

ABSTRACT

Dinas Pekerjaan Umum dan Penataan Ruang (DPUPR) Bandung regency sub-sector of road maintenance is an executing element of government affairs that has responsibility in realizing road maintenance activities to increase DPUPR's objectives regarding road stability and comfort. The instability of road conditions that lead to increased damage to local roads in Bandung regency, is one form of problem caused by the weak monitoring process of road maintenance.

This research focuses on the monitoring process of the implementation of road maintenance, so that further identification is needed regarding the improvement of ongoing business monitoring processes to maintain stable road conditions and increase the work objectives of the DPUPR. The process improvement leads to near real time (NRT) reporting processes and efficient management of monitoring data in the system. To deal with the problem of a monitoring system that is identical to the needs of geospatial data, the system is developed through an alternative approach using the framework of Free Open Source and Software for GIS (FOSSGIS). Thus, the design and development of geographic information system applications is carried out to monitor the implementation of web-based road maintenance through an object-oriented design approach.

Based on the results of the development and testing of the system according to the assessment variables related to visual clarity, consistency, and effectiveness of the application it has a good enough value to operate. Application capabilities can be an alternative in overcoming monitoring problems. Although the first version of the application has advantages and disadvantages, it becomes the basis for consideration for future application improvements.

Keywords: Geographics information system, monitoring, and FOSSGIS