ABSTRAK

Cindy R Sipayung, NIM:5203250013, Analisis Kinerja Operasional Bus Rapid Trans (BRT) (Studi Kasus Koridor 2 Rute J City – Plaza Medan Fair) ***Skripsi, Jurusan Pendidikan Teknik Bangunan, Program Studi S1 Teknik Sipil, Fakultas Teknik, Universitas Negeri Medan Tahun 2026*****.**

Peningkatan jumlah kendaraan pribadi di kawasan perkotaan, termasuk Kota Medan, telah menyebabkan kemacetan, perpanjangan waktu perjalanan, dan menurunnya minat masyarakat terhadap transportasi publik. Salah satu solusi yang dikembangkan pemerintah adalah sistem Bus Rapid Transit (BRT). Namun, implementasi BRT Koridor 2 rute J City – Plaza Medan Fair di Kota Medan masih menghadapi berbagai kendala operasional. Berdasarkan permasalahan tersebut, penelitian ini bertujuan untuk menganalisis kinerja operasional BRT Koridor 2 serta membandingkannya dengan Standar Pelayanan Minimal (SPM) berdasarkan SK Dirjen Perhubungan Darat No. SK.687/AJ.206/DRJD/2002. Penelitian ini menggunakan metode deskriptif kuantitatif melalui survei lapangan selama dua hari pada periode pagi, siang, dan sore. Indikator yang dianalisis meliputi load factor, headway, waktu henti, kecepatan perjalanan, ketersediaan armada, dan konsumsi energi listrik. Hasil penelitian menunjukkan bahwa load factor rata-rata hanya mencapai 29,98% (di bawah SPM 70-100%); sedangkan headway pada jam sibuk tercatat 12,49 menit dan jam tidak sibuk 19,34 menit (memenuhi SPM 10-20 menit). Kecepatan perjalanan jam sibuk 20,57 km/jam dan jam tidak sibuk 20,47 km/jam (memenuhi SPM ≥20 km/jam); ketersediaan armada harian 100% (memenuhi SPM ≥80%); serta waktu henti rata-rata 35,17 detik (memenuhi SPM <60 detik). Secara umum, kinerja operasional BRT Koridor 2 sebagian besar indikator telah memenuhi SPM kecuali load factor yang masih rendah, sehingga perlu ditingkatkan agar mampu menarik minat masyarakat terhadap transportasi publik.

Kata kunci: BRT, kinerja operasional, load factor, Standar Pelayanan Minimal, Kota Medan

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ABSTRACT

Cindy R Sipayung, NIM:5203250013, Operational Performance Analysis of Bus Rapid Transit (BRT) (Case Study of Corridor 2, J City – Plaza Medan Fair Route). Thesis, Department of Building Engineering Education, Bachelor's Program in Civil Engineering, Faculty of Engineering, State University of Medan, 2026.

The increasing number of private vehicles in urban areas, including Medan City, has led to congestion, longer travel times, and a decline in public interest in using public transportation. One of the solutions developed by the government is the Bus Rapid Transit (BRT) system. However, the implementation of BRT Corridor 2 on the J City – Plaza Medan Fair route in Medan City still faces various operational challenges. Based on these problems, this study aims to analyze the operational performance of BRT Corridor 2 and compare it with the Minimum Service Standards (MSS) based on the Director General of Land Transportation Decree No. SK.687/AJ.206/DRJD/2002. This study employed a descriptive quantitative method through field surveys conducted over two days during the morning, afternoon, and evening peak periods. The indicators analyzed include load factor, headway, dwell time, travel speed, fleet availability, and electric energy consumption. The results show that the average load factor only reached 29.98% (below the MSS standard of 70–100%); meanwhile, the headway during peak hours was 12.49 minutes and during off-peak hours 19.34 minutes (meeting the MSS of 10–20 minutes). Travel speed during peak hours was 20.57 km/h and during off-peak hours 20.47 km/h (meeting the MSS of ≥20 km/h); daily fleet availability was 100% (meeting the MSS of ≥80%); and the average dwell time was 35.17 seconds (meeting the MSS of <60 seconds). In general, most indicators of the operational performance of BRT Corridor 2 have met the MSS except for the load factor, which remains low, thus requiring improvement to attract public interest in using public transportation.

Keywords*:* BRT, operational performance, load factor, Minimum Service Standards, Medan City