

## **СЕКЦІЯ 3. ДИСКУРС ТЕХНІЧНИХ НАУК**

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### **INTELLIGENT TRANSPORT SYSTEM**

Intelligent Transportation System (ITS) represents a group of technologies that can improve transportation system management and public transit, as well as individual decisions related to many aspects of travel. ITS technologies include state-of-the-art wireless, electronic, and automated technologies aiming at improving surface transportation safety, efficiency, and convenience. Reducing energy consumption, while not a primary goal for ITS, is a demonstrated ITS benefit. This paper reviews and summarizes key energy benefits associated with a variety of ITS technologies that have been documented through models, pilot programs and full-scale deployment.

Developments in technologies present Road Administrations around the world with the opportunity to transform the way that they manage and operate their highway networks. Intelligent Transportation Systems (ITS) is a combination of leading-edge information and communication technologies used in transportation and traffic management systems to improve the safety, efficiency, and sustainability of transportation networks, to reduce traffic congestion and to enhance drivers' experiences. The possibilities are endless. Activities which were traditionally undertaken through human intervention can be automated. Road network performance can be monitored and adjusted, in real-time. Data collected previously by costly physical infrastructure can be provided through new, richer data sources. Historical data analysis can now be carried out by systems delivering intelligence through real-time data analytics. Road users' choices, previously influenced only by road signs, can be influenced by a wide array of publication channels such as mobile devices/in-car systems.

These possibilities will only happen if Road Administrations have a clear and considered strategy for bringing existing disparate systems, services, and operational approaches together over time [1]. Intelligent Transport System, which can help to build a better society, depends on the level of development of the country and the technology required.

The key areas, which the ITS addresses, include among others: identification of congestion spots, blocked lanes, blocked junctions, accidents on the roads, insecure spots, etc. These are sometimes termed as bottlenecks that hamper smooth traffic flow. When they are identified by the use of ITS, then solutions may be provided, these solutions would be, for example, directing traffic to take other routes to avoid the congested spots, blocked junctions.

By addressing bottlenecks by the use of the ITS, the society would benefit in reduced travel time, reduced wasted man-hours in traffic jams, improved road safety, reduced emissions, reduced stress levels of travelers, etc. Lastly, ITS when used holistically would lead to a cleaner and smarter environment. The developed countries have achieved this in some of their cities. The developing countries are still implementing the ITS and some of them are planning to implement ITS in the future [2].

As for the future of ITS, it is necessary to provide ITS suitable for each region and promote the realization of a next generation mobility society based on changes in social and technological conditions.

#### ***References:***

1. Intelligent Transportation System [Electronic resource]. – Access mode: <https://www.wsp.com/en-SE/services/intelligent-transportation-systems-its>
2. What is your perception of Intelligent Transportation System. Fredrick Lwanga: Kagga & Partners [Electronic resource]. – Access mode: [https://www.researchgate.net/post/What\\_is\\_your\\_perception\\_of\\_Intelligent\\_Transportation\\_System\\_How\\_can\\_it\\_be\\_used\\_for\\_the\\_betterment\\_of\\_society](https://www.researchgate.net/post/What_is_your_perception_of_Intelligent_Transportation_System_How_can_it_be_used_for_the_betterment_of_society).