

**STUDY OF AIRPORT CURBSIDE ROADWAY AND  
PARKING AREA OPERATIONS AT  
BANDARANAIKE INTERNATIONAL AIRPORT**

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**STUDY OF AIRPORT CURBSIDE  
ROADWAY AND PARKING AREA  
OPERATIONS AT  
BANDARANAIKE INTERNATIONAL AIRPORT**

**A PROJECT REPORT**

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MASTERS IN TRANSPORTATION



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October 2014

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### Declaration

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## Abstract

Airport Curbside, where travelers and their baggage enter exit the terminal, and parking area are important components in airport land-side facilities. Passengers expect safe and efficient roadway operations even as volumes increase, but the design and capacity of the curbside are often constrained by the terminal building and the proximity of on-airport land-side infrastructure. The operating characteristics of airport terminal curbside differ significantly from those of most other roadways due to several reasons such as vehicle dwell time, maneuvering of vehicles to and from adjacent lane, variation in demand etc. The capacity of a curbside roadway is defined both by the number of vehicles that can be accommodated while stopping to pick up or drop off passengers and the number that can be accommodated while traveling past the curbside in the through lanes. Therefore a study of operations at curbside and parking area is important to identify issues that will occur based to existing and future demand levels.

The main focus of the research is on the evaluation of vehicle operations and passenger behavior at the airport terminal access roadway, weaving segment, arrival and departure curbside roadways and terminal car park. Analysis of vehicular traffic, travel mode choices, and curbside roadway vehicle queues, vehicle dwelling times, passenger occupancy time at curbs and passenger processing and walking times will provide useful information for developing plans for operational improvements as well as for future expansions. Using the available data, the demand and capacity at these facilities are evaluated to estimate the existing level of service. In addition, measures were identified to improve the operational efficiency of these facilities and design improvements are proposed to ensure good operational efficiency for the forecast future demand.

Key words: curbside—weaving segment—terminal —dwelling time

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## Content

Declaration.....	i
Acknowledgement.....	ii
Abstract.....	iii
Table of Content.....	iv
List of Figures.....	vi
List of Tables.....	vii
Nomenclature.....	viii
Abbreviations.....	ix
1 Introduction.....	1
1.1 Bandaranaike International Airport .....	1
1.2 The establishment of BIA .....	1
1.3 BIA's future realizations.....	2
1.4 Research Objective .....	3
2 Literature Review.....	4
2.1 Airport Roadway Users.....	4
2.2 Types of Airport Roadways.....	6
2.3 Operational characteristics of Airport roadways.....	8
2.4 Airport Roadway Weaving Section Operations.....	9
2.5 Airport Operational Analysis .....	11
3 Field Survey.....	19
3.1 Survey Criteria.....	20
3.1.1 Airport Access roadway.....	20
3.1.2 Airport Departure and Arrival curbside roadways.....	21
3.1.3 Airport Terminal car park .....	21
3.1.4 Airport circulation roadway .....	22
3.1.5 Airport weaving section .....	22
3.1.6 Airport Exit .....	23
3.1.7 Data sheets .....	24
3.2 Airport Operation Data Analysis .....	27
3.2.1 Passenger and Aircraft Movement.....	27
3.2.2 Airport Roadway facilities .....	28
3.2.3 Arrival Curbside.....	35



3.2.4	Departure curbside .....	41
3.2.5	Terminal Car park .....	47
3.2.6	Vehicle Queue.....	51
4	Analysis of Airport Terminal Area Roadways.....	55
4.1	Vehicle Queue.....	55
4.1.1	Departure Porch Entrance .....	55
4.1.2	Arrival porch Entrance.....	57
4.2	Airport Roadway facilities .....	58
4.2.1	Departure curbside roadway .....	59
4.2.2	Arrival curbside roadway .....	60
4.3	Airport terminal Access roadway .....	61
4.4	Airport weaving section roadway .....	62
4.5	Airport terminal car park performance .....	65
5	Performance Analysis for future passenger Demand.....	67
5.1	Passenger Demand Growth.....	68
5.2	Access roadway .....	70
5.3	Departure curbside .....	72
5.4	Arrival curbside .....	72
5.5	Curbside entrance vehicle queue.....	73
5.5.1	Departure curbside .....	74
5.5.2	Arrival porch Entrance.....	75
5.6	Improving Airport Curbside and Terminal Area Roadway Operations.....	75
5.6.1	Issues in Existing Roadway Facility .....	76
5.6.2	Potential Terminal Area Roadway Improvement Measures .....	79
5.6.3	Typical Curbside Roadway Problems.....	84
5.6.4	Potential Physical Improvements to Enhance Curbside Operations .....	86
6	Conclusion .....	89
6.1	Summary.....	89
	References.....	93
	Appendices.....	i-xv



## List of Figures

Figure	Title	Page
2.1	Airport Roadway Configuration	8
2.2	Airport Weaving Section	10
3.1	Airport Access roadway	20
3.2	Circulation roadway	22
3.3	BIA Roadway configuration	23
3.4	Airport Exit	23
3.5	Total Passenger Movement	27
3.6	Monthly Passenger Movement	28
3.7	Total Vehicle movement	39
3.8	Modal Choice	30
3.9	Vehicle Dwellings Inner and Outer porch	31
3.10	Vehicle Movement (Arrivals)	32
3.11	Modal Choice (Arrival)	33
3.12	Vehicle Movement (Departure)	34
3.13	Modal Choice (Departure)	34
3.14	Number of aircrafts Vs Ground vehicles (arrivals)	35
3.15	Arrival Curbside Passenger Behavior	37
3.16	Vehicle Dwellings (Arrival)	39
3.17	Passenger Waiting time	40
3.18	Vehicle Movement (Departure)	41
3.19	Vehicle Dwellings	44
3.20	Passenger Dwellings	45
3.21	Local and Foreign passenger Behavior	47
3.22	Terminal car park vehicle In & Out	48
3.23	Vehicle Accumulation (Night)	49
3.24	Vehicle Accumulation (Day)	50
3.25	Parking Duration (Night)	51
3.26	Parking Duration (Day)	51
3.27	Vehicle Queuing time	53
3.28	Arrival porch vehicle queue	54
3.29	Car Park Entrance vehicle queue	54
5.1	Allowable Maximum number of aircrafts	68
5.2	Passenger volume Projection	69
5.3	Two Service Channel Operation	74
5.4	Access Roadway lane changes	77
5.5	Lane changes at the departure curbside roadway	77
5.6	Lane changes at the Airport Exit	77
5.7	Opposite Direction Three wheel movement	79
5.8	Congested Terminal Entrance	87



### List of Tables

Table	Title	Page
3.1	Arrival curbside Average (Per) Vehicle statistics	38
3.2	Arrival curb Average (per) air passenger statistics	38
3.3	Departure curbside Average (per) Vehicle statistics	42
3.4	Departure curbside Average (per) air Passenger statistics	43
3.5	Average Local Passenger Staying Time(min) at the Departure curb	45
3.6	Average foreign passenger Staying Time(min) at the Departure curb	46
3.7	Terminal Car Park Vehicle In & Out	48
4.1	Comparison of calculated and observed vehicle Queue	56
4.2	Comparison of calculated and observed vehicle Queue	57
4.3	Queuing Time Standard	58
4.5	Level of service criteria for airport roadways	59
4.6	Level of service airport terminal area access and circulation roadways	61
4.7	Level of service criteria for weaving Segments	63
4.8	Terminal Car park Performance	66
5.1	Passenger Movement	69



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## NOMENCLATURE

pcu passenger car unit

mph miles per hour

kmph kilometers per hour



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## ABBREVIATIONS

BIA	Bandaranaike International Airport
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
AASL	Airport and Aviation Services Limited
GoSL	Government of Sri Lanka
ACRP	Airport Cooperative Research Program
TDS	Transport Demand Management
ITS	Intelligent Transport Systems



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