# PARK & RIDE: Factors Affecting to the Public Acceptance

, Gayan Liyanagunawardena[1], J.M.S.J. Bandara[2]

[1]Engineer, Resources Development Consultants, Colombo 04.

gayanli@gmail.com

[2]Professor, Department of Civil Engineering, University of Moratuwa, Sri Lanka.,

bandara@uom.lk

Colombo, the Capital of Sri Lanka, being the hub of commercial activities with the Port and other key business establishments, the vehicle fleet entering the city has increased steadily over the past decade. As a result the traffic congestion in Colombo has increased now to a higher level that is too intense within the city limits causing uneasy in travelling and inconvenience to road users. Further it was revealed that new registrations of the motor vehicles have been on the significant rise during the recent past and many of them added to the Colombo traffic fleet. *[http://www.sundaytimes.lk/120212/News/nws_18.html]* On the other hand traveling speed has reduced during peak hours and thus travelers wasting time on the roads, burning more fuel, as the number of vehicles on the roads keep increasing.

Park and Ride is a concept used in developed countries in which the car travelers who enter the city center (or congestion area) park the cars in the designated peripheral zone and then reach the destination by using public transport. This model believed to be helpful to reduce the car traffic flow into the city center, relieve the traffic density and perfect the urban traffic structure.

 "City Liner" was the first Park and Ride operation in Sri Lankan context implemented in 2009. It was proved to be unsuccessful due to various reasons. The operation was then reviewed and shortcomings were analyzed through a series of research and development and the idea had emerged with Park and Ride operation integrated with a Mass Rapid Transit (MRT) system for Colombo city.

The aim of this research paper is to analyze the major causes that contribute to a sustainable Park and Ride operation with integrated Mass Rapid Transit for the Colombo metropolitan region. In order to analyze the relationship between the public perceptive factors and the Park and Ride behavior intent, it is necessary to understand the perception levels of the related influencing factors of travelers through surveys. The study consists with distribution of a questionnaire to travelers and the feed-back from them, who travel to the Colombo city at least once a week. The survey was conducted both online and manual basis.

The Park & Ride system will operate along with a MRT concept but that would not solely address the car commuters. Hence over the phone interviews and questionnaires were focused on all categories of commuters who travel to Colombo. In addition the questionnaire focused on user preferences, drawbacks issues of existing system and expectations of proposed system.

In the analysis stage, acceptability of Park and Ride Scheme and expectations on improvements and characteristics were studied through frequencies, percentages, and other basic statistical methods to outline a generalized profile of daily travelers to Colombo city based on daily travelers personal travel behaviour. Meanwhile Chi-square tests were also performed to obtain a deeper understanding of peoples' personal background, Traveling behaviour and Park and Ride acceptability. However, if the assumption of Chi-squared test was found not to be satisfied the Fisher's exact test was used.

According to the survey results there were 112 daily travelers out of 136 samples collected. In general, for all modes of transport, daily travelers were highly concerned about the travel time to Colombo city. Meanwhile public vehicle users were unhappy with the safety, comfort and reliability of their service whilst private vehicle users were struggling to find suitable parking slots in the City.

According to the result of statistical analysis, daily traveler's income level, vehicle ownership, age, and education level play a vital role to the acceptability of new Park and Ride Scheme. But present transport conditions (mode of transport, travel time, travel distance and entering tome to Colombo city) don't affect much to the user perception for the Park & Ride.  New scheme must be designed to cater these major factors.

As per the survey results, it is evident that the daily travelers are expecting high assurance of passenger safety, parking vehicle safety and reliability of service to accept new scheme. Further, it is revealed that they are much concerned about the cleanness, operating frequency and availability of cross-city transit but not the seating facilities, terminals/parking sites facilities and cost of service.

Findings of this research about the user's perceptions can be helpful to design a successful and sustainable Park and Ride scheme to the suburb of Colombo city.

**Key words:** Park and Ride, Daily Travelers, Chi-squared test, Fisher's exact test, SPSS