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A Geospatial Analysis of the Vehicle Parking System in Galle Fort

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Abstract

A proper vehicle parking system is essential to the development of transportation systems in growing countries. Studying parking data to exploit flaws and finding solutions has also been hindered due to the dynamic nature of traffic and parking data. This research focuses on assessing the efficiency of the existing parking system in the Galle Fort, using parking demand and driver's parking choice behaviour. From the field survey and questionnaires, five locations were identified to cause a lack of parking space during their peak hours and dedicated days. The parking supply information was obtained by using remote sensing and field surveys. They were combined with traffic statistics to calculate the parking space demand in the study areas. It was found that the above-mentioned locations caused a lack of parking spaces in the area. By using existing literature, field survey and questionnaires, parking spaces were provided with a user favorability rating based on the orientation of the parking space, condition, safety, ease of searching and shade available to the parking space. Land use and parking demand have a strong visible relationship. Strategic designing of parking spaces is vital since a valuable space in a city should be efficiently utilized while incorporating a smooth traffic flow. Further information on the attitude of drivers in the region in choosing a parking space can be determined from this research. Overall, this study provides useful information about the parking system of Galle Fort which can assist in the creation of the future development plan.

Keywords: *Galle Fort, GIS, Parking choice behaviour, Parking demand, Parking supply, Parking system*