

## **Improving the Efficiency of Existing Office Transport Services: A Connectivity-based Case Study**

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Employees who work/live in the Colombo district are faced with challenges when commuting. Colombo is a high-density area with heavy traffic congestion during peak hours. This paper examines factors such as cost, comfort, availability, access time, and travel time faced by these commuters. Presently, with increased affordability and availability, there is a perceivable increase in car ownership in both developed and developing nations. In high-density areas such increases in car ownership is unsuitable due to limited road space and impotence for expansion. Even where commuters use their private vehicles, they are not satisfied as presumed with their commute. This is due to the lack of driver discipline on high-density roads and the stress caused by fellow drivers. Therefore, it is unsuitable to promote car ownership/car commutes in high-density areas as it causes several other problems and directs overall satisfaction of road users to decline.

To pre-empt further increase in private vehicles, public transport services must be improved. Another means of addressing this demand would be to introduce ride-sharing services. This study focuses on approaches to optimize existing office transport services and increase their accessibility, thereby alleviating congestion during peak hours. This study recognizes that most commuters are satisfied with the service offered by office transport services compared with public transport and taxi services. Analysing data of 105 survey responses and further research on employees in the Colombo district, it is revealed that office transport services are underutilized as these vehicles are operated below optimal capacity along with several other administrative problems. This study recommends: collective office transport for the government sector using a cloud-based system and ride-sharing services for both public and private organizations through IT-based platforms as means of integrating these services to improve overall performance.

According to our research, a round trip cost 88.9% of public transport users less than 300LKR. Among users of taxis and private vehicles combined, 29.2% spent less than 300LKR while 65.0% spent above. For paid office transport services (Bus and Van) 75% spent below 300LKR and only 15% spent above. In terms of comfort and satisfaction, private transport services and office transport services offer far better satisfaction: the percentages of satisfied, moderate and dissatisfied commuters for public transport were 11.1%, 28.9%, 60.0%; for private vehicle these were 71.9%, 18.8%, 9.4% and for office

transport services (Bus and Van) these were 66.7%, 25.0%, 8.3% respectively. Public transport can be improved by integrating it with ride-sharing to increase overall level of satisfaction. While targeting Taxi/Private vehicle commuters, as ride-sharing services are costly relative to public transport services it is not projected to divert public transport users but increase it through improved connectivity and comfort. Promoting car-pooling can help reduce environmental pollution and total network travel time, accelerating the improvement of commuting opening the door to many opportunities in the long run.

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