



基于车道选择行为分析的交通标志优化设置

Model on location of traffic sign based on lane choice

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中文摘要

论文基于快速路连续交通流条件下的车道变换行为, 研究交通标志设置位置的优化。分析了驾驶员变换车道时的认读标志行为需的时间及距离。给出了认读标志过程中消失点位置的确定方法。结合安全行车要求给出了车辆变道时的临界可穿越空档。通过引入在此基础上建立了交通标志设置最小前置距离的理论模型。模型输出结果显示, 其他条件相同时, 流量越高, 车辆变道时安全穿越要于烟台市同三高速公路交通标志的优化设置, 得到在不同变道成功率下交通标志设置的前置距离, 验证了模型的合理性。

英文摘要

The paper focused on determination of traffic sign's location based on analysis of lane changing behavior and Drivers' read and reaction process was analyzed by dividing into four stages, which were sensory, perception, judgment and decision. Critical crossin needed for lane change were formulated. Method to determine visual disappearing site was presented. Critical crossin considering weaving safety. By introducing success probability of lane change, theoretical model was formulated to d traffic sign installation. The outputs of the model show the minimum frontal distance of traffic sign increase evide proposed model was tested in a section of Tong-San freeway in the city of Yantai to verify its validity. The result becomes longer when the success probability of lane change is set higher.