

Preparation of Time, Bus and Crew Schedules for a Selected Passenger Transport Bus Company

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In Sri Lanka, passenger transport services are provided by both private sector and government sector. Government sector buses are operated by Sri Lanka Transport Board. This board is a well organizing institute. This institute has time table to operate their buses and there are bus and crew schedules system.

However, such organization cannot be seen in the private sector. Private sector buses are operated by individual operators and the permits are issued to these buses to operate only on one route. This ownership structure makes lot of difficulties in the passenger transport service such as less Average Vehicle Utilization, illegal operators, overloading, speeding and high accident rate, lack of time tables, unqualified and dissatisfied bus crews without job security, loss of revenue, high operating cost. As the solution for above difficulties National Transport Commission (NTC) has introduced Coordinated Rotated Timetables System to operate the government and private sector buses. If bus operations are carried out according to proper timetable there cannot be excess supply or demand, either overcrowding or lingering. Also, buses waiting at terminal for hours and hours and buses chasing behind each other on the road can be eliminated.

However, an integrated timetable system may have some shortcomings. Some of the major shortcomings are the majority of buses are operated by individual operators. As a result vehicle and crew assignment has to be integrated among the individual operators. Buses are authorized to operate only on routes assigned by the authorities, which issues them a permit. Therefore, the buses cannot be deployed on different routes according to passenger demand. It was effected to create lack of Average Vehicle Utility, less Reliability (Early morning and night trips), Overlapping, and Oversupply buses of the route

Due to this reasons National Transport Commission looked for further development. As a result, National Transport Commission has introduced *Passenger Transport Bus Companies*.

The aim of this study was to introduce an efficient scheduling system to the private passenger transport companies and analyze how to minimize the above shortcomings by the formation of Bus Company rather than individual operators:

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When considering the percentages improvements of this study, operated km per bus per day (AVU), average trips per bus per full operating day and average revenue hours were increased, while idle time, required buses per day, required bus fleet, average crew working hours, required drivers and conductors, total trips per day by all buses in routes, platform hours were reduced. According to that, the main objectives of the research are successfully achieved. It is evident that a proper timetable method can address all the problems identified in a passenger bus transport system, such as less Average Vehicle Utilization, illegal operators, overloading, speeding and high accident rate, lack of time tables, unqualified and dissatisfied bus crews without job security, loss of revenue, high operating cost etc. Considering these economic and social advantages it can be concluded that schedule efficiency and resources utilization can be maximized by preparing time, bus and crew schedules for bus companies rather than individual bus operators.