

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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Table of Contents

Declaration of the Candidate and Supervisor.....	i
Abstract.....	ii
Acknowledgement.....	iii
Table of Contents.....	iv
Table of Figures.....	vii
Table of Table.....	vii
List of Abbreviations.....	viii
1 Introduction.....	1
1.1 General.....	1
1.2 Research Problem.....	3
1.3 Research Objectives.....	3
2 Literature Review.....	4
2.1 Introduction.....	4
2.2 Median Handbook, Florida Department of Transportation (FDOT).....	4
2.2.1 General introduction.....	4
2.2.2 Florida median opening decision process and public involvement.....	6
2.2.3 U-turns in Advance of a Signal.....	7
2.3 Access Management Guidelines, city of Tucson, Arizona.....	8
2.4 Guide to road design part 4: intersections and crossings – general- Austroads 2009 10	
2.5 TRB Access Management Manual- 2003.....	13
2.5.1 General.....	13
2.5.2 Medians and public involvement.....	13
2.6 Kentucky access management manual.....	14
2.7 National Cooperative Highway Research Program (NCHRP) Report 348.....	14
2.8 The Use of Vissim microscopic simulation model to evaluate the operational impacts with raised medians.....	16

2.9	Current Practice in Sri Lanka	17
3	Methodology.....	18
3.1	Study of international access management guidelines.....	18
3.2	Study of research papers related to vissim simulation/median opening	18
3.3	Derive a minimum median opening spacing value	18
3.4	Selection of a road corridor	19
3.5	Gather turning movements traffic and geometric data.....	19
3.6	Select best locations for median openings.	19
3.7	“VISSIM” microscopic simulation model.	19
3.8	Optimization of opening locations through “VISSIM”.....	20
4	Factors affecting Centre median Openings	21
4.1	Right turning traffic volume density	21
4.2	Road network connectivity.....	22
4.3	Concentration on Traffic Safety	23
4.3.1	Stopping sight Distance	23
4.3.2	Intersection sight distance.....	24
4.3.3	Sight distance for “U” turns	24
4.3.4	Landscaping and sight distance issues	25
4.4	Concentration on Traffic Efficiency	25
4.4.1	Consideration Functional area of the intersection	25
4.4.2	Provision for queue storage	26
4.4.3	Decision Distance	26
4.4.4	Deceleration distance	27
4.4.5	Concentration on public requests.....	28
4.5	Other considerations.....	28
4.5.1	“U” turns in advance of a signal	28
4.5.2	Openings for emergency cases.....	29

4.5.3	Issues with the directional opening.....	29
5	Development of Framework for Center Median Opening Decision Making.....	30
5.1	Framework Development.....	30
5.2	Simplified Work Flow Chart for the Centre median opening selection process.....	31
5.3	Case Study on Galle Road (From Maliban Junction to Temples road junction)	32
5.3.1	Roadway, geometric features, traffic volumes, speeds, access density etc.	32
5.4	Step 1: identification of existing situation.....	33
5.5	Step 2: carryout necessary surveys for traffic modelling and investigations.....	34
5.6	Step 3: Identify potential locations for providing median openings	35
5.6.1	Minimum spacing as per the functional requirements.....	35
5.7	Step 4: Check for safety requirements	37
5.8	Step 5: Model the corridor using VISSIM	37
6	Conclusions	43
6.1	Summary of the research study methodology and findings	44
	45	
6.2	Further studies needed.....	46
7	References	47

Table of Figures

Figure 1-1 Existing Median Openings	1
Figure 1-2 Full & directional median openings	2
Figure 2-1 Functional Area of a Median Opening	5
Figure 2-2 U - Turn before Signal	7
Figure 2-3 Typical Mid-block median Opening	11
Figure 4-1: Connectivity through Hena Road.....	22
Figure 4-2 Functional Area of an Intersection	26
Figure 4-3 Issues at the Direction Openings.....	29
Figure 5-1 A section of Galle Road	32
Figure 5-2:Galle road cross section	32
Figure 5-3:Study Area.....	33
Figure 5-4:Potential Opening locations and Spacings	36
Figure 5-5:Road Network Model in VISSIM	38
Figure 5-6:Road Network Model in VISSIM	39
Figure 5-7 Finalized Opening locations and Spacings	41

Table of Table

Table 2-1 Median Opening Spacing - FDOT	5
Table 2-2 Minimum Spacing Values	8
Table 2-3 Guidelines for Spacing	9
Table 2-4 Suggested Kentucky Median Criteria.....	14
Table 2-5 Median Spacing – NCHRP.....	15
Table 2-6 Guideline for Spacing of Unsignalized Median Openings.....	15
Table 4-1 Minimum Stopping Sight Distance	23
Table 4-2 Minimum Intersection Sight Distance.....	24
Table 4-3 Sight Distance for U Turns at un-Signalized Median Openings	25
Table 4-4 Required decision distances	27
Table 4-5 Deceleration Distance Required	27
Table 5-1 Travel Time of Galle Road with/without considering the opening at Sri Dharmadara road	38
Table 5-2 Travel Time of Galle Road with/without considering the opening at St Ritas road.....	39

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
AGRDR	-	Austroads Guide to Road Design
SLTB	-	Sri Lanka Transport Board