IMPACT ANALYSIS OF ROAD NETWORK PERFORMANCE
BY DEVELOPING BY PASS JAYAPURA-SENTANI

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ABSTRACT

Jayapura city is the central economic of Papua province with the most densely population and activity. As a central economic region of Papua province, the road of Jayapura loaded by urban traffic and regional traffic. With the highest load of vehicle that must be accommodated, regional road shows there has potency for decreasing its performance. As they are decreasing road performance potency leads us to realize the importance to study about improving performance that can be done. There is an alternative to improve performance such as “by pass” planning. By pass planning can decrease urban traffic of Jayapura city, where regional traffic doesn’t need pass the urban road.

In this research, analyzed has done in several phase such as, trip distribution modeling, trip assignment modeling, “by pass” designing and also intersection analyzing. Trip distribution modeling has using gravity model, whereas trip assignment modeling has done by “proportional traffic assignment and iterative all-or-nothing” method. Both of that modeling has been done to know the approximation the by pass traffic over the next ten years. This traffic determination will be used for designing by pass. The data on 2009 will become as a basic data to know by pass planning effect and intersection analyzing that be formed by the existence of “by pass” road.

By this research result we can know that improvement road performance can be done by “by pass” designing. This alternative can improve Sentani road performance by the indicator where DS value decrease from 0.99 to 0.67 and Kotaraja road by the indicator where DS value decrease from 1.03 to 0.61.

Key words: By Pass, Trip Distribution, Trip Assignment, Road Performance, Unsignalized Intersection.