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Review Paper

ACTIVE MOBILITY AS AN ALTERNATIVE FOR THE DAILY COMMUTE. ISSUES AND CHANCES FOR THE CITY OF VARNA

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Abstract. *There is a variety of synonyms to describe the transport of people that only use their physical activity for the need to travel, and active mobility is most commonly-used. Soft mobility, human-powered mobility, active travel, active transport, active transportation and active commute are also in the list. And beyond all doubt the most popular forms are walking and cycling.*
The current paper explores some problems of active mobility, regarding the need for sustainable daily commute. In this point having sustainable alternatives to private motorised transport is vital for the development of settlements but often the importance of soft mobility in their connectivity with industrial areas is underestimated. Using active forms of transport, mainly bicycle and pedestrian traffic, as well as a combination of them and public transit, is a chance to make urban spaces more livable.
Many areas are difficult to be accessed without personal motorised transport and for the city of Varna the adjacent resorts and industrial territories are such a striking example as their connection with the rest of the settlement is full of barriers to cycling and walking commute.
In this paper, regarding its topic, the author explores some issues that people face every day in the city of Varna and searches chances for future improvement based on a good practice example from Barcelona.

Key words: *active mobility, daily commute, industrial areas, transport connectivity, sustainability.*

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1. INTRODUCTION

For decades and centuries of development the predominant means of transport of the settlements have changed, as well as the type, density and dimensions of the street network. Undoubtedly, over the last five decades, urban mobility has become one of the greatest challenges for the development of modern cities and critical factor for both the positive and the negative attributes of urbanization [1]. Therefore, growing mobility is crucial for cities but it should be resilient growing in order to avoid the associated issues and shortcomings. Present day and future cities' mobility has to be sustainable in order to reduce the negative environmental and social impacts. As planning our towns and cities is becoming more and more complex urban mobility should also be regarded as a complex system involving a number of modes of transport with a large variety of effects, typical of complex systems.

During the 20th century transportation modes and systems have undergone significant changes. According to the figures in Oldenziel and de la Bruhèze's paper [2] changes began in the 1950s with the rapid increase in car ownership and the rapid decline in bicycles' share in total number of trips. „In postwar reconstruction, the nation states in Europe all reinforced the shift toward anti-cycling sentiments and pro-car attitudes" [2]. As a result of the dominance of private cars in our everyday life pedestrians and cyclist have been neglected for several decades. The importance of pedestrian connectivity was put into place ever since the beginning of 1960s by the American urban theorist Jane Jacobs. The 1970s mobility protests in the Netherlands helped stop a rapid decline in cycling rates between the 1950s and the 1970. But it took time for those efforts to gain momentum. Active mobility concept was put in the daily agenda at the end of the 1980s and continuing into the 1990s, although proposed using a variety of terms. Active mobility, soft mobility, human-powered mobility, active travel, active transport, and active transportation, active commuting are all synonyms. They are used to describe transport of people which only use the physical activity of humans for the need to travel. Regarding the latest walking and cycling are definitely the most common forms of active mobility.

The current paper explores active commuting, regarding the need for sustainable transport connectivity between different functional units of settlements, including industrial parks and territories and resort areas. The emphasis is on the possibilities for realizing more of the business trips, using active forms of transport, mainly bicycle and pedestrian traffic, as well as a combination of them and other means of public transport.

The starting point of this study is that active commuting, encompassing modes of transportation such as walking and cycling, holds significant potential to revolutionize the daily commute landscape and address pressing urban challenges. By prioritizing active mobility options over traditional vehicular modes, cities can potentially mitigate traffic congestion, reduce air pollution, enhance public health, and create more vibrant, sustainable urban environments.

The main goal of this research is to make a brief overview of the general aspects of active mobility, including the historical aspect of the topic and the difficulties of changing people's habits regarding the use of private cars. By presenting the city of Varna's negative experience and Barcelona Metropolitan Area's good practice with Bicivia, the author seeks to draw the attention of a wider group of people to the requirement for planning and executing measures to better the active connectivity in the city of Varna, with a particular focus on the industrial and resort areas.

2. METHODOLOGY

The current study is intended as an overview in terms of active mobility, evolution of transportation, the travel time budget concept and active commute. It also presents the current situation in the city of Varna with the good practice of Bicivia project.

In relation to the above, methodology is based on qualitative research and case study research:

- Literature review and conclusions on the benefits, challenges and importance of mobility and connectivity for the existence of urban organisms;
- Literature review and conclusions regarding the evolution of urban transportation and the role of travel time budget in urban mobility and connectivity;
- Literature review and conclusions on the place of active mobility in the urban transportation system as well as the benefits, concerns and importance of active commute;
- Review of case studies related to the negative practice of the city of Varna and the successful project Bicivia in Barcelona.

3. ACTIVE MOBILITY AND CONNECTIVITY

In their report "An integrated perspective on the future of mobility" Hannon et al [3] consider mobility as vital part of our everyday life, in fact they call it "the lifeblood of our cities". It is essential for urban life, for bringing people to and from work, children to and from school and kindergarten, and the way people move around the urban environment is primed for dramatic change.

To view a city from above is to observe a world in motion. Urban transit carries people to and from work; private cars and taxis circulate in abstract patterns; urban freight deliver goods; pedestrians hustle through city blocks; cyclists zip through traffic. Mobility matters to people, whether this is getting to work or school with ease, visiting friends and relatives, or simply exploring the surroundings. In relatively few places, however, does the reality of what is available match the public's aspirations for safe, clean, reliable, and affordable ways to get from A to B—and back again [3].

In his paper from 2006 "Cities Can Save the Earth—The Urban Solution to Climate Change, Species Extinctions and "Peak Oil"" [4] Richard Register draws readers' attention towards one big problem that has to be solved in the future: "Designing cities around something that weighs 3,600 pounds instead of whatever you weigh, is something that needs to change." Thinking about the last the author believes that with few exceptions such as the Netherlands and Denmark, the world has not reached very far towards establishing the city for active mobility.

Planning and building cities for providing sustainable mobility, connectivity and accessibility is one of the major requirements for having sustainable and resilient urban organisms. Walking, as also cycling, is a multi-purpose and multi-sensory experience. In order to have safe, convenient, comfortable and delightful walking and cycling experience a consistent and pleasant design is needed. It would encourage active mobility as a popular commuting means, as well as an attractive recreational option. In order to develop a city suitable for walking and cycling we have to consider cycling and pedestrian paths to be direct, safe, comfortable and attractive. And it is essential to think of every place in the city, every neighbourhood, street, square or park space.

In the context of sustainable and ecological planning, mobility, as a human characteristic, is expressed in the provision of an opportunity to reach the greatest number of goals in a short amount of time. The latter should be located at a minimum distance, because quickly reaching them is more a function of their compact layout than of the speed of movement. In urban planning, accessibility is defined by the time required to reach the intended goals. This means that as the distance increases, we need to increase the speed of movement to achieve maximum accessibility.

Taking into account the inherent disadvantages of urban transport, the uneven distribution of personal motor vehicles and the basic requirements for sustainability (including minimal pollution and energy consumption), it turns out that the solution lies in bringing the centers of attraction closer to us, not in increasing the speed of movement. And so it turns out that sustainable accessibility is expressed in the provision of closely located quality goods and services in combination with high-quality ecological transport links (direct, attractive pedestrian and bicycle paths and attractive public transport) [5].

3.1. The evolution of transportation and the travel time budget

"A city is as big as the speed allowed by its transport system." A short and very meaningful thought by David Lindelöw [6], describing in few words the historical relationship between city's shape, form and structure and the transportation. The urban street network is known to be the backbone and the circulatory system of any settlement and as such it is vital for the existence and the development of urban organisms.

The evolution of transportation systems was among the main driving forces that lead to changes in settlements' size, form and land use patterns. New traffic and transportation systems emerged over the years and formed the basis of new and more complex urban systems building on top of the original walking city fabric [7].

The boundaries of the ancient cities were limited by the predominant means of transportation. The radius of development was defined by the approximate walking distance within 30 minutes, and it was not much than 2 kilometers. In the pre-industrial age, commuting from a rural estate to a job in the city was not possible on a daily basis [8].

During the industrial revolution new forms of transportation appeared and with the emergence of the steam powered public rail it was possible to live in the suburbs, further away from the workplace. Having this faster transportation, it was already possible to commute to about 16 kilometers within the 30-minute isochrones.

The first mass urban transport, the omnibus, appeared in the form of a horse-drawn passenger wagon in 1826 and was the first land-based innovation in public transportation.

Afterwards, in the late 19th century, bicycles and electric streetcars created a revolution in urban travel. The operating speed of electric trolley was three times faster than that of omnibus and did not generate wastes. In practice, streetcars and bicycles could cover more than 6 kilometers in half an hour. And with the help of the elevated trains (in USA) and the underground network (in Europe), already at the end of the 19th and the beginning of the 20th century cities were able to spread outward 20 to 30 kilometers.

In the second half of the 20th century, the massive diffusion of the automobile, as well as the construction of highway networks, had substantial impacts on urban mobility and urban street network. Highways were built to connect the urban core to the periphery and, in many cases, complete or partial ring roads were built. The mobility freedom offered by the private car represented a paradigm shift in terms of lifestyle, consumption patterns, as

well as residential locations. The car on the freeway enabled large numbers of people to travel long distances on a day-to-day basis. Within a short period, the automobile became the dominant mode of travel in most cities around the world. Instead of small railroad suburbs, where housing was restricted to a short radius around stations, with the presence of private cars and the highways drivers could now commute more than 30 km in 30 minutes. If the streetcar city covered 80 square kilometers, the 60-kilometer-diameter expressway city could cover over 2000 square kilometers [8]. The automobile reduced the time for traveling considerably, but together with its positives it caused many problems in people's daily live. Motorization and the diffusion of personal mobility have been an ongoing trend linked with substantial declines in the share of public transit in urban mobility [9].

Regardless of all the evolution in transportation and the growth of our towns and cities, the "travel time budget" remains relatively stable throughout the years - getting to work still takes average about 30-35 minutes.

Having in mind that "time is money" forces us to think on a larger scale how (and if) travel time can be saved. Contemporary planning ideas such as densification, mixed-use development and urban renewal are all measures that can increase the proximity between destinations in cities – and should thus be treated as time-saving policies, as are "traditional" investments in transport infrastructure. However, such measures are rarely labelled as investments in transport infrastructure. Moreover, the focus on minimizing travel time almost automatically excludes pedestrians and cyclists, whose options for increasing speeds is naturally limited [6].

So, with the help of a proper infrastructure and policies, and a fast and convenient mass urban transport active mobility means could also be a more substantial part of peoples' choice for commute.

3.2. The active mobility subsystem

Today's towns and cities, especially bigger ones function as complex macrosystems that contain smaller units, for example the neighbourhoods. An essential condition for the territorial and demographic growth of cities is the presence of convenient transport access between their units and to local and historical centers [10]. Time is regarded to be a major index for measuring connectivity and accessibility. No mater of the way of travel researchers [11], [12], [13] consider that for the majority of people the acceptable travel time budget for commute is not much more than 30 minutes in a single direction and around 60 minutes for a working day. There are exceptions of course like people spending even 4 and more hours in daily commute using private cars or combination of different transport modes, including train for those living in settlements far from their work place.

Taking into account the average speed of transport modes is substantial in order to understand how far can reasonably be travelled by each mode and hence the likely nature of trips [14]. As stated before the average speed of travel is essential for choosing the way we move in regard with our travel time budget. Active travel modes of transport, and walking in particular, is much more limited in terms of distance. When assessing the reasonable duration of cycling commutes they can be compared in their average speed to public transport modes like city busses, trolleybuses and trams. In this sense, the speed will not be a barrier towards choosing bicycle for commute but mostly other factors like the existence and quality of infrastructure, safety, exertion, etc. They can easily change

the attitudes of people for and against cycling in the city and be important factors that define the length of their trips.

There is no doubt that cities are as complicated as living organisms or even more and they function as the so called „whole systems“. Cities include areas with a variety of functions as part of our daily routine. And all of them, regardless of whether it is about places for living, relaxing and shopping or educational institutions, healthcare facilities and workplaces, including industrial sites with manufacturing and distribution, depend on the existence of a transportation network.

Register [4] draws our attention on the fact that „...the whole organism of the city we've been constructing for the last 150 years has been built on the basis of linking functions through ever lengthening strands of connection. First there were rails and trains and streetcars, then much more massively, highways, cars and trucks. ... But it does not have to be this way. Cities can be designed for pedestrians and bicyclists, taking up very small areas of land in more compact development. ... If one imagines today's typical metropolis of low density development and scattered higher density city centers linked by freeways it is possible to imagine a transition in which city centers, district centers and neighborhood centers are becoming much more "mixed use," as planners say, with more people moving closer to jobs and commerce in areas that can be served well by bicycles and transit.

4. Active Commuting in Planning our Settlements

4.1. The benefits, concerns and importance of active commute

Active commute is part of the active mobility and as such it has the same benefits but more closely connected and related to the business as it relates mainly to the working population. Many researchers like Pisoni et al [15] state that the benefits of active mobility are on multiple dimensions: i.e. on climate, health, jobs, air quality. When it comes to climate change, we must emphasize the role of active mobility in reducing CO_2 emissions, and from a health perspective, active mobility can help address the issue of increasing rates of overweight and obesity. By encouraging cycling in a city, one can also expect economic benefits in terms of job opportunities, and not only a better health, environment and quality of life [15].

Benefits can be found in improved physical and mental health, reduced traffic congestion, improved environmental sustainability, increased community connection, improved safety and finally in financial savings that come as an outcome of the above-mentioned.

The health benefits of active mobility are indisputable, and we can observe many of them by reducing physical inactivity and obesity. In our daily life, as stated in the previous part of this paper, most of the people spend around 60 minutes a day in commute. So if towns and cities can provide favorable environment for people to walk and bike more (or use some other active mobility means like skateboard, roller skates/inline skates, kick scooter, etc.) and easy connections to public transit a great part of the commute could be easily allocated to active mobility.

For example Raustorp and Koglin [16] conducted a study in Sweden, to see the effect of active mobility on reducing physical inactivity and obesity. For the needs of their research they used statistical survey and geographic analysis, based on data concerning the home and work addresses of the entire working population in the county of Scania, Sweden as of the end of 2014. This data set included a total of 575,959 individuals. The

study showed that approximately 27.9% of the population can reach their workplace by a 15-min bicycle commute, while 47.2% can reach their workplace in 30 min. Raustorp and Koglin [16] claim that if all those living within cycling distance of work choose to commute by bicycle it would be possible to achieve a 47.2% modal share for active transport in Scania. Taking into consideration the WHO's world wide health advice of 30 min. of active mobility per day, a considerable amount of people could accomplish this target solely by commuting.

Regarding the possible switch from motorized personal travel to active mobility we can observe one main problem - most of the people are afraid to change their lifestyle. And the major concerns of people relate to lack of infrastructure, safety and time.

A key point, to facilitate the diffusion of bicycle and active mobility is, as expected, the need of good active mobility infrastructure (e.g. pedestrian streets or bike lanes) claims Pisoni [15]. Maltese et al [17] analyzed factors encouraging people to choose the active mode of travel for the city of Kaunas in Lithuania. They proved that one of the most important factors preventing people from choosing active modes of travel are distance and a lack of convenient infrastructure. The study showed that distance and time are in primary importance for car users to encourage walking. And traveling greater distance is normally associated with time loss or in other words spending more of our daily travel time budget. Regarding the infrastructure research participants put on first place the safety factor.

And as for cycling the study demonstrated that the most significant factor for car and public transport users was the wider cycling network and bicycle safety. Lack of safety, potential thefts, crash risk, long distances and topography, and a lack of proper infrastructure are described by Useche et al [18] as the most discouraging factors for using bicycles inside the city. According to them having a bike would encourage more public transport users to cycle, meanwhile, having more time would encourage more car users to ride their bicycles instead of drive their cars.

4.2. The case of Varna and a good practice from Spain

4.2.1. Varna – problems and opportunities

Varna is a seaside city and resort in eastern part of Bulgaria and with its 311 093 inhabitants [19] it is the third largest city after the capital Sofia and Plovdiv. Regarding the active mobility we can observe many problems, some related to pedestrian traffic and more related to the use of bicycle for transport.

As part of the work of Varna Free University (VFU) team for the Interreg project "CityWalk – Towards energy responsible places: establishing walkable cities in the Danube Region" the author of this paper took part in the preparation of "Strategy for the development of pedestrian traffic and active forms of mobility in the city of Varna" (2019) [20]. The goal of the Strategy was to establish the main directions of the policies of the Municipality of Varna towards developing urban environment, social and economic conditions and public attitudes stimulating active mobility forms and sustainable modes of transport, and on this basis also to offer guidance for initial actions implementing these policies. Assessing the current status of the active mobility in Varna the VFU team found that there are many issues that need to be solved in order to achieve safe, convenient and accessible urban environment. This should be a major goal in front of the local authority as the municipality of Varna, including the surrounding resorts, is attracting hundreds of thousands of tourists each and every year. And if we assume, however, that there have

been some, albeit small and slow changes towards improving conditions for pedestrians and combined journeys with public transport during the last three years, this is definitely not the case when it comes to bicycle transport. The problems and failures related to the development of bicycle transport in Varna are mostly due to the lack of dedicated and comprehensive active mobility transportation plans, the reluctance of the local government to conduct such planning as it is not mandatory, and the poor planning and implementation of the partial plans that are made. This leads to safety issues and conflicts with pedestrians and motorized traffic. The bicycle network developed so far is insufficient and inappropriate for cyclists, as a form of urban mobility. Building bicycle lanes in Varna began in 2007-th with a 1,1 km. long track that connected the central part of the city with the Sea Garden. It was well implemented, but its current maintenance is poor. The next part of the bicycle network in Varna was built in 2015 with around 15 km. of new cycling infrastructure, poorly planned and built unfortunately, with the main idea to have longer network with smaller investments. The major issues associated with the bicycle-lane network are the safety, and the lack of connectivity and incompatibility with other traffic networks and modes of transport. At the moment, many of the bicycle lanes have neither a clear end nor a start. This makes it difficult for commuters to use a bicycle because lanes end unexpectedly and users have to choose alternative routes often with the risk of violating traffic regulations or risking their safety. Other problems are related to the lack of bicycle parking at appropriate locations and a bike rental system. Having such is important for Varna with regard to its resort status and the crowds of tourists visiting the city, but it has not been developed so far. Almost 8 years after the last bicycle lanes were built and more than 4 years from the adoption of the Strategy there are no new investments aimed to improve the current status.

The vision of the Strategy is with a time horizon the year 2030 and it states that “The city is the people”. The overall plan is Varna to become a city that is safer, more welcoming and more convenient for pedestrians and cyclists. The development of active forms of mobility should predominate in urban traffic and mobility and any resident should be able to access their job anywhere in the city within 45 minutes combining active mobility with public transport. Varna should become a city with a well-developed, fully integrated transport network complemented by an excellent infrastructure of pedestrian and bicycle routes that link the primary and all secondary service centers, including the expanded and improved central pedestrian zone and convenient access for pedestrians and cyclists to the Sea Garden. The Vision of this Strategy also includes convenient pedestrian and bicycle networks linking the southern and northern parts of the city, thus making Varna a leader in the development of pedestrian and bicycle networks on the Bulgarian Black Sea coast.

4.2.2. Bicivia: Connecting Territory on Two Wheels

According to a blog of Barcelona Metropolitan Area (AMB) dedicated to cycling [21], back in 1956 the Ministry of Public Works announced government intentions for the creation of new roads including bicycle tracks and tree-lined walks for pedestrians that will connect expanding cities with their metropolis and the rest of Spain. The plan began to be implemented and over the years kilometers of roads and motorways multiplied, but somehow the government completely forgot about pedestrians and cyclists.

60 years later, in 2016, the first Barcelona Metropolitan cycling network was presented and discussed with cycling stakeholders and in April 2016 the Metropolitan Council approved the Bicivia network.

Bicivia is a large scale project of Barcelona Metropolitan Area (AMB) that is focused on ensuring active mobility and connectivity across the 36 municipalities that are responsible for the design and construction of cycling networks on their territory. Planning cycling networks by their own municipalies fail to take into account the important social and economic flows linking them together. In the densely populated area of the AMB, this has resulted in low connectivity of cycling lines across the 36 municipalities. To solve this issue, one of the priorities in creating the Metropolitan Urban Mobility Plan and setting up the Mobility Council, was to interconnect the cycling network throughout the entire Barcelona Metropolitan Area [22]. The final plan foresees 550 km of connected cycling network that links urban centres and industrial and economic areas from all the 36 municipalities in the AMB. Today more than 50% of the primary and the secondary Bicivia network outside the city of Barcelona is a reality [23] and in 2025 at least the main network should be already built [22].

The online lexicon Urban Next [24] gives a clear description of the importance of Bicivia network for the links between municipality centers and the surrounding industrial areas. „As well as connecting municipalities and counties in the Metropolis Barcelona area, Bicivia also aims to improve the sustainable links between industrial estates and city centres. From a mobility perspective, municipalities possess a very diverse range of spaces that are often difficult to access in anything other than a motorised vehicle. Industrial estates – and their connections to central areas – are a good example, as evidenced by the links between Barcelona city centre and Zona Franca (the largest industrial estate in Catalonia).“ On 25 July 2017 a cycle path linking the two areas was opened, and pedestrians and cyclists are now able to travel safely from the heart of the city out to the industrial zone. The path runs for some 500 metres and allows its users to overcome the obstacles of the Ronda Litoral and the access roads to the Port of Barcelona, which were previously impassable for non-motorised traffic. The initiative is valuable for the sustainable connectivity with the city and Zona Franca, an area of great economic significance which is home to more than 250 companies. In 2005, 67% of its employees travelled to work by car, and AMB believes that the creation of cycle and pedestrian connection will make a significant contribution to changing the modal split.

4.3. Discussion

In the previous section we briefly introduced examples from Varna and Barcelona that are close related to the active mobility and active commute topic. The explored cities are very different in size and population, and are located in different regions of Europe, each with its own cultural, geographical, and historical characteristics. However, there are some similarities that are important regarding the subject of the current research:

- Both Varna and Barcelona are coastal cities, situated by the sea. This geographical similarity influences factors such as urban development, tourism, and recreational opportunities;
- Both cities attract a significant number of tourists;
- Both cities face challenges related to traffic congestion and air pollution, especially at the height of the tourist season.

Exploring how active mobility can help address these challenges is relevant to both cities.

Going back to the given examples we see hardly and partially developing active mobility services in the city of Varna with the efforts of NGO's and educational institutions to help the local government with their expertise and on the other hand the misunderstanding and even possibly unwillingness of the local government for long-term planning and investment in the development of a system for active mobility that will be valuable for all of the citizens.

On the opposite side we see the Barcelona Metropolitan Area with their huge plan for Bicivia Metropolitan cycling and pedestrian network (550 km) that connects and serves not only Barcelona residents but all the people of the 36 municipalities inside the Metropolitan Area.

The purpose of this paper was to provide an overview of the general aspects of active mobility, including the historical aspect of the topic and the opportunities for using the active mobility for commute and also presenting Varna's problems and the good example of Bicivia project. Prepared in this way, this short study will be the basis for a more in-depth analysis of the possibilities for carrying out active commute, considered in several aspects: the adjacent resort areas, the zones with educational function (kindergartens, schools and universities), the health care areas, the industrial areas, etc.

5. CONCLUSION

Active commuting, such as walking and cycling plays a crucial role in planning for connectivity of different functions inside the settlements including between living and industrial areas. Walking and cycling connections of different areas can provide affordable and sustainable transportation options, reduce traffic congestion, and improve air quality. In planning for connectivity, the focus should be on creating safe and accessible infrastructure for active commute. This includes investing in sidewalks, bike lanes, and public transportation systems that connect all the different functional areas of the cities. In addition, ensuring that public transportation options are affordable and efficient is crucial in encouraging active commuting.

Encouraging active commuting has the potential to not only improve individual health, but to reduce automobile dependency, and thus meet broader community objectives for a healthier, greener and safer environment. Active mobility definitely can contribute to a healthy and sustainable transportation system that connects urban and industrial areas. Connectivity between urban and residential areas with other functional zones is essential for the efficient functioning of towns and cities. Proper connections between these areas are necessary to ensure the timely transportation of people, goods and services, allowing for the smooth operation of businesses.

So we can conclude that if people want to have cleaner, more livable and connected settlements it is all about creating variety of functions in pedestrian and cycling proximity and well planned and implemented active mobility subsystem network.

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AKTIVNA MOBILNOST KAO ALTERNATIVA ZA PUTOVANJE NA POSAO. PROBLEMI I MOGUĆNOSTI U GRADU VARNI

Postoji niz sinonima za opisivanje prevoza ljudi koji svoju fizičku aktivnost koriste samo za potrebe putovanja, a najčešće se koristi aktivna mobilnost. Meka mobilnost, mobilnost na ljudski pogon, aktivno putovanje, aktivni transport, aktivni prevoz i aktivno putovanje na posao su takođe na listi. I van svake sumnje najpopularniji oblici su hodanje i vožnja biciklom. Ovaj rad istražuje neke probleme aktivne mobilnosti, u vezi sa potrebom za održivim dnevnim putovanjem na posao. U ovoj tački postojanje održivih alternativa privatnom motorizovanom transportu je od vitalnog značaja za razvoj naselja, ali se često potcenjuje važnost meke mobilnosti u njihovoj povezanosti sa industrijskim područjima. Korišćenje aktivnih oblika transporta, uglavnom biciklističkog i pešačkog saobraćaja, kao i njihove kombinacije i javnog prevoza, šansa je da se urbani prostori učine pogodnijim za život. Mnogim oblastima je teško pristupiti bez ličnog motornog prevoza, a za grad Varnu susedna odmarališta i industrijske teritorije su tako upečatljiv primer jer je njihova veza sa ostatkom naselja puna prepreka za vožnju biciklom i pešačenje. U ovom radu, u okviru svoje teme, autor istražuje neke probleme sa kojima se ljudi svakodnevno suočavaju u gradu Varni i traži mogućnosti za buduća poboljšanja na osnovu primera dobre prakse iz Barselone.

Ključne reči: *aktivna mobilnost, svakodnevno putovanje na posao, industrijska područja, saobraćajne veze, održivost.*