

**IDENTIFICATION AND CLASSIFICATION OF
FLEXIBLE ROAD DAMAGE USING UAV
(UNMANNED AERIAL VEHICLE) TECHNOLOGY
(Case Study : Jalan Siak, Kecamatan Mandau, Kabupaten
Bengkalis, Provinsi Riau, Sta 0+000 S.d Sta 1+000)**

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ABSTRACT

Road transportation infrastructure that is able to provide supporting services in the fields of education, work, and others. Damage to local roads often occurs in various regions, especially in the area of Bengkalis Kec. Mandau at this time is a very complex problem, such as the occurrence of long travel times, congestion, traffic accidents. The development of more efficient and sophisticated data collection methods along with technological advances is an urgent need. In recent years UAVs (Unmanned Aerial Vehicles) have become a highly desired technology in the planning field. UAVs can be relied upon for inspection of road defects on flexible pavement surfaces.

The resulting aerial photography images were processed using Agisoft Metashape software on the studied road sections. Six types of damage were identified, namely: cracks, voids, patches, grooves, grain dislodgement and potholes. The results of the Aerial Photo Processing were compared with the results of the manual inspection, which used volume and area data, the results were within the same range, but the proposed UAV technology may be better, time-saving, and easier to implement than the manual inspection method. Analysis of the comparison of the accuracy of the results of manual inspection volume with the results of processing using Agisoft Metashape software was for damage to holes with an accuracy of 86%, grain release 87% and patches 89%, with an average accuracy of 86% with various considerations that occur during manual inspection.

Keywords : Identification, Orthophoto, Unmanned Aerial Vehicle