# PENGARUH MANUVER PARKIR KENDARAAN PADA PARKIR DI BADAN JALAN TERHADAP ARUS LALU LINTAS, STUDI KASUS DI JALAN PATTIMURA, PADANG

**SKRIPSI**

**Oleh :**

**AYU FERONIKA**

**1710922042**

**JURUSAN TEKNIK SIPIL – FAKULTAS TEKNIK**

**UNIVERSITAS ANDALAS**

**PADANG**

**2022**

# PENGARUH MANUVER PARKIR KENDARAAN PADA PARKIR DI BADAN JALAN TERHADAP ARUS LALU LINTAS, STUDI KASUS DI JALAN PATTIMURA, PADANG

**SKRIPSI**

*Diajukan sebagai syarat untuk menyelesaikan pendidikan Program Strata-1*
*pada Jurusan Teknik Sipil Fakultas Teknik*
*Universitas Andalas*


**Oleh :**

**AYU FERONIKA**

**1710922042**


**Pembimbing :**

**Purnawan, Ph. D**


**JURUSAN TEKNIK SIPIL – FAKULTAS TEKNIK**

**UNIVERSITAS ANDALAS**

**PADANG**


**2022**

## *ABSTRACT*

*The use of parking lots on the road body can cause disruption of traffic flow. One of the roads in the city of Padang where part of the road body is used for vehicle parking is Pattimura street. When the vehicle performs a parking maneuver it will take a while especially when removing the vehicle. This activity can result in delayed traffic flow and cause queues of vehicles which can lead to traffic congestion. The purpose of this study is to identify the movement of parking maneuvers on the road body, factors that affect the movement of parking maneuvers on the road body, as well as the impact of parking maneuvers on traffic characteristics including vehicle volume, average speed, and vehicle time headway. The research was conducted by field survey method and assisted using 2 Video Recorders that record the necessary characteristics. This research was carried out on Tuesdays and Wednesdays (August 17-18, 2021) based on an estimated vehicle density that is almost the same on weekdays. The resulting data analysis includes two characteristics, namely parking characteristics and traffic characteristics which are grouped in two traffic conditions, namely when the traffic flow is smooth and when traffic flow is disrupted due to parking maneuvering activities. The parking characteristics studied are in the form of the duration of parking maneuvers when entering and leaving the parking space which is based on factors of the presence of other vehicles on the side of the parking space, and traffic characteristics in the form of calculations of vehicle volume, average speed of space, and time headway between vehicles. From the research conducted, the results were obtained that the maneuver to enter the parking lot has an average time span of 6,6 - 13,9 seconds. While the duration of the exit maneuver ranges from 9,3– 23,4 seconds. In the traffic characteristics, the volume of vehicles on Tuesday (August 17, 2021) was dominated by motorcycles with vehicle volume when the traffic flow was smooth by 3091 vehicles, while when there was a vehicle maneuver disturbance, it became 2122 vehicles. From the total volume of vehicles when the traffic flow was smooth compared to the volume of traffic flow disturbed due to maneuvers, a decrease in vehicle volume was obtained by 31.35%. And a two-way z test was carried out, it was found that the decline that occurred was significant. On Wednesday (18/08/2021) when the traffic flow was smooth, the total volume of vehicles was 3081 vehicles. Meanwhile, when there was a maneuvering*

*disturbance, the volume of the vehicle became 1683 vehicles. The number of decreases in vehicle volume when traffic flow is smooth compared to when there is a disturbance is 45.37%. And a two-way z test was carried out, it was found that the decline that occurred was significant. The speed of light vehicles when the flow of traffic is smooth dominant at a speed of 20-25 km/h, while if there is a disturbance in parking maneuvers, the dominant light vehicle is at a speed of 10-15 km/h, a speed decrease value of 56.83% is obtained and from the results of the two-way z test, it is known that the decrease in speed of light vehicles is significant. The speed of a motorcycle when the traffic flow is smoothly dominant is at a speed of 25 - 30 km / h while for motorcycle speed when there is a disturbance in parking maneuvers dominated at a speed of 20 - 25 km / h and experiences a speed decrease of 37.30% from the results of the two-way z test, it is known that the decrease in motorcycle speed is significant. In the vehicle headway time analysis, the fastest time to catch up with the previous vehicle when the traffic flow is smooth is 0.840 seconds, while the fastest time for the vehicle when it catches up with the previous vehicle when a parking maneuver occurs is 0.173 seconds. It is known that the decrease in vehicle headway time was 11.058% and from the two-way z test it is known that the decrease was not significant.*

***Keywords:*** *parking,parking maneuvers, delay*

# ABSTRAK

Penggunaan lahan parkir di badan jalan dapat menyebabkan terganggunya arus lalu intas. Salah satu ruas jalan di Kota Padang yang sebagian badan jalannya digunakan untuk parkir kendaraan adalah jalan Pattimura. Ketika kendaraan melakukan manuver parkir akan membutuhkan waktu beberapa saat terutama ketika mengeluarkan kendaraan. Aktivitas ini dapat mengakibatkan tertundanya arus lalu lintas dan menimbulkan antrian kendaraan yang seterusnya dapat menyebabkan kemacetan lalu lintas. Tujuan dari penelitian ini untuk mengidentifikasi manuver parkir di badan jalan, formasi keterisian ruang parkir yang mempengaruhi manuver parkir di badan jalan, serta dampak manuver parkir pada karakteristik lalu lintas meliputi volume kendaraan, kecepatan rata – rata, dan *time headway* kendaraan. Penelitian dilakukan dengan metode survai lapangan dan dibantu menggunakan 2 *Video Recorder* yang merekam karakteristik – karakteristik yang diperlukan. Penelitan ini dilakukan pada hari Selasa dan Rabu (17-18 Agustus 2021) berdasarkan perkiraan kepadatan kendaraan yang hampir sama pada hari- hari biasa. Analisa data yang dihasilkan meliputi dua karakteristik, yakni karakteristik parkir dan karakteristik lalu lintas yang dikelompokkan dalam dua kondisi lalu lintas yakni ketika arus lalu lintas lancar dan ketika arus lalu lintas terganggu akibat aktivitas manuver parkir. Karakteristik parkir yang diteliti berupa durasi manuver parkir ketika memasuki dan meninggalkan ruang parkir yang didasarkan pada faktor keberadaan kendaraan lain disisi ruang parkir, dan karakteristik lalu lintas berupa perhitungan volume kendaraan, kecepatan rata-rata ruang, dan *time headway* antar kendaraan. Dari penelitian yang dilakukan didapatkan hasil bahwa manuver masuk parkir memiliki rentang waktu rata – rata 6,6 - 13,9 detik. Sedangkan durasi manuver keluar berkisar antara 9,3– 23,4 detik. Pada karakteristik lalu lintas dihasilkan volume kendaraan pada hari Selasa (17 Agustus 2021) didominasi oleh sepeda motor dengan volume kendaraan ketika arus lalu lintas lancar sebesar 3091 kendaraan, sedangkan ketika terjadi gangguan manuver kendaraan menjadi 2122 kendaraan. Dari total volume kendaraan ketika arus lalu lintas lancar dibandingkan volume arus lalu lintas terganggu akibat manuver didapatkan nilai penurunan volume kendaraan sebesar 31,4%. Dan dilakukan uji z dua arah diketdapatkan bahwa penurunan yang terjadi bersifat signifikan. Pada hari Rabu (18/08/2021) ketika arus lalu lintas