ABSTRACT

Pematang Siantar is experiencing rapid growth, requiring the government to provide adequate urban infrastructure, including the construction of Pasar Horas. However, this development is expected to increase traffic volume in the surrounding area, potentially reducing road performance and causing congestion. This study aims to measure the performance of the affected roads and determine the necessary mitigation measures. To ensure accurate data, the roads are divided into observation segments. With a traffic growth rate of 4.83%, the results show that there are 3 road segments with an A service level, 12 segments with a B service level, and 30 segments with a C service level. Jalan Merdeka (degree of saturation 0.65) and Jalan Sutomo (0.60) both have a C service level, indicating that traffic flow remains stable, but vehicle speed is starting to be restricted. To address these issues, traffic management is required, including the installation of traffic signs, road marking adjustments, enforcement of parking regulations on the road, management of vehicles entering and exiting Pasar Horas, and improvements to traffic signal control (APILL) at intersections to enhance traffic flow.

Keywords: Degree of Saturation (DS), Level of Service , Road Performance