VEHICLE ROUTING OPTIMIZATION WITH SOFT TIME WINDOWS

IN A SUBDIVISION IN STA. ROSA LAGUNA

An Undergraduate Research Presented to

the Mathematics Department

College of Science and Computer Studies

De La Salle University– Dasmariñas

In Partial Fulfillment of the Requirements for the

Degree of Bachelor of Science in

Applied Mathematics

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December 2012

ABSTRACT

This study was conducted to determine whether the route of the shuttles in a subdivision in Sta.Rosa Laguna is optimal so that the waiting time of the passengers will also be minimal. Given the situation, the researchers looked for a solution that will minimize the routes taken by the vehicle in order to eliminate an unnecessary route that leads to delay of the travel.

The data gathered were the total of passengers served, waiting time of the passengers and the time the shuttle arrives and leaves. The design that contains the route of the shuttle was simulated in a computer program called OPTIMAP. The researchers also compared the existing routing of the transportation group and the proposed routing of the researchers in which routing system minimizes the waiting time of the passengers in LBA.

The researchers might have saved a small amount of the total distance travelled, but as far as the waiting time of the passengers was concerned, more than 70% was saved due to the effectiveness of the route and proper waiting system implemented for the shuttle during the length of the simulation.

The results showed that the current routing of the LBA shuttles might be effective when it comes to decreasing the travelled distance but the satisfaction of the passengers was highly affected due to a longer waiting time.

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