



## EFFECTIVENESS OF INTEGRATED TRAFFIC MANAGEMENT PLAN FOR A COMBINED FLYOVER SYSTEM IN COLOMBO CITY: A MICRO SIMULATION APPROACH

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### ABSTRACT

*Major arterial roads in city centres often face ever-increasing traffic demand. This is addressed periodically through developments to ease congestion at road links, improve integrated road connectivity. Towards this end, three flyovers are proposed in the Slave Island area, in Colombo. This high investment project of the Sri Lankan Government expects that the flyovers would, in addition to prevent peak-hour traffic delays from the frequent road closures at two railway gates. The project was also expected to contribute to congestion relief in the adjoining road network.*

*This research attempts to investigate the extent of the outcomes expected of the integrated traffic management in the project impact area. A traffic demand analysis was carried out for the entire road network in the vicinity of the project impact area using PTV Vissim software and related analysis. Moreover, the present and future land use developments are considered in assessing the improvements to network connectivity (and what operational management capacity) required over time. Alternative options were also tested to identify the most feasible traffic management system connecting the proposed flyover. The intersection capacities and pedestrian movements were considered using Origin Destination data from 2018. Results reveal that delays due to railway gate closure are reduced, even though significant diversion of traffic to the proposed flyover network is not observed.*

**Keywords:** *Integrated Traffic Management, Flyovers, Demand Analysis, Congestion Alleviation, Urban Traffic Management, Rail Crossings, Traffic Delay and Queuing*