PREPERATION OF TIME, BUS AND CREW SCHEDULES FOR A SELECTED PASSENGER TRANSPORT BUS COMPANY

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Thesis submitted in partial fulfillment of the requirement for the degree Master of Transportation

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January 2010

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ABSTRACT
In Sri Lanka the public transport bus services are provided jointly by the state sector and the private sector. The state sector has schedules for buses and crews, but private sector buses are operated by individual operators and the permits are issued to only one selected route. As a result, the passenger transport services are difficult to manage due to the existing ownership structure. As a solution, the National Transport Commission recently introduced the formation of passenger bus companies.

In this study, it is assumed that the buses are operated by well organized passenger transport companies. In order to provide reliable and comfortable service to the passengers, the passenger transport companies should consider two important factors, buses and crews. These two factors should be scientifically designed in order to provide the best possible service to the passengers at the lowest possible cost.

Time tabling is the process of determining how frequently buses must operate on routes based on passenger demand. Bus schedules are process of assigning buses to trips to ensure that the total cost is minimized. Scheduling is carried out by assuming that the start and end time as well as the start and end locations of all trips are fixed. Crew scheduling is an important problem for a public transport company, since the crew cost are mostly dominant.

Furthermore, this study delivers a comparison between the efficiency of the new system and the previous system using performance indicators.