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IMPROVING ENVIRONMENTAL SITUATION IN ZHYTOMYR CITY BY ORGANIZING RENT OF ELECTRIC VEHICLES

In this work we consider the solutions to problems caused by the transport operation. Emissions of air pollutants from vehicles have increased annually by an average of 3.1%. It should be noted that in terms of environmental damage, transport is the leader in all kinds of negative impacts: air pollution - 95%, the noise - 49.5%, the impact on the climate - 68%. It should not be forgotten about the fact that the transport infrastructure is developing, an increasing number of vehicles on the roads of the city. The program is carried out within the physical limitations of entry into the central part of the city which is full of transport, in order to unload the streets. In order to organize correctly the motion of people and vehicles in the city, it may be offered to limit the motion based on criteria such as: ecology, noise, etc. In Europe, there are emissions standards toxicity vehicles (Euro- 4, Euro- 6). Most of the cars that are currently in operation in Ukraine correspond only to Euro-1, Euro-3. The last but not the least is the question of security, as a large number of vehicles leads to an increased probability of occurrence of road traffic accidents, then the next task is to reduce risk factors.

Focus should be made on electric transport as the cost of an electric vehicle is reduced, they become more affordable. In terms of quietness, the most silent electric cars there, electric motors, are opposed to an internal combustion engine - a bit noisy. Also, electric cars have zero emissions of pollutant substances. First of all, we consider the prospects for the implementation of this program in Zhytomyr city. In the city there is already present the category of electric vehicles, which is presented in the form of public transport: trams, trolley buses, etc. So we can recommend this form of transport in addition to the individual needs of people who move in the city, who are not satisfied with the public transport network. It may be considered the category of people with luggage, with children and disabled people. In order to satisfy partially the demands of people we should have taxis, which are represented by the electric vehicle, but taxi does not solve the problem to the fullest. To satisfy these challenges completely, we offer rental cars with a high environmental performance. These machines can be hybrids or electric cars.

In large cities the situation is rescued by underground transport as it relieves the external street network, reduces the number of vehicles on the surface, leaving more space for the motion of people. For our city subway construction is not appropriate for several reasons. First is the question of payback, and secondly, our city has not historically examined, underground corridors are located that may be of archaeological and historical value.

Therefore, we want to provide an easy-to-use city transport structure rent of electric vehicles. Locating city automated points, which are the knots of attracting people. It is sensible to make 6-7 knots related to business centers or public places,

entrances to the city, areas of Kroshnya, Bohuniia, Poliova etc. We should add a point near the bus station, taking into account the people who come to your business or any activity and they need to visit the central part of the city. Payment for rent is distributed and covers a variety of bonuses that are associated with the operation of the vehicle, such as permission to enter those areas to which access is forbidden to cars with internal combustion engines, free parking on preferential ground, along with parking spaces for people with disabilities. In Europe free parking was abolished long time ago, and the cost per one hour of parking depends on the city and the region, and varies from 0.5 to 2.5 euro. In Italy, Germany, Spain, the Netherlands, the average price of parking varies from 1 to 2 euro per hour. In Britain, 2 pounds per hour, in US 2-30 dollars per hour. Economic feasibility of using this type of transport will be emphasized only in that situation if the board of the park-place in the city increases.

Renting a car must be registered in the program as a member of the organization you have the opportunity to book a car over the phone or via the Internet at any time convenient for you. Access to the car is conducted by means of a plastic card, which serves as the key. The rent includes cars with a full charge, parking, insurance and maintenance. A very important issue is car maintenance and service parts. That is, when you take the car, you do not have any problems with the fuel, it is already filled up, you do not have any technical problems with the service, since the car is regularly serviced at the station, you are not obligated to return the car, where you got it, you can take advantage of it and you will bring it to the place of attraction. In practice it is needed to consider the types of vehicles that are sufficiently compact and economical, such cars are mostly designed for two people, or two people with children: for example the Fiat 500, Renault Zoe, Renault Twizy, Ford Focus ECONetic Technology, etc.

In Paris, rental electric cars started in 2009, currently in 3,000 cars per 1,000 points lease. Rental price depends on the duration of the subscription. Access to the system for a year costs 120 euro and gives the right to half-hour access for electric vehicle for rental in 5,5 euro. Monthly access costs 25 euro, but a half-hour rental is more expensive - 6,5 euro. Parisians believe that it is very sensible. In London it costs 12 eur per hour. In China, the cost of renting the machine is universal - 3.25 dollars per hour. Barcelona has the price from 60 euro per day up to 21 euro per hour. Germany, the Netherlands, Canada, the US take 0.41 dollars per minute, depending on the total time of hiring.

Thus we proved there are opportunities to improve the situation in Europe. It is possible to improve the environmental situation, that make life more comfortable.