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

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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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NOMENCLATURE

pcu	passenger car unit
mph	miles per hour
kmph	kilometers per hour

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