Smart parking-management system for commercial vehicle parking at public rest

Engineering

The paper " Smart Parking-Management System for Commercial Vehicle Parking at Public Rest Areas by Bayraktar" is an outstanding example of an article on engineering and construction. In the US, trucks carry the majority of freight leading to an increased demand for truck parking spaces. The lack of sufficient parking spaces at places of rest leads to unlawful and packing that is not safe. The research was carried out to understand the problem of truck parking in Florida so as to determine the supply and demand characteristics for commercial truck parking. The study also evaluates the technology that may be used in improving parking management. It also conducts a pilot project that tests a vehicle parking management technology that enables efficient use of commercial parking spaces in public rest areas. The Florida DOT funded the research about Smart Parking-Management System (Bayraktar et al. 2013). Phase 1 of the study collected field observation data in the following corridors: I-10, I-75, and I-95. The data collected helped writers to determine truck parking capacity problems in all rest areas. The rest areas were divided into low, medium, and high categories depending on the problems of truck parking capacity. Phase 2 assessed the technology that could be used to improve the management of truck parking in rest areas in Florida. The choice of vehicle detection technology or the pilot project featured wireless ground sensors that can detect the presence of vehicles as they move towards it. The sensors communicate through wireless mesh repeaters that transmit information to data collectors; these data collectors use the Internet to connect to a central database (Bayraktar et al. 2013).

A variety of software tools are developed to be used in the wireless vehicle

detection system. These tools include a GIS mapping application, an occupancy prediction model, and a report generation module. The GIS mapping application provides an instant feed of the truck parking information on the sites. The report generation module provides immediate accessibility to historical truck parking data that has been collected from the truck parking facilities. The occupancy prediction offers users with a projection of existing parking spaces at a given date and time (Bayraktar et al. 2013).

The importance of smart technology in parking management

Many states in the US experience heavy demand for commercial trucks parking at rest areas. The demand for parking places has exceeded the capacity hence the need for a solution. Numerous studies indicate that the shortfall in parking facilities for commercial vehicles is linked to fatigue-related crashes (WBDG 2014). It is important to study techniques that will help in the management of parking places in order to bring sanity in the transportation sector.

In order to solve a problem, it is important first to understand the problem and come up with a solution. The study first looks at the problem associated with commercial truck parking and come up with a solution. The study has helped to show that there is a shortage of parking facilities, hence the need to develop a technology that will help in the management of the existing parking facilities.

Software tools such as a GIS mapping application, an occupancy prediction model, and a report generation module helps in the management of parking facilities. Organizations that run parking facilities can use the information in

this article to improve the efficiency of those facilities. Improving the efficiency of parking facilities will go a long way to improving the transportation of goods and affect cases where goods delay from reaching their destinations.

Why Smart Parking-Management system is of interest to transportation engineers

Engineers have been looking for solutions to the problem of transport such as inadequacy in the number of parking facilities. As the number of vehicles increases around the globe, the need to house them near their destinations has created a challenging design problem (Garber & Hoel 2014). The parking facilities have a role of providing for secure and efficient passage of the trucks. It is a complex challenge since the vehicles and engineering need to be integrated to create a suitable solution. Engineers lead in the design of parking facilities that adhere to modern technologies. Some of the latest technologies improve efficiency and reduce delay in most parking facilities (López-Jacobs et al. 2013).

Modern engineers look for ways to make parking facilities efficient and serve their purpose without causing havoc in the transportation sector. Engineers will be keen to study any information that can help them tackle the problem of scarcity of parking facilities (Haghani et al. 2013). The engineers will want to study software tools such as a GIS mapping application, an occupancy prediction model, and a report generation module in order to discover if they can improve the efficiency of parking facilities. If engineers find out that the tools help in the improvement of the management of parking facilities, they will no doubt use them in the facilities.