
Managing Highway Accidents Involving Gaseous Hazardous Spills: A GIS Supported Simulation

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Abstract

Managing highway incidents involving gaseous hazardous spills requires accurate assessment of potential risks to both the population and environment. Further, quick decisions must be made on how to effectively carry out emergency rescue and evacuation. In this paper we demonstrate that a Geographic Information System (GIS) provides an ideal tool to perform risk analysis and to assist emergency response. We have built a prototype GIS that integrates a dispersion model with Arc/Info to simulate gaseous hazardous spills under different circumstances. A case study is conducted based on the highway network and 1990 census data of the Greater Cincinnati Metropolitan area.
