Aircraft Ground Movement Delay: A Descriptive Statistical Analysis at Kuala Lumpur International Airport

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Abstract

Delay commonly used in classifying the level of service (LOS) hence indicating the traffic performance of a road segment. For aircraft ground movement, delay contributes directly to the increasing of operational cost, accident possibility, noise pollution and ground emission. In this study, Kuala Lumpur International Airport, KLIA airside configuration was marked as nodes in Google Earth®. Ground movement of each aircraft from nodes to nodes is recorded based on the aircraft transponder signal. The Database was then analyzed using MySQL via Cygwin64 interface. A detail preliminary descriptive statistical analysis was carried out to get more insight of the current airside ground logistic performance and furthermore determine the delay patterns and characteristics. This result is crucial for future research of optimizing aircraft airside ground movement particularly at KLIA.

Keywords
Delay; Aircraft Ground Movement; Preliminary Statistical Analysis

Biography

M. Izuddin Md Ithnan is a lecturer at the Department of Geotechnics and Transportation, Faculty of Civil Engineering, Universiti Teknologi Malaysia. He earned B.Eng. in Civil Engineering and Masters in Transportation and Highway (Civil Engineering) from Universiti Teknologi Malaysia. He is currently conducting his PhD study at Faculty of Mechanical Engineering, Universiti Teknologi Malaysia. His research interests are regarding improving airport airside logistic activity, focusing on aircraft rerouting, gate management and runway assignment.

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Jafri Mohd Rohani is a senior lecturer at the Department of Materials, Manufacturing & Industrial Engineering, Universiti Teknologi Malaysia. He has two Bachelor Degrees in Industrial Engineering and also in Mathematical Statistics from New Mexico State University, USA in 1988. In 1995, He did his Masters Degree at the same university, majoring in Industrial & Systems Engineering. His PhD is in Mechanical Engineering, earned from Universiti Teknologi Malaysia in 2014. His professional memberships are with the American Society of Quality (ASQ, USA), Human Factor Society of Malaysia, and Licensed Methods-Time Measurement (MTM-1) Blue
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