ANALYSIS OF THREE IN ONE APPLICATION SYSTEM AS EFFORT TO OVERCOME TRAFFIC CONGESTION ON RAYA DARMO STREET (SURABAYA)

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ABSTRACT

Growth in the number of vehicles in the city of Surabaya is getting high and uncontrolled. On the other side of the road does not have added length. This lead to congestion in the city of Surabaya. One of the roads that are congested Jalan Raya Darmo, Surabaya. As planned, the tram line in addition to using the median of the road, will also use a 1 lane road on Jalan Raya Darmo. This of course will reduce the capacity of Jalan Raya Darmo. The level of congestion on Highway Darmo will increase as a consequence of a reduction in capacity.

Effort restrictions on the number of vehicles to be one alternative. In this thesis research will be reviewed implementation plans vehicular traffic restriction system with three-in-one on Jalan Raya Darmo, Surabaya. The concept of three-in-one allows only minimal private passenger car 3 yang be Melinas on the road. The method used to collect data in this study is the way traffic counting, questionnaires and interviews modal choice and route choice. Then the data were analyzed by statistical tests and probability modal choice and route, road performance calculation, and calculation of the cost of congestion.

From the analysis, the performance of roads shows that the existing condition during peak hours, Jalan Raya Darmo have DS> 0.75 in the morning peak hour. Then for the road sections are others who are in the vicinity of Jalan Raya Darmo (Special Police Road, Jalan Dr. Atopic Dermatitis, Jalan Diponegoro, Jalan Jalan Darmo Dinoyo and time) has a DS <0.75. Next to the performance of the intersection of Highway Darmo - Police Specials - Dr. Atopic Dermatitis in the morning and afternoon peak hours the majority approach for each direction of movement has DS> 0.75. As for the intersection of Highway Darmo - Diponegoro during morning and afternoon peak hours respectively have DS <0.75.

At the time of the tram operates, with the assumption that the two modal transfer from private kendaraan to the tram by 20% and 30%, performance Highways Darmo shows DS values> 0.75. Then for the performance of the intersection at the time the tram operates, to the intersection of Highway Darmo - Police Specials - Dr. Atopic Dermatitis still have DS> 0.75 in the direction of the
movement despite some decline. As for the intersection of Highway Darmo - Diponegoro still have a DS <0.75.

Performance tram roads during operation and when applied to the system three in one at Jalan Raya Darmo shows the majority of the streets around Jalan Raya Darmo were included in the study area still has a DS <0.75, except for Jalan Dinoyo who has DS 1.191 to 1.023 hours for the morning peak and evening peak hours. Then for the performance of the intersection, despite decreased DS, intersection Highway Darmo - Police Specials - Dr. Atopic Dermatitis still have DS > 0.75. As for the intersection of Highway Darmo - Diponegoro still have a DS <0.75.

Based on the analysis of performance on the road when the tram operates and when applied to three-in-one system, the value of a larger plan BOK condition of the existing condition, with a total difference with the existing BOK BOK plan of Rp. 32,283,542 in a single day. So also the result of the total time value also shows that the value of time is greater than the state plans on existing conditions, with the total value of the time difference with the existing plan value of Rp. 211,426,862 in one day. Thus, the implementation plan three in one system will not save the BOK and the value of travel time but increase the BOK and the value of travel time on the network when viewed as a whole.

**Keywords:** Congestion Cost; Performance Roads; Selection Mode, Traffic Restrictions