INVESTIGATION INTO FACTORS AFFECTING THE ROUTE CHOICE IN "RIJNSTREEK-WEST" WITH THE AID OF A DISAGGREGATE LOGIT MODEL

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ABSTRACT

Based on an analysis of observed automobile routes, an investigation is made into the factors affecting choice of routes. As in previous studies, the attempt to determine the influence of time and distance simultaneously was unsuccessful. However, time was found to be an important factor in the description of route choice behaviour. An improved description of route choice behaviour is achieved if a differentiation according to road type is made or if intersections are included in the model as explanatory variables. The subjective or perceived generalized times caused by intersections are approximately 0.88 minutes and those caused by left-turn movements are 2.55 minutes. The result could further be improved by dividing the difference in generalized times between two routes by the root of the generalized times. A great advantage of this approach is also that it links up better with stochastic assignment models, in which traffic is randomly distributed over alternative routes. In particular for studies on extraneous traffic and the consequences of traffic-controls, the method presented here serves as a start for further investigation.

1. Introduction

In many traffic and transportation studies, car traffic is assigned to the shortest route between the OD pair. In reality, however, a substantial number of the car drivers choose different routes (Ratcliffe, 1972; Tagliacozzo and Pirzio, 1973; Wright and Orrom, 1976). In practice this has been no great problem for the determination of the road network capacity. There is also traffic which has been erroneously assigned to the main route. However, a change is taking place. It is becoming more and more desirable to know how much alternative traffic there is along the minor routes. Though negligible in volume compared to the traffic on the main route, this traffic can cause much
Fig. 1. Outline map of the roads concerned in the survey.