ABSTRAK

Ali, Mohammad Maghfur, 2022, Analisis dan Rekomendasi Pengendalian Tingkat Kebisingan Lalu Lintas: Studi Kasus Ruas Jalan Bundaran Waru Kota Surabaya, Tugas Akhir, Program Studi: Teknik Lingkungan, Fakultas Teknik, Universitas PGRI Adi Buana Surabaya, Dosen pembimbing: Dian Majid, S.Si., M.Eng.

Pertumbuhan penduduk di Kota Surabaya diikuti dengan meningkatnya penggunaan transportasi, padatnya kendaraan bermotor di ruas jalan Bundaran Waru Kota Surabaya berpotensi menimbulkan pencemaran lingkungan, salah satunya pencemaran suara atau kebisingan. Kebisingan dapat diartikan sebagai suara yang keberadaanya tidak diinginkan karena tidak sesuai terhadap waktu dan tempat sehingga mengganggu kenyamanan dan kesehatan. Penelitian bertujuan mendapatkan: (1) volume serta komposisi kendaraan (2) tingkat kebisingan, (3) hubungan volume kendaraan dengan kebisingan, (4) rekomendasi pengendalian kebisingan. Pengambilan data kendaraan melalui video *record* selama 10 menit, pengukuran tingkat kebisingan sesuai metode SNI 8427-2017 Ls (*siang*) menggunakan alat *Sound Level Meter* (SLM) pada 3 titik sampling. Analisis data berupa Leq kebisingan (Ls) dan uji korelasi volume kendaraan dengan tingkat kebisingan serta rekomendasi pengendalian yang sesuai. Olah data menggunakan bantuan software Microsoft Excel, SPSS 25 dan Sketchup. Hasil penelitian diperoleh volume kendaraan sesuai nilai emp MKJI (1997) tertinggi sebesar 2090 kendaraan (smp/jam) dengan persentase komposisi kendaraan Sepeda Motor (MC) mencapai 69,3%, Kendaraan Ringan (LV) 56,2%, Kendaraan Berat (HV) 9,4%. Tingkat kebisingan Siang Hari (Ls) cukup tinggi hingga 72.5 dB dan adanya hubungan sedang hingga sangat kuat (r = 0,450-0,874) antara volume kendaraan dengan kebisingan. Pengendalian kebisingan berupa rekomendasi penambahan *barrier* vegetasi. Pohon Akasia dan perdu Sebe mampu mengoptimalkan *barrier* eksisting dalam mereduksi tingkat kebisingan menjadi dibawah baku mutu sesuai KepMenLH No.48 Tahun 1996 tentang Baku Tingkat Kebisingan peruntukan kawasan permukiman dan perdagangan.

Kata Kunci: *Kebisingan, Lalu Lintas, Pengendalian Bising, Bundaran*

ABSTRACT

Ali, Mohammad Maghfur, 2022, Analysis and Recommendations for Traffic Noise Control: Case Study of the Waru Roundabout Road, Surabaya City, Final Project, Study Program: Environmental Engineering, Faculty of Engineering, PGRI Adi Buana Surabaya University, Supervisor: Dian Majid, S .Si., M.Eng.

Population growth in Surabaya City is followed by increased use of transportation, the density of motorized vehicles on the Waru roundabout road in Surabaya has the potential to cause environmental pollution, one of which is noise pollution. Noise can be interpreted as a sound whose presence is undesirable because it is not suitable for time and place so that it interferes with comfort and health. This study aims to obtain: (1) volume and composition of vehicles (2) noise level, (3) correlation between vehicle volume and noise, (4) recommendations for noise control. Vehicle data retrieval through a video record for 10 minutes, measurement of noise levels according to the SNI 8427-2017 Ls (day) method using a Sound Level Meter (SLM) at 3 sampling points. Data analysis is in the form of noise Leq (Ls) and correlation test of vehicle volume with noise level and appropriate control recommendations. Processing the data using Microsoft Excel, SPSS 25 and Sketchup software. The results showed that the volume of vehicles according to the MKJI (1997) highest emp value was 2090 vehicles (pcu/hour) with the percentage composition of motorcycles (MC) reaching 69.3%, light vehicles (LV) 56.2%, heavy vehicles (HV) 9.4%. The daytime noise level (Ls) is quite high up to 72.5 dB and there is moderate to very strong correlation (r = 0.450-0.874) between vehicle volume and noise. Noise control is in the form of recommendations for the addition of a vegetation barrier. Acacia trees and Sebe shrubs are able to optimize the existing barrier in reducing noise levels to below the quality standard according to KepMenLH No.48 1996 concerning the Noise Level Standard for residential and commercial areas.

Keywords: *Noise, Traffic, Noise Control, Roundabout*