

ABSTRACT

The Jakarta-Cikampek toll road is a toll road that was inaugurated in Indonesia on December 12, 2019. This toll road is one of the quick accesses from Jakarta to Bandung and vice versa. At present, the toll road is experiencing a density of road users which of course greatly affects the quality of data services along the toll road. Almost all human activities need good quality data services, of course, makes users uncomfortable who find it difficult to communicate or do activities.

This final project proposes improvements to the video streaming service on the Long Term Evolution (LTE) network. The results of the drive tests carried out along toll lanes using software show signal attenuation that is at the KPI threshold. The data that has been obtained through a driving test is used to calculate capacity planning and coverage planning. Then an analysis of these data is carried out with several parameters, namely, Reference Signal Received Power (RSRP), throughput, Signal to Interference plus Noise Ratio (SINR), BLER (Block Error Ratio) and, User Not Connected. The proposals given to improve the video streaming service are physical tuning and carrier aggregation.

From the analysis, it was found that the average RSRP value was -92.46 dBm which increased to -75.99 dBm after repairs were made. The SINR average value obtained was 7.84 dB after the repair had increased to 8.77 dB. Meanwhile, the throughput value increased from 26.88 Kbps to 31.459 Kbps, and the BLER value was 0.02%. As well as the number of not connected users obtained from the existing network of 203 users, had increase after repairing the network to 2 users.

Keywords: Streaming Video, capacity planning, coverage planning, RSRP, SINR, Throughput, user not connected, BLER and Japek Elevated.