

## ABSTRACT

The existence of the number of users of GSM cellular networks are still very much at times can lead to traffic congestion. The density of traffic that caused the channels in the cell no longer sufficient to support the success of a call between users. To support the success of the call one way to do this is to add a channel traffic. The addition of traffic channel (TCH) can be realized with the implementation of the Common BCCH BTS (CBCCH).

CBCCH is an implementation of the BTS where 2 existing BCCH in the GSM and DCS on the same site into one that BCCH timeslot on the first worn by DCS BCCH can be replaced with a traffic channel (TCH). So with the implementation of BTS CBCCH can save timeslot channel and increase traffic but with the same quality by using two BCCH.

This study discusses the analysis of traffic capacity and performance between before and after implementation CBCCH in Bandung area BTS Gedebage with case studies PT Indosat. The results of the analysis that has been done shows that traffic capacity after implementation CBCCH better than before implementation CBCCH to see that the value of TCH availability from 19 channels to 21 channels on Gedebage1 sector and a SDCCH channel capacity declined from 31 channels to 26 channels on Gedebage1 sector. In this study also found that the results show that the performance after implementation CBCCH better than before CBCCH implementation, this can be seen from the CSSR value increased from 97.96% on DCS\_Gedebage1 and 97.71% in Gedebage1 to 99.23% on C\_Gedebage1, the value of HOSR parameter increased from 99.03% in the DCS Gedebage1 and 98.43% in Gedebage1 to 99.1% in C\_Gedebage1 and the DCR values decreased from 1.1% in the DCS Gedebage1 and 1.18% in Gedebage1 to 0.99% in C\_Gedebage1.

**Keyword : Common BCCH, TCH Availability, SDCCH Availability, Call Setup Success Rate (CSSR), Drop Call Rate (DCR), dan Handover Success Rate (HOSR)**