Study of Behaviour and Impacts of On-Street Parking in Kandy Town

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Abstract

Parking considered as one of the most important transport facilities in the urban area. The availability of parking, is related to the parking location, parking price, parking regulations and parking space available.

In a city, parking spaces are required by residents, employees, visitors and the moving traffic. With the increase in car ownership, parking is becoming a serious problem in cities, especially in the historical cities which were not designed for automobiles. This creates a tremendous pressure on parking, resulting in an increase in the demand for on-street parking in major arterial roads. Even though, the local government and regulatory bodies have introduced various initiatives with a number of policies and solutions, for parking in the city, the problems still exist due to inadequate understanding about the root cause of the parking problem.

For this study the historical city, Kandy, is taken as a case study, to analyse the major problem of on-street parking and to find out the root cause through the analysis of the behaviour, impact of the parking and the factors that influence drivers when parking.

As part of the methodology, on-street and off-street parking data, together with traffic volume data were collected and analysed, to identify the relationship between the on-street and off-street parking with the traffic volume. Further, GIS tools combined with the statistical analysis were used to find the demand for the two types of parking, at the same time determining the on-street parking attraction area and average walking distance to the on street attractive area, from the off-street parking area. Results show that motorists tend to park their vehicles on street in the morning hours. Also, results represents that users are attracted to park on the street without parking their vehicles in an off street car park, to reduce the walking distance to their destination.

In addition, impact of the on street parking of vehicles travel speed were analysed using a Google map related program, which calculates the travel time in pre-assigned road segments developed by the Planning Division, Road Development Authority. The data were analysed for three parking categories, based on the width of the road segments as narrow, medium and wide. The results show that a 10% rise in the on street parking caused the reduction of the speed of the traffic flow by 1Km/h and this is evident in all parking categories. This may be useful for policy makers to consider the role of on-street parking as part of their local area speed management strategies.

The study also presents a discussion on the policies of parking regulations and possible solutions for parking, in the area the study was conducted. The study envisaged that this would provide a more logical framework that could be adopted in decision making, and finding suitable solutions for traffic problems in similar situations.

Keywords: Parking, On-street parking, Off-street parking, Travel speed, parking behaviour

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