The Study On Vibrations Which Is Caused By The Road Traffic Activities Along Several Main Streets In Jakarta

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Abstrak

The vibrations which is caused by road traffic activities have been monitored along several main streets in Jakarta, i.e Jalan MH. Thamrin, Jalan Merdeka Barat (around Taman Monas) and Hayam Wuruk Street (Gajah Mada Plaza and Glodok). Where in the near future, the Indonesian Government has planed to construct a new large scale project so called Mass Rapid Transport (MRT) along these roads. The purpose of this works was to study the existing vibrations radiated by the road traffic activities impacting to the buildings adjacent to the road. Furthermore, these vibrations data can also be used as supporting data in the realization of MRT project. From observation results showed that the amount of traffic volume along MH. Thamrin Street, Merdeka Barat Street and Hayam Wuruk Street, happened in the afternoon time, i.e. from 14.00 p.m. to 17.00 p.m. Where in this range time the large vehicles such as busses or trucks were frequently passing on these roads, and they generated the maximum vibration levels on the surface of ground with the levels of 0.315 mm/sec up to 0.332 mm/sec, and these maximum vibrations occurred at the frequency of 4 Hz. Refer to BAPEDAL Standard, the limit of buildings vibration at frequency 4 Hz must be less than 2 mm/s. Thus, the measured vibration levels were very low compared to the standard, therefore it would not damage to the structures of buildings adjacent to the road.