Imrpovement of sustainability definition facilitating sustainable development of public transport system

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Abstract

In the frame of current article it is researched the definition of sustainability facilitating sustainable development of public transport system. This research will give a new look to definition of sustainability, will be the source of new scientific ideas and ways of thinking about the public transport system and its sustainable development. Analysis of definitions and interpretations of sustainable development and sustainability and summarizing of principles of sustainability and sustainable transport system, as well as definition of indicators of environmental sustainability in transport system and assessment of environmental impact indicators for transport in smart city era, which can help to formulate improvements of sustainability definition facilitating sustainable development of transport system, will give a huge positive impact to development of transport area using sustainability principles. Solutions for sustainability are also offered in the article. It is the first article in the new cycle with research and discussions about sustainability and improvement of its definition, about transport system sustainability and related topics.

1. Introduction

Research and improvement of sustainability definition facilitating sustainable development of transport system requires counting in huge amount of factors. Maintaining transport system sustainability requires developing transport system control procedures as well as strong measuring and decision making tools. There are a lot of studies of passenger’s transportation done recently in the European cities in wide sense from behaviors of passengers till...
technical solutions and implementation of electro technical devices. The analysis and comparison of the transport systems in different cities and countries as well as analyzing of the future requirements of the transportation system is the topic of many research in several European projects.

There are many methods developed for sustainable city development in many national and international projects. The synopsis of HORISON 2020 Transport projects shows, that sustainable surface transport is the key topic in the European Union.

There are a lot of definitions of sustainability, but they are scattered in different sources of information. There are not fully defined in literature principles of public transport system sustainable development.

Modern researches show, that it is not easy to find perfect definition of sustainability, especially facilitating sustainable development of transport system. The definition must be analyzed and improved, as well as formalized if it is possible.

It is well discussed in the literature ITS related aspects of development of urban transport systems, but not from sustainable development point of view. There are no common opinion also about city public transport safety systems and controlling the public transport system in a whole. According to this, is it possible to talk about actuality of the problem solved, in the frame of current research.

The problem of research and improvement of sustainability definition facilitating sustainable development of transport system will be analyzed in this article.

At this time there is no common opinion for definition of public transport system sustainable development. There is set of the best practice examples in one or another aspects defined, but not to all system in whole. The definition parameters, techniques as well as equipment of transport system in order to keep it in sustainable position will be analyzed and discussed.

The topic of article is a very relevant field. Authors experience is good enough for reaching successful results of the research. It also can be breakthrough idea for interdisciplinary project.

If we talk about sustainability, it is necessary to remember also about sociological factors. Europe needs professionals and also young professionals especially in the field of sustainability, sustainability in transport including energy efficiency, ecology and other aspects. This question is usually actual across the Europe, as well as in the World. It is mainly through sustainability and energy efficiency it is possible to reduce Earth pollution. A key objective is to improve our understanding of how to improve understanding of sustainability and sustainable development of transport systems at universities and society. In which way sustainability is mastered and how this process can be made more effective for each and every European citizen. Given the diversity of educational systems and languages, it is important to conduct this multidisciplinary fundamental research, and as a result, sharing theoretical and methodological resources in the field of sustainability and sustainable development of transport system.

The latest adoption of the legal base in several levels gives some clear guidelines what should be done in the sustainability area. For example EU Roadmap for moving to a competitive low carbon economy in 2050: - To reach the long-term decarbonization goals, the EU Roadmap for moving to a competitive low carbon economy in 2050 identified the need of reducing carbon emissions in residential and services sectors by 88-91% by 2050 compared to 1990 levels. More or less it also shows that researches in the field are very significant and timely.

1.1. Goal/Objectives

According to the topic of current research, and summarizing the state-of-the-art it is possible to formulate the goal of the research: In the frame of current article it is planned to research and start to improve the definition of sustainability facilitating sustainable development of transport system. This pure research will give a new look to definition of sustainability, will be the source of new scientific ideas and ways of thinking about the public transport system and its sustainable development.

1.2. Tasks and Activities of research

• Research last achievements which can be used in public transport system.
• Describe modern ways and trends in transport system development.
• Analyze definitions and interpretations of sustainable development and sustainability.
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