

## Analisa panjang kritis weaving section di jalan bebas hambatan = Analysis of weaving section critical length on barrier-free roads

Diyaldin Firas Binandika, author

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### Abstrak

Dewasa ini, jalan bebas hambatan telah menjadi kebutuhan yang sangat penting bagi masyarakat khususnya di Indonesia. Dalam penelitian ini, objek yang ditinjau adalah weaving section yaitu suatu area antara jalur masuk dan jalur keluar sehingga sering kali terjadi penumpukkan kendaraan. Tujuan dari penelitian ini adalah untuk mengetahui panjang kritis weaving section dan melakukan analisa karakteristik pengendara pada area weaving section di jalan bebas hambatan Jabodebek. Penelitian ini menggunakan software Traffic Data Extractor dan Vehicle Trajectory Extractor untuk pengumpulan data. Dalam mengolah data, penelitian ini menggunakan metode yang dirumuskan oleh Roess untuk menganalisa panjang kritis weaving section di jalan bebas hambatan dan Greenshield methods untuk menganalisa critical gap pada area weaving section. Data panjang eksisting weaving section area Tol JORR (Cilandak – Desari) sepanjang 190 m. Hal ini dapat dikatakan weaving section karena kondisi di Tol Cilandak – Desari berada diantara pintu masuk (merging) dan keluar (diversion). Namun demikian standar panjang weaving section tersebut belum sesuai dengan standar Internasional yaitu 2000 m – 3000 m sesuai dengan DMRB (Design Manual for Roads and Bridges). Oleh karena itu peneliti melakukan analisis panjang kritis weaving section dan hasil penelitian menunjukkan panjang kritis weaving section Tol JORR (Cilandak – Desari) sebesar 2,66 km dimana panjang tersebut termasuk dalam kriteria weaving section dan critical gap untuk lead dan lag acceptance didapati sesuai dengan secara berturut-turut sebesar 1,33 detik dan 1,29 detik. Dari kedua hasil tersebut penulis dapat menyimpulkan bahwa kondisi eksisting weaving section cukup padat karena panjang jalan yang terlalu pendek.

.....These days, the freeway has become a very important need for the community, especially in Indonesia. In this study, the object being reviewed is the weaving section, which is an area between the entry and exit lanes so that there is often an accumulation of vehicles. The purpose of this study was to determine the critical length of the weaving section and analyze the characteristics of the driver in the weaving section area on the Jabodebek freeway. This research uses Traffic Data Extractor and Vehicle Trajectory Extractor software for data collection. In processing the data, this study uses the method formulated by Roess to analyze the critical length of the weaving section on the freeway and the Greenshield method to analyze the critical gap in the weaving section area. Data on the length of the existing weaving section of the JORR Toll Road (Cilandak – Desari) is 190 m long. This can be said to be a weaving section because the conditions on the Cilandak – Desari Toll Road are between the entrance (merging) and exit (diversion). However, the standard length of the weaving section is not in accordance with international standards, namely 2000 m – 3000 m according to the DMRB (Design Manual for Roads and Bridges). Therefore, the researchers analyzed the critical length of the weaving section and the results showed that the critical length of the weaving section of the JORR Toll Road (Cilandak – Desari) was 2.66 km where the length was included in the weaving section criteria and the critical gap for lead and lag acceptance was found to be in accordance with respectively 1.33 seconds and 1.29 seconds. From these two results, the writer can conclude that the

existing condition of the weaving section is quite dense because the length of the road is too short.