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ROAD GEOMETRIC AND COMPLEMENT EVALUATION IN MADA GAJAH ROAD, BATAM

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Abstract

The construction of the Gajah Mada road, which has long needed a re-evaluation because there can be differences in vehicle traffic conditions in planning with current traffic conditions, and extreme road geometric conditions without warning signs and inadequate traffic signs can trigger traffic conflicts and even accidents.

Evaluations carried out included horizontal alignment components, vertical alignment components and road complements especially traffic signs and road markings by comparing the existing state of road geometry and road complement with current traffic conditions such as average vehicle volume and actual average speed. The evaluation carried out refers to the module Procedures for Calculating Urban and Intercity Road Geometry No.038 / TBM / 1997, and for complementary road evaluations refer to the Department of Transportation module on Placement of Road Equipment Facilities.

In the analysis of horizontal alignment which refers to the maximum maximum speed of 60.3 km / hour, the minimum radius value of 119.29 m is obtained and the minimum radius of existing existing 233.71 m then the conditions are appropriate, the free area of the bend is obtained from the analysis 2,844 m and on the existing condition 3.2 m then the conditions are suitable, widening the traffic lane on the bend obtained from the analysis of 1.1 m and in the existing conditions there is no widening of the path that occurs then the existing conditions are not suitable, superelevation of the analysis of 1.74% and the existing condition is 8.57% so it is appropriate, and from the path width and shoulder analysis analysis, the ideal width is 7 meters for the track and 2 meters for the shoulder, on the existing condition of the 7 meter track width and 2 meter shoulder, the existing conditions are appropriate. In the analysis of vertical alignment obtained the maximum slope value of 8% and at the existing condition 8.56% it is not suitable, the vertical arch length of the analysis obtained 288.48 m and the existing condition 178.77 m then it is not appropriate. In road complements such as signs because some alignment conditions are not appropriate, there is a need for signs of sloping uphill road signs, sharp left turn warning signs and warning signs for maximum vehicle speed 50km / hour, road markings need to be repainted longitudinal and crossing markers so that drivers can know the lane boundary passed.

***Key word**: Geometric, Horizontal Alignment, Vertical Alignment, road complement*