

ABSTRAK

Nama : Laras Dewi Girang
Program Studi : Teknik Lingkungan
Judul : Pengendalian Tingkat Kebisingan Kereta Api Dengan *Barrier*
Di Permukiman Sekitar Rel Kereta Api (Studi Kasus: Kelurahan
Cibangkong, Kota Bandung)
Pembimbing I : Mila Dirgawati, S.T., M.T., PhD.
Pembimbing II : Dr. Eng. Didin A. Permadi, M.Eng.

Moda transportasi kereta api sering menghasilkan bising yang cukup tinggi dan memberikan dampak bagi masyarakat yang tinggal di sekitar rel kereta api. Penelitian ini bertujuan untuk mengetahui tingkat kebisingan kereta api berdasarkan ada tidaknya *barrier*, mengetahui tingkat kebisingan kereta api yang terjadi sebelum dan saat pandemi COVID-19, serta memberikan rekomendasi pengendalian kebisingan kereta api dengan *barrier* alami dan buatan, khusus di Kelurahan Cibangkong. Pengambilan data bising diwakili oleh 10 titik pengukuran yang diukur selama 24 jam dengan menggunakan aplikasi *sound meter*. Parameter tingkat kebisingan (L_S , L_M , L_{SM}) dihasilkan dari analisis koreksi aplikasi *sound meter* terhadap alat *Sound Level Meter* (SLM). Penelitian ini dilakukan di 3 lokasi yaitu Kelurahan Cibangkong tanpa ada *barrier*, Kelurahan Kebon Gedang dengan *barrier* alami, dan Kelurahan Kebon Jayanti dengan *barrier* buatan. Hasil tingkat kebisingan kereta api yang telah terukur (L_S , L_M , L_{SM}) melebihi batas maksimum tingkat kebisingan sesuai peruntukan kawasan permukiman sebesar 55 dBA. Pemilihan rekomendasi terbaik dalam penerapan *barrier* dilihat dari tingkat reduksi bising kereta api yang tinggi. Penerapan *barrier* alami dan buatan yang terpilih di Kelurahan Cibangkong masing-masing menghasilkan reduksi bising yaitu 10.6 dBA dan 32.3 dBA.

Kata kunci: Kebisingan, Kereta Api, Permukiman, Media Penghalang

ABSTRACT

Name : Laras Dewi Girang
Study Program : Environmental Engineering
Title : The Control of Train Noise Levels with Barriers in Settlements
Around the Railroads (Case Study: Cibangkong Village,
Bandung City)
Counsellor I : Mila Dirgawati, S.T., M.T.,PhD.
Counsellor II : Dr. Eng. Didin A. Permadi, M.Eng.

The rail transportation mode in urban areas consistently produces noise with high levels and will have an impact on citizens who live around the railroad track. This research is conducted to determine the level of trains noise based on whether the train has a barrier medium or not, to find out the level of trains noise that occurred before and after the COVID-19 pandemic, and to provide a recommendation for handling a level of trains noise with both natural and synthetic barriers, especially for Cibangkong village. Data measurement is carried out at 10 areas for 24 hours based on the schedule of the train which passes in that area using a sound meter application. Noise level parameters (L_S , L_M , L_{SM}) were generated by correction analysis between sound meter application and Sound Level Meter (SLM). The research is carried out in 3 locations namely Cibangkong village without a barrier, Kebon Gedang village with a natural barrier, and Kebon Jayanti village with synthetic barrier. The results of the measurement of the train noise level (L_S , L_M , L_{SM}) are higher than the maximum limit of a train noise according to the designation of residential areas, which is 55 dBA. The selection of the best recommendation is decided by a high level of train noise reduction. Both natural and synthetic barriers selected in Cibangkong village have produced a value of noise reduction which are 10.6 dBA and 32.3 dBA.

Key words: Noise, Train, Settlement, Barrier