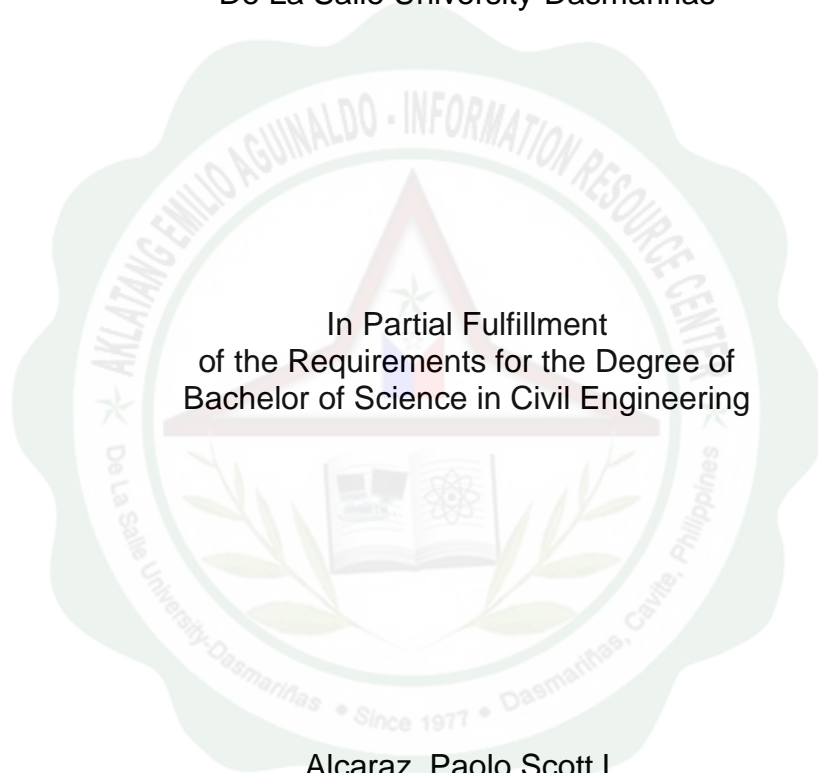


CORRELATION BETWEEN PAVEMENT CONDITION AND EQUIVALENT
SINGLE AXLE LOADING IN CAVITE-BATANGAS ROAD

A Thesis Presented to the Faculty of Civil Engineering
College of Engineering, Architecture and Technology
De La Salle University-Dasmariñas



In Partial Fulfillment
of the Requirements for the Degree of
Bachelor of Science in Civil Engineering

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March 2011

ABSTRACT

Traffic loading is one of the factors that affect the deterioration or the condition of the road pavement. This study was conducted to determine the relationship between loading of trucks and pavement condition at Cavite-Batangas road in Cavite. In this study the traffic counts and pavement conditions of Cavite-Batangas Road for five consecutive years, 2006, 2007, 2008, 2009 and 2010 only were considered. After analyzing all the data, both given and computed, the researchers have concluded that the actual ESAL exceeded the DPWH design criteria based ESAL for the year 2006, 2007 and 2008. The highest percent difference was 18.67% which was for the year 2006. The relationship between pavement condition and ESAL was determined through regression model and was given by the equation $p = 2 \times 10^{-5}a - 0.628$ where “p” is the pavement serviceability rating while “a” is the number of single axle load. The equation means that for every 81,400 ESAL there would be an increase in the pavement serviceability rating. It would take 5,535,200 ESAL for a road to degrade from good to bad condition, if other factors such as weather, condition of the subgrade and materials used were not considered.

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