PRIORITY DETERMINATION ANALYSIS OF ROAD LIGHTING ARRANGEMENT IN PONOROGO

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ABSTRACT

Road as transportation infrastructure have a leading role in distributing goods, increasing economic, social, culture and defence. Road lighting as a part of road miscellaneous, is needed to support road performance. According to SNI 7391-2008, road lighting is located at right side or left side or median of road. Road lighting have function to give light for road or road surrounding.


There are 812 road lighting in study area. The source of light include 58% of high pressure mercury lamp, 12,68% of fluorescent lamp, 9,24% of high pressure sodium gas lamp (SON), 0,37% of solar cell and 19,70% of non standarization lamp. The range of light quality are 78 road lighting with good quality, 471 road lighting with medium quality and 263 road lighting with poor quality. The type of infrastructure of road lighting are 454 road lighting with catenarian, 282 road lighting with non standarization material and 78 road lighting with standarization material.

Priority is decided with analytic hierarchy process method. The first priority is border of Madiun – Ponorogo with 0,119 weight, having high priority in road condition criteria, state plan criteria, and financial criteria. The result of sensitivity analysis is that road condition criteria is most sensitive to change priority. Priority 19 and 20 change as a result of increasing weight of road condition criteria as 2%.

Keyword: road lighting, analytic hierarchy process