PUBLIC ATTITUDE AND TRANSPORT INNOVATIONS

Aydan, Gurbanova

Abstract

This research describes the importance of public attitude which in fact is one of the strongest powers to achieve sustainability. Nowadays, the number of car users is increasingly growing day by day. According to recently made researches, the reason of the car use growth is not actually time-saving, but mainly convenience, comfort, and safety. Therefore, the question is whether the number of car users will continue increasing once more comfort and safety becomes available. This research shows what kind of innovations in the public transport system may lead to the change of people's attitude towards transport use. Moreover, it is possible to find best practices concerning the management of public transport system. In general, the research is based on how to create an efficient transport system and conditions under which people would give more preference to public transport rather than to the use of private vehicles.

Key words: *public attitude, sustainability, car use growth, innovation, transport system*

Introduction

A significant increase in car use was observed after World War II. Countries faced the situation when a choice had to be made: invest in building highways and parking areas in order to make car traffic smoother and easier or create conditions under which people would prefer public transport. The countries which made investments in public transport could significantly improve their public transport services. The main reason why some countries supported the establishment of public transport was based on sustainable approach. However, there were not many countries which were in favour of the public transport development [1].

Since ancient times people have been using technologies and constantly tending to improve them because new technologies are quicker, better and more productive. The role of innovative technologies in transport system is very significant, basing on the fact that they can lead to big changes in people's lifestyle.

This article is devoted to the detailed review of existing innovations in the Transport system. The innovations such as offline schedule regularity application, double decker buses of London, fare structure, Automatic Vehicle Location (AVL) technology implemented in the UK and special innovative technologies for people with disabilities will be discussed throughout the research. In addition, based on the success

of these innovative technologies I decided to do my own research in order to find out if the best innovative technologies are enough to make people avoid extended car use and live in a sustainable way [2].

Material and Methods

According to my findings, there are several reasons why the establishment of a strong public transport system is vital. The first aim is to reduce congestion based on the fact that car use may be reduced by each passenger who uses public transport [3]. The second reason is the fact that an efficient public transport system leads to a reduction in air pollution. Depletion of the natural resources should be another driving force to use public transport which does not require so much land for its transport facilities. Another advantage of public transport is that it can be used by all people independently of age. Switzerland is one of the countries that has made substantial investment in the public transport network as a result of which Zürich's public transport network has become one of the most successful projects. The reason to support public transport was the local citizens who voted for the establishment of public transport which could provide a high quality and responsible service. Therefore, we can observe the importance of public attitude, and the factors that influenced people to decide this way.

To my mind, ones of the best innovations that could be implemented in future projects are the following ones [4]:

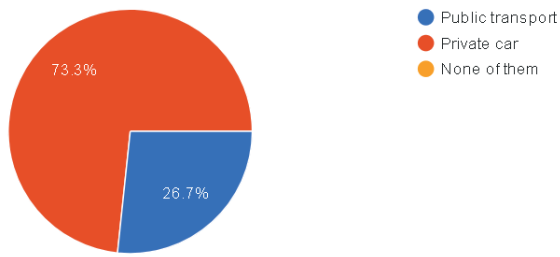
I. In order to ease the crowds on buses and to reduce waiting time the innovative option of double decker and the implementation of high quality, fast, and reliable public transport should be implemented. There are about 80 seats available in double decker buses, while normal buses may accommodate 26-40 passengers as a maximum.
II. Offline transit schedule and route planner application, as in case of Budapest, is very advantageous as passengers are able to calculate the exact transport time even without Internet. What is more, if this system includes all zones without any restrictions in distance, includes the schedule of all the transport modes and updates the information about the delays and cancelations in advance, it will turn into the best innovative transit schedule and route planner application for people.
III. The best way to control traffic jams, in my opinion, is to stop building new roads and reduce the amount of roadway space as Swiss Transport Authority did in order to make the roads less accessible for the car users. And, actually the aim of reducing the amount of roadway space was not done with the aim to mitigate traffic jams, but in order to encourage people to use other modes of transport and this way to provide safety on the roads.

IV. The Swiss Transport Authority initiated the building of infrastructure according to which it is possible to get to any destination throughout the country which in fact increased the satisfaction of people and their preference of public transport.
V. Basing on the data of the World Health Organization, in 2015 approximately 84,500 people were killed in Europe as a result of road accidents, most of which were bus crashes. Therefore, driver skills are utterly important if the aim is to provide safety. Alongside with continuous trainings for drivers there is a need for the introduction of another efficient technology, such as Automatic Vehicle Location (AVL) implemented in the UK, which provides detailed data about the location and speed of every vehicle.
VI. The transport fare structure, according to which the price of a one-way trip is twice as high as one day pass, the cost of a monthly pass is equal to about fourteen 24-hour passes and the price of a yearly ticket amounts to 9 monthly tickets, is also an innovative system in Switzerland. This fare structure urges people to use public transport and save money [10], [11]..
VII. In fact, the most part of transport systems have limit access for people with disabilities. While we are thinking which mode of transport is better, these people in most of the cases do not have any access to public transport at all. In order to change this situation, and with the support of UN, the World Bank's transport experts provide help to countries to build such kind of infrastructure which will be accessible particularly for the people with disabilities. For example, Lima's high capacity BRT (Bus Rapid Transit) project, so called "Metropolitano" is the project, which was funded by the World Bank through a donation from the Bank of Japan in order to make the transport accessible for everyone [5].

After discovering these innovative technologies the question of whether these changes are the maximum that we can do to attract people to use the public transport system was reconsidered and a survey among people living in different countries was realized. Not surprisingly the answers were of different nature [6] [14]. However, even in this case many of them remained in favour of the private cars based on the belief that nothing can be as good as driving your own car without any schedules and restrictions [7], [8], [9].

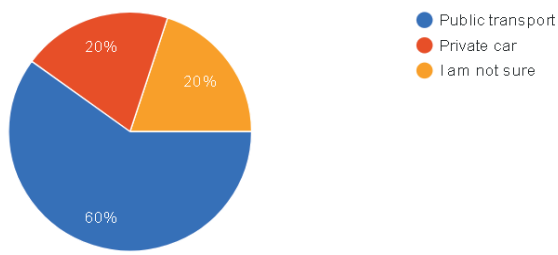
To my mind, if the intention is to establish sustainable transport system, then the usage of different strategies will be the best approach [12], [13].Parking restrictions could be implemented in order to reduce car use and environmental impact and to contribute to sustainable development of the public transport. In fact, the prohibition of parking for a long time leads to the changes, and as a result traffic volumes become less.

So, the survey was realized among 30 people (15M/15F) at the ages varying between 25 and 50, living in different countries such as Azerbaijan, Ukraine, North America, Indonesia and Ghana. I have chosen countries in different parts of the world in order to encompass different opinions, which are based on the totally different experiences. In spite of the differences that these countries have in their transport systems, the infrastructure and implemented innovative technologies, the answers of respondents were quite close to each other.



1. figure: The ratio of users of public transport and private cars
Source: own edition

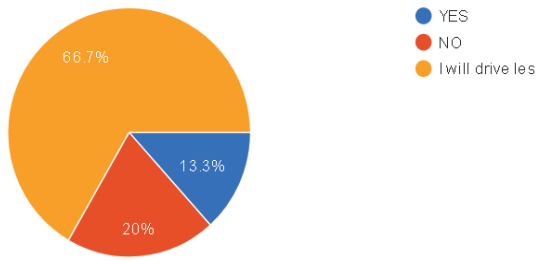
The first question focuses on the means of transport the participants prefer, the answer to which as we can observe in figure 1 was expected from the beginning. 73.3% prefer private car and only 26.7% are in favour of public transport use which means that there is a need to take some measures in order to change the situation.



2. figure: The possibility of giving more preference to public transport in case of adequate changes
Source: own edition

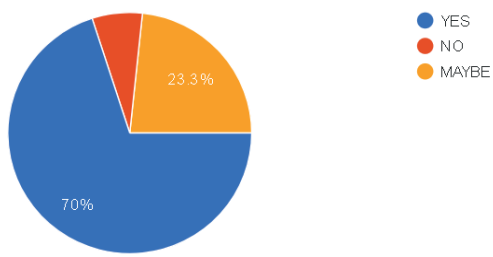
As can be seen from figure 2 implementation of the innovations such as provision of safety and comfort, availability of all destinations throughout the country, frequent, inexpensive and reliable service could play a great role in reducing the car use, substituting it with public transport. The percentage of the people thinking in this way is equal to 60% which is not a little number. However, even in this case, 20%

of the respondents continue thinking in the opposite way, saying that innovations would not deter them from using their private vehicles. Another 20% was not able to decide whether they would prefer public transport or not, which is not so positive indicator even if it is minimal.



3. figure: Transport mode preferences after understanding that private cars hinder sustainable development process
Source: own edition

Figure 3 perfectly shows the fact that people even knowing that their choice may lead to or deteriorate sustainability they would not give preference to the public transport. The most preferred choice was "I will drive less", which means that besides all the innovative technologies there is still a need to keep people away from car use. The percentage of people who are willing to avoid car use understanding the importance of sustainability in our lives (20%) should surely increase.



4. figure: Choice of transport mode in case of restrictions
Source: own edition

Figure 4 illustrates a diagram of percentage of users of different transport modes in case of some restrictions. It is clearly demonstrated that if innovations give people a choice between car use and public transport the restrictions minimize the effectiveness of car use. Creating new programs to remove public parking, increasing the price of parking does not leave any other option for people but to give preference to public transport.

Results

The results show that alongside with the implementation of innovative technologies which make people change their attitude towards the public transport system, restrictions are needed to maximize success. The innovations will provide safety, comfort, and possibility to get to any direction throughout the country, frequent, inexpensive and reliable service, while restrictions make car owners seriously consider the use of alternative modes of transport. Knowing that parking is limited and in order to avoid wasting time by having to drive endlessly and looking for parking areas or paying extra fees, people will be open to consider the use of other modes of transport.

Conclusions

It is shown that by proper organization of public transport system via innovations in transport infrastructure, it is possible to reform people's thinking about public transport. Article gives detailed overview of innovative technologies that are introduced in transport systems of some developed countries to ensure their sustainable development.

As a result, the research revealed that innovations are essential, but not all people would take them into account. And, in this case, by restricting parking areas and setting extra fees, no other option will be left for car users except driving less.

It is shown that the largest percentage of people who prefer using public transport is reached if a combination of innovative technologies and some restrictions are imposed by authorities in transport system.

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Author:

Aydan, Gurbanova
MA Student in Tourism Management
aydangurbanova1@gmail.com