.

Keywords: SUMP, Municipality, Assessment, Measures, Active mobility

1. INTRODUCTION

Energy transition in Europe is an inevitable process, which includes North Macedonia. In line with such commitments at the state level, local self-government units - LSGs have a significant role to play in the transition process. Some of the municipalities have done a lot in the past 3 years, and the efforts are in the future to improve the capacities for easier energy transition. For that purpose, from the area of urban mobility, the following further solutions are in the interest of the traffic and transition process. The originality of the results shown in this paper is one more product based on the project "Support to the local self-government units of the Republic of North Macedonia in promotion of sustainable urban mobility" [1].

Namely, considering the assessment of pilot municipalities, this paper presents the main recommendations related to walking, bicycle traffic, and traffic safety. Before the start of the evaluation process, there were many procedures as part of the international project "Sustainable Urban Mobility in South-East European Countries II – SUMSEEC II - Open Regional Fund for South-East Europe – Energy Efficiency" [2], which referred to the process of training, evaluation and selection of experts.

At the top of the European agenda Sustainable Urban Mobility Plan - SUMP is placed as the highest local strategy document for planning the development of mobility of citizens which as a strategic document is essential in detecting the current state of traffic and urbanism and adopting suitable short-term and long-term (specific and strategic) measures to resolve and identify problems. In other words, SUMP is a tool that will promote the capacity of the LSGs in the direction of providing conditions for decent lives for citizens: health, safety, accessibility, good public transport and sustainable types of transport, and overall resilience.

The preparation, adoption, implementation, and monitoring of SUMP have a lot of benefits, for the government, and for public institutions, the economy, the non-government sector, and of course most of all for citizens.

2. SUSTAINABLE URBAN MOBILITY PLANNING IN NORTH MACEDONIA - STATE-OF-THE-ART

On a national level, existing legal regulations do not regulate the development of SUMPs. Recently, the “White paper” for the development and planning of sustainable urban mobility was presented in the Assembly of the Republic of North Macedonia [3]. Before the start of the evaluation process, many procedures were connected to the process of training, evaluation, and selection of experts. Namely, five pilot municipalities were examined Municipality of Karposh, Municipality Kumanovo, Municipality of Bitola, Municipality of Ohrid, and Municipality of Kavadarci. To address the current challenges related to sustainable urban mobility, priority measures i.e. quick wins measures that are low-cost, justified, and easily implementable were identified together with the stakeholder`s group during the exercises at the workshops which was held in the municipalities. Selected measures are related to strategic policy, capacity-building activities, traffic safety, and collective transport, Infrastructure for active modes of transport (walking and cycling), promotion of sustainable modes of transport and awareness campaigns, traffic management, and parking management. These measures are stated in Table 1, based on the previous analysis for „Developing sustainable urban mobility policy: an example from four municipalities in North Macedonia, [4].

Indirectly, the Law on Local Self-Government predicts that the jurisdiction of the LSGs will allow it to adopt programs and implement projects for local economic development, which is confirmation that the local government has the jurisdiction to adopt a traffic development program, i.e. mobility, or a sustainable urban mobility planning process. This, more harmonized with European legislation and regulation on sustainable urban mobility, gives clear directions on the future course of our country, municipalities, and citizens, as well as many responsibilities on a national and local level.

Table 1: Priority measures in the case of Macedonian municipalities

No	Priority measure	Description of the measure
1	Temporary pedestrian streets in the city center	Temporary closing of street/s in the city center with access restriction of motor vehicles.
2	Intelligent pedestrian crossings	Using an illumination system that is intended to alert vehicles about the presence of pedestrians in the street. The illumination system is used to highlight the crossing and its surroundings, warning vehicles about the presence of pedestrians and therefore enhancing their safety.
3	Increase accessibility for elderly or disabled people	Ensuring accessibility for elderly or disabled people in form of smooth and submerged sidewalk edges at pedestrian crossings and using active surfaces.
4	Comprehensive cycle network	Development of a plan for a comprehensive cycle network in the city that will include a network of cycle routes incorporating segregated cycle facilities (marked lanes, tracks, shoulders, and paths), provision of cycle parking, bicycle pump, and service stations.
5	Public pool bikes	Available bicycles in the city or at the workplace allow people to have ready access to these shared bikes rather than rely on their own bikes.
6	Low emission zone in the city center	Low Emission Zones (LEZs) are areas where there is restricted access to high-emission vehicles.
7	Promotion of walking, cycling, and public transport as alternatives to car usage	Use of the media to improve public understanding of the problems caused by traffic growth and the impact of travel behavior, as well as to convey what can be done to solve these problems, including changing one's own travel behavior
8	Safe routes to schools	Review the school roads to find strengths and weaknesses and prioritize measures.
9	Traffic calming measures	Using physical measures to reduce vehicle speed and acceleration such as: raised intersections (use of intersections as shared spaces), chicanes, and mini-roundabouts.
10	Lorry routes and bans	Lorry routes are used to achieve routing by specifying the routes which lorries can take.
11	Regulation of delivery of goods in the city centre	Regulation of delivery of goods in the city centre by implementing time access restrictions, environmental restrictions, vehicle size/load access restrictions etc.
12	On-street parking charges in the city centre	Parking charges are fees paid by motorists for the use of parking spaces, either in dedicated car parks or in identified on-street parking bays.
13	Education of school children on traffic safety	Implement traffic safety education.
14	Design of safe roads for cyclists and pedestrians	Ensure roads with sufficient width and proper winter road maintenance. Prioritization of walking and cycling in road planning and design.
15	Space protection for walking and cycling	Physical protection of walking and cycling areas by urban equipment.

Source: [4]

Based on the review of the programs of the mayors of the municipalities for the period from 2017 until 2021 as in [5], it can be noted that as political challenges regarding mobility, most of the measures are related to improving conditions for a car traveling and encouraging car usage for daily trips. Furthermore, increasing the human resources capacity focused on the planning for movement of people and liveability (e.g. including urban planners, and transport experts) is a key to supporting a transition toward sustainable urban mobility. These people should reflect a diverse range of disciplines and should have an appropriate level of technical expertise, bearing in mind that integrated planning between transport and land-use planning is crucial to avoiding unsustainable car-oriented development leading to high traffic congestion. Once alternatives to car use are in place, the municipality can discourage car use and encourage a shift to more active and sustainable modes by making car travel more expensive, slower, and less convenient than the alternatives (e.g. by taxing private vehicles or their use, by increasing parking fees, by decreasing the space allocated to car use), [6], [7], [8].

According to relevant project analysis, at a city or town level is important to organize clear institutional roles and responsibilities and coordination between all relevant stakeholders, from municipal institutions, road user representatives, police, and non-governmental organizations.

3. SUSTAINABLE URBAN TRANSPORT – THE ROLE OF WALKING AND CYCLING

Walking and cycling as modes of active mobility have immense untapped potential and when fostered through safe infrastructure, bring numerous economic, environmental, health, and social benefits to the community. In Macedonian municipalities, over 50% of trips are typically under 5 kilometers, distances that are easy for walking or cycling. Furthermore, high rates of active mobility lead to greater connectivity, reduced traffic congestion, and more reliable travel times. Improving walking and cycling infrastructure can help to lessen congestion and the monetary loss associated with it [9].

During the corona crisis, the number of citizens who use bicycles both as transportation and as recreation grew even more and the bicycle is gaining more popularity as a means of transportation in North Macedonia.

There are generally known individual benefits of using a bicycle for recreation or transportation: moderate physical activity that positively affects the mental, cardiovascular, and general health of the individual. However, there are also social benefits that have been neglected and are worth highlighting. More people using the bicycle as a means of transport would mean:

- Improved public health and well-being of the population, reduced stress, longer life expectancy and fewer absences from work, higher productivity among employees, and improved learning and satisfaction among children;
- Increasing traffic safety, as well as solving the most pressing problems in local environments related to traffic congestion and the lack of parking spaces;
- Reduction of pollution (of air and in the form of noise) that comes from the excessive use of motor vehicles in populated areas;
- Economic benefits through savings in public health, environment, transport, and local government budgets;

- Reduced effect on climate change and achieving the goals of the signed conventions for reduced CO₂ emissions;
- Revival of city life by opening public spaces for citizens and creating pleasant public spaces where people come first, not cars;
- Positive effects for local businesses (the most successful are those that have beautiful pedestrian spaces in front of them) and the development of tourism by increasing the supply of ways of travel and active experiences (the bicycle is the perfect tool for experiencing new places).

During this period, impressive progress with the amendments to several laws in North Macedonia, and the new Rulebook on standards and norms for urban planning was observed. Despite this progress, as well as according to a detailed analysis of the capacities, resources, opportunities, and challenges, for most of the municipalities, still, the rulebook is auto-centric. Norms are too high due to the type of street network and thus, some of the larger municipalities that have real traffic problems need further simplification of procedures and required project documentation as well as simplification of procedures by the Ministry of Interior and the Ministry of Transport and Communications.

It is a potential that should be paid attention to and given even greater impetus. Municipalities independently, within the framework of the Law, organize and carry out works of public interest of local importance. They are responsible for urban planning, spatial planning, environmental protection, noise protection, local economic development, communal activities such as construction, street reconstruction, and traffic regulation, dealing with the problem of illegal parking, promoting health and preventive activities, and more according to the Article 22 of the Law on Local Self-Government. On the contrary, although traffic safety, environmental protection, and noise reduction, are preventive activities to promote health and are public interest, municipalities instead of freeing up sidewalks, encouraging walking, cycling, and calming traffic, mostly take care of the private interest, more precisely for the storage of motor vehicles.

In order to make walking and cycling safe and comfortable, the municipalities independently, and in cooperation need to start working on the following basic topics.

3.1. Free sidewalks

According to the competencies, and in accordance with the Law on Local Self-Government, Municipalities need to start working on the action of freeing the sidewalks from usurpation by vehicles, dislocating poorly placed urban equipment and making the sidewalks and the entire public space good quality, easily accessible and accessible to everyone. Proposed measures are:

- ✓ The municipalities should develop and adopt parking policies that will organize and mark public parking in a non-pedestrian area and set a price if necessary in accordance with demand by adopting such policies, and provide funds for the development of active transport: walking and cycling.
- ✓ The municipalities should develop and adopt policies and rules for the installation of urban equipment that will guarantee a passable pedestrian corridor for the passage of two people, one of whom with special needs. Furthermore, every piece of urban

equipment (from lamps to open terraces) is to be placed in accordance with pedestrian movements. Large containers should preferably be placed on the roadway in line with parked vehicles.

- ✓ The municipality should install physical protection against parking on public pedestrian, bicycle, and green areas in the form of posts, planters, etc., and hire communal wardens.
- ✓ Make sidewalks accessible for wheelchairs, bicycles, and scooters by building continuous sidewalks (vehicles should be the ones who get on and off when crossing streets, not pedestrians) or by lowering the curbs according to the accessibility rules defined in articles 188-194 of the Urban Planning Rulebook, Official Gazette of NM 225/2020.
- ✓ To work on the quantitative and qualitative improvement of pedestrian spaces. To widen the sidewalks wherever they are narrow and there is a possibility of expansion, to reconstruct and arrange the sidewalks, not only the roadways. The introduction of pedestrian zones. Use quality materials that are comfortable for walking and do not increase temperatures (do not use asphalt for footpaths), introduce tree rows wherever they do not interfere with pedestrian movement, and increase the presence of public water fountains and places for public non-commercial sitting and socializing. The free and accessible pedestrian space is a basic measure that should show that a municipality is a place where people, not cars, are residents with rights. Not every citizen is a driver, but every citizen is a pedestrian, even car and bicycle drivers and public transport users in the first and last part of every journey are pedestrians.

In addition to this proposal are:

- The Constitution of North Macedonia, where free movement of all citizens is guaranteed;
- The Law of Road Traffic Safety which guarantees the safe movement for all and protects vulnerable road users;
- The urban planning regulations that guarantee the accessibility of public spaces and the minimum width of the pedestrian corridor;
- Health statistics show a high rate of people with disabilities because of crashes.

3.2. Bicycle network

Local Self Governments need to allocate a budget for a Bicycle Network Plan that will explore the possibilities of implementing bicycle paths and lanes, as well as bicycle streets that are streets with mixed traffic, but with priority for bicycles. It is acceptable, to have a bicycle solution on some of the streets, at max 125 meters from everyone's home, according to the recommendations of the guides of the European Union, i.e. to form a grid with fields of 250 x 250 meters, so that people can rely on it and use it. According to this, bicycle paths from boulevards are not enough to create a reliable and accessible network. Proposed measures are:

- ✓ The municipality should make a study/plan for the implementation of a bicycle network on the municipal street network.

- ✓ In any Detailed Urban Plan where possible, extend street curb lines to blocks to allow for the creation of wider sidewalks and streets with bike lanes/paths.
- ✓ Where the former is not possible, to provide cycle paths or lanes through a different traffic solution: for example through narrowing of road lanes, through one-way traffic, and cycle lanes in the opposite direction of the traffic itself.
- ✓ Where even the former is not possible, to enable safe bicycle movement by introducing bicycle streets, i.e. streets where bicycles can move in the middle of the traffic lane and have priority over cars, sharing the same space.
- ✓ Bicycle solutions (paths, lanes, or streets) available also on secondary street network, not only on primary city streets, close to everyone's home, will create a sufficiently dense, cohesive, and accessible network which is the key factor according to all researches for citizens to use the bicycle as a means of transport. If they have to travel for a long time through chaotic streets that do not have a bicycle solution to reach a boulevard that does, the probability that they will use a bicycle is too low, no matter how many nice campaigns are made or subsidies are awarded.

In addition to this proposal are:

- Guides from the European Union, where recommendations for the development of a bicycle network are given;
- Guides from other countries: Netherlands, Germany, Slovenia.

Furthermore, LSGs according to their competencies in the field of urban planning can make bicycle parking possible, practical, and safe. According to citizens' opinion, one of the main obstacles why citizens do not use a bicycle is the impracticality of using it, they have to carry it in elevators, lift it upstairs, and leave it in corridors of buildings, in apartments, or on terraces. It creates obstacles, unsanitary, and discomfort, and furthermore, only the most agile can do all that lifting on a daily basis and this prevents the use of bicycles as a means of transport from spreading among all demographic groups.

3.3. Traffic calming

According to the analysis, except for the boulevards with multiple traffic lanes and separated pedestrian and bicycle paths, the complete territory should be declared by the Municipal Council as ZONE 30. The municipalities can show leadership in this regard and follow the examples of the most progressive cities: Helsinki, cities in the Netherlands, Brussels, Grenoble, Nantes, and Paris where 30 km/h is the norm and 50 km/h is the exception, for the main streets.

- ✓ To make a decision of the Municipal Council to limit the speed to 30 km/h for most of the network (mostly residential streets) which has a separate pedestrian infrastructure (sidewalks), but there is no space for separate bicycle paths and lanes, so citizens who use bicycles are forced to share the roadway with motor vehicles;
- ✓ This proclamation must be accompanied by an appropriate street design that will encourage safer driver behavior and save human lives (elevated pedestrian

crossings, raised intersections, micro-roundabouts, chicanes, narrowed vehicle lanes, on-road parking markings, etc., as on Photo 1)

Reducing the speed limit will reduce the reaction time, and the braking distance will increase the chance of survival for all vulnerable road users in the event of a collision, and will significantly reduce the probability of a collision.



Photo 1: Several of the proposed street design physical measures brought municipalities

In addition to this proposal, there are several decisions at the world and European levels:

- World Health Organization, in order to reduce traffic casualties, adopted the Stockholm Declaration, which recommends "a maximum speed limit of 30 km/h whenever vulnerable participants and motor vehicles mix";
- General Assembly of the United Nations that adopted the Stockholm Declaration;
- European Commission, which approved the declaration in line with the "Vision Zero" goal, i.e. zero deaths in the EU by 2050.

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