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**TRAFFIC ENGINEERING AND ENERGY IMPLICATIONS OF TRANSPORT  
MODAL CHANGES - A CASE STUDY IN KANDY**

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This study is conducted to estimate the potential for energy savings and benefits gained by reduced congestion, through transport modal changes in a city. This case study basically deals with the schooling trips in Kandy.

Every day, around 60,000 students travel to Kandy to attend two dozen schools in the city. As a result, schooling trips represent a major share of the morning peak hour trips. In Kandy the popular modes of transport for school trip are school vans, normal SLCTB buses and school buses. At present, 34% of all schooling trips are taken by school vans, with 29% using normal SLCTB buses and 13% school buses. The vehicles used in these modes have different vehicle occupancies, effects on the traffic flow and fuel consumption characteristics.

Demand characteristics of school trips are investigated through a questionnaire survey and interviews conducted at seven selected schools in Kandy, with a sample of 8,600. Modal split is determined using a sample of 18,700.

The study findings are presented for different scenarios of varying degrees of modal changes. However, as each of these modes are offering different qualities of service to the users, and due to the fact that the parental attitudes towards the mode choice are largely based on these, some of the selected extreme scenarios are not practically achievable. Nevertheless, the findings of the study show that there is a potential for up to 13% reduction in the morning peak hour traffic volumes (in pcu) and up to 60% saving in energy used in the school transport (expressed in terms of litres of diesel) through transport modal changes in schooling trips alone.