Shishko Z.
PhD Student, Department of Management,
Public Administration and Personnel
Ternopil National Economic University

THE VELO CULTURE: IS THERE A POTENTIAL OF IMPLEMENTING CYCLING AND ELECTRIC TRANSPORTATION AS A COMMON PRACTICE IN TERNOPIL?

Socio-economic and ecological changes necessitated the creation of "Smart" cities. Currently, worldwide, approximately one thousand "Smart" city projects are actively being developed and maintained. In order to understand the potential of a city such as Ternopil to develop "smart" trends, it is important to consider the spectrum of opportunities in today's Information Technology (IT) era to identify which option would best suit the city with the objective to move to a more ecologically friendly one for its residents. The modern IT and Artificial Intelligence (AI) transportation possibilities allow "Smart" cities to take either an ecological, or a surveillance direction of development. With the rise of the pandemic, the importance of available public spaces and parks in cities [10] becomes most pressing and relevant. Governments abroad recognize more and more that "cities are habitats, which need to be healthy and ecologically friendly for its habitants" [9]. Specialists in this field of ecological city planning recognize the importance of city engineers who would be able to compose a plan in a way that would combining all aspects of the city's and its resident's needs. Prior to designing an environmentally friendly and ecologically sustainable project, the local government needs to work closely with its community. The latter, composed of residents, is able to provide the problems that need to be addressed and/or need to be encountered. Consistently, by solving the problems at its base, the entire "Smart" city's master plan can be developed and put to work in a manner that does not overlook its habitants' concerns and needs.

Taking into account the poor air quality along the river Seret in the center of Ternopil, the need to develop a more comprehensive system of electric transportation is becoming pressing. This includes increasing the frequency of already existing trolleys. Further, introducing options such as bicycle lanes, for cyclists would contribute to the improvement of the air quality as well. While this may be argued as a costly endevour, the latter approach has solved the solution problem substantially in Western Europe. For example, in Leuven approximately 90% of the local population are bicycle riders, known as the Velo culture. They commute to schools, work, and for leisure, mainly using their own or rented bicycles. Bicycle stores, repair shops, parkings and rentals are available throughout the city of Leuven. All university students are encouraged to use bicycles instead of buses (electric and hybrids), the former is subsidized through various financial support programs for certain categories of students. Certainly, Ternopil has a different landscape, weather, cultural values, and other varying factors that diverge from that of Leuven. As such, it would be insensible to adopt Leuven's model wholly. However, certainly, many criteria would

be plausible to implement and to learn from. Here are a few examples of similarities and differences between Leuven, Ternopil and Vancouver. For instance, both Leuven and Ternopil have a European look to them: they both have relatively narrow streets, large areas in the centre of the city laid out with paved stones, with limited space for motor vehicle parking. However, a tremendous difference in lifestyle priorities and culture cannot be dismissed. For example, a mother of four children is able to manage to bike them to crèche and school all at once. She would buckle in the new born baby onto the infant seat, which is attached to her front area of the bicycle steering wheel. The second child would be seated onto the baby or toddler seat at the back of her bicycle; the other two children, who are too small to bike on their own on shared roads, would be buckled into a bicycle trailer, which is then attached to the back of the bicycle. She takes her four small children to school and crèche every day, whether it rains or snows.

While the public bus transportation system, "DeLijn" in Belgium [3], is considered developed: well scheduled and frequent, the routes and accessibility needs improvement. The cultural aspect that we want to avoid striving towards, is the general lack of courtesy towards the elderly and pregnant people in Leuven. While the priority seatings signs for elderly are visible in buses, they are not honoured. In Ukraine, alas, this trend is picking up as well. Fortunately, our cultural norms still respect and protect the elderly and pregnant women, while the lack of accessibility to these segments in public transit is stark. On the contrary, In Toronto, for example, accessibility laws came into force since 2018 requiring all businesses and establishments to implement accessible for wheelchair lanes, doors etc [8]. Given the fact that Ternopil has a large number of elderly this would be a prudent solution to satisfy needs of the habitants. Open North [6], a Canadian non-for-profit organization encourages connectivity between researches, scientist, investors and communities to create smart cities. Working with the community, the habitants, is essential to ensure that smart cities are developed according to the needs and convenience of city dwellers. Otherwise, as in Leuven, lack of proper routes to essential facilities, will result in half empty buses and extreme situations, such as cycling in unwelcome weather with four children attached to the cycle [2].

If we compare Ternopil to Vancouver, the bicycle industry in the latter is treated as a sport much more than a necessity as in Belgium. Having a high density population makes sense for Vancouver to be cautions and avoid pollution, which is one of the reasons why Vancouver has well developed electric public transportation system, the Translink. The latter has launched a 10 million dollar project for the electric bus program in 2019 and presently is well progressing. In addition, Vancouver Trolley Buses are still operating on the streets on electricity since 1948 [1]. The Skytrain is another full mode operated on electricity.

Ternopil would benefit much if a similar frequent electric transportation system would be established in the city core. A tramp, of course, economically is most efficient on electricity, but would suggest high expenses on installation of the railway, however a trolley, on the other hand, is less dependant on electricity than tramps, but it would carry no expanses on railway development. Electric buses are

expensive and anticipate serious ecological problems with utilizing the batteries after they expire. Ternopil city already has an old trolley line and trolley buses that have been working since the Soviet era.

Cycling in Ukraine, particularly in Ternopil city, could be treated both, as a sport and a necessity. Besides the obvious health benefits, pollution and vehicle congestion could be curbed. Ternopil could consider developing cycling lanes and coloured corridors which could originate in the city parks and would be extended into the rural areas for better air quality which the country side offers. Cycling paths could attract foreigns for the unique experience, the combination of nature, beautiful scenery, quality of air, culture, and excellent food. A good project for cycling lanes should be aimed to most visited places by tourist and local population, such as Zarvanystya, Carpathiens mountains, waterfalls and, of course, the Ternopil regional caves, along the way potentially a new bicycle industry could open up that would bring economic benefits [7].

Further, lack of cycling lanes proper knowledge and legislation and rules on the roads today in Ternopil involve Risk to both the drivers of motor vehicles and the cyclists. Having separated cycling lanes from traffic roads could encourage more habitants who are concerned with road safety to use cycles versus motor vehicles. Cyclists and motor vehicle drivers, both should have proper training available to them as part of a requirement to be able to drive or ride a bicycle [4,5].

Electric private and public transportation could be developed to improve the quality of air in the city and give opportunity to the local community to live in a better environment.

References

1. 1.CBC, News, British Columbia, Battery-electric busses hit roads in Metro Vancouver, 2019. URL : https://www.cbc.ca/news/canada/british-columbia/battery-electric-buses-hit-roads-in-metro-vancouver-1.5280462
2. ECF, European Cyclists Federation. 32% more Cycling in one Year after Eliminating through Car traffic from the Centre of Leuven, 2016. URL : https://ecf.com/news-and-events/news/32-more-cycling-one-year-after-eliminating-through-car-traffic-centre-leuven
3. Electrive.com, Industry service for electric mobility, Belgian public transport to purchase 970 electric buses, 2020. URL : https://www.electrive.com/ 2020/01/02/belgian-public-transport-is-looking-to-electrify/
4. KULeuevn, Transportation, 2020. URL : https://www .kuleuven.be/ transportation/bicycle
5. Nicholas Scott, Meghan Winters, Stephanie Serali, Elsevier, Journal of transport and Health, Effectiveness of a bicycle skills training intervention on increasing bicycling and conference: a longitudinal quasi experimental study, 14 (2019)
6. Open North, State is Open Smart communities in Canada. 2020. URL : https://www.opennorth.ca/

7. Thomas Blondiau, Bruno van Zeebroeck, Holger Haubold, Science Direct, Transportation Research Procedia, Economic Benefits of Increased Cycling, Volume 14, 2016, p.2308
8. Toronto, Accessibility at the City of Toronto, 2018. URL : https://www.toronto.ca/city-government/accessibility-human-rights/accessibility-at-the-city-of-toronto/
9. Tracey Lauriault, Assistant Professor, Critical Media and Big Data, Carleton University CFE Virtual Forum Series - May 13, The Smart City in a Digital World. 2020
10. Vincent Mosco, Professor Emeritus, Queen's University and author of The Smart City in the Digital World, CFE Virtual Forum Series - May 13, The Smart City in a Digital World. 2020