The Design of Geographic Information System (GIS) Prototype for Optimizing Road Infrastructure Performance

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Abstract. Road infrastructure management requires very detailed information to carry out its main function to realize excellent road infrastructures in order to support the mobility of people and goods. Geographical Information Systems (GIS) have been used extensively to manage this information. This study aimed to design a GIS prototype based on open source services to provide information about roads in West Sumatera, Indonesia. Google-Maps API application used to provide those information. Ten main roads in Padang City chosen as a model with consideration to represent the functions of roads in West Sumatera. By utilizing secondary data from relevant road authority and process it with coding and integration with the Google-Maps, this study has managed to design the GIS prototype. This information will be useful as a guideline for the stakeholders in