

# Implementing Intelligent Transport Systems in the Creation of "Smart Cities"

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## ABSTRACT

The article summarizes briefly the issues of creating "smart cities" using intelligent transport systems. Also, innovative processes in the use of "smart city" technology, effective traffic management in the city and decreasing the number of road accidents (RTA), preventing traffic violations, data about collecting of data on the digital road network and ways that do not require cable laying, based on the Power Cube 500 technology are stated in this article.

**KEYWORDS:** "Smart city", intelligent transport systems, technologies, innovation processes, means of transport, transport and communications, infrastructure, digital road network, intelligent control system, road accidents

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## INTRODUCTION

The third priority of the "Action Strategy for the Five Priority Areas of Development of the Republic of Uzbekistan for 2017-2021" sets specific tasks for the accelerated development of the transport service sector, an active investment policy for projects in the field of transport and communications and social infrastructure, and a radical improvement in the provided transport services.

Today, new technologies are fundamentally changing our lives. Roads have provided people with trade, cultural, economic and political ties and entrepreneurship for centuries, and they are as important today as they were hundreds of years ago. As smart as a city is, if the road network is inefficient, not all of its components will be fully utilized. If the roads are extremely inconvenient for car traffic, then the residents of the city suffer huge production losses every year due to congestion.

Solving these problems requires implementing smart city technologies. It is desirable to organize the collection of data from the digital road network. Large numbers of moving parts create large amounts

of data and increase the need for software and hardware. There are also many issues that need to be solved, ranging from efficient traffic management at the city level and reducing the number of road traffic accidents (RTA) to preventing traffic violations.

## BASIC RESEARCH AND RESULTS

In this sense, Huawei's three-step approach to traffic management provides more orderly traffic. Sharp Eyes defines problems, Powerful Brain analyzes data, and Simplified Operations and Management keeps the road network running smoothly. This intelligent control system has been successfully implemented in many cities around the world, as well as in the cities of our country, combining all the proposals.

Sharp Eyes can turn any intersection into a checkpoint that monitors traffic and traffic violations. The cameras, controlled by existing software, support more than 20 algorithms and are programmed to detect traffic violations such as crossing emergency lanes and switching to red lights. Remote accurate detection exceeds 95%, with Traffic Accident Detection (TAR) being completed in eight seconds

with the ability to walk 200 in all weather and dim and dazzling lighting conditions. TOPS optimizes image quality where processing power is required.

Sharp Eyes, as an autonomous system, also helps to track traffic violations in the city, tracking and analyzing possible violations and fixing fines if necessary.

Powerful intelligent functional technology uses a large number of data analysis tools to find relevant search engines, allowing you to identify the information you want in seconds between hundreds of millions of data records. Users can freely access more than 100 algorithms through the service's multi-algorithmic data store, which creates additional opportunities for increasingly complex solutions. It can serve as a security system for the police, thereby offering re-analysis of images for remote monitoring of violations. This will further enhance the effectiveness of the police in combating and preventing vehicle-related crimes, as well as control other types of crime.

Also of great importance in the formation of a smart city is the use of traffic management technology by simplifying operations. The functions for collecting and processing data are located inside the structures under study due to fast flexible expansion. It is based on Huawei's specially developed Power Cube 500 technology that does not require local cabling. Huawei's eSight management and operations technology will manage more than 200,000 devices in cities, which will become a smart site planning tool, increasing expansion efficiency by 30%.

Roads have connected peoples and countries for centuries and therefore have served as the backbone of our societies in the development of trade relations and investments. Population growth and the attractiveness of cities mean that road networks will become increasingly vital to healthy societies. However, this requires a flexible, safe and intelligent infrastructure that allows for the safe and efficient flow of people and vehicles. He also needs to be strong enough to react to unexpected events. This is due to the fact that the conditions of the pandemic

have confirmed the need to adapt transport links to any unexpected changes.

Huawei's intelligent traffic management solution simplifies urban traffic management. This lays the foundation for cities to have the freedom and resources to develop other challenges and innovations. The smart road network is critical to the well-being of people living in a smart city.

## CONCLUSION

Based on the foregoing in this article, the team of authors came to the following conclusions about the use of intelligent transport systems when creating "smart cities":

- identification of violations of traffic rules and ecology based on digitalization;
- carrying out intellectual analysis, providing inspection and control of vehicles;
- it is necessary to ensure the uninterrupted operation of the system for detecting toxic gases in the air in the event of a vehicle breakdown, i.e. not only at the entrance to the city, but also within cities;
- organization of data collection of the digital road network;
- to solve some problems in the application of the "smart city" technology;
- consider it expedient to address the issues of training and retraining of potential personnel in the field.

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