FRAMEWORK FOR SELECTING CENTRE MEDIAN OPENING LOCATIONS

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Declaration of the Candidate and Supervisor

I declare that this is my own work and this dissertation does not incorporate without acknowledgement any material previously submitted for a Degree or Diploma in any other University or institute of higher learning and to the best of my knowledge and belief it does not contain any material previously published or written by another person except where the acknowledgement is made in the text.

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Abstract

Currently, many urban roadways in Sri Lanka are being rehabilitated and improved to multi-lane facilities with introducing raised road centre medians. Therefore, the provision of centre median openings for right turns, cross traffic movement & "U" turns is essential.

The study attempts to give a broad framework to adopt in making decisions with regarding to provision of centre median openings by identifying the relevant parameters that should be incorporated and evaluating the impact on traffic operations due to various configurations of centre median openings.

Road network connectivity, road safety, right turning traffic volume density, positioning of road side developments are some of the factors which influence the decision for selecting a proper location for median opening. A microscopic traffic simulation model developed with PTV VISSIM was used to optimize the selected median opening locations with respect to travel time and total delay of the road network. A major urban road corridor was modelled in VISSIM as a case study.

The study found that the median opening spacings are site specific and recommending a general spacing value may not be practical with regard to Sri Lankan Road network. Median opening closure will result to increase the delay to local traffic largely and cannot expect a significant travel time reduction in the main road corridor in the absence of turning/storage areas. It is envisaged that this study would provide a more logical framework for practitioners to adopt in making decisions with regard to centre median opening in urban highway planning.

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List of Abbreviations

RDA	-	Road Development Authority
FDOT	-	Florida Department of Transportation
TRB	-	Transportation Research Board
NCHRP	-	National Cooperative Highway Research Programme
TWLTL	-	Two-Way Left-Turn Lane
AGRD	-	Austroads Guide to Road Design
SLTB	-	Sri Lanka Transport Board