

ITSを活用した緊急車両の走行支援ならびに最適配置計画策定システムの開発研究

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Running support system of the urgent vehicle which utilized ITS and a study of the most suitable placement of a fire department

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Project/Area Number

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Research Category

Grant-in-Aid for Scientific Research (B)

Allocation Type

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Section

一般

Research Field

交通工学・国土計画

Research Institution

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Keywords

Reliability of travel time / Uncertainty of travel time / Fire spreaded simulation / An urgent vehicle(a fire engine / an ambulance) / A road network at the time of a disaster / Pelri-net simulation / 同時多発型火災

Research Abstract

In this study, we developed the system which predicted outbreak of a simultaneous frequent occurrence fire and the situation of spread of a fire. In addition, we evaluated access characteristics of an emergency vehicle at the time of an earthquake disaster, and having considered the allocation of cars of an urgent vehicle(a fire fighting pump car, an ambulance) of each fire department place by reliability analysis of a road network.

We developed the system which predicted the area where an access characteristic of an urgent vehicle for a road network of normal time(in normal) was low by using the reliability analysis system. And we predicted how a road network was damaged at the time of an earthquake disaster and developed the model in order to build a road network. But, about the prediction model of a refuge traffic action, we built a system with a multi-agent of adaptation model. We developed the model that predicted how it occurred and how spread with time where a simultaneous frequent occurrence fire at the time of an earthquake occurred.

We get possible to calculate the area where a fire fighting vehicle must arrive at early by utilizing an above system. We developed a traffic micro-simulation system with Petri-net simulator to run a general vehicle and a first aid vehicle at the time of an earthquake disaster.

Research Products (36 results)

All Other
All Publications

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